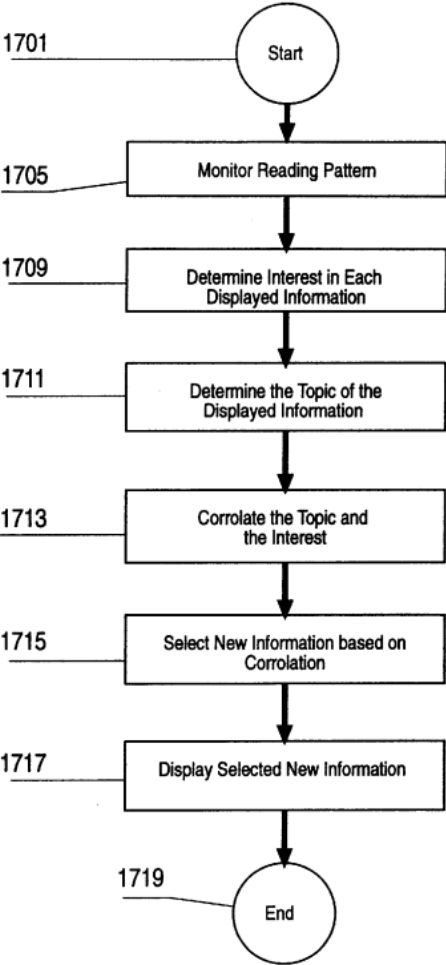


EXHIBIT 10b

Reference	Disclosure
	<p>1507, and the “Quarks” article 1519 are both science and technology related. The other two articles 1515 and 1511 are not. Each article and advertisement contains information that can be categorized in multiple ways. This categorization includes at least one topic classifying the information. These topics are developed and maintained by the information provider. Using gaze tracking, the information provider can determine the user’s interest in each displayed article 1505, 1509, 1513 and 1517 and advertisement 1521. Then, by using the topics categorizing the presented information, the information provider can dynamically adjust the selection of subsequent information presented to this user. In the example above, suppose the user read the scientific based articles 1507 and 1519 but did not spend any time reading the other articles 1511 or 1515 or the advertisement 1521. The information provider populates the next page of information presented to the user with articles and advertisements that have similar topics as the previously read information.</p> <p>TOGNAZZINI, 16:44-60: FIG. 16 illustrates a possible second page of information. Again, the information is provided within views contained in a window 1601. Now a plurality of articles 1607, 1611, 1615 and 1619 are all scientific or technology based, but with different levels of difficulty extending from articles of interest to the lay reader to those that are directed toward the advanced elemental particle physicist. Further, both a Major Scientific Headline 1603 and an advertisement 1621 can be selected to be of interest to the user. This allows the information provider to narrowly target advertising and articles to each user. Again the information provider can continue to refine and narrow the selection of information presented to the user on subsequent pages depending on the interest shown in a plurality of article titles 1605, 1609, 1613, 1617, the time spent with reading each article 1607, 1611, 1615 and 1619; and the time spent looking at the advertisement 1621 of the current page.</p> <p>TOGNAZZINI, 16:61-17:12: FIG. 17 illustrates the process used to select information for presentation to a user. The process starts at a terminal 1701 after an initial selection of information is displayed to the user. Using the gaze position developed as described above, a step 1705 monitors the user’s reading pattern. Further a step 1709, determines the amount of interest shown by the user in the displayed information. This interest is determined by measuring the user’s reading speed, determining whether the user only skimmed the information or read the information in</p>

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	<p>depth, and by measuring the amount of time spent with each article and advertisement. Then in a step 1711, the process retrieves the topics associated with each displayed information and in a step 1713 correlates these topics with the user's interest. Next in a step 1715, the process selects additional information based on this correlation. This selection of information is displayed in a step 1717 for the user. Finally, the process completes through a terminal 1719. In this manner, the user is presented with a customized set of information that reflects the user's interest.</p> <p>TOGNAZZINI, Fig. 15:</p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">1521</p> <p style="text-align: center;">Advertisement directed to general readership</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="vertical-align: top;">1503</td> <td style="text-align: center;">Major General Headline</td> <td style="vertical-align: top;">1513</td> </tr> <tr> <td style="vertical-align: top;">1505</td> <td style="vertical-align: top;"> New Chemical Reaction <small>This story is about the discovery of a new type of chemical reaction for improving the production of something.</small> <small>More detail about the new chemical reaction has</small> </td> <td style="vertical-align: top;"> Spanish <small>This story is about the life style of students in Spain. The story describes the living conditions of the students, the foods available to them, and the sports facilities they have access to.</small> <small>The story continues</small> </td> </tr> <tr> <td style="vertical-align: top;">1507</td> <td style="vertical-align: top;"> <small>More detail about the new chemical reaction has</small> Best Car Buy! <small>This article is a consumer report type of article discussing the good and bad points of a number of cars, and selecting one as the best buy.</small> <small>Furthermore, this would eventually expand out and make a complete article</small> </td> <td style="vertical-align: top;">1515</td> </tr> <tr> <td style="vertical-align: top;">1509</td> <td style="vertical-align: top;">Best Car Buy!</td> <td style="vertical-align: top;">1517</td> </tr> <tr> <td style="vertical-align: top;">1511</td> <td style="vertical-align: top;"> <small>This article is a consumer report type of article discussing the good and bad points of a number of cars, and selecting one as the best buy.</small> <small>Furthermore, this would eventually expand out and make a complete article</small> </td> <td style="vertical-align: top;">1519</td> </tr> <tr> <td style="vertical-align: top;">1501</td> <td style="vertical-align: top;"> Quarks - Smallest Component of Matter <small>This story describes an experiment that proves that quarks are the indivisible component of matter.</small> <small>Of course upon reading the article one realizes that it was not accepted for publication by</small> </td> <td></td> </tr> </table> </div> <p style="text-align: center;">Fig. 15</p> <p>TOGNAZZINI, Fig. 16:</p>	1503	Major General Headline	1513	1505	New Chemical Reaction <small>This story is about the discovery of a new type of chemical reaction for improving the production of something.</small> <small>More detail about the new chemical reaction has</small>	Spanish <small>This story is about the life style of students in Spain. The story describes the living conditions of the students, the foods available to them, and the sports facilities they have access to.</small> <small>The story continues</small>	1507	<small>More detail about the new chemical reaction has</small> Best Car Buy! <small>This article is a consumer report type of article discussing the good and bad points of a number of cars, and selecting one as the best buy.</small> <small>Furthermore, this would eventually expand out and make a complete article</small>	1515	1509	Best Car Buy!	1517	1511	<small>This article is a consumer report type of article discussing the good and bad points of a number of cars, and selecting one as the best buy.</small> <small>Furthermore, this would eventually expand out and make a complete article</small>	1519	1501	Quarks - Smallest Component of Matter <small>This story describes an experiment that proves that quarks are the indivisible component of matter.</small> <small>Of course upon reading the article one realizes that it was not accepted for publication by</small>	
1503	Major General Headline	1513																	
1505	New Chemical Reaction <small>This story is about the discovery of a new type of chemical reaction for improving the production of something.</small> <small>More detail about the new chemical reaction has</small>	Spanish <small>This story is about the life style of students in Spain. The story describes the living conditions of the students, the foods available to them, and the sports facilities they have access to.</small> <small>The story continues</small>																	
1507	<small>More detail about the new chemical reaction has</small> Best Car Buy! <small>This article is a consumer report type of article discussing the good and bad points of a number of cars, and selecting one as the best buy.</small> <small>Furthermore, this would eventually expand out and make a complete article</small>	1515																	
1509	Best Car Buy!	1517																	
1511	<small>This article is a consumer report type of article discussing the good and bad points of a number of cars, and selecting one as the best buy.</small> <small>Furthermore, this would eventually expand out and make a complete article</small>	1519																	
1501	Quarks - Smallest Component of Matter <small>This story describes an experiment that proves that quarks are the indivisible component of matter.</small> <small>Of course upon reading the article one realizes that it was not accepted for publication by</small>																		

Reference	Disclosure
	<div style="text-align: center;"> <p>1621</p> <p>Advertisement directed to scientific readership</p> </div> <div style="display: flex; justify-content: space-between; align-items: flex-start; padding: 10px;"> <div style="width: 45%;"> <p>1603 Major Scientific Headline</p> <p>1605 Space Chemistry</p> <p>1607 This story is about the differences between how some reactions operate in a gravity free field (in orbit) as compared to how the reactions occur in a gravity field (on earth). It continues and continues and continues. More detail about the new chemical reaction has described above</p> <p>1609 Cosmos</p> <p>1611 This article is about the age of the universe. It contains information about the latest data acquired from the Hubble space telescope and discusses problems with estimates of the age of the universe including the amount of dark matter.</p> </div> <div style="width: 45%;"> <p>Laser Fusion 1613</p> <p>1615 This story is about the the status of laser fusion research. It goes into significant detail as to the participants, the amount of money spent on the research and other details.</p> <p>The story continues on in this manner until it</p> <p>Quarks and SU[4] 1617</p> <p>1619 This story describes some of the mathematics used to describe Quarks. Current Scientific thought about Quarks, Strings, and other rather detailed information about elementary partical physics. The article continues providing some experimental</p> </div> </div> <div style="text-align: center; margin-top: 20px;"> <p>1601</p> <p>Fig. 16</p> <p>TOGNAZZINI, Fig. 17:</p> </div>

Reference	Disclosure
	 <pre> graph TD 1701((Start)) --> 1705[Monitor Reading Pattern] 1705 --> 1709[Determine Interest in Each Displayed Information] 1709 --> 1711[Determine the Topic of the Displayed Information] 1711 --> 1713[Corrolate the Topic and the Interest] 1713 --> 1715[Select New Information based on Corrolation] 1715 --> 1717[Display Selected New Information] 1717 --> 1719((End)) </pre> <p style="text-align: center;">Fig. 17</p>
<p>Kamba, Bharat, and Albers, <i>The Krakatoa Chronicle – An Interactive, Personalized Newspaper on the Web</i> (“KAMBA”)</p>	<p>See e.g., KAMBA, p. 1 (“we describe an experimental system which implements an interactive, personalized newspaper on the WWW. Some of the parameters for personalization are computed at the server end, based on user profiles and the composition of the newsfeed. Personalized layout happens at the client end, based on other parameters under user control.”); <i>id.</i>, p. 2 (“A user’s profile is modified by the explicit feedback provided by the user on the relevance of various articles, and when this is unavailable, from implicit feedback, derived from observations made by the embedded Java agent. The agent observes the manner in which the user interacts with the articles in the document, and based on the time spent, the interaction techniques used (e.g. scrolling, peeking at, maximizing, resizing), it tries to estimate the user’s interest and modifies the user’s profile suitably.”); <i>id.</i>, p. 4 (“The weight of each keyword represents the system’s reckoning of the user’s interest in the keyword. It is computed when feedback is given. Feedback provides a score for the</p>

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	<p>whole article which is then used to compute scores for individual keywords in its document-vector. Then it is integrated into the user's profile."); <i>id.</i>, p. 7 ("Layout is a function of several parameters: the score that each article receives based on the user's profile (the user score), the average score received by each article over the community of users (the community score), and also the size and composition of each article . . . The order of articles . . . for a user is decided by each article's score, and the score is a function of the user's score and the community score."); <i>id.</i>, p. 8 ("all these interactions give feedback about the relevance of the article to various degrees . . . When the user scrolls, peeks at, maximizes, resizes, or saves an article to a scrapbook, the Krakatoa Chronicle increments the user's interest in the article by a corresponding amount, and subsequently changes the personal profile.")</p>
<p>Edwards, Bayer, Green & Payne, <i>Experience with Learning Agents which Manage Internet-Based Information</i>, AAAI Technical Report SS-96-05, 1996 ("EDWARDS")</p>	<p><i>See e.g.</i>, EDWARDS, p. 31 ("An alternative solution is to build a <i>profile</i> which reflects the user's preferences when using an application, such as a World-Wide Web browser."); <i>id.</i>, p. 33 ("The architecture can be divided into two broad areas: the <i>Profile Generation Phase</i> and the <i>Classification/Prediction Phase</i>. The Profile Generation phase is responsible for inducing the user profile . . . Actions performed by the user on a document (news article, Web page, etc.) are recorded together with the text of the document. Features are extracted from these observations, and used to create a training instance. The training instances are then used to induce the user profile. . . . The Classification/Prediction phase is responsible for determining the actions to be performed on new documents. . . . Features are extracted from each document, and the user profile employed to generate a classification (with an associated confidence rating). The confidence rating is used by the Prediction Stage to determine whether a prediction should be made."); <i>id.</i>, p. 35 ("LAW (Bayer 1995) is a system that helps a user find new and interesting information on the World-Wide Web. It provides assistance in two ways: by interactively suggesting links to the user as they browse the Web; and through the use of a separate Web robot that autonomously searches for pages that might be of interest.").</p>
<p>Lieberman, <i>Letizia: An Agent That Assists Web Browsing</i> ("LIEBERMAN")</p>	<p><i>See e.g.</i>, LIEBERMAN, p. 2 ("This paper introduces an agent, <i>Letizia</i>, which operates in tandem with a conventional Web browser such as Mosaic or Netscape. The agent tracks the user's browsing behavior – following links, initiating searches, requests for help – and tries to anticipate what items may be of interest to the user. It uses a simple set of heuristics to model what the user's browsing behavior might be."); <i>id.</i> ("Letizia uses the past behavior of the user to anticipate a rough approximation of the user's interests."); <i>id.</i>, p. 3 ("The goal of the Letizia agent is to automatically perform some of the exploration that the user would have done while the user is browsing these or other</p>

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	documents, and to evaluate the results from what it can determine to be the user's perspective."); <i>id.</i> ("One of the strongest behaviors is for the user to save a reference to a document, explicitly indicating interest. . . . Following a link is, however, a good indicator of interest in the document <i>containing</i> the link. . . . Repeatedly returning to a document also connotes interest . . . a link that has been 'passed over' can be assumed to be less interesting."); <i>id.</i> , p. 4 ("it is Letizia's job to recommend which of the several possibilities available is most likely to satisfy the user."); <i>id.</i> , p. 6 ("the agent serves the role of remembering and looking out for interests that were expressed with past actions.").
Lam, Mukhopadhyay, Mostafa, and Palakal, <i>Detection of Shifts in User Interests for Personalized Information Filtering</i> , SIGIR'96, ACM 1996 ("LAM")	<i>See e.g.</i> , LAM, p. 317 ("Information filtering is concerned with the problem of delivering useful information to a user while preventing an overload of irrelevant information. Information selected for presentation is commonly based on descriptions of user preferences called profiles. Typically, the user profile is not known in advance, and can also change with time. The user may choose to provide a limited amount of feedback information concerning the relevance of specific items. The objective is to estimate the user profile from the feedback data so that the filtering system can effectively choose and present information as relevant to the user as possible."); <i>id.</i> , ("in the case of text-based document filtering, the overall problem of information filtering may be broadly posed as learning a map from a space of documents to the space of real-valued user relevance factors. . . . a finite set of documents can always be rank-ordered and presented in a prioritized fashion to the user."); <i>id.</i> , p. 318 ("a user profile learning module that learns user interests over the document categories, based on on-line user relevance feedback and a reinforcement machine learning algorithm."); <i>id.</i> , p. 320 ("The user profile learning module consists of a learning agent that interacts directly with the user and sorts the incoming documents according to its belief of the user preferences for the various categories of documents. To accomplish this task, the learning agent maintains and updates a simplified model of the user.").
O'Riordan and Sorensen, <i>An Intelligent Agent for High-Precision Text Filtering</i> , CIFM '95, ACM 1995 ("O'RIORDAN")	<i>See e.g.</i> , O'RIORDAN, p. 205 ("We present here an overview of a research project aimed at reducing information overload for individual computer users."); <i>id.</i> ("It is generally acknowledged that the volume of information which is accessible over various networks has exceeded the capability of users to sift through it in order to access that which is relevant to them."); <i>id.</i> ("an information filter was built which can be personalized by individual users and which models the user's interests so as to route through to him/her those articles which are deemed as relevant. The user may evaluate the significance of received information, thus providing <i>relevance feedback</i> which is used in fine-tuning the filter (or <i>user profile</i>) so as to improve its precision and to

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	<p>better model a user's changing interests. In this sense, the profile learns of a user's preferences through assimilation of an initial set of interesting documents and continues this learning process via relevance feedback throughout its lifetime."); <i>id.</i>, p. 206 ("The basic assumption is that a software agent acts on behalf of the user – embodying his/her beliefs, intentions and goals – behaving as an intermediary between the user and the system with which he/she is interacting."); <i>id.</i>, p. 208 ("The comparison of a user profile with a document representation involves the localized matching of structural similarity between the profile network and incoming article networks, using profile weights to influence this comparison."); <i>id.</i>, p. 209 ("Those articles considered relevant to the user's needs are forwarded by the agent, while the others are screened out. Forwarded articles are also ranked according to estimated relevance."); <i>id.</i> ("Via the user interface, the user may provide relevance feedback on those articles routed to him/her.").</p>
<p>Bloedorn, Mani, MacMillan, <i>Machine Learning of User Profiles: Representational Issues</i>, Proceedings of AAAI-96, Portland, OR, Aug. 4-8, 1996 ("BLOEDORN")</p>	<p><i>See e.g.</i>, BLOEDORN, p. 1 ("The goal of the research described here is to build a system for gathering comprehensible user profiles that accurately capture user interest with minimum user interaction."); <i>id.</i>, p. 2 ("Our experiments were conducted in the context of a content-based profiling and summarization system for on-line newspapers on the World Wide Web, the IDD News Browser. In this system, the user can set up and edit profiles, which are periodically run against various collections built from live Internet newspaper and USENET feeds, to generate matches in the form of personalized newspapers. These personalized newspapers provide multiple views of the information space in terms of summary-level features. When reading their personalized newspapers, users provide positive or negative feedback to the system, which are then used by a learner to induce new profiles. These system-generated profiles can be used to make recommendations to the user about new articles and collections.")</p>
<p>Pazzani, Muramatsu, & Billsus, <i>Syskill & Webert: Identifying interesting web sites</i>, AAAI 1996 ("PAZZANI")</p>	<p><i>See e.g.</i>, PAZZANI, p. 1 ("In this paper, we discuss Syskill & Webert, a software agent that learns a profile of a user's interest, and uses this profile to identify interesting web pages in two ways. First, by having a user rate some of the links from a manually collected 'index page' Syskill & Webert can suggest which other links might interest the user. . . . Second, Syskill & Webert can construct a LYCOS query and retrieve pages that might match a user's interest, and then annotate this result of the LYCOS search."); <i>id.</i>, p. 3 ("The user profile is learned by analyzing all of the previous classifications of pages by the user on this topic. If a profile exists, a new profile is created by reanalyzing all previous pages together with any newly classified pages. Once the user profile has been learned, it can be used to determine whether the user would be interested in another page.").</p>
<p>Maes, <i>Agents that</i></p>	<p><i>See e.g.</i>, MAES, p. 32 ("The machine learning approach is inspired by</p>

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<p><i>Reduce Work and Information Overload</i>, Communications of the ACM, July 1994 (“MAES”)</p>	<p>the metaphor of a personal assistant. Initially, a personal assistant is not very familiar with the habits and preferences of his or her employer and may not even be very helpful. The assistant needs some time to become familiar with the particular work methods of the employer and organization at hand. However, with every experience the assistant learns, either by watching how the employer performs tasks, by receiving instructions from the employer, or by learning from other more experienced assistants within the organization. Gradually, more tasks that were initially performed directly by the employer can be taken care of by the assistant. The goal of our research is to demonstrate that a learning interface agent can, in a similar way, become gradually more helpful and competent.”); <i>id.</i>, p. 33 (“the interface learns by continuously ‘looking over the shoulder’ of the user as the user is performing actions.”); <i>id.</i> (“A second source for learning is direct and indirect user feedback. Indirect feedback happens when the user neglects the suggestion of the agent and takes a different action instead. This can be as subtle as the user . . . not reading some articles suggested by the agent . . .”); <i>id.</i>, p. 34 (“the agent can learn from examples given explicitly by the user.”); <i>id.</i>, p. 38 (“A user can create one or many ‘news agents’ and train them by means of examples of articles that should or should not be selected. . . . The user can also program the agent explicitly and fill out a set of templates of articles that should be selected (e.g., select all articles by Michael Schrage in the <i>Los Angeles Times</i>). Once an agent has been bootstrapped, it will start recommending articles to the user. The user can give it positive or negative feedback for articles or portions of articles recommended.”); <i>id.</i>, p. 39 (“The agents are able to recommend articles to the user that concern topics (or authors or sources) in which the user has shown a continued interest.”).</p>
<p>Sheth and Maes, <i>Evolving Agents for Personalized Information Filtering</i>, 1993 IEEE (“SHETH”)</p>	<p><i>See e.g.</i>, SHETH, p. 340 (“Filtering system can be viewed as a search process. It involves searching over the large and complex space of possible user profiles, for an ‘optimal’ user profile (or set of profiles) that match the user’s different interests. This ‘optimal’ user profile has to vary as the user’s interests change over time.”); <i>id.</i> (“The system consists of a number of news categories which a user has defined. Each of these news categories consists of a population of filtering agents. These are ‘organisms’ that retrieve articles which match an internal representation of the type of article they are interested in. The internal representation consists of whatever the organism inherited generically from its parents (the genotype) augmented with information it learns during its lifetime. Agents are assigned a fitness value based on the user feedback regarding their performance. The user conveys whether an article that was retrieved by one or several agents was appreciated or not. The agents learn from this feedback by changing their internal representation to reflect</p>

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	<p>this training example. For each positive/negative feedback received, an agent gets positive/negative fitness points.”); <i>id.</i>, p. 347 (“When an agent receives positive feedback, it extracts information from the corresponding article and incorporates it into its internal representation. Presently, the agent extracts most of the information provided in the header of the news article (Figure 1), in particular the author, keywords, location, category and priority fields. If, say, a keyword is already present in the internal representation, it’s weight is increased, so that the agent is more likely to retrieve similar articles in the future. Conversely, in the case of negative feedback, the information is stored with negative weight, so as to make it less likely that similar articles will be retrieved in the future. The user can also manually indicate preference for particular keywords occurring in an article.”); <i>id.</i>, p. 349 (“The user can give positive or negative feedback by clicking on the ‘thumbs-up’ or the ‘thumbs down’ icon respectively.”).</p>
<p>Balabanovic, <i>An Adaptive Web Page Recommendation Service</i>, 1997 ACM (“BALABANOVIC”)</p>	<p><i>See e.g.</i>, BALABANOVIC, p. 378 (“In this paper we introduce the ‘Fab’ adaptive Web page recommendation service. . . . Running since March 1996, it has been populated with a collection of agents for the collection and selection of Web pages, whose interaction fosters emergent collaborative properties.”); <i>id.</i> (“The operation of the system is as follows: users can request recommendations at any time, and will be shown the ten highest-ranking Web pages according to their profile.”); <i>id.</i>, p. 380 (“All agents maintain a profile: each user has a selection agent, which maintains their user profile; each collection agent maintains a search profile which is used to guide it in its collection of web pages.”); <i>id.</i> (“At regular intervals collection agents submit the pages they have gathered which best match their search profiles to the central repository, replacing the pages they previously submitted. Thus at any time the repository contains each collection agent’s best pages (in their own opinions). When a user requests their Fab recommendations their selection agent (of which there is one per user) picks, from the entire repository, those pages which best match the user’s personal profile. The user then rates these pages. These ratings are used as feedback for the agents to learn from, and the resulting rankings are used for evaluation purposes (discussed in section 4). The selection agent uses the feedback to update the user’s personal profile (using the function u). It also forwards the feedback, via the central repository to the originating agent A, which will update its search profile in the same way.”); <i>id.</i> (“A brand new user to the system is shown a selection of pages which are randomly chosen from the repository. However the repository contains pages which various agents believe will best match the current user population. Thus the new user is already starting from a much higher level than would be expected from an empty profile, especially if the system is deployed in</p>

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	<p>an organization or special interest group where there will be significant overlap between users' interests."); <i>id.</i>, p. 381 ("Rather than actually searching the Web, these agents attempt to construct queries for existing Web indexes in an attempt to avoid duplicating work. The indexes used are Alta Vista, Inktomi and Excite."); <i>id.</i>, p. 382 ("The highest-scoring pages are shown to the user, with the proviso that no two are identical or from the same site, and that the user has not seen an identical page in the last month."); <i>id.</i> ("On a day-to-day basis the system supplies the user with a number of documents it thinks the user will rate highly. It uses the resulting scores in order to perform relevance feedback and improve the user profile.")</p>
<p>Fox, Hix, Nowell, Brueni, Wake, and Heath, <i>Users, User Interfaces, and Objects: Envision, a Digital Library</i>, Journal of the American Society for Information Science, 44(8):480-491, 1993 ("FOX 1993")</p>	<p><i>See e.g.</i>, FOX 1993, p. 485 ("The Query Window has two categories of use: . . . Access to previously completed (old) queries and the results of the related searches are provided. Old queries may simply be viewed or they may be revised and used for another search. Results of searches from old queries may also be redisplayed via a query history feature."); <i>id.</i> ("As queries are stored or related searches are performed, the user establishes a history that is accessible through the Query History field across the top of the window . . . The Query History provides access to the results of previous searches, means to redisplay the full content of previous queries for possible revision, and a mechanism for combining the results for completed searches.")</p>
<p>Little, <i>Commerce on the Internet</i>, 1994 IEEE ("LITTLE")</p>	<p><i>See e.g.</i>, LITTLE, p. 75 ("On-line services can incorporate customer preferences and use history, such as past purchases or chapters read, to provide a personal environment to the customer, saving access time."); <i>id.</i>, p. 76 ("For example, a customer might, through an interactive form, indicate current age, number of children, expendable income, and home value to identify investment options for a mutual fund buying service. Using that information, the service might steer the customer to performance indices that help in choosing investments."); <i>id.</i> ("Once interaction is supported, data on individuals can be maintained both by direct customer involvement (for example, updating the name and mailing address) and by monitoring the documents accessed. A personal profile can capture basic demographics as well as individual information and environmental preferences. This information can be used for a number of interesting purposes, including 1. to configure the interface presentation 2. to fuel Web 'agents' who actively search the net or site based on the profile, and 3. to tailor and select site-specific information to present to the customer (for example, showing children's ads to children and adult-oriented ads to adults).")</p>
<p>Adam and Yesha, <i>Strategic Directions in Electronic Commerce and Digital Libraries:</i></p>	<p><i>See e.g.</i>, ADAM, p. 822 ("From a consumer's perspective, EC/DL systems require <i>decision agents</i> that can learn an individual consumer's preferences, seek out appropriate providers and negotiate requests for further information (e.g., to bring to the user's attention)</p>

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<p><i>Towards a Digital Agora</i>, ACM Computing Surveys, Vol. 28, No. 4, Dec. 1996 (“ADAM”)</p>	<p>or initiate purchases.”)</p>
<p>U.S. Patent No. 5,933,811 to Angles et al. (“811 PATENT”)</p>	<p>‘811 PATENT at Abstract, “The present invention is a system and method for delivering customized electronic advertisements in an interactive communication system. The customized advertisements are selected based on consumer profiles and are then integrated with offerings maintained by different content providers. The preferred interactive communication system interconnects multiple consumer computers, multiple content provider computers and multiple Internet provider computers with an advertisement provider computer. Whenever a consumer directs one of the consumer computers to access an offering existing in one of the content provider computers, an advertising request is sent to the advertisement provider computer. Upon receiving the advertising request, the advertising provider computer generates a custom advertisement based on the consumer's profile. The custom advertisement is then combined with the offering from the content provider computer and displayed to the consumer. The advertisement provider computer also credits a consumer account, a content provider account and an internet provider account each time a consumer views a custom advertisement. Furthermore, the advertisement provider computer tracks consumer responses to the customized advertisements.”</p> <p>‘811 PATENT, e.g., Col. 2, “As the popularity of the Internet and the World Wide Web has increased over the years, more companies are trying to find ways of promoting their product in a cost-effective manner. Thus, there has been a tremendous proliferation of corporate advertising across the Internet. For example, some companies such as Yahoo Corporation offer free services, such as the ability to search for particular sites on the Internet, but post advertising messages to consumers to help offset the cost of their service. Unfortunately, there is so far no effective way of targeting particular advertisements to those consumers most likely to use the product or service being offered. Therefore, a tremendous amount of advertising is wasted on promoting goods or services to an improper audience. As the number of people accessing the Internet increases, it will become more important to specifically target advertising to those individuals most likely to purchase the goods or services being offered. It will also be important for advertisers to know how effective a particular ad has become by tracking the responses of individual consumers. Unfortunately, there is currently no convenient mechanism for predetermining which users might be interested in a particular</p>

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	<p>category of advertised goods or services. There is also no current method for tracking consumer responses to particular advertisements.”</p> <p>‘811 PATENT, e.g., Summary of the Invention; Claims 1, 4, 6, 12; Figures 1-11</p>
BROADVISION	<p>Press Release (1.22.96)¹³, e.g., “One, the first application system for dynamic personalized marketing and selling on the Internet's World Wide Web. Over two years in development, the BroadVision One-To-One software product transforms static "brochureware" Web sites into interactive, one-to-one marketing communities. These online communities, built around consumer brands, virtual malls, or value-added services, will enable businesses to build long-term relationships with their customers through personalized content, services and promotions. Using the product's innovative Dynamic Command Center feature (for which the company has a pending patent), marketing, advertising and Web content managers, can: Personalize editorial content, advertising and incentive programs based on individual consumer demographics, psychographics and usage patterns; Observe consumer interactions in real time to identify and seize opportunities based on understanding and responding to consumers' online activity; Foster virtual communities by easily integrating electronic mail bulletin boards and online forums to One-To-One applications; Establish collaborative online dialogues with customers to improve long-term satisfaction and retention.</p> <p>Press Release (1.22.96), e.g., “According to Don Peppers, a well-known marketing consultant and co-author of the best-selling book "The One-To-One Future," the most important challenge facing marketers today is to build life-long customer relationships. "But to achieve this goal and realize the enormous potential of the Web, marketers need more than cool graphics and secure transactions. To keep consumers coming back, Web sites must 'learn' from interactions and remember from visit-to-visit the unique preferences and interests of each individual," Peppers said. "Savvy Web marketers will use sophisticated software like BroadVision One-To-One to progressively enhance the quality of information exchange with their customers, resulting in strong one-to-one relationships that deliver increasingly greater benefits to both producer and consumer.””</p>

¹³ PRESS RELEASE (1.22.96) shall refer to Personalized Marketing and Selling on the Internet Unleashed by BroadVision One-To-One Application System Helps Marketers Build Long-Term Relationships Through Personalized Content, Services and Promotions,” dated Jan. 22, 1996.

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	<p>Press Release (3.21.96)¹⁴, e.g., “Broadvision Inc is to offer personalised Web sites based on individual user profiles with its One-to-One on-line marketing database. One-to-One, which has been two years in development, offers a three-tier environment enabling businesses to tailor their World Wide Web sites to individual customers by tracking their preferences as they move around the site. In this way, companies can build up very detailed 'psychographic' profiles of their customers, enabling them to target specific advertising and promotions to individuals.”</p> <p>Press Release (3.21.96), e.g., “Chen admits that interactive, personalised marketing is not new, but says that the Internet is enabling it to be practised on a very large scale. Broadvision is looking at the complete life-cycle, from attracting customers to the site, encouraging them to buy over the Internet, offering incentives to give their details to the company and finally supporting the actual payment transaction.”</p> <p>Press Release (5.15.95)¹⁵, e.g., “BroadVision Inc. today proposed the definition of a new category of software critical to manage the buying and selling of products and services via interactive networks. The new category, Interactive Commerce Management System (ICMS), is a comprehensive solution for electronic commerce that allows interactive service providers to conduct interactive marketing, ordering and billing online. BroadVision, based in Los Altos, Calif., is currently designing and developing the first ICMS product for delivery by year-end 1995.”</p> <p>Press Release (5.15.95), e.g., “An ICMS employs object technology to enable traditional database marketing and new interactive marketing practices, including tracking consumer usage and interests. Service providers can evaluate the effectiveness of a particular promotion to reward repeat customers or determine peak shopping times. Since an ICMS uses objects to represent business rules and processes, it can reflect the unique business models of the service providers and still respect the specific 'look and feel' of the storefronts, allowing for</p>

¹⁴ PRESS RELEASE (3.21.96) shall refer to “Broadvision Uses Its On-Line Marketing Database To Deliver Personalised World Wide Web Sites,” dated Mar. 21, 1996.

¹⁵ PRESS RELEASE (5.15.95) shall refer to “BroadVision Developing First Interactive Commerce Management System To Support Online Sales & Marketing Process; New Software Category Necessary to Interactive Network Architecture,” dated May 15, 1995.

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	<p>change over time.”</p> <p>Press Release (5.15.95), e.g., “Examples of electronic commerce applications that can be offered to consumers over an interactive network include full-service electronic malls, independent electronic retailing, personalized advertising, travel services, movies-on-demand, time-shifted TV, pay-per-view, automated ticket sales, educational programs and online games.”</p>
C/NET	<p>Press Release (12.18.95)¹⁶, e.g., “C/net unveiled a new system that allows advertisers to target narrow audiences by delivering different ads to different site visitors in real time. The technology, called DREAM (Delivery of Real-Time Electronic Advertising Messages), went into operation on c/net's two web sites Dec. 15. DREAM allows c/net to categorize visitors to its site based on demographic information (taken from site registrations) and hardware and software data gathered on the fly. “We know certain things about the people coming into our site,~ said Scott Waltz, c/net's vice president of marketing. ~we know what kind of platform they're coming with, their connection rate, their browser type, and so on. We use that information to affect how our database serves content.” DREAM allows an advertiser to display different banners to different users. Waltz explained, "If I know someone's coming in with a Mac instead of an Intel platform, I can tailor the software or peripherals that I offer to that person so I have a much higher chance of speaking to that person and offering them something that they want." In another example, a bank could present a standard credit card offer to all customers except those from .edu domains. Visitors from .edu -- many of which are college students -- would see a special first card offer.”</p>
APTEX	<p>www.aptex.com¹⁷, e.g., “Aptex provides text analysis software to enhance mission-critical, real-time business processes and decisions. Using proprietary Content Mining™ technology, Aptex develops and markets intelligent solutions for online publishing, market intelligence, customer response, and educational publishing. Aptex products include Convectis™, an intelligent document categorization and routing server, and VITAL ResourceMiner™, an interactive tool for correlating educational content to state and local instructional</p>

¹⁶ PRESS RELEASE (12.18.95) shall refer to “Online Marketing: C/Net Introduces Customized Web Advertising,” dated Dec. 18, 1995.

¹⁷ WWW.APTEX.COM refers to webpages accessed through www.aptex.com homepage, available through www.archive.org (last accessed on May 19, 2014).

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	<p>standards. SelectCast™, an intelligent advertising and audience management server for World Wide Web content providers, is scheduled for delivery in the second half of 1996.”</p> <p>www.aptex.com, e.g., “SelectCast is a Web advertising placement server with unique predictive modeling capabilities for increased advertising effectiveness. When integrated with a Web site, the SelectCast advertising server will present visitors with intelligently-placed, individually-tuned advertising and promotions. Using proprietary Aptex neural network techniques and Content Vector™ data model, SelectCast will develop self-adjusting, predictive models of user behavior. By correlating these user profiles with advertising performance, demographic databases, and content provider feedback, SelectCast will continually improve advertising placement effectiveness.”</p> <p>Press Release (5.6.96)¹⁸, e.g., “Infoseek Corporation, a leading Web search service, and Aptex, a newly formed division of HNC Software Inc., today announced a long-term development and marketing partnership. Under the terms of the agreement, HNC's Aptex Division and Infoseek will jointly design and market SelectCast™, an intelligent advertising and audience management server for the World Wide Web, based on HNC's text analysis technology. Infoseek will also use the Aptex division's Convectis™ product, a neural network-based text analysis server, to automatically update the directory portion of Infoseek Guide, Infoseek Corporation's flagship Internet service. . . . When integrated with Guide, SelectCast is designed to present visitors with intelligently disseminated, individually targeted advertising and promotion. Using proprietary neural network techniques and the HNC patented Context Vector™ data model, SelectCast is intended to deliver self-adjusting, predictive models of user behavior. . . . To expand and enrich the user's Web experience, Infoseek will also employ the HNC/Aptex Convectis server as an "intelligent librarian" aide to its experts who categorize and summarize Web pages into thousands of categories within Infoseek's Guide directory. Convectis is expected to allow Infoseek's Guide directory to scale continually with the growth of the World Wide Web.”</p>

¹⁸ PRESS RELEASE (5.19.14) refers to “HNC Software and Infoseek Announce Web Partnership,” dated May 6, 1996.

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	<p>Press Release (12.3.96)¹⁹, e.g., “Aptex Software Inc. Tuesday announced the availability of SelectCast for Ad Servers, an intelligent software solution that revolutionizes Internet advertising by maximizing ad clickthrough and selectively targeting specific audiences.</p> <p>Press Release (12.3.96), e.g., ““Online advertisers are asking for higher response rates and more audience selectivity," said Michael Thiemann, President and CEO of Aptex. "SelectCast for Ad Servers delivers on both counts, with what we believe are the highest sustained clickthrough rates and most selective ad targeting available on the Internet." Aptex developed SelectCast for Ad Servers in partnership with Infoseek Corp. (NASDAQ: SEEK) to deliver industry-leading capabilities for a new Infoseek advertising service currently in development. Infoseek expects to use SelectCast technology throughout its service and the Infoseek Network. Early versions of SelectCast have been in use at Infoseek since the summer of 1996. "SelectCast capabilities represent the state of the art and a major improvement in ad serving technology," said Robin Johnson, Infoseek CEO. "We selected Aptex as a strategic partner because we believe their software is far superior to other technologies we evaluated for personalization and ad serving.””</p> <p>Press Release (12.3.96), e.g., “SelectCast for Ad Servers improves clickthrough rates by continuously evaluating user profiles as users click ads, and then delivering the same ads to similar users. SelectCast for Ad Servers delivers clickthrough increases of up to 50 percent compared to word- and topic-matching selection techniques -- until now the bestperforming technology available -- and up to 25 percent when measured against aggregated matching and general rotation results. SelectCast for Ad Servers targets audiences by developing profiles for all site visitors, analyzing and grouping profiles to identify users with similar interests, and then delivering designated ads consistently to users in selected groups. This "affinity modeling" process also identifies new audiences automatically as they emerge. SelectCast for Ad Servers provides comprehensive, site-wide user profiling while maintaining persistent, multi-visit profiles for every site visitor, and updating these profiles immediately with every user action. SelectCast for Ad Servers acts as an "intelligent observer,"</p>

¹⁹ PRESS RELEASE (12.3.96) refers to “Aptex announces SelectCast "turbocharger" for advertising servers,” dated Dec. 3, 1996.

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	<p>mining the context and content of all actions -- including clicks, queries, page views and ad impressions -- so that no explicit user feedback or "taste" judgments are ever required. By irreversibly encoding all user profiles, SelectCast for Ad Servers ensures user privacy. Personal information is never requested or stored, and profiles cannot be reverse engineered to determine specific user actions. SelectCast for Ad Servers is based on Aptex's patented Content Mining technology, which employs neural networks and a Context Vector data model to optimize relationships between users and content. Future SelectCast products are expected to enhance the performance of other types of commercial servers - including those for electronic commerce, one-to-one marketing, online publishing, and community creation -- by personalizing the selection of product and service information, news and entertainment, forums and chat sessions, and other forms of content."</p>
<p>HYPER-TARGETED MARKETING</p>	<p>Press Release (12.4.96)²⁰, e.g., "Hyper-Targeted Marketing precisely targets marketing efforts based on user profiles and choices made while browsing a Web site. Hyper-Targeted Marketing is based on Alpha Base Interactive's Metropolis Database and Web Hypertext Applications Processor (WHAP), a complete system that builds sophisticated web services that are automatically customized to the interests of subscribers and customers. Together with the company's EZ-ID browser plug-in, which automatically provides user identification, the system keeps track of customer preferences, service history, and interests they have shown on previous visits to a WHAP-supported web site. "The ability to precisely target marketing efforts is one of the most compelling advantages to marketing on the Web," said Steve Fecske, CEO of ABI. "In a world of information overload, customers will respond best to companies that can match individuals to products and content of specific interest to them.""</p>
<p>CYBERGOLD</p>	<p>"The CyberGold Service," e.g., "Upon logging in to the Net, Karen is presented with a short list of ad titles. Each of them involves a product or service in which she has actively expressed an interest either through her previous use of CyberGold facilities or through the user profile she filled out when she joined CyberGold Today's list contains ads for medium price hotels in New Orleans (where Karen's family is planning a vacation), a make-it-yourself telescope kit (a possibility for her husband's upcoming birthday), recently released movies (she's a</p>

²⁰ PRESS RELEASE (12.4.96) shall refer to "Alpha Base Interactive Provides Hyper-Targeted Marketing Service," dated Dec. 4, 1996.

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	<p>fan), some new nonfat organic dessert items (she's on a diet), and family minivans (with the new baby, the family has outgrown their present car). Not only are the subjects of the ads keyed to Karen's interests, but certain aspects of their style and depth are as well This permits the design of ads that are virtually custom-fitted to Karen's preferences, thus ensuring her attention The ad messages will be welcomed and attentively viewed. For the minivan ads, Karen has requested straightforward technical specs of models and configurations (she does not need to be sold on the idea of this kind of vehicle; she already knows she wants one). For the movie ads, Karen might request a film clip, while another subscriber might ask for a plot summary. Some consumers might prefer the entertainment value of ads like those generally found in the mass media, while a subscriber viewing an ad for food or drink might ask for a list of ingredients or nutrients.”</p> <p>“The CyberGold Service,” e.g., “Advertisers will find their potential customers through patent-pending "demographic routing" technology, which will steer ads directly to interested and willing buyers, as defined by the personal profiles in the CyberGold database. A welcome side-effect of this type of routing is that advertising will become 'orthogonal,' that is, unlinked to the editorial content of entertainment and information on the Net. When advertisers aim their messages at individual consumers rather than at demographic segments of the population ('blue-collar urban women under 30') they no longer need to worry about whether the editorial content of a particular magazine or television show is likely to attract potential buyers. Advertisers using orthogonal sponsorship typically would not even know what content they are sponsoring. Instead, they would simply explicitly delineate their target audience, provide ads, and offer some form of compensation directly to those viewers willing to view the ads. This unlinking between advertising and content is likely to be beneficial to consumers, advertisers, and society.”</p> <p>“The CyberGold Service,” e.g., “The CyberGold Marketing System is a more effective way of advertising for four reasons:</p> <ul style="list-style-type: none"> * Reach: advertisers can entice more customers to interact with their advertising by rewarding customers directly for their attention. * Targetability: CyberGold makes more efficient use of advertising dollars by targeting customer by demographic, psychographic or behavioral characteristics. *Accountability: advertisers only pay customers who interact with their ads. CyberGold

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	<p>provides information on the characteristics of the customers the ads have reached.</p> <p>* Integration: on-line promotional mechanisms including coupons and rebates are encapsulated into a single, easy-to-use system. CyberGold handles the complexity of electronic commerce for advertisers.”</p>
FREELOADER	<p>Press Release (9.30.96)²¹, e.g., “Beginning today, FreeLoader, a unit of Individual Inc. (NASDAQ:INDV), will make version 2.0 available for free downloading from the FreeLoader home page (http://www.freeloader.com). Among the unique features of the new version are:</p> <ul style="list-style-type: none"> - User-defined, custom channels in addition to the "subscriptions" of version 1.0. These channels allow users to personalize exactly how they would like to retrieve selected Web content - "Premium" branded channels of content from popular Web sources including: MSNBC (www.msnbc.com), NewsPage (www.newspage.com), Pathfinder (www.pathfinder.com), Slate (www.slate.com), Sony Music Entertainment (www.sony.com/Music), Sportsline USA (www.sportsline.com), and ZD Net (www.zdnet.com). - Enhanced, easier-to-use interface - Support for Microsoft's Internet Explorer, as well as Netscape Navigator - Ability to track user clicks and preferences to offer valuable advertising and editorial content personalized for each user” <p>Press Release (9.30.96), e.g., “FreeLoader provides an advertiser-supported, free service which automatically retrieves and categorizes content from pre-selected Web sites at user-defined times. Unlike other offline services, FreeLoader employs intelligent agenting technology to passively create a user profile based on clicks and selections, providing one of the only platforms for advertisers to customize a marketing message at a specific and well-defined audience. The server side database keeps track of the statistics received from the user such as age group, sex, zip code, country, first name, e-mail address, occupation and salary group.”</p>

²¹ PRESS RELEASE (9.30.96) shall refer to “FreeLoader releases Personalized Web Content Delivered Redesigned Interface And Screen Saver,” dated Sep. 30, 1996.

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HYPER SYSTEM	<p>“Hyper System: Patent Pending,” e.g., “What is Hyper System? Hyper System employs message display application software called "Hot Cafe" to transmit advertising and messages to precisely targeted audience of Internet. Hyper System can run simultaneously. with any Internet communications application, including WWW browser. It allows advertisements, information, and messages to be displayed continuously during a user's dial-up session. This will be forwarded to the providers via a leased line.”</p> <p>“Hyper System: Patent Pending,” e.g., “What is Hot Cafe? When using Hyper System, in addition to the web browser window on a user's screen, a section of the screen is devoted to another window "Hot Cafe" where advertising and information messages from corporations or individuals are continuously displayed. This information is updated every minute, irrespective of the Internet communications application. A feature of this "Hot Cafe" gives · advertisers the option of incorporating buttons with link capabilities to their messages, which enable users to easily dick onto the web page of the advertiser or infomation sender with their web browser. The application software, "Hot Café”, is distributed to users free of charge.”</p> <p>“Hyper System: Patent Pending,” e.g., “Establishing User Profile. When users register on-line, in addition <i>to</i> providing their names and addresses, users are asked to complete a detailed questionnaire about hobbies, interests and so on. Although no personal data is ever released, the questionnaire responses are plotted to create a statistical profile of Hot Cafe users. HYPER NET establishes a Database Center in Japan to match user profiles with the targeted data required by advertisers. This center will be connected to providers by a leased line to deliver advertising and information to users. Bendits of Using Hyper System. Hyper System has benefits for everyone: Providers have a new source of cash flow, advertisers and infonnation providers have a new direct marketing tool, and users can save their connection fees.”</p> <p>“Hyper System: Patent Pending,” e.g., “Benefit for Advertisers. Advertisers benefit in several ways using Hyper System. Information and advertising messages can be targeted precisely at a specific audience, whose composition is determined by the responses to the questionnaire. Since the advertising messages are interactive, an efficient response can be obtained and the results of advertising can be measured accurately and quickly.”</p>

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I/PRO	<p>“About I/Pro,” e.g., “With I/COUNT; site owners can monitor aspects of site usage such as number of visits, most frequently accessed files, and geographic and organization origin of visitors. I/COUNT has been commercially available since May 15.”</p> <p>“About I/Pro,” e.g., “I/ CODE: How It Works On Your Site The Exchange of Value The I/CODE system is based upon a value exchange between the user and the site. By providing you with their demographic profile, and potentially their identity, I/CODE members are sharing very valuable information. For sites, this demographic data translates into real dollars for I/CODE enabled sites who can interpolate content, exposure, and advertising potential from it. Sites should therefore be willing to compensate I/CODE members for their time and information with give-aways, sweepstakes, discounts and other benefits. Free Demographic Data. I/CODE provides sites with raw demographic data about all I/CODE members who sign-on at their site absolutely free. If you would like someone to provide data analysis, I/CODE offers analysis and reporting services on this data (see I/CODE Reports for more information, but the raw data is supplied to all participating sites at no cost.”</p> <p>“About I/Pro” (5.8,1996), e.g., “The I/ CODE Universal Registration System is an enabling product which benefits both content providers and Internet users. Sites benefit by obtaining detailed demographic data while avoiding redundant site-specific registration that negatively impacts traffic.</p> <ul style="list-style-type: none"> *Raw Demographic Data on all I/CODE members who sign-on at your site is provided free of charge. * Obtain: data on age distribution, income levels, gender mix, and other characteristics. * Gain insights into the depth of repeat visits to your site. *Access aggregated audience demographics for all I/CODE members (not just those who register at your site). * Allow visitors to share their anonymous demographics while respecting their privacy. * Understand audience preferences and their reaction to your site's content.”
F.J. Burkowski, “Delivery of Electronic News: A Broadband Application” (“BURKOWSKI”)	<p>BURKOWSKI, e.g., Abstract, “The system will provide selective content delivery based on individual and group profiles, hypertext links into archival and external data, continuous coverage of news stories, interactive objects, and "smart" advertising.</p> <p>BURKOWSKI, e.g., at 2, “Such systems typically provide two types of</p>

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	<p>services: retrieval of stories (documents) in response to user queries and personalized clipping services (i.e., selective dissemination of information) based on user profiles.”</p> <p>BURKOWSKI, e.g., at 3, “The information content and functionality of such a system will include</p> <ol style="list-style-type: none"> 1. Core content: This comprises the stories and advertisements considered important for all readers. It is transmitted to all users and is accepted by all clients for display. 2. Stereotyped content: Group profiles or stereotypes can be generated based on demographic information linking readers to various sections of the newspaper. Readers will be categorized by one or more such stereotypes and will receive various special interest sections, features, advertisements, etc., that meet the constraints of these stereotypes. 3. Supplemental content: While reading the news, a reader may request additional information by invoking a hypertext link or by querying a multimedia archive. Such an archive could be supported directly by the publisher of the newspaper, it could be a private archive held locally by the reader, or it could be a distributed archive on the Internet. 4. Individual profiles: The client subsystem will actively gather and filter information in accordance with an individualized reader profile. Such a profile might include gender, age, interest areas, income level, occupation, ethnic background, lists of products in which the reader has shown an interest, and reading habits such as preferred depth of news analysis. These last profile attributes will be updated dynamically as the client monitors the user's reading activity. 5. Advertisements: The system will feature customized, interactive advertisements that catch the attention of and involve the reader. These advertisements could gather information about the reader so that products and product advertising can be customized and targeted. This supports the trend to maintain marketing databases that keep track of customer related information.” <p>BURKOWSKI, e.g., at 3, “The proposed architecture consists of three layers, n a distributed client/server environment; the news sources layer, the news packagers layer, and the readers layer. The news sources layer consists of news producers that generate the news items and supply them in some agreed upon markup format. The news packagers layer consists of client/servers that accept items from the news sources and produce electronic editions of “the news”, including advertisements, etc., based on stereotypes. The</p>

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	<p>readers layer consists of the end-user client/servers. These accept editions of the news and produce the individual editions of “the news”. This includes, dynamic layout and assembly and requesting supplemental material based on the profile or end-user actions. Current work, not discussed in this paper, is focussing on the details of such an architecture, scalability, and networking.”</p> <p>BURKOWSKI, e.g., at 4, “An abstract data representation was defined and applied to the source data. Using an abstract representation divorces the display and manipulation of the news items from the original format of the source. A reader stereotype was defined for the prototype, as per demographic data supplied by <i>The Chronicle-Herald</i>. The client selected data from the abstract representation and processed and formatted it to produce the news display for the reader, based on the stereotype. The client has control over the display and order of items in the sections and the order of access to sections, but in this case, not over content of the sections or the order of the news items in the sections.”</p> <p>BURKOWSKI, e.g., at 5, “An extremely important feature of such a system will be the two-way communications available. Ads will be able to track who views them, how often, and for how long, and will be able to report this information to the advertiser. . . In summary, we feel that the delivery of electronic news is well suited to exploit the promised high bandwidth, switched, interactive communication facilities of the information highway. The presentation of such news will be based initially on a newspaper metaphor and will exploit communication and multimedia technologies to integrate other news sources, such as newscasts and video clips, with the text backbone. The system will provide selective content delivery based on individual and group profiles, hypertext links into archival and external data, continuous coverage of news stories.”</p>
<p>Tim O’Reilly, “Publishing Models for Internet Commerce,” Vol. 39, No. 6 (1996) (“O’REILLY”)</p>	<p>O’REILLY, e.g., at 82, “2. There is clear feedback to the advertiser about what works and what doesn’t, in the form of access logs. This feature tends to drive advertisers toward providing valuable content rather than hype. (Unfortunately, many of the people who followed our lead into net advertising haven’t yet learned that lesson!) In addition to varying the content of their advertising, advertisers can experiment with—and get detailed feedback on—the context in which advertising is most effective. For example, many advertisers are looking at the <i>click rate</i>---the rate at which readers actually click on an advertising hyperlink---as well as the overall page views or impressions in evaluating sites for advertising placements.”</p>
<p>NAQVI WO</p>	<p>NAQVI WO, p. 3 – “It is a further object of the present invention to</p>

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	<p>provide a method and system for advertising on a computer network in which advertisements are more focused and targeted, for example, by user queries and user profiles, including the past history of the user's interactions with the system.”</p> <p>NAQVI WO, p. 4 – “The present invention provides a new process and system for online advertising. This new process will be referred to throughout this application as query-based advertising ("QBA"). In the QBA process, advertisements are primarily triggered by user queries. User queries, as 15 used herein, refer to requests from an information consumer for one or more pages of information from a computer network. As a result of a query, a user is exposed to advertisements with the present invention, i.e., the query triggers advertisements.”</p> <p>NAQVI WO, p. 5 - “When the user requests a certain page or a certain topic of information, the relevant pages are retrieved from the computer network and shown to the user. The present invention, upon receiving the user's request, retrieves advertisements that are related to the user's action, dynamically mixes the advertisements with the content of the pages according to a particular layout, and displays the pages with focused, targeted advertisements as a part of the page. The advertisements can be made to satisfy a set of constraints requested by the advertiser, as well as the constraints of the publisher of the page, as further discussed below.</p> <p>The advertisement triggering mechanism of the present invention is not random or coincidental, but rather, is prespecified in advance. This specification will be referred to in this application as a contract. A contract specifies the marketing rules that link advertisements with 20 specific queries. For example, a diet soft drink advertisement may be shown when a user asks for a page about exercising equipment. These rules are specified by advertisers implementing the concept of "focus" or "relevance" of advertisements and help the advertisers to 25 target a specific audience. Owners of pages specify the focus content of their pages through special tags within a page. These tags are not displayed to the information consumer; the tags are used to decide what advertisement can be shown when the page is requested by a consumer.””</p> <p>NAQVI WO, p. 15-16 – “Initially, a user requests a particular piece of</p>

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	<p>information through one of the clients 17. The user's 10 request is given to the WWW Daemon 16, which passes the information to the gate 15. The gate 15 at this point decides what piece of information is being requested by the user and finds other relevant pieces of information that can be commingled with what the user has asked. The user, 15 for example, might ask the system to see certain car dealers, to find a phone number of a car dealer, or to get a page of a particular magazine. The gate 15 at this point gives the request to the matching rule engine 18 ("MRE"). The purpose of the MRE 18 20 is to look at the content of the user's query and to find a category within its active index SIC 19 that matches the same type. If the user has asked for car dealers, the MRE 18 invokes its rules to determine that car dealers are part of a class of things relating to transportation. Based on 25 the classification determined by the MRE 18, the system now knows that the user is asking about cars or about transportation or about whatever else that the user might be interested in. The MRE 18 at this point then returns to the gate 15 30 the category index of the user's query. If the user had asked about cars or about family sedans or about sports cars, at this point the MRE 18 would have figured out that the user's interest falls into a certain category. Based on the user's interest category, the system then retrieves the advertisements that are relevant to that category. Thus, the purpose of the MRE 18 is to figure out what the 5 user requested, to place the user's request in a category of a classification system (i.e., the active index SIC 19) and, based on that classification, to retrieve relevant advertisements."</p> <p>NAQVI WO, p. 20 – "During the computation of the advertisements and all the other computations that the system of the present 5 invention performs, a logging module 22 of the system performs extensive logging of what the user has asked, what advertisements were shown, how long the advertisements were shown, and which advertisements were shown to which user. The logging module 22 then stores these logs in a SYS logs 10 database 23. Various scanned reports can be produced and defined using the information in the SYS logs database 23."</p> <p>NAQVI WO, p. 26-27 – "The "focus" arrows 43 shown in Fig. 2 indicate that a certain focus is associated with each category. The query may have been directed to a category of listings or a particular vendor. In both cases there is a "focus"</p>

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	<p>associated with the content of the query (e.g., automobiles, physicians, lawyers, etc.). In addition, there may be a focus associated with the geographic location of the user to permit advertisers to target users in particular geographic regions. The focus process plays a major part in the present invention. No advertisements are shown unless it can be determined that the advertisements are in some way focused or related to the content of what the user requested.”</p> <p>NAQVI WO, p. 40 – “The user may also be asked to provide certain demographic or profile information. For instance, the user can require that his advertisement be shown only to people in age group 30 to 40 or only to people living in Morristown, NJ or any other geographic location. The last item that the user is asked to specify is the contract. The various contracts available to the advertiser are explained above. When the user is finished entering all of this information, the system updates the ad info database (step 115).”</p> <p>Figures 1, 2, 7, 10, 11 (and associated text)</p>
BULL	<p>BULL at Col. 3 - “The user is presented with a variety of search, display and output options. The search options include: 1) Search using keywords or combinations; 2) Use of complex software text search agents that have been predefined by the information aggregation and synthesization system site operators. These agents take advantage of the expansive subject matter expertise in understanding which search parameters will best serve the user’s search needs; 3) Use of search patterns and agents from this user’s previous sessions, perhaps expanded by available specials and promotions; 4) Natural Language Query; and 5) Some combination of 1), 2), 3) and 4). During a user session or when a user completes a session, the user’s looking activity is analyzed for patterns, preferences and trends and the profile annotated or updated so that when they next use the information aggregation and synthesization system, the nominated searches will be customized to their individual desires.”</p> <p>BULL at Col. 3 – “The user logs on to the system either by name, address, etc. or with some pseudonym (or some combination). This allows the user’s activity to be tracked and establishes a log of the user’s activity during the current online experience (session). The user is also asked for explicit profile information concerning preferences.</p>

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	<p>These preferences will be used to narrow the information retrieval.”</p> <p>BULL at Col. 4 - “Along with displays, including those for data entry, searches, search results, information retrieval, the user will be presented with advertisements and/or coupons based on criteria entered by advertisers. This criteria may take the form of simple logic, linking an ad/coupon with a display or be derived from complex software text search agents that analyze one or more of the following: The user’s looking pattern, the user’s psychographic profile, the user’s personal profile, the availability of the advertiser’s/couponer’s goods or services at the instant in time that the criteria is being exercised. The placement of the ad/coupon will be logged along with user profile information and provided to the advertiser/couponer in some form of report.”</p> <p>BULL at Col. 5 – “IV. Automated Profile Generation. Presently, user’s profiles are collected based on explicit entry by the user, and extraction from demographic data collected from a variety of sources. In the present invention, the searching patterns of the user on the Internet are monitored. A set of software text agent profiles is developed and may be integrated with explicitly collected profile information. The automated profile generation will have both explicit profile information gathering and implicit profile information gathering capabilities. As the user uses the information aggregation and synthesization system, the pattern of information being viewed is analyzed and the user presented with search ideas as well as promotions and specials from suppliers based on these patterns.”</p> <p>BULL at Col. 6 – “A theme or definition of a class of information (e.g., central California travel and tourism or new automobiles) is identified. Data sources (Local DataStores (500 . . . N) and Network Accessible DataStores (300 . . . N)) are screened for relevance, quality of information and appropriateness (or may be included de facto based on their title or description). These are indexed using a text indexing software tool 2981 and the indices stored on the system index DataStore 220. An initial set of Preestablished Software Text Agents are defined. These agents are words or combinations of words that form a word based search pattern. This initial set of agents is relevant to the searches that might be performed against the class of information that was indexed. (i.e., Agents about automobiles would be developed to search a class of indexed information about new cars). These are</p>

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	<p>stored in the Preestablished Software Text Agent DataStore 231. The System 200 uses any multipurpose computer central processing units with the ability to handle multiple inputs and outputs with the necessary hard disk storage and to run World Wide Web (WWW) or other network server software.”</p> <p>BULL at 7 - “Login and Profiles: Users using a user access system 100 access the information aggregation and synthesization system 200 through the Internet or other public or private network. The user either logs in by name or by pseudonym or from data previously stored in the user access system 100. New users create an account on the user profile datastore 210. Previous users are identified to an existing account. The user is presented with a variety of options to create or update profile information in the user profile datastore 210. This involves a single data entry option or many mini-options based on the browsing activity.”</p> <p>BULL at Col. 7-8 – “The user is also presented with browsing options based on: activity from a previous session in the browsing activity datastore 240; predeveloped software text agents and personalized software text agents (developed in the Post Session Activity) stored in the Personal Search Text Agent DataStore 232; or combinations of all as well as situational opportunities developed by the user greeting subsystem 291. The user selects the search options to be used (or simply enters search criteria directly). This search criteria is used to search the index datastore 220 and a list of data sources is presented to the user for selection. The user indicates the information to be viewed. The user will also be presented with options to refine his search through the altering of search agent criteria (Search Reduction System 293).”</p> <p>BULL at Col. 10 - “User Profile DataStore This contains data about the user, preferences, situational preferences, accounting information, psychographic profile, personal profile and other relevant information related to the user by individual identifier.”</p> <p>BULL at Col. 10 – “232 Personal Search Text Agents These are complex software text search patterns that may be individual words or word sets and/or combinations of words and Preestablished Software Text Agents 231 includ</p>

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	<p>ing the results of the post session analysis 2921 that provide individually customized searching of the Index DataStore 220.</p> <p>BULL at Col. 12 – “IV. Automated Profile Generation Browsing patterns of the user are analyzed and these patterns update profiles automatically. FIG. 7 illustrates a how diagram for the Automated Profile Generation. The looking patterns of the user are monitored to develop a set of software text agent profiles that are integrated with explicitly collected profile information to assist the user in narrowing down information for future sessions as well as suggesting references, merchandise or services during the current session. This is accomplished by statistical analysis of the text stream. The searching patterns of the user on the Internet are monitored by monitoring the text stream. A set of software text agent profiles is developed and may be integrated with explicitly collected profile information. The explicit information is gathered by queries to the user. The explicit and implicit data are merged to develop software text agents that support the user’s future shopping sessions.”</p> <p>BULL at Col. 12 – “Certain criteria will be entered which delineates a pattern that is requested to be monitored. When this pattern is seen (or is in close match) in the user’s WWW activity, the insertion mechanism is activated. If a certain web page is requested, the present invention will display a particular advertisement. The ad will be inserted based on the content of the existing web page being read. An analysis of the text stream of the user’s interactive session will be performed online. When certain text patterns are observed (or close matches are observed), an advertisement is inserted into the display. The advertising may be static or connected to the advertiser’s computer datastore which designates specific ads or coupons based on the pattern match and other conditions which may be required. The software agent criteria is entered by the merchant in the agent data store 230 which delineates a pattern that needs to be monitored. As an example, if the user accesses web pages for “Holiday Inns on the West Coast”, the insertion mechanism Would be established to automatically insert ads for “Hilton Inns on the West Coast.””</p> <p>BULL at Figs. 1 - 7 (and associated text)</p>

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KOHDA '96	<p>KOHDA '96, §1: “An advertising agent is placed between the advertisers and the users. Advertisements fetched from advertisers' Web servers are merged with Web pages from ordinary Web servers by the agent, and the merged pages are displayed on the users' Web browser. Thus, the users see advertisements on any server around on the Internet. Moreover the agent has chances to deliver appropriate advertisements which suit each user's taste.”</p> <p><i>Id.</i>, §2.2: “Note that the agent is aware of the identity of the user and which page the user is about to read on the browser, so the advertising agent can tailor advertisements for <i>individuals and their current interests</i>. Thus it prevents the user from having to see advertisements that are unrelated to their current interests.”</p> <p><i>Id.</i>, §3.1: “At invocation, environment information is passed to each filter program as invocation parameters. The environment information includes at least the identity of the user and information about the selected anchor. The contents of a Web page designated by the anchor are input into the pipe of filters, and the output from the pipe is displayed on the browser's window as an HTML document.”</p> <p><i>Id.</i>, §3.2: “The filter keeps in memory the contact path (URL) to the agent's Web server. When it is invoked, it forwards the invocation parameters passed from the browser to the agent's Web server, and waits for a reply.”</p>
KOHDA '853	<p>KOHDA '853 at 6:56 to 7:3: “The user inputs data for use in obtaining requested retrieved information (for example, articles from a newspaper relating to a specified item) through the input/output unit 1. Then, the information retrieving apparatus 100 obtains the retrieved information from the information retrieving server through the retrieved information obtaining unit 3, automatically obtains additional information such as advertising information from the information server through the additional information obtaining unit 4, incorporates the obtained information into the retrieved information obtained from the information converting unit 2, and outputs the result on a display unit.”</p> <p><i>Id.</i> at 7:32-43: “The information retrieving apparatus 100 can be widely applied to, for example, advertisements through the WWW. That is, sufficient advertising effect can be gained even when access is concentrated on a very small number of popular information servers, and a large number of other information servers are rarely accessed.</p>

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	<p>Therefore, a sufficient number of advertisers can be collected. In the WWW, information users are individuals and there are not a large number of users concentrated in one access operation. However, since the advertising information has been preliminarily selected by the user, the user is interested in the provided advertisement in most cases.”</p> <p><i>Id.</i> at 14:16-54: “The additional information use history storage unit 51 stores an actual use history of the user corresponding to the additional information. That is, the additional information use history storage unit 51 stores a private history in its memory if the data required to obtain retrieved information from the retrieval condition input unit 11 is in the additional information.... The frequency of uses refers to the number of times the information is used. Especially if the additional information is advertising information, it is also recorded whether the product in the advertisement has been purchased through the additional information. ... For example, when the additional information describes a new personal computer of a specific manufacturer, it can be obtained as the detailed information about the practical specification, appearance, etc. of a desired model. The information is instructive for the user, and is also useful for the advertiser because it improves an advertising effect for the product.”</p> <p><i>Id.</i> at 18:64 to 19:4: “The use of such additional information is recorded in the additional information use history storage unit 51. For example, the number of times the information is used is recorded ‘+2’ because the detailed information is obtained from the advertisement, and the contract information is obtained from the detailed information. When a purchase contract is signed for the advertised product, it is also recorded.”</p> <p><i>Id.</i> at 15:65 to 16:2: “the information server 102 or advertising agent server 102A reads the additional information use history at predetermined intervals to be informed of the tendency of liking of the user.”</p>
<p>“Firefly Licenses Targeting Technology,” by Debra Ahe Williamson, December 9, 1996, available at adage.com/article/news/firefly-licenses-targeting-technology/75969. (“WILLIAMSON”)</p>	<p><i>See e.g.</i>, WILLIAMSON, p. 1 (identifying Yahoo! as licensing Firefly’s technology; “Firefly users provide basic demographic information, such as age, gender, ZIP code and e-mail addresses. As they traverse a site, entering different content areas and rating their interests, that information is added to a user profile.”); <i>id.</i> (“Participating sites will use Firefly’s Passport software to register visitors and build individual profiles based on visitors’ activity on a site.”)</p>

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<p>“Firefly Network and Yahoo! Offer Consumers Ability to Intelligently Navigate the Web; My Yahoo! Features Firefly Tools to Offer Personalized Recommendations for Web Sites and Build Dynamic Communities,” Dec. 11, 1996 (“FIREFLY NETWORK AND YAHOO! OFFER CONSUMERS ABILITY TO INTELLIGENTLY NAVIGATE THE WEB”)</p>	<p>See e.g., FIREFLY NETWORK AND YAHOO! OFFER CONSUMERS ABILITY TO INTELLIGENTLY NAVIGATE THE WEB, p. 1 (“Using Firefly software tools, customer sites can register and recognize Firefly Passport™ holders, deliver personalized recommendations, create relevant and dynamic communities, serve targeted content and ads and more accurately measure and report on site activity.”); <i>id.</i>, p. 2: “The Passport Office also enables Firefly software tools customers to deliver targeted content and advertising, as well as, accurate measurements and reports regarding site activity.”</p>
<p>“Boston.Comment Today’s topic Shadow advertising,” <i>The Boston Globe</i>, November 14, 1996. (“BOSTON GLOBE”)</p>	<p>See e.g., BOSTON GLOBE, p. 1 (“Firefly offers advertisers, a movie studio, for example, the opportunity to deliver an ad plugging a new Bruce Willis movie only to users who have rated previous Bruce Willis movies highly.”)</p>
<p>ABOUT NETGRAVITY ADSERVER</p>	<p>See e.g., ABOUT NETGRAVITY ADSERVER, Getting Started, p. 1 (“AdServer uses a sophisticated scheduling algorithm to select the ad to show, reading the ad and scheduling information from its database. AdServer evaluates many scheduling criteria for choosing an ad, including . . . user profile targeting.”); <i>id.</i>, NGAPI Basics, p. 1 (“Such custom functions may perform the following actions: target ads to users based on browser cookie information or lookups in a custom database”</p>
<p>Lang, “NewsWeeder: Learning to Filter Netnews,” 1995 (“LANG”)</p>	<p>See e.g., LANG, Introduction (“the user can also use NewsWeeder’s <i>virtual newsgroups</i>. For example, user Bob might go to the virtual newsgroup <i>nw.top50.bob</i> to see NewWeeder’s personalized list of the top 50 out of all articles, according to learned preferences for Bob. He is then presented with a list of one-line article summaries, sorted by predicted rating. The user selects a group of articles from these summaries and reads them sequentially. After each article is read, the user clicks on a rating from one to five . . . NewsWeeder collects the user’s ratings for <i>active feedback</i> on the user’s interests. . . . Each night, the system uses the collected rating information to learn a new model of the user’s interests.”)</p>
<p>Green, Bayer & Edwards, “Towards Practical Interface</p>	<p>See e.g., GREEN, Introduction (“The agent is given a minimum of background knowledge, and learns appropriate behavior from the user and perhaps other agents. The use of machine learning methods to</p>

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<p>Agents which Manage Internet-Based Information, 1995 (“GREEN”)</p>	<p>develop a profile of user preferences allows the agent to adapt to changes in user behavior, as well as eliminating the need for explicit programming with rules or scripts. A common method of developing a user profile is by observing and analyzing user behavior.”); <i>id.</i> (“The user profile is then employed to generate classifications for the new documents, such as a user’s interest rating in a USENET news article or a World-Wide Web page.”); <i>id.</i>, Section 4 (“LAW helps a user find new and interesting information on the World-Wide Web. It provides assistance in two ways: by interactively suggesting links to the user as they browse the Web and through the use of a separate Web robot that attempts to find pages that might be of interest.”)</p>
<p>MEEKER</p>	<p>MEEKER at v.: “However, that same marketer should get even more interested if a Web site (such as CNET, at www.cnet.com) can route advertisements to a demographic group that includes only males who are at least 35 years old, have household incomes in excess of \$100,000, live in California, and use Pentium PCs with Netscape Navigator.”</p> <p><i>Id.</i> at 3-13: “However, for direct marketing, the Internet offers the ability to target and deliver messages to an audience with specific demographics and interests, and allows the user to interact instantly with that message. In essence, direct response advertisers sell goods and services to customers individually, and no other medium affords users such immediate access at the point of sale.”</p> <p><i>Id.</i> at 6-2: “Each time the page is downloaded by a user, a designated space on the page (in the example in Figure 6-1, a rectangle across the top) is automatically filled with a banner. The method by which a site determines which ad to put into which download may depend on agreements or contracts with advertisers, the capability of the technology involved, the demographics of the user, and other factors.”</p> <p><i>Id.</i> at 6-3: “This brings us to the concepts of inventory management and allocation, and ad tracking and rotation. The most important goal of advertising is to deliver to each person the message most appropriate to their tastes, buying habits, and so forth, and with the most effective frequency — in other words, to execute a campaign tailored to each individual. To this end, many Web sites use software packages to impose ad delivery schema over on-the-fly allocation of advertising inventory. By schema, we mean sets of rules governing which ads get delivered when. This software can be either off-the-shelf (from companies like Net Gravity, Bellcore, and Accipiter) or developed in-house (as HotWired and CNET, for instance, have done). The importance of the quality, flexibility, and reliability of ad management software is simple: more targeted, reliable, and verifiable</p>

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	<p>advertising delivery translates directly into the ability to charge more per impression.... Targeting gives advertisers the opportunity to filter messages to selected audiences based on certain criteria. This may be the most powerful aspect of the Internet as an advertising medium — the ability to dictate the exact composition of an advertisement’s audience.... This targeting ability has two pieces: 1) the process for ad delivery and measurement is precise and directed (e.g., each ad is individually delivered in response to a user-generated request — there is no TV- or radio-like “shotgun” delivery — followed by statistical sampling and averaging to determine the actual composition of the receiving audience); and 2) each individual delivery can be tailored, based on user information. The power of the second aspect is increased substantially with more detailed user data, potentially collected through registration or in the course of using the site. Thus, with the right user information, one could know that every advertisement delivered is received by teenage women using a Macintosh, or by college-educated middle-age men in specific (perhaps high-income) zip codes, and so on. Essentially, it’s a marketer’s dream.”</p> <p><i>Id.</i> at 6-6: “Search engines, by definition, use text input by users to conduct searches of relevant content on the Web. Since advertisements are displayed along with the search results, these companies allow advertisers to buy “key words,” which display the advertiser’s banner when a user searches for the word purchased. It follows that the word or words purchased are generally related in some way to the advertiser’s products or services. Infoseek and Yahoo! charge \$1,000 per month per keyword, and based on a target of 20,000 impressions, this would yield a CPM of \$50. For example, Figure 6-3 shows how the results of a search for the word “router” yielded a typical list of sites but also netted an advertisement for Cabletron Systems (a maker of switches, considered an alternative to routers). In fact, any time this word was searched for, the same ad came up. A search for “hub” consistently resulted in a different ad for the same company. (Yes, we searched for “beer,” and each time we got a Miller Genuine Draft ad).”</p> <p><i>Id.</i> at 6-10: “We reiterate our belief that the ability to marry content to creative will be a key driver of pricing. Essentially, this requires that the advertising be targeted at the audience for the particular site’s type of content. The next logical step in this process would then be to tailor not just to the audience, but also to each individual user according to his or her buying and browsing habits. Several makers of personalization software, most notably Firefly Network (formerly Agents, Inc.), provide products that personalize ad delivery based on a user’s past behavior or profile. If a user has come to an advertiser’s</p>

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	<p>site three times, looked at the same item each time, but has yet to purchase it, delivering an ad for that product as the user again enters the site would certainly be more valuable to an advertiser than the delivery of that ad indiscriminately. Once again, the more targeted the audience delivered, the higher the price advertisers will pay.”</p> <p><i>Id.</i> at 7-11: “Another development in this area is the use of cookies, wherein a server-specific file is sent by a Web site server and automatically stored by a browser on a user’s hard disk. This cookie file’s data can be anything, like a date/time stamp, an IP address, or a unique user ID. Once a cookie is received from a given server, whenever that browser makes a request to that server for an HTML page, it will include the cookie with the request. The browser will only send a cookie to the server site that originally sent it, so it is not possible for one Web site to look at or request cookies from other sites. Cookies provide a signature, so that Web sites can track an individual’s number of visits and the path he or she took through a site. This information can be employed in a number of creative ways, including obtaining behavioral data, crafting marketing messages for a site owner’s or advertiser’s products, keeping track of purchasing activity at a site (if you visit and read all of my pages on espresso makers, but don’t buy one, I can still show you the product each time you return), and overall personalization of the user’s experience at the site. Some potential downsides to the use of this technology is the possibility of tampering by users or third parties. Cookies are located on a user’s local hard drive, and if altering the cookie data is beneficial enough to a user, it is likely that many will attempt to do so. In addition, third-party sites might have cause to tamper with the cookie data of competitors (or partners), or invade the privacy of users by reading their stored data for behavioral, purchasing, or other purposes. Despite these potential security and privacy issues, this tailored marketing approach adds significant value, we believe, that may be enhanced further by demographic information gained through user registration data, which are collected at such sites as CNET, ESPNET SportsZone, <i>The Wall Street Journal</i> Interactive, and the online services. In our view, it would make a very compelling value-added proposition if advertisers could be certain of the age, gender, occupation, or purchasing preferences of each person who views an ad.”</p> <p><i>Id.</i> at 10-10: “Firefly Network (formerly Agents, Inc.; Cambridge, Mass.; www.firefly.com) was founded in 1995 and provides software that uses advanced algorithms based on certain collaborative filtering technologies to make recommendations to users based on their preferences. In January 1996, the company (then called Agents, Inc.)</p>

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	<p>launched this intelligent agent technology on the Web in the form of Firefly. As a user continues to visit the network, Firefly's technology "learns" his or her likes and dislikes, can compare and contrast these with other users' patterns, and is able to offer members personalized recommendations for music, movies, and so forth. This technology therefore offers marketers the ability to target messages and advertisements based on an individual's preferences and interests. As a result, marketers can maximize efforts on a prequalified audience and offer a more relevant experience for consumers. The company currently has 95 employees and more than 500,000 registered members. Firefly Network's customers and partners include: Yahoo!, Ziff Davis's ZD Net, Reuters, Rolling Stone, Newbury Comics, The All Music Guide, Hits World, and Muzak's Enso Audio Imaging Division. They have raised in excess of \$18 million from investors, including: Atlas Ventures, Dun & Bradstreet Enterprises, Merrill Lynch, PAFET, Softbank, Trident Capital, Goldman Sachs, and Reuters New Media."</p>
<p>U.S. Patents No. 6,183,366 to Goldberg et al. ("366 PATENT")</p>	<p>'366 PATENT, e.g., Abstract, "The present invention is an information service and advertising providing system for presenting interactive information services together with interactive advertising on a communications network such as the Internet and LANs. The information service may be a game played interactively on the network while advertising is communicated between users and an advertising network node. However, other interactive services, such as are available on the Internet, are also accessible for concurrent use with advertising presentations. Advertising or promotionals may be selectively presented to users by comparing archived user profiles with demographic profiles of desired users. User responses to advertising may be used for evaluating advertising effectiveness such as for test or microtarget marketing. Compensation to users for viewing advertising may also be provided. For instance, users may be provided with subsidized Internet access for receiving advertising while concurrently interacting with an Internet service. Users may also be provided with various games and/or game tournaments via interactive network communications. Thus, users may respond to advertising while being entertained (e.g., via games), or while interacting with another network service."</p> <p>'366 PATENT, e.g., Summary of the Invention, "The present invention is a computerized interactive advertising system (i.e., method and apparatus) for exchanging information regarding goods and/or services between a first population of users (hereinafter also known as "players" or "users") and a second population of users (hereinafter also</p>

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	<p>known as "sponsors" or "advertisers"). In particular, the sponsors or advertisers may present information related to goods and/or services to the players using the present invention and the players may view this information while, for example, interacting with the present invention for playing a game such as blackjack, craps, roulette, poker, pai gow or the like. Moreover, a player may also interact with the present invention so that the player has the capability for responding to sponsor or advertiser presented questionnaires, as well as for purchasing or viewing sponsor goods and/or services. Thus, the present invention provides an information exchange service within a gaming context for enticing players to view and/or interact with sponsor presentations such as interactive advertisements.</p> <p>It is also an aspect of the present invention that each player or user is presented with advertisements for products and/or services, wherein it is believed the player will be receptive to the advertisement. That is, the present invention selectively presents advertisements to each player, according to stored characteristics and preferences of the player that the present invention has determined from, for example, player supplied personal information, player responses to questions, and/or analysis of player interactions such as player requests for additional information related an advertisement. Thus, such a selective presentation of advertisements allows a sponsor or advertiser to provide information related to relatively extensive or expensive promotionals (e.g., demonstrations, samples, discounts, trial subscriptions, prizes, bonuses) to players most likely to subsequently purchase the advertised product or service. Consequently, such selectivity can greatly increase the cost effectiveness of advertising, wherein the term, advertising (or advertising presentation), as used herein is understood to include not only product or service presentations that are merely informational, but also more interactive advertising presentations such as promotionals wherein discounts, free samples or a trial usage may be offered. . . It is a further aspect of the present invention to require each player to use a distinct identification provided when the player "registers" with the present invention before playing any games so that a network site for the invention may be able to identify each player. Accordingly, it is an aspect of the present invention during registration, that each player provides personal information about him/herself both for gaming identification and/or use as selection criteria by sponsors or advertisers for presenting particular presentations. For example, in the case of an Internet embodiment of the present invention, such registering can be performed via the Internet prior to play of any games at a gaming/advertising web site. Thus, players may be required to provide the present invention with information about themselves such as name, address, E-mail address, age, sex, and/or other player characteristics</p>

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	<p>deemed pertinent to one or more sponsors or advertisers. Accordingly, the present invention provides a sponsor or advertiser with the capability to target its presentations substantially only to players or users having selected characteristics as, for example, determined from player information provided when registering with a network site for the present invention.”</p> <p>’366 PATENT, e.g., Claims 1, 2, 3</p> <p>’366 PATENT, e.g., Figures 3, 4A-E, 6A-B, 7 (and associated text)</p>
<p>U.S. Patents No. 7,496,943 to Goldberg et al. (“’943 PATENT”)</p>	<p>’943 PATENT, e.g., Abstract, “A networked system is disclosed for presenting advertising during on-line interactions between a user and a service of a network (e.g., the Internet, interactive cable, and/or a LAN). Advertisements (ads) are presented to a networked user unrequestedly during user interactions with the service. The user can activate the ads (via hyperlinks) for receiving additional advertising. The system gathers user data and/or develops user profiles for selectively presenting ads, promotionals, discounts, etc. targeted to receptive users. In exchange for viewing such selective presentations, on-line access to the service is provided, the service including, e.g., (a) playing on-line interactive games (e.g., blackjack and poker), (b) providing access to the network itself (e.g., an Internet service provider), and/or (c) providing access to substantially any interactive service accessible via (b). The system can provide free/reduced cost network services to the user for viewing unrequested advertising. The system can be provided for a casino.”</p> <p>PATENT, e.g., Summary of the Invention, “he present invention is a computerized interactive advertising system (i.e., method and apparatus) for exchanging information regarding goods and/or services between a first population of users (hereinafter also known as “players” or “users”) and a second population of users (hereinafter also known as “sponsors” or “advertisers”). In particular, the sponsors or advertisers may present information related to goods and/or services to the players using the present invention and the players may view this information while, for example, interacting with the present invention for playing a game such as blackjack, craps, roulette, poker, pai gow or the like. Moreover, a player may also interact with the present invention so that the player has the capability for responding to sponsor or advertiser presented questionnaires, as well as for purchasing or viewing sponsor goods and/or services. Thus, the present invention provides an information exchange service within a gaming context for enticing players to view and/or interact with</p>

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	<p>sponsor presentations such as interactive advertisements.</p> <p>It is also an aspect of the present invention that each player or user is presented with advertisements for products and/or services, wherein it is believed the player will be receptive to the advertisement. That is, the present invention selectively presents advertisements to each player, according to stored characteristics and preferences of the player that the present invention has determined from, for example, player supplied personal information, player responses to questions, and/or analysis of player interactions such as player requests for additional information related an advertisement. Thus, such a selective presentation of advertisements allows a sponsor or advertiser to provide information related to relatively extensive or expensive promotionals (e.g., demonstrations, samples, discounts, trial subscriptions, prizes, bonuses) to players most likely to subsequently purchase the advertised product or service. Consequently, such selectivity can greatly increase the cost effectiveness of advertising, wherein the term, advertising (or advertising presentation), as used herein is understood to include not only product or service presentations that are merely informational, but also more interactive advertising presentations such as promotionals wherein discounts, free samples or a trial usage may be offered.</p> <p>Moreover, it is an aspect of the present invention that each player may interact with and play a game at a time and pace (i.e., tempo) substantially of the player's choosing. In particular, the player is not bound by a required order or sequence of play involving other players, even though the player may be in competition with other players. In fact, a player may cease play for an extended time while in the midst of a game and subsequently continue the game at the point where the player ceased to play. Thus, if the present invention is easily accessible, then players may interact with the present invention at their leisure. . . . "t is a further aspect of the present invention to require each player to use a distinct identification provided when the player "registers" with the present invention before playing any games so that a network site for the invention may be able to identify each player.</p> <p>Accordingly, it is an aspect of the present invention during registration, that each player provides personal information about him/herself both for gaming identification and for use as selection criteria by sponsors or advertisers for presenting particular presentations. For example, in the case of an Internet embodiment of the present invention, such registering can be performed via the Internet prior to play of any games at a gaming/advertising web site. Thus, players may be required to provide the present invention with information about themselves such as name, address, E-mail address, age, sex, and/or other player characteristics deemed pertinent to one or more sponsors or advertisers. Accordingly, the present invention</p>

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	<p>provides a sponsor or advertiser with the capability to target its presentations substantially only to players or users having selected characteristics as, for example, determined from player information provided when registering with a network site for the present invention.”</p> <p>’943 PATENT, e.g., Claims 1, 2, 9, 11-14</p> <p>’943 PATENT, e.g., Figures 3, 4A-E, 6A-B, 7 (and associated text)</p>
<p>U.S. Patents No. 6,712,702 to Goldberg et al. (“’702 PATENT”)</p>	<p>’702 PATENT, e.g., Abstract, “The present invention is a game playing method and apparatus for automating games such as blackjack, poker, craps, roulette, baccarat and pai gow, wherein players may play continuously and asynchronously, and information related to advertised items can be exchanged between players and advertisers. In one embodiment, each instance of a game is likely unique from all other current game instances. The games do not require a manual dealer and in one embodiment, played in a gaming establishment using low cost gaming stations. The present invention may also, be used to play such games on the Internet or an interactive cable television network wherein a game controller communicates with players at network nodes in their homes and at their leisure since there is no game tempo requirement. During a game, advertising is selectively provided by comparing player personal information with a desired demographic profile. Player responses to advertising are used for evaluating advertising effectiveness. The invention is useful for test marketing of products, advertisements, and reduces advertising costs.”</p> <p>’702 PATENT, e.g., Summary of the Invention, “he present invention is a computerized interactive advertising system (i.e., method and apparatus) for exchanging information regarding goods and/or services between a first population of users (hereinafter also known as “players” or “users”) and a second population of users (hereinafter also known as “sponsors” or “advertisers”). In particular, the sponsors or advertisers may present information related to goods and/or services to the players using the present invention and the players may view this information while, for example, interacting with the present invention for playing a game such as blackjack, craps, roulette, poker, pai gow or the like. Moreover, a player may also interact with the present invention so that the player has the capability for responding to sponsor or advertiser presented questionnaires, as well as for purchasing or viewing sponsor goods and/or services. Thus, the present invention provides an information exchange service within a gaming context for enticing players to view and/or interact with</p>

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	<p>sponsor presentations such as interactive advertisements.</p> <p>It is also an aspect of the present invention that each player or user is presented with advertisements for products and/or services, wherein it is believed the player will be receptive to the advertisement. That is, the present invention selectively presents advertisements to each player, according to stored characteristics and preferences of the player that the present invention has determined from, for example, player supplied personal information, player responses to questions, and/or analysis of player interactions such as player requests for additional information related an advertisement. Thus, such a selective presentation of advertisements allows a sponsor or advertiser to provide information related to relatively extensive or expensive promotionals (e.g., demonstrations, samples, discounts, trial subscriptions, prizes, bonuses) to players most likely to subsequently purchase the advertised product or service. Consequently, such selectivity can greatly increase the cost effectiveness of advertising, wherein the term, advertising (or advertising presentation), as used herein is understood to include not only product or service presentations that are merely informational, but also more interactive advertising presentations such as promotionals wherein discounts, free samples or a trial usage may be offered.</p> <p>Moreover, it is an aspect of the present invention that each player may interact with and play a game at a time and pace (i.e., tempo) substantially of the player's choosing. In particular, the player is not bound by a required order or sequence of play involving other players, even though the player may be in competition with other players. In fact, a player may cease play for an extended time while in the midst of a game and subsequently continue the game at the point where the player ceased to play. Thus, if the present invention is easily accessible, then players may interact with the present invention at their leisure. . . . "It is a further aspect of the present invention to require each player to use a distinct identification provided when the player "registers" with the present invention before playing any games so that a network site for the invention may be able to identify each player.</p> <p>Accordingly, it is an aspect of the present invention during registration, that each player provides personal information about him/herself both for gaming identification and for use as selection criteria by sponsors or advertisers for presenting particular presentations. For example, in the case of an Internet embodiment of the present invention, such registering can be performed via the Internet prior to play of any games at a gaming/advertising web site. Thus, players may be required to provide the present invention with information about themselves such as name, address, E-mail address, age, sex, and/or other player characteristics deemed pertinent to one or more sponsors or advertisers. Accordingly, the present invention</p>

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	<p>provides a sponsor or advertiser with the capability to target its presentations substantially only to players or users having selected characteristics as, for example, determined from player information provided when registering with a network site for the present invention.”</p> <p>’702 PATENT, e.g., Claims 1, 3, 4, 12</p> <p>’702 PATENT, e.g., Figures 3, 4A-E, 6A-B, 7 (and associated text)</p>
PHILLIPS BUSINESS	<p>PHILLIPS BUSINESS at 1: “But most vendors also have more to offer than just high volume, thanks to such approaches as "narrow casting," or placing ads based on key words entered in a search. These capabilities allow advertisers to target audiences through search engines like no other medium. "Not only can the engines track the things you're searching on, they can suggest target ads. This is one-to-one marketing," Julian said.”</p> <p>PHILLIPS BUSINESS at 1: “While search engines can personalize ads based on search terms, another effective model is to personalize entire sections based on geographic and demographic factors. Vendors can not only index content for a targeted population, they can sell advertisers a guaranteed demographic.”</p>
DEDRICK 1994	<p>See e.g., DEDRICK 1994, p. 57: “Consumer demographic and psychographic data are important to advertisers, because these are the data that allow an advertiser to target specific consumers. Demographic data include variables such as age, sex, income, marital status. Psychographic data include likes and dislikes, color preferences and personality traits that show consumer behavioral characteristics. The better the demographic and psychographic data available on a set of consumers, the better an advertiser is able to target an advertisement to this set of consumers.”); <i>id.</i>, p. 59: “dad, a male, age 40-50, earning \$70,000+ annually, may be presented with a portion of a Mt. FunSki ski resort advertisement concerning booking a reservation, along with a list of fun things to do. However, the consumer’s son, male, age 12-17, interested in girls, moguls, and hot tubs, may consume a presentation based totally upon on [<i>sic</i>] the ‘fun things’ that Mt. FunSki has to offer.”); <i>id.</i> (“consumers will have personal profiles residing within their consumption devices. These personal profiles may contain demographic and psychographic variables as well as other data. Such data may included a preferred payment method (Visa, Amex, etc. card numbers) enabling consumers to easily participate in electronic commerce. Other included data</p>

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	<p>might include key words and other variables used by consumption agents to go out on the network and find both electronic content and electronic advertisements that have a certain “hit-rate” when matched against a consumer’s profile. Additionally, the consumption device may have resident software that monitors consumption behavior on an ongoing basis, allowing a consumer’s personal profile to be automatically build and maintained. . . . they may begin to see advertisements that focus on their favorite subjects, presented primarily in their favorite colors. Also, consumer’s agents may report the availability of electronic content and advertisements matching their personal profiles.”); <i>id.</i> (“Acting upon the consumer’s personal profile data, an agent might send out queries to electronic yellow pages service providers, either locally or with a wider scope of interest.”); (“consumer’s agents may report the availability of electronic content and advertisements matching their personal profiles.”); <i>id.</i>, p. 60 (“Additionally, the consumption device may have resident software that monitors consumption behavior on an ongoing basis, allowing a consumer’s personal profile to be automatically build and maintained. . . . they may begin to see advertisements that focus on their favorite subjects, presented primarily in their favorite colors. Also, consumer’s agents may report the availability of electronic content and advertisements matching their personal profiles.”); <i>id.</i>, p. 60 (“More advanced agents may be given access to a consumer’s credit information and authority to use the credit information, enabling the agent to conduct electronic commerce on behalf of the consumer.”); <i>id.</i>, p. 62-63 (“the currently suggested attribute extension list is as follows: . . . Access control attributes, to limit access to electronic advertisements not available to all consumers, such as advertisements for alcohol, tobacco, and adult products, . . . Scope attributes, describing global, national, regional, and local preferences for distribution and announcement to yellow page services, Language support attributes, detailing which languages are supported by each object and providing network pointers to parallel objects authored using different languages . . .”); <i>id.</i>, p. 63 (“Consumer’s personal profiles may include such variables as a collection of the consumer’s consumption characteristics, a collection of demographic and psychographic variables, bank account and credit card account numbers.”)</p>
<p>DEDRICK 1995</p>	<p><i>See e.g.</i>, DEDRICK 1995, p. 43 (“As another example of attribute extensibility, an element made available to a consumer could depend on that particular consumer’s target characteristics. For example, Dad, a male age 40 to 50, earning \$70,000-plus annually, might see part of a Mt. FunSki ski resort ad about booking a reservation . . . However, the consumer’s son, male, age 12 to 17, interested in girls, moguls, and hot tubs, might see a presentation based totally on the ‘fun things’ that Mt.</p>

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	<p>FunSki has to offer. . .”); <i>id.</i>, p. 45 (“consumers will have portable personal profiles tied into their consumption devices. These portable profiles may contain such data as a preferred payment method (credit card numbers, for example) enabling consumers to easily participate in electronic commerce. Other profile data might include key words and other variables used by consumption agents for finding both electronic content and electronic ads that have a certain ‘hit rate’ when matched against a consumer’s profile.”); <i>id.</i>, p. 45 (“a manual profile modification program is also required to enter personal data such as name, address, telephone numbers, credit card and bank account numbers, and the like . . . The consumer can use the manual profile modification program to correct such deviances from the actual electronic content consumption preferences.”); <i>id.</i>, p. 45 (“2. When a consumption device presents one of these labeled electronic ads to a consumer, all input and output between the consumer and the multimedia element currently being consumed is monitored. 3. Each of these I/O interactions is correlated to the labels associated with the particular multi-media element being displayed on the consumption device. 4. Relations between the elements of the electronic ad that are not chosen for interaction by the consumer are also correlated with the labels associated with each multimedia element. 5. The correlations made in the previous steps are entered into the consumer’s profile, representing data on what a consumer likes and dislikes.”); <i>id.</i>, p. 46 (“Acting upon the consumer’s personal profile data, an agent might send out queries to electronic yellow pages service providers, either locally or with a wider scope of interest.”); <i>id.</i>, p. 46 (“As personal consumption profiles become more robust, consumers might begin to see ads focusing on their favorite subjects, presented primarily in their favorite colors, sizes and shapes. Also, their agents might report the availability of electronic content and ads matching their personal profiles.”); <i>id.</i>, p. 46 (“If a cost or rebate is attached to each available element, the agents could report the monetary units involved with potential consumption. The agent could leave the final buy/sell decision up to the consumer, or perform the transaction if programmed to act on the consumer’s behalf.”)</p>
GALLAGHER	<p><i>See e.g.</i>, GALLAGHER, p. 3 (“Current technology provides the capability to develop sophisticated and detailed profiles of individual users of information services based on individual characteristics and past patterns of behavior in using the information service.”); <i>id.</i> (“ It is possible to target users very precisely because data can remain associated with individuals, so advertisers can select exactly the users to whom they wish their advertising to be exposed.”); <i>id.</i>, p. 4 (“the model requires that users be assigned unique identifiers . . . Users also complete an online questionnaire the first time they use the information service. The questionnaire allows data to be collected on</p>

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	<p>several dimensions, including: (1) demographic attributes such as geographic location, income, family lifecycle stage, occupation, and sex; (2) psychographic attributes such as travel patterns and hobbies; and (3) product and brand usage attributes. This element of the basic model permits a banner advertisement to be directed to users (and only those users) who fit certain criteria, assuming data were collected on relevant attributes.”); <i>id.</i> (“Each time a user connects, his/her profile is compared to all target audience profiles from all advertisers. The user’s profile will actually match some subset of those profiles.”); <i>id.</i> (“In summary, the basic model has three elements: individual user profiles, individual advertisement target audience profiles, and a selection mechanism for presenting advertisements to specific users who match the target audience profile.”); <i>id.</i>, p. 5 (“In the enhanced model, we propose that patterns of search and browsing behavior exhibited by users while using an information service determine which advertisements are shown to that user during current or future sessions.”); <i>id.</i>, p. 5 (“As before, this model relies on assigning a unique identifier to each user for recording his/her searching and browsing activities while using the information service. Each session constitutes a ‘record,’ consisting of data such as: sites visited in order; pattern of navigation through a hierarchical structure (as in Yahoo!); choice of search terms in keyword-based searches; and reaction to previously exposed targeted banner advertisements (e.g., which linked Web sites are selected and visited by the user and which ones are ignored). The aggregate of such records for each user provides a profile from which preferences can be implicitly generated. As a simple example, if a user has made several searches using keywords such as ‘Atlantic salmon’ and ‘fly fishing,’ and has visited the site of the Angling Club Lax-a of Iceland . . ., s/he may be targeted for a banner advertisement for a fishing lodge in Alaska.”); <i>id.</i>, p. 7 (“Profiles accommodate the possibility that some users within the region of acceptability may be more desirable to an advertiser than others. Hen, a distance metric capturing the relative desirability of a user with respect to an ideal profile is possible. . . . recognizing a notion of distance allows the possibility for advertisers to ‘bid’ for the opportunity to display an advertisement to a user. Such bids would be determined by the advertiser, based on variables such as the user profile . . . and advertising budget.”); <i>id.</i>, p. 8 (“When bids are received, they can be ranked. The banner advertisement corresponding to the winning bid is displayed to the user. Other advertisements may be displayed according to their ranking if there is an opportunity to display additional advertisements (e.g., if the user engages in several search or browse activities during a session).”)</p>
NETGRAVITY ADSERVER CHOSEN BY	<i>See e.g.</i> , NETGRAVITY AD SERVER CHOSEN BY GNN (“NetGravity, the leader in Internet advertising technology, today announced GNN, a

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GNN	service of America Online Inc., will take advantage of the NetGravity AdServer technology for WebCrawler. . . . This allows GNN to . . . dynamically deliver targeted ads. . . . Now, through NetGravity's relationship with I/Pro, Web sites will be able to develop and place advertising much more effectively using management tools with demographic profiles for targeted ad placement.”)
Lycos, Inc. Registration Statement No. 333-354, dated April 3, 1996 (“LYCOS PROSPECUS”), produced at GOOG-WRD-00872476-GOOG-WRD-00872549	<p><i>See</i> LYCOS PROSPECTUS at GOOG-WRD-00872480: <small>program. The Company's ability to generate significant advertising revenues will depend, among other things, on advertisers' acceptance of the Internet as an attractive and sustainable medium, the development of a large base of users of the Company's products and services possessing demographic characteristics attractive to advertisers and the expansion of the Company's advertising sales force. in addition, there is fluid and intense competition in</small></p> <p><i>Id.</i> at GOOG-WRD-00872492: The Company's strategy is to leverage the high visibility and popularity of both the Company's and its licensees' Web sites by pursuing potential Internet advertisers and by providing them with greater customization and more precise target marketing than traditional advertising options. Advertising revenues consist of revenues derived by the Company from the sale of advertisements on pages within its Web sites. In the future, advertising revenues will also consist of the Company's share of any advertising revenues derived from the sale of advertisements on the Web pages of its licensees. Advertising revenues from the sale of advertising space are recognized in the period in which the advertisement is displayed on a Web page of the Company or its licensees. The Company's advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions (an impression is a one-on-one view of an advertisement by the end user) for a fixed fee or on a per impression basis with an established minimum fee. The Company's standard rates for advertising range from \$20,000 to \$50,000 per million impressions. To date, the duration of the Company's advertising commitments have ranged from one week to one year depending primarily on the number of impressions purchased.</p> <p><i>Id.</i> at GOOG-WRD-00872498: The rapid deployment of the Web has introduced fundamental and structural changes in the way information can be produced, distributed and consumed, lowering the cost of publishing information and extending its potential reach. Companies from many industries are publishing product and company information or advertising materials and collecting customer feedback and demographic information interactively. The structure of Web documents allows an organization to publish significant quantities of product information while simultaneously allowing each user to view selectively only those elements of the information which are of particular interest. This feature makes possible the dynamic tailoring of information delivery to each user's interest in a cost effective and timely fashion. The Web, by facilitating the publishing and exchange of information, is dramatically increasing the amount of information—both relevant and irrelevant—available to users.</p> <p><i>Directories.</i> Directories are manually compiled categorizations of a selected universe of Web sites organized into broad subject areas. Directories are useful when an Internet user wishes to browse Web content within general, popular topics of interest. Deliberately small in scale and focused, directories provide the Internet user with a quick and easy means of locating basic summary information on Web sites. To be useful, directories must offer topics that are of appeal to users and correctly define such topics so that relevant information is captured.</p> <p><i>Reviews.</i> Reviews are brief descriptions and critical assessments of Web sites. Reviews are useful when an Internet user wishes to find the highest quality sites within a subject, as identified and evaluated by an independent source. Reviews are also used by a user as a quick and easy means to stay current with what's new and most popular on the Web. To be useful, reviews must be credible, consistent and timely.</p> <p><i>Id.</i> at GOOG-WRD-00872499: <i>Internet as a Mass Medium</i> The Internet and associated information services, such as catalogs, directories and reviews, are increasingly developing attributes of conventional mass media where advertising and other revenues are generated from viewership and use. The findings of the 1995 Commerce Net/Nielsen Internet Demographics Survey (the “Nielsen Survey”) indicated that 24 million people in the United States and Canada had used the Internet in the three month period prior to the survey, that Internet users average 5 hours and 28 minutes per week on the Internet and that total Internet usage is equivalent to the total viewing time of rented video tapes. In addition, approximately 18 million of the 24 million people who used the Internet in that preceding three month period used the Web. The Nielsen Survey also indicated that on average, Web users are upscale, professional and educated. As a result of these demographics, advertisers are increasingly attracted to the Internet. A report by Forrester Research estimates that the market for advertising on the Internet is projected to be \$74 million in 1996 and to grow to over \$2 billion by the year 2000.</p>

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	<p>In contrast to conventional media, the Internet offers capabilities to target advertising to specific audiences, to measure the popularity of content, to make timely changes in response, to reach worldwide audiences cost-effectively and to create innovative and interactive advertisements. By collecting customer feedback and demographic information, advertisers can direct highly customized marketing campaigns at defined targets. In addition, the Internet enables advertisers to transact with prospective customers much more rapidly than with conventional media.</p> <p>However, to communicate their message effectively on the Internet, advertisers need to place their advertisements where targeted audiences will view them. Catalogs, directories and reviews in particular generate sizable traffic flow and have the ability to monitor and track usage patterns, consequently offering advertisers a cost-effective means to reach a broad and demographically appealing audience.</p> <p>The Company believes that advertisers will seek to advertise on Web sites that offer a high volume of traffic and feature flexible advertisement programs capable of reaching targeted audiences. Likewise, the Company believes that as advertisers increasingly embrace the Internet as an advertising vehicle, their participation will subsidize in part the creation and expansion of the information and resources available on the Web which in turn is expected to stimulate further traffic flow. However, the Internet as an advertising medium is still evolving and, consequently, advertisers seek demonstration of its effectiveness as a media purchase. Due to the limited information and experience on Web advertising and a general unfamiliarity with the concept of interactive advertising, advertisers require assistance with the design and placement of advertisements on the Internet.</p> <p><i>Id.</i> at GOOG-WRD-00872500:</p> <p>Lycos Solution</p> <p>The Company offers a family of products and services that enables users to sort, find, filter and access the tremendous amount of information and resources on the Internet. The Company believes that its Lycos Catalog is one of the most comprehensive indexes of the Web and is differentiated from other catalogs based on its size, ability to index non-textual information, relevancy of search results and ability to scale along with the continuing growth of Internet content. Using the Lycos Catalog, a user may enter a search term or terms and review a list of the best matches from all indexed Web pages, along with a relevancy ranking of those pages, thereby allowing a user to sort through the information available on the Web quickly and efficiently. The Company's a2z Directory and Point Reviews provide added value to users beyond the search capabilities of the Lycos Catalog by organizing and reviewing the most popular sites on the Web. More than a single directory or search engine, the Company's family of complementary products provides viewers with a single source to meet the full range of users' information needs from conducting detailed searches on specific subjects to browsing general topics and casual viewing, to accessing critical reviews of popular Web sites.</p> <p><i>Provide a One-Stop Information Source.</i> The Company seeks to provide viewers with a one-stop information destination for identifying, selecting and accessing resources and information on the Web. The Company has recently integrated its catalog, directory and review product offerings such that viewers have access to all of the Company's products and services from any of the Company's sites. The Company intends to further integrate its three product offerings, enabling the user to conduct a comprehensive Web search with the results displaying the contents of the Lycos Catalog along with an icon providing a link to any relevant categories within the a2z Directory and any applicable Point Reviews rating and review of the site.</p> <p><i>Id.</i> at GOOG-WRD-00872501:</p> <p>Relevancy. Relevancy measures how closely the results of a search conform to a specific query. The ability of a catalog to deliver relevant responses depends upon the comprehensiveness of the underlying database and the accuracy of the retrieval software. The Company believes that its retrieval software, which uses position, frequency and proximity of words to assign relevancy scores, together with the comprehensiveness of the Lycos Catalog, enable the Lycos Catalog to deliver more relevant search results.</p> <p><i>Id.</i> at GOOG-WRD-00872506:</p> <p>The Company is also continuing to develop products that are complementary to the Lycos Catalog, including specialty directories and navigational services designed to assist viewers in locating information and resources on the Internet. The Company is currently developing "clustered" versions of the Lycos Catalog, which are subcatalogs segmented by general interest areas. These subsets of the Lycos Catalog will be linked to the a2z Directory and Point Reviews in order to provide users with the opportunity to conduct focused searches of that part of the Lycos Catalog that is relevant and to conduct a more rapid search than in the full-sized catalog.</p> <p><i>Id.</i> at GOOG-WRD-00872548:</p>

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Lycos, Inc. Form S-1 Registration Statement, dated February 14, 1996 (“LYCOS S-1”), produced at GOOG-WRD-00872550-GOOG-WRD-00872923

See LYCOS S-1 at GOOG-WRD-00872557: pages. The Company’s ability to generate significant advertising revenues will depend, among other things, on advertisers’ acceptance of the Internet as an attractive and sustainable medium, the development of a large base of users of the Company’s products and services possessing demographic characteristics attractive to advertisers and the expansion of the Company’s advertising sales force. In addition, there is fluid and intense

Id. at GOOG-WRD-00872558: *Competition.* The market for Internet products and services is highly competitive. In addition, the Company expects the market for Internet advertising, to the extent it develops, to be intensely competitive. There are no substantial barriers to entry, and the Company expects that competition will continue to intensify. Although the Company believes that the diverse segments of the Internet market will provide opportunities for more than one supplier of products and services similar to those of the Company, it is possible that a single supplier may dominate one or more market segments. The Company believes that the principal competitive factors in this market are name recognition, performance, ease of use, variety of value-added services, functionality and features and quality of support. A number of companies offer competitive products addressing certain of the Company’s target markets. The primary competitors of the Company’s products and services are other Internet catalog, directory and review services, including America Online’s Web Crawler, Architext Software, Inc.’s excite, Digital Equipment Corporation’s Alta Vista, Infoseek Corporation, The McKinley Group, Open Text Corporation and Yahoo! Corporation. In addition, the Company competes with metasearch services that allow a user to search the databases of several catalogs and directories simultaneously. The Company also competes indirectly with database vendors that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from providers of Web browser software and other Internet products and services that incorporate search and retrieval features into their offerings. Many of the Company’s existing competitors,

Id. at GOOG-WRD-00872568:

Reference	Disclosure
	<p>The Company's strategy is to leverage the high visibility and popularity of both the Company's and its licensees' Web sites by pursuing potential Internet advertisers and by providing them with greater customization and more precise target marketing than traditional advertising options. Advertising revenues consist of revenues derived by the Company from the sale of advertisements on pages within its Web sites. In the future, advertising revenues will also consist of the Company's share of any advertising revenues derived from the sale of advertisements on the Web pages of its licensees. Advertising revenues from the sale of advertising space are recognized in the period in which the advertisement is displayed on a Web page of the Company or its licensees. The Company's advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions (an impression is a one-on-one view of an advertisement by the end user) for a fixed fee or on a per impression basis with an established minimum fee. The Company's standard rates for advertising range from \$20,000 to \$50,000 per million impressions. To date, the duration of the Company's advertising commitments have ranged from one week to one year depending primarily on the number of impressions purchased.</p> <p><i>Id.</i> at GOOG-WRD-00872574:</p> <p>The rapid deployment of the Web has introduced fundamental and structural changes in the way information can be produced, distributed and consumed, lowering the cost of publishing information and extending its potential reach. Companies from many industries are publishing product and company information or advertising materials and collecting customer feedback and demographic information interactively. The structure of Web documents allows an organization to publish significant quantities of product information while simultaneously allowing each user to view selectively only those elements of the information which are of particular interest. This feature makes possible the dynamic tailoring of information delivery to each user's interest in a cost effective and timely fashion. The Web, by facilitating the publishing and exchange of information, is dramatically increasing the amount of information—both relevant and irrelevant—available to users.</p> <ul style="list-style-type: none"> ● <i>Directories.</i> Directories are manually compiled categorizations of a selected universe of Web sites organized into broad subject areas. Directories are useful when an Internet user wishes to browse Web content within general, popular topics of interest. Deliberately small in scale and focused, directories provide the Internet user with a quick and easy means of locating basic summary information on Web sites. To be useful, directories must offer topics that are of appeal to users and correctly define such topics so that relevant information is captured. ● <i>Reviews.</i> Reviews are brief descriptions and critical assessments of Web sites. Reviews are useful when an Internet user wishes to find the highest quality sites within a subject, as identified and evaluated by an independent source. Reviews are also used by a user as a quick and easy means to stay current with what's new and most popular on the Web. To be useful, reviews must be credible, consistent and timely. <p><i>Id.</i> at GOOG-WRD-00872575:</p> <p><i>Internet as a Mass Medium</i></p> <p>The Internet and associated information services, such as catalogs, directories and reviews, are increasingly developing attributes of conventional mass media where advertising and other revenues are generated from viewership and use. The findings of the 1995 Commerce Net/Nielsen Internet Demographics Survey (the "Nielsen Survey") indicated that 24 million people in the United States and Canada had used the Internet in the three month period prior to the survey, that Internet users average 5 hours and 28 minutes per week on the Internet and that total Internet usage is equivalent to the total viewing time of rented video tapes. In addition, approximately 18 million of the 24 million people who used the Internet in that preceding three month period used the Web. The Nielsen Survey also indicated that on average, Web users are upscale, professional and educated. As a result of these demographics, advertisers are increasingly attracted to the Internet. A report by Forrester Research estimates that the market for advertising on the Internet is projected to be \$74 million in 1996 and to grow to over \$2 billion by the year 2000.</p> <p>In contrast to conventional media, the Internet offers capabilities to target advertising to specific audiences, to measure the popularity of content, to make timely changes in response, to reach worldwide audiences cost-effectively and to create innovative and interactive advertisements. By collecting customer feedback and demographic information, advertisers can direct highly customized marketing campaigns at defined targets. In addition, the Internet enables advertisers to transact with prospective customers much more rapidly than with conventional media.</p> <p>However, to communicate their message effectively on the Internet, advertisers need to place their advertisements where targeted audiences will view them. Catalogs, directories and reviews in particular generate sizable traffic flow and have the ability to monitor and track usage patterns, consequently offering advertisers a cost-effective means to reach a broad and demographically appealing audience.</p>

Reference	Disclosure
	<p>The Company believes that advertisers will seek to advertise on Web sites that offer a high volume of traffic and feature flexible advertisement programs capable of reaching targeted audiences. Likewise, the Company believes that as advertisers increasingly embrace the Internet as an advertising vehicle, their participation will subsidize in part the creation and expansion of the information and resources available on the Web which in turn is expected to stimulate further traffic flow. However, the Internet as an advertising medium is still evolving and, consequently, advertisers seek demonstration of its effectiveness as a media purchase. Due to the limited information and experience on Web advertising and a general unfamiliarity with the concept of interactive advertising, advertisers require assistance with the design and placement of advertisements on the Internet.</p> <p><i>Id.</i> at GOOG-WRD-00872576:</p> <p>Lycos Solution</p> <p>The Company offers a family of products and services that enables users to sort, find, filter and access the tremendous amount of information and resources on the Internet. The Company believes that its Lycos Catalog is one of the most comprehensive indexes of the Web and is differentiated from other catalogs based on its size, ability to index non-textual information, relevancy of search results and ability to scale along with the continuing growth of Internet content. Using the Lycos Catalog, a user may enter a search term or terms and review a list of the best matches from all indexed Web pages, along with a relevancy ranking of those pages, thereby allowing a user to sort through the information available on the Web quickly and efficiently. The Company's A2Z Directory and Point Reviews provide added value to users beyond the search capabilities of the Lycos Catalog by organizing and reviewing the most popular sites on the Web. More than a single directory or search engine, the Company's family of complementary products provides viewers with a single source to meet the full range of users' information needs from conducting detailed searches on specific subjects to browsing general topics and casual viewing, to accessing critical reviews of popular Web sites.</p> <p><i>Provide a One-Stop Information Source.</i> The Company seeks to provide viewers with a one-stop information destination for identifying, selecting and accessing resources and information on the Web. The Company intends to integrate its catalog, directory and review product offerings, enabling the user to conduct a comprehensive Web search with the results displaying the contents of the Lycos Catalog along with an icon providing a link to any relevant categories within the A2Z Directory and any applicable Point Reviews rating and review of the site.</p> <p><i>Id.</i> at GOOG-WRD-00872582:</p> <p>The Company is also continuing to develop products that are complementary to the Lycos Catalog, including specialty directories and navigational services designed to assist viewers in locating information and resources on the Internet. The Company is currently developing "clustered" versions of the Lycos Catalog, which are subcatalogs segmented by general interest areas. These subsets of the Lycos Catalog will be linked to the A2Z Directory and Point Reviews in order to provide users with the opportunity to conduct focused searches of that part of the Lycos Catalog that is relevant and to conduct a more rapid search than in the full-sized catalog.</p> <p><i>Id.</i> at GOOG-WRD-00872616:</p>

Reference

Disclosure

Excite, Inc. SB-2
 Registration Statement
 No. 333-2328-LA,
 March 11, 1996
 ("Excite SB-2")
 produced at GOOG-
 WRD-00872006-
 GOOG-WRD-
 00872094

Interactive advertisements appear on a rotating basis and link directly to an advertiser's site

Web site reviews arranged by category

Title links to actual Web site → **Investors Edge**

Ratings based on a 50-point scale

Critical review prepared by the company's professional writers and editors

Investors Edge
 Content: 43/50
 Presentation: 44/50
 Experience: 41/50

The Investors Edge is cutting through the financial services gauntlet by providing free (that's right, \$00.00) investment information -- from stock and bond quotes (which are downright beautiful) to corporate profiles to the latest news from the business world. A cool interactive feature lets users create a virtual portfolio of six stocks and monitor their performance. The Edge also includes a huge directory of companies sorted by industry groupings. So much for so little.

Review category:
 • Finance & Insurance >>> Stocks

Home | Post a Comment | Write Us

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Excite, Inc. SB-2
 Registration Statement
 No. 333-2328-LA,
 March 11, 1996
 ("Excite SB-2")
 produced at GOOG-
 WRD-00872006-
 GOOG-WRD-
 00872094

intelligent
 excite
 NetSearch | NetDirectory | News... | Cartoon | Columns

Featured Review: **Paradise Online** That persistent slice is due, no doubt, to ballhead, unbalanced clubs. Might want to visit this virtual pro shop for a look at museum diners, or downsize your, while there, get some tips on your swing and have some old jokes. A site as snazzy as a twenty-foot putt

Clubtest '96 GOLF
 www.clubtest.com

General / Sports / Golf / Topics

- The 19th Hole
- Around the World
- Golf Merchandise
- North American Courses
- PGA
- Women's Golf

Reviews

- Golf Getaways If teeing off in North Dakota just doesn't excite, consider Hawaii or the Caribbean. Golf Getaways has dozen of vacation packages to lush, warm, indulgent climes where you won't even mind that you're twenty past per. Prices listed.
- Professional Golfers Association Online Put on those plastic slacks, put your Big Berthas in your bag and take a leisurely stroll through the fairways of golf history. Emphasis here is more on the association than on stars, but there are lots of tournament highlights and plenty of current news.

Enter words describing a concept or key words so excite can find information for you

Search [input] [Search]

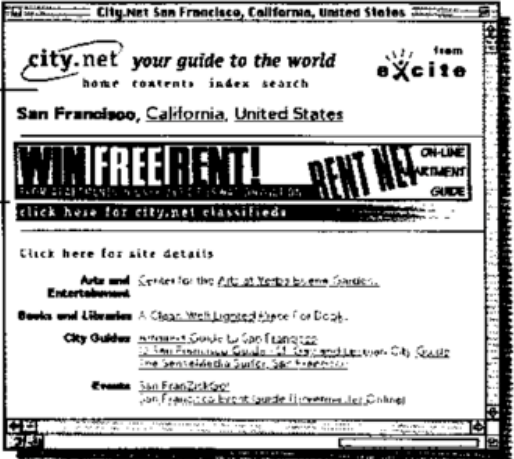
Search: Web documents Reviews Usenet Classified

Common Questions | Suggest Site | Advertising | Comments | Handbook
 Copyright © 1996 Excite Communications Corp.

Topically-targeted advertising
 Advertisers can target audiences by linking their ads to specific topics.

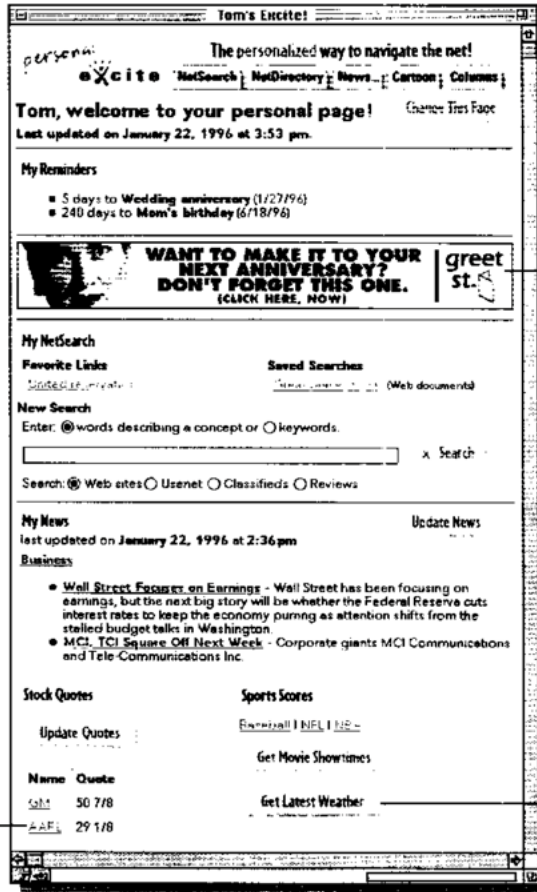
NetDirectory: content to people
 NetDirectory contains over 50,000 web site reviews written by Excite's staff of more than 30 editors and professional journalists.

Id. at GOOG-WRD-00872010.

Reference	Disclosure
	<p>City.Net City.Net targets geographic affinity groups by providing links to information on travel, entertainment, local business, government and community services for many regions of the world.</p> <p>Geographically-targeted advertising City.Net's coverage makes it a resource for people who are traveling or relocating, and advertisers who wish to reach them.</p> <p>Id.</p> <p>Personal Excite Personal Excite is a personalized page that selects and compiles Web content, including advertising, to match each individual's unique interests.</p> <p>Id. at GOOG-WRD-00872011.</p>  <p>The screenshot shows a web browser window with the address bar displaying 'City.Net San Francisco, California, United States'. The page content includes the 'city.net' logo with the tagline 'your guide to the world' and navigation links for 'home', 'contents', 'index', and 'search'. A 'from excite' logo is also present. The main heading is 'San Francisco, California, United States'. Below this, there is a large banner for 'WIN FREE RENT!' with 'RENT NET' and 'ON-LINE RENTMENT GUIDE' text. A link says 'click here for city.net classifieds'. Further down, there are sections for 'Arts and Entertainment', 'Banks and Libraries', 'City Guides', and 'Events', each with a brief description and a link to more information.</p>

Reference

Disclosure



Individually-targeted advertising (prototype shown)

Advertising can be keyed to anniversaries, birthdays and other events that consumers record in a Reminders calendar.

Demographics

Zip codes and demographic information collected in Personal Excite profiles allow for highly-targeted delivery of content and advertising.

Id.

Excite, Inc. (formerly Architext Software, Inc.) combines proprietary technology with media expertise to develop and provide navigation services and products for the Internet and the World Wide Web (the "Web") which enable consumers, content providers and advertisers to access and interact with one another more efficiently and thereby realize the Web's potential as a new medium. The Company's navigational services, including *NetSearch*, *NetDirectory*, *City.Net*, *Personal Excite* and planned *Regional Editions*, are tailored to the ways consumers use and navigate the Web. By creating segmented navigation services tailored to specific groups of consumers, Excite seeks to establish advertising channels which give advertisers the flexibility to target consumer audiences as broadly or as precisely as desired and allow them ultimately to reach and create new customers. Excite also actively addresses the needs of content providers through its *Excite for Web Servers* product which improves a Web site's visibility and usefulness to consumers. The Company's objective is to establish itself as the leading branded media service for day-to-day interaction among consumers, content providers and advertisers on the Web.

Id. at GOOG-WRD-00872013.

As a result of Excite's consumer focus, the Company's navigation services provide advertisers a targeted and flexible vehicle for delivering advertising messages back to consumers. For example, advertisers can target the mass market by placing advertisements on *NetSearch*, focus on geographic affinity groups through placements on *City.Net*, and target individuals by advertising on *Personal Excite*. Although advertising on the Web is generally based on the traditional impression-based model, Excite believes that the flexibility, accountability and interactivity provided through its consumer-segmented services may allow advertisers to migrate to a delivered-value model where pricing is instead based on the value of the business generated by the advertising. As of March 1, 1996, over 50 customers had placed advertisements on Excite's consumer navigation services.

Id.

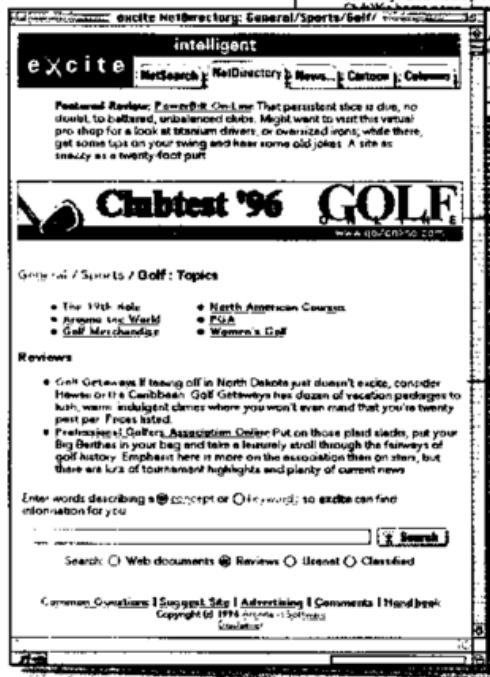
Reference	Disclosure
	<p>More importantly, the Company believes that many current directory approaches fall short in addressing the promise of the Internet as a new medium. First, they fail to leverage the interactive nature of the medium, which can not only enable the delivery of people to content but also the delivery of content to people and people to other people. Just as consumers signed on to the Web to find content, the interactive capabilities of Web technology should allow consumers to have content proactively delivered to them and should allow content providers to contact interested consumers directly. Similarly, the expansive connectivity of the Internet suggests that consumers should be able to easily find other consumers of common interests or needs. Second, current directories do not take advantage of the targetability of the Internet medium. Instead, these directories tend to treat all consumers as an undifferentiated mass. The Company believes that consumers will want to segment and shift their navigational identities as they use the Web. For instance, some consumers will be interested in addressing the Web as they currently do, with a broad approach to content; other consumers may wish to follow a topic-oriented or regional-oriented approach to the Web; and still other consumers may want to define exactly the types of information they wish to receive each time they begin a Web session.</p> <p>Id. at GOOG-WRD-00872036.</p> <p><i>Consumers</i></p> <p>Excite believes that consumers do not use the Web in one particular way or for one particular reason. Accordingly, Excite has segmented consumer behavior into three distinct modes of navigation, or ways of navigating the Web, and three distinct navigating identities, or identities used when navigating the Web.</p> <p><i>Modes of Navigation.</i> Excite expands the scope of Internet navigation beyond the strict data-centric focus on content, to a broader solution based on people interacting not only with content, but with other people as well. The Company believes that consumers want to interact with content and people on the Web in three ways: they want to find relevant content; they want relevant content proactively delivered to them; and they want to interact with other people with similar interests. Thus, Excite supports three modes of navigation: people to content, content to people and people to people.</p> <p><i>Navigational Identities.</i> The Company believes that consumers navigate the Web with three identities: mass market; affinity group; and individual identities. Consumers assume a mass market identity as they seek out Internet resources in a very broad fashion by exploring or browsing the Internet as a whole. Consumers adopt an affinity group identity as they engage in topically- or geographically-oriented searches, or seek out other consumers with related interests or locales. Finally, consumers assume an individual identity as they retrieve information tailored to their needs through a personalized interface. During the course of a Web session, a consumer might assume all of these identities, for example by searching broadly for information relating to travel, geographically for Northern California ski resorts and individually for a discounted airline ticket.</p> <p>Id. at GOOG-WRD-00872038.</p> <p><i>Advertisers</i></p> <p>The Company believes that offering a suite of consumer segmented navigational services allows for more specifically tailored advertising. For example, Excite's navigational services permit advertisers to target the mass audience of Internet consumers or tailor an advertising strategy for specific affinity groups or individuals possessing certain demographic traits. In addition, the Company has begun to offer advertising packages that allow advertisers to move from the traditional CPM-based advertising model to one of delivered value, in which an advertisement is priced based upon the amount of business generated from the advertisement as opposed to the number of times it is displayed.</p> <p>Id. at GOOG-WRD-00872039.</p> <p><i>Personal Excite.</i> Personal Excite permits consumers to personalize their Internet interface. Consumers using Personal Excite create a personal profile to define and monitor favorite NetDirectory categories, receive briefs on personally selected categories of Reuters news articles, monitor stock quotes, check local movie times and receive updates on local weather. Additionally, consumers can customize their own interfaces to Excite's NetSearch service, thereby allowing them to define and easily access frequently used searches, favorite URLs and links to a number of popular daily columns on the Web. Personal Excite was launched commercially in February 1996 and has been used on a limited basis to date. There can be no assurance that Personal Excite will achieve enough consumer acceptance to support significant, directed advertising.</p> <p>Id. at GOOG-WRD-00872041.</p>

Reference	Disclosure
	<p><i>Increasing usage by existing consumers</i></p> <p>The Company regularly changes and updates the content hosted on Excite in order to encourage consumers to access the service more frequently. The Company has developed an interactive cartoon, hourly news briefs, and weekly editorial columns. The Company has also developed personalized services that allow a consumer to pre-establish various personal preferences involving the Excite session. Because customizing these personalized services typically requires some effort and time investment on the part of the consumer, the Company believes that consumers will tend to continue using Excite and not switch to a competitive service. The Company is exploring other features designed to increase consumer usage, these features may include consumer polls, rating systems and contests.</p> <p>Id. at GOOG-WRD-00872043.</p> <p>The Company offers a variety of advertising programs that enable advertisers to target their audiences at various levels of market segmentation: mass market placement, which does not have any market segmentation; affinity placement, which delivers advertisements to an audience with a specific topical or regional interest; and individual placement, which displays advertisements to users of a specific profile. The Company currently offers the following advertising programs:</p> <p><i>General Rotation.</i> The Company offers a general rotation program that allows advertisers to reach a large number of Web consumers. Advertising banners rotate through well-trafficked Excite pages, including the main NetSearch and NetDirectory pages and NetSearch results pages. This program delivers a higher volume of mass market consumers and provides frequent exposure to advertisers.</p> <p><i>City.Net and Regional Excite.</i> The Company provides a City.Net program and will provide a Regional Excite program that allow advertisers to direct advertisements to geographical affinity groups. This targeted approach can be used to complement a national marketing strategy with local or regional messages.</p> <p><i>Keywords.</i> The Company's keyword program offers advertisers an opportunity to target specific audiences by assigning ad banners to certain key words or concepts. For example, when <i>Windows '95</i> is searched, a Microsoft advertisement could be displayed. Because of the ability to customize the targeted nature of potential customers, the Company is able to charge premium rates for such keyword advertising.</p> <p><i>Personal Excite.</i> The Company plans to allow advertisers to target users of the Company's Personal Excite service at a greater level of detail and precision than traditional advertising methods. Based upon the demographic information collected from subscribers of Personal Excite, advertisers can deliver finely targeted messages to groups of individuals. Because Personal Excite was first made available in February 1996, the Personal Excite advertising program is still in an experimental stage.</p> <p>Id. at GOOG-WRD-00872044.</p> <p>Advertisers can also combine multiple advertising packages in order to develop a complete advertising plan that reaches multiple audiences and that is designed to maximize reach, frequency of exposure and customer response. For example, an airline company might have general rotation as a base of mass exposure. The advertising schedule could be enhanced based upon topical affinity, by displaying a banner every time a user searches using the word "travel" or "airfare," as well as by displaying an advertisement to all Personal Excite users who are interested in travel. The schedule could be further refined by placing banners on the Life & Style/Travel page in NetDirectory, as well as on a variety of U.S. and international city pages on City.Net that may correspond to hubs of national or international business.</p> <p>Advertising is sold primarily through a combination of a small direct sales force and an advertising sales agency. The Company's direct sales operation currently consists of two individuals, both experienced in selling Internet advertising, who are based in San Francisco and New York. To supplement its internal sales force, the Company has retained the services of Double Click, of Mountain View, California, an advertising sales agency specializing in interactive advertising placement. The Company has only a limited number of sales and marketing personnel at the present time. See "Risk Factors — Limited Sales Force; Evolving Distribution Channels."</p> <p>Id.</p>

Reference

Excite, Inc. Prospectus, dated April 3, 1996 ("Excite Prospectus") produced at GOOG-WRD-00871928-GOOG-WRD-00872005

Disclosure



...entained by the author of Windows 95 Unleashed...
...at...
...ices for 32-bit programs, links to articles on the...
...d other general information. The (Unofficial)...
...Info on how to set up SUP, and use Exchange to...

Topically-targeted advertising
Advertisers can target audiences by linking their ads to specific topics.

NetDirectory: content to people
NetDirectory contains over 50,000 web site reviews written by Excite's staff of more than 30 editors and professional journalists.

Id. at GOOG-WRD-00871930.

City.Net

City.Net targets geographic affinity groups by providing links to information on travel, entertainment, local business, government and community services for many regions of the world.

Geographically-targeted advertising

City.Net's coverage makes it a resource for people who are traveling or relocating, and advertisers who wish to reach them.



Id.

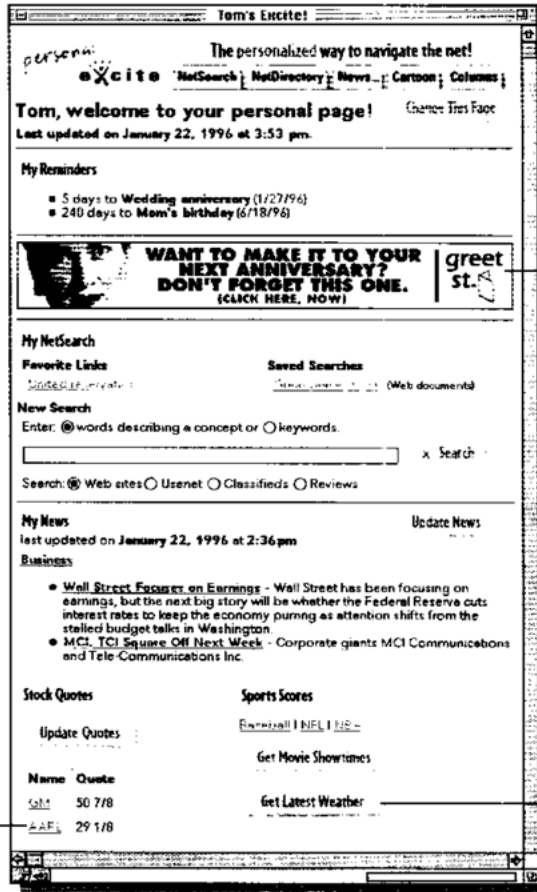
Personal Excite

Personal Excite is a personalized page that selects and compiles Web content, including advertising, to match each individual's unique interests.

Id. at GOOG-WRD-00871931.

Reference

Disclosure



Individually-targeted advertising (prototype shown)

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Demographics

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Id.

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Id. at GOOG-WRD-00871933.

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Id.

Reference	Disclosure
	<p>More importantly, the Company believes that many current directory approaches fall short in addressing the promise of the Internet as a new medium. First, they fail to leverage the interactive nature of the medium, which can not only enable the delivery of people to content but also the delivery of content to people and people to other people. Just as consumers signed on to the Web to find content, the interactive capabilities of Web technology should allow consumers to have content proactively delivered to them and should allow content providers to contact interested consumers directly. Similarly, the expansive connectivity of the Internet suggests that consumers should be able to easily find other consumers of common interests or needs. Second, current directories do not take advantage of the targetability of the Internet medium. Instead, these directories tend to treat all consumers as an undifferentiated mass. The Company believes that consumers will want to segment and shift their navigational identities as they use the Web. For instance, some consumers will be interested in addressing the Web as they currently do, with a broad approach to content; other consumers may wish to follow a topic-oriented or regional-oriented approach to the Web; and still other consumers may want to define exactly the types of information they wish to receive each time they begin a Web session.</p> <p>Id. at GOOG-WRD-00871956.</p> <p><i>Consumers</i></p> <p>Excite believes that consumers do not use the Web in one particular way or for one particular reason. Accordingly, Excite has segmented consumer behavior into three distinct modes of navigation, or ways of navigating the Web, and three distinct navigating identities, or identities used when navigating the Web.</p> <p><i>Modes of Navigation.</i> Excite expands the scope of Internet navigation beyond the strict data-centric focus on content, to a broader solution based on people interacting not only with content, but with other people as well. The Company believes that consumers want to interact with content and people on the Web in three ways: they want to find relevant content; they want relevant content proactively delivered to them; and they want to interact with other people with similar interests. Thus, Excite supports three modes of navigation: people to content, content to people and people to people.</p> <p><i>Navigational Identities.</i> The Company believes that consumers navigate the Web with three identities: mass market; affinity group; and individual identities. Consumers assume a mass market identity as they seek out Internet resources in a very broad fashion by exploring or browsing the Internet as a whole. Consumers adopt an affinity group identity as they engage in topically- or geographically-oriented searches, or seek out other consumers with related interests or locales. Finally, consumers assume an individual identity as they retrieve information tailored to their needs through a personalized interface. During the course of a Web session, a consumer might assume all of these identities, for example by searching broadly for information relating to travel, geographically for Northern California ski resorts and individually for a discounted airline ticket.</p> <p>Id. at GOOG-WRD-00871958.</p> <p><i>Advertisers</i></p> <p>The Company believes that offering a suite of consumer segmented navigational services allows for more specifically tailored advertising. For example, Excite's navigational services permit advertisers to target the mass audience of Internet consumers or tailor an advertising strategy for specific affinity groups or individuals possessing certain demographic traits. In addition, the Company has begun to offer advertising packages that allow advertisers to move from the traditional CPM-based advertising model to one of delivered value, in which an advertisement is priced based upon the amount of business generated from the advertisement as opposed to the number of times it is displayed.</p> <p>Id. at GOOG-WRD-00871959.</p> <p><i>Personal Excite.</i> Personal Excite permits consumers to personalize their Internet interface. Consumers using Personal Excite create a personal profile to define and monitor favorite NetDirectory categories, receive briefs on personally selected categories of Reuters news articles, monitor stock quotes, check local movie times and receive updates on local weather. Additionally, consumers can customize their own interfaces to Excite's NetSearch service, thereby allowing them to define and easily access frequently used searches, favorite URLs and links to a number of popular daily columns on the Web. Personal Excite was launched commercially in February 1996 and has been used on a limited basis to date. There can be no assurance that Personal Excite will achieve enough consumer acceptance to support significant, directed advertising.</p> <p>Id. at GOOG-WRD-00871961.</p>

Reference	Disclosure
	<p><i>Increasing usage by existing consumers</i></p> <p>The Company regularly changes and updates the content hosted on Excite in order to encourage consumers to access the service more frequently. The Company has developed an interactive cartoon, hourly news briefs, and weekly editorial columns. The Company has also developed personalized services that allow a consumer to pre-establish various personal preferences involving the Excite session. Because customizing these personalized services typically requires some effort and time investment on the part of the consumer, the Company believes that consumers will tend to continue using Excite and not switch to a competitive service. The Company is exploring other features designed to increase consumer usage, these features may include consumer polls, rating systems and contests.</p> <p>Id. at GOOG-WRD-00871963.</p> <p>The Company offers a variety of advertising programs that enable advertisers to target their audiences at various levels of market segmentation: mass market placement, which does not have any market segmentation; affinity placement, which delivers advertisements to an audience with a specific topical or regional interest; and individual placement, which displays advertisements to users of a specific profile. The Company currently offers the following advertising programs:</p> <p><i>General Rotation.</i> The Company offers a general rotation program that allows advertisers to reach a large number of Web consumers. Advertising banners rotate through well-trafficked Excite pages, including the main NetSearch and NetDirectory pages and NetSearch results pages. This program delivers a higher volume of mass market consumers and provides frequent exposure to advertisers.</p> <p><i>City.Net and Regional Excite.</i> The Company provides a City.Net program and will provide a Regional Excite program that allow advertisers to direct advertisements to geographical affinity groups. This targeted approach can be used to complement a national marketing strategy with local or regional messages.</p> <p><i>Keywords.</i> The Company's keyword program offers advertisers an opportunity to target specific audiences by assigning ad banners to certain key words or concepts. For example, when <i>Windows '95</i> is searched, a Microsoft advertisement could be displayed. Because of the ability to customize the targeted nature of potential customers, the Company is able to charge premium rates for such keyword advertising.</p> <p><i>Personal Excite.</i> The Company plans to allow advertisers to target users of the Company's Personal Excite service at a greater level of detail and precision than traditional advertising methods. Based upon the demographic information collected from subscribers of Personal Excite, advertisers can deliver finely targeted messages to groups of individuals. Because Personal Excite was first made available in February 1996, the Personal Excite advertising program is still in an experimental stage.</p> <p>Id. at GOOG-WRD-00871964.</p> <p>Advertisers can also combine multiple advertising packages in order to develop a complete advertising plan that reaches multiple audiences and that is designed to maximize reach, frequency of exposure and customer response. For example, an airline company might have general rotation as a base of mass exposure. The advertising schedule could be enhanced based upon topical affinity, by displaying a banner every time a user searches using the word "travel" or "airfare," as well as by displaying an advertisement to all Personal Excite users who are interested in travel. The schedule could be further refined by placing banners on the Life & Style/Travel page in NetDirectory, as well as on a variety of U.S. and international city pages on City.Net that may correspond to hubs of national or international business.</p> <p>Advertising is sold primarily through a combination of a small direct sales force and an advertising sales agency. The Company's direct sales operation currently consists of two individuals, both experienced in selling Internet advertising, who are based in San Francisco and New York. To supplement its internal sales force, the Company has retained the services of Double Click, of Mountain View, California, an advertising sales agency specializing in interactive advertising placement. The Company has only a limited number of sales and marketing personnel at the present time. See "Risk Factors — Limited Sales Force; Evolving Distribution Channels."</p> <p>Id.</p>

Reference	Disclosure
<p>InfoSeek Corporation S-1 Registration Statement No. 333- 4142, Amendment No. 1, dated May 3, 1996 ("InfoSeek S-1") produced at GOOG- WRD-00872371- GOOG-WRD- 00872464</p>	<p>Infoseek develops and provides branded, comprehensive Web-based navigational services that help users access and personalize the vast resources of the Internet. The Company's primary service offering, <i>Infoseek Guide</i>, is a free service targeted at individual users. The Company believes that <i>Infoseek Guide</i> goes beyond the functionality offered by other search engines and directory services, by aggregating and packaging the resources of the Internet to serve individuals' unique and personal interests and create rich Internet experiences. The Company believes that <i>Infoseek Guide</i> has been well received by consumers and has achieved a strong brand presence among Web users.</p> <p>The Company's objective is to establish itself as the dominant, branded navigational service provider on the Internet in order to reach the greatest audience. The Company seeks to build a high volume of traffic on its services to provide a preferred platform for content providers and advertisers to reach their target audiences. To achieve its objective, the Company intends to: enhance the attractiveness of its service to users through the addition of new features and functionality; develop and license innovative technologies which can differentiate its service and scale with the growth of the Internet; offer advertisers high impact, innovative advertising products; distribute its service widely through software companies, access providers and others; and form relationships with leading third party content providers.</p> <p>InfoSeek S-1 at GOOG-WRD-00872378.</p> <p>The Company believes that <i>Infoseek Guide</i> is also differentiated through its design, which integrates the capabilities of a search engine and a directory to combine specific responses to search queries with communities of related Web, USENET and branded third party content and targeted, related advertising. By creating communities of context-specific information in real-time for users, <i>Infoseek Guide</i> addresses the needs of consumers for relevant and related information, enables content providers to reach interested audiences, and allows advertisers to deliver advertisements to a target group of potential buyers.</p> <p>Id.</p> <p>The Web is emerging as an important new advertising medium. According to Forrester Research, Inc., the market for Internet-based advertising will reach approximately \$700 million by 1998, from \$37 million in 1995. The Company believes it is well positioned to take advantage of this growth by serving the needs of advertisers. By creating communities where users' interests are matched with advertisements, by tracking impressions and by offering a significant volume of Web traffic, <i>Infoseek Guide</i> enables advertisers to undertake measurable, targeted, cost-effective and interactive advertising. During the quarter ended March 31, 1996, over 120 advertisers placed advertisements on <i>Infoseek Guide</i>. The Company is actively exploring new technologies which will allow it to track user behavior and interests, and therefore even more closely match the interests of audience and advertisers.</p> <p>Id.</p> <p>In addition, in April 1996, the Company licensed certain software technology from HNC. The Company intends to utilize the software technology to develop an advertising and audience management system to optimize the matching of advertisements with the appropriate audience. The software will be modified according to the Company's specifications to integrate it into the Company's advertisement placement system. This technology will be licensed to the Company for an initial five year term beginning upon the initial acceptance of the software by the Company. The Company expects that the proposed technology will provide significant technological improvements to the Company's advertising and audience management systems.</p> <p>Id. at GOOG-WRD-00872385.</p>

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	<p>The Company introduced its first products and services in 1995. During 1995 and for the first quarter of 1996, the Company derived its revenues substantially from the sale of advertisements on its Web pages and, to a lesser extent, from subscription fees for the Company's services. During these periods, advertising revenues accounted for approximately 82% and 96%, respectively, of total revenues. The Company expects to continue to derive substantially all of its revenues for the foreseeable future from selling advertising space on its Web sites. Advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions (displays of an advertisement to the user) for a fixed fee. Advertising revenues are recognized ratably over the term of the contract during which services are provided, and are stated net of customer discounts. Also included in advertising revenues is the exchange by the Company of advertising space on the Company's Web sites for reciprocal advertising space in other media publications or other Web sites or receipt of applicable goods and services. Revenues from these exchange transactions are recorded as advertising revenues at the estimated fair value of the goods and services received and are recognized when both the Company's advertisements and reciprocal advertisements are run or applicable goods or services are received. Although such revenues have been insignificant to date, the Company believes these exchange transactions are of value, particularly in the marketing of the Infoseek brand, and expects to continue to engage in these transactions in the future. The Company has also derived revenues during 1995 and the first quarter of 1996 from fees related to a premium subscription service offered to business and professional users. Revenues from this service are recognized over the period the service is provided. The Company's current business model to generate revenues through the sale of advertising on the Internet is unproven. There can be no assurance that current advertisers will continue to purchase advertising space and services from the Company or that the Company will be able to successfully attract additional advertisers. See "Risk Factors — Reliance on Advertising Revenues."</p> <p>Id. at GOOG-WRD-00872396.</p> <p>Infoseek develops and provides branded, comprehensive Web-based navigational services that help users access and personalize the vast resources of the Internet. The Company's primary service offering, <i>Infoseek Guide</i>, is a free service targeted at individual users. The Company believes that <i>Infoseek Guide</i> goes beyond the functionality offered by other search engines and directory services, by aggregating and packaging the resources of the Internet to serve individuals' unique and personal interests and create rich Internet experiences. The Company believes that <i>Infoseek Guide</i> has been well received by consumers and has achieved a strong brand presence among Web users. <i>Infoseek Guide</i> has won a number of industry awards including "Number 1 Rated Search Engine" (PC Computing Sept 95), "Best of the Test" (Internet World May 96) and "MVP: Internet Tools" (PC Computing Dec 95). The Company is currently working on its next generation search engine, <i>Ultraseek</i>, which the Company plans to release in the second half of 1996. <i>Ultraseek</i> will enable the searching of a much greater number of Web sites at even faster speeds with the same level of accuracy for which <i>Infoseek Guide</i> is currently known.</p> <p>Id. at GOOG-WRD-00872401.</p> <p>The Company believes that there is an opportunity to provide more comprehensive services that not only provide specific and relevant responses to consumer searches, but also aggregate and package the rich content resources of the Web in order to serve a consumer's unique and personal interests and create a rich Internet experience. The Company believes that consumers will respond to services that aggregate specific and relevant responses to queries with other relevant and related Web sites, targeted advertising, personalized news services, discussion groups, and other resources. The Company believes that services which bring together relevant content from among the vast resources on the Internet will enhance the consumer's Internet experience, attract a high volume of traffic and build brand loyalty.</p> <p>Id. at GOOG-WRD-00872402.</p>

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	<p>Advertisers currently face difficulties, however, in placing their advertisements strategically on the Web. It is difficult for advertisers to understand the volume and demographics of traffic patterns on Web sites. As a result, advertisers can find it difficult to make the existence and location of their advertisements widely known and target their audiences effectively. The Company believes that, in the near term, advertisers will migrate to sites which can offer a high number of impressions per day. The Company also believes that, over time, advertisers will be attracted to those services that experience a high volume of traffic, track consumers carefully and deliver advertisers audiences that fit specific buying profiles. In order to provide such audiences to advertisers, services and sites must develop technologies to enable them to conduct complex demographic and psychographic profiling of their consumers. By understanding their audiences, services and sites will be able to match advertisements with buyers, resulting in targeted, high impact advertising ("narrowcasting" or "microcasting"). The Company believes that those sites and services which both garner a high volume of traffic and offer advertisers the ability to target specific audiences effectively will be in the best position to take advantage of the advertising opportunity on the Web.</p> <p>Id. at GOOG-WRD-00872402-403.</p> <p>The Infoseek Solution</p> <p>Infoseek develops and provides branded, comprehensive Web-based navigational services that help users access and personalize the vast resources of the Internet. Infoseek's primary service offering, <i>Infoseek Guide</i>, not only provides specific and relevant responses to consumer searches, but also aggregates and packages the resources of the Internet in order to serve a consumer's unique and personal interests. By integrating the capabilities of a search engine and a directory, Infoseek packages specific responses to search queries with communities of related Web, USENET and branded third party content and targeted, related advertising. By creating communities of related information in real-time for users, <i>Infoseek Guide</i> satisfies the needs of consumers to access relevant and related information, the needs of content providers to reach interested audiences, and the needs of advertisers to deliver advertisements to a targeted group of potential buyers.</p> <p>With every search on <i>Infoseek Guide</i>, the consumer receives some or all of the following: specific and relevant Web site listings in response to the query, a directory of other related Web sites, related and appropriate advertising, unique editorials on related subjects by well-known third party content providers, links to relevant discussion groups and other resources. For example, a user who enters the query "rock music concerts in San Francisco" would find not only a listing of relevant Web pages, but would also find a link to the Billboard Online section of the <i>iZone</i> (a third-party sponsored editorial feature related to popular music) and a directory of related topics including regional music, alternative music, music stores, and jazz that would be linked to other related Web sites. The user may also see advertising appropriate to the user's interests in rock music. The Company believes that the creation of real-time content enhances a user's Internet experience by immediately linking the user to an environment of relevant and related content and information.</p> <p>Id. at GOOG-WRD-00872403.</p> <p>Infoseek's services provide advertisers with an increased ability to undertake measurable, targeted, cost-effective and interactive advertising on the Internet. The Company's services provide advertisers with the flexibility to target the mass audience of the Internet by advertising on the Company's general search pages, to target special interest groups by placing advertisements on directory pages, or, to narrowcast advertisements to specific audiences by placing advertising only when the user's query contains a specific word that has been designated as a key word for a particular advertiser. The Company believes that each of these types of advertising can provide significant value to advertisers. While larger, mass market campaigns increase brand awareness, narrower campaigns through directory ads or keyword ads provide opportunities to engage in high response, product specific advertising. The Company is also actively exploring new technologies which will allow compilation of anonymous profiles of user behavior and interests, to more closely match the interests of audiences and advertisers.</p> <p>Id. at GOOG-WRD-00872404.</p> <p>The Company plans to continue to enhance the attractiveness of its service to users through additional features and functionality. Infoseek is currently developing several enhancements to <i>Infoseek Guide</i>, which will allow for personalization of content and advertising according to user interests. These enhancements are expected to be released by fall 1996, and will allow users to create permanent filters for Internet-based information such as newswires, stock quotes, USENET listings and other Internet resources.</p> <p>Id. at GOOG-WRD-00872404.</p>

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	<p><i>Create Innovative Solutions for Advertisers.</i> The Company seeks to provide advertisers with innovative solutions to effectively reach their target audiences through the Internet. The Company currently offers a broad range of customized alternatives for advertisers, providing advertisers with the flexibility to target mass audiences or specific communities, or link advertisements to keyword searches. In addition, the Company is actively exploring new technologies which will enable advertisers to utilize user demographic, profile, and psychographic information. For example, the Company has entered into a letter of intent with HNC which provides that the Company and HNC will jointly develop an advertising and management system to anonymously track individual usage behavior that is based upon technology developed by HNC. The Company believes that these innovative advertising approaches, which will allow advertisers to microcast advertisements to specific user types based on sophisticated analysis of searching behavior, will significantly differentiate the Company's services.</p> <p>Id. at GOOG-WRD-00872404-05.</p> <p>Infoseek Navigational Services</p> <p>Infoseek's primary service offering, <i>Infoseek Guide</i>, is a navigation and content aggregation service targeted towards individuals and offered free to users. In addition to <i>Infoseek Guide</i>, the Company offers <i>Infoseek Professional</i>, a subscription-based service featuring premium content from commercial information databases and targeted to business and professional users. The Company plans to continue to introduce new services for individual and organizational markets over time. The</p> <p>Id. at GOOG-WRD-00872406.</p> <p><i>Future Enhancements.</i> The Company plans to continue to enhance the attractiveness of its service to users through additional features and functionality. Infoseek is currently developing several enhancements to <i>Infoseek Guide</i>, which will allow for personalization of content and advertising according to user interests. These enhancements are expected to be released by fall 1996, and will allow users to create permanent filters for Internet-based information such as newswires, stock quotes, USENET listings and other Internet resources.</p> <p>Id. at GOOG-WRD-00872408.</p> <p><i>Infoseek Professional.</i> <i>Infoseek Professional</i> is a subscription-based service targeted primarily to professional and business users of commercial online data and content. <i>Infoseek Professional</i> provides access to multiple, premium content databases in addition to the standard collections of Web pages, USENET News, and wire services more widely available on the Internet. <i>Infoseek Professional</i> provides a lower cost means to access a broad range of information databases as compared to individual premium service subscriptions. <i>Infoseek Professional</i> has not been a source of significant revenues to date for the Company.</p> <p>Id.</p> <p>In April 1996, the Company licensed certain software technology from HNC. The Company intends to utilize the software technology to develop an advertising and audience management system to optimize the matching of advertisements with the appropriate audience. The software will be modified according to the Company's specifications to integrate it into the Company's advertisement placement system. This technology will be licensed to the Company for an initial five year term beginning upon the initial acceptance of the software by the Company. The Company expects that the proposed technology will provide significant technological improvements to the Company's advertising and audience management systems. The Company expects the proposed technology to provide significant technological improvements to the Company's advertising and audience management systems. There can be no assurance that such system will be successfully developed. See "Risk Factors — Dependence on Technology Suppliers."</p> <p>Id. at GOOG-WRD-00872410.</p>

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	<p><i>Technological Advantages for Advertisers</i></p> <p>The online medium offers advertisers the ability to “narrowcast” their advertisements. For example, car manufacturers can display their advertisements when a user executes a car-related search. Infoseek’s technology additionally enables clients to monitor the effectiveness of their advertisements by tracking click-through rates (the number of viewers who click to an advertiser’s site) to learn more about their target audiences. Infoseek advertising sales representatives work closely with advertisers to understand the data and integrate it into their overall advertising strategy. The Company is exploring new technologies to enhance user behavior tracking and advertising management capabilities. See “Business — Technology” and “Risk Factors — Technological Change and New Products.”</p> <p>Id. at GOOG-WRD-00872411.</p>
<p>Yahoo Prospectus Registration Statement No. 333-2142, dated April 12, 1996 (“Yahoo Prospectus”) produced at GOOG-WRD-00874251-GOOG-WRD-00874328</p>	<p>The large and rapidly growing number of Internet users and ease of creating Web sites have led to a dramatic increase in content available on the Web. This rapid growth of Web content presents significant challenges for users searching for information and for content providers attempting to reach their target audience. To address these challenges, <i>Yahoo!</i> developed a context-based directory structure, which permits users to search for information online within interest-area categories, as well as a Web-wide search engine that is seamlessly integrated with the <i>Yahoo!</i> directory service. <i>Yahoo!</i> offers these services free of charge to Web users. The Company believes that by providing a branded “navigational gateway” to Internet resources and a familiar context for user navigation of the Web, <i>Yahoo!</i> is well-positioned to capitalize on the emergence of the Web as a new advertising mass medium.</p> <p>The Company believes that the Web represents an important new medium for sponsors to reach consumers through targeted, interactive and highly measurable advertising. Published industry sources estimate that the market for advertising on the Internet will reach \$74 million in 1996 and will exceed \$2 billion by the year 2000, or approximately 1% of projected advertising expenditures in traditional print, television and radio broadcast media by the end of the decade. The Company’s objective is to capitalize on this opportunity by providing the most popular and widely used guide to information on the Internet and to leverage the Company’s strong brand position by developing a global family of branded media properties in targeted subject, demographic and geographic areas. The Company also intends to enhance and extend the features and functionality of the <i>Yahoo!</i> main site, continue to promote its <i>Yahoo!</i> brand and build additional alliances with strategic third party content, technology and distribution partners. In March 1996, the Company introduced <i>Yahooligans!</i>, an internet navigational guide for children ages 8 to 14, and, together with Ziff-Davis, <i>Yahoo! Internet Life</i>, a print and online magazine which provides in-depth editorial coverage, including Web site reviews, of particular subject areas of interest on the Internet. In April 1996, the Company, in cooperation with SOFTBANK Corporation, introduced <i>Yahoo! Japan</i>, a localized version of <i>Yahoo!</i>. By mid-1996, the Company, with its strategic partners, expects to introduce <i>Yahoo! Canada</i>, another localized version of <i>Yahoo!</i>, and <i>Yahoo! Computing</i>, an online guide focused on computing topics. The Company also recently entered into an agreement with VISA International for the development of a Web navigational service, currently referred to as <i>Yahoo! MarketPlace</i>, to be focused on information and resources relating to the purchase of consumer products and services over the Internet.</p> <p>Id. at GOOG-WRD-00874255.</p> <p>Substantial Dependence Upon Third Parties</p> <p>The Company is in an early stage of development and has yet to establish substantial internal management, personnel and other resources. The Company depends substantially upon third parties for several critical elements of its business including, among others, advertising sales, technology and infrastructure, development of targeted content for localized Internet navigational guides and distribution activities.</p> <p>Id. at GOOG-WRD-00874261.</p> <p>Content Development</p> <p>A key element of the Company’s strategy involves the implementation of <i>Yahoo!</i> branded media properties targeted for interest areas, demographic groups and geographic areas. In these efforts, the Company has relied and will continue to rely substantially on content development and localization efforts of third parties. For example, the Company has entered into an agreement with Ziff-Davis pursuant to which Ziff-Davis will publish two online publications and a print magazine under the <i>Yahoo!</i> brand. The Company also expects to rely exclusively on third party affiliates, including SOFTBANK in Japan and Rogers Communications (“Rogers”) in Canada, to localize, maintain and promote these services and to sell advertising in local markets. There can be no assurance that the Company’s current or future third-party affiliates will effectively implement these properties, or that their efforts will result in significant revenue to the Company. Any failure of these parties to develop and maintain high-quality and successful media properties also could result in dilution to the <i>Yahoo!</i> brand, which could have a material adverse effect on the Company’s business, results of operations and financial condition. See “Business — Products and Media Properties — Targeted Online Properties — Geographic Areas.”</p>

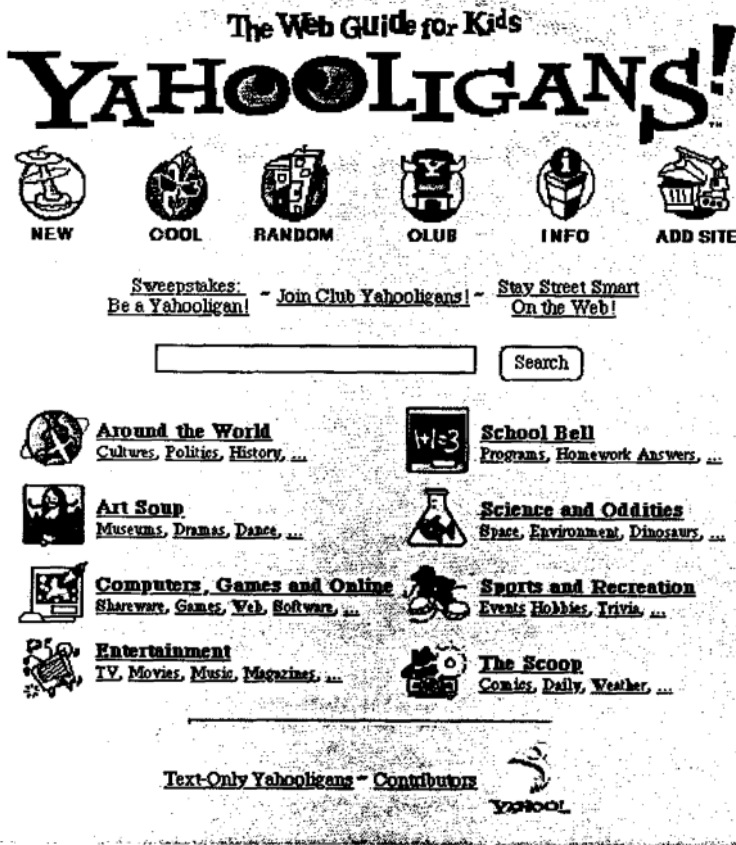
Reference	Disclosure
	<p>Id. at GOOG-WRD-00874262.</p> <p>A key element of the Company's business strategy is the development and introduction of new <i>Yahoo!</i> branded navigational products targeted for specific interest areas, user groups with particular demographic characteristics and geographic areas. There can be no assurance that the Company will be successful in developing or introducing such products or media properties or that such products and media properties will achieve market acceptance or enhance the Company's brand name recognition. The Company depends substantially on third party efforts in the development and operation of these new media properties. Furthermore, enhancements of or improvements to <i>Yahoo!</i> or new media properties may contain undetected errors that require significant design modifications, resulting in a loss of customer confidence and user support and a decrease in the value of the Company's brand name recognition. Any failure of the Company to effectively develop and introduce these properties, or failure of such properties to achieve market acceptance, could adversely affect the Company's business, results of operations and financial condition. See "Business — Products and Media Properties."</p> <p>Id. at GOOG-WRD-00874263.</p> <p>The large and rapidly growing number of Internet users and ease of creating Web sites have led to a dramatic increase in content available on the Web. This rapid growth of Web content presents significant challenges for users searching for information and for content providers attempting to reach their target audience. To address these challenges, <i>Yahoo!</i> developed a context-based directory structure, which permits users to search for information online within interest-area categories, as well as a Web-wide search engine that is seamlessly integrated with the <i>Yahoo!</i> directory service. <i>Yahoo!</i> offers these services free of charge to Web users. The Company believes that by providing a branded "navigational gateway" to Internet resources and a familiar context for user navigation of the Web, <i>Yahoo!</i> is well-positioned to capitalize on the emergence of the Web as a new advertising mass medium.</p> <p>Id. at GOOG-WRD-00874269.</p> <p>The Company believes that the Web represents an important new means for advertisers to reach consumers through a targeted, interactive and highly measurable medium. The Company derives substantially all of its revenues from the sale of advertisements. Advertising revenues are recognized in the period in which the advertisement is displayed, provided that no significant Company obligations remain and collection of the resulting receivable is probable. Company obligations typically include guarantees of minimum number of "impressions," or times that any advertisement appears in page views downloaded by users of <i>Yahoo!</i>. To the extent minimum guaranteed impressions are not met, the Company defers recognition of the corresponding revenues until guaranteed impression levels are achieved. Deferred revenue is comprised of billings in excess of recognized revenue relating to advertising contracts. The Company records advertising revenue net of any amounts allocable to third parties under the terms of revenue sharing agreements. The Company's revenues are derived principally from the sale of advertisements on short-term contracts. The Company's standard rates for advertising currently range from \$0.02 to \$0.06 per impression. To date, the duration of the Company's advertising commitments has ranged from one week to one year.</p> <p>Id. at GOOG-WRD-00874275.</p> <p>The rapidly increasing number of Web users and ubiquitous access to the Web, both in the United States and internationally, have resulted in the emergence of the Web as a new mass communications medium. The minimal cost required to publish content on the Web, relative to traditional publishing methods, has resulted in an explosion of Web-based content, including online magazines, news feeds and games, as well as a wealth of product, educational, entertainment and political information. The emergence of the Web also has created major opportunities for companies to advertise and promote their products and services in a targeted, interactive and multimedia environment.</p> <p>Id. at GOOG-WRD-00874279.</p>

Reference	Disclosure
	<p>Advertisers also have recognized that Web-based advertising may be more effective in a number of respects than traditional media advertising. Because the Web involves "point-to-point" communication between a server and client that is requested by the user, rather than broad indiscriminate distribution of messages, the Web offers the potential for advertisers to present messages to specific, self-selected audiences, and to enable users to interact with advertising information presented in Web pages. This characteristic of the Web also permits advertisers to measure more precisely the number of impressions, or times that an advertisement appears in page views downloaded by users, through verification by an independent third party auditor such as Nielsen I/PRO (Internet Profiles Corporation). Advertisers can also measure the effectiveness of advertising in generating "click-through," or user requests for additional information made by clicking on the advertiser's banner, linking the user to the advertiser's Web site. The Company believes that increases in transmission bandwidth through higher speed Internet connections, and wider adoption of advanced content delivery technologies for the Web, such as Java, VRML and other multimedia enabling technologies, will increase the functionality of advertising, and will make the Web an even more attractive advertising medium. The Company also believes that technological developments may result in greater ability to provide information and analysis about the effectiveness of Web advertising, the demographic profiles of users, as well as the capability for advertisers to frequently modify and more closely tailor their messages. This should result in more targeted, higher impact advertising opportunities, and greater integration of Web-based advertising into the range of marketing options available to advertisers.</p> <p>Id. at GOOG-WRD-00874280.</p> <p>The Yahoo! Opportunity</p> <p>The Company believes that Internet navigational tools and services are uniquely positioned to capitalize on the growth of the Web as a new advertising medium, since they provide an increasingly essential means by which both new and experienced Web users locate and evaluate the vast amount of information available on the Internet. The Company believes that because navigational guides tend to be utilized regularly by Web users, these guides will experience volumes of user traffic and impressions that are among the highest on the Web. In addition, the context orientation of navigational guides permit advertisers to focus their messages towards a targeted audience based upon user interests.</p> <p>The Company believes that by providing a "navigational gateway" to Internet resources and a familiar context for regular use of the Web, <i>Yahoo!</i> is well positioned to capitalize on the emergence of the Web as a new advertising medium. The Company also believes that, by developing additional <i>Yahoo!</i> branded media properties focused on interest areas, demographic groups and geographic areas, the Company can provide advertisers with an even greater ability to target their advertising messages to relevant audiences.</p> <p>Id. at GOOG-WRD-00874280.</p> <ul style="list-style-type: none"> • Establish Branded Properties in Targeted Markets. The Company believes that, as Internet users move beyond an initial phase of general exploration, they look for ways to explore specific areas of interest in greater depth. The Company intends to capitalize on this trend by developing a global family of branded media properties in targeted subject, demographic and geographic areas. For example, the Company recently released <i>Yahoo!igans!</i>, a version of <i>Yahoo!</i> for children, and <i>Yahoo! Japan</i>, a version of <i>Yahoo!</i> for Japanese users. Examples of targeted online properties currently under development include <i>Yahoo! Computing</i>, a directory focused on computing topics, <i>Yahoo! Canada</i>, another geographic localization, and <i>Yahoo! MarketPlace</i>, a Web navigational service to be developed in cooperation with VISA to focus on information and resources relating to the purchase of consumer products and services over the Internet. The Company believes that extension into new properties may permit the Company to increase its user and advertising base. <p>Id. at GOOG-WRD-00874283.</p>

Reference	Disclosure
	<p><i>Yahoo!</i> provides a rich set of reference content from leading content providers, including real-time news (provided by Reuters New Media), stock quotes (provided by Reuters), sports scores (provided by ESPN SportsTicker) and weather information (provided by Weathernews, Inc.), which are integrated into the <i>Yahoo!</i> directory structure by subject matter. <i>Yahoo!</i> also includes a number of popular features designed to create additional interest in the service and to encourage regular user visits. These include "What's New", which lists recent additions to the directory listings, organized within <i>Yahoo!</i>'s hierarchical scheme; "What's Cool", which highlights selections by the Company's staff of particularly interesting and useful Web sites; "Random Link", which directs the user to a Web site randomly selected from the directory; and "Web Launch", which provides a showcase for significant new Web sites, for which site developers pay a sponsorship fee. <i>Yahoo!</i> also maintains extensive hypertext links to Web sites about current events and issues of interest, such as elections, holidays, political issues and major weather conditions, organized in a topical format and updated regularly. Through its agreement with Ziff-Davis, the Company provides its customers with editorial insight under the <i>Yahoo!</i> brand, including reviews, on Web sites through print and online versions of <i>Yahoo! Internet Life</i>.</p> <p>Id. at GOOG-WRD-00874284.</p> <p>Targeted Online Properties</p> <p>The comprehensive subject-based, demographic and geographic listings in <i>Yahoo!</i> provide a platform for the Company to develop and offer independent navigational tools and other media properties that are targeted to particular interests and Web users. The Company intends to do so by working with appropriate strategic partners who will develop localized or targeted listings, create additional content and promote and sell advertising. The Company believes that, if implemented successfully, these media properties will further strengthen customer loyalty to the <i>Yahoo!</i> brand and may create additional revenue opportunities through a broader end user and advertiser base.</p> <p>Id. at GOOG-WRD-00874284-85.</p> <p>Geographic Areas. The Company intends to build upon its global user base to develop navigational sites focused on geographic regions, which may include foreign countries as well as foreign and domestic major metropolitan areas. The Company believes that, although local Internet directories and search engines have been established in a number of countries outside the U.S., few, if any, significant navigational guides have been established to date that combine comprehensive global listings with a local language interface and localized listings.</p> <p>In developing geographic and regional-focused properties, the Company intends to leverage its current Web site listings in <i>Yahoo!</i> which currently contains over 50,000 listings under regional and geographic subcategories (including the main "Regional" category), including over 15,000 listings under subcategories organized by individual countries and over 35,000 listings organized by regions and cities within the United States. For localization, the Company intends to rely primarily upon the editorial efforts of third parties in such geographical areas to localize <i>Yahoo!</i> for those countries' language, customs and cultural interests, and to maintain Web site listings that are relevant to the country or metropolitan areas, which listings also may be included as appropriate in the <i>Yahoo!</i> main Web site. Under this international partnering model, the Company has entered into arrangements with strategic partners to develop localized versions of <i>Yahoo!</i> for Japan and Canada.</p> <p><i>Yahoo! Japan</i> has been developed through a joint venture between the Company and SOFTBANK in Japan, one of the Company's principal shareholders. SOFTBANK is Japan's largest distributor of computer software, peripherals and systems, as well as Japan's largest publisher of computer-related magazines and books. SOFTBANK's U.S. subsidiaries include SOFTBANK COMDEX Inc. and SOFTBANK Expositions and Conference Co., Inc. SOFTBANK also recently acquired Ziff-Davis. <i>Yahoo! Japan</i> includes a Japanese language interface of directory categories, Japanese language search capabilities and additional listings for Japanese Web sites. The Company has entered into a non-binding letter of intent with SOFTBANK for this joint venture pending execution of a definitive agreement.</p> <p><i>Yahoo! Canada</i>, which is scheduled to be available in mid-1996, will be operated by Rogers Multi-Media, Inc., a wholly-owned subsidiary of Rogers Communications, one of the largest telecommunications and media companies in Canada. Rogers' media holdings include such properties as <i>Macleans</i>, the <i>Sun</i> newspaper chain and the <i>Financial Post</i>. Rogers has also agreed to feature <i>Yahoo! Canada</i> as part of a high-bandwidth cable modem access service under development by Rogers. The Company anticipates that <i>Yahoo! Canada</i> may provide a means for the Company to experiment with service improvements that may be made possible in high-bandwidth networks, which are anticipated to become available in the United States in the near future.</p> <p>The Company currently is in preliminary discussions with a number of other potential international affiliates for <i>Yahoo!</i> primarily in Western Europe and Australia, although no agreements currently are under negotiation with any such parties. The Company's ability to successfully establish geographically and regionally focused Internet guides, including <i>Yahoo! Japan</i> and <i>Yahoo! Canada</i>, will depend substantially upon the efforts of local third party affiliates for localization, content creation, promotion, advertising sales and other activities. There can be no assurance that the Company will be able to locate or achieve satisfactory agreements with any such third parties, that the efforts of such third parties will be successful or that localizations will result in significant revenue to the Company.</p>

Reference	Disclosure
	<p>Id. at GOOG-WRD-00874285.</p> <p>Subject-Based Areas. The Company has identified opportunities to develop additional Internet navigational guides and services that are focused by subject area. For example, as part of its relationship with Ziff-Davis, the Company has licensed certain portions of the <i>Yahoo!</i> directory listings and structure to Ziff-Davis for the development of <i>Yahoo! Computing</i>, a Web directory focused on computing topics, which is scheduled for launch in mid-1996. Ziff-Davis, one of the leading providers of news and editorial content about the computing industry, will operate <i>Yahoo! Computing</i> and will provide additional editorial content and navigational features relating to the computing industry. <i>Yahoo! Computing</i> will be promoted throughout the <i>Yahoo!</i> main site computing subdirectory.</p> <p>The Company recently entered into a letter agreement with VISA International ("VISA") for the development of a Web navigational service, currently referred to as <i>Yahoo! MarketPlace</i>, to be focused on information and resources relating to the purchase of consumer products and services over the Internet. The agreement contemplates the creation of a new limited liability company, the equity of which will be held 55% by the Company and 45% by VISA and certain VISA associates. The Company and VISA have agreed to invest up to a total of \$3 million in proportion to their respective equity interests. The Company also has agreed to provide operational support for the new company in connection with the development, implementation and maintenance of <i>Yahoo! MarketPlace</i>. VISA has agreed to engage in certain promotional activities in support of <i>Yahoo! MarketPlace</i>. The parties also have agreed, subject to certain conditions and limitations, to refrain from certain activities that would be competitive with <i>Yahoo! MarketPlace</i>. In connection with the agreement, VISA purchased for \$50,000 a warrant to purchase 350,000 shares of the Company's Common Stock at an exercise price of \$12.50 per share, which warrant is exercisable during a two year period commencing in March 1997.</p> <p>Id. at GOOG-WRD-00874285-86.</p> <p>Demographic Interest Areas</p> <p>The Company also intends to develop additional Internet navigational tools and services that are focused on specific demographic or age groups, which the Company believes may provide attractive advertising opportunities. As an example of this kind of arrangement, the Company recently launched <i>Yahooligans!</i>, a version of <i>Yahoo!</i> for children aged eight to 14, which will be a guide that will initially include over 1,500 Web site listings that have been selected by professional educators as appropriate for children, and which will be organized into eight major subcategories. This property, which is being developed by the Company in collaboration with Ingenius, a private company affiliated with Reuters New Media and TeleCommunications, Inc. ("TCI"), will be promoted through <i>Yahoo!</i>. The Company also has identified other potential demographic focus areas, such as retirement, family, and college students, although no projects are currently in development in these areas.</p> <p>Id. at GOOG-WRD-00874286.</p> <p>Content and Commerce Alliances</p> <p>The Company has entered into strategic alliances with selected content providers, including Ziff-Davis and Reuters, which permit the Company to bring targeted media products to market more quickly, while avoiding the cost of producing original editorial content. The Company enters into agreements with its collaborators and third-party content providers under which the Company participates in the advertising revenues received from the publication. With respect to properties maintained by the Company, such as <i>Yahooligans!</i>, the Company typically reserves the right to sell and place advertising.</p> <p>Id. at GOOG-WRD-00874287.</p>

Reference	Disclosure
	<p>Advertising Pricing</p> <p>Advertising on <i>Yahoo!</i> currently consists primarily of banner advertisements that appear on the top of directory pages within the <i>Yahoo!</i> main site. Hypertext links are embedded in each banner advertisement to provide the user with instant access to the advertiser's Web site to obtain additional information or purchase products and services. The Company's contracts with advertisers typically guarantee the advertiser a minimum number of "impressions," or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>. The Company's standard rates for banner advertisements currently range from \$0.02 to \$0.05 per impression, depending upon location of the advertisement within <i>Yahoo!</i> and the extent to which the advertisement is targeted for particular context areas. The Company may provide discounts from standard rates for longer term contracts. The Company also offers context-based keyword advertising, which permits advertisers to target users based upon specified keywords that a user enters when searching within <i>Yahoo!</i>. For example, if a user enters the term "automobile" or "car", an automobile manufacturer's advertisement could appear on pages displaying the results of such a search. The Company's standard rate, for context-based keyword advertisements currently range from \$0.03 to \$0.06 per impression.</p> <p>Id. at GOOG-WRD-00874289.</p> <p>Competition</p> <p>The market for Internet products and services is highly competitive and competition is expected to continue to increase significantly. In addition, the Company expects the market for Web-based advertising, to the extent it develops, to be intensely competitive. There are no substantial barriers to entry, and the Company expects that competition will continue to intensify. Although the Company believes that the diverse segments of the Internet market will provide opportunities for more than one supplier of products and services similar to those of the Company, it is possible that a single supplier may dominate one or more market segments. The Company competes with other providers of Internet navigational tools and services, including directory and Web site review services and search engine services. Many companies offer competitive products or services addressing certain of the Company's target markets, including AOL (Web Crawler), Digital Equipment Corporation (Alta Vista), Excite, Inc. (Excite NetSearch and NetDirectory), Inktomi, Infoseek Corporation (InfoGuide), Lycos, Inc. (Lycos and A2Z), The McKinley Group (Magellan), MCI/NewsCorp (I-Guide) and Open Text Corporation (Open Text Index). In addition, the Company competes with metasearch services, such as C NET's search.com service, that allow a user to search the databases of several directories and catalogs simultaneously. The Company also competes indirectly with database vendors that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from providers of Web browser software and other Internet products and services, such as Microsoft and Netscape, that incorporate search and retrieval features into their offerings. In addition, entities that sponsor or maintain high-traffic Web sites could develop or acquire Internet search and navigation functions that compete with those offered by the Company. Many of the Company's existing competitors, as well as a number of potential new competitors, have significantly greater financial, technical and marketing resources than the Company. In addition, to the extent that providers of Internet navigational tools and services may be acquired by, receive investments from or enter into other commercial relationships with larger, well-established and well-financed companies, such as Microsoft or Netscape. For example, AOL recently made a significant equity investment in Excite, and Excite has licensed its search service for use by AOL's subscribers. Greater competition resulting from such relationships could have a material adverse effect on the Company's business, results of operations and financial condition.</p> <p>Id. at GOOG-WRD-00874292.</p> <p>The process of managing advertising within large, high traffic Web sites such as <i>Yahoo!</i> is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. The Company also licenses software from a third party provider, NetGravity, for its advertising rotation and scheduling functions. To the extent that extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company could experience a material adverse effect on the Company's revenues and results of operations.</p> <p>Id. at GOOG-WRD-00874292.</p>

Reference	Disclosure
	 <p>The Company believes that, as Internet users move beyond an initial phase of general exploration, they look for ways to explore specific areas of interest in greater depth. The Company intends to capitalize on this trend by developing a series of <i>Yahoo!</i> branded navigational products and services in targeted markets focused on subject areas, user groups with specific demographic characteristics and geographic content. For example, on March 15, 1996, the Company released <i>Yahooligans!</i>, a version of <i>Yahoo!</i> for children.</p> <p>Id. at GOOG-WRD-00874327.</p>
<p>Yahoo Form SB-2 Registration Statement No. 333-2142, dated March 7, 1996 (“Yahoo Form SB-2”) produced at GOOG-WRD-00874329-GOOG-WRD-00874418</p>	<p>The rapid growth in the number of Web sites and volume of Web content presents significant challenges for users searching for information and for content providers attempting to reach their target audience. <i>Yahoo!</i> offers a context-based directory structure, which permits users to search for information online within interest-area categories, as well as a Web-wide search engine that is seamlessly integrated with the <i>Yahoo!</i> directory service. <i>Yahoo!</i> offers these services free of charge to Web users.</p> <p>The Company believes that the Web represents an important new medium for sponsors to reach consumers through targeted, interactive and highly measurable advertising. A report by Forrester Research in June 1995 estimated that the market for advertising on the Internet will reach \$74 million in 1996 and will exceed \$2 billion by the year 2000. This amount would represent approximately 1% of projected advertising expenditures in traditional print, television and radio broadcast media by the end of the decade, according to published industry estimates. The Company’s objective is to capitalize on this opportunity by providing the most popular and widely used guide to information on the Internet and to leverage the Company’s strong brand position by developing a global family of branded media properties in targeted subject, demographic and geographic areas. The Company also intends to enhance and extend the features and functionality of the <i>Yahoo!</i> main site, continue to promote its <i>Yahoo!</i> brand and build additional alliances with strategic third party content, technology and distribution partners. By mid-1996, the Company, with its strategic partners, expects to introduce <i>Yahooligans!</i>, an Internet navigational guide for children ages 8 to 14; <i>Yahoo! Japan</i> and <i>Yahoo! Canada</i>, localized versions of <i>Yahoo!</i>; <i>Yahoo! Computing</i>, an online guide focused on computing topics; and <i>Yahoo! Internet Life</i>, a print and online magazine which provides in-depth editorial coverage, including reviews, of particular subject areas of interest on the Internet.</p> <p>Id. at GOOG-WRD-00874335.</p>

Reference	Disclosure
	<p>Substantial Dependence Upon Third Parties</p> <p>The Company is in an early stage of development and has yet to establish substantial internal management, personnel and other resources. The Company depends substantially upon third parties for several critical elements of its business including, among others, advertising sales, technology and infrastructure, development of targeted content for localized Internet navigational guides and distribution activities.</p> <p>Id. at GOOG-WRD-00874340.</p> <p>Content Development</p> <p>A key element of the Company's strategy involves the implementation of <i>Yahoo!</i> branded media properties targeted for interest areas, demographic groups and geographic areas. In these efforts, the Company has relied and will continue to rely substantially on content development and localization efforts of third parties. For example, the Company has licensed Ziff-Davis to develop two online publications and a print magazine under the <i>Yahoo!</i> brand. The Company also expects to rely exclusively on third party affiliates, including SOFTBANK in Japan and Rogers Communications ("Rogers") in Canada, to localize, maintain and promote these services and to sell advertising in local markets. There can be no assurance that the Company's current or future third-party affiliates will effectively implement these properties, or that their efforts will result in significant revenue to the Company. Any failure of these parties to develop and maintain high-quality and successful media properties also could result in dilution to the <i>Yahoo!</i> brand, which could have a material adverse effect on the Company's business, results of operations and financial condition. See "Business — Products and Media Properties — Targeted Online Properties — Geographic Areas."</p> <p>Id. at GOOG-WRD-00874340-41.</p> <p>A key element of the Company's business strategy is the development and introduction of new <i>Yahoo!</i> branded navigational products targeted for specific interest areas, user groups with particular demographic characteristics and geographic areas. There can be no assurance that the Company will be successful in developing or introducing such products or media properties or that such products and media properties will achieve market acceptance or enhance the Company's brand name recognition. The Company depends substantially on third party efforts in the development and operation of these new media properties. Furthermore, enhancements of or improvements to <i>Yahoo!</i> or new media properties may contain undetected errors that require significant design modifications, resulting in a loss of customer confidence and user support and a decrease in the value of the Company's brand name recognition. Any failure of the Company to effectively develop and introduce these properties, or failure of such properties to achieve market acceptance, could adversely affect the Company's business, results of operations and financial condition. See "Business — Products and Media Properties."</p> <p>Id. at GOOG-WRD-00874341.</p>

Reference	Disclosure
	<p>Management of Potential Growth; New Management Team</p> <p>The Company's recent growth has placed, and is expected to continue to place, a significant strain on its managerial, operational and financial resources. To manage its potential growth, the Company must continue to implement and improve its operational and financial systems and to expand, train and manage its employee base. Nearly all of the Company's senior management has joined the Company within the last nine months. These individuals have not previously worked together and are in the process of integrating as a management team. The Company is seeking a Vice President of Development and Operations and, although the Company intends to fill this position in the first half of 1996, there can be no assurance that the Company will be able to do so. The Company also intends to establish mirror, or duplicate, sites in other geographic locations, which will create additional operational and management complexities, including the need for continual updating and maintenance of directory listings among geographically dispersed network servers. The process of managing advertising within large, high traffic Web sites such as <i>Yahoo!</i> is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. The Company also licenses software from a third party provider, NetGravity, Inc. ("NetGravity"), for its advertising rotation and scheduling functions. To the extent that any extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company may be exposed to "make good" obligations with its advertising customers, which, by displacing advertising inventory, could have a material adverse effect on the Company's business, results of operations and financial condition. There can be no assurance that the Company will be able to effectively manage the expansion of its operations, that the Company's systems, procedures or controls will be adequate to support the Company's operations or that Company management will be able to achieve the rapid execution necessary to fully exploit the market opportunity for the Company's products and media properties. Any inability to manage growth, if any, effectively could have a material adverse effect on the Company's business, results of operations and financial condition. See "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business — Employees and Management of Growth."</p> <p>Id. at GOOG-WRD-00874343.</p> <p>The rapid growth in the number of Web sites and volume of Web content presents significant challenges for users searching for information and for content providers attempting to reach their target audience. <i>Yahoo!</i> offers a context-based directory structure, which permits users to search for information online within interest-area categories, as well as a Web-wide search engine that is seamlessly integrated with the <i>Yahoo!</i> directory service. <i>Yahoo!</i> offers these services free of charge to Web users.</p> <p>The Company believes that the Web represents an important new medium for sponsors to reach consumers through targeted, interactive and highly measurable advertising. A report by Forrester Research in June 1995 estimated that the market for advertising on the Internet will reach \$74 million in 1996 and will exceed \$2 billion by the year 2000. This amount would represent approximately 1% of projected advertising expenditures in traditional print, television and radio broadcast media by the end of the decade, according to published industry estimates. The Company's objective is to capitalize on this opportunity by providing the most popular and widely used guide to information on the Internet and to leverage the Company's strong brand position by developing a global family of branded media properties in targeted subject, demographic and geographic areas. The Company also intends to enhance and extend the features and functionality of the <i>Yahoo!</i> main site, continue to promote its <i>Yahoo!</i> brand and build additional alliances with strategic third party content, technology and distribution partners. By mid-1996, the Company, with its strategic partners, expects to introduce <i>Yahooligans!</i>, an Internet navigational guide for children ages 8 to 14; <i>Yahoo! Japan</i> and <i>Yahoo! Canada</i>, localized versions of <i>Yahoo!</i>; <i>Yahoo! Computing</i>, an online guide focused on computing topics; and <i>Yahoo! Internet Life</i>, a print and online magazine which provides in-depth editorial coverage, including reviews, of particular subject areas of interest on the Internet.</p> <p>Id. at GOOG-WRD-00874348.</p> <p>The rapidly increasing number of Web users and ubiquitous access to the Web, both in the United States and internationally, have resulted in the emergence of the Web as a new mass communications medium. The minimal cost required to publish content on the Web, relative to traditional publishing methods, has resulted in an explosion of Web-based content, including online magazines, news feeds and games, as well as a wealth of product, educational, entertainment and political information. The emergence of the Web also has created major opportunities for companies to advertise and promote their products and services in a targeted, interactive and multimedia environment.</p> <p>Id. at GOOG-WRD-00874357.</p>

Reference	Disclosure
	<p>Advertisers also have recognized that Web-based advertising may be more effective in a number of respects than traditional media advertising. Because the Web involves "point-to-point" communication between a server and client that is requested by the user, rather than broad indiscriminate distribution of messages, the Web offers the potential for advertisers to present messages to specific, self-selected audiences, and to enable users to interact with advertising information presented in Web pages. This characteristic of the Web also permits advertisers to measure more precisely the number of impressions, or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>, through verification by an independent third party auditor such as Nielsen - I/PRO (Internet Profiles Corporation). Advertisers can also measure the effectiveness of advertising in generating "click-through," or user requests for additional information made by clicking on the advertiser's banner, linking the user to the advertiser's Web site. The Company believes that increases in transmission bandwidth through higher speed Internet connections, and wider adoption of advanced content delivery technologies for the Web, such as Java, VRML and other multimedia enabling technologies will increase the functionality of advertising, and will make the Web an even more attractive advertising medium. The Company also believes that technological developments may result in greater ability to provide information and analysis about the effectiveness of Web advertising, the demographic profiles of users and the ability for advertisers to frequently modify their messages. This should result in more targeted, higher impact advertising opportunities, and greater integration of Web-based advertising into the range of marketing options available to advertisers.</p> <p>Id. at GOOG-WRD-00874358.</p> <p>The Yahoo! Opportunity</p> <p>Internet navigational tools and services are uniquely positioned to capitalize on the growth of the Web as a new advertising medium, since they provide an increasingly essential means by which both new and experienced Web users locate and evaluate the vast amount of information available on the Internet. The Company believes that because navigational guides tend to be utilized regularly by Web users, these guides will experience volumes of user traffic and impressions that are among the highest on the Web. In addition, the context orientation of navigational guides permit advertisers to focus their messages towards a targeted audience based upon user interests.</p> <p>The Company believes that by providing a "navigational gateway" to Internet resources and a familiar context for regular use of the Web, <i>Yahoo!</i> is well positioned to capitalize on the emergence of the Web as a new advertising medium. The Company also believes that, by developing additional <i>Yahoo!</i> branded media properties focused on interest areas, demographic groups and geographic areas, the Company can provide advertisers with an even greater ability to target their advertising messages to relevant audiences.</p> <p>Id. at GOOG-WRD-00874358.</p> <ul style="list-style-type: none"> • Establish Branded Properties in Targeted Markets. The Company believes that, as Internet users move beyond an initial phase of general exploration, they look for ways to explore specific areas of interest in greater depth. The Company intends to capitalize on this trend by developing a global family of branded media properties in targeted subject, demographic and geographic areas. Examples of targeted online properties currently under development include <i>Yahoo! Computing</i>, a directory focused on computing topics; <i>Yahooligans!</i>, a version of <i>Yahoo!</i> for children; and two geographic localizations, <i>Yahoo! Japan</i> and <i>Yahoo! Canada</i>. The Company believes that extension into new properties may permit the Company to increase its user and advertising base. <p>Id. at GOOG-WRD-00874361.</p>

Reference	Disclosure
	<p><i>Yahoo!</i> provides a rich set of reference content from leading content providers, including real-time news (provided by Reuters New Media), stock quotes (provided by Reuters), sports scores (provided by ESPN SportsTicker) and weather information (provided by Weathermews, Inc.), which are integrated into the <i>Yahoo!</i> directory structure by subject matter. <i>Yahoo!</i> also includes a number of popular features designed to create additional interest in the service and to encourage regular user visits. These include "What's New", which lists recent additions to the directory listings, organized within <i>Yahoo!</i>'s hierarchical scheme; "What's Cool", which highlights selections by the Company's staff of particularly interesting and useful Web sites; "What's Popular", which lists the top 50 most popular <i>Yahoo!</i> categories and files for a recent period; "Random Link", which directs the user to a Web site randomly selected from the directory; and "Web Launch", which provides a showcase for significant new Web sites, for which site developers pay a sponsorship fee. <i>Yahoo!</i> also maintains extensive hypertext links to Web sites about current events and issues of interest, such as elections, holidays, political issues and major weather conditions, organized in a topical format and updated regularly. Through its agreement with Ziff-Davis, <i>Yahoo!</i> provides its customers with editorial insight, including reviews, on Web sites through print and online versions of <i>Yahoo! Internet Life</i>.</p> <p>Id. at GOOG-WRD-00874362.</p> <p>Targeted Online Properties</p> <p>The comprehensive subject-based, demographic and geographic listings in <i>Yahoo!</i> provide a platform for the Company to develop and offer independent navigational tools and other media properties that are targeted to particular interests and Web users. The Company intends to do so by working with appropriate strategic partners who will develop localized or targeted listings, create additional content and promote and sell advertising. The Company believes that, if implemented successfully, these media properties will further strengthen customer loyalty to the <i>Yahoo!</i> brand and will create additional revenue opportunities through a broader end user and advertiser base.</p> <p>Id. at GOOG-WRD-00874362.</p>

Reference	Disclosure
	<p>Geographic Areas. The Company intends to build upon its global user base to develop navigational sites focused on geographic regions, which may include foreign countries as well as foreign and domestic major metropolitan areas. The Company believes that, although local Internet directories and search engines have been established in a number of countries outside the U.S., few, if any, significant navigational guides have been established to date that combine comprehensive global listings with a local language interface and localized listings.</p> <p>In developing geographic and regional-focused properties, the Company intends to leverage its current Web site listings in <i>Yahoo!</i> which currently contains over 50,000 listings under regional and geographic subcategories (including the main "Regional" category), including over 15,000 listings under subcategories organized by individual countries and over 35,000 listings organized by regions and cities within the United States. For localization, the Company intends to rely primarily upon the editorial efforts of third parties in such geographical areas to localize <i>Yahoo!</i> for those countries' language, customs and cultural interests, and to maintain Web site listings that are relevant to the country or metropolitan areas, which listings also may be included as appropriate in the <i>Yahoo!</i> main Web site. Under this international partnering model, the Company has entered into agreements with strategic partners to develop localized versions of <i>Yahoo!</i> for Japan and Canada.</p> <p><i>Yahoo! Japan</i>, is currently under development through a proposed joint venture between the Company and SOFTBANK, one of the Company's principal shareholders. SOFTBANK is Japan's largest distributor of computer software, peripherals and systems, as well as Japan's largest publisher of computer-related magazines and books. SOFTBANK's U.S. subsidiaries and joint ventures include SOFTBANK COMDEX Inc. and SOFTBANK Expositions and Conference Co., Inc. SOFTBANK also recently acquired Ziff-Davis. <i>Yahoo! Japan</i> is expected to include a Japanese language interface of directory categories, Japanese language search capabilities and additional listings for Japanese Web sites. The Company anticipates that <i>Yahoo! Japan</i> will be made available on servers located in Japan in mid-1996.</p> <p><i>Yahoo! Canada</i>, which is scheduled to be available in mid-1996, will be operated by Rogers Multi-Media, Inc., a division of Rogers Communications, one of the largest telecommunications and media companies in Canada. Rogers' media holdings include such properties as <i>Maclean's</i>, the <i>Sun</i> newspaper chain and the <i>Financial Post</i>. Rogers has also agreed to feature <i>Yahoo! Canada</i> as part of a high-bandwidth cable modem access service under development by Rogers. The Company anticipates that <i>Yahoo! Canada</i> may provide a means for the Company to experiment with service improvements that may be made possible in high-bandwidth networks, which are anticipated to become available in the United States in the near future.</p> <p>The Company currently is in preliminary discussions with a number of other potential international affiliates for <i>Yahoo!</i> primarily in Western Europe and Australia, although no agreements currently are under negotiation with any such parties. The Company's ability to successfully establish geographically and regionally focused Internet guides, including <i>Yahoo! Japan</i> and <i>Yahoo! Canada</i>, will depend substantially upon the efforts of local third party affiliates for localization, content creation, promotion, advertising sales and other activities. There can be no assurance that the Company will be able to locate or achieve satisfactory agreements with any such third parties, that the efforts of such third parties will be successful or that localizations will result in significant revenue to the Company.</p> <p>Id. at GOOG-WRD-00874362.</p> <p>Subject-Based Areas. The Company has identified opportunities to develop additional Internet navigational guides and services that are focused by subject area. For example, as part of its relationship with Ziff-Davis, the Company has licensed certain portions of the <i>Yahoo!</i> directory listings and structure to Ziff-Davis for the development of <i>Yahoo! Computing</i>, a Web directory focused on computing topics, which is scheduled for launch in mid-1996. Ziff-Davis, one of the leading providers of news and editorial content about the computing industry, will operate <i>Yahoo! Computing</i> and will provide additional editorial content and navigational features relating to the computing industry. <i>Yahoo! Computing</i> will be promoted throughout the <i>Yahoo!</i> main site computing subdirectory. The Company intends to enter into similar relationships with other leading content providers to develop additional navigational tools and services focused on interest areas that are expected to be desirable advertising vehicles. These interest areas may include, among others, travel, music and personal finance, although no projects are currently in development in these areas.</p> <p>Id. at GOOG-WRD-00874363-64.</p>

Reference	Disclosure
	<p>Demographic Interest Areas</p> <p>The Company also intends to develop additional Internet navigational tools and services that are focused on specific demographic or age groups, which the Company believes may provide attractive advertising opportunities. As an example of this kind of arrangement, the Company recently announced <i>Yahooligans!</i>, a version of <i>Yahoo!</i> for children aged eight to 14, which will be a guide that will initially include over 1,500 Web sites that have been selected by professional educators as appropriate for children, and which will be organized into eight major subcategories. This property, which is being developed by the Company in collaboration with Ingenius, a private company affiliated with Reuters New Media and TeleCommunications, Inc. ("TCI"), will be promoted through <i>Yahoo!</i>. The Company also has identified other potential demographic focus areas, such as retirement, family, and college students, although no projects are currently in development in these areas.</p> <p>Id. at GOOG-WRD-00874364.</p> <p>Content Alliances</p> <p>The Company has entered into strategic alliances with selected content providers, including Ziff-Davis and Reuters, which permit the Company to bring targeted media products to market more quickly, while avoiding the cost of producing original editorial content. The Company enters into agreements with its collaborators and third-party content providers under which the Company participates in the advertising revenues received from the publication. With respect to properties maintained by the Company, such as <i>Yahooligans!</i>, the Company typically reserves the right to sell and place advertising.</p> <p>Id. at GOOG-WRD-00874364.</p> <p>Advertising Pricing</p> <p>Advertising on <i>Yahoo!</i> currently consists primarily of banner advertisements that appear on the top of directory pages within the <i>Yahoo!</i> main site. Hypertext links are embedded in each banner advertisement to provide the user with instant access to the advertiser's Web site to obtain additional information or purchase products and services. The Company's contracts with advertisers typically guarantee the advertiser a minimum number of "impressions," or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>. The Company's standard rates for banner advertisements currently range from \$0.02 to \$0.05 per impression, depending upon location of the advertisement within <i>Yahoo!</i> and the extent to which the advertisement is targeted for particular context areas. The Company may provide discounts from standard rates for longer term contracts. The Company also offers context-based keyword advertising, which permits advertisers to target users based upon specified keywords that a user enters when searching within <i>Yahoo!</i>. For example, if a user enters the term "automobile" or "car", an automobile manufacturer's advertisement could appear on pages displaying the results of such a search. The Company's standard rate, for context-based keyword advertisements currently range from \$0.03 to \$0.06 per impression. Because the Internet is new and still developing as an advertising medium, it is difficult to predict the purchasing patterns of advertisers or whether the Company's current advertising model will be successful.</p> <p>Id. at GOOG-WRD-00874366-67.</p> <p>The Company has developed a set of proprietary database tools that it uses to maintain and update directory listings on <i>Yahoo!</i> and other directory properties. Substantially all of the listings on <i>Yahoo!</i> are submitted by Web site developers. The Company's "surfers" review submissions and categorize them into appropriate category headings. The Company also uses automated systems to regularly check Web sites in the <i>Yahoo!</i> directory listings, and to remove sites that are no longer available.</p> <p><i>Yahoo!</i> includes an internally developed responsive keyword search function that is used to locate listings within the directory. This search function not only returns relevant Web site listings but also appropriate category headings, which link to further listings that may be relevant to the user's query. In establishing other media properties, including international versions of <i>Yahoo!</i>, the Company intends to license its directory and search tools to affiliates that will operate and maintain these properties.</p> <p>Id. at GOOG-WRD-00874368.</p>

Reference	Disclosure
	<p>Competition</p> <p>The market for Internet products and services is highly competitive and competition is expected to continue to increase significantly. In addition, the Company expects the market for Web-based advertising, to the extent it develops, to be intensely competitive. There are no substantial barriers to entry, and the Company expects that competition will continue to intensify. Although the Company believes that the diverse segments of the Internet market will provide opportunities for more than one supplier of products and services similar to those of the Company, it is possible that a single supplier may dominate one or more market segments. The Company competes with other providers of Internet navigational tools and services, including directory and Web site review services and search engine services. Many companies offer competitive products or services addressing certain of the Company's target markets, including AOL (Web Crawler), Architext Software, Inc. (Excite), Digital Equipment Corporation (Alta Vista), Infoseek Corporation (InfoGuide), Lycos, Inc. (Lycos and A2Z), The McKinley Group (Magellan), MCI/NewsCorp (I-Guide) and Open Text Corporation (Open Text Index). In addition, the Company competes with metasearch services that allow a user to search the databases of several directories and catalogs simultaneously. The Company also competes indirectly with database vendors that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from providers of Web browser software and other Internet products and services that incorporate search and retrieval features into their offerings. In addition, entities that sponsor or maintain high-traffic Web sites could develop or acquire Internet search and navigation functions that compete with those offered by the Company. Many of the Company's existing competitors, as well as a number of potential new competitors, have significantly greater financial, technical and marketing resources than the Company. In addition, to the extent that smaller providers of Internet navigational tools and services may be acquired by or enter into other commercial relationships with larger, well-established and well-financed companies, such as Microsoft or Netscape, the Company could face greater competition and consequently the Company's business, results of operations and financial condition could be adversely affected.</p> <p>Id. at GOOG-WRD-00874369.</p> <p>The process of managing advertising within large, high traffic Web sites such as <i>Yahoo!</i> is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. The Company also licenses software from a third party provider, Net Gravity, for its advertising rotation and scheduling functions. To the extent that extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company could experience a material adverse effect on the Company's revenues and results of operations.</p> <p>Id. at GOOG-WRD-00874369.</p>

Reference	Disclosure
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YAHOO!IGANS!



[Big Contest](#) - [Fun Stuff](#) - [Smart Internet Tips for Surfers of all Ages](#)
[Become a Yahoo!igans Editor!](#)

[Options](#)

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|---|--|
| <p> <u>Around the World</u>
Cultures, Politics, History, ...</p> <p> <u>Arts</u>
Museums, Dramas, Dance, ...</p> <p> <u>Computers, Games and Online</u>
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TV, Movies, Music, Magazines, ...</p> | <p> <u>School Bell</u>
Home Pages, Homework Answers, ...</p> <p> <u>Science and Oddities</u>
Space, Environment, UFO's, ...</p> <p> <u>Sports and Recreation</u>
Teams, Hobbies, Trivia, ...</p> <p> <u>The Scoop</u>
Bosnia, Elections, Olympics, ...</p> |
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[Text-Only Yahoo](#) · [Contributors](#)

The Company believes that, as Internet users move beyond an initial phase of general exploration, they look for ways to explore specific areas of interest in greater depth. The Company intends to capitalize on this trend by developing a series of Yahoo! branded navigational products and services in targeted markets focused on subject areas, user groups with specific demographic characteristics and geographic content. For example, on March 15, 1996, the Company released *Yahoo!igans!*, a version of Yahoo! for children.

Id. at GOOG-WRD-00874404.

Open Text Form F-1
Registration Statement
No. 33-98858, dated
November 1, 1995
("Open Text Form F-1")
produced at
GOOG-WRD-00873727-GOOG-WRD-00873878

The Company

Open Text Corporation (the "Company") develops, markets, licenses and supports software for use on local and wide area networks and the Internet that enables users to find electronically stored information, work together in creative and collaborative processes and distribute or make available to users across networks or the Internet the resulting work product and other information. The Company's search engine enables users to transparently search vast amounts of data stored in a wide variety of formats and in disparate locations, including World Wide Web sites. The Company's search technology is characterized by rapid response times that do not increase materially as the amount of data searched increases from gigabytes to terabytes, if adequate server and communications resources are employed. The Company's workflow and document management software enables users to establish and manage document-oriented collaborative work processes that involve a diversity of workers, computing platforms and data. In addition, the Company's products enable organizations to flexibly manage the distribution and availability of information. The Company's strategy is to offer information search, work process management and information distribution products that collectively represent an information management solution addressing the needs of the spectrum of users of local and wide area networks and the Internet.

Employing its search engine and related technologies, the Company has created the *Open Text Index*, an index of the World Wide Web (the "Web"), that it licenses together with its search technology to major Web information providers, including Yahoo!, internetMCI and IBM infoMarket. The Company also offers the *Open Text Index* as a search tool to Web users on the Company's own Web site in order to increase awareness of the Company's technology and products and to capitalize on the emerging advertising revenue opportunity on the Internet.

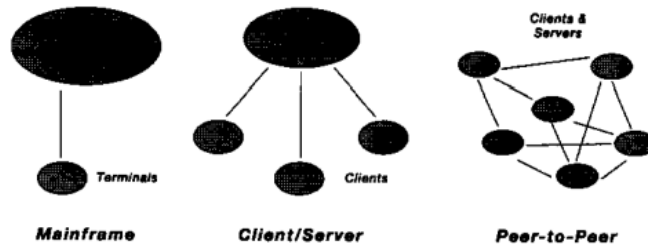
The Company's search engine, currently marketed as *Open Text 5*, has application as a stand-alone search tool for use on local and wide area networks and the Internet and as part of more comprehensive information management solutions. For example, the Company's search engine is a key component of *Latitude*, the Company's document distribution product that enables an organization's users to find and view, in native format, documents in large collections of information stored on local or remote servers and CD-ROMs spread across local and wide area networks and the Internet.

Reference	Disclosure
	<p>Id. at GOOG-WRD-00873603.</p> <p>Industry Overview</p> <p>Organizations are increasingly seeking to streamline their business processes in order to increase worker productivity and reduce costs through the implementation of information management solutions. Through investments in traditional information management tools, organizations often establish a variety of data processing infrastructures that are rigidly designed to complete specific tasks or perform narrowly defined functions. As a result, organizations are increasingly faced with significant information management challenges attributable to rapidly increasing amounts of data created and stored in a variety of formats and in disparate locations across various networks. In addition, the emergence of the Internet as an important medium for communications is an increasingly significant influence on the configuration of network computing environments, and organizations are increasingly adopting private networks that are based on client/server architectures and that employ Internet data formats and communications protocols to connect geographically dispersed networks and facilities.</p> <p><i>Proliferation of Information on Client/Server Networks and the Internet</i></p> <p>In recent years, advances in computer hardware and software technology have resulted in dramatic increases in the amount of electronically stored information available to computer users. The ease of use, increased performance and declining cost of computer hardware and software have resulted in rapid growth in the number of business and individual personal computer users and the migration of corporate networks from centralized mainframe systems to distributed local and wide area networks based on client/server architectures and, more recently, on network-based architectures. The prevalence of client/server networks facilitates the creation and storage of information on numerous computers in disparate locations and in a wide variety of files and formats. Client/server networks consist of desktop computers ("clients") that can access powerful computers ("servers") that store large amounts of information and perform computing functions on behalf of clients. These networks enable dispersed users to communicate with and access the information and other resources of other computers in the network across traditional geographic and organizational boundaries. As a result, information that is critical to organizations increasingly is created, managed and stored on a decentralized basis in numerous sites and in a variety of files and formats.</p>

Reference

Disclosure

Network Computing Evolution



Computer architectures have evolved with advances in hardware and software technologies. The mainframe architecture, which initially dominated computing, was supplanted by the client/server architecture that resulted from increases in desktop computing power. Recent advances in network hardware and protocols have created an open network architecture, based on Internet communications protocols, that facilitates flexible communication among multiple servers and multiple clients (peer-to-peer architecture).

The rapid growth in the use of on-line services and the Internet has enabled both organizations and individual computer users to communicate with other users and access large amounts of information published for general public reference and for access by consumers. The Internet is a global web linking thousands of computer networks. International Data Corporation estimates that the number of Internet users was approximately 38 million at the end of 1994 and predicts that the number of Internet users will grow to approximately 200 million by the year 2000. Much of the recent growth in the use of the Internet is attributable to the emergence of the network of servers and information available on the Internet known as the World Wide Web. The Web employs a client/server architecture that, when integrated with "browser" software, enables non-technical users to exploit the capabilities of the Internet.

The Web is characterized by a standard document format described by the Hypertext Mark-Up Language ("HTML") and a standard information transfer protocol called Hypertext Transfer Protocol ("HTTP"). As organizations become familiar with the use of the Web, they are increasingly adopting Internet data formats and communications protocols, such as Transmission Control Protocol/Internet Protocol ("TCP/IP"), and using Web client and server software and, in some cases, the Internet's facilities as the backbone for private networks ("Private Webs") that connect an organization's local area networks. The implementation of a Private Web is a low cost alternative to the establishment of a proprietary private network. Private Webs enable network users to communicate and access information within an organization's boundaries, collaborate with external groups or individuals, including suppliers, customers and consultants, and use the Web to access information on the Internet and communicate with other Web users. An organization also may use its Private Web servers to publish documents and data on the Web that are created and resident on its Private Web.

In addition to providing access to a vast array of information, the Internet represents a new medium through which organizations and individuals can conduct business. The potential benefits of conducting business on the Internet include direct, immediate communications with consumers, customers, vendors and other parties, increased access to a large and growing universe of organizations and individuals, novel advertising opportunities and low communications and transaction costs. The amount of information available on the Internet, the commercial applications of the Internet, the number of Web sites on which data reside and the amount of data residing on individual Web sites are all increasing rapidly. As a result, both business and home computer users face the challenge of locating and retrieving the specific information that responds to their needs from the vast sea of data available on the Internet.

Reference	Disclosure																
	<p><i>Diverse Data Formats</i></p> <p>Information can be classified as either "relational" or "non-relational" data, as outlined in the chart below. Relational data generally consists of data organized in strictly defined row and column formats. While relational database management systems, such as those marketed by Oracle and Sybase, enable organizations to manage their relational data, only a small percentage of electronically stored information is stored in relational databases. The vast majority of the remaining data is stored in non-relational format, which is not suited for search and retrieval using relational database management systems.</p> <p>Non-relational data can be divided into two categories, "unstructured" and "structured." Non-relational data created with word processing programs and other programs, such as spreadsheets, are unstructured and include proposals, reports, budgets, engineering drawings, memoranda, electronic mail and multimedia files. Increasingly, a significant portion of the information stored as unstructured data contains information of continuing value to an organization.</p> <p>Documents intended to have a long life and continuing value and that are frequently revised or updated are often created in a structured format called Standard Generalized Markup Language ("SGML"). Such documents include maintenance and owners manuals, parts lists, catalogs and operating policies and procedures manuals. SGML records the elements of the document's structure (e.g., titles, headings, footnotes and various other organizational elements selected by the author) in addition to its text. SGML is well suited for documents that will be stored in databases and delivered in a variety of media and has found wide acceptance in the fields of reference publishing, technical documentation and regulatory compliance, including the Securities and Exchange Commission's "EDGAR" document repository. The importance of SGML has increased recently, because it is the basis upon which HTML, the language of the Web, is built. SGML theory and practice will play a significant role in the future development of HTML.</p> <table border="1"> <thead> <tr> <th></th> <th>Relational Data</th> <th colspan="2">Non-Relational Data</th> </tr> <tr> <th></th> <th></th> <th>Structured</th> <th>Unstructured</th> </tr> </thead> <tbody> <tr> <td>Data and File Formats</td> <td>SQL <i>(Oracle, Sybase and Informix)</i></td> <td>SGML HTML</td> <td>ASCII WordPerfect Excel Word Lotus 1-2-3</td> </tr> <tr> <td>Document Types</td> <td>Sales data reports Accounting reports Invoices Customer records Backlog status</td> <td>Web sites Owner's manuals Operating procedures Parts lists Product catalogs Product documentation</td> <td>Memoranda E-mail Presentations Business reports Correspondence Spreadsheets Technical documents Multimedia presentations</td> </tr> </tbody> </table> <p>In the client/server environment, an increasing proportion of information of continuing value to organizations is non-relational and cannot be found or retrieved using relational database management systems. Accordingly, organizations will increasingly demand software solutions that enable users to find and use information in a variety of data and file formats, regardless of whether it is structured or unstructured.</p> <p>Id. at GOOG-WRD-00873633-35.</p> <p><i>Market Opportunity</i></p> <p>The Company believes that as organizations seek to increase the efficiency of their business processes, they will require software that permits users to find and retrieve information created with a variety of computers and stored in different formats and locations across an organization's network, the Internet, Private Webs and the networks of other related organizations. In addition, the Company believes that an effective software solution will facilitate the sharing of information and documents among designated workgroup members, enable managers to establish the workflow process by which a project will proceed and to manage and track the status of each element of the project, and to manage the distribution and availability of the work product and other information to the intended audience of users.</p> <p>Because the organization's high-value documents and information are stored in increasingly disparate locations and formats, an organization's ability to enable its users to find information, work together and distribute information is an increasingly important element of its competitive advantage. Existing product solutions typically address only parts of the information management problem such as text retrieval, workflow management, document management or collaborative computing. As a result, the Company believes that organizations and individuals will demand an integrated software solution that enables users to find information, work together and distribute information in a way that increases the efficiency of an organization's business processes.</p> <p>Id. at GOOG-WRD-00873635.</p>		Relational Data	Non-Relational Data				Structured	Unstructured	Data and File Formats	SQL <i>(Oracle, Sybase and Informix)</i>	SGML HTML	ASCII WordPerfect Excel Word Lotus 1-2-3	Document Types	Sales data reports Accounting reports Invoices Customer records Backlog status	Web sites Owner's manuals Operating procedures Parts lists Product catalogs Product documentation	Memoranda E-mail Presentations Business reports Correspondence Spreadsheets Technical documents Multimedia presentations
	Relational Data	Non-Relational Data															
		Structured	Unstructured														
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Document Types	Sales data reports Accounting reports Invoices Customer records Backlog status	Web sites Owner's manuals Operating procedures Parts lists Product catalogs Product documentation	Memoranda E-mail Presentations Business reports Correspondence Spreadsheets Technical documents Multimedia presentations														

Reference	Disclosure
	<ul style="list-style-type: none"> <p><i>Distribute Information.</i> <i>Latitude</i>, an integration of the Company's search, retrieval and viewing technologies, enables organizations to flexibly manage the distribution of documents and other information to selected users. Using <i>Latitude</i>, users can find and view, in native format, documents, such as standard word processing and spreadsheet files, and other information without first converting the data into a proprietary format. <i>Latitude</i> functions across multiple servers on local and wide area networks and the Internet. <i>Latitude Web Server</i> enables internal users to find and view documents on Private Webs and the Internet and to make documents available to the public through the Internet.</p> <p>Id. at GOOG-WRD-00873637.</p> <p>The Company intends to market the <i>Open Text Index</i> or selected portions thereof to organizations for use on their private networks. The terms and conditions of a license to use the <i>Open Text Index</i> will be negotiated on an individual basis but are expected to typically include fees based on a combination of periodic fees and fees from advertising revenue.</p> <p>Id. at GOOG-WRD-00873642.</p> <p><i>Latitude Web Server</i></p> <p>The Company recently announced <i>Latitude Web Server</i>, a tool kit that will facilitate an organization's creation of a Web site or a Private Web that enables users to find and retrieve information and documents using an index of the organization's network and other Web sites and enables the organization to make selected documents and information available to the public over the Internet. <i>Latitude Web Server</i> consists of publicly available internet protocol software, <i>Open Text 5</i>, the Company's crawlers that create and maintain the index, an application programming interface that permits integration of the Company's indexing and search technology with network- and Web-based applications and administrative tools that track and monitor the use of the index.</p> <p><i>Latitude Web Server</i> will be marketed by the Company's direct sales force to organizations that are publishing on the Web or building Private Webs and to OEMs that wish to embed the Company's indexing and search technology in their Internet-based applications. <i>Latitude Web Server</i> is installed in "beta" version in several test sites and is expected to be available before the end of calendar 1995. The Company expects that <i>Latitude Web Server</i> will be offered for prices generally ranging from approximately US\$12,000 to US\$25,000 or more, depending on the desired features and the number of servers containing information to be indexed.</p> <p>Id. at GOOG-WRD-00873642.</p> <p><i>Livelink</i> applications have been deployed for such varied uses as creating and updating operational manuals and safety information in the utilities industry; managing compliance with FAA-mandated air-worthiness directives in the airline industry; creating and monitoring clinical trial data and developing new drug applications in the pharmaceutical industry; managing engineering drawings and change control in the telecommunications industry; creating and managing standard operating procedures in the high-tech manufacturing industry; and developing and managing proposals in the aerospace industry.</p> <p>Id. at GOOG-WRD-00873644.</p>

Reference	Disclosure
<p>Open Prospectus, dated January 23, 1996 ("Open Text Prospectus") produced at OT03652-3758</p>	<p style="text-align: center;">The Company</p> <p>Open Text Corporation (the "Company") develops, markets, licenses and supports software for use on local and wide area networks, Intranets and the Internet that enables users to find electronically stored information, work together in creative and collaborative processes and distribute or make available to users across networks or the Internet the resulting work product and other information. The Company's search engine enables users to transparently search vast amounts of data stored in a wide variety of formats and in disparate locations, including World Wide Web sites. The Company's search technology is characterized by rapid response times that do not increase materially as the amount of data searched increases, if adequate server and communications resources are employed. The Company's workflow and document management software enables users to establish and manage document-oriented collaborative work processes that involve a diversity of workers, computing platforms and data. In addition, the Company's products enable organizations to flexibly manage the distribution and availability of information. The Company's strategy is to offer information search, work process management and information distribution products that collectively represent a suite of information management solutions addressing the needs of the spectrum of users of local and wide area networks, Intranets and the Internet.</p> <p>Employing its search engine and related technologies, the Company has created the <i>Open Text Index</i>, an index of the World Wide Web (the "Web"), that it licenses together with its search technology to major Web information providers, including Yahoo!, internetMCI and IBM infoMarket. The Company also offers the <i>Open Text Index</i> as a search tool to Web users on the Company's own Web site in order to increase awareness of the Company's technology and products and to capitalize on the emerging advertising revenue opportunity on the Internet. Netscape Communications Corporation ("Netscape") has agreed to list the <i>Open Text Index</i> on the Netscape Navigator under the "Net Search" button.</p> <p>The Company's search engine, currently marketed as <i>Open Text 5</i>, has application as a stand-alone search tool for use on local and wide area networks and the Internet and as part of more comprehensive information management solutions. For example, the Company's search engine is a key component of <i>Latitude</i>, the Company's document distribution product that enables an organization's users to find and view, in native format, documents in large collections of information stored on local or remote servers and CD-ROMs spread across local and wide area networks and the Internet. In November 1995, the Company introduced <i>Latitude Web Server</i>, a software tool kit that facilitates an organization's creation of an internal Internet-protocol network, or "Intranet," that enables users to find and retrieve information and documents available on the organization's Intranet and on other Web sites, and enables the organization to make selected documents available to the public over the Internet.</p> <p>The Company's workflow and document management system, <i>Livelink</i>, combines the features of an integrated document management system with workflow management and collaborative computing functions on local and wide area networks. The Company is developing <i>Livelink</i> to enable users to manage documents, establish collaborative workgroups and manage and track the progress of their work using Intranets and the Internet. The Company is also integrating <i>Livelink</i> and <i>Latitude Web Server</i> to enable users to find and retrieve information from the organization's Intranet and from other Web sites and manage the distribution of this information using Intranets and the Internet.</p> <p>Id. at OT03653.</p> <p>Industry Overview</p> <p>Organizations are increasingly seeking to streamline their business processes in order to increase worker productivity and reduce costs through the implementation of information management solutions. Through investments in traditional information management tools, organizations often establish a variety of data processing infrastructures that are rigidly designed to complete specific tasks or perform narrowly defined functions. As a result, organizations are increasingly faced with significant information management challenges attributable to rapidly increasing amounts of data created and stored in a variety of formats and in disparate locations across various networks. In addition, the emergence of the Internet as an important medium for communications is an increasingly significant influence on the configuration of network computing environments, and organizations are increasingly adopting private Intranets that are based on client/server architectures and that employ Internet data formats and communications protocols to connect geographically dispersed networks and facilities.</p> <p><i>Proliferation of Information on Client/Server Networks and the Internet</i></p> <p>In recent years, advances in computer hardware and software technology have resulted in dramatic increases in the amount of electronically stored information available to computer users. The ease of use, increased performance and declining cost of computer hardware and software have resulted in the rapid growth of the number of business and individual personal computer users and the migration of corporate networks from centralized mainframe systems to distributed local and wide area networks based on client/server architectures and, more recently, on peer to peer architectures. The prevalence of client/server networks facilitates the creation and storage of information on numerous computers in disparate locations and in a wide variety of files and formats. Client/server networks consist of desktop computers ("clients") that can access powerful computers ("servers") that store large amounts of information and perform computing functions on behalf of clients. These networks enable dispersed users to communicate with and access the information and other resources of other computers in the network across traditional geographic and organizational boundaries. As a result, information that is critical to organizations increasingly is created, managed and stored on a decentralized basis in numerous sites and in a variety of files and formats.</p>

Reference	Disclosure
	<div> </div> <p>Computer architectures have evolved with advances in hardware and software technologies. The mainframe architecture, which initially dominated computing, was supplanted by the client/server architecture that resulted from increases in desktop computing power. Recent advances in network hardware and protocols have resulted in the creation of an open network architecture, based on Internet communications protocols, that facilitates flexible communication among multiple servers and multiple clients (Internet/Intranet architecture).</p> <p>The rapid growth in the use of on-line services and the Internet has enabled both organizations and individual computer users to communicate with other users and access large amounts of information published for general public reference or for access by consumers. The Internet is a global web linking thousands of computer networks. International Data Corporation estimates that the number of Internet users was approximately 38 million at the end of 1994 and predicts that the number of Internet users will grow to approximately 200 million in the year 1999. Much of the recent growth in the use of the Internet is attributable to the emergence of the network of servers and information available on the Internet known as the World Wide Web. The Web employs a client/server architecture that, when integrated with "browser" software, enables non-technical users to exploit the capabilities of the Internet.</p> <p>In addition to providing access to a vast array of information, the Internet represents a new medium through which organizations and individuals can conduct business. The potential benefits of conducting business on the Internet include direct, immediate communications with consumers, customers, vendors and other parties; increased access to a large and growing universe of organizations and individuals; novel advertising opportunities and low communications and transaction costs. The amount of information available on the Internet, the commercial applications of the Internet, the number of Web sites on which data reside and the amount of data residing on individual Web sites are all increasing rapidly. As a result, both business and home computer users face the challenge of locating and retrieving the specific information that responds to their needs from the vast sea of data available on the Internet.</p> <p>The Web is characterized by a standard document format described by the Hypertext Mark-Up Language ("HTML") and a standard information transfer protocol called Hypertext Transfer Protocol ("HTTP"). As organizations become familiar with the use of the Web, they are increasingly adopting Internet data formats and communications protocols, such as Transmission Control Protocol/Internet Protocol ("TCP/IP"), and using Web client and server software and, in some cases, the Internet's facilities as the backbone for private networks ("Intranets") that connect an organization's local area networks. The implementation of an Intranet is a low cost alternative to the establishment of a proprietary private network. Intranets enable network users to communicate and access information within an organization's boundaries, collaborate with external groups or individuals, including suppliers, customers and consultants, and use the Web to access information on the Internet and communicate with other Web users. An organization also may use its Intranet servers to publish documents and data on the Web that are created and resident on its Intranet. An increasing number of</p>

Reference	Disclosure
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organizations are implementing Intranets as an alternative to traditional client/server networks. Accordingly, demand for business-oriented software solutions that support Internet protocols is increasing, and expected to continue to increase.

Diverse Data Formats

Electronically stored information can be classified as either "relational" or "non-relational" data, as outlined in the chart below. Relational data generally consists of data organized in strictly defined row and column formats. While relational database management systems, such as those marketed by Oracle Corporation ("Oracle"), Sybase, Inc. ("Sybase") and Informix Software ("Informix"), enable organizations to manage their relational data, only a small percentage of electronically stored information is stored in relational databases. The vast majority of the remaining data is stored in non-relational format, which is not suited for search and retrieval using relational database management systems.

Non-relational data can be divided into two categories, "unstructured" and "structured." Non-relational data created with word processing programs and other programs, such as spreadsheets, are unstructured and include documents such as proposals, reports, budgets, engineering drawings, memoranda, electronic mail and multimedia files. Increasingly, a significant portion of the information stored as unstructured data contains information of continuing value to an organization.

Documents intended to have a long life and continuing value and that are frequently revised or updated are often created in a structured format called Standard Generalized Markup Language ("SGML"). Such documents include maintenance and owners manuals, parts lists, catalogs and operating policies and procedures manuals. SGML records the elements of the document's structure (e.g., titles, headings, footnotes and various other organizational elements selected by the author) in addition to its text. SGML is well suited for documents that will be stored in databases and delivered in a variety of media and has found wide acceptance in the fields of reference publishing, technical documentation and regulatory compliance, including the Securities and Exchange Commission's "EDGAR" document repository. The importance of SGML has increased recently, because it is the basis upon which HTML, the language of the Web, is built. SGML theory and practice will play a significant role in the future development of HTML.

	Non-Relational Data		
	Relational Data	Structured	Unstructured
Data and File Formats	SQL <i>(Oracle, Sybase and Informix)</i>	SGML HTML	ASCII WordPerfect Excel Word Lotus 1-2-3
Document Types	Sales data reports Accounting reports Invoices Customer records Backlog status	Web sites Owner's manuals Operating procedures Parts lists Product catalogs Product documentation	Memoranda E-mail Presentations Business reports Correspondence Spreadsheets Technical documents Multimedia presentations

In the client/server environment, an increasing proportion of information of continuing value to organizations is non-relational and cannot be found or retrieved using relational database management systems. Accordingly, organizations will increasingly demand software solutions that enable users to find and use information in a variety of data and file formats, regardless of whether it is structured or unstructured.

Id. at OT03689-91.

Market Opportunity

The Company believes that as organizations seek to increase the efficiency of their business processes, they will require software that permits users to find and retrieve information created with a variety of computers and stored in different formats and locations across an organization's network, the Internet, Intranets and the networks of other related organizations. In addition, the Company believes that an effective software solution will facilitate the sharing of information and documents among designated workgroup members, and will enable managers to establish the workflow process by which a project will proceed, to manage and track the status of each element of the project, and to manage the distribution and availability of the work product and other information to the intended audience of users.

Because an organization's high-value documents and information are stored in increasingly disparate locations and formats, the organization's ability to enable its users to find information, work together and distribute information is an increasingly important element of its competitive advantage. Existing product solutions typically address only discrete parts of the information management problem, such as text retrieval, workflow management, document management or collaborative computing. As a result, the Company believes that organizations and individuals will demand an integrated software solution that enables users to find information, work together and distribute information in a way that increases the efficiency of an organization's business processes.

Reference	Disclosure
	<p>Id. at OT03692.</p> <ul style="list-style-type: none"> <li> <p><i>Distribute Information.</i> <i>Latitude</i>, an integration of the Company's search, retrieval and viewing technologies, enables organizations to flexibly manage the distribution of documents and other information to selected users. Using <i>Latitude</i>, users can find and view, in native format, documents, such as standard word processing and spreadsheet files, and other information without first converting the data into a proprietary format. <i>Latitude</i> functions across multiple servers on local and wide area networks and the Internet. <i>Latitude Web Server</i> enables internal users to find and view documents on Intranets and the Internet and to make documents available to the public through the Internet.</p> <p>Id. at OT03693.</p> <p><i>Latitude Web Server</i></p> <p>In November 1995, the Company introduced <i>Latitude Web Server</i>, a tool kit that facilitates an organization's creation of a Web site or an Intranet that enables users to find and retrieve information and documents using an index of the organization's network and other Web sites and enables the organization to make selected documents and information available to the public over the Internet. <i>Latitude Web Server</i> consists of publicly available Internet protocol software, <i>Open Text 5</i>, the Company's crawlers that create and maintain the index, an application programming interface that permits integration of the Company's indexing and search technology with network- and Web-based applications and administrative tools that track and monitor the use of the index. The Company has licensed certain Netscape server technology for bundling with <i>Latitude Web Server</i> which will provide a gateway between <i>Latitude Web Server</i> and the Internet while providing for security and log-in and access control to protect an organization's confidential information.</p> <p>Ford Motor Company, Northern Telecom, Siemens AG and Silicon Graphics, Inc. have purchased <i>Latitude Web Server</i> to assist in the management of information.</p> <p><i>Latitude Web Server</i> is marketed by the Company's direct sales force to organizations that are publishing on the Web or establishing Intranets, to OEMs that wish to embed the Company's indexing and search technology in their Internet-based applications and to VARs. The price of a <i>Latitude Web Server</i> ranges from approximately US\$12,000 to US\$25,000 or more, depending on the desired features and the number of servers containing information to be indexed.</p> <p>Id. at OT03698.</p>

Table B5: Fuzzy Logic

To the extent the references addressed in claim charts A-1 to A-39 does not disclose the limitations identified in each chart citing Table B5, one of ordinary skill in the art would be motivated to combine the references addressed in claim charts A-1 to A-39 with any one or more of the Table B5 references listed below because: it would have yielded predictable results; using the techniques of the Table B5 references would have improved the primary or obviousness references in the same way; and applying the techniques of the Table B5 references to improve primary or obviousness references would have yielded predictable results.

Reference	Disclosure
U.S. Patent No. 6,119,101 (“PECKOVER”)	<p><i>See, e.g.</i>, PECKOVER, 19:3-32:</p> <p>A Preference Manager function 54 maintains data about the preferences of the user. Preferences indicate items of interest to the user, such as favorite brands, interest in sports, etc. Within Agent System 10, preference data also includes “demographic” data. Demographic data indicates facts about the user, such as whether the user is a homeowner, the user’s gender, the user’s age group, etc. Although marketing industry usage of the term “demographics” may include a person’s name, address, or other identifying data, a Preference Manager’s demographic data does not include data that identifies the particular user. Preference data may be entered manually by the user using, for example, a form on a Web page, or data may be loaded by a System Administrator. Preferences may also be updated automatically by the system as, for example, when the user instructs the system to “remember” a product brand name from a product search. Preference Manager 54 uses preference data to order search results, so that items that are more likely to be preferred by the user will be displayed first when the results are delivered to the user. Referring now to FIG. 5A, each preference datum 68 comprises not only a value 72, but also a key 70 for ease of searching. Referring to FIG. 5B, a small sample of preference data illustrates the kind of data that might be used. A particular user typically will have much more preference data. Some values are shown as “rank m in n” to illustrate that ranking data may also be stored. The specific keys of any particular set of preference data depends on what the user has entered, etc. Only keys that are relevant to a particular user are included in that user’s preferences, and the</p>

Reference	Disclosure																																										
	<p>specific data maintained will change over time.</p> <p>PECKOVER, 20:65-21:4:</p> <p>Referring again to FIG. 4A, a Target Manager function 66 assists the user in identifying Personal Agents to which targeted ads may be delivered. Target Manager 66 can identify Personal Agents based on preferences, demographic characteristics, and Decision Agent activity. Target Manager 66 does not have access to private data of consumer Personal Agents 12 such as name, address, etc.</p> <p>PECKOVER, Fig. 5B:</p> <table border="1"> <thead> <tr> <th><i>Key</i></th> <th><i>Value</i></th> </tr> </thead> <tbody> <tr> <td>Age</td> <td>34</td> </tr> <tr> <td>Homeowner</td> <td>Yes</td> </tr> <tr> <td>Gender</td> <td>Male</td> </tr> <tr> <td>Cats</td> <td>interested</td> </tr> <tr> <td><i>brand name 1</i></td> <td>like</td> </tr> <tr> <td><i>brand name 2</i></td> <td>dislike</td> </tr> <tr> <td><i>brand name 3</i></td> <td>neutral</td> </tr> <tr> <td><i>brand name 4</i></td> <td>like > <i>brand name 3</i></td> </tr> <tr> <td><i>brand name 5</i></td> <td>a favorite</td> </tr> <tr> <td>email Consideration Fee</td> <td>greater than \$1.00</td> </tr> <tr> <td>alpine skiing</td> <td>dislike</td> </tr> <tr> <td>cross country skiing</td> <td>like</td> </tr> <tr> <td>MSG in food</td> <td>dislike</td> </tr> <tr> <td>delivered pizza</td> <td>No</td> </tr> <tr> <td>phone solicitation</td> <td>never</td> </tr> <tr> <td>favorite color</td> <td>blue, red</td> </tr> <tr> <td>health and fitness</td> <td>interested</td> </tr> <tr> <td>weight lifting</td> <td>rank 1 in 10</td> </tr> <tr> <td>stair climbing</td> <td>rank 3 in 10</td> </tr> <tr> <td>swimming</td> <td>rank 10 in 10</td> </tr> </tbody> </table> <p style="text-align: center;">Fig. 5B</p> <p>PECKOVER, Fig. 18:</p>	<i>Key</i>	<i>Value</i>	Age	34	Homeowner	Yes	Gender	Male	Cats	interested	<i>brand name 1</i>	like	<i>brand name 2</i>	dislike	<i>brand name 3</i>	neutral	<i>brand name 4</i>	like > <i>brand name 3</i>	<i>brand name 5</i>	a favorite	email Consideration Fee	greater than \$1.00	alpine skiing	dislike	cross country skiing	like	MSG in food	dislike	delivered pizza	No	phone solicitation	never	favorite color	blue, red	health and fitness	interested	weight lifting	rank 1 in 10	stair climbing	rank 3 in 10	swimming	rank 10 in 10
<i>Key</i>	<i>Value</i>																																										
Age	34																																										
Homeowner	Yes																																										
Gender	Male																																										
Cats	interested																																										
<i>brand name 1</i>	like																																										
<i>brand name 2</i>	dislike																																										
<i>brand name 3</i>	neutral																																										
<i>brand name 4</i>	like > <i>brand name 3</i>																																										
<i>brand name 5</i>	a favorite																																										
email Consideration Fee	greater than \$1.00																																										
alpine skiing	dislike																																										
cross country skiing	like																																										
MSG in food	dislike																																										
delivered pizza	No																																										
phone solicitation	never																																										
favorite color	blue, red																																										
health and fitness	interested																																										
weight lifting	rank 1 in 10																																										
stair climbing	rank 3 in 10																																										
swimming	rank 10 in 10																																										

Reference	Disclosure
	<p style="text-align: center;">Extended Search Subroutine</p> <p>Fig. 18</p> <pre> graph TD Start[Pending Agents notified that new ad has arrived in market 342] --> D1{agents in queue? 344} D1 -- NO --> Return([Return 346]) D1 -- YES --> S1[select next Decision Agent from queue 348] S1 --> D2{agent expiry past? 350} D2 -- YES --> E1[End Decision Search 352] D2 -- NO --> S2[Incremental Search Engine match agent's query against new ad 354] S2 --> D3{ad satisfies query? 356} D3 -- NO --> E1 D3 -- YES --> S3[Response Manager collect matching ads, respond to placer 358] E1 --> D1 S3 --> D1 </pre>
<p>U.S. Patent No. 6,374,237 (“REESE”)</p>	<p>REESE, 3:45-58: The invention contemplates that the matching server 120 works with the client user profile request 100 to pare down the data delivered to the client. The matching server 120 pre-selects an aggregate of data that is determined to be the most relevant to different sets of user profile requests 100. The matching server 120 does this by searching various content sites 130, 140, 150, 160 on the Internet or other network. A user profile request 100 is applied against the matching server 120 aggregate of data like a sieve, and only data matching the user profile request 100 is returned to the client 110. The invention contemplates that the matching server 120 need not match the user profile 100 exactly, but can accommodate a user’s designated acceptable range of variability, i.e., a quality factor.</p> <p>REESE, 5:55-6:8: The user profile form 600 includes a Search Type field 630 that allows a user to select whether the user wants an exact match of the user profile with the search data or whether the</p>

Reference	Disclosure
	<p>user will accept some lesser amount of exactness as acceptable for retrieved data. The user profile form 600 further allows the user to enter demographics specific to the user. In FIG. 6, the demographics include area code 640, zip code 650, state 660, sex 670, age 680, and some other identifiers 690. Once the user enters the appropriate data in the user profile form 600, the user is instructed to save the profile by a “Save Profile” 694 button. This allows the user to save his user profile and include the user profile in subsequent searches at subsequent times without having to repeat the steps of completing a user profile for each search. Once the form is completed, the user may submit the user profile by indicating its submission with the “Submit Profile” 696. In this case, the user profile will be submitted with the search request as either a POST or GET method request as specified above with reference to FIGS. 3-5 and the accompanying text.</p> <p>REESE, 7:53-8:2:</p> <p>When assessing the database constructed by the matching server to the user profile, the matching server may require an exact match or a non-exact match. For an exact match, it is contemplated that each and every element of the user profile match that of the data collected in the query database on the matching server. If such stringent requirements are not necessary, the user may designate a lesser standard of stringency and retrieve data that is not an exact match to the query data and the user profile. In FIG. 9, for example, if the user profile contained ten distinct data categories, i.e., demographic specifics, a user might designate a non-exact match 934 and then only require a level of stringency 936 of between 20 and 80 percent matching. If the user demanded only two of ten elements of the user profile correspond to the retrieved data, the user might designate a non-exact match of 0.2 or 20 percent. Similarly, if the user wanted 80 percent accuracy, the user designates 0.8.</p> <p>REESE, 8:4-24:</p> <p>Instead of a match/non-exact match system, the invention contemplates that the retrieved data be associatively matched to the user profile. For instance, the user profile can specify as a profile increment “fruit”. The matching server would retrieve matching data that includes the various kinds of fruits, i.e., apples, oranges, etc. In such case, the matching server must be intelligent to know that an apple or an orange is a “fruit”. It is known in the art to employ various methods to accomplish artificial intelligence with computer systems, wherein artificial intelligence may be described as a system in which a computer</p>

Reference	Disclosure
	<p>is able to reach conclusions based on certain inputs after it has been trained or instructed in a certain set of rules or experiences. The most popular artificial intelligence systems are the so called “heuristic search” models as well as “associative memory” systems and “connectionist” models. An associative memory system, for example, solves a current problem by examining symptoms or characteristics of the problem and comparing those systems to previous solutions to the problem. The invention contemplates that an associative user profile may be implemented with known artificial intelligent systems.</p>
<p>U.S. Patent No. 5,710,884 (“DEDRICK PATENT”)</p>	<p>DEDRICK PATENT, 7:40-52: When sufficient data has been collected for a particular consumer variable, then content adapter 25 uses that data to customize received electronic content to the end user. The amount of data which is sufficient is dependent on the particular consumer variable. For example, once personal profile database 27 has collected ten consumption format selections from this end user and all ten have been for video format, content adapter 25 may determine that this is sufficient data to customize incoming electronic information. However, content adapter 25 may determine that sufficient data has not been collected to customize colors if this end user has selected ten different fields, six of which were purple and four of which were green.</p> <p>DEDRICK PATENT, 7:53-64: In one embodiment of the present invention, the end user is able to override any compiled user profile data. For example, even though the end user may select a field with the color purple most frequently, the end user is able to modify the user profile data to indicate that green is the preferred color. In one implementation, the statistic compilation process 26 uses this input by the end user for its data compilation. Alternatively, the statistic compilation process 26 may use the data collected by client activity monitor 24 for its data compilation, or the statistic compilation process 26 may utilize both the end user and the data collected by client activity monitor 24.</p> <p>DEDRICK PATENT, 8:32-15: In one embodiment of the present invention, statistic compilation process 26 compiles electronic content-specific information for return to the metering server 14. This information includes, for example, how much time the end user spent consuming the electronic content, and how much of the content was consumed. For example, a particular advertisement may include ten different screens which are</p>

Reference	Disclosure
	<p>displayed to the end user. If the end user spends 15 seconds viewing the first screen and 15 seconds viewing the second screen and then terminates the advertisement, the statistic compilation process 26 transfers information to the metering server 14 indicating that an individual with this end user's user profile data spent 30 seconds viewing the electronic information and that the content was 20 percent consumed (that is, two screens out of ten were consumed). Additionally, information indicating the specific elements of the advertisement that were consumed (that is, the first two screens in this example) is also transferred to the advertiser. Note that, as discussed above, this aggregate information does not reveal the identity of the end user who consumed the advertisement.</p> <p>DEDRICK PATENT, 9:28-45:</p> <p>When requesting electronic advertisements, the data returned to the end user is dependent on the end user's request. For example, the end user may define certain results which should occur based on how well the electronic information matches the search criteria. The appraisal agent 28 may be programmed to return the title of the electronic advertisement if it is only a 5% match to the search criteria, an abstract if it is a 25% match to the search criteria, and the entire advertisement if it is a 95% match to the search criteria. Alternatively, the appraisal agent 28 may be programmed to return only titles, regardless of how well the advertisements match. In addition, the appraisal agent 28 may know, based on the user profile data stored in personal profile database 27, that the end user only wants to consume five electronic advertisements per day. The appraisal agent may then return titles of 25 electronic advertisements to the end user, and allow the end user to select which advertisements he or she will consume.</p>
<p>Wilms, <i>A Natural Language Interface For An Intelligent Document Information And Retrieval System</i> (1988) ("WILMS")</p>	<p>WILMS, p. 3:</p> <p>The natural language interface catches obvious misspellings and employs fuzzy logic techniques to automatically translate user specifications like "very", "especially," or "not" into weights. The interface also employs a transparent synonym lookup to improve category matching.</p> <p>WILMS, p. 12:</p> <p>However, an interface based on key word matching and fuzzy set techniques is proposed, which is able to handle relatively unconstrained natural language queries and thus eliminate the need for mastering a formal query syntax.</p> <p>WILMS, p. 17-18:</p> <p>The chronology base also contains synonyms ("after" = "beyond" = "past" = "since"), and establishes concrete</p>

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	<p>values for fuzzy specifications (“recent” = after 1986) (see Figure 4). Many of these concrete values are dynamic, and depend on the current year (recent means different things in 1987 than in 1989) and on the oldest document in the collection (if the oldest document was published in 1957 or in 1976 “earliest papers” takes on quite a different meaning). It may even mean different things to different users (i.e., while “recent” means “the last two years” for one researcher, it may mean “the last two months” for another. The value of “now” (as in “all papers from 84 till now”) also depends on the current year, of course. It may even be possible to retrieve “new” documents, if the system keeps track of updates to the document collection since the last interaction with the IIRS. When intensifiers are used in combination with fuzzy specifications (e.g., “very recent”), the interface uses a dynamic weighting scheme (e.g., 1986 (0.6) 1987 (0.8) 1988 (1.0)) (See Chapter Four).</p> <p>WILMS, p. 37-38: These search terms consist of “crisp” items (“marketing,” “practice”), imprecise terms (“recent”), and fuzzy quantifiers (“very”). The last two are considered fuzzy because they convey imprecise information, and do not have sharp distinctions between membership or non-membership. To handle these uncertainties, each concept is given a weight, which is determined by fuzzy logic [ZADEH 81]. These weights range between -1.0 and 1.0, and are used by the retrieval component in addition to weights stored in the inverted files to identify relevant documents (see step 6 in Figure 8).</p>
U.S. Patent No. 7,072,849 (“FILEPP”)	<p><i>See, e.g.,</i> FILEPP, 21:19-34: If the string entered by the user matches a keyword existing on one of the keyword tables, and is thus associated with a specific PTO, RS 400 fetches and displays associated objects of the partitioned applications and builds the entry page in accordance with the page composition dictated by the target PTO.</p> <p>If the string entered by the user does not match a specific keyword, RS 400 presents the user with the option of displaying the table of keywords approximating the specific keyword. The approximate keywords are presented as initialized, cursorable selector fields of the type provided in connection with a Index command. The user may then move the cursor to the nearest approximation of the mnemonic he originally selected, and trigger navigation to the PTO associated with that keyword, navigation being as described</p>

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	<p>hereafter in connection with the RS 400 native code.</p> <p>FILEPP, 34:25-39:</p> <p>Data collection manager 441 gathers information concerning a user's individual system usage characteristics. The types of informational services accessed, transactions processed, time information between various events, and the like are collected by data collection manager 441, which compiles the information into message packets (not shown). The message packets are sent to network 10 via object/communication manager interface 443 and link communications manager 444. Message packets are then stored by high function host 110 and sent to an offline processing facility for processing. The characteristics of users are ultimately used as a means to select or target various display objects, such as advertising objects, to be sent to particular users based on consumer marketing strategies, or the like, and for system optimization.</p>
<p><i>Another Search Engine? Hotwired Introduces Hotbot, Powered By Inktomi,</i> PR Newswire, May 20, 1996 ("ANOTHER SEARCH ENGINE")</p>	<p><i>See, e.g., ANOTHER SEARCH ENGINE, p. 1:</i> "The rules of the search engine game have changed. Internet users thought they'd get what they needed from traditional search engines, but they found the result to be thin on content, rigid in context, and often totally irrelevant," said Andrew Anker, president and CEO of HotWired Ventures. "Our quest to find a better search engine led us to Inktomi. By combining the best technology, the most relevant searches, and an innovative interface, we created HotBot -- a bigger, better, smarter way to search the Web."</p> <p><i>ANOTHER SEARCH ENGINE, p. 2:</i> "HotBot includes a number of unique features. Users can get the most current information quickly, efficiently view and use that information, and interact with the search engine in a personal manner. Daily Updates: The HotBot spider crawls the Web every day, offering users the most current information. Reliable and Fast: HotBot's fault-tolerant engine reliably delivers query results in seconds, without frequent downtime. Convenient Previews: HotBot allows users to preview documents without leaving the search page, reducing search time. Personal Searching: The HotBot interface allows users to personalize their search engine to fit their own surfing style."</p> <p><i>ANOTHER SEARCH ENGINE, p. 2:</i> "HotBot identifies, customizes, and ranks millions of Web documents using an algorithm developed by a team of the world's leading experts in information retrieval. HotBot recognizes that users desire varying levels of information detail, so it allows users to control the amount and type of information searched. The computing power available to HotBot enables the user to define a search query using a wide range of criteria in a way that is not possible with more traditional search engines."</p>
<p>https://web.archive.org/</p>	<p>The first commercial application of Inktomi's innovative technology is</p>

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<p>web/1996110 6235936/http:// www.inktomi.com/</p>	<p>the HotBot™ search engine service, offered in conjunction with HotWired, Wired magazine's electronic sibling. By leveraging this scalable technology, HotBot was the first search engine to index and search the entire World Wide Web, and represents the only search engine technology in existence that can expand to match the Web's growth as it doubles and doubles again.</p> <p>SmartRelevance. Based on algorithms developed by information-retrieval experts at the University of California at Berkeley, HotBot's SmartRelevance technology exploits syntactic clues in documents and relationships between documents, to rapidly identify the most meaningful information.</p>
<p>Sadaaki Miyamoto, "On Fuzzy Information Retrieval," <i>Japanese Journal of Fuzzy Theory and Systems</i>, Vol. 3, No. 1 (1991) ("MIYAMOTO")</p>	<p>MIYAMOTO, e.g., p. 93, "The book by Salton and McGill (1983) is a basic introduction to the field which divides the study of databases and information retrieval into five areas: (1) information retrieval, (2) database management systems, (3) operational information systems, (4) decision-making assistance, and (5) query response systems. Information retrieval also includes the study of scientific documents. We will pay attention to the above classifications while discussing fuzzy information retrieval. . . The study of fuzzy information retrieval was begun in the early 1970s. It was not until the 1980s that realization of fuzzy information retrieval seemed promising. To accomplish this it was necessary to have faster hardware, software, and database storage, and propagation of workstations, databases, etc. The importance of fuzzy information retrieval is now understood by researchers, who are primarily concerned with ordinary documentary information retrieval. This was made possible by the clearly stated methodical framework of fuzzy theory (Zadeh, 1973)."</p>
<p><i>Development of the Coder System: A Testbed for Artificial Intelligence Methods in Information Retrieval</i> ("Fox")</p>	<p>See, e.g., FOX, p. 349:</p> <p>Fifth, it is possible to combine natural language processing (as in group 4) with special query evaluation methods. CALIN, IOTA, and PROBIB-2, all mentioned above, have a natural language query-handling capability and distinctive document representation schemes. In addition, Biswas et al. [19,120], in their work on knowledge-assisted document retrieval, consider both the natural language interface and the retrieval components. They developed a modular design, and plan to carry out a variety of experiments with the System. Their natural language interface can handle a restricted query sublanguage through its augmented transition network and can determine the number of documents desired, the time range of interest, and the subject matter or content [119]. The retrieval component uses fuzzy set theory and one of several combination of evidence schemes [120].</p> <p>FOX, p. 351:</p>

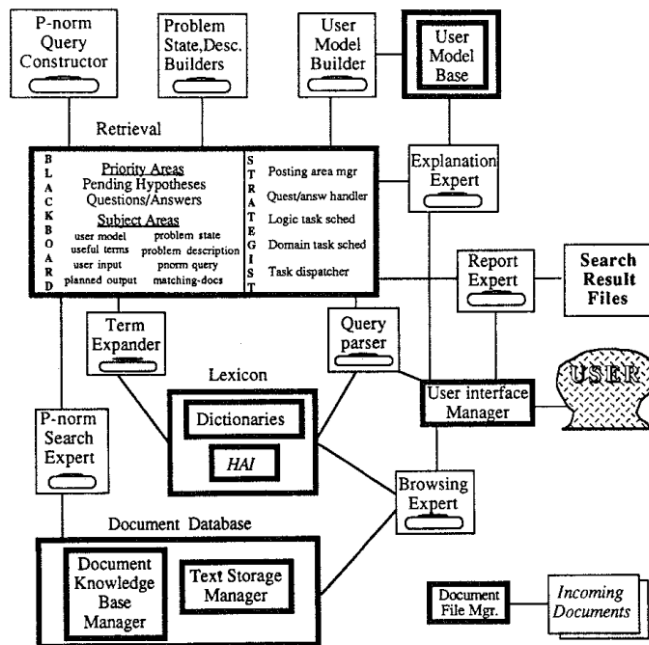


Fig. 4. Overview of CODER system. The diagram is an approximate representation, aimed at conveying essential features rather than exact details. Owing to space limitations, the analysis/blackboard strategist and related experts are not shown.

FOX, p. 352:

Retrieval is prompted by an explicit (or default, from the user model base) query. User model building, problem state transformation, and building of the problem description all proceed. When some terms are available, the lexicon can be accessed by a term expander to obtain other related terms that can be browsed or automatically used to help construct a query. Eventually a p-norm or other query is constructed, a search is made, and a report is prepared for the user.

FOX, p. 352:

Since development of CODER involves research assistants, students working on MS projects, and students completing class projects, it is difficult to characterize precisely the status of implementation. The initial lexicon, the knowledge administration complex, the blackboard/strategist complex, the communications enhancements to MUProlog, a time/date handler, a p-norm search expert, and two versions of the user interface manager do function and are all nearly complete. initial versions of the document-type expert and the user model builder are being further developed. The document analyzer and some of the specialists it uses are partially complete.

FOX, p. 357:

5.2. p-norm search expert
 The p-norm query notation, which extends Boolean expressions to allow relative weights to be attached to terms

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	<p>and clauses and which allows “p-values” on the AND and OR operators to indicate the strictness of interpretation of the operation, is discussed in a work by Salton et al. [I42]. While other schemes for “soft Boolean evaluation” have been proposed [I43], none has been shown to perform as effectively as the p-norm method [i44]. p-norm query processing has been incorporated in both the SMART and SIRE systems [I45]. Because of its expressive power, the p-norm query form has been adopted in CODER as one of the canonical query forms. As can be seen in Fig. 8, a p-norm search expert has been developed that supports calls through the blackboard to attend to the “pnorm_query” area. The result of normal processing is to generate hypotheses for documents best satisfying the query expression, estimating the degree of relevance they have to the query.</p>
<p><i>Architecture for Agent-Mediated Personal News Service</i> (“TURPEINEN”)</p>	<p>TURPEINEN, p. 3: Agents can be considered as mediators [Wiederhold92] that refine and forward information from heterogeneous data sources to the users. Multi-agent intercommunication methods enable message passing between agents in a network environment. The consumer agent transmits user requests for potential producer agents and filters messages according to user preferences. The producer agent acts as an information broker that has a domain model of its own expertise [Fikes95]. The producer agent can advertise the services to the consumer agents in the network. Agents negotiate how, when, and which information items should be transmitted. Agents are also able to consult other agents for suggestions and further information. Finally the agents assist in completing necessary data transfer tasks and financial transactions.</p> <p>TURPEINEN, p. 6: 1. User modeling. Consumer's preferences are maintained in a user model. The maintenance can be done explicitly by the user or automatically a by a learning mechanism in the consumer agent. 2. Content queries and promotion. Consumer agent sends a query to the producer agent to receive items that match the user interests. Also parts of the consumer's user model can be sent to be used in social information filtering performed by the content producer. Producer advertises its services to consumer agents.</p> <p>TURPEINEN, p. 9: The system uses a combination of content-based filtering and social filtering techniques [Malone87, Shardanand95]. The news selection service is based on a user profile that</p>

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consists of:

- keyword-based query profile on user-specified topics;
- semantical matches based on predefined categories;
- trusted agents that send recommendations to each other.

TURPEINEN, p. 10:
 The keyword-based selections are defined entirely by the user. These are normally used to cover short-term information needs. Each topic is identified by a topic header, producer agent and a collection of keyword/weight -pairs. The keyword weight is measured as a value in the range between 0 and 1. The weight can be adjusted by the user or by the learning module of the consumer agent. Also exclusive keywords can be entered to discard articles.

TURPEINEN, p. 352:

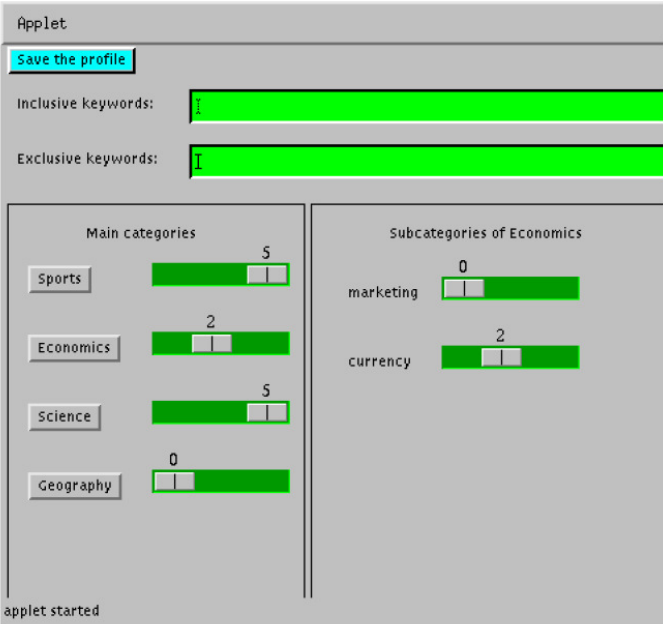


Figure 6. A preliminary version of the profile builder applet

P. Bosc, "Fuzzy querying in conventional databases," *Fuzzy Logic Management of Uncertainty* (1992) ("BOSC")

BOSC, e.g., at 646-47, "We now make precise the meaning of "flexibility" assumed in the following. A system is flexible in so far as it allows imprecise terms in user queries. Consequently, it becomes necessary to determine to what extent a certain element matches more or less the query more than another element, which leads to a classification or ranking of the selected elements. According to this definition, we are essentially concerned with items 4 and 5 of the above list. However, since very often an implicit objective is to avoid empty answers, the approaches reported hereafter are also connected with cooperative answers. Several approaches allowing imprecision in user queries can be imagined and some of them have been proposed and implemented in research prototypes. One idea is to consider queries made of two parts: a Boolean qualification selecting elements

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	<p>and an imprecise condition intended for the ranking of these elements. Another approach is to allow imprecise queries. Then, two main cases appear depending on the interpretation of imprecise conditions. As a matter of fact, we can imagine translating an imprecise condition into a Boolean one expressing intervals of acceptance and such that some kind of "distance" is computed for each selected element. An alternate view is to use fuzzy sets as a basis for the evaluation of imprecise conditions. Here again, some kind of distance is computed for each element, but this framework is more general than the previous one. In fact, we shall see that the central point of a system depends on whether or not it is based on the Boolean logic.”</p>
<p>Mark Lager, “Spinning a Web Search,” (1996) (“LAGER”)</p>	<p>LAGER, e.g., “The presentation is targeted toward WEB searchers, in particular, reference librarians and those who navigate the Internet on a frequent basis. This presentation will look at search engines, comparing search techniques and noting differences. The workshop will identify use of new computing strategies for information retrieval within each engine.”</p> <p>LAGER, e.g., “As Brian Pinkerton states, "The World Wide Web is decentralized, dynamic and diverse; navigation is difficult and finding information can be a challenge." (Pinkerton, 1994). The useful and the innocuous are lumped together in this huge collection. Academic information (e.g., journal articles and course materials) is combined with social culture information and with personal home pages. There is no separation. Mark Nelson calls this information anxiety - the overwhelming feeling one gets from having too much information or being unable to find or interpret data. (Nelson, 1994). To be of any information value, the data must first be organized and retrievable, providing some structure. Search tools have begun to put some organization to these uncharted waters. Current trends in information retrieval offer better opportunities to make more efficient use of this information resource.”</p> <p>LAGER, e.g., “The search engine provides more control for the user in performing a search. Engines use the index to fetch terms of the query. This means that the more data in the index, the higher the recall. Indexing every word or the most used words can lead to higher recall depending on the search query. The larger the index, the more possibility of hitting upon the words of the query. And, with the size of the Web, the more often the index is updated, the greater the number of hits. Search engines on the Web incorporate a number of</p>

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	<p>techniques to assist in both recall and precision. There are search engines that employ traditional methods like thesauri or Boolean searching. Rather than being only a keyword search, the engine will make logical connections to a thesaurus to enhance recall. Using Boolean logic (and, or, not, adjacency operators) search engines can assist in making the query more precise. Different engines have different defaults.</p> <p>Natural Language Processing: Relevancy feedback/weighting probabilistic logic: query by example fuzzy logic: query expansion Bayesian networks: case-based reasoning parallel computing (Inktomi): concept based searching”</p> <p>LAGER, e.g., “Will it rain today? What is the possibility of my car needing an oil change? Or, what is the chance of getting an A on my history test?. There are many questions like these that cannot be answered with an affirmative or negative answer. Uncertainty reigns. In an effort to make a decision which accounted for such doubt, in the midst of chaos, a branch of logic was defined to study probability. Since the 16th and 17th centuries, probability theory has been used to explain chance. Such questions rely on a factual information as history coupled with probability. In information retrieval, the same applies. By setting up a formula, an algorithm, that places values on words, their interrelationships, proximity, and their frequency, the computer can be used to help locate relevant sites. By computing these terms together, the search engine can produce a relevancy ranking that is then displayed to the user. (De Bra, 1995) Probabilistic logic is founded on the presumption that certain factors can be established logically and mathematically to focus a search. It is similar to fuzzy logic where the central notion is that truth values (in fuzzy logic) or membership values (in fuzzy sets) are indicated by a value on the range [0.0, 1.0], with 0.0 representing absolute Falseness and 1.0 representing absolute Truth. (Brule, 1985)”</p> <p>LAGER, e.g., “A survey of the Search Engines available from Netscape's Net Search will help in explaining some of the techniques discussed. By conducting a search for current trends in information retrieval, differences can be seen in the structure and techniques of each engine.</p> <p>Alta Vista {http://www.altavista.com/} Techniques and features Boolean - must use and, or, not, near (10 words) in Advanced Search Allows user-influenced results ranking Ranking: title words or first few words</p>

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	<p>Closer to each other Document has more of the words More copies of the words throughout Parentheses for nesting Can restrict to field (qualifiers)</p> <p>Excite http://www.excite.com/ Techniques and features Concept based searching-use statistical strength of interrelationships between words Creates its own knowledge base (or internal thesaurus) QBE - "similar documents" Boolean searches Keyword searches Relevance - marked with red X Robot is called Architext</p> <p>Infoseek {http://infoseek.go.com/} Techniques and features Weight terms (required, desirable, undesirable) Similar pages - QBE Boolean operators Natural language Search mechanisms</p> <p>Lycos {http://www.lycos.com/} Techniques and features Probabilistic retrieval Indexes top 100 words and 20 lines of abstracts Keyword searching Boolean searching Automatic truncation Spinning a Web Search : Trends in Information Retrieval Page 7 of 10 http://misc.library.ucsb.edu/untangle/lager.html 4/22/2014 Adjacency 0.0 - 1.0 Results categorized Terms in bold Relevancy: early on vs. farther down</p> <p>Magellan {http://magellan.excite.com/} Techniques and features Reviewed by writers Boolean searching Green light for information for all age groups Web, ftp, gopher, newsgroups, telnet sites</p>

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	<p>Browse directory or Use search engine Relevancy = frequency of words Browse button Robot named Verity Lists up to 20 pages at the bottom of the screen</p> <p>Open Text { http://www.opentext.com/omw/f-omw.html } Techniques and features Boolean searching Field operators: anywhere, summary, title, first heading, URL Query-by-example.”</p> <p>LARGER, e.g., “Information search and retrieval is of major importance in locating relevant materials. The ability to aid and assist a user in finding relevant information is the goal of librarians and information scientists. On the Web, search engines have made the process easier by incorporating a number of newer techniques which include artificial intelligence, Bayesian statistics and probability theory, weighting, and query by example. With the goal of finding relevant materials, these new techniques locate information and also refine the search query. Since search engines have different criteria in creating the indexes, it is most useful to use more than one engine in searching the Web to gain relevant information. As a rule, the more critical or focused the query, the more engines should be applied. With advances in the tools for information retrieval, the future holds exciting possibilities for searching on the World Wide Web.”</p>
<p>Henrik Larsen and Ronald Yager, “The Use of Fuzzy Relational Thesauri for Classificatory Problem Solving in Information Retrieval and Expert Systems,” IEEE Transactions on Systems, Man, and Cybernetics, Vol. 23, No. 1 (Jan./Feb. 1993) (“LARSEN II”)</p>	<p>LARSEN II, e.g., Abstract, “The problem solving strategy applied in knowledge based systems may often be characterized as classification. Central to classification is computation of the degree to which an object is an instance of a given class (concept, category). Two kinds of problems are distinguished, object-querying and classquerying, as exemplified by, respectively, information retrieval systems and expert systems. In the first kind, the problem is to identify the objects (e.g., documents) to which a given concept (the query) applies. In the second kind, the problem is to identify the concepts (categories) that apply to a given object (the observation). A fuzzy-set-based scheme for construction of efficient problem solving systems of the two kinds is developed. The problem of vocabulary mismatch is considered in information retrieval, and introduce the scheme as a solution to this problem. The knowledge base applies a term-centered representation form called a “fuzzy relational thesaurus.” To avoid recomputation of deductive information in problem solving tasks, we derive initially the deductive closure of the knowledge base. This closure is computed in $O(n^3)$ time as the transitive max-star closure of the fuzzy implication relation represented by the knowledge base; n is the number of terms</p>

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	<p>in the knowledge base. An upper bound for the closure is computed in only $O(m \log m)$ time by an algorithm that partitioning the terms into similarity classes; m is the number of pairs of terms for which a relationship is represented in the knowledge base.”</p>
<p>Peretz Shoval, “ERSE : An Expert Retrieval System for Electronics Databases,” in <i>Expert Systems for Information Management</i>, Vol. 3, No. 2 (1990) (“SHOVAL”)</p>	<p>SHOVAL, e.g., Abstract, “This paper describes an expert system for information retrieval in electronic databases: ERSE. The objective of the system is to support engineering professionals in formulating proper queries and submitting them to a retrieval database. The system consists of: (a) a knowledge-base, which is a thesaurus of terms and semantic relationships, implemented as a semantic network; (b) a search and evaluation mechanism: the inference-engine, which conducts a guided search aimed at finding appropriate query terms. While doing so it invokes relevant knowledge, evaluates it, and suggests final findings to the user; (c) a database of patents in the domain of error-correction codes, implemented with a relational database management system (DBMS); (d) a retrieval mechanism, which measures the similarity between the system generated weighted query, and the index terms of patents, and returns a rank-ordered set of patents. The user is then able to provide feed-back and improve his query accordingly; (e) user interfaces, including system capability to explain its findings/decisions. The system is implemented in Prolog, C and INGRES, under Unix . The system design is described, and examples of its operation and evaluation of its performance are given.”</p> <p>SHOVAL, e.g., at 88-90, “ERSE takes this fourth approach for integrating expert and IR systems. However, ERSE is actually a complete system for information retrieval, including the other components: an interface, a database, and a retrieval mechanism. Other major features of the system are:</p> <ul style="list-style-type: none"> (a) It accepts a user query composed of a list of weighted terms, and it generates an appropriate weighted query which is submitted to a retrieval database. Consequently it returns a set of rank ordered documents, using a fuzzy approach. (b) The thesaurus is built as a semantic network which is particularly suitable for representing declarative, conceptual knowledge. (c) Both the database of documents, and the knowledge-base of the expert system, are stored in a relational database. This allows the handling of large databases and knowledge-bases. (d) A convenient user interface is provided, enabling the system to explain and justify its decisions, and enabling the user to feedback and affect system behaviour. <p>ERSE is based on and extends an earlier system that has been</p>

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	<p>developed by the first author for the domain of business administration^{11,12} and that has since been utilised in medicine. The principles and components of that system are described in Section 2. The domain used for our system is electronics, and specifically patents in error-correction codes technology. This domain is typical of many technological areas in which users often have specific and directed information needs. Section 3 discusses the specific information retrieval needs in electronics, which led us to develop ERSE. Section 4 details the architecture, components and processes utilised in ERSE, emphasising the specific contributions it makes, compared to its predecessor. Section 5 presents an annotated example of the system operation. Then Section 6 presents an evaluation of the performance of the system, based on a set of case-study queries. Section 7 highlights some implementation issues, and Section 8 points to future developments.</p>
<p>Sameer Singh, “Fuzzy Pattern Recognition for Knowledge-Based Systems,” <i>Proc. 6th International Conference on Data and Knowledge Systems for Manufacturing and Engineering (DKSME'96)</i>, Tempe, Arizona, USA, pp. 1-10, (24-25 October, 1996) (“SINGH”)</p>	<p>SINGH, e.g., Abstract, “Knowledge-based systems have been severely restricted in areas where the speed of processing is a key factor. This is especially evident in large systems where the speed of knowledge-base searches is important. This paper proposes a fuzzy pattern recognition technique which identifies data patterns using possibility distributions and documents a fuzzy algorithm which is implemented. The technique is based on the theory of possibility. The results obtained using sensor data in manufacturing are encouraging: the fuzzy technique outperforms non-fuzzy techniques convincingly. The results for comparison with non-fuzzy techniques include shell-sort and quick-sort with binary search. The fuzzy technique identifies the correct pattern in the sensor database with nearly 99% accuracy. These results highlight the role of new fuzzy technologies for making knowledge-based systems more attractive in areas where they are currently limited by speed considerations.”</p>
<p>Lotfi Zadeh, “The Role of Fuzzy Logic and Soft Computing in the Conception and Design of Intelligent Systems” (“ZADEH”)</p>	<p>ZADEH, e.g., Abstract, “As one of the principal constituents of soft computing, fuzzy logic is playing a key role in the conception and design of what might be called high MIQ (Machine Intelligence Quotient) systems. There are two concepts within FL which play a central role in its applications. The first is that of a linguistic variable, that is, a variable whose values are words or sentences in a natural or synthetic language. The other is that of a fuzzy if-then rule in which the antecedent and consequent are propositions containing linguistic variables. The essential function served by linguistic variables is that of granulation of variables and their dependencies. In effect, the use of linguistic variables and fuzzy if-then rules results – through granulation - in soft data compression which exploits the tolerance for imprecision and uncertainty. In this respect, fuzzy logic mimics the</p>

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	<p>crucial ability of the human mind to summarize data and focus on decision-relevant information.</p>
<p>Donald Kraft, “Research into Fuzzy Extensions Retrieval” (“KRAFT”)</p>	<p>KRAFT, e.g., Abstract, “Modern computerized information retrieval systems consist of mechanisms to acquire, describe (e.g., index), and store "documents", and to receive, analyze, and respond to queries for information for users. A key element is the index language, by which the users (or user intermediaries) and indexers can communicate. Modern technology allows natural language processing mechanisms to begin to be incorporated in the sense of matching terms found in the free text specification of the query and the free text within the document.</p> <p>Various models of retrieval have evolved over time. The vector space model treats both documents and queries as points in the Cartesian space formed as the product of all possible index terms. Then, documents deemed "near" the query, i.e., "similar" to the query, are retrieved. Work has been done on clustering "similar" documents to facilitate the retrieval processing. A second model incorporates probability into the retrieval system by attempting to evaluate the likelihood that each document is relevant to a given query.”</p> <p>KRAFT, e.g., Abstract, “One key element in both these approaches is that the index terms assigned to the documents can be weighted. These weights may be derived from relative frequencies of term occurrences or from subjective estimates of likelihood of relevance. Another weighting scheme can be considered that allows the incorporation of Boolean logic into the query mechanism; that of fuzzy set theory. This theory lets the concept of imprecision be entered into the model, and is well-known, albeit controversial.”</p> <p>KRAFT, e.g., Abstract, “One can extend the fuzzy Boolean model by generalizing to weights being assigned to the query terms as well. This can cause problems with the fuzzy Boolean l a t t i c e , however. One must consider such c r i t e r i a as s e p a r a b i l i t y , generalization, and self-consistency when designing query processing mechanisms. A mechanism for considering these query weights as thresholds solves some of these problems, but the semantics of the weights, especially as the low end, is not clear.”</p> <p>KRAFT, e.g., Abstract, “Extensions of the vector space and probability models have been considered by other researchers to try to incorporate Boolean logic. In addition, this has allowed consideration of adding relevance feedback to the fuzzy Boolean model. Another issue is to generate means of evaluating a fuzzy Boolean retrieval system. One</p>

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	<p>can obviously try to generalize recall and precision. However, the real problem is to properly incorporate rank ordering, which the weighting and fuzzy query processing mechanism provide.”</p>
<p>G. Bordogna et al., “Fuzzy Inclusion in Database and Information Retrieval Query Interpretation” (1996) (“BORDOGNA”)</p>	<p>BORDOGNA, e.g., Abstract, “Abstract. In this paper, a short review of the role of the inclusion operator in the interpretation of queries addressed to databases and Information Retrieval Systems (IRSs) is analyzed. Some properties and semantic aspects of various definitions of fuzzy, inclusion are discussed and applied to interpret queries in Data Base Management Systems and IRSs”</p> <p>BORDOGNA, e.g., at 548, “This basic model of IR has been extended to tile main aim of providing a flexible matching mechanism able to evaluate the degree of relevance or satisfaction of each retrieved document with respect to the query. These models are based on two main ideas the association of a weight with both each term in the representation of documents (index term weights) and each term in the query (query term weight). Index term weights express the significance of terms in representing the document contents, while query term weights indicate the importance that terms should have in the desired documents.”</p> <p>BORDOGNA, e.g., at 551, “In this paper the role played by the inclusion operation in both the division of fuzzy relations in DBMSs mid in weighted query evaluations in extended Boolean Information Retrieval is investigated. Some fuzzy approaches presented in the literature are reformulated in the unified framework of fuzzy inclusion. Future developments of this work will cone, era two points: i) the weakening of the universal quantifier implied in the division of fuzzy relations and ii) the consideration of more general queries (not only conjunctive) in IRSs.”</p>
<p>“Automatic Thesaurus Construction Supporting Fuzzy Retrieval of Reusable Components,” (1995) (“DAMIANI”)</p>	<p>DAMIANI, e.g., Abstract, “Effective access to repositories of reusable: components should rely on retrieval functionalities based also on imprecise queries. This paper presents a fuzzy retrieval model based on keywords describing the functionalities of reusable components. Fuzzy weights are assigned to these keywords automatically. Retrieval is supported by a Thesaurus where a fuzzy synonymia relationship is used to c:ompute adaptability of reusable components to the needs expressed by the user fuzzy query. The adaptability index is ameliorated along time via a quality function reporting feedback on the system usage.”</p>

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	<p>DAMIANI, e.g., at 542-43, “Software reuse needs effective retrieval techniques to make development with reusable components more convenient than development from scratch [Kru92]. To this aim, components should be appropriately described and user ‘queries should allow for a degree of uncertainty in order to isolate a set of components that can be adapted to the new application [Pri93]. Many of the existing software libraries or repositories exhibit both the classification problem (description of components), and the retrieval problem [Ban93. Bat92. Dev91].</p> <p>This paper proposes a technique for Thesaurus-based software retrieval from a repository. The technique is based on software descriptors containing keywords weighted with fuzzy values to describe the behavioral properties of reusable components. Central to this approach is Thesaurus automatic construction starting from the software descriptors. The approach supports imprecise queries through the use of fuzzy logic [Kli88, Kos92].</p> <p>The descriptors are assumed to be constructed from the code and from its accompanying documentation. The object oriented SIB (Software Information Base) repository is considered, whose descriptors are classes [Con93]. SIB classes have a usual class attribute part, and an additional keyword-list based part at the basis of the retrieval model. The model is given in terms of weighted pairs of related keywords (features) interpreted as open class keywords [Maa describing the component functionalities. The fuzzy weight associated to each feature expresses the degree of imprecision that characterizes the description. For the fuzzy weights in the SIB, the paper proposes an assignment algorithm employing a Feature Weighting Function (FWF) adapted from a classical term weighting function used for document retrieval [Sal88].</p> <p>The retrieval model enables to pose imprecise queries, asking for a set of characteristics expected from the component. Imprecise queries are lists of features, describing the characteristics of the needed component and fuzzy weight in the query specifying how relevant each feature is for the developer. Returned candidates are ranked according to their degree of adaptability to the required functionalities. Retrieval is assisted by a Thesaurus containing unique terms and synonyms. Terms are single keywords taken from descriptors in the SIB, or added by the Application Engineers in charge of SIB maintenance. Terms are organized in the SIB and in the Thesaurus by concepts (or facets [Pri87] or categories [Gib90]) acting as search environments. A term in a context gets a fuzzy value of relevance representing how significant the term is in that context. The automatic construction of the Thesaurus consists in extracting terms from the SIB descriptors and in computing the fuzzy relevance of each term in the contexts using a Context Relevance Function (CRF).</p>

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	<p>Terms are linked to one another via a fuzzy synonymia relationship which is interpreted as the adaptability index of the software components described by the synonyms. The adaptability is computed dynamically taking into account the fuzzy weight of synonymia between terms in the ThesaurusBoth the SIB weights and the Thesaurus weights are mantained automatically and ameliorated along the system life cycle employing a Quality Function (QF) which observes the user reactions to query answers from the system, and in batch mode, slowly variates the fuzzy weights.</p> <p>A QF is proposed in the paper which. exploiting the theory of fuzzy sets, implements an adaptative retrieval system (Kli88. Mun94], tunable with use along time.</p> <p>The paper is organized as follows: a general view of SIB descriptor is provided with the technique of fuzzy weighting of descriptors. The concept of adaptability between components is defined and applied to retrieval. Automatic Thesaurus construction and syonymia computation are presented.”</p> <p>DAMIANI, e.g., at 546, “This paper has presentes an approach to fuzzy retrieval of components from a repository based on fuzzy-weighted keyword pairs (features) describing the component functionalities. A method for automatic assignment of weigths to features has been described. The approach relies on a Thesaurus of terms used to describe the reusable components. The basic relation in the Thesaurus is synonymia which is also fuzzy; its connection to the retrieval model has been shown and a method for automatic construction of fuzzy synonyms in the Thesaurus has been illustrated. At the user interface level a prototype [Fau93] has been experimented using ranged values to simplify the user interaction. Evaluation of the software retrieval operations is undergoing using code and design documents. In particular. assuming that “nice” features are contained in the SIB descriptors and suitable contexts are initialized within the Thesaurus, we are evaluating the approach using a library of object-oriented code and a library of conceptual application schemas based on the E/R model.”</p>
<p>Duncan Buell, “Performance Measurement in a Fuzzy Retrieval Environment,” 1981 (“BUELL”)</p>	<p>BUELL, e.g., at 56, “Measuring the extent to which a computerized document retrieval system fulfills the goals set for the system is a complex problem that involves everything from initial goal specification to the actual underlying computer software. An average user will view the system as a "black box." The user makes requests; the system responds. Numerous factors will thus affect the evaluation of the system by such a user. These include such varied aspects as physical ease of use, the user's ability to understand how to formulate requests, the coverage of the desired topic by the collection (and the</p>

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	<p>coverage of new or old material at the user's appropriate level), and even the user's own knowledge of the topic in which he is interested. We emphasize that we are investigating only a narrow aspect of retrieval system evaluation. We consider not the "human engineering" required to provide the average user with the information he desires, but the establishment of quantitative standards by which to measure the ability of the mathematics and logic of the retrieval decision mechanism to select for retrieval in response to a request the same set of documents which would have been selected by a human expert unaided by the automated system. [9, 16, 18] Among these standards are recall and precision and associated measures and various measures of "value" returned in comparison to the search length. These measurements are well-defined for systems with Boolean indexing and standard Boolean query-to-document matching functions."</p> <p>BUELL, e.g., at 58, "One problem which immediately arises in measuring performance is that, if the RSV's are no longer simply 0 and i, then a new interpretation must be made of "about" and of "retrieved." The first problem is resolved if a set-theoretic, indeed fuzzy settheoretic, interpretation can be placed on all numerical values involved. [7, 20] In a system in which RSVIs are not simply 0 and i, however, it is no longer the ease <i>that</i> one would simply retrieve a subset of the documents. The user might instead be given information on a ranked list of documents, for example, and asked to specify a threshold above which to actually retrieve. Or, following the ideas of Cooper [6], the user might be given the ranked list and allowed to retrieve one document at a time until he decided that he had seen enough . There are several possibilities; the problem remains the same--the set RT is definable not by the RSV, but by system convention or,</p> <p>worse yet (from the point of view of predictability for use in numerical measurement),</p> <p>by user whim. By a generalized retrieval system, then, we shall mean a system in which either</p> <ol style="list-style-type: none"> 1. the indexing function is Boolean, the queries resemble Boolean queries, but the RSV's are not Boolean (this would include retrieval mechanisms such as the cosine coefficient); or 2. the indexing function is fuzzy, queries resemble Boolean queries, and RSV computations follow normal fuzzy subset rules (this would be a simply fuzzysubset system, as described by Sachs, Tahani, and others [i0, ii, 15, 17]); or 3. the indexing function is fuzzy, the queries have weights or thresholds attached to terms and/or subexpressions, and RSV computation is not necessarily simply a fuzzy-subset MF computation (this would include systems such as those suggested by Bookstein [i],

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	<p>Buell and Kraft [4, 5], Radecki [12, 13, 14], and others).”</p> <p>BUELL, e.g., at 61, “We have seen that the usual performance evaluation measures of recall, precision, fallout, and generality have analogues in retrieval environments in which decisions about "retrieval" and "relevance" are no longer Boolean. Although problems do exist in interpreting the numerical values which will be obtained from these measures and in comparing those values to those obtained from Boolean retrieval systems, the problems can be overcome by taking into account the nature of the indexing function. Finally, we have raised the question as to whether rank-order comparison measures might not be more appropriate for evaluating those systems whose natural output consists of rank orderings of documents.”</p>
<p>Gerard Salton, “Extended Boolean Information System,” <i>Advances in Information Retrieval</i>, ACM 82 Panel Session (“SALTON”)</p>	<p>SALTON, e.g., Abstract, “In conventional information retrieval Boolean combinations of index terms are used to formulate the users' information request. Boolean queries are difficult to generate and the retrieved items are not presented to the user in any useful order. A new flexible retrieval system is described which makes it possible to relax the strict conditions of Boolean query logic thereby retrieving useful items that are rejected in a conventional retrieval situation. The query structure inherent in the Boolean system is preserved, while at the same time weighted terms may be incorporated into both queries and stored documents; the retrieved output can also be ranked in strict similarity order with the user queries. A conventional retrieval system can be modified to make use of the flexible metric system. Laboratory tests indicate that the extended system produces better retrieval output than conventional Boolean or vector processing system's.”</p>
<p>Bill Buckles, “An Information Retrieval Perspective on Fuzzy Database Systems,” <i>Advances in Information Retrieval</i>, ACM 82 Panel Session (“BUCKLES”)</p>	<p>BUCKLES, e.g., Abstract, “Database in which domain values are not crisp and precise exhibit properties normally associated with information retrieval systems. For instance, a boolean query induces a membership value for each tuple (i.e., record) that is analogous in function to a similarity measure. Thus, precision and recall measures are legitimate areas of interest that pertain to fuzzy databases but not ordinary databases. These ideas will be expounded in the context of a database for expert advice on national energy policies.”</p>
<p>Donald Kraft, “Generalizations of Boolean Query Processing,” <i>Advances in Information Retrieval</i>, ACM 82 Panel Session (“KRAFT</p>	<p>KRAFT II, e.g., Abstract, “Substantial work has been done recently applying fuzzy subset theory to the problems of document and query representation and processing in retrieval systems. The motivation has often been to generalize Boolean query processing to allow for non-Boolean index weights or measures of importance to be attached to the individual terms in the document or in the query representation. The problems of generalizing the Boolean lattice structure have been</p>

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II’)	<p>noted. Criteria have been generated for query processing mechanisms with relevance weights in the query, but these have been shown to be inconsistent. An alternative approach using thresholds in the query has been suggested, with the generation of appropriate document evaluation criteria for Boolean query processing.</p> <p>Problems remain unsolved. The exact form of the function to be used for the query processing mechanisms must still be specified and appropriate parameters must be obtained. Some researchers still prefer a vector space approach, others suggest alternatives to Boolean queries, others work on probabilistic approaches, and still others propose new lattice structures for weighted retrieval. These various models must be reconciled with each other and with an overall generalization that encompasses each and allows for analysis and comparison. Moreover, evaluation mechanisms must be sought for fuzzy systems, and it is necessary to generate a fuzzy concept to the notion of "retrieval" itself.”</p>
George Baklarz, “Using Neural Nets to Optimize Retrieval in a Fuzzy Relational Database” (“BAKLARZ”)	<p>BAKLARZ, e.g., Abstract, “This paper examines the theory behind Fuzzy Sets and Back-Propagation Neural Nets, and how neural nets can be used to replace fuzzy sets and improve the query performance in a Fuzzy Relational Database (FRDB).”</p> <p>BAKLARZ, e.g., at 191, “In most database systems, information is assumed to be exact, correct, well formulated , with no provisions for considering otherwise[1] . Because fuzzy set theory gives us a basis to manipulate real-world data in a formal way, this technology can be adapted to relational databases . By extending fuzzy set theory to relational databases, the user has the added benefit of:</p> <ul style="list-style-type: none"> • Not having to state precisely the attributes of a query • The data can be represented in a fuzzy state • The relationships can be tailored to the individual user” <p>BAKLARZ, e.g., at 192, “This paper examines how fuzzy-set theory can be used in a relational database to better model the information and facts available to the user. Although there have been various implementations of Fuzzy Relational Data - bases, the implementation described here optimizes information retrieval by using neural nets as a replacement for relations.”</p> <p>BAKLARZ, e.g., at 200, “Merging fuzzy-set theory with database technology is a powerful tool for manipulating imprecise information. By combining fuzzy set extensions to Structured Query Language (SQL) statements, a user can retrieve data based on imprecise information . Finally, introducing neural nets as a replacement for</p>

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	<p>membership functions, dramatically reduces the retrieval speed and further enhances the usefulness of a fuzzy relational database. The existing prototype has highlighted a number of areas that warrant further research :</p> <ul style="list-style-type: none"> • Neural net selection <p>The back-propagation neural net was chosen due to its storage capacity and for its ability to learn a variety of equations, but other neural net models may be more suitable.</p> <ul style="list-style-type: none"> • Training Techniques <p>The training time of the neural net needs to be improved.</p> <ul style="list-style-type: none"> • Parallel Processing <p>The back-propagation algorithm is well suited to parallel implementations, and implementing the algorithms on a parallel machine will highlight the performance benefits of using neural nets. Neural nets have proven to be a very useful replacement for relations in a Fuzzy Relational Database. Fuzzy set theory and neural nets complement one another, and this knowledge should lead to more applications where neural nets can replace fuzzy membership functions to improve performance.”</p>
<p>P. Subtil et al., “A Fuzzy Information Retrieval and Management System and Its Applications,” (1996) (“SUBTIL”)</p>	<p>SUBTIL, e.g., Abstract, “This paper presents a fuzzy information retrieval and management systems (FIRMS) we have developed for handling fuzzy objects. The originalities of this system consist of : <i>i</i>) the possibility to describe object with fuzzy aggregate attributes and to retrieve them at different description-levels of these attributes, <i>ii</i>) the definition of nuanced domain which gives the possible values of a fuzzy attribute, <i>iii</i>) the using of a fuzzy thesaurus and an associated grammar to go through its links in order to retrieve objects. In another hand, this paper explains how to build an <i>application</i> with this system and shows some real applications of FIRMS.”</p> <p>SUBTIL, e.g., at 537, “Vagueness and uncertainty are usual in the human knowledge and reasoning. Then it is necessary to handle these fuzzy data in databases when they are the only information known about the world to model. During the last years, several approaches (see [9] and [3] for example) have proposed extension of databases to take into account this imperfection of real world. Allmost of this approaches use the concept of fuzzy set [10] and possibility theory [11]. In this paper, we present our approach about a fuzzy information retrieval and management system called FIRMS. In the first section, we present the basic concepts of our system whence the original concepts of aggregate attribute and fuzzy thesaurus. In the second section, we present the modelling process of an application, an application being a set of fuzzy object. In the last section, we present real applications of FIRMS in economic fields.”</p>

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	<p>SUBTIL, e.g., at 537, “FIRMS allows to describe a set of objects defined by a collection of attributes. For instance, John is an object defined by the attributes <i>Name, age, . . .</i>. An attribute can take a fuzzy value called a nuanced value. In the first subsection, we give th three kinds of attributes used by FIRMS. In the second, we explain the concept of nuanced domaingrouping the possible values of an attribute. In the third subsection, we introduce the notion of fuzzy thesaurus as a particular nuanced domain. In the last subsection, we show the description of a fuzzy object.”</p> <p>SUBTIL, e.g., at 540, “Comment of an european research system, the panel of Lorraine PME-PMI (Lorraine is a kind of state in France and PME-PMI designates firms under 500 employees) is a very important piece of a program developed by Institut Commercial de Nancy (commercial institute of Nancy) and the <i>Conseil Rdgional de Lorraine</i>. This panel must allow to know the management method of firms more precisely. It groups data on more 400 firms from 1989 to 1993. Each firms is defined by 700 variables about the following subjects : product, rivalry, export, human resources, strong and weak points, innovation, national assistance, ...Among these themes, we have selected those which present some interest for the representation of vague and/or uncertain information : strong and weak points, export, human resources and performance. We use the system FIRMS essentially for two reasons. Firstly, the system allows a reality representation more reliable with the inherent vagueness and uncertainty. Secondly, the system allows rapidly and simply verification of hypothesis by the use of profiles.”</p> <p>SUBTIL, e.g., at 540-41, “The Institut Commercial de Nancy has developed an expert system in 1989 to formulate dignosis about the statement and the development of a firm. This analysis uses dynamic contextual factors which continually have an influence on firms framework. But the expert, using a set of simple rules, was not efficient because it cannot handle vagueness. For instance, it cannot take into account the following rules determined by an human expert to qualify an emergent firm.</p> <p>If production cost = high) and (customs experience = low) and (existence of infrastructure = low) and (strategic uncertainty = high) then emergent firm</p> <p>FIRMS has been used to solve the problem of vagueness and uncertainty. A firm is described by a list of attributes : production cost, customs experience, existence of infrastructure, strategic</p>

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	<p>uncertainty, technological resources, technological uncertainty, All attributes has the same nuanced domain.”</p> <p>SUBTIL, e.g., at 541, “FIRMS is a flexible system allowing the handling of vagueness and uncertainty. Among the basic concepts, two are very important. The first is the concept of aggregate attribute. It allows an user to describe two objects with different precision levels. The second is the concept of fuzzy thesaurus. It determinates a set of weighted linked terms and uses a grammar to go through it contrary to other approaches [4][5]. An iterative and incremental process allows to describe the basic elements of an application. The experiences with real data in economic fields has shown the flexibility of FIRMS.”</p>
<p>C.T. Yu, “An Approach to Probabalistic Retrieval,” (1981) (“YU”)</p>	<p>YU, e.g., Abstract, “The objective is to relate the effectiveness of retrieval, the fuzzy set concept and the processing of Boolean query. The use of a probabilistic retrieval scheme is motivated. It is found that there is a correspondence between probabilistic retrieval schmes and fuzzy sets. A fuzzy set corresponding to a potentially optimal probabilistic retrieval scheme is obtained. Then the retrieval scheme for the fuzzy set is constructed.”</p> <p>YU, e.g., at 46, “The effect of term weights on the performance of queries was analyzed in [24] , where it was shown that queries whose terms having higher "precision values" are assigned heavier weights yield better retrieval results than queries whose terms are assigned the same weights, under the assumption that terms are distributed independently. Thus, the precision value of a term characterizes the usefulness of the term in retrieval. This result was supported in [13], whre it was shown that if terms of a query are assigned weights proportional to the logarithm of their precision values, then optimal retrieval results are obtained under the same term independence assumption. When terms are distributed dependently, the incorporation of the term dependence into the retrieval process yields better retrieval results [9,20,23]. Even more general condition exists for the construction of the optimal queries [5,8,21]. The above results assume that certain parameter values (e.g. those needed to compute the term precision values) are known. When these values are not known, they may be estimated by relevance feedback [5,7,15,22] where the user identifies each retrieved document as either relevant or irrelevant, and input the information to the system. Where relevance feed back can not be employed (e.g. a user submits a query the f i r s t time), various attempts have been made [6,17,18,25] to yield reasonable retrieval results. All these techniques are used when the user's queries are expressed as sets of keywords.”</p>

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	<p>YU, e.g., at 46, “The use of a probabilistic retrieval scheme (PRS) is motivated. It is applied to the processing of Boolean queries. Our aim is to obtain a potentially optimal PRS. To achieve this, a correspondence between PRS and fuzzy sets is established. A process to obtain a fuzzy set corresponding to a potentially optimal PRS is presented. Then, a potentially optimal PRS is constructed from the fuzzy set. Finally, the performances of some natural retrieval schemes are compared using a partial ordering deduced from a given Boolean query.</p> <p>The main contributions of the work presented here are (1) a relationship between a retrieval scheme and its retrieval effectiveness is established analytically;</p> <p>(2) the use of fuzzy set, which has been employed by earlier researchers but not related to the effectiveness of retrieval, fits into the development of (1) naturally; and</p> <p>(3) a conceptually very simple process to obtain a potentially optimal PRS is provided. This procedure is independent of the given partial ordering. Thus, if a better partial ordering (than the one given here) is obtained by another interpretation of a Boolean query or by re-evalve feedback, the procedure given here can still be applied.”</p>
<p>Gary Mooney, “Intelligent information retrieval from the World Wide Web using fuzzy user modelling,” Library and Information Research News, Vol. 21, No. 67 (1996) (“MOONEY”)</p>	<p>MOONEY, p. 25 – “This article investigates the effects of applying fuzzy logic and user modelling techniques to the process of information retrieval from the WWW, a major part of the Internet. This is a novel AI approach to the process of IR. To perform the investigation, a prototype system, the Fuzzy Query Modelling Assistant (FMQA), has been developed. The focus of the investigation was whether the results achieved by using the FMQA would improve upon those returned by using an existing search tool, specifically Lycos™ (Mauldin, 1996), alone. To answer this question a user study of the FMQA is being performed and its early results are reported.”</p> <p>MOONEY, p. 25 – “A major problem with IR lies in the vagueness and lack of precision of the prospective searcher's information need. This vagueness and lack of precision leads to the aforementioned problems and these are exacerbated by the nature of the WWW. The problem of information overload is one example. A search with the tool Lycos™ using the search string 'information retrieval' produced 61 ,000+ hits (Mauldin, 1996). However, information about the user's experiences and knowledge of the search subject and of the WWW in general can be used to modify the query intelligently and produce better IR results.</p>

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	<p>User modelling research has shown that adaptive user stereotypes are often used to represent different sorts of user and their characteristics (Rich, 1979). Fuzzy logic, with its inherent ability to capture and represent partial know ledge, is a valid AI technique to use in IR-a process involving the representation of information needs as queries, with all the attendant vagueness and semantic ambiguities (Zadeh, 1993). Here, the user stereotypes are represented as fuzzy sets to ensure flexibility and adaptivity. This concept is at the heart of the prototype system, the FMQA.”</p> <p>MOONEY, p. 25 – “The FMQA is not designed to act as a <i>new</i> 'intelligent' search engine. Within the field of distributed AI and computing in general there has been much research and development into the notion of searching and intelligence through the development of agents.(Wooldridge & Jennings, 1995). The FMQA seeks to alleviate IR problems through 'intelligently' assisting the user in a search. In this sense it is similar to the concept of <i>interface agents</i> defined in Maes(1994) but the FMQA applies fuzzy logic and user modelling to the query formulation of searches. The aim is to refine a query before it is submitted to an existing search engine. This refinement is based on knowledge about the user's beliefs and experiences (in the Internet and the subject domain of AI) captured through an on-line interactive session.”</p> <p>MOONEY, p. 25-26 – “The captured user knowledge is used to adapt default user models in order to represent an individual user. This representation is then combined with the user's query to produce the refined query. The knowledge is captured from two on-line interactive questionnaires. Each question is represented by a fuzzy set. The FKB combines the answers to these questions to produce two sets which represent the individual user model. The defuzzified values from these sets are used to refine the query.</p> <p>The user is then given the option to submit either the original or the refined query to Lycos™. Presently, the user must choose the original query from a list of topics representing different areas of AI but this is just a facet of the prototype. The system could easily be expanded to include other fields of interest and eventually to allow the user to enter the query words themselves. Additionally, the final fuzzy sets are lost when a user finishes accessing the FMQA and new sets are produced with every new session. However, the system could easily retain these sets and use the information they contain in future sessions.”</p> <p>MOONEY, p. 25-26 – “A user study has been performed in which a</p>

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	<p>number of DMU undergraduate students from the first year intake of two courses accessed the FMQA and provided feedback on its use and performance. . . .The study took place over a number of weeks with each user accessing the FMQA at a similar time each day. This ensured that each user's reaction to the system was not unduly influenced by differences in the Internet network traffic speeds. Each user was asked to submit the original topic they chose as a query and the refined query produced by the system. This is equivalent to using Lycos alone to search for the AI topic and then using the same FMQA-modified AI topic and allows the results to be used to answer the central question of the study. As part of each session, the user was presented with an e-mail form and asked to list the best and worst results for each query, and to rank these as well by giving them a score between 1 and 10. They were also asked to comment upon the results, in terms of usefulness and relevance, and upon the system, in terms of ease of use and design.”</p> <p>MOONEY, p. 25-26 – “Early results form the study indicate that the FMQA does indeed improve upon the IR results achieved by using Lycos™ alone. . . . During a query looking for 'Fuzzy Logic', which afterwards the user remarked that the modified results were more relevant, the best result for the modified query was a website dedicated to fuzzy sets and systems (Brown, 1996). The dedicated website contains many WWW links to general sites of interest to fuzzy logic reserachers and would be a good starting point for a novice to the area, which was the category this user was placed in by the FMQA.”</p> <p>MOONEY, p. 25-26 – “This article has examined the application of fuzzy logic and user modelling to the process of IR from the WWW, the concept being to assist intelligently the user in searching for information and reduce the problems commonly associated with IR in general, eg irrelevance and redundancy. A prototype system, the FMQA, was developed, which realises the concept by employing knowledge about the user to modify queries before they are submitted to an existing WWW search tool. This knowledge is represented in fuzzy sets which act as adaptive user stereotypes. Early results from a live user study of the FMQA show that, in the opinion of the users, the results achieved from using the system do improve upon those obtained from using the search tool alone.”</p>
Henrik Larsen and Ronald Yager, “Query	LARSEN, p. 1 - “The ascendancy of the Internet, and in particular the World Wide Web, is making the development of intelligent

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<p>Fuzzification for Internet Information Retrieval,” (1996) (“LARSEN”)</p>	<p>information retrieval an extremely important issuer. An information retrieval system[1] is a system to retrieve relevant information objects from an <i>information base</i>. The information base stores a collection of objects some of which are of potential interest to the users. Each object is represented by an item which can be seen to be made up of two components. The first component is the index and the second component is the body. The index usually consists of highly organized pieces of information that can be used to help identify and select the objects that may be relevant to a user. The body consists of information which may not be organized but it contains the material that is of interest to the user. The fundamental problem in information retrieval is to find the subset of objects in the information base that is relevant to a given user. In a fuzzy information retrieval system, one can supply the list of relevant items with an ordering as to their potential interest to the user. Figure 1 shows a top-level view of the information retrieval system processes.</p> <p>In the first step the user enters a request in terms of features of interest employing the keywords in the indexing system used to describe the objects. The information in this query is then used by the information retrieval system to select items that may be potentially relevant to the user. The final step is a process where the user looks at the items suggested by the system and decides the ultimate relevance of the items. This final step greatly reduces the burden of the information retrieval process, for it allows the <i>user</i> to look at the items selected and decide the ultimate relevance. This means that not all the knowledge about the decision has to be formalized in a manner that can be manipulated by the computer. The user must only supply the information that is used to search through the index.</p> <p>As an example, we will consider the problem of selecting a house for purchase and assume that the user has access to an information base consisting of a collection of houses for sale. Here the user would express desired properties about the kind of house desired (price, size, location, etc.) in the query. The system would then search the information base and produce a listing of houses which closely match the user's request. This information could include text, more detailed information about the house as well as perhaps a picture of the house. The user then looks at this information and then decides which houses he wants to visit. In making this decision, the user may use all kinds of subjective criteria which may be hard to quantify and not necessarily specified in his query.”</p> <p>LARSEN, p. 2-3 – “In this paper we shall describe an information</p>

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	<p>retrieval system which uses fuzzy sets to help in the selection process, this kind of system can be viewed as an intelligent inquiry system. Figure 2, which is an expansion of the information retrieval system box of Figure 1, illustrates the steps involved in the information retrieval process.</p> <p>In the first step the crisp information provided by the user is softened with the aid of fuzzy sets. Using the index and a modified version of the requirements (“crisp envelope”, step 2), we search through the information base (step 3), to find a subset of objects in the information base that can be considered as potentially relevant to the user. Step 3 can be based on an ordinary crisp querying language. The set of objects found in this step is called the “crisp envelope” answer. The final step in the process is a ranking of the elements in this crisp envelope which is then presented to the user.”</p> <p>LARSEN, p. 4 – “An important characteristic of many of the criteria supplied in a user query is that the needs they intend to represent are not crisp. If persons looking for a house indicate their desire to spend between \$100,000 and \$140,000 for the house, it is not the case that they will be totally uninterested in a house costing \$145,000. They may be less satisfied but not completely unsatisfied. The central observation here is that the boundary between a criteria being completely satisfied and not being satisfied is fuzzy rather than crisp. In building intelligent information retrieval systems we must take advantage of this fuzziness in the criteria. As we shall subsequently see, we use this fuzziness in two ways. <i>First</i>, we use it to soften the user query to allow potential interesting items to be retrieved, even if they do not directly satisfy the original user query. In particular, we shall use it in providing a query envelope, that is, a crisp query applied to retrieve the potentially most interesting items from the information base. The <i>second</i> way we shall use this fuzzy characteristic is to provide an ordering (ranking) of the items according to the degree to which they satisfy the softened user query.”</p> <p>LARSEN, p. 5 – “While many of the criteria in a user query can be softened (fuzzified) with the aid of fuzzy subsets some criteria are not amenable to this kind of softening. For example, the desire to have a fireplace or two bathrooms is not easily fuzzified.”</p> <p>LARSEN, p. 17 - In the preceding, we discussed the issue of criteria aggregation. We shall now specialize this to the ranking of objects for an information retrieval system. We discussed two classes of</p>

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	<p>aggregation, MOM and MAM operators. We recall that the MOM operator is a generalized <i>or</i>-like aggregation while the MAM operator is a generalized <i>and</i>-like operator. In information retrieval systems we see the criteria specified by the user as being connected by an <i>and</i>-like operator, assuming the user generally wants all the criteria satisfied. That is, a person desires to obtain further information about houses in a certain price range <i>and</i> in a particular location <i>and</i> having certain amenities. Thus, the appropriate family of operators are the MAM operators.”</p> <p>LARSEN, p. 20 – “We presented an approach to a weighted multi-criteria information retrieval system that uses fuzzy subsets as mechanism to allow for the flexible evaluation of user requirements. Although we focused on numerical criteria, the approach is also applicable for non-numerical criteria (concepts, terms)—in the first case, the semantic similarity utilized relies on the numerical scale, in the second case, it relies on a similarity relation. We discussed the potential use of MAM and MOM operators as a tool for the aggregation of user requirements. Finally, we illustrated the application of the mechanism and tools in an application for a real estate agency. Our an approach is in particular interesting for retrieval through the Internet WWW. In this situation, the semantic elasticity supported by our approach allows the user to retrieve the most interesting objects, even when the description applied in the information base does not directly match the query formulation chosen by the user.”</p> <p>LARSEN, Figures 1, 2, 3</p>
<p>Tadeusz Radecki, “Fuzzy Set Theoretical Approach to Document Retrieval” <i>Information Processing & Management</i>, Vol. 15, pp. 247-259 (1979) (“RADECKI”)</p>	<p>RADECKI at Abstract - “The aim of a document retrieval system is to issue documents which contain the information needed by a given user of an information system. The process of retrieving documents in response to a given query is carried out by means of the search patterns of these documents and the query. It is thus clear that the quality of this process, i.e. the pertinence of the information system response to the information need of a given user depends on the degree of accuracy in which document and query contents are represented by their search patterns. It seems obvious that the weighting of descriptors entering document search patterns improves the quality of the document retrieval process.</p> <p>A mathematical apparatus which takes into consideration, in a natural manner, the fact that the grades of importance of the descriptors in document search patterns are of the continuum type, that is an apparatus adequate to the description of a retrieval system of</p>

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	<p>documents indexed by weighted descriptors is-among known mathematical methods-the theory of fuzzy sets, formulated by L. A. Zadeh.</p> <p>It is the aim of this paper to present a new method of document retrieval based on the fundamental operations of the fuzzy set theory. We start by introducing basic notions, then the syntax and semantics of the proposed language for document retrieval will be given and an algorithm allocating documents to particular queries will be described and its properties discussed.</p> <p>The basic advantage of the use of the fuzzy set theory for document retrieval system description is that it takes into consideration, in a simple way, the differentiation of the importance of descriptors in document search patterns and the differentiation of the formal relevance grades of particular documents of an information system to a given query.</p> <p>Documents of the highest grades (in the given information system) of formal relevance to the given query may be retrieved by means of the application of simple operations of the fuzzy set theory.”</p> <p>RADECKI, p. 2 - “Of the known mathematical methods, the method best fulfilling the postulates formulated above, and therefore adequate for an analysis of document retrieval systems is the theory of fuzzy sets, whose bases L. A. Zadeh has given in [12-15]. The idea of the theory of fuzzy sets is that the grades of membership of particular elements of the universe in a given fuzzy set are determined by the so-called membership function which is a generalization of the characteristic function. The transition from membership to non-membership of the universe elements in the fuzzy set, in contrast to the ordinary set theory, is continuous.</p> <p>Many papers have already been written on investigations into the possibility of creating a uniform document retrieval system theory based on the theory of fuzzy sets. Besides the present author[16-20] many other specialists have also dealt with this question[21-27]. In paper[21] C. V. Negoita used the theorem on the separation of fuzzy sets[12] to divide a set of document search patterns into clusters where each cluster is made up of those document search patterns whose grades of membership in that particular cluster are not smaller than the established threshold value. The idea of using the theory of fuzzy sets, or, to be precise, the concept of the similarity relation to formulate an algorithm for the division of a set of document search patterns into clusters has also been used in[18, 22, 25] 1. In[22, 25]-making direct use of</p>

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	<p>the definition of the max-min composition[13] of fuzzy relations- a way is suggested of dividing the set of document search patterns into clusters where each cluster is made up of those document search patterns whose grades of similarity are not smaller than the established threshold value. One disadvantage of the way of organizing the document file, suggested in these papers, is that in the case of a large set of documents the process of dividing the set of document search patterns into clusters is very time-consuming and also expensive. This inconvenience can be significantly attenuated by using the method of organizing the document file proposed in paper [181 based on the notion of the maximum spanning tree. In paper [23] as in paper[24] C. V. Negoita defines the response of an information retrieval system as a fuzzy set</p> <p>and describes the relationships between various responses of the system in terms of the theory of fuzzy sets. Retrieval methods of documents indexed by weighted descriptors, which are a natural generalization of the set theory methods, have been described in papers[16, 17, 19, 20] by the author. In paper[26] W. M. Sachs draws attention to the possibility of defining associative retrieval in terms of the fuzzy set theory, but does not provide any new solutions however. On the other hand, paper [27] by V. Tahani, based on an idea similar to that expressed by the author in paper[16], contains a description of the organization of document file and a strategy for the retrieval of documents using basic notions and operations of the theory of fuzzy sets.</p> <p>The aim of the present paper is to describe a generalized method (in comparison to the strategies presented in papers [16, 271) of document retrieval. In the writing of this paper ideas contained in previous papers by the author[16, 17, 19,20,28] were utilized. Before entering a detailed description of the proposed method of document retrieval, we will present the basic notions used in the rest of the paper. We will then describe the proposed document retrieval language and present an algorithm for the allocation of documents to particular queries and describe the properties of the language and the algorithm. The proposed document retrieval strategy will also be illustrated by an example. Finally the results of the present paper will be summarized and modifications to the document retrieval method presented will be discussed.”</p>
<p>Chris Buckley, “Implementation of the SMART Information Retrieval System,” Department of Computer Science,</p>	<p>BUCKLEY, p. 2, “The SMART information retrieval package is a set of programs composing a fully automatic document retrieval system. It allows easy creation, maintenance, and use of on-line document collections. As more information is being kept on-line every day; it becomes more essential to have methods of easy, natural access to the information. The SMART package is primarily a tool for investigating</p>

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<p>Cornell University (May 1985) ("BUCKLEY")</p>	<p>some of these methods. In addition, it is quite usable itself for many applications."</p> <p>BUCKLEY, p. 2-3, "This implementation of SMART contains few new or radical concepts. Instead, it attempts to provide a solid framework for future work in information retrieval. The two major goals of the current version are to</p> <ol style="list-style-type: none"> 1. Provide a flexible experimental system for research in information retrieval. See [6] for a discussion of desirable system capabilities and design principles for experimental work. 2. Provide a fast, portable, interactive environment for actual users. <p>These two goals naturally conflict with each other; the current SMART design is an attempt to satisfy each as much as possible. The system is concerned with three major types of users: the experimenters, the database administrators, and the naive users. The experimenters need the ability to easily change system parameters and to easily add or replace program modules. The database administrators must be able to create and maintain a collection of documents without worrying about the peculiarities of the particular collection. It should be possible to initially specify the features of the collection and not worry about them again. The users need to be able to enter a query and view the results without knowing anything about the internal parameters of the system, being aware only of the collection features which are relevant to them such as the type of information contained in a document). An interactive help facility is necessary for the casual user. The current system is a first step in satisfying these goals. The major lack at the moment is a satisfactory user interface. There is a usable interface here at Cornell, but more work is needed."</p> <p>BUCKLEY, p. 3, "The design of the SMART system concentrates on two types of flexibility. The first is complete flexibility at a number of levels in specifying the parameters for all operations. All parameters have reasonable default values. In addition they (possibly) can be given values within a collection dependent specification file. This means a database administrator can tailor the parameters to one particular database application. These values, in turn, can be overridden at command execution time by specifying a parameter and its value on the command line. At the program design level, flexibility is achieved by allowing very easy expansion of the most commonly used modules. For example, if an experimenter wishes to add a new procedure for computing the similarity between two vectors, two lines in one "data" file needs to be changed and the retrieval program needs to be re-linked."</p> <p>BUCKLEY, p. 5-6, "Users come to the SMART system with an</p>

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	<p>information need and try to convey this need to the system. Their initial statement of their need can be a piece of natural language text, a query using Boolean connectives (AND, OR), a list of keywords, etc. The system assigns a <i>query</i> representative for the need, either a simple list of concepts and weights like the document representatives, or something a bit more involved which gives more structure to the representative. A retrieval function within the system then calculates the <i>similarity</i> of the query representative to each of the document representatives. (In practice, not every document needs to be examined - depending on the similarity function.) The documents are presented to the user in order of their similarity to the query. It is hoped that the similarity order will have some correspondence to likelihood that the user will judge the document useful. At this point, the user has the option to examine some of the top retrieved documents, and give a judgement of whether the documents were <i>relevant</i> to their information need. If the user desires more documents, a new query representative can be automatically constructed from the old representative and some of the concepts occurring in the relevant documents. This process is known as <i>relevance feedback</i>. The new <i>feedback</i> query can then be compared against the document collection and more documents can be retrieved for the user. This process continues until the user has as many documents as they desire.”</p> <p>BUCKLEY, p. 13, “There is only one program, retrieve, in the retrieval module, but it is a very flexible program! Retrieve runs an indexed query collection (possibly consisting of just one query) against an indexed document collection, calculating (theoretically) the similarity between each document and each query. The output is either a list of the documents which most closely match each query or a list of a given set of documents and the ranks which would be assigned them if the documents were sorted in decreasing order of similarity to the query. In an experimental research setting, this set of documents would be the known relevant documents for each query and The ranks of these relevant documents are used to evaluate the effectiveness of different retrieval methods. All of the options of retrieve are given in the retrieval specification file passed to it. These options include information like</p> <ol style="list-style-type: none"> 1. Type of input query (vector, boolean tree, pnorm) 2. Retrieval method to be used (discussed below) 3. Type of output desired (just top documents, ranks of relevant documents, both) 4. The location of the input (document collection, query) and the output. 5. Etc.

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	<p>The parameters whose values can be specified within the specification file are given reasonable default values. For most operational runs, as opposed to experimental runs, the specification file consists of a single line telling what collection is to be used. On the other hand, a complicated experimental run that, say, uses a different matching function for every type of information in the query, could run to 30 lines of parameters. The various retrieval methods form the heart of retrieve. To allow complete flexibility, there are three levels of retrieval methods: the collection access level, the vector access level, and the ctype access level.”</p> <p>BUCKLEY, e.g., p. 26, “Two methods are defined for accessing a dictionary entry: hashing on <token,ctype> or direct access through <con>. <con> is simply the dictionary entry index that <token,ctype> hashes into when the entry is originally placed in the dictionary. Thus, a quick direct access to the token and freq values exists given the values of <con>. This is used (possibly) during retrieval and feedback operations. There may be some similarity computations based upon the token for example, experiments using fuzzy matching of dates), and the freq information is used extensively by feedback. Accessing via <token,ctype> is essential during the indexing process.”</p> <p>BUCKLEY, e.g., pp. 35-36, “There is very little that is new about the current design of SMART. Instead, the standard information retrieval algorithms are implemented in an efficient and flexible manner. The core of the system is the set of low-level data access mechanisms that allow the rest of the system to look at stored information as sequences of tuples and to efficiently access individual tuples. The experimenter and database administrator are aided by a uniform approach to specifying parameter values. A rudimentary user interface exists that allows interactive help for many purposes. Concurrency issues in SMART are dealt with superficially, but in a manner that should be sufficient for most non-commercial uses of the system. The resulting system turns out to be quite usable for both casual and experimental purposes. A casual user can submit a query and receive back the relevant documents within a couple of seconds. The experimenter can change parameters and even algorithms with minimal effort. For example, one recent investigation into term weighting schemes involved implementing several different term weighting methods. It took 1 day (about 25 hours) to implement, run, and evaluate the methods (a total of 119 experimental runs were made). This type of investigation would previously have taken a couple of weeks. There are still a number of problems with SMART. The foremost of these is the user interface. There are clear improvements that can be made in the present interface; the need for other improvements will become</p>

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	<p>obvious as the system is used by more people. Another area for improvement already discussed is that of concurrency. Both the user interface and concurrency problems stem from the gradual change of SMART from an entirely experimental system to one that can be actually used. A number of the algorithms used in the implementation can be improved. In general, straight-forward algorithms were preferred. More complicated algorithms which are more efficient, especially space efficient, exist and should be implemented. The dictionary access procedures are a good example of this. The number of applications for SMART will undoubtedly increase in the next couple of years. At this time at Cornell, it is being used for</p> <ol style="list-style-type: none"> 1. Searching a collection of CACM abstracts 2. Providing a help facility for UNIX. There was a lot of documentation for UNIX on-line that was inaccessible because nobody could find it. 3. Accessing a user information database (interests and hobbies as well as factual information). 4. Accessing reference databases (easy, non-factual searches of standard databases of references) 5. Searching electronic mail files (eg. the old mail to system support staff) 6. Searching archives of electronic bulletin boards (USENET news)”
NAQVI WO	<p>NAQVI WO, p. 5-6 - “When the user requests a certain page or a certain topic of information, the relevant pages are retrieved from the computer network and shown to the user. The present invention, upon receiving the user's request, retrieves advertisements that are related to the user's action, dynamically mixes the advertisements with the content of the pages according to a particular layout, and displays the pages with focused, targeted advertisements as a part of the page. The advertisements can be made to satisfy a set of constraints requested by the advertiser, as well as the constraints of the publisher of the page, as further discussed below. The advertisement triggering mechanism of the present invention is not random or coincidental, but rather, is prespecified in advance. This specification will be referred to in this application as a contract. A contract specifies the marketing rules that link advertisements with specific queries. For example, a diet soft drink advertisement may be shown when a user asks for a page about exercising equipment. These rules are specified by advertisers implementing the concept of "focus" or "relevance" of advertisements and help the advertisers to target a specific audience. Owners of pages specify the focus content of their pages through special tags within a page. These tags are not displayed to the</p>

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	<p>information consumer; the tags are used to decide what advertisement can be shown when the page is requested by a consumer. The notion of a contract, however, goes well beyond just marketing rules. First of all, the advertising space on the online medium, although technically unlimited, is severely restricted by the user's attention span. Placing advertisements on the first page which constitutes the answer to a query gives the advertisements much higher probability to be seen than on later pages of the answer.”</p> <p>NAQVI WO, p. 15-16 – “Initially, a user requests a particular piece of information through one of the clients 17. The user's 10 request is given to the WWW Daemon 16, which passes the information to the gate 15. The gate 15 at this point decides what piece of information is being requested by the user and finds other relevant pieces of information that can be commingled with what the user has asked. The user, 15 for example, might ask the system to see certain car dealers, to find a phone number of a car dealer, or to get a page of a particular magazine. The gate 15 at this point gives the request to the matching rule engine 18 ("MRE"). The purpose of the MRE 18 20 is to look at the content of the user's query and to find a category within its active index SIC 19 that matches the same type. If the user has asked for car dealers, the MRE 18 invokes its rules to determine that car dealers are part of a class of things relating to transportation. Based on 25 the classification determined by the MRE 18, the system now knows that the user is asking about cars or about transportation or about whatever else that the user might be interested in. The MRE 18 at this point then returns to the gate 15 30 the category index of the user's query. If the user had asked about cars or about family sedans or about sports cars, at this point the MRE 18 would have figured out that the user's interest falls into a certain category. Based on the user's interest category, the system then retrieves the advertisements that are relevant to that category. Thus, the purpose of the MRE 18 is to figure out what the 5 user requested, to place the user's request in a category of a classification system (i.e., the active index SIC 19) and, based on that classification, to retrieve relevant advertisements.”</p> <p>NAQVI WO, p. 20 – “During the computation of the advertisements and all the other computations that the system of the present 5 invention performs, a logging module 22 of the system</p>

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	<p>performs extensive logging of what the user has asked, what advertisements were shown, how long the advertisements were shown, and which advertisements were shown to which user. The logging module 22 then stores these logs in a SYS logs 10 database 23. Various scanned reports can be produced and defined using the information in the SYS logs database 23.”</p> <p>NAQVI WO, p. 24-25 - In using a yellow page publisher there are two broad 20 distinctions for a query. A client may be asking for a certain category of listings, or the client may be asking for a particular vendor. For example, the user could ask for car dealers in Morristown, NJ (i.e., a category of listings), or the user could ask for Morristown BMW located 25 on South Street in Morristown, NJ (i.e., a particular vendor) . The system determines which of the two types of queries or searches the user has made, as illustrated by box 32 in Fig. 2. If the query is for a certain category, the process will go to the left hand side of the flow chart 30 of Fig. 2, and if the query is for a certain vendor, the process will go to the right hand side of the flow chart of Fig. 2. The left hand side of the flow chart will be explained first.</p> <p>After determining the type of query, the category search engine 33 next determines which category best fits 5 the user's request. The user may have asked for "car," but the category in the yellow page provider's index may in fact say "automobile." Or, the user may have asked for "spectacles," and the category in the yellow page provider may be called "optician." The matching of these variations 10 of terms is performed by the category search engine 33.”</p> <p>NAQVI WO, p. 26-27 – “The "focus" arrows 43 shown in Fig. 2 indicate that a certain focus is associated with each category. The query may have been directed to a category of listings or a particular vendor. In both cases there is a "focus" associated with the content of the query (e.g., automobiles, physicians, lawyers, etc.). In addition, there may be a focus associated with the geographic 5 location of the user to permit advertisers to target users in particular geographic regions. The focus process plays a major part in the present invention. No advertisements are shown unless it can be determined that the advertisements are in some way focused or related to the</p>

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	<p>10 content of what the user requested.”</p> <p>NAQVI WO, p. 34 – “To start (step 80), the user enters a query. For example, the user may enter restaurants or cars as a query. The query has a focus, as described above. The system determines what the focus is and, as described above, the 25 system provides the user with a list of categories that relate to the query. For example, if the user requests restaurants, the user might be shown a list of restaurant types, such as Chinese, American, French, Italian, and so forth. The query entered by the user is evaluated by a 30 query form manager (step 81) to determine the focus of the query.”</p> <p>Figures 1, 2, 7, 8B, 10, 11 (and associated text)</p>
BULL	<p>BULL at Col. 3 – “The user logs on to the system either by name, address, etc. or with some pseudonym (or some combination). This allows the user’s activity to be tracked and establishes a log of the user’s activity during the current online experience (session). The user is also asked for explicit profile information concerning preferences. These preferences will be used to narrow the information retrieval.”</p> <p>BULL at Col. 5 – “IV. Automated Profile Generation. Presently, user’s profiles are collected based on explicit entry by the user, and extraction from demographic data collected from a variety of sources. In the present invention, the searching patterns of the user on the Internet are monitored. A set of software text agent profiles is developed and may be integrated with explicitly collected profile information. The automated profile generation will have both explicit profile information gathering and implicit profile information gathering capabilities. As the user uses the information aggregation and synthesization system, the pattern of information being viewed is analyzed and the user presented with search ideas as well as promotions and specials from suppliers based on these patterns.”</p> <p>BULL at Col. 6 – “A theme or definition of a class of information (e.g., central California travel and tourism or new automobiles) is identified. Data sources (Local DataStores (500 . . . N) and Network Accessible DataStores (300 . . . N)) are screened for relevance, quality of information and appropriateness (or may be included de facto based on their title or description). These are indexed using a text indexing software tool 2981 and the indices stored on the system index DataStore 220. An initial set of Preestablished Software Text Agents are</p>

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	<p>defined. These agents are words or combinations of words that form a word based search pattern. This initial set of agents is relevant to the searches that might be performed against the class of information that was indexed. (i.e., Agents about automobiles would be developed to search a class of indexed information about new cars). These are stored in the Preestablished Software Text Agent DataStore 231. The System 200 uses any multipurpose computer central processing units with the ability to handle multiple inputs and outputs with the necessary hard disk storage and to run World Wide Web (WWW) or other network server software.”</p> <p>BULL at Col. 12 – “IV. Automated Profile Generation Browsing patterns of the user are analyzed and these patterns update profiles automatically. FIG. 7 illustrates a how diagram for the Automated Profile Generation. The looking patterns of the user are monitored to develop a set of software text agent profiles that are integrated with explicitly collected profile information to assist the user in narrowing down information for future sessions as well as suggesting references, merchandise or services during the current session. This is accomplished by statistical analysis of the text stream. The searching patterns of the user on the Internet are monitored by monitoring the text stream. A set of software text agent profiles is developed and may be integrated with explicitly collected profile information. The explicit information is gathered by queries to the user. The explicit and implicit data are merged to develop software text agents that support the user’s future shopping sessions.”</p> <p>BULL at Figs. 1 - 7 (and associated text)</p>
KOHDA '96	<p>KOHDA '96, §2.2: “Note that the agent is aware of the identity of the user and which page the user is about to read on the browser, so the advertising agent can tailor advertisements for <i>individuals and their current interests</i>. Thus it prevents the user from having to see advertisements that are unrelated to their current interests.”</p> <p><i>Id.</i>, §3.1: “At invocation, environment information is passed to each filter program as invocation parameters. The environment information includes at least the identity of the user and information about the selected anchor. The contents of a Web page designated by the anchor are input into the pipe of filters, and the output from the pipe is</p>

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	<p>displayed on the browser's window as an HTML document.”</p> <p><i>Id.</i>, §3.2: “The filter keeps in memory the contact path (URL) to the agent's Web server. When it is invoked, it forwards the invocation parameters passed from the browser to the agent's Web server, and waits for a reply.”</p>
<p>KOHDA '853</p>	<p>KOHDA '853 at 38:30-35: “the advertising information server provides the advertising information automatically based upon the retrieval condition data, wherein another predetermined tag is added to the provided condition data to retrieve advertising information, and is derived from the retrieval information.”</p> <p><i>Id.</i> at 23:60 to 24:7: “When the user is obtaining the information about the sales conditions of the latest automobiles, the information server 100 to obtains and analyzes the retrieval information to be obtained by the user, and recognizes that the information relates to the sales conditions of the latest automobiles.... Then, the information server 102 selects the advertising information about, for example, sports cars from a large volume of advertising information relating to automobiles, and transmits the selected information to the information retrieving apparatus 100. As a result, the advertising information in which the user may be interested can be transmitted to the user, thereby enhancing the advertising effect.”</p>
<p>Sung Myaeng and Robert Korfhage, “Integration of User Profiles: Models and Experiments in Information Retrieval,” <i>Information Processing & Management</i>, Vol. 26, No. 6 (1990) (“MYAENG”)</p>	<p>MYAENG, Abstract, “One difficult problem in information retrieval (IR) is the proper interpretation of user queries. It is extremely hard for users to express their information needs in a specific yet exhaustive way. In an effort to alleviate this problem, two theoretical models have been proposed to utilize user characteristics maintained in the form of a user profile. Although the idea of integrating user profiles into an IR system is intuitively appealing, and the models seem viable, no research to date has established a foundation for the roles of user profiles in such a system. Aiming at the investigation of the roles of user profiles, therefore, this study first identifies and extends various query/profile interaction models to provide a ground upon which the investigation can be undertaken. From a continuum of models characterized on the basis of interaction types, metrics, and parameters, nearly 400 models are chosen to investigate the “model space.” New measures are developed based on the notion of user satisfaction/frustration. In addition, three different criteria are used to guide users in making judgments on the quality of retrieved items. Analysis of the data obtained from the experiments shows that, for a wide variety of criteria and metrics, there are always some query/profile interaction models that outperform the query alone</p>

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	<p>model. In addition, preferable characteristics for different criteria are identified in terms of interaction types, parameters, and metrics.”</p> <p>MYAENG, p. 719, “The problem of retrieving information from natural language databases has been studied during the past quarter century. In traditional context, retrospective information retrieval (IR) systems are those in which a user initiates the search process by means of a set of active queries and receives a set of references to items of potential interest. One difficult problem in such systems is the transformation of the user’s information need to the form of an explicit query which accurately matches the original intention, and retrieves all items of interest in the database being searched, and only those. Therefore, users often have great difficulty in using an IR system successfully regardless of the query language implementation (e.g., a vector form, a boolean expression of terms, a combination of both [1,2,3], or other retrieval models [4,5,6,7,8]). As a result, user queries are not completely satisfactory in expressing the needs in most retrieval situations. It seems natural that the output of a system based on such a query is necessarily incomplete and unsatisfactory.”</p> <p>MYAENG, p. 720-21, “The difficulty of adequate query formulation also seems related to the subtlety of the human information seeking behavior. Widely recognized is the fact that different users usually expect different sets of items from the same query and make different relevance judgments on the same retrieved items. This means that user variability should be considered as a factor in information seeking process [121 and incorporated into the system design in some way. However, since the typical communication achieved between a user and a system is only through a set of queries and a set of retrieved items, this somewhat narrow and restricted channel inhibits the system from catering to the individual’s variability in terms of information needs.It is conceivable that by maintaining characteristics of an individual user in the form of a profile, the bandwidth of the communication channel can be widened. Used as a way of improving the level of user/system communication effectiveness, the profile information is expected to allow the underlying system to understand users better and to improve the quality of a retrieval output. For instance, the profile information allows a different interpretation of a query to produce a different result, and helps the initial output to be tailored to the user’s particular needs and ranked appropriately, based on the user’s preference. While the use of tools such as thesauri and stemming algorithms for a priori processing of a query aims at better query interpretation by depersonalizing the query in a sense, profiles are used for the same purpose by personalizing the query [13].</p>

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	<p>The influence of the user profile on the quality of output depends on various factors. One important and immediate consideration is how to modulate the interaction between a query and a profile, so that reasonable quality of information is maintained. Some models of query/profile interaction have been developed and their theoretical foundations have been established [14,15,16]. Another aspect to be considered is how to maintain user profiles. Assuming that reasonably well-constructed profiles increase the system effectiveness, the nature and quality of the information in user profiles should determine the degree of improvement. Recognizing that people tend to be poor at self-description, a method of automatically and dynamically updating user profiles has been proposed to facilitate an intelligent and personalized IR system [17]. Researchers have recognized directly or indirectly the need for user modeling in various information systems. Given that information seeking is part of the problem solving process, it is difficult to study information seeking apart from a particular context or process [12]. In particular, IR system outputs need to be produced based not only on the topicality of documents and queries, but also on informativeness, often affected by such factors as novelty, understandability, the order of output presentation, and the suppression of redundancy [18], which are dependent on individual users. If an IR system is to be designed to take into account individual variability in backgrounds, interests, preferences, or other significant characteristics, it becomes obvious to develop a form of user models for individuals. Nonetheless, the possibilities for user representations have been explored only to a limited extent in experimental IR systems [19], and uncertainty about how to incorporate knowledge about users into system design is a major stumbling block in designing effective IR systems [20]. Indirect uses of the concept of user modeling in IR are found in [21] and in [22,23].</p> <p>This study aims at demonstrating the superiority of IR systems with profiles, a limited form of user models, to those without profiles, and investigating the query/profile “model space” in order to develop a theory. In this paper, we first present the “model Integration of user profiles 721 space” constructed by identifying and extending the existing query/profile interaction models and then report the results of a series of experiments conducted to meet the objectives.”</p> <p>MYAENG, p. 721, “Since this research aims at investigating the roles of user profiles in a general sense, various interaction models have been reviewed and extended to serve as a ground on which the investigation can be undertaken. Given that a profile contains information about a user’s (or a group of users’) interest, it may be used in three distinct ways, depending on when and how it is applied to the retrieval process. First, the interest profile can play a role in</p>

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	<p>preprocessing a query to produce a modified query to be used in the subsequent retrieval process. Second, the profile and the query can be considered as the same kind of entity directing the retrieval process. The third possibility is to treat the profile as a filter to postprocess outputs retrieved based on the query alone. Although each method possesses its own potential merit, the first two have been the focus of this research; they lend themselves to the theoretical framework developed to date.</p> <p>Even with two methods of using interest profiles, there is a continuum of models from which 396 different models have been identified and selected to investigate the “model space.” For ease of manipulation and theory development, they are organized along three different dimensions:</p> <ol style="list-style-type: none"> 1. modes of query/profile interaction, 2. parameters embedded in the interaction modes, and 3. metrics used to discriminate among documents.” <p>MYAENG, p. 727, “An experimental retrieval system called PBS (profile-based system) has been developed for this research. In addition to common features such as accepting a query, searching a database, and retrieving document surrogates, it provides capabilities to handle profiles and evaluate different models based on a query and a profile. The database consists of 3703 abstracts of <i>Communications of the ACM</i> from 1958 to 1985. Some standard methods have been employed to analyze and prepare the database for the retrieval purpose. For example, a stemming algorithm was used for both database processing and query processing, and the methods of computing discrimination values and term frequency information [1] were adopted to compute weights on term-document pairs. Details of the structure and components of the PBS as well as methods used for the database process are found in 1261.</p> <p>Considering the large number of models being tested, the goal of the experimental design was to maximize the efficiency of available human resources and minimize the error variances, especially those which might be incurred from uncontrolled individual differences. To this end, every query was processed by all models against the document database so that systematic differences among queries, and hence among users, could hardly mask the actual differences among models. The experimental design had to overcome two difficulties. It is well known that sequencing of the output affects a user’s judgment. That is,</p> <p>if document D_z is seen after document D_i then the user’s judgment of D_2 is affected by the judgment already made on D_i. A similar sequencing effect pertains across models: judgment of the output of a given model is affected by the judgement of prior models. To</p>

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	<p>minimize sequencing effects two strategies were used: the output from all models was merged into a single set, and the documents were presented to the user in a randomized order rather than in an order related to their presumed relevance.”</p> <p>MYAENG, p. 728-29, “After an introductory session [26], the first non-trivial task for a subject was to construct a profile as a list of weighted terms that represent his or her real-life interests within the discipline of information and computer science and engineering. The following is an example of a profile constructed by a subject whose main interest lies in AI in general and human/computer communication interface in particular: ((artificial 7) (intelligence 7) (communication 10) (interface 7) (human 3) (factors 3) (network -2)).</p> <p>The last term ‘network’ with a weight of -2 was used to explicate her disinterest in the area of networking, which otherwise might be implied by the inclusion of the term communication. Unspecified weights defaulted to a value of 1. Subjects were then asked to formulate a query to be searched against the database in the PBS. There was a time interval of at least one day between profile construction and query formulation, which supposedly reduced any unnecessary dependence of a query on the content of a profile. Although they were encouraged to bring their own current information needs for queries to be submitted to the PBS, a pool of real questions drawn from comprehensive examinations given by the DIS at University of Pittsburgh was available as a guide to help them in conceptualizing and defining an information need and thus a query, not as a depository from which they should select an information need. When the subjects were given a randomized list of documents, they went through documents in that order and determined the quality of each document based on three criteria: relevance, pertinence, and usefulness. These fine-grained criteria were used to forcefully avoid confusion as to how the general term ‘relevancy’ can be interpreted, as well as to observe what aspects of ‘relevancy’ are affected by the use of profiles. <i>Relevance</i> was to be judged objectively based on how closely a document was related to a ‘stated query’, regardless of the user’s expectation or intention. <i>Pertinence</i>, in contrast, was to be judged on how much a document satisfied the current information need or desire that was supposed to be reflected in the query. Obviously this is a more subjective measure in which pragmatics of documents and queries play an important role. If the user’s intention is not well embedded in a query, for example, a retrieved document could be relevant but not pertinent. <i>Usefulness</i>, finally, was related to the user’s</p>

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	<p>short-term and/or long-term interests, regardless of the current need embedded in the query. Thus a pertinent document is expected to be more or less useful, whereas a useful document may not be pertinent at all.”</p> <p>MYAENG, p. 732-34, “Another aspect of the models is examined by means of user assessments on the general usefulness of retrieved documents. As summarized in Tables 6 and 7, two prominent trends are observed across different metric groups (L, is excluded because of its anomaly, as indicated earlier.) First, almost all profile-based models appear to be better at retrieving useful documents than M4, regardless of measures and metrics. This experimental evidence that a profile alone retrieves more useful documents than a query alone, which is supposed to represent more direct and short-term information needs, seems counterintuitive; but it supports the premise that it is difficult to formulate a query that will reject useless but relevant documents. Thus, if an IR system is designed to meet a user’s general interests as well as temporary needs, a query alone does not seem sufficient to satisfy both demands.</p> <p>Second, although a profile alone can achieve relatively high performance in usefulness, it does not necessarily follow that the existence of query information always reduces satisfaction (or increases frustration). Instead, it seems essential for models to include and be guided by some query information in their retrieval process. As shown in the tables, the models in the Q’ & P category in the Lz and the inverse cosine metric groups always perform better than the profile-alone model when W, is 0.5. In other words, unless the modified query is very close to the profile, documents retrieved by a well-balanced retrieval shell are more useful than those retrieved by a profile or a query alone, or by a shell distorted by emphasis on the query or profile.”</p> <p>MYAENG, p. 736-38, “There is little doubt about the importance and potential advantages of integrating user information into underlying systems. Especially in information retrieval, the difficulty of interpreting user queries, which are often incomplete and inaccurate, necessitates the adaptation of a system to their characteristics. This research aims at investigating the idea of integrating user interests in the form of user profile, and establishing a foundation that will justify further development in this direction. The analysis of the experimental results has demonstrated the superiority of profile-based models over a wide range of criteria and metrics used for evaluation; there were always some models that outperformed the query alone model. Although overall effectiveness was improved for those better models, a dual phenomenon similar to the recall/precision relationship, which</p>

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	<p>often characterizes information retrieval, also occurred; user satisfaction evaluated in terms of pertinence appeared to be increased by integrating a profile, but user frustration was also increased. However, the integration of user profile improved usefulness in both satisfaction and frustration. It was particularly noteworthy that for usefulness almost all profile-based models outperformed the query alone model. Relevance was used as a device that isolated the subjective assessments related to the user's intention from the objective ones. In spite of the theoretical and intuitive appeal of Cassini oval over ellipsoidal models, it was difficult to prove the superiority of the former in general. Instead, Cassini oval models appeared to be attractive in the <i>L2</i> metric group, whereas ellipsoidal models seemed better in the inverse cosine metric group. Although the results support the main hypothesis and make it possible to select promising models for more detailed study, the strong regularity in connection with different parameters and different types of interactions also suggests further investigation of some aspects of the model space. There are numerous possible extensions and improvements to be made in the future. They can be categorized into three groups: methodological improvements, extensions in query/profile interactions, and exploration of using profiling tools. In retrospect, the limitation of resources precluded possibilities of strengthening the validity of the experimental results; more human resources could have extended the cutoff point imposed on the number of documents reviewed by subjects. In addition, by using multiple, heterogeneous databases and subjects with diverse background, the query interpretation problem is more likely to surface, and it will be possible to investigate the roles of user profiles in more realistic and interesting situations. While there is room for improvement in terms of more realistic query/profile interaction models, it seems necessary to connect different user groups with different features of models. This will make it possible to map different interaction models to different groups of users and to develop a system that will adapt its query processing to user characteristics. On the other hand, it would also be interesting to see relationships between models and the proximity of a query and a profile in the document space. The third area of research is concerned with enhancing the quality of user profiles by means of profiling tools. Two approaches have been explored and are to be developed further. One is to update user profiles automatically based on the interaction with users. In this way, more accurate and up-to-date user information is expected to be maintained [171. Another approach is based on the finding in psychology that people are better at recognition than at recall performance [28]. With relationships among terms available in a given database, the task of formulating a profile is expected to become less difficult and more effective in that</p>

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	the task becomes a recognition process rather than a recall [29].”
Sung Myaeng and Robert Korfhage, “Towards an Intelligent and Personalized Retrieval System” (“MYAENG II”)	<p>MYAENG II, e.g., Abstract, “Development of an information retrieval system that can be personalized to each user requires maintaining and continually updating an interest profile for each individual user. Since people tend to be poor at self-description, it is suggested that profile development and maintenance is an area in which machine learning and knowledge base techniques can be profitably employed. This paper presents a model for such an application of AI techniques.”</p> <p>MYAENG II, e.g., 121-22, “In the context of conventional information retrieval systems (IRS), the search process is initiated and completed by a set of queries from a user. Each query, usually in the form of a vector or Boolean expression, consists of a set of key terms to be matched with the contents of relevant items. To improve the retrieval effectiveness, modification of the user query through the application of user feedback has been studied with some successful results [13]. There have also been systems, called selective dissemination of information systems (SDI), that selectively distribute incoming information to appropriate users based on user interest profile. However, only recently has a set of models been proposed that effectively combines the two different modes of the systems, thereby attempting to enhance the quality of retrieved items [3,8,9]. One of the major stumbling blocks in the conventional IRS is the problem of formulating a query which accurately matches the user's needs and the contents of potentially relevant items[1,12]. Unfortunately, different users expect different sets of items from the same query and make different relevance judgements on the same retrieved items, directly related to their individual needs. But the conventional retrieval system disregards the individual user's characteristics and the fact that diverse users have different perceptions of the underlying system. While it is natural that a user perceives the system in the light of his or her experience and needs, both the restricted structure of a query and the nature of the conventional system itself make this perception unavailable to the system. We believe that knowledge captured in a user profile embedded in the system will play an essential role in making a personalized system. One effect can be to retrieve a broader range of items, some of which would never be brought to the user's attention on the basis of the query alone. People prefer a librarian who can surprisingly provide information not explicitly requested but judged to be important to them. Profile information will also help the system tailor the retrieved items to a particular user's needs and rank them appropriately. Again, a friendly and intelligent librarian can eliminate some information which is not of the user's concern but would have been retrieved by a novice librarian who had to</p>

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	<p>relyeffective from the user's point of view and cooperative with the user in terms of achieving his or her goal. Since we never guarantee that a user's characteristics and environment stay the same over time, it becomes necessary for the system to dynamically change the knowledge kept in the profile. Upon learning various aspects of a user's information needs and behavior, the system will use this information to respond in an intelligent and friendly manner. We elaborate on the concept of a dynamic user profile (DUP) with a learning strategy for modeling the DUP and discuss the heuristics and models that utilize the DUP. The next section shows how the system is configured as a learning system. Our main emphasis in this paper is in Section 3 where a strategy for learning users' interests and other characteristics is discussed. The rest of paper, showing the representation of the DUP, addresses the issues involved in the utilization of the DUP.”</p> <p>MYAENG II, e.g., 122-23, “We have developed a full retrieval system for the purpose of testing the validity and the sensitivity of the theoretical models with static profiles [8]. This base system can be modified to reflect the functions of DUP. Since our system should conduct learning, it is not surprising that its configuration is well projected on the synthesized model of learning systems proposed by Smith et al [14]. We adopt terms used in this model to show the function of each component in the system. The proposed model consists of six functional components: performance element, instance selector, critic, learning element, blackboard, and world model. The performance element uses the learned information to perform the stated task. The instance selector selects training instances from the environment of the learning system whereas the critic analyzes the current abilities of the performance element. The learning element, which is an essence of the learning system, is an interface between the critic and the performance element, responsible for translating the abstract recommendations of the critic into specific changes in rules or parameters used by the performance element. The blackboard is a global database used as a system communication means. It holds two types of informarion: the information in the knowledge base and the temporary information used by the the learning system components. Finally, the world model contains the fixed conceptual framework within which the system operates. Documents in the database are assumed to contain key words with associated weights. These weights can be assigned on a frequency-related basis, as is quite standard in information retrieval. While it is possible to adjust the weights dynamically on the basis of user response, for present purposes we assume the weights are fixed. In our system, as shown in the Fig.1, the query processor/responder is considered as a learning system</p>

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	<p>performance element. It is the nucleus in conventional systems and, based on a query, actually retrieves items, providing the user with a set of items ranked on the basis of the weights in the query and items in the database. In our system design, this component also integrate the user-dependent information from the profile. The profile controller serves mainly as a learning element with some additional functions taken care of by an instance selector and a critic. This component observes the interactions between the system and the user, selects useful instances, and makes specific changes to the profile and possibly the query in such a way that the system's performance will eventually approach the desired level. In the context of an IRS, the role of a critic is performed primarily by human users although the statistics gathered through operation of the system can be of importance. Currently, the user's relevance feedback on the retrieved items is the only valuable information from the critic. Feedback information from each user is interpreted using the profile, and therefore part of the critic's role is transferred to the profile controller.”</p> <p>MYAENG II, e.g., 123, “Our ultimate purpose in having the learning element is to build an IRS that incorporates an individual user's characteristics as much as possible, in an automatic and time-dependent manner. Although this can only be achieved by monitoring the user's interaction with the system, initial dialogue with each user is expected to play an important role in obtaining skeletal information that will provide a direction to the system's inference. Without this kind of information available, the uncertainty we have to deal with is so high that, either we could never be sure that the system is on the right track in terms of learning, or the usability of DUP would be limited. This difficulty will arise especially with users whose background or interests lie in diverse fields and whose queries are not consistent with respect to a single field of interest.”</p> <p>MYAENG II, e.g., 123, “In addition to the need to automatically capture the user's interest, knowing information regarding individual user's habits seems also necessary. Typically the following are recognized as learnable characteristics:</p> <ul style="list-style-type: none"> - Reading habits, i.e, preference on the kind of a document (e.g. theoretical vs. practical) - Perception on feedback - Preference on either high recall or high precision <p>The reading habits can be obtained by simply accumulating statistics. Given a multidimensional space on which each periodical can be plotted based on the general trend of its difficulty or practicality, for example, the learning element of the system extracts the user's</p>

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	<p>preference along each dimension by observing his feedback on each document retrieved. If he assesses a document in JACM as pertinent and/or useful, for instance, the scale about his reading habit should move toward a more theoretical and difficult document group. The initial default value can be assigned based on each user's background information which is expected to be given to the system explicitly. It is to say that the higher education a user has received, the more theoretical and difficult documents he would tend to read. On the other hand, the more he is related to the industry, the more he might prefer a practical document to theoretical one. A user's perception on feedback seems to have an implication for any learning strategies. Since feedback, as a critic, plays an essential role in learning, a user's general habits on how to assess a retrieved document along different criteria must be taken into account so that any individual bias can be eliminated. It is expected that a conservative user will tend to rate a smaller number of documents positively whereas a more liberal user will rate a larger number of documents positively. Therefore, the history on how a user has evaluated retrieved documents will be a useful source of information. This implication not only facilitates unbiased learning of a user's characteristics and interest but also makes it possible to measure system performance more accurately, taking the bias into account.”</p>
<p>K. Asai, ed. 1995. Fuzzy Systems for Information Processing (1st ed.) (“ASAI”)</p>	<p>ASAI, e.g., at iv, “Fuzzy theory was first used in engineering applications in the fields of control and information, with many practical applications and product being brought out, and following these there was progress in applications in medicine, management, sociology, natural sciences, psychology and the like. In every case, approximate models were constructed of the general intelligent information processing of human beings using fuzzy theory, and using these either artificial intelligence was created or there were attempts to explain problems or phenomena that touch mankind. When these models are constructed, human knowledge, experience, consciousness and opinions are expressed in natural language, and hearings and surveys are used. This language is quantified using membership functions and the information processed, but in most of these cases, computers are used. Because of this, fuzzy theory has made a contribution to the extension of conventional computers, which are based on numbers, to the handling of natural human language.”</p> <p>ASAI, e.g., at 173, “In the chapters up to now, we have discussed the current state of hardware and software for fuzzy information processing. In this chapter, we will discuss fuzzy computers as systems which extend these and are fuzzy information processing computers. Fuzzy theory, which is the foundation for these fuzzy</p>

Reference	Disclosure
	computers, is a means for mathematical quantification of the meaning of human language, and it is technology indispensable for the development of human friendly computers.”
Hua Li & Madan Gupta (Eds.), <i>Fuzzy Logic and Intelligent Systems</i> (1995) (“LI”)	LI, e.g., Table of Contents, Chapter Abstracts, Back Cover, “Fuzzy logic offers attractive features for solving many real engineering problems. As many people have realized, the major obstacles in building a real intelligent machine are dealing with 5 random disturbances, processing large amounts of imprecise data, interacting with a dynamically changing environment, and 5 coping with uncertainty. The use of neural-fuzzy techniques can help solve many of these problems. <i>Fuzzy Logic and Intelligent Systems</i> reflects the most recent developments in neural networks and fuzzy logic and their applications in intelligent systems. In addition, the balance between theoretical work and applications makes this book not only suitable for researchers and engineers, but for graduate students as well.”

Table B6: Fee Records

To the extent the references addressed in claim charts A-1 to A-39 does not disclose the limitations identified in each chart citing Table B6, one of ordinary skill in the art would be motivated to combine the references addressed in claim charts A-1 to A-39 with any one or more of the Table B6 references listed below because: it would have yielded predictable results; using the techniques of the Table B6 references would have improved the primary or obviousness references in the same way; and applying the techniques of the Table B6 references to improve primary or obviousness references would have yielded predictable results.

Reference	Disclosure
U.S. Patent No. 6,119,101 (“PECKOVER”)	<p><i>See, e.g.</i>, PECKOVER, 10:20-29: A practical and viable electronic marketplace involves the exchange of market information, as well as the more obvious trading for goods and services. From a consumer’s point of view, shopping is a means of gathering data about goods and services offered. This data is used by the consumer to compare and rank offerings and to make decisions about purchases. From a provider’s point of view, consumer shopping is an opportunity to gather data about consumer needs and interests. This data is used by the provider to improve product and service offerings.</p> <p>PECKOVER, 11:16-19: Consumers have a standardized mechanism for receiving considerations from advertisers in exchange for allowing delivery of advertisements and other provider information.</p> <p>PECKOVER, 11:61-62: Providers can provide a consideration to consumers for viewing advertisements and other notices.</p> <p>PECKOVER, 21:5-11: A Consideration Account function 67 maintains a “consideration” account for the user. When the user earns a consideration by, for example, viewing a directly delivered advertisement or message, or completing a marketing survey, the consideration amount is credited to Consideration Account 67. The account is denominated in a convertible exchange media such as electronic cash tokens.</p> <p>PECKOVER, 11:44-46: Advertising may have higher success rates since the targeted consumers have expressed an interest in the product.</p> <p>PECKOVER, 11:54-64: The mechanism for quantifying consumer demand uses data based</p>

Reference	Disclosure
	<p>on individual buying decisions, not merely aggregate or estimated data.</p> <p>Providers can quantify demand in real-time.</p> <p>Providers have a mechanism for discovering the reasons for lost sales.</p> <p>Providers can provide a consideration to consumers for viewing advertisements and other notices.</p> <p>Providers can receive feedback in real-time about the success of promotions.</p> <p>PECKOVER, 20:13-19: A Decision Agent Archive 80 stores and accesses Decision Agents 14 that are expired, i.e., agents that have completed their tasks, whether successfully or not. For example, if a Demand Agent 16 needs more detailed data about a query than is stored in a Query Logger 136 of a Market 18, it can access the details of the related Decision Agent 14 through Decision Agent Archive 80.</p> <p>PECKOVER, 18:40-53: Referring to FIG. 4A, a Personal Agent 12 or 13 comprises the functional components of: a Unique identification (ID) 50, an Owner Manager 52, a Preference Manager 54, a Delivery Manager 56, an Individual Firewall 58, a Decision Agent Manager 60, a Demand Agent Manager 62, an Ad Manager 64, a Target Manager 66, and a Consideration Account 67.</p> <p>PECKOVER, 29:49-67: The Decision Agent's Response Manager 108 collects references (step 326) to the matching ads found by Basic Search Engine. The Response Manager also sends a response to the Personal Agent that placed the advertisement (if the placer so desired and marked in the ad), providing real-time feedback to the placer. Immediate Agents then removes the Decision Agent from its internal queue and gives the Decision Agent back to Active Decision Agent Manager 152 (step 328).</p>
U.S. Patent No. 5,105,184 ("PIRANI")	PIRANI, 3:1-7: This new use can also provide to a small or a new software developer much needed help to launch a software project. By convincing the viability of the project to a commercial company which advertise widely to sell their products, the software developer can receive revenue from such company in exchange for the right to advertise in the new software.

Reference	Disclosure
<p>U.S. Patent No. 5,710,884 (“DEDRICK PATENT”)</p>	<p>DEDRICK PATENT, 10:8-21: Thus, the metering server 14 contains an account balance, a user identification (such as an account number or a name), and may also include information indicating which information the user subscribes to. User profile data requested by metering server 14 from the client systems 12 is stored in user profile database 30, along with user profile data corresponding to electronic information being consumed by an end user. As discussed above, this user profile data does not specifically identify the individual end user. The account balance and user identification is contained in the transaction database 32. Therefore, the only information which is contained in the metering server which identifies an individual end user is that user’s identification and an account balance, thereby maintaining the user’s privacy.</p> <p>DEDRICK PATENT, 10:22-29: In one embodiment, the transaction database 32 also includes, in the log of a transaction, an indicator of the electronic information consumed. By maintaining such a log, the metering server 14 is able to summarize an end user’s consumption for that user’s review. For example, the metering server 14 may generate a monthly statement summarizing how much money the end user spent consuming electronic information.</p> <p>DEDRICK PATENT, 10:45-61: If the end user is not a subscriber, the metering process 36 calculates the price of the requested information and accesses the transaction database to subtract the price from the balance of the end user’s account. The balance is initially established when the end user requests an account in the system. The balance may be specified by the end user and approved by the clearinghouse server. Approval may be based upon a credit card number or bank account number provided by the end user. The balance may be updated by the clearinghouse server when the end user pays his bill. If the balance minus price is greater than zero, the metering process 36 retrieves the information and sends the same to the end user. If the balance minus price is less than zero, the metering process 36 does not retrieve the information and may send a message to the end user that the balance has been exceeded. The initial balance of the account is typically set by a credit limit.</p> <p>DEDRICK PATENT, 11:35-55: The software tools include “cost type” and “cost value” fields that accompany each unit of electronic information. The cost type and cost value can be utilized to calculate a price that can be either credited to or debited from the end users. The fields allow the publisher/advertiser 18 to establish the manner in which the information will be charged to the end user’s account. One example</p>

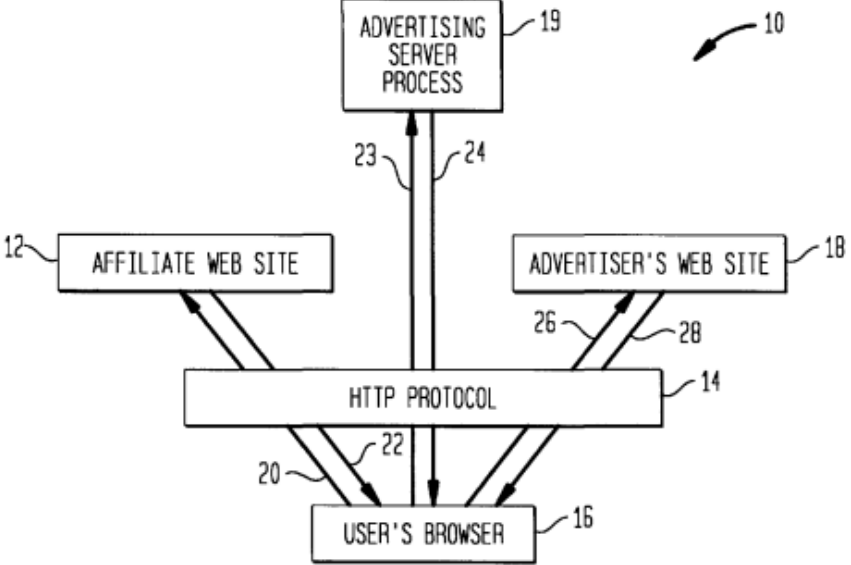
Reference	Disclosure
	<p>of a cost type is “pay per view” payment method, wherein the end user pays an associated cost each time the user consumes a unit of information. This cost may also be proportional to the amount consumed, so that the cost is higher for consuming the entire unit information rather than a small portion, such as the abstract. This type of payment may be desirable for information which is typically seldom consumed by the end user. Other cost types include payment on a per byte or word of information viewed by the end user, or payment for the period of time that the user consumes the information. These cost types may be desirable when the end user is accessing a database that contains, for example, corporate or individual credit information, or the drawings and text of a patent database.</p> <p>DEDRICK PATENT, 12:1-26:</p> <hr/> <p style="text-align: center;">“Pay Per View” “Pay Per Byte” “Pay Per Time” . . .”</p> <hr/> <p>The cost value is provided in a different field and may be embodied by a simple data entry by the publisher. For example, if the pay per view cost type is selected, the publisher may enter “\$1.00”. If the pay per byte cost type is selected, the publisher may enter “\$0.10 per Mbyte”, and so forth and so on. The tools may also allow the publisher to associate a plurality of cost types and corresponding cost values with the same content of information.</p> <p>In addition to debit models, the software tools may also allow the publisher/advertiser 18 to build a credit model which credits the end user’s account each time the user views a unit of information. This model is particularly useful for advertisers who may want to credit the end user’s account to encourage the user to consume an advertisement. By way of example, the credit model can be used in association with the yellow pages content database. The publisher/advertiser may also be provided with a field that allows the publisher/advertiser to select between credit and debit.</p> <p>DEDRICK PATENT, 12:43-54:</p> <p>The publisher/advertiser is also provided with an account number so that the charges associated with the consumption of information provided by the publisher/advertiser is charged to the account number of the publisher/advertiser. For example, a publisher may provide a unit of information which is subsequently consumed by the end user. The charge incurred by the end user is then debited against the user’s account and credited to the publisher’s account. By way of another example, the end user may view an advertisement, wherein the charge associated with the unit of information viewed is credited to the end user’s account and debited to the advertiser’s account.</p> <p>DEDRICK PATENT, 14:19-37:</p> <p>As shown in FIG. 4, each clearinghouse server 20 contains a</p>

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	<p>demographic database 50, a transaction database 52, billing process 54 and a session manager 56. The demographic database 50 contains user profile data collected from the metering servers 14. The transaction database 52 contains billing information relating to the end users. The transaction database 52 also contains data relating to the accounts of the publishers/advertisers 18. The billing process 54 can access and process data within the databases 50 and 52. For example, when an end user consumes a unit of electronic information, data relating to the consumption of the electronic information may be sent from the billing server 14 to the clearinghouse server 20. The session manager 56 instructs the billing process 54 to charge the publisher/advertiser account within the transaction database 52. The clearinghouse server 20 may also receive user profile data from the metering servers 14 which is subsequently stored by the billing process 54 in the demographic database 50.</p> <p>DEDRICK PATENT, 15:7-25:</p> <p>In one embodiment, the billing process 54 also generates bills for the end users and the publishers/advertisers. Upon a request from the publisher/advertiser, the session manager 56 instructs the billing process 54 to generate a bill. The billing process 54 retrieves the billing information from the transaction database 52 and generates a bill. The bill may be electronically transferred to the end user or sent through a conventional mail service. The billing process 54 may also generate bills that are transmitted to the publishers advertisers. The bill may be generated periodically in accordance with header information that accompanies the content that is generated by a publisher/advertiser. Alternatively, the clearinghouse server 20 may utilize consumer credit cards and or bank accounts for billing. For example, amounts owed by the consumer for consumption of electronic content and amounts due the consumer for consumption of electronic advertisements may be charged or credited, respectively, to the consumer's credit card or bank account.</p> <p>DEDRICK PATENT, 17:13-26:</p> <p>The metering server 14 in conjunction with the client activity monitor 24 of the client system may monitor the end user's consumption of electronic advertising information and provide user profile data to the metering server 14 relating to the end user. For example, the metering process 36 may monitor the amount of time an end user spends viewing an electronic advertisement, or which particular advertisement or page of the advertisement was of interest to the end user. The metering process 36 may further monitor what answers were provided by the user, or paths taken by the user in an interactive model, along with follow-up requests</p>

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	<p>initiated by the end user in an interactive model. This information is then forwarded to the clearinghouse server 20 for compilation.</p>
<p>U.S. Patent No. 7,072,849 (“FILEPP”)</p>	<p><i>See, e.g.</i>, FILEPP, 3:1-4: And, it is still a further object of this invention to provide a method for presenting advertising in an interactive service which method enables the user to transactionally interact with the advertising presented.</p> <p>FILEPP, 3:44-67: Also in preferred form, the method includes step for maintaining an advertising object identification queue, and an advertising object store that are replenished based on predetermined criteria as advertising is called for association and presentation with applications. In accordance with the method, as applications are executed at the reception system, the application objects provide generalized calls for advertising. The application calls for advertising are subsequently forwarded to the reception system advertising queue management facility which, in turn supplies an identification of advertising who’s selection has been individualized to the user based on, as noted, the user’s prior interaction history with the service, demographics and local. Thereafter, the object identification for the advertising is passed to the object store to determine if the object is available at the reception system. In preferred fonn, ifthe advertising object is not available at the reception system, a sequence of alternative advertising object identifications can be provided which if also are unavailable at the reception system will resulting in an advertising object being requested from the network. In this way, advertising of interest can be targeted to the user and secured in time-efficient manner to increase the likelihood of user interest and avoid service distraction.</p> <p>FILEPP, 7:27-32: In preferred form, network 10 provides information, advertising and transaction processing services for a large number of users simultaneously accessing the network via the public switched telephone network (PSTN), broadcast, and/or other media with their RS 400 units. Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undue transmission time, and may be processed and selectively stored on a user’s RS 400 unit.</p>

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FLYNN	<p><i>See e.g.</i>, FLYNN, p. 1 (“Once they begin running ads on various sites, advertisers analyze the number of times somebody clicked on their ad, then change the placement or timing of their ad to try and improve the ‘click rate.’”)</p>
<p>U.S. Patent Nos. 5,948,061 (“MERRIMAN I”) and 7,844,488 (“MERRIMAN II”)</p>	<p><i>See, e.g.</i>, MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 2:59-3:4:</p> <p>The basic architecture of the network 10 comprises at least one affiliate web site 12, an advertisement (ad) server web site 19 and one or more individual advertiser’s web sites 18. Affiliates are one or more entities that generally for a fee contract with the entity providing the advertisement server permit third party advertisements to be displayed on their web sites. When a user using a browser accesses or “visits” a web site of an affiliate, an advertisement provided by the advertisement server 19 will be superimposed on the display of the affiliate’s web page displayed by the user’s browser. Examples of appropriate affiliates include locator services, service providers, and entities that have popular web sites such as museums, movie studios, etc.</p> <p>MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 3:5-23:</p> <p>The basic operation of the system is as follows in the preferred embodiment. When a user browsing on the Internet accesses an affiliate’s web site 12, the user’s browser generates an HTTP message 20 to get the information for the desired web page. The affiliate’s web site in response to the message 20 transmits one or more messages back 22 containing the information to be displayed by the user’s browser. In addition, an advertising server process 19 will provide additional information comprising one or more objects such as banner advertisements to be displayed with the information provided from the affiliate web site. Normally, the computers supporting the browser, the affiliate web site and the advertising server process will be at entirely different nodes on the Internet. Upon clicking through or otherwise selecting the advertisement object, which may be an image such as an advertisement banner, an icon, or a video or an audio clip, the browser ends up being connected to the advertiser’s server or web site 18 for that advertisement object.</p> <p>MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 3:24-63:</p> <p>In FIG. 1, a user operates a web browser, such as Netscape or Microsoft Internet Explorer, on a computer or PDA or other Internet capable device 16 to generate through the hypertext transfer protocol (HTTP) 14 a request 20 to any one of preferably a plurality of affiliate web sites 12. The affiliate web site sends one or more messages back 22 using the same protocol. Those messages 22 preferably contain all of the information available at the particular web site 12 for the requested page to be displayed by the</p>

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	<p>user's browser 16 except for one or more advertising objects such as banner advertisements. These objects preferably do not reside on the affiliate's web server. Instead, the affiliate's web server sends back a link including an IP address for a node running an advertiser server process 19 as well as information about the page on which the advertisement will be displayed. The link by way of example may be a hypertext markup language (HTML) tag, referring to, for example, an inline image such as a banner. The user's browser 16 then transmits a message 23 using the received IP address to access such an object indicated by the HTML tag from the advertisement server 19. Included in each message 23 typically to the advertising server 19 are: the user's IP address, (ii) a cookie if the browser 16 is cookie enabled and stores cookie information, (iii) a substring key indicating the page in which the advertisement to be provided from the server is to be embedded, and (iv) MIME header information indicating the browser type and version, the operating system of the computer on which the browser is operating and the proxy server type. Upon receiving the request in the message 23, the advertising server process 19 determines which advertisement or other object to provide to user's browser and transmits the messages 24 containing the object such as a banner advertisement to the user's browser 16 using the HTTP protocol. Preferably contained within the HTTP message is a unique identifier for the advertiser's web page appropriate for the advertisement. That advertisement object is then displayed on the image created by the web user's browser as a composite of the received affiliate's web page plus the object transmitted back by the advertising web server.</p> <p>MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), Fig. 1:</p>

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	<p style="text-align: center;">FIG. 1</p>  <p>The diagram, labeled FIG. 1, illustrates a system architecture. At the top is a box labeled 'ADVERTISING SERVER PROCESS' (19). Below it is a box labeled 'HTTP PROTOCOL' (14). At the bottom is a box labeled 'USER'S BROWSER' (16). To the left of the HTTP PROTOCOL box is a box labeled 'AFFILIATE WEB SITE' (12). To the right is a box labeled 'ADVERTISER'S WEB SITE' (18). Arrows indicate the following connections: a vertical arrow (23) points from the HTTP PROTOCOL box up to the ADVERTISING SERVER PROCESS box; a vertical arrow (24) points from the ADVERTISING SERVER PROCESS box down to the HTTP PROTOCOL box; a diagonal arrow (20) points from the HTTP PROTOCOL box down to the USER'S BROWSER box; a diagonal arrow (22) points from the USER'S BROWSER box up to the AFFILIATE WEB SITE box; a diagonal arrow (26) points from the HTTP PROTOCOL box up to the ADVERTISER'S WEB SITE box; and a diagonal arrow (28) points from the ADVERTISER'S WEB SITE box down to the USER'S BROWSER box. A curved arrow (10) points from the top right towards the ADVERTISING SERVER PROCESS box.</p> <p>MERRIMAN II (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 9:38-41:</p> <p>2. The method of claim 1, wherein selecting an advertisement based upon stored information about said user node comprises selecting an advertisement based upon a prior content request sent from said user node to an affiliate node.</p>
ADSERVER 2.0	See e.g., ADSERVER 2.0, p. 2 (“By tracking viewer response to advertising, NetGravity reports allow agencies and advertisers to quickly test the effectiveness of their campaigns.”)
ADSERVER 2.0; AD REPORTING	See e.g., ADSERVER 2.0; AD REPORTING, p. 1 (“Performance is indicated by the number of ad impressions and click-throughs for ads and advertisers.”); <i>id.</i> (describing that reports are provided on impressions/clicks.); <i>id.</i> (“AdServer supports <i>premium</i> ad types, the ability to test different ads in real-time, and the delivery of reliable performance reports.”); <i>id.</i> , p. 2 (“By tracking viewer response to advertising, NetGravity reports allow agencies and advertisers to quickly test the effectiveness of their campaigns. Such rapid and reliable feedback empowers advertisers with the information they need to maximize their advertising efforts.”)
NETGRAVITY ADSERVER HELP	See e.g., NETGRAVITY ADSERVER HELP, Installing the Redirection Utility (“When a visitor to your site clicks on an ad, AdServer redirects them to the advertiser’s site. Before they go there, however, AdServer must record that they clicked on the ad.”); see also <i>id.</i> , AdSpace Specs, Working with Ads; <i>id.</i> , AdServer Tools Reference (“ <u>RepAd</u> – generates ad reports.”)
ABOUT NETGRAVITY ADSERVER	See e.g., ABOUT NETGRAVITY ADSERVER, Getting Started, p. 1 (“AdServer records when the ad is shown, and also when it is clicked. You can then generate reports that show ad and location performance.”); <i>id.</i> , p. 3:

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	<p>“Instead of immediately sending a user to the advertiser’s site, all ad links automatically execute the redir program. This is a CGI program that first records the user’s click before redirecting the user’s browser to the advertiser’s site.”); <i>id.</i>, Serving Ads Dynamically, p. 2 (“ . . . 8. The visitor views the page and the ad. When they click on the ad, they issue a call to the redirect utility on your content server. 9. The redirect utility records the user’s click in the AdServer logs, then sends the user to the advertiser’s site.”); <i>id.</i>, Serving Ads Dynamically, p. 5 (“When AdServer serves an ad, it records in the <i>AdServer_log</i> file that the ad has been shown. Similarly, the redirect utility records that an ad was clicked by writing to the <i>AdServer_log</i>. . . . During its normal operation, AdServer writes to the <i>AdServer_log</i> file each time an ad is requested, and each time the redirect utility is notified that an ad has been clicked.”); <i>id.</i>, Serving Ads Dynamically, p. 6 (“The <i>parselog</i> tool reads the <i>AdServer_log</i> file, extracts statistics about which ads received impressions and clicks, and writes that information to the AdServer database.”); <i>id.</i>, AdServer Tools, p. 2: “<i>Parselog</i> reads your content server’s log file and writes usage statistics into the AdServer database. AdServer uses this information to measure the number of impressions and clicks an ad has received.”); <i>see also id.</i>, p. 5 (same), p. 6 (same.); <i>id.</i>, Internal Specifications, p. 9 (listing logging “the number of clicks received”), p. 11 (listing that the system records that a “dynamically served ad received an impression” and that a “dynamically served ad received a click”); <i>id.</i>, NGAPI Function Reference, p. 22 (noting that the ID of the ad that is clicked is logged), p. 23 (“records that an ad was clicked”), p. 37 (records “the number of clicks received”), p. 42 (same)</p>
<p>NETGRAVITY ADSERVER CHOSEN BY GNN</p>	<p><i>See e.g.</i>, NETGRAVITY AD SERVER CHOSEN: NetGravity, the leader in Internet advertising technology, today announced GNN, a service of America Online Inc., will take advantage of the NetGravity AdServer technology for WebCrawler, its Internet search service. This allows GNN to better manage its WebCrawler advertising inventory, dynamically deliver targeted ads, measure advertising results in real time, and automate ad sales efforts. As part of this agreement, GNN becomes the first company to capitalize on the alliance between NetGravity and I/Pro (Internet Profiles Corporation), the leading Internet measurement firm. This builds on GNN's longstanding relationship with I/Pro and enhances its ability to provide the most comprehensive reports on advertising effectiveness and to deliver them to advertisers far faster than sites not using the NetGravity technology. NetGravity was founded to enable Web publishers to retain complete control of their online advertising management. Unlike other companies which merely provide services for ad placement and scheduling, NetGravity offers a unique approach, providing the software and technology which empowers publishers to manage</p>

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	<p>advertising inventory, dynamically target ads to the right audiences, measure results in real time, and automate sales efforts. Now, through NetGravity's relationship with I/Pro, Web sites will be able to develop and place advertising much more effectively using management tools with demographic profiles for targeted ad placement. Sites using the NetGravity AdServer are able to retain all advertising revenues and eliminate the risks of dependency on external services such as downtime, increasing costs, unplanned maintenance and unpredictable management.</p>
<p>“For More About Tide, Click Here” by Zachary Schiller, <i>Bloomberg Businessweek</i>, June 2, 1996. (“SCHILLER”)</p>	<p><i>See e.g.</i>, SCHILLER: “In a test arrangement, instead of compensating online companies for each consumer who sees a P&G ad, P&G will pay only when the online customer ‘clicks’ from that ad to one of P&G’s own Web sites. This means that Yahoo!, a major online provider that agreed to P&G’s terms, won’t make any money if a customer sees a spot promoting P&G’s SunnyDelight juice drink unless the customer moves on to its Sunny Delight Web site, which has a game with various prizes.”</p>
<p>DEDRICK 1994</p>	<p><i>See e.g.</i>, DEDRICK 1994, p. 57 (“Soon however, advertisers will be more attracted to a distribution medium that . . . provides proof back to the advertiser showing aggregate consumption statistics for an advertisement”); <i>id.</i> (p. 57: “The advertisers will pay for the storage and distribution services of the yellow pages, based upon the quality of the targeted consumers currently served by the yellow pages.”); <i>id.</i>, p. 59 (“Paying for usage of the electronic yellow pages may follow a variety of models. One likely model consists of the advertiser paying the electronic yellow pages service provider a fee for storing and distributing each advertisement for a specified period of time.”); <i>id.</i>, p. 61 (“Electronic content metering capabilities must exist within the servers that communicate with the client consumption devices. This will enable charging consumers for electronic content consumption and to pay the same consumer rebates for the consumption of electronic advertisements. . . . Some metering methodologies that may be important are pay per view of object (same cost each time or a decreasing cost based upon number of views), pay per byte (or other designated unit of content), pay per second (or other designated unit of time) . . .”); <i>id.</i>, p. 62: “Specifically, the currently suggested attribute extension list is as follows: . . . Metering methodology attributes (includes debit and credit capabilities), Metering methodology pricing attributes”)</p>
<p>DEDRICK 1995</p>	<p><i>See e.g.</i>, DEDRICK 1995, p. 42 (“provides statistics to advertisers showing aggregate consumption for an advertisement.”); <i>id.</i> (“Advertisers will pay for storage and distribution services based on the quality of the targeted consumers currently served by the yellow pages.”); <i>id.</i>, p. 44 (“Paying for use of the electronic Yellow Pages could follow a variety of models. One</p>

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	likely model consists of the advertiser paying the electronic Yellow Pages service provider a fee for storing and distributing each ad for a specified period of time.")
GALLAGHER	<p><i>See e.g.</i>, GALLAGHER, p. 7 (“Profiles accommodate the possibility that some users within the region of acceptability may be more desirable to an advertiser than others. Hence, a distance metric capturing the relative desirability of a user with respect to an ideal profile is possible. . . . recognizing a notion of distance allows the possibility for advertisers to ‘bid’ for the opportunity to display an advertisement to a user. Such bids would be determined by the advertiser, based on variables such as the user profile . . . and advertising budget.”); <i>id.</i>, p. 8 (“When bids are received, they can be ranked. The banner advertisement corresponding to the winning bid is displayed to the user. Other advertisements may be displayed according to their ranking if there is an opportunity to display additional advertisements (e.g., if the user engages in several search or browse activities during a session).”)</p>
NETGRAVITY AD SERVER CHOSEN BY GNN	NETGRAVITY AD SERVER CHOSEN BY GNN (NetGravity, the leader in Internet advertising technology, today announced GNN, a service of America Online Inc., will take advantage of the NetGravity AdServer technology for WebCrawler. . . . This allows GNN to . . . measure advertising results in real time . . .”)
Lycos, Inc. Registration Statement No. 333-354, dated April 3, 1996 (“LYCOS PROSPECTUS”), produced at GOOG-WRD-00872476-GOOG-WRD-00872549	<p><i>See</i> LYCOS PROSPECTUS at GOOG-WRD-00872492:</p> <p>The Company’s strategy is to leverage the high visibility and popularity of both the Company’s and its licensees’ Web sites by pursuing potential Internet advertisers and by providing them with greater customization and more precise target marketing than traditional advertising options. Advertising revenues consist of revenues derived by the Company from the sale of advertisements on pages within its Web sites. In the future, advertising revenues will also consist of the Company’s share of any advertising revenues derived from the sale of advertisements on the Web pages of its licensees. Advertising revenues from the sale of advertising space are recognized in the period in which the advertisement is displayed on a Web page of the Company or its licensees. The Company’s advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions (an impression is a one-on-one view of an advertisement by the end user) for a fixed fee or on a per impression basis with an established minimum fee. The Company’s standard rates for advertising range from \$20,000 to \$50,000 per million impressions. To date, the duration of the Company’s advertising commitments have ranged from one week to one year depending primarily on the number of impressions purchased.</p> <p><i>Id.</i> at GOOG-WRD-00872503-504:</p> <p>Advertising Sales and Services</p> <p>The Company has to date derived substantially all of its revenues from the sale of advertisements on its Web pages. For the six months ended January 31, 1996, advertising revenues represented 90.2% of the Company’s total revenues. In addition, based on available industry information, the Company believes that it has already established itself as a premier site for advertisers as evidenced by its ranking as one of the top ten recipients of Internet advertising revenues in the fourth quarter of 1995. The Company has established a direct sales force experienced in the advertising business to address the new and evolving requirements of the Internet advertising market. The Company’s direct sales force consists of four individuals from the advertising industry who are focused on enabling Lycos’ advertising customers to take advantage of the Internet as an advertising medium. The Company believes that an experienced sales force is critical to initiating and maintaining relationships with advertisers and advertising agencies. The Company’s sales personnel are based in Boston, New York, San Francisco and Pittsburgh. The Company’s sales force sells advertising space on each of the Company’s services. Under one of the Company’s license agreements, the Company’s sales force also sells advertising space on the Company’s services as offered by the licensee, for which the Company receives a sales commission in addition to a percentage of the advertising revenue as specified in the license agreement.</p> <p>Advertising revenue is generated by advertisers placing billboard advertisements on any of the multiple screens that are displayed on the Lycos Catalog, a2z Directory and Point Reviews services. The Company’s</p>

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	<p>advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions (an impression is a one-on-one view of an advertisement by the end user) for a fixed fee or on a per impression basis with an established minimum fee. The Company also sells advertising on a keyword basis that links an advertisement to a specific search term or topic (for example, when <i>yellow pages</i> is searched, a NYNEX Interactive Yellow Pages advertisement appears). Keyword advertising permits advertisers to target advertisements to selected audiences. The Company advises advertisers on advertisement placement and design to enable them to develop advertisements and monitor them for effectiveness. To assist advertisers in monitoring the effectiveness of their advertisements and making appropriate changes, the Company can provide advertisers with daily reports showing advertising impressions and the number of times users "click on" an ad to visit the advertiser's site. The Company's standard rates for advertising range from \$20,000 to \$50,000 per million impressions. These advertising rates vary depending upon whether or not the advertising package is keyword based. To date, the duration of the Company's advertising commitments have ranged from one week to one year depending on the number of impressions purchased. Because the Internet as an advertising medium is new and developing, it is difficult to predict the purchasing patterns of advertisers.</p> <p><i>Id.</i> at GOOG-WRD-00872503-505:</p> <p><i>CompuServe.</i> CompuServe has licensed the Lycos Catalog, a2z Directory and Point Reviews to offer access to such products as part of its WOW! online service. The Company's license agreement with CompuServe provides that the Company will receive a license fee and that, after a certain date, the Company will receive a portion of any advertising revenue generated from the sale of advertisements on the Company's products offered as part of CompuServe's WOW! service.</p> <p><i>Focus On Line (Germany).</i> Focus, a leading German news magazine, has licensed the Lycos Catalog for use in the development of its online services that are provided in Germany. This license arrangement enables the Company to expand the market and name recognition for its products and services internationally. The Company's agreement with Focus provides for the Company to receive a portion of the advertising revenue received by Focus from the sale of advertisements on the Company's Web pages included in the online service.</p> <p><i>Id.</i> at GOOG-WRD-00872535:</p> <p><i>Revenue Recognition</i></p> <p>The Company's advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions for a fixed fee or on a per impression basis with an established minimum fee. Revenues from advertising are recognized as the services are performed.</p> <p>The Company's license and product revenues are derived principally from product licensing fees and fees from maintenance and support of its products. License and product revenues are generally recognized upon delivery provided that no significant Company obligations remain and collection of the receivable is probable. In cases where there are significant remaining obligations, the Company defers such revenue until those obligations are satisfied. Fees from maintenance and support of the Company's products including revenues bundled with the initial licensing fees are deferred and recognized ratably over the service period.</p>
<p>Lycos, Inc. Form S-1 Registration Statement, dated February 14, 1996 ("LYCOS S-1"), produced at GOOG-WRD-00872550-GOOG-WRD-00872923</p>	<p><i>See</i> LYCOS S-1 at GOOG-WRD-00872568:</p> <p>The Company's strategy is to leverage the high visibility and popularity of both the Company's and its licensees' Web sites by pursuing potential Internet advertisers and by providing them with greater customization and more precise target marketing than traditional advertising options. Advertising revenues consist of revenues derived by the Company from the sale of advertisements on pages within its Web sites. In the future, advertising revenues will also consist of the Company's share of any advertising revenues derived from the sale of advertisements on the Web pages of its licensees. Advertising revenues from the sale of advertising space are recognized in the period in which the advertisement is displayed on a Web page of the Company or its licensees. The Company's advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions (an impression is a one-on-one view of an advertisement by the end user) for a fixed fee or on a per impression basis with an established minimum fee. The Company's standard rates for advertising range from \$20,000 to \$50,000 per million impressions. To date, the duration of the Company's advertising commitments have ranged from one week to one year depending primarily on the number of impressions purchased.</p> <p><i>Id.</i> at GOOG-WRD-00872579:</p>

Reference	Disclosure
	<p>Advertising Sales and Services</p> <p>The Company has to date derived substantially all of its revenues from the sale of advertisements on its Web pages. For the six months ended January 31, 1996, advertising revenues represented 90.2% of the Company's total revenues. In addition, based on available industry information, the Company believes that it has already established itself as a premier site for advertisers as evidenced by its ranking as one of the top ten recipients of Internet advertising revenues in the fourth quarter of 1995. The Company has established a direct sales force experienced in the advertising business to address the new and evolving requirements of the Internet advertising market. The Company's direct sales force consists of four individuals from the advertising industry who are focused on enabling Lycos' advertising customers to take advantage of the Internet as an advertising medium. The Company believes that an experienced sales force is critical to initiating and maintaining relationships with advertisers and advertising agencies. The Company's sales personnel are based in Boston, New York, San Francisco and Pittsburgh. The Company's sales force sells advertising space on each of the Company's services. Under one of the Company's license agreements, the Company's sales force also sells advertising space on the Company's services as offered by the licensee, for which the Company receives a sales commission in addition to a percentage of the advertising revenue as specified in the license agreement.</p> <p><i>Id.</i> at GOOG-WRD-00872580:</p> <p>Advertising revenue is generated by advertisers placing billboard advertisements on any of the multiple screens that are displayed on the Lycos Catalog, A2Z Directory and Point Reviews services. The Company's advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions (an impression is a one-on-one view of an advertisement by the end user) for a fixed fee or on a per impression basis with an established minimum fee. The Company also sells advertising on a keyword basis that links an advertisement to a specific search term or topic (for example, when <i>yellow pages</i> is searched, a NYNEX Interactive Yellow Pages advertisement appears). Keyword advertising permits advertisers to target advertisements to selected audiences. The Company advises advertisers on advertisement placement and design to enable them to develop advertisements and monitor them for effectiveness. To assist advertisers in monitoring the effectiveness of their advertisements and making appropriate changes, the Company can provide advertisers with daily reports showing advertising impressions and the number of times users "click on" an ad to visit the advertiser's site. The Company's standard rates for advertising range from \$20,000 to \$50,000 per million impressions. These advertising rates vary depending upon whether or not the advertising package is keyword based. To date, the duration of the Company's advertising commitments have ranged from one week to one year depending on the number of impressions purchased. Because the Internet as an advertising medium is new and developing, it is difficult to predict the purchasing patterns of advertisers.</p> <p><i>Id.</i> at GOOG-WRD-00872581:</p> <p><i>Microsoft.</i> Microsoft provides access to the Lycos Catalog and Point Reviews as part of its Microsoft MSN service. The Company's license agreement with Microsoft provides for the Company to receive a portion of any advertising revenue generated from the sale of advertisements on the Company's products offered as part of the Microsoft MSN service. The Company is initially responsible for selling such advertisements, for which the Company will receive a commission.</p> <p><i>Focus Magazine.</i> <i>Focus</i>, a leading German news magazine, has licensed the Lycos Catalog for use in the development of its online services that are provided in Germany. This license arrangement enables the Company to expand the market and name recognition for its products and services internationally. The Company's agreement with <i>Focus</i> provides for the Company to receive a portion of the advertising revenue received by <i>Focus</i> from the sale of advertisements on the Company's Web pages included in the online service.</p> <p><i>Id.</i> at GOOG-WRD-00872609:</p> <p>Revenue Recognition</p> <p>The Company's advertising revenues are derived principally from short-term advertising contracts in which the Company guarantees a minimum number of impressions for a fixed fee or on a per impression basis with an established minimum fee. Revenues from advertising are recognized as the services are performed.</p> <p>The Company's license and product revenues are derived principally from product licensing fees and fees from maintenance and support of its products. License and product revenues are generally recognized upon delivery provided that no significant Company obligations remain and collection of the receivable is probable. In cases where there are significant remaining obligations, the Company recognizes revenue ratably over the period for which remaining obligations exist. Fees from maintenance and support of the Company's products are recognized ratably over the service period.</p>

Reference	Disclosure
<p>Excite, Inc. SB-2 Registration Statement No. 333- 2328-LA, March 11, 1996 (“Excite SB-2”) produced at GOOG-WRD- 00872006-GOOG- WRD-00872094</p>	<p>Web advertising has typically been based on the traditional advertising metric of dollars per thousands of exposures or impressions (known as “CPM”). The Company believes that the pure CPM model, which is based on passive exposure to a viewing consumer, may change because it does not take advantage of the interactive power of the Web. Because of its interactivity, the Company believes that the Web gives advertisers the potential to account accurately for the actual results of their advertising. With advances in Web navigation usage and technologies, advertisers should also benefit from the ability to formulate marketing strategies, each tailored to consumers with varying navigational identities, usage modes and demographic identity. In particular, the Company believes that the Internet will allow advertisers not only to expose a mass of consumers to the advertising message, but also to expose targeted messages to affinity groups and directly to individuals.</p> <p>Id. at GOOG-WRD-00872037.</p> <p><i>Advertisers</i></p> <p>The Company believes that offering a suite of consumer segmented navigational services allows for more specifically tailored advertising. For example, Excite’s navigational services permit advertisers to target the mass audience of Internet consumers or tailor an advertising strategy for specific affinity groups or individuals possessing certain demographic traits. In addition, the Company has begun to offer advertising packages that allow advertisers to move from the traditional CPM-based advertising model to one of delivered value, in which an advertisement is priced based upon the amount of business generated from the advertisement as opposed to the number of times it is displayed.</p> <p>Id. at GOOG-WRD-00872039.</p> <p><i>Advertising and Sales</i></p> <p>The Company intends to derive substantially all of its revenues from the sale of advertisements. Excite generally enters into agreements with its advertising customers pursuant to which the Company guarantees a minimum number of impressions for a fixed fee. The Company charges higher per impression fees for advertising products that target a specific audience. The Company’s list prices for advertising currently range from \$25 to \$50 per thousand impressions (CPM). Advertisers have placed ads with the Company pursuant to agreements ranging from two weeks to one year in duration. The Company’s advertising products permit advertisers to measure certain aspects of the success of its ads, such as the number of consumers who view the advertiser’s Web site. As a result, the Company also has the capability to sell advertising based on a “delivered value” model, where advertisers are charged based on the value of the business generated by the advertisement. The Company has recently entered into two such arrangements which provide for the advertiser to pay the Company a commission percentage of its net sales revenue generated through advertising on the Company’s services. See “Risk Factors — Reliance on Advertising Revenues.”</p> <p>Id. at GOOG-WRD-00872043.</p> <p>Advertisements on the Excite service are banner or billboard style advertisements and are prominently displayed on the interface of all Excite navigation services. As the consumer interacts with the service, new advertisements are displayed. From each advertisement screen, consumers can hyperlink directly to an advertiser’s own Web site, thus allowing the advertiser an opportunity to directly interact with a consumer who has expressed interest in its advertisement.</p> <p>Id.</p>


Reference	Disclosure
	<p>The Company offers a variety of advertising programs that enable advertisers to target their audiences at various levels of market segmentation: mass market placement, which does not have any market segmentation; affinity placement, which delivers advertisements to an audience with a specific topical or regional interest; and individual placement, which displays advertisements to users of a specific profile. The Company currently offers the following advertising programs:</p> <p><i>General Rotation.</i> The Company offers a general rotation program that allows advertisers to reach a large number of Web consumers. Advertising banners rotate through well-trafficked Excite pages, including the main NetSearch and NetDirectory pages and NetSearch results pages. This program delivers a higher volume of mass market consumers and provides frequent exposure to advertisers.</p> <p><i>City.Net and Regional Excite.</i> The Company provides a City.Net program and will provide a Regional Excite program that allow advertisers to direct advertisements to geographical affinity groups. This targeted approach can be used to complement a national marketing strategy with local or regional messages.</p> <p><i>Keywords.</i> The Company's keyword program offers advertisers an opportunity to target specific audiences by assigning ad banners to certain key words or concepts. For example, when <i>Windows '95</i> is searched, a Microsoft advertisement could be displayed. Because of the ability to customize the targeted nature of potential customers, the Company is able to charge premium rates for such keyword advertising.</p> <p><i>Personal Excite.</i> The Company plans to allow advertisers to target users of the Company's Personal Excite service at a greater level of detail and precision than traditional advertising methods. Based upon the demographic information collected from subscribers of Personal Excite, advertisers can deliver finely targeted messages to groups of individuals. Because Personal Excite was first made available in February 1996, the Personal Excite advertising program is still in an experimental stage.</p> <p>Id. at GOOG-WRD-00872044.</p> <p>Advertisers can also combine multiple advertising packages in order to develop a complete advertising plan that reaches multiple audiences and that is designed to maximize reach, frequency of exposure and customer response. For example, an airline company might have general rotation as a base of mass exposure. The advertising schedule could be enhanced based upon topical affinity, by displaying a banner every time a user searches using the word "travel" or "airfare," as well as by displaying an advertisement to all Personal Excite users who are interested in travel. The schedule could be further refined by placing banners on the Life & Style/Travel page in NetDirectory, as well as on a variety of U.S. and international city pages on City.Net that may correspond to hubs of national or international business.</p> <p>Id.</p>
<p>Excite, Inc. Prospectus, dated April 3, 1996 ("Excite Prospectus") produced at GOOG-WRD-00871928-GOOG-WRD-00872005</p>	<p>Web advertising has typically been based on the traditional advertising metric of dollars per thousands of exposures or impressions (known as "CPM"). The Company believes that the pure CPM model, which is based on passive exposure to a viewing consumer, may change because it does not take advantage of the interactive power of the Web. Because of its interactivity, the Company believes that the Web gives advertisers the potential to account accurately for the actual results of their advertising. With advances in Web navigation usage and technologies, advertisers should also benefit from the ability to formulate marketing strategies, each tailored to consumers with varying navigational identities, usage modes and demographic identity. In particular, the Company believes that the Internet will allow advertisers not only to expose a mass of consumers to the advertising message, but also to expose targeted messages to affinity groups and directly to individuals.</p> <p>Id. at GOOG-WRD-00871957.</p> <p><i>Advertisers</i></p> <p>The Company believes that offering a suite of consumer segmented navigational services allows for more specifically tailored advertising. For example, Excite's navigational services permit advertisers to target the mass audience of Internet consumers or tailor an advertising strategy for specific affinity groups or individuals possessing certain demographic traits. In addition, the Company has begun to offer advertising packages that allow advertisers to move from the traditional CPM-based advertising model to one of delivered value, in which an advertisement is priced based upon the amount of business generated from the advertisement as opposed to the number of times it is displayed.</p> <p>Id. at GOOG-WRD-00871959.</p>

Reference	Disclosure
	<p>Advertising and Sales</p> <p>The Company intends to derive substantially all of its revenues from the sale of advertisements. Excite generally enters into agreements with its advertising customers pursuant to which the Company guarantees a minimum number of impressions for a fixed fee. The Company charges higher per impression fees for advertising products that target a specific audience. The Company's list prices for advertising currently range from \$25 to \$50 per thousand impressions (CPM). Advertisers have placed ads with the Company pursuant to agreements ranging from two weeks to one year in duration. The Company's advertising products permit advertisers to measure certain aspects of the success of its ads, such as the number of consumers who view the advertiser's Web site. As a result, the Company also has the capability to sell advertising based on a "delivered value" model, where advertisers are charged based on the value of the business generated by the advertisement. The Company has recently entered into two such arrangements which provide for the advertiser to pay the Company a commission percentage of its net sales revenue generated through advertising on the Company's services. See "Risk Factors — Reliance on Advertising Revenues."</p> <p>Id. at GOOG-WRD-00871963.</p> <p>Advertisements on the Excite service are banner or billboard style advertisements and are prominently displayed on the interface of all Excite navigation services. As the consumer interacts with the service, new advertisements are displayed. From each advertisement screen, consumers can hyperlink directly to an advertiser's own Web site, thus allowing the advertiser an opportunity to directly interact with a consumer who has expressed interest in its advertisement.</p> <p>Id.</p> <p>The Company offers a variety of advertising programs that enable advertisers to target their audiences at various levels of market segmentation: mass market placement, which does not have any market segmentation; affinity placement, which delivers advertisements to an audience with a specific topical or regional interest; and individual placement, which displays advertisements to users of a specific profile. The Company currently offers the following advertising programs:</p> <p><i>General Rotation.</i> The Company offers a general rotation program that allows advertisers to reach a large number of Web consumers. Advertising banners rotate through well-trafficked Excite pages, including the main NetSearch and NetDirectory pages and NetSearch results pages. This program delivers a higher volume of mass market consumers and provides frequent exposure to advertisers.</p> <p><i>City.Net and Regional Excite.</i> The Company provides a City.Net program and will provide a Regional Excite program that allow advertisers to direct advertisements to geographical affinity groups. This targeted approach can be used to complement a national marketing strategy with local or regional messages.</p> <p><i>Keywords.</i> The Company's keyword program offers advertisers an opportunity to target specific audiences by assigning ad banners to certain key words or concepts. For example, when <i>Windows '95</i> is searched, a Microsoft advertisement could be displayed. Because of the ability to customize the targeted nature of potential customers, the Company is able to charge premium rates for such keyword advertising.</p> <p><i>Personal Excite.</i> The Company plans to allow advertisers to target users of the Company's Personal Excite service at a greater level of detail and precision than traditional advertising methods. Based upon the demographic information collected from subscribers of Personal Excite, advertisers can deliver finely targeted messages to groups of individuals. Because Personal Excite was first made available in February 1996, the Personal Excite advertising program is still in an experimental stage.</p> <p>Id. at GOOG-WRD-00871964.</p> <p>Advertisers can also combine multiple advertising packages in order to develop a complete advertising plan that reaches multiple audiences and that is designed to maximize reach, frequency of exposure and customer response. For example, an airline company might have general rotation as a base of mass exposure. The advertising schedule could be enhanced based upon topical affinity, by displaying a banner every time a user searches using the word "travel" or "airfare," as well as by displaying an advertisement to all Personal Excite users who are interested in travel. The schedule could be further refined by placing banners on the Life & Style/Travel page in NetDirectory, as well as on a variety of U.S. and international city pages on City.Net that may correspond to hubs of national or international business.</p> <p>Id.</p>

Reference	Disclosure
<p>InfoSeek Corporation S-1 Registration Statement No. 333-4142, Amendment No. 1, dated May 3, 1996 (“InfoSeek S-1”) produced at GOOG-WRD-00872371-GOOG-WRD-00872464</p>	<p>The Web is emerging as an important new advertising medium. According to Forrester Research, Inc., the market for Internet-based advertising will reach approximately \$700 million by 1998, from \$37 million in 1995. The Company believes it is well positioned to take advantage of this growth by serving the needs of advertisers. By creating communities where users' interests are matched with advertisements, by tracking impressions and by offering a significant volume of Web traffic, <i>Infoseek Guide</i> enables advertisers to undertake measurable, targeted, cost-effective and interactive advertising. During the quarter ended March 31, 1996, over 120 advertisers placed advertisements on <i>Infoseek Guide</i>. The Company is actively exploring new technologies which will allow it to track user behavior and interests, and therefore even more closely match the interests of audience and advertisers.</p> <p>Id. at GOOG-WRD-00872378.</p> <p>In addition, in April 1996, the Company licensed certain software technology from HNC. The Company intends to utilize the software technology to develop an advertising and audience management system to optimize the matching of advertisements with the appropriate audience. The software will be modified according to the Company's specifications to integrate it into the Company's advertisement placement system. This technology will be licensed to the Company for an initial five year term beginning upon the initial acceptance of the software by the Company. The Company expects that the proposed technology will provide significant technological improvements to the Company's advertising and audience management systems.</p> <p>Id. at GOOG-WRD-00872380.</p> <p>The process of managing advertising within large, high traffic Web sites such as the Company's is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. To the extent that any extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company may be exposed to “make good” obligations with its advertising customers, which, by displacing advertising inventory, could have a material adverse effect on the Company's business, results of operations and financial condition.</p> <p>Id. at GOOG-WRD-00872388.</p> <p>Advertisers have recognized that the interactive nature of the Internet can provide an environment where advertising may become more effective than it is in other more conventional print and broadcast media. The interactive and global nature of the Internet has the potential to enable advertisers to target specific audiences, measure the popularity of advertising content and make timely changes in response, reach worldwide audiences cost-effectively, and create innovative and interactive advertisements. The Company believes that increases in transmission bandwidth through higher speed Internet connections, and wider multimedia enabling technologies for the Web, such as Java, VRML and others, will also increase the appeal and effectiveness of advertisements and make the Web an even more attractive platform for advertising.</p> <p>Advertisers currently face difficulties, however, in placing their advertisements strategically on the Web. It is difficult for advertisers to understand the volume and demographics of traffic patterns on Web sites. As a result, advertisers can find it difficult to make the existence and location of their advertisements widely known and target their audiences effectively. The Company believes that, in the near term, advertisers will migrate to sites which can offer a high number of impressions per day. The Company also believes that, over time, advertisers will be attracted to those services that experience a high volume of traffic, track consumers carefully and deliver advertisers audiences that fit specific buying profiles. In order to provide such audiences to advertisers, services and sites must develop technologies to enable them to conduct complex demographic and psychographic profiling of their consumers. By understanding their audiences, services and sites will be able to match advertisements with buyers, resulting in targeted, high impact advertising (“narrowcasting” or “microcasting”). The Company believes that those sites and services which both garner a high volume of traffic and offer advertisers the ability to target specific audiences effectively will be in the best position to take advantage of the advertising opportunity on the Web.</p> <p>Id. at GOOG-WRD-00872402-403.</p>


Reference	Disclosure
	<p>Infoseek's services provide advertisers with an increased ability to undertake measurable, targeted, cost-effective and interactive advertising on the Internet. The Company's services provide advertisers with the flexibility to target the mass audience of the Internet by advertising on the Company's general search pages, to target special interest groups by placing advertisements on directory pages, or, to narrowcast advertisements to specific audiences by placing advertising only when the user's query contains a specific word that has been designated as a key word for a particular advertiser. The Company believes that each of these types of advertising can provide significant value to advertisers. While larger, mass market campaigns increase brand awareness, narrower campaigns through directory ads or keyword ads provide opportunities to engage in high response, product specific advertising. The Company is also actively exploring new technologies</p> <p>Id. at GOOG-WRD-00872404.</p> <p><i>Create Innovative Solutions for Advertisers.</i> The Company seeks to provide advertisers with innovative solutions to effectively reach their target audiences through the Internet. The Company currently offers a broad range of customized alternatives for advertisers, providing advertisers with the flexibility to target mass audiences or specific communities, or link advertisements to keyword searches. In addition, the Company is actively exploring new technologies which will enable advertisers to utilize user demographic, profile, and psychographic information. For example, the Company has entered into a letter of intent with HNC which provides that the Company and HNC will jointly develop an advertising and management system to anonymously track individual usage behavior that is based upon technology developed by HNC. The Company believes that these innovative advertising approaches, which will allow advertisers to microcast advertisements to specific user types based on sophisticated analysis of searching behavior, will significantly differentiate the Company's services.</p> <p>Id. at GOOG-WRD-00872404-05.</p> <p><i>Leverage Media and Technical Expertise.</i> The Company believes that the Internet represents a technology-driven mass medium in which advertising will subsidize content. As a result, in-depth knowledge and understanding of publishing, advertising, technology and media will be critical elements to success for any navigational service company. To this end, the Company has assembled a management team with a depth of experience in these areas. The Company's executive officers have experience at Time, McGraw-Hill, Cahners Publishing, Foote Cone & Belding, US News & World Report, Frame Technology, 3COM, Apple, NetFRAME, Mastercard International and The Wall Street Journal. The Company also believes that directly establishing and maintaining relationships with advertisers will become increasingly important in maintaining and capturing incremental advertising market share. Accordingly, the Company has assembled a highly experienced, direct sales force to promote and accelerate advertising sales.</p> <p>Id. at GOOG-WRD-00872405.</p> <p><i>Advertising Management</i></p> <p>Infoseek has developed certain proprietary systems for the instantaneous placement of advertisements with targeted audiences on appropriate <i>Infoseek Guide</i> Web pages. Infoseek's advertising management systems are capable of presenting in real-time advertising that corresponds to a user's inquiry. If certain key words have been purchased by more than one advertiser, the system automatically determines which advertisement is displayed based upon the number of impressions under contract and delivered to date. As part of the Company's proprietary advertising management system, Infoseek also maintains a database that tracks the number of searches of each word queried by Infoseek users, the number of browses through each Directory category and the number of impressions of each advertisement. This system assists the Company in estimating the number of expected impressions of specific advertisement options marketed by the Company or otherwise sought by advertisers.</p> <p>Id. at GOOG-WRD-00872409-10.</p>

Reference	Disclosure
	<p>In April 1996, the Company licensed certain software technology from HNC. The Company intends to utilize the software technology to develop an advertising and audience management system to optimize the matching of advertisements with the appropriate audience. The software will be modified according to the Company's specifications to integrate it into the Company's advertisement placement system. This technology will be licensed to the Company for an initial five year term beginning upon the initial acceptance of the software by the Company. The Company expects that the proposed technology will provide significant technological improvements to the Company's advertising and audience management systems. The Company expects the proposed technology to provide significant technological improvements to the Company's advertising and audience management systems. There can be no assurance that such system will be successfully developed. See "Risk Factors — Dependence on Technology Suppliers."</p> <p>Id. at GOOG-WRD-00872410.</p> <p><i>Advertising Products and Pricing</i></p> <p>The Company offers advertisers four main advertising options that may be purchased individually or in packages: general rotation, topic pages, keyword and special placement. These options all contain hypertext links to the advertiser's home page. To date, most of Infoseek's contracts with advertisers have terms of three months or less.</p> <p><i>General Rotation:</i> General rotation advertisements rotate on a random basis through <i>Infoseek Guide</i> on search result pages and pages accessed through the Toolbar. General rotation advertising offers advertisers seeking to establish brand recognition across the broad, general population the broadest reach of Infoseek users. General rotation advertisements are typically sold in blocks of one thousand impressions to be generated over a four week period, currently at a CPM (cost per thousand impressions) of \$13 to \$23 depending upon the number of impressions purchased. To date, most general rotation advertisers have purchased blocks of one million impressions, which are currently priced at a CPM of \$18.</p> <p><i>Topic Pages:</i> Topic page advertisements appear when an Infoseek user browses through Directory topic pages, such as Careers and Employment, Stocks, and Health and Medicine. These advertisements allow advertisers to target an audience with a specific area of interest. Like general rotation advertisements, topic page advertisements are sold in blocks of impressions over a four week period. Because of the greater selectivity of the audience, current CPMs range from \$19 to \$39 with a CPM of \$25 for one million impressions.</p> <p><i>Keyword:</i> Keyword advertisements are displayed when an Infoseek user's search contains a particular keyword selected by the advertiser. This option offers the advertiser a highly targeted, self-selected audience. Through its proprietary advertising management system, the Company tracks every word that is queried by Infoseek users. From it, the Company has identified approximately 200 keywords that are most frequently queried by Infoseek users and requested by advertisers. The current four week CPM for a keyword is \$50, with a \$1,000 minimum.</p> <p><i>Special Placement:</i> Special placement advertisements are displayed on special feature pages, such as <i>iZones</i> and in other manners customized to the needs or requests of the advertiser. Special placement advertisements include advertisements placed on special editorial pages. For example, Infoseek is offering special advertising placements within a series of editorial features, games and other items created by the Company revolving around the 1996 Atlanta Games. The Company seeks to bundle these advertising options to create packages that offer the greatest value to advertisers. Pricing for special placements is determined on a case-by-case basis.</p> <p>Id. at GOOG-WRD-00872410-411.</p> <p><i>Technological Advantages for Advertisers</i></p> <p>The online medium offers advertisers the ability to "narrowcast" their advertisements. For example, car manufacturers can display their advertisements when a user executes a car-related search. Infoseek's technology additionally enables clients to monitor the effectiveness of their advertisements by tracking click-through rates (the number of viewers who click to an advertiser's site) to learn more about their target audiences. Infoseek advertising sales representatives work closely with advertisers to understand the data and integrate it into their overall advertising strategy. The Company is exploring new technologies to enhance user behavior tracking and advertising management capabilities. See "Business — Technology" and "Risk Factors — Technological Change and New Products."</p> <p>Id. at GOOG-WRD-00872411.</p>

Reference	Disclosure
<p>Yahoo Prospectus Registration Statement No. 333-2142, dated April 12, 1996 (“Yahoo Prospectus”) produced at GOOG-WRD-00874251-GOOG-WRD-00874328</p>	<p>Advertising on <i>Yahoo!</i> currently consists primarily of banner advertisements that appear on the top of directory pages within the <i>Yahoo!</i> main site. Hypertext links are embedded in each banner advertisement to provide the user with instant access to the advertiser’s Web site to obtain additional information or purchase products or services.</p>  <p>Id. at GOOG-WRD-00874253.</p> <p>Potential Fluctuations in Quarterly Operating Results</p> <p>As a result of the Company’s extremely limited operating history, the Company does not have historical financial data for a significant number of periods on which to base planned operating expenses. Substantially all of the Company’s revenues to date have been derived from sales of advertising on <i>Yahoo!</i>, and the Company expects in the foreseeable future to derive substantially all of its revenues from advertising sales on <i>Yahoo!</i>. Quarterly revenue and operating results depend substantially upon the advertising revenues received within the quarter, which are difficult to forecast accurately. The Company’s contracts with advertisers typically guarantee the advertiser a minimum number of “impressions,” or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>. To the extent that minimum impression levels are not achieved for any reason, the Company may be required to “make good” or provide additional impressions after the contract term, which may adversely affect the availability of advertising inventory. To the extent minimum guaranteed impressions are not met, the Company defers recognition of the corresponding revenues until guaranteed impression levels are achieved. The Company’s expense levels are based in part on its expectations concerning future revenue and to a large extent are fixed. Quarterly revenues and operating results depend substantially upon the advertising revenues received within the quarter, which are difficult to forecast accurately.</p>

Reference	Disclosure
	<p>Accordingly, the cancellation or deferral of a small number of advertising contracts could have a material adverse effect on the Company's business, results of operations or financial condition. The Company may be unable to adjust spending in a timely manner to compensate for any unexpected revenue shortfall, and any significant shortfall in revenue in relation to the Company's expectations would have an immediate adverse effect on the Company's business, results of operations and financial condition. In addition, the Company plans to significantly increase its operating expenses to expand its sales and marketing operations, to fund greater levels of product development and to develop and commercialize additional media properties. To the extent that such expenses precede or are not subsequently followed by increased revenues, the Company's business, results of operations and financial condition will be materially and adversely affected.</p> <p>GOOG-WRD-00874258-59.</p> <p>To date, the Company has relied primarily upon a private, independent third party sales representative firm, Interactive Marketing, Inc. ("IMI"), for the sale of advertising on <i>Yahoo!</i> and for the development and implementation of certain event promotions. The Company also will rely on Ziff-Davis Publishing Company ("Ziff-Davis"), a subsidiary of SOFTBANK, for sale of advertising to certain significant accounts. There can be no assurance that in the future IMI, Ziff-Davis, other third party sales representatives or the Company's internal sales personnel will successfully sell advertising on <i>Yahoo!</i> or develop and implement promotions. In addition, there is intense competition in the sale of advertising on the Internet, including competition from other Internet navigational tools as well as other high-traffic sites, which has resulted in a wide range of rates quoted by different vendors for a variety of advertising services, which makes it difficult to project future levels of Internet advertising revenues that will be realized generally or by any specific company. Competition among current and future suppliers of Internet navigational services or Web sites, as well as competition with other traditional media for advertising placements, could result in significant price competition and reductions in advertising revenues. There also can be no assurance that the Company's advertising customers will accept the internal and third-party measurements of impressions received by advertisements on <i>Yahoo!</i>, or that such measurements will not contain errors. See "Business — Industry Background" and "— Advertising Sales, Promotions and Pricing."</p> <p>Id. at GOOG-WRD-00874261.</p> <p>Management of Potential Growth; New Management Team</p> <p>The Company's recent growth has placed, and is expected to continue to place, a significant strain on its managerial, operational and financial resources. To manage its potential growth, the Company must continue to implement and improve its operational and financial systems and to expand, train and manage its employee base. Nearly all of the Company's senior management has joined the Company within the last nine months. These individuals have not previously worked together and are in the process of integrating as a management team. The Company also intends to establish mirror, or duplicate, sites in other geographic locations, which will create additional operational and management complexities, including the need for continual updating and maintenance of directory listings among geographically dispersed network servers. The process of managing advertising within large, high traffic Web sites such as <i>Yahoo!</i> is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. The Company also licenses software from a third party provider, NetGravity, Inc. ("NetGravity"), for its advertising rotation and scheduling functions. To the extent that any extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company may be exposed to "make good" obligations with its advertising customers, which, by displacing advertising inventory, could have a material adverse effect on the Company's business, results of operations and financial condition. There can be no assurance that the Company will be able to effectively manage the expansion of its operations, that the Company's systems, procedures or controls will be adequate to support the Company's operations or that Company management will be able to achieve the rapid execution necessary to fully exploit the market opportunity for the Company's products and media properties. Any inability to manage growth, if any, effectively could have a material adverse effect on the Company's business, results of operations and financial condition. See "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business — Employees and Management of Growth."</p> <p>Id. at GOOG-WRD-00874264-65.</p> <p>The process of managing advertising within large, high traffic Web sites such as <i>Yahoo!</i> is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. The Company also licenses software from a third party provider, NetGravity, for its advertising rotation and scheduling functions. To the extent that extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company could experience a material adverse effect on the Company's revenues and results of operations.</p>

Reference	Disclosure
	<p>Id. at GOOG-WRD-00874262.</p> <p>The Company believes that the Web represents an important new means for advertisers to reach consumers through a targeted, interactive and highly measurable medium. The Company derives substantially all of its revenues from the sale of advertisements. Advertising revenues are recognized in the period in which the advertisement is displayed, provided that no significant Company obligations remain and collection of the resulting receivable is probable. Company obligations typically include guarantees of minimum number of "impressions," or times that any advertisement appears in page views downloaded by users of <i>Yahoo!</i>. To the extent minimum guaranteed impressions are not met, the Company defers recognition of the corresponding revenues until guaranteed impression levels are achieved. Deferred revenue is comprised of billings in excess of recognized revenue relating to advertising contracts. The Company records advertising revenue net of any amounts allocable to third parties under the terms of revenue sharing agreements. The Company's revenues are derived principally from the sale of advertisements on short-term contracts. The Company's standard rates for advertising currently range from \$0.02 to \$0.06 per impression. To date, the duration of the Company's advertising commitments has ranged from one week to one year.</p> <p>Id. at GOOG-WRD-00874275.</p> <p>Advertisers also have recognized that Web-based advertising may be more effective in a number of respects than traditional media advertising. Because the Web involves "point-to-point" communication between a server and client that is requested by the user, rather than broad indiscriminate distribution of messages, the Web offers the potential for advertisers to present messages to specific, self-selected audiences, and to enable users to interact with advertising information presented in Web pages. This characteristic of the Web also permits advertisers to measure more precisely the number of impressions, or times that an advertisement appears in page views downloaded by users, through verification by an independent third party auditor such as Nielsen I/PRO (Internet Profiles Corporation). Advertisers can also measure the effectiveness of advertising in generating "click-through," or user requests for additional information made by clicking on the advertiser's banner, linking the user to the advertiser's Web site. The Company believes that increases in transmission bandwidth through higher speed Internet connections, and wider adoption of advanced content delivery technologies for the Web, such as Java, VRML and other multimedia enabling technologies, will increase the functionality of advertising, and will make the Web an even more attractive advertising medium. The Company also believes that technological developments may result in greater ability to provide information and analysis about the effectiveness of Web advertising, the demographic profiles of users, as well as the capability for advertisers to frequently modify and more closely tailor their messages. This should result in more targeted, higher impact advertising opportunities, and greater integration of Web-based advertising into the range of marketing options available to advertisers.</p> <p>Id. at GOOG-WRD-00874280.</p> <p>Advertising Pricing</p> <p>Advertising on <i>Yahoo!</i> currently consists primarily of banner advertisements that appear on the top of directory pages within the <i>Yahoo!</i> main site. Hypertext links are embedded in each banner advertisement to provide the user with instant access to the advertiser's Web site to obtain additional information or purchase products and services. The Company's contracts with advertisers typically guarantee the advertiser a minimum number of "impressions," or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>. The Company's standard rates for banner advertisements currently range from \$0.02 to \$0.05 per impression, depending upon location of the advertisement within <i>Yahoo!</i> and the extent to which the advertisement is targeted for particular context areas. The Company may provide discounts from standard rates for longer term contracts. The Company also offers context-based keyword advertising, which permits advertisers to target users based upon specified keywords that a user enters when searching within <i>Yahoo!</i>. For example, if a user enters the term "automobile" or "car", an automobile manufacturer's advertisement could appear on pages displaying the results of such a search. The Company's standard rate, for context-based keyword advertisements currently range from \$0.03 to \$0.06 per impression.</p> <p>Id. at GOOG-WRD-00874289.</p>

Reference	Disclosure
	<p><i>Revenue recognition</i></p> <p>Advertising revenues are derived from the sale of advertising space in <i>Yahoo!</i>. Advertising revenues are recognized in the period the advertisement is displayed, provided that no significant Company obligations remain and collection of the resulting receivable is probable. Company obligations typically include guarantees of minimum number of "impressions," or times that any advertisement is viewed by users of <i>Yahoo!</i>. To the extent minimum guaranteed impressions are not met, the Company defers recognition of the corresponding revenues until guaranteed impression levels are achieved. For the period from March 5, 1995 (Inception) through December 31, 1995, advertising revenues represented 93% of net revenues. Revenues from the sale of certain advertising space in <i>Yahoo!</i> are shared with third parties under the terms of certain agreements. The Company records advertising revenues net of amounts allocable to third parties under the terms of such agreements. To date, amounts allocable to third parties have not been significant.</p> <p>Id. at GOOG-WRD-00874316.</p>
<p>Yahoo Form SB-2 Registration Statement No. 333-2142, dated March 7, 1996 ("Yahoo Form SB-2") produced at GOOG-WRD-00874329-GOOG-WRD-00874418</p>	<p>Advertising on <i>Yahoo!</i> currently consists primarily of banner advertisements that appear on the top of directory pages within the <i>Yahoo!</i> main site. Hypertext links are embedded in each banner advertisement to provide the user with instant access to the advertiser's Web site to obtain additional information or purchase products and services.</p>  <p>The collage consists of several distinct banner advertisements: <ul style="list-style-type: none"> A Yahoo! banner with the word "YAHOO!" in large, bold letters, surrounded by various icons like a star, sunglasses, and a globe. Below it are the words "NEW COOL RANDOM" and "HEAD YAHOO ADD URL". A Visa banner with the Visa logo and the text "We're Accepted in Millions of Places Around the World. And So Are You. (Click here to find your 'Destinations' at our Web Site.)" An American Express University banner with the text "AMERICAN EXPRESS UNIVERSITY GROOVY" and a stylized graphic of a hand holding a pen. An Apple banner with the text "Save up to \$500 on a new Mac." and a small Mac logo. A Colgate banner with the text "World of Healthy Smiles" and the Colgate logo. A Lexus banner with the Lexus logo and a silhouette of a city skyline. A Netscape banner with the text "DOWNLOAD THE HOTTEST NEW WEB SERVER. AND FIRE IT UP IN MINUTES. NETSCAPE FASTTRACK SERVER." </p> <p>Yahoo Form SB-2 at GOOG-WRD-00874333.</p>

Reference	Disclosure
	<p>Potential Fluctuations in Quarterly Operating Results</p> <p>As a result of the Company's extremely limited operating history, the Company does not have historical financial data for a significant number of periods on which to base planned operating expenses. Substantially all of the Company's revenues to date have been derived from sales of advertising on <i>Yahoo!</i>, and the Company expects in the foreseeable future to derive substantially all of its revenues from advertising sales on <i>Yahoo!</i>. Quarterly revenue and operating results depend substantially upon the advertising revenues received within the quarter, which are difficult to forecast accurately. The Company's contracts with advertisers typically guarantee the advertiser a minimum number of "impressions," or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>. To the extent that minimum impression levels are not achieved for any reason, the Company may be required to "make good" or provide additional impressions after the contract term, which may adversely affect the availability of advertising inventory. To the extent minimum guaranteed impressions are not met, the Company defers recognition of the corresponding revenues until guaranteed impression levels are achieved. The Company's expense levels are based in part on its expectations concerning future revenue and to a large extent are fixed. Quarterly revenues and operating results depend substantially upon the advertising revenues received within the quarter, which are difficult to forecast accurately. Accordingly, the cancellation or deferral of a small number of advertising contracts could have a material adverse effect on the Company's business, results of operations or financial condition. The Company may be unable to adjust spending in a timely manner to compensate for any unexpected revenue shortfall, and any significant shortfall in revenue in relation to the Company's expectations would have an immediate adverse effect on the Company's business, results of operations and financial condition. In addition, the Company plans to significantly increase its operating expenses to expand its sales and marketing operations, to fund greater levels of product development and to develop and commercialize additional media properties. To the extent that such expenses precede or are not subsequently followed by increased revenues, the Company's business, results of operations and financial condition will be materially and adversely affected.</p> <p>GOOG-WRD-00874337-38.</p> <p>To date, the Company has relied primarily upon a private independent third party sales representative firm, Interactive Marketing, Inc. ("IMI"), for the sale of advertising on <i>Yahoo!</i> and for the development and implementation of certain event promotions. The Company also will rely on Ziff-Davis Publishing Company ("Ziff-Davis") for sale of advertising to certain significant accounts. There can be no assurance that, in the future IMI, Ziff-Davis, other third party sales representatives or the Company's internal sales personnel will successfully sell advertising on <i>Yahoo!</i> or develop and implement promotions. In addition, there is intense competition in the sale of advertising on the Internet, including competition from other Internet navigational tools as well as other high-traffic sites, which has resulted in a wide range of rates quoted by different vendors for a variety of advertising services, which makes it difficult to project future levels of Internet advertising revenues that will be realized generally or by any specific company. Competition among current and future suppliers of Internet navigational services or Web sites, as well as competition with other traditional media for advertising placements, could result in significant price competition and reductions in advertising revenues. There also can be no assurance that the Company's advertising customers will accept the internal and third-party measurements of impressions received by advertisements on <i>Yahoo!</i>, or that such measurements will not contain errors. See "Business — Industry Background" and "— Advertising Sales, Promotions and Pricing."</p> <p>Id. at GOOG-WRD-00874339-40.</p>

Reference	Disclosure
	<p>Management of Potential Growth; New Management Team</p> <p>The Company's recent growth has placed, and is expected to continue to place, a significant strain on its managerial, operational and financial resources. To manage its potential growth, the Company must continue to implement and improve its operational and financial systems and to expand, train and manage its employee base. Nearly all of the Company's senior management has joined the Company within the last nine months. These individuals have not previously worked together and are in the process of integrating as a management team. The Company is seeking a Vice President of Development and Operations and, although the Company intends to fill this position in the first half of 1996, there can be no assurance that the Company will be able to do so. The Company also intends to establish mirror, or duplicate, sites in other geographic locations, which will create additional operational and management complexities, including the need for continual updating and maintenance of directory listings among geographically dispersed network servers. The process of managing advertising within large, high traffic Web sites such as <i>Yahoo!</i> is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. The Company also licenses software from a third party provider, NetGravity, Inc. ("NetGravity"), for its advertising rotation and scheduling functions. To the extent that any extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company may be exposed to "make good" obligations with its advertising customers, which, by displacing advertising inventory, could have a material adverse effect on the Company's business, results of operations and financial condition. There can be no assurance that the Company will be able to effectively manage the expansion of its operations, that the Company's systems, procedures or controls will be adequate to support the Company's operations or that Company management will be able to achieve the rapid execution necessary to fully exploit the market opportunity for the Company's products and media properties. Any inability to manage growth, if any, effectively could have a material adverse effect on the Company's business, results of operations and financial condition. See "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business — Employees and Management of Growth."</p> <p>Id. at GOOG-WRD-00874343.</p> <p>The process of managing advertising within large, high traffic Web sites such as <i>Yahoo!</i> is an increasingly important and complex task. The Company relies on internal advertising inventory management and analysis systems to provide enhanced internal reporting and customer feedback on advertising. The Company also licenses software from a third party provider, Net Gravity, for its advertising rotation and scheduling functions. To the extent that extended failure of the Company's advertising management system results in incorrect advertising insertions, the Company could experience a material adverse effect on the Company's revenues and results of operations.</p> <p>Id. at GOOG-WRD-00874369.</p> <p>The Company believes that the Web represents an important new means for advertisers to reach consumers through a targeted, interactive and highly measurable medium. The Company derives substantially all of its revenues from the sale of advertisements. Advertising revenues are recognized in the period in which the advertisement is displayed, provided that no significant Company obligations remain and collection of the resulting receivable is probable. Company obligations typically include guarantees of minimum number of "impressions," or times that any advertisement appears in page views downloaded by users of <i>Yahoo!</i>. To the extent minimum guaranteed impressions are not met, the Company defers recognition of the corresponding revenues until guaranteed impression levels are achieved. Deferred revenue is comprised of billings in excess of recognized revenue relating to advertising contracts. The Company records advertising revenue net of any amounts allocable to third parties under the terms of revenue sharing agreements. The Company's revenues are derived principally from the sale of advertisements on short-term contracts. The Company's standard rates for advertising currently range from \$0.02 to \$0.06 per impression. To date, the duration of the Company's advertising commitments has ranged from one week to one year.</p> <p>Id. at GOOG-WRD-00874353.</p>

Reference	Disclosure
	<p>Advertisers also have recognized that Web-based advertising may be more effective in a number of respects than traditional media advertising. Because the Web involves "point-to-point" communication between a server and client that is requested by the user, rather than broad indiscriminate distribution of messages, the Web offers the potential for advertisers to present messages to specific, self-selected audiences, and to enable users to interact with advertising information presented in Web pages. This characteristic of the Web also permits advertisers to measure more precisely the number of impressions, or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>, through verification by an independent third party auditor such as Nielsen - I/PRO (Internet Profiles Corporation). Advertisers can also measure the effectiveness of advertising in generating "click-through," or user requests for additional information made by clicking on the advertiser's banner, linking the user to the advertiser's Web site. The Company believes that increases in transmission bandwidth through higher speed Internet connections, and wider adoption of advanced content delivery technologies for the Web, such as Java, VRML and other multimedia enabling technologies will increase the functionality of advertising, and will make the Web an even more attractive advertising medium. The Company also believes that technological developments may result in greater ability to provide information and analysis about the effectiveness of Web advertising, the demographic profiles of users and the ability for advertisers to frequently modify their messages. This should result in more targeted, higher impact advertising opportunities, and greater integration of Web-based advertising into the range of marketing options available to advertisers.</p> <p>Id. at GOOG-WRD-00874358.</p> <p>Advertising Pricing</p> <p>Advertising on <i>Yahoo!</i> currently consists primarily of banner advertisements that appear on the top of directory pages within the <i>Yahoo!</i> main site. Hypertext links are embedded in each banner advertisement to provide the user with instant access to the advertiser's Web site to obtain additional information or purchase products and services. The Company's contracts with advertisers typically guarantee the advertiser a minimum number of "impressions," or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>. The Company's standard rates for banner advertisements currently range from \$0.02 to \$0.05 per impression, depending upon location of the advertisement within <i>Yahoo!</i> and the extent to which the advertisement is targeted for particular context areas. The Company may provide discounts from standard rates for longer term contracts. The Company also offers context-based keyword advertising, which permits advertisers to target users based upon specified keywords that a user enters when searching within <i>Yahoo!</i>. For example, if a user enters the term "automobile" or "car", an automobile manufacturer's advertisement could appear on pages displaying the results of such a search. The Company's standard rate, for context-based keyword advertisements currently range from \$0.03 to \$0.06 per impression. Because the Internet is new and still developing as an advertising medium, it is difficult to predict the purchasing patterns of advertisers or whether the Company's current advertising model will be successful.</p> <p>Id. at GOOG-WRD-00874366-67.</p> <p>Revenue recognition</p> <p>Advertising revenues are derived from the sale of advertising space in <i>Yahoo!</i>. Advertising revenues are recognized in the period the advertisement is displayed, provided that no significant Company obligations remain and collection of the resulting receivable is probable. Company obligations typically include guarantees of minimum number of "impressions," or times that any advertisement is viewed by users of <i>Yahoo!</i>. To the extent minimum guaranteed impressions are not met, the Company defers recognition of the corresponding revenues until guaranteed impression levels are achieved. For the period from March 5, 1995 (Inception) through December 31, 1995, advertising revenues represented 93% of net revenues. Revenues from the sale of certain advertising space in <i>Yahoo!</i> are shared with third parties under the terms of certain agreements. The Company records advertising revenues net of amounts allocable to third parties under the terms of such agreements. To date, amounts allocable to third parties have not been significant.</p> <p>Id. at GOOG-WRD-00874393.</p>

Reference	Disclosure
<p>Open Text Form F-1 Registration Statement No. 33-98858, dated November 1, 1995 (“Open Text Form F-1”) produced at GOOG-WRD-00873727-GOOG-WRD-00873878</p>	<p>Many of the Company’s products or product versions have been introduced only recently. In January 1995, the Company introduced <i>Open Text 5</i>, the most recent version of its search engine software. In March 1995, the Company introduced <i>Latitude</i>, its document distribution system, and made its <i>Open Text Index</i> available on the Internet. In May 1995, the latest version of <i>Internet Anywhere</i> was released. In addition, the Company plans to release its initial integration of the <i>Latitude</i> and <i>Livelink</i> products and other new products and product versions in the near future. In November 1995, the <i>Open Text Index</i> became available to users of the Internet through internetMCI and IBM infoMarket. The Company is in the process of making the <i>Open Text Index</i> available to users of the Internet through Yahoo! and a listing on the Netscape Navigator under the “Net Search” button and has recently begun selling advertising on the <i>Open Text Index</i> offered through the Company’s Web site. See “Business—Products.” The Company’s success will depend in large measure upon the success of these products and services. Failure of these products and services to achieve significant market acceptance and usage would adversely affect the Company’s business, operating results and financial condition. Because certain of the Company’s software is newly released, there can be no assurance that, despite testing by the Company, errors will not be found in such software after release, or, if discovered, that the Company will be able to successfully correct such errors in a timely manner, or at all. If the Company is unable to successfully market its current products and services, develop new software products and services and enhancements to current products and services, correct errors on a timely basis or complete products and services currently under development, or if such new products and services or enhancements do not achieve market acceptance, the Company’s business, operating results and financial condition will be materially adversely affected.</p> <p>Id. at GOOG-WRD-00873739.</p> <ul style="list-style-type: none"> ● <i>Capitalize on Web Advertising Revenue Opportunity.</i> An emerging revenue opportunity for highly visible, frequently accessed Web sites is the sale of advertising space on the screen that users view when visiting a Web page. The Company has begun to sell advertising on its <i>Open Text Index</i> home page and has entered into agreements with Yahoo! and internetMCI that provide for the Company to receive a share of the advertising revenue generated by the sale of advertising space visible to the Gateway user during the course of a search for information using the <i>Open Text Index</i> through the Gateway. <p>Id. at GOOG-WRD-00873775.</p> <p>The Company has licensed the <i>Open Text Index</i> and ongoing updates to Yahoo!, internetMCI and IBM infoMarket to enable these Gateways to provide the <i>Open Text Index</i> to their customers as part of their Web access service. The <i>Open Text Index</i> also represents a source of advertising revenue for the Company. Pursuant to an agreement with Yahoo! in October 1995, the Company will operate an <i>Open Text Index</i> search service for users of the Yahoo! home page. The Company will receive a portion of any revenue received from advertisements visible to Yahoo! users who access the <i>Open Text Index</i>. Pursuant to an agreement with internetMCI, a portion of any advertising revenue received by internetMCI will be remitted to the Company on a similar basis. Advertisers can place “billboard” advertisements on the <i>Open Text Index</i>, which are visible on a portion of the screen displaying the <i>Open Text Index</i> user interface. Also available will be “embedded” advertisements, which are presented with the other results of a search using the <i>Open Text Index</i>. Embedded advertisements enable an advertiser to target users who have demonstrated an interest in selected subject matters by searching for similar or related information. The Company also offers an <i>Open Text Index</i> search service on its own home page Web site at no charge to the user, and Netscape has agreed to list the <i>Open Text Index</i> on the Netscape Navigator under the “Net Search” button. The Company has begun to sell billboard advertising space on the <i>Open Text Index</i> user interface and also intends to sell embedded advertising. The Company’s agreement with IBM infoMarket provides for the Company to receive an annual license fee and a monthly fee based on the number of subscribers to the service.</p> <p>Id. at GOOG-WRD-00873779.</p> <p>The agreements with Yahoo! and internetMCI each provide for the Company to receive an annual license fee and a fee based on a percentage of the revenue received by the Gateway from advertisements viewed by gateway users who use the <i>Open Text Index</i>. Advertising revenue is generated by advertisers placing either billboard or embedded advertisements on the screens that are visible to a user during the course of a search for information using the <i>Open Text Index</i>. The internetMCI agreement also provides for monthly fees for ongoing updates of the <i>Open Text Index</i>. The agreement with IBM infoMarket provides for the Company to receive an annual license fee and a monthly fee based on the number of subscribers to the service. The arrangement with Netscape does not initially provide for payments by the Company to Netscape, but such payments may be required in the future.</p>

Reference	Disclosure
	Id. at GOOG-WRD-00873783-84.
<p>Open Prospectus, dated January 23, 1996 (“Open Text Prospectus”) produced at OT03652-3758</p>	<p>Unproven Acceptance of the Company’s Products and Services; Developing Market</p> <p>Many of the Company’s products or product versions have been introduced only recently. In January 1995, the Company introduced <i>Open Text 5</i>, the most recent version of its search engine software. In March 1995, the Company introduced <i>Latitude</i>, its document distribution system, and made its <i>Open Text Index</i> available on the Internet. In May 1995, the latest version of <i>Internet Anywhere</i> was released. In addition, the Company plans to release its initial integration of the <i>Latitude</i> and <i>Livelink</i> products and other new products and product versions in the near future. In November 1995, the <i>Open Text Index</i> became available to users of the Internet through internetMCI and IBM infoMarket. The Company is in the process of making the <i>Open Text Index</i> available to users of the Internet through Yahoo! and a listing on the Netscape Navigator under the “Net Search” button and has recently begun selling advertising on the <i>Open Text Index</i> offered through the Company’s Web site. See “Business—Products.” The Company’s success will depend in large measure upon the success of these products and services. Failure of these products and services to achieve significant market acceptance and usage would adversely affect the Company’s business, operating results and financial condition. Because certain of the Company’s software is newly released, there can be no assurance that, despite testing by the Company, errors will not be found in such software after release, or, if discovered, that the Company will be able to successfully correct such errors in a timely manner, or at all. If the Company is unable to successfully market its current products and services, develop new software products and services and enhancements to current products and services, correct errors on a timely basis or complete products and services currently under development, or if such new products and services or enhancements do not achieve market acceptance, the Company’s business, operating results and financial condition will be materially adversely affected.</p> <p>Id. at OT03658.</p> <ul style="list-style-type: none"> <p><i>Capitalize on Web Advertising Revenue Opportunity.</i> An emerging revenue opportunity for highly visible, frequently accessed Web sites is the sale of advertising space on the screen that users view when visiting a Web page. The Company has begun to sell advertising on its <i>Open Text Index</i> home page and has entered into agreements with Yahoo! and internetMCI that provide for the Company to receive a share of the advertising revenue generated by the sale of advertising space visible to the Gateway user during the course of a search for information using the <i>Open Text Index</i> through the Gateway.</p> <p>Id. at OT03694.</p> <p>The Company has licensed the <i>Open Text Index</i> and ongoing updates to Yahoo!, internetMCI and IBM infoMarket to enable these Gateways to provide the <i>Open Text Index</i> to their customers as part of their Web access service. The <i>Open Text Index</i> also represents a source of advertising revenue for the Company. Pursuant to an agreement with Yahoo! in October 1995, the Company will operate an <i>Open Text Index</i> search service for users of the Yahoo! home page. The Company will receive a portion of any revenue received from advertisements visible to Yahoo! users who access the <i>Open Text Index</i>. Pursuant to an agreement with internetMCI, a portion of any advertising revenue received by internetMCI will be remitted to the Company on a similar basis. Advertisers can place “billboard” advertisements on the <i>Open Text Index</i>, which are visible on a portion of the screen displaying the <i>Open Text Index</i> user interface. Also available will be “embedded” advertisements, which are presented with the other results of a search using the <i>Open Text Index</i>. Embedded advertisements enable an advertiser to target users who have demonstrated an interest in selected subject matters by searching for similar or related information. The Company also offers an <i>Open Text Index</i> search service on its own home page Web site at no charge to the user, and Netscape has agreed to list the <i>Open Text Index</i> on the Netscape Navigator under the “Net Search” button. The Company has begun to sell billboard advertising space on the <i>Open Text Index</i> user interface and also intends to sell embedded advertising. The Company’s agreement with IBM infoMarket provides for the Company to receive an annual license fee and a monthly fee based on the number of subscribers to the service.</p> <p>Id. at OT03698.</p> <p>The agreements with Yahoo! and internetMCI each provide for the Company to receive an annual license fee and a fee based on a percentage of the revenue received by the Gateway from advertisements viewed by gateway users who use the <i>Open Text Index</i>. Advertising revenue is generated by advertisers placing either billboard or embedded advertisements on the screens that are visible to a user during the course of a search for information using the <i>Open Text Index</i>. The internetMCI agreement also provides for monthly fees for ongoing updates of the <i>Open Text Index</i>. The agreement with IBM infoMarket provides for the Company to receive an annual license fee and a monthly fee based on the number of subscribers to the service. The arrangement with Netscape does not initially provide for payments by the Company to Netscape, but such payments will be required in the future.</p>

Reference	Disclosure
	Id. at OT037002-03.

Table B7: Databases, Clients, Servers

To the extent the references addressed in claim charts A-1 to A-39 does not disclose the limitations identified in each chart citing Table B7, one of ordinary skill in the art would be motivated to combine the references addressed in claim charts A-1 to A-39 with any one or more of the Table B7 references listed below because: it would have yielded predictable results; using the techniques of the Table B7 references would have improved the primary or obviousness references in the same way; and applying the techniques of the Table B7 references to improve primary or obviousness references would have yielded predictable results.

Reference	Disclosure
PECKOVER	<p><i>See, e.g.,</i> PECKOVER, 17:6-10: Various specialized agents are described in conjunction with other Figures. Agents and other components operating in Agent Marketplace 28 have access to a Product Database (Product DB or PDB) 32.</p> <p>PECKOVER, 23:17-20: A Product Listing function 124 maintains a list of the products that can be advertised in this market. Each product references detailed product data that is kept in a Product Database (PDB) 32 described in conjunction with FIG. 9A.</p> <p>PECKOVER, 23:43-47:61: An Active Ads function 146 maintains the ads that are currently active. As each new add is accepted by Active Ads function 146, an Active Decision Agent Manager 152 (see below) is notified so that pending searches can be matched against the new advertisement.</p> <p>PECKOVER, 25:10-36: A Remote Database Adaptor 140 provides communication and session management services to connect to a database (a “remote database”, not shown) belonging to a manufacturer or a provider. Remote Database Adaptor 140 also provides translation services to translate between the data formats used by a remote database and the data formats used by PDB 32. Remote Database Adaptor 140 allows a provider to submit ads directly from the provider’s remote database into Market 18. Remote Database Adaptor 140 also allows access “by reference” to advertisement data that remains stored in a remote database; that is, the data is not copied into Agent System 10, but is accessed as needed. Market 18 includes a</p>

Reference	Disclosure
	<p>Remote Database Adaptor 140 for each provider that chooses to supply ads in this manner; alternatively, a provider uses various functional components accessed via provider's Personal Agent 13 to place ads manually.</p> <p>PECKOVER, 25:36-57:</p> <p>Referring to FIG. 9A, a Product Database 32 (PDB) comprises functional components:</p> <ul style="list-style-type: none"> a Database Administration function 166, a Product Data Storage function 168, a Product Template Manager function 170, <p>and, (optionally) some number of Remote Database Adaptors 172.</p> <p>PDB 32 maintains generic data about products, to be referenced by ads placed by providers. Although PDB 32 is illustrated here as a single database (with several internal components) for ease of understanding, the contemplated PDB 32 will be split across several processors 38, as illustrated previously in FIG. 3A.</p> <p>Referring to FIG. 9A, a Database Administration function 166 provides conventional add, delete, update, query, and backup access for a System Administrator user to the other components of PDB 32.</p> <p>A Product Data Storage function 168 stores data about different products, for example, product name, product model number, manufacturer's suggested retail price for product, etc.</p>
<p>U.S. PATENT NO. 5,710,884 ("DEDRICK PATENT")</p>	<p><i>See, e.g.</i>, DEDRICK PATENT, 3:37-44:</p> <p>The metering server 14 is coupled to a publisher unit 18 through a plurality of clearinghouse servers 20. By way of example, the publisher 18 may be connected to the server 14 as part of an overall wide area network (WAN) that allows the server 14 and publisher unit 18 to transfer information. The system 10 may also have a yellow page server 22 coupled to the publisher unit 18 and the metering servers 14. The publisher unit and servers of the WAN system contain the interface hardware and software necessary to transfer electronic information between the components of the system. As shown in FIG. 1, the system 10 may have multiple client systems 12 coupled to a single metering server 14 and multiple servers 14 coupled to a single clearinghouse server 20, a regional content database server 21 and a single yellow page server 22. There may be multiple clearinghouse and yellow page servers located at regional centers throughout the country/world. In addition, depending on the size of a community, there may also be multiple yellow page servers for each local community. Although the computer 18 is referred to</p>

Reference	Disclosure
	<p>as a publishing unit, it is to be understood that the computer can also be a node for an advertiser 18 and that the use of the terms publisher and advertiser may be synonymous.</p> <p>DEDRICK PATENT, 5:39-51: Session manager 29 transfers data and control information to and from the components of client system 12, and acts as an interface between client system 12 and metering server 14. Electronic information which is transferred to client system 12 is received by session manager 29 and forwarded to client interface 23. In one embodiment, the electronic information. is forwarded to client interface 23 via content adapter 25. Content adapter 25 may then modify the electronic information, based on the end user's data stored in personal profile database 27. Session manager 29 also instructs statistic compilation process 26 to compile the aggregate data stored in personal profile database 27 when the information is requested by metering server 14.</p> <p>DEDRICK PATENT, 7:28-39: Data is collected for personal profile database 27 by direct input from the end user and also by client activity monitor 24 monitoring the end user's activity. When the end user consumes a piece of electronic information, each variable (or a portion of each variable) within the header block for that piece of electronic information is added to the database for this end user. For example, if this piece of electronic information is made available to the end user for consumption in both audio and video format, and the end user selects the audio format, then this choice of format selection is stored in personal profile database 27 for this end user.</p>
<p>U.S. Patent No. 6,374,237 ("REESE")</p>	<p>REESE, 1:12-21: The World Wide Web brings the vast amount of information on the Internet to the public's attention. A problem today in web browsing is that browsing is essentially flat, with no semantic meaning applied to query and search mechanisms. Between the client, an application program that establishes connections for the purpose of sending requests from a user, and the server, an application that accepts connections in order to service requests by sending back responses, there exists a bandwidth problem of not being able to get information quickly enough to the user on the client end to do meaningful operations.</p> <p>REESE, 2:49-65: FIG. 1 presents a block diagram of the invention. FIG. 1 shows a client 110 that is an application program that establishes connections for the purpose of sending requests to a matching</p>

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	<p>server 120. The client 110 contains a user agent that initiates the request. The user agent is, for example, a browser, editor, spider (web-traversing robot), or other end user tool that can service different requests by a user. Typical browsers include NETSCAPE NAVIGATOR™ or INTERNET EXPLORER™. The matching server 120 is an application program that accepts connections in order to service requests by sending back responses. In the case of a browser, a request is sent in a typical protocol, for example, hypertext transfer protocol (HTTP). Other protocols include Simple Mail Transfer Protocol (“SMTP”), Network News Transfer Protocol (“NNTP”), File Transfer Protocol (“FTP”), Gopher, and Wide Area Information Service (“WAIS”).</p> <p>REESE, 6:54-67: FIG. 8 presents a flow chart of the construction of a matching server database of the invention. In FIG. 8, a matching server is designated. In step 800, a matching server is designated to construct an aggregate database. In step 810, a list of content servers is designated from which to collect data that will make up the aggregate data of the matching server. The content servers designated could be any or all servers in an Internet environment or select servers in an Intranet or other network environment. Next, in step 820, the matching server walks each of the content servers and collects information that will make up the aggregate database. Next, in step 830, the matching server builds an aggregate database that is a representation of the content servers walked.</p>
U.S. Patent Nos. 5,948,061 (“MERRIMAN I”) and 7,844,488 (“MERRIMAN II”)	<p><i>See, e.g.</i>, MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 2:59-3:4: The basic architecture of the network 10 comprises at least one affiliate web site 12, an advertisement (ad) server web site 19 and one or more individual advertiser’s web sites 18. Affiliates are one or more entities that generally for a fee contract with the entity providing the advertisement server permit third party advertisements to be displayed on their web sites. When a user using a browser accesses or “visits” a web site of an affiliate, an advertisement provided by the advertisement server 19 will be superimposed on the display of the affiliate’s web page displayed by the user’s browser. Examples of appropriate affiliates include locator services, service providers, and entities that have popular web sites such as museums, movie studios, etc.</p> <p>MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 3:5-23: The basic operation of the system is as follows in the preferred</p>

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	<p>embodiment. When a user browsing on the Internet accesses an affiliate's web site 12, the user's browser generates an HTTP message 20 to get the information for the desired web page. The affiliate's web site in response to the message 20 transmits one or more messages back 22 containing the information to be displayed by the user's browser. In addition, an advertising server process 19 will provide additional information comprising one or more objects such as banner advertisements to be displayed with the information provided from the affiliate web site. Normally, the computers supporting the browser, the affiliate web site and the advertising server process will be at entirely different nodes on the Internet. Upon clicking through or otherwise selecting the advertisement object, which may be an image such as an advertisement banner, an icon, or a video or an audio clip, the browser ends up being connected to the advertiser's server or web site 18 for that advertisement object.</p> <p>MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 3:24-63:</p> <p>In FIG. 1, a user operates a web browser, such as Netscape or Microsoft Internet Explorer, on a computer or PDA or other Internet capable device 16 to generate through the hypertext transfer protocol (HTTP) 14 a request 20 to any one of preferably a plurality of affiliate web sites 12. The affiliate web site sends one or more messages back 22 using the same protocol. Those messages 22 preferably contain all of the information available at the particular web site 12 for the requested page to be displayed by the user's browser 16 except for one or more advertising objects such as banner advertisements. These objects preferably do not reside on the affiliate's web server. Instead, the affiliate's web server sends back a link including an IP address for a node running an advertiser server process 19 as well as information about the page on which the advertisement will be displayed. The link by way of example may be a hypertext markup language (HTML) tag, referring to, for example, an inline image such as a banner. The user's browser 16 then transmits a message 23 using the received IP address to access such an object indicated by the HTML tag from the advertisement server 19. Included in each message 23 typically to the advertising server 19 are: the user's IP address, (ii) a cookie if the browser 16 is cookie enabled and stores cookie information, (iii) a substring key indicating the page in which the advertisement to be provided from the server is to be embedded, and (iv) MIME header information indicating the browser type and version,</p>

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	<p>the operating system of the computer on which the browser is operating and the proxy server type. Upon receiving the request in the message 23, the advertising server process 19 determines which advertisement or other object to provide to user's browser and transmits the messages 24 containing the object such as a banner advertisement to the user's browser 16 using the HTTP protocol. Preferably contained within the HTTP message is a unique identifier for the advertiser's web page appropriate for the advertisement. That advertisement object is then displayed on the image created by the web user's browser as a composite of the received affiliate's web page plus the object transmitted back by the advertising web server.</p> <p>MERRIMAN I (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), Fig. 1:</p> <div> <p>The diagram, labeled FIG. 1, illustrates an interactive network 10. At the top is the 'ADVERTISING SERVER PROCESS' (19). Below it is the 'HTTP PROTOCOL' layer (14). To the left is the 'AFFILIATE WEB SITE' (12), and to the right is the 'ADVERTISER'S WEB SITE' (18). At the bottom is the 'USER'S BROWSER' (16). Arrows indicate the flow of data: a request arrow 23 goes from the browser to the advertising server process; a response arrow 24 goes from the advertising server process to the browser; arrows 20 and 22 connect the affiliate and advertiser sites to the browser; and arrows 26 and 28 connect the advertiser site to the HTTP protocol layer.</p> </div> <p>MERRIMAN II (AND CORRESPONDING DISCLOSURE IN MERRIMAN II), 9:38-41:</p> <p>2. The method of claim 1, wherein selecting an advertisement based upon stored information about said user node comprises selecting an advertisement based upon a prior content request sent from said user node to an affiliate node.</p>
<p>U.S. Patent No. 7,072,849 ("FILEPP")</p>	<p>See, e.g., FILEPP, 5:1-23: As seen in FIG. 1, interactive network 10 uses a layered structure that includes an information layer 100, a switch/file server layer 200, and cache/concentrator layer 300 as well as reception layer 401. This structure maintains active application databases and delivers requested parts of the databases on</p>

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	<p>demand to the plurality of RS 400's, shown in FIG. 2. As seen in FIG. 2, cache/concentrator layer 300 includes a plurality of cache/concentrator units 302, each of which serve a plurality of RS 400 units over lines 301. Additionally, switch/file server layer 200 is seen to include a server unit 205 connected to multiple cache/concentrator units 302 over lines 201. Still further, server unit 205 is seen to be connected to information layer 100 and its various elements, which act as means for producing, supplying and maintaining the network databases and other information necessary to support network 10.</p> <p>Continuing, switch/file layer 200 is also seen to include gateway systems 210 connected to server 205. Gateways 210 couple layer 200 to other sources of information and data; e.g., other computer systems. As will be appreciated by those skilled in the art, layer 200, like layers 401 and 300, could also include multiple servers, gateways and information layers in the event even larger numbers of users were sought to be served.</p>
<p>https://web.archive.org/web/19961107001155/http://www.inktomi.com/technology.html</p>	<p><i>See, e.g.</i>, "The integration of traditional databases into scalable Web servers. Although the primary database for the HotBot search engine is custom-built for high performance, we use an integrated multi-machine Informix database for tracking user preference profiles and ad placement and accounting. Informix provides multi-platform parallel database queries that fit well with the building-block model used by Inktomi: each server has the full power of SQL transactions and we replicate information to provide fault tolerance. The pervasive use of dynamic HTML generation to allow every user to see a customized page. The use of mass customization, in which we treat millions of users individually within one framework, requires scalable computing resources and database integration, but also requires new tools and technology. In particular, we have developed a new form of dynamic HTML that includes a server-side scripting language that generates HTML on the fly based on the user profile and client browser information. In addition to the obvious benefit of allowing users to customize their page, this technology also enables more targeted advertising, and use of advanced HTML features such as frames and tables for those browsers that can support them; we are not limited to some "least-common denominator" subset of HTML (for example to support older browsers)."</p>
<p>https://web.archive.org/web/19961107001258/http://www.inktomi.com/whitepap.html</p>	<p><i>See, e.g.</i>, Database access. Audience1 comes with Dynamic tags that can access a DBMS for arbitrary persistent information and customize the HTML tracking, using either cookies or fat URLs. Unlike other offerings, while Audience1 supports SQL, it does not require publishers to know SQL to access the database. This allows Inktomi</p>

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	<p>servers to store and recall a user's preferences for user interface and query results presentation. More generally, Audience1 is ideal for allowing servers to access pre-existing databases such as products, inventory, etc. Browser targeting. Audience1 allows publishers to exploit leading-edge HTML features (such as Netscape's frames and Java, and Microsoft's font changes and embedded audio tags), without frustrating users who do not have those features. Audience1's browser targeting can be performed at various levels of detail, ranging from tags that are easy to use, but don't provide a lot of publishing control, to exposing the raw browser capabilities to the publisher. For example, advertisers on HotBot are shown as progressive JPEG if the client browser supports it, otherwise they are shown as JPEGs or GIFs for less-capable browsers. This allows Inktomi to make the most of each browser, rather than resorting to a least-common denominator. Access to high performance, scalable services. Dynamic Tags make it possible for publishers to introduce new, high performance, scalable services, without requiring the publisher to understand the intricacies of computing programming. For example, access to the Inktomi search engine is encapsulated into a single Dynamic Tag, hiding the complexity of interfacing to a parallel program such as Inktomi. In addition, Dynamic Tags can be multi-threaded, interleaving long-latency operations such as Inktomi queries and customized content selection (i.e. targeted advertisements). We know of no other Web-based publishing system with this capability and ease-of-use. Publishing support hides the complexity of creating and managing sites of dynamic Web pages, allowing sites with large amounts of content to control the publishing process. Unlike the CGI-based tools that are emerging, Audience1's publishing support is fault tolerant, high performance and scales to millions of users and millions of hits per day. In summary, Audience1 and Dynamic Tags allow a customizable and sophisticated user-interface to Web services such as search engine. HotBot's interface, including saved searches, personalization, and browser targeting, would have been nearly impossible without the simplification provided by the Audience1 toolset.”</p>
DUMMIES	<p><i>See e.g.</i>, DUMMIES, p. 87-88 (identifying the three databases that may be searched by the Lycos search engine: a2z directory, Lycos catalog, and Point reviews.); <i>id.</i>, p. 103-104 (describing the different databases available to search with the Excite search engine, the Web, Usenet, Classifieds, and Reviews)</p>
PINKERTON	<p>PINKERTON, P., 2 (“After retrieving a document, the WebCrawler performs three actions: it marks the document as having been retrieved, deciphers any outbound links (href’s), and indexes the content of the document. All of these steps involve storing information in a database”); <i>id.</i>, p. 2-3 (“The database handles the</p>

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	persistent storage of the document metadata, the links between documents, and the full-text index”); <i>id.</i> , p. 5 (“The WebCrawler’s database is comprised of two separate pieces: a full-text index and a representation of the Web as a graph. The database is stored on disk, and is updated as documents are added.”)
NETGRAVITY ADSERVER HELP	<i>See e.g.</i> , NETGRAVITY ADSERVER HELP, Choosing an Installation Scenario: “AdServerUI Host – To manage your ads and ad schedules you install the AdServerUI, which provides a Web interface for administering the AdServer database. The machine on which the AdServerUI resides is called the <i>AdServerUI host</i> . Content Host – The <i>content host</i> is the machine that runs your Web server and contains your Web content tree. Your site may have multiple content hosts. Though described above as separate, the content host and the AdServerUI host can, in fact, be the same machine. In other words, all AdServer components may be installed on the same host. Or, you may choose to host them on separate machines . . . Though depicted in the above diagram as separate, the content host and the AsServerUI host can be the same machine.”); <i>id.</i> , Configuration Directives, p. 5 (“When you restart AdServer, it copies the database from the DatabaseStageDir to the DatabaseDir, and begins serving ads from this new database.”); <i>id.</i> , Configuring Your Content Server (“Your <i>content server</i> is the HTTP server that you use to serve your Web content.”); <i>id.</i> , Dynamic Ad Placement: Overview (“To serve an ad <i>dynamically</i> means that whenever an ad needs to be shown, the content server asks AdServer which ad to display at that exact moment.”)
ABOUT NETGRAVITY ADSERVER	<i>See e.g.</i> , ABOUT NETGRAVITY ADSERVER, Getting Started, p. 2 (“AdManager writes to the AdServer database, recording ad and scheduling information. . . . The content server is the Web server that serves your site’s content pages.”); <i>see also id.</i> , Installing AdServer.
FLYNN	FLYNN, p. 2-3 (“In the NetGravity model, advertisers can store their ads on their own server or the site’s server.”)
DEDRICK 1994	<i>See e.g.</i> , DEDRICK 1994, p. 55 (“Typical consumption devices are personal home computers that are connected to an electronic content distribution network via transport technologies such as cable, satellite, ISDN, POTS, and wireless . . .”); <i>id.</i> , p. 56 (“Fig. 1 shows an end-to-end high-level view of a content distribution network. This network connects content authors of ‘rich media’ advertisements with business and home content consumers.”); <i>id.</i> (“Fig. 1 shows the network connections that will allow bi-directional communication between authors and consumers, consumers and authors, etc.”); <i>id.</i> , p. 57 (“The model proposed for dissemination of interactive electronic advertisements is through a series of cooperating local electronic yellow pages services, each spanning a specified region (with

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	<p>potential for overlapping regions). Additionally, these local yellow pages servers also have connectivity with larger regional, national, and global electronic yellow pages services. To enable electronic advertising to subsidize the consumption of electronic content, these yellow pages services are also integrated with a variety of related services.”); <i>id.</i>, p. 59 (“All consumers having access to the local electronic yellow pages can search these yellow pages, compare prices when multiple listings of similar service offerings exist, and automatically schedule an appointment with a service provider.”); <i>id.</i>, p. 59 (“Object-oriented database management is one of the core required technologies of an electronic yellow pages mechanism. Such a DBMS must have distributed data management capabilities to deal with electronic advertisements existing across multiple regions.”); <i>id.</i>, p. 60 (“the content distribution architecture is largely client-server oriented, using large hard-disk intensive network servers to hold terabytes of electronic content.”); <i>id.</i>, p. 61 (“Back-channel capabilities enable a client consumption device to send requests to the electronic content distribution network servers and also to other network clients.”); <i>id.</i>, p. 62 (“Specifically, the currently suggested attribute extension list as follows: . . . Dynamic (e.g., hypertext) links to associated objects, residing on both local and remote servers.”)</p>
<p>DEDRICK 1995</p>	<p><i>See e.g.</i>, DEDRICK 1995, p. 42 (An end-to-end electronic content distribution network connects connect authors of rich-media advertising with business and home content consumers. . . . Network connections must provide connectivity that will allow bidirectional communication between authors and consumers. In addition, the end-to-end distribution network must include intermediate content repositories.”); <i>id.</i>, p. 43 (“To enable electronic advertising to subsidize content, these yellow pages services are also integrated with related electronic services, including commerce financial clearinghouses, content databases, authors, and content delivery to consumers.”); <i>id.</i>, p. 43, Fig. 1; <i>id.</i>, p. 44 (“Distributed database management is one of the core required technologies of an electronic yellow pages mechanism.”); <i>id.</i>, p. 46 (“All information on a profile device is protected by encryption and made available to the consumer only when the profile device is plugged into a consumption device and the consumer has entered the correct decryption password or personal identification number (PIN). Second, using a portable hardware-based device as a repository of consumers’ personal profiles lets consumers plug into the content distribution network through any device at work or at home.”)</p>
<p>GALLAGHER</p>	<p><i>See e.g.</i>, GALLAGHER, p. 5 (“The architecture required to implement the basic version of the model consists of two parts: data structure to represent user profiles and target audience profiles, and an algorithm to select banner advertisements to display to a user.”); <i>id.</i>, p. 6</p>

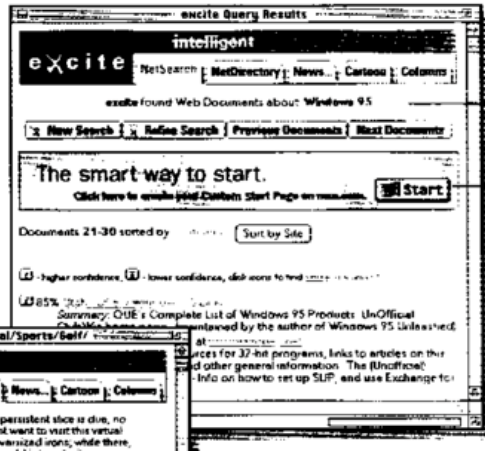
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	<p>(“Operationally, profiles for ideal or acceptable users can be maintained in a relational database structure. In the case of ideal profiles, a table can be defined in which each row describes the ideal target audience member for each advertisement..”); <i>id.</i>, p. 8, Fig. 4.</p>
<p>Lycos, Inc. Registration Statement No. 333-354, dated April 3, 1996 (“LYCOS PROSPECUS”), produced at GOOG-WRD-00872476- GOOG-WRD-00872549</p>	<p><i>See</i> LYCOS PROSPECTUS at GOOG-WRD-00872482: products addressing certain of the Company’s target markets. The primary competitors of the Company’s products and services are other Internet catalog, directory and review services, including America Online’s Web Crawler, Architext Software, Inc.’s excite, Digital Equipment Corporation’s Alta Vista, Infoseek Corporation, The McKinley Group, Open Text Corporation and Yahoo! Corporation. In addition, the Company competes with metasearch services that allow a user to search the databases of several catalogs and directories simultaneously. The Company also competes indirectly with database vendors that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from providers of Web browser software and other Internet products and services that incorporate search and retrieval features into their offerings. Many of the Company’s existing competitors, as well as a number of potential new competitors, have significantly greater financial, technical and marketing resources than the Company. The Company may also be adversely affected by competition from licensees of</p> <p><i>Id.</i> at GOOG-WRD-00872484:</p> <p><i>Risk of Capacity Constraints and System Failure Relating to the Lycos Products and Services.</i> A key element of the Company’s strategy is to generate a high volume of traffic to its products and services, which the Company makes available free of charge to users of the Internet. Accordingly, the performance of the Company’s products and services is critical to the Company’s reputation, its ability to attract advertisers to the Company’s Web sites and market acceptance of these products and services. Any system failure that causes interruptions in the availability or increases response time of the Company’s products and services would result in less traffic to the Company’s Web sites and, if sustained or repeated, would reduce the attractiveness of the Company’s products and services to advertisers and licensees. An increase in the volume of searches conducted through the Company’s products and services could strain the capacity of the software or hardware deployed by the Company or the capacity of the Company’s network infrastructure, which could lead to slower response time or system failures. Any failure to expand the capacity of the Company’s hardware or network infrastructure on a timely basis or on commercially reasonable terms could have a material adverse effect on the Company’s business, results of operations and financial condition. In addition, as the number of Web pages and users increase, there can be no assurance that the Company’s products and services will be able to scale proportionately. The Company is also dependent upon Web browsers and Internet and online service providers for access to its products and services and users have experienced difficulties due to system failures unrelated to the Company’s systems, products and services. The Company is also dependent on hardware suppliers for prompt delivery, installation and service of servers and other equipment and services used to provide its products and services. Substantially all of the Company’s hardware operations are located at its computer facility located in Pittsburgh, Pennsylvania. There can be no assurance that a system failure at this location would not adversely affect the performance of the Company’s products and services. This system is vulnerable to damage from fire, floods, earthquakes, power loss, telecommunications failures, break-ins and similar events. The Company does not presently have a disaster recovery plan. Despite the implementation of network security measures by the Company, its servers are also vulnerable to computer viruses, break-ins and similar disruptive problems. Computer viruses, break-ins or other problems caused by third parties could lead to interruptions, delays or cessation in service to users of the Company’s products and services. The occurrence of any of these risks could have a material adverse effect on the Company’s business, results of operations and financial condition. See “Business—Properties.”</p> <p><i>Id.</i> at GOOG-WRD-00872497-498:</p> <p>The Web can be accessed using software that allows non-technical users to exploit the capabilities of the Internet easily. Electronic documents or “Web pages,” which may contain textual, audio and video information, are published on Web sites in a common format. Each Web site could contain hundreds of Web pages. Users can view these Web pages by using widely available software called “Web browsers” such as the Netscape Navigator or the Microsoft Internet Explorer. Users specify which electronic documents they wish to view with their Web browser by entering a document’s unique electronic Web address, or Universal Resource Locator (“URL”). Alternatively, users can navigate the Web by making use of the hypertext link capability of Web documents. Hypertext links are active areas on a Web page which when selected by a user automatically cause the browser to display a specific page which can be located anywhere else on the Web. This feature enables users to move from one page of content and activity to another related page, without having to know the underlying address or URL of either document.</p> <p><i>Id.</i> at GOOG-WRD-00872499:</p>

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	<p>Although catalogs, directories and reviews are enjoying widespread popularity, many current offerings have limitations. Many catalogs cannot meet users' requirements for efficient and comprehensive searches because they are incomplete compared to the size and accelerating growth of the Internet. Likewise, many catalogs do not provide a high percentage of relevant responses to queries and are frequently slow due to hardware or software limitations. Similarly, directories are limited by the quality of any underlying catalog or database on which they are based. Many current directories cannot be maintained or updated in a timely manner because they lack the ability to monitor the status of links and home pages automatically. Finally, Web site reviews have often simply provided descriptions of the Web site without any critical assessment of its content. As a result of these limitations, content providers and advertisers cannot rely on many current catalogs, directories and reviews to identify their content accurately and users cannot rely on them to locate desired information in a timely or accurate manner, if at all.</p> <p><i>Id.</i> at GOOG-WRD-00872502:</p> <p>Products and Services</p> <p>The Company offers a family of products that enables users to sort, find, filter and access the tremendous wealth of information and resources on the Internet. Without such products, navigating the Internet would be difficult for non-technical users. Internet users access the Company's products and services directly through the Lycos Catalog, a2z Directory and Point Reviews home pages by using Web browsers such as the Netscape Navigator or the Microsoft Internet Explorer.</p>
<p>Lycos, Inc. Form S-1 Registration Statement, dated February 14, 1996 ("LYCOS S-1"), produced at GOOG-WRD-00872550-GOOG-WRD-00872923</p>	<p><i>See</i> LYCOS S-1 at GOOG-WRD-00872558:</p> <p>Competition. The market for Internet products and services is highly competitive. In addition, the Company expects the market for Internet advertising, to the extent it develops, to be intensely competitive. There are no substantial barriers to entry, and the Company expects that competition will continue to intensify. Although the Company believes that the diverse segments of the Internet market will provide opportunities for more than one supplier of products and services similar to those of the Company, it is possible that a single supplier may dominate one or more market segments. The Company believes that the principal competitive factors in this market are name recognition, performance, ease of use, variety of value-added services, functionality and features and quality of support. A number of companies offer competitive products addressing certain of the Company's target markets. The primary competitors of the Company's products and services are other Internet catalog, directory and review services, including America Online's Web Crawler, Architext Software, Inc.'s excite, Digital Equipment Corporation's Alta Vista, Infoseek Corporation, The McKinley Group, Open Text Corporation and Yahoo! Corporation. In addition, the Company competes with metasearch services that allow a user to search the databases of several catalogs and directories simultaneously. The Company also competes indirectly with database vendors that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from providers of Web browser software and other Internet products and services that incorporate search and retrieval features into their offerings. Many of the Company's existing competitors,</p> <p><i>Id.</i> at GOOG-WRD-00872560:</p> <p>Risk of Capacity Constraints and System Failure Relating to the Lycos Products and Services. A key element of the Company's strategy is to generate a high volume of traffic to its products and services, which the Company makes available free of charge to users of the Internet. Accordingly, the performance of the Company's products and services is critical to the Company's reputation, its ability to attract advertisers to the Company's Web sites and market acceptance of these products and services. Any system failure that causes interruptions in the availability or increases response time of the Company's products and services would result in less traffic to the Company's Web sites and, if sustained or repeated, would reduce the attractiveness of the Company's products and services to advertisers and licensees. An increase in the volume of searches conducted through the Company's products and services could strain the capacity of the software or hardware deployed by the Company, which could lead to slower response time or system failures. In addition, as the number of Web pages and users increase, there can be no assurance that the Company's products and services will be able to scale proportionately. The Company is also dependent upon Web browsers and Internet and online service providers for access to its products and services and users have experienced difficulties due to system failures unrelated to the Company's systems, products and services. The Company is also dependent on hardware suppliers for prompt delivery, installation and service of servers and other equipment and services used to provide its products and services. Substantially all of the Company's hardware operations are located at its computer facility located in Pittsburgh, Pennsylvania. There can be no assurance that a system failure at this location would not adversely affect the performance of the Company's products and services. This system is vulnerable to damage from fire, floods, earthquakes, power loss, telecommunications failures, break-ins and similar events. The Company does not presently have a disaster recovery plan. Despite the implementation of network security measures by the Company, its servers are also vulnerable to computer viruses, break-ins and similar disruptive problems. Computer viruses, break-ins or other problems caused by third parties could lead to interruptions, delays or cessation in service to users of the Company's products and services. The occurrence of any of these risks could have a material adverse effect on the Company's business, results of operations and financial condition. See "Business—Properties."</p> <p><i>Id.</i> at GOOG-WRD-00872573:</p>

Reference	Disclosure
	<p>The Web can be accessed using software that allows non-technical users to exploit the capabilities of the Internet easily. Electronic documents or "Web pages," which may contain textual, audio and video information, are published on Web sites in a common format. Each Web site could contain hundreds of Web pages. Users can view these Web pages by using widely available software called "Web browsers" such as the Netscape Navigator or the Microsoft Internet Explorer. Users specify which electronic documents they wish to view with their Web browser by entering a document's unique electronic Web address, or Universal Resource Locator ("URL"). Alternatively, users can navigate the Web by making use of the hypertext link capability of Web documents. Hypertext links are active areas on a Web page which when selected by a user automatically cause the browser to display a specific page which can be located anywhere else on the Web. This feature enables users to move from one page of content and activity to another related page, without having to know the underlying address or URL of either document.</p> <p><i>Id.</i> at GOOG-WRD-00872575:</p> <p>Although catalogs, directories and reviews are enjoying widespread popularity, many current offerings have limitations. Many catalogs cannot meet users' requirements for efficient and comprehensive searches because they are incomplete compared to the size and accelerating growth of the Internet. Likewise, many catalogs do not provide a high percentage of relevant responses to queries and are frequently slow due to hardware or software limitations. Similarly, directories are limited by the quality of any underlying catalog or database on which they are based. Many current directories cannot be maintained or updated in a timely manner because they lack the ability to monitor the status of links and home pages automatically. Finally, Web site reviews have often simply provided descriptions of the Web site without any critical assessment of its content. As a result of these limitations, content providers and advertisers cannot rely on many current catalogs, directories and reviews to identify their content accurately and users cannot rely on them to locate desired information in a timely or accurate manner, if at all.</p> <p><i>Id.</i> at GOOG-WRD-00872578:</p> <p>Products and Services</p> <p>The Company offers a family of products that enables users to sort, find, filter and access the tremendous wealth of information and resources on the Internet. Without such products, navigating the Internet would be difficult for non-technical users. Internet users access the Company's products and services directly through the Lycos Catalog, A2Z Directory and Point Reviews home pages by using Web browsers such as the Netscape Navigator or the Microsoft Internet Explorer.</p>
<p>Excite, Inc. SB-2 Registration Statement No. 333-2328-LA, March 11, 1996 ("Excite SB-2") produced at GOOG-WRD-00872006-GOOG-WRD-00872094</p>	<p>NetSearch and NetDirectory</p> <p>Excite's NetSearch and NetDirectory target the mass Internet market. Consumers can conduct concept-based searches on the full text of more than 1.5 million Web pages, browse a database of over 50,000 Web site reviews and search postings on more than 10,000 Usenet discussion groups.</p> <p><i>Id.</i> at GOOG-WRD-0087209.</p> <div> <p>The image shows a screenshot of the Excite search engine interface. At the top, it says "Search the Internet with NetNoir and Excite". Below this, there are search input fields and buttons. A sidebar on the left lists navigation options like "Home", "Search", "Mail", "Links", "Community", and "Entertainment". To the right of the search area, there is a section titled "Customized search forms" with the text: "Customized search forms are available for content provider sites and can bring consumers to the Excite service through a variety of entry points." Below the search area, there is a "Search Results" section with the Excite logo and navigation buttons for "Home Search", "Basic Search", "Patented Networks", and "Smart Documents".</p> </div> <p><i>Id.</i> at GOOG-WRD-0087209.</p>

Reference

Disclosure



NetSearch: people to content
Describe a concept in your own words and Excite NetSearch retrieves a list of relevant documents

Keyword-targeted advertising
Advertisers can target audiences by assigning key words or concepts to their ad banners

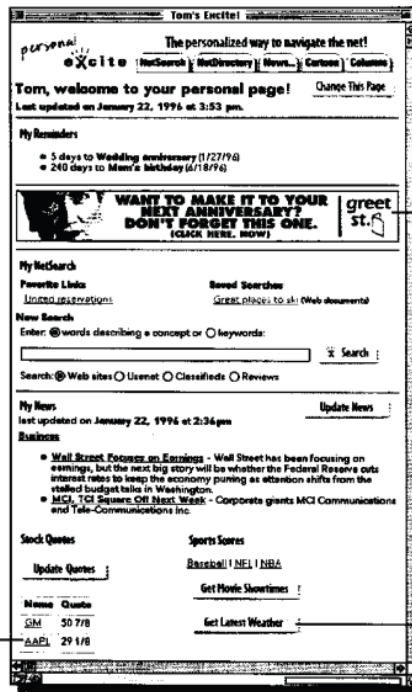
mod
navi!

people to people

Id. at GOOG-WRD-00872010.

Personal Excite

Personal Excite is a personalized page that selects and compiles Web content, including advertising, to match each individual's unique interests.



Individually-targeted advertising (prototype shown)
Advertising can be keyed to anniversaries, birthdays and other events that consumers record in a Reminders calendar.

Demographics
Zip codes and demographic information collected in Personal Excite profiles allow for highly-targeted delivery of content and advertising.

personal
ridual
navigational
identity

Interests
The stocks, news headlines, directory topics and other information consumers select for their pages provide another window on their interests.

Id. at GOOG-WRD-00872011.

Reference	Disclosure
	<p>Intense Competition</p> <p>The market for Internet services and products, particularly Internet advertising and Internet search and retrieval services and products, is intensely competitive. Since there are no substantial barriers to entry, the Company expects competition in these markets to intensify. The Company believes that the principal competitive factors in these markets are name recognition, performance, ease of use and functionality. The primary competitors of the Company's services and products are Internet search and retrieval companies such as Infoseek Corporation, Lycos, Inc., The McKinley Group, Inc., Open Text Corporation and Yahoo!, Inc. and specific search and retrieval services and products offered by other companies, such as AOL's Web Crawler and Digital Equipment Corporation's Alta Vista. The Company also competes indirectly with services from other database vendors such as Lexis/Nexis and Dialog and other companies that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from online service providers, Web site operators, providers of Web browser software (such as Netscape or Microsoft Corporation ("Microsoft")) and other Internet services and products that incorporate search and retrieval features into their offerings, whether through internal development or by acquisition of one or more of the Company's direct competitors. Many of the Company's existing competitors, as well as a number of potential new competitors, have longer operating histories in the Internet market, greater name recognition, larger customer bases and databases and significantly greater financial, technical and marketing resources than the Company. Such competitors may be able to undertake more extensive marketing campaigns and make more attractive offers to potential employees, distribution partners, advertisers and content providers. Further, there can be no assurance that the Company's competitors will not develop Internet search and retrieval services and products that are equal or superior to those of the Company or that achieve greater market acceptance than the Company's offerings in the area of name recognition, performance, ease of use and functionality. Since a number of the Company's current advertising customers and strategic partners also have established relationships with certain of the Company's competitors, there can be no assurance that the Company will be able to retain a customer base of advertisers or that strategic partners will not sever or will elect to renew their agreements with the Company. There can be no assurance that the Company will be able to compete successfully against its current or future competitors or that competition will not have a material adverse effect on the Company's business, results of operations and financial condition.</p> <p>Id. at GOOG-WRD-00872017-18.</p> <p>The Excite Solution</p> <p>Excite develops and provides targeted Internet navigation services and products designed to allow consumers, content providers and advertisers to interact more effectively on the Web. Excite believes that to fully realize the Web's potential as a new communications medium, the Company must focus on the way consumers use the Web. By combining its state-of-the-art navigation technology and media expertise, Excite seeks to develop and introduce consumer-focused navigation services and products. Excite believes that these services and products will not only allow consumers to better experience the Web, but that they will also assist content providers in delivering content and provide advertisers with more value-added advertising options.</p> <p>Id. at GOOG-WRD-00872038.</p> <p>Advertisements on the Excite service are banner or billboard style advertisements and are prominently displayed on the interface of all Excite navigation services. As the consumer interacts with the service, new advertisements are displayed. From each advertisement screen, consumers can hyperlink directly to an advertiser's own Web site, thus allowing the advertiser an opportunity to directly interact with a consumer who has expressed interest in its advertisement.</p> <p>Id. at GOOG-WRD-00872043.</p>

Reference	Disclosure
	<p>The Company offers a variety of advertising programs that enable advertisers to target their audiences at various levels of market segmentation: mass market placement, which does not have any market segmentation; affinity placement, which delivers advertisements to an audience with a specific topical or regional interest; and individual placement, which displays advertisements to users of a specific profile. The Company currently offers the following advertising programs:</p> <p><i>General Rotation.</i> The Company offers a general rotation program that allows advertisers to reach a large number of Web consumers. Advertising banners rotate through well-trafficked Excite pages, including the main NetSearch and NetDirectory pages and NetSearch results pages. This program delivers a higher volume of mass market consumers and provides frequent exposure to advertisers.</p> <p><i>City.Net and Regional Excite.</i> The Company provides a City.Net program and will provide a Regional Excite program that allow advertisers to direct advertisements to geographical affinity groups. This targeted approach can be used to complement a national marketing strategy with local or regional messages.</p> <p><i>Keywords.</i> The Company's keyword program offers advertisers an opportunity to target specific audiences by assigning ad banners to certain key words or concepts. For example, when <i>Windows '95</i> is searched, a Microsoft advertisement could be displayed. Because of the ability to customize the targeted nature of potential customers, the Company is able to charge premium rates for such keyword advertising.</p> <p>Id. at GOOG-WRD-00872044.</p> <p>Advertisers can also combine multiple advertising packages in order to develop a complete advertising plan that reaches multiple audiences and that is designed to maximize reach, frequency of exposure and customer response. For example, an airline company might have general rotation as a base of mass exposure. The advertising schedule could be enhanced based upon topical affinity, by displaying a banner every time a user searches using the word "travel" or "airfare," as well as by displaying an advertisement to all Personal Excite users who are interested in travel. The schedule could be further refined by placing banners on the Life & Style/Travel page in NetDirectory, as well as on a variety of U.S. and international city pages on City.Net that may correspond to hubs of national or international business.</p> <p>Advertising is sold primarily through a combination of a small direct sales force and an advertising sales agency. The Company's direct sales operation currently consists of two individuals, both experienced in selling Internet advertising, who are based in San Francisco and New York. To supplement its internal sales force, the Company has retained the services of Double Click, of Mountain View, California, an advertising sales agency specializing in interactive advertising placement. The Company has only a limited number of sales and marketing personnel at the present time. See "Risk Factors — Limited Sales Force; Evolving Distribution Channels."</p> <p>Id.</p> <p>Businesses and individuals connect to the Internet either through direct access, growing numbers of competitive Internet service providers ("ISPs") or traditional online services such as America Online and Prodigy. Dataquest estimates that the worldwide Internet population of individual consumers will grow from approximately 15 million subscribers in 1995 to approximately 60 million subscribers in 1998. The number of content providers has also increased dramatically. <i>Business Week</i> reported in February 1996 that approximately 200,000 Web sites existed, then providing almost 20 million pages of information. Content providers desire a presence on the Web for three primary purposes: (i) to promote their products and services for the purposes of brand development, (ii) to inform and entertain users and (iii) to engage in commercial transactions. The opportunity to connect in an interactive Web environment with potential partners, customers, employees or other stakeholders is potentially very attractive. Although the cost of building and maintaining Web sites can be substantial, these costs are modest relative to the cost of starting a business or launching a conventional advertising campaign. Given these relatively low barriers to entry, much of the early content on the Web came from newly-formed organizations, and only recently have larger, more established companies created a presence on the Web.</p> <p>Id. at GOOG-WRD-00872035.</p>

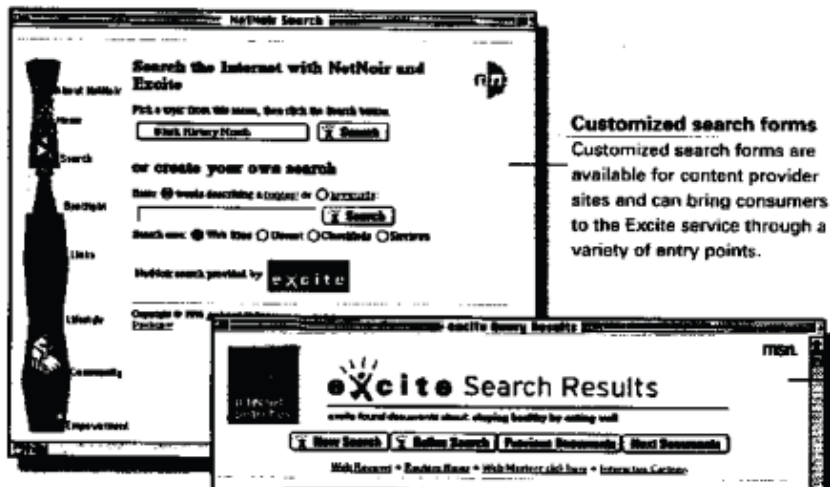
Reference	Disclosure
	<p>In response to the unstructured organization of the Web, several emerging companies have developed Web directories, also known as guides, catalogs or reviews. Web directories are beginning to serve as the needed broker between consumers, looking for content, and content providers, looking to expose their content to consumers. Typically, Web directories are based on a combination of "spider" and database searching technologies. A spider, also known as a crawler or robot, scans the Internet, sending information about the content it discovers to a centrally managed database, or directory, of indexed Internet addresses and content descriptions. Many directories offer a search interface to this centrally-managed database. A directory's search tool responds to a consumers' inputted keyword or phrase by locating and displaying a list of results that match the desired topic. Directories may also offer manually compiled categorizations of selected Web sites organized by topic, or may include brief descriptions or reviews of certain Web content. Some directories offer only one or two of these methods of accessing Web information.</p> <p>Id.</p> <p>Consumer traffic has concentrated on the more popular directory sites. Internet entry points, including ISPs and traditional on-line providers, are offering direct access to one or more directories as a key functionality for their consumers. In addition, the Company believes that some consumers are using directory sites as their "home base" for sessions on the Web, returning to the directory after a particular Web site or collection of sites has been visited. The Company believes that advertisers have followed this consumer traffic pattern and now increasingly concentrate much of their Web advertising budgets on directory sites. See "Risk Factors — Developing Market: Validation of the Internet as an Effective Advertising Medium."</p> <p>Id. at GOOG-WRD-00872037.</p> <p>The Excite Solution</p> <p>Excite develops and provides targeted Internet navigation services and products designed to allow consumers, content providers and advertisers to interact more effectively on the Web. Excite believes that to fully realize the Web's potential as a new communications medium, the Company must focus on the way consumers use the Web. By combining its state-of-the-art navigation technology and media expertise, Excite seeks to develop and introduce consumer-focused navigation services and products. Excite believes that these services and products will not only allow consumers to better experience the Web, but that they will also assist content providers in delivering content and provide advertisers with more value-added advertising options.</p> <p>Id. at GOOG-WRD-00872038.</p> <p>Content Providers</p> <p>Many current navigation solutions only passively address the needs of Internet content providers; usually by updating an index of a Web site on an occasional basis through the use of an automated spider. With its technical and media expertise, Excite actively addresses the needs of content providers in a variety of ways. Excite's editorial reviews of Web sites, which are organized by topic, provide greater visibility to content providers. When the Company's search technology is installed at a Web site, consumers can more easily navigate the local content at that site. Furthermore, the Company is developing technology that can be installed on a Web site which will automatically update the Company's Web site index as the site is modified. This will ensure that consumers reviewing a search result will be viewing a current, accurate description of a site.</p> <p>Id.</p> <p>Advertisers</p> <p>The Company believes that offering a suite of consumer segmented navigational services allows for more specifically tailored advertising. For example, Excite's navigational services permit advertisers to target the mass audience of Internet consumers or tailor an advertising strategy for specific affinity groups or individuals possessing certain demographic traits. In addition, the Company has begun to offer advertising packages that allow advertisers to move from the traditional CPM-based advertising model to one of delivered value, in which an advertisement is priced based upon the amount of business generated from the advertisement as opposed to the number of times it is displayed.</p> <p>Id. at GOOG-WRD-00872039.</p>

Reference	Disclosure
	<p><i>Increasing access points</i></p> <p>Access points are places on the Internet, such as Internet gateways from online services or other Web sites, which are frequently visited by consumers. The Company actively seeks to obtain new consumers by increasing its visibility on Internet access points, thus providing multiple gateways into the Excite service.</p> <p>The Company believes that the most attractive Internet access points are large, frequently utilized areas, including Web sites such as that operated by Netscape, and Internet gateways from on-line services like AOL and Compuserve. Because of the significant volume of consumer traffic flowing through these access points, the Company can specifically market and customize its services to each of these sites. Currently, the Company has a presence on a number of large access points, including Microsoft Network, Netscape, AOL and Compuserve. There can be no assurance that the Company's presence on any or all of these sites or online services can be maintained on commercially reasonable terms, or at all. Although the Company is also pursuing opportunities to establish a presence on other large access points, there can be no assurance that it will be able to establish a presence successfully on such sites on commercially reasonable terms if at all. See "— Strategic Alliances" and "Risk Factors — Netscape Relationship" and "— Dependence on Third Party Relationships."</p> <p>The Company also targets midsize and smaller access points such as relatively well-subscribed ISPs such as NETCOM On-Line Communication Services, and popular Web sites, such as that operated by Intuit. Because there are a substantially greater number of these types of sites, the Company has developed a number of prepackaged value-added links to the Excite services that include search forms that can easily be customized and co-branded by the site provider. In addition, access points that install EWS are encouraged to create a link to the Excite service.</p> <p>Id. at GOOG-WRD-00872042.</p> <p><i>Distributed Search Capabilities</i></p> <p>The Company's information retrieval technology has been designed to address the complex problems that arise in information retrieval when a database is distributed across multiple nodes in a wide-area network. The primary goal in distributed information retrieval is to ensure that the results of a search of a database distributed across multiple nodes closely approximate the results that would have been achieved if the search had been performed on the same data collected on a single, local database. Although the Company believes that most distributed retrieval systems use a protocol that does not yield results that are similar to those that could be obtained on a search of a single, local database, the Company's distributed information retrieval protocol has been engineered to provide distributed results that are very similar to the concept-based results that the Company's technology yields for a single, local database. The Company believes that this distributed protocol will enable the Company's services and products to scale with, and thereby benefit from, the rapid growth of the Internet.</p> <p>The Company believes that its distributed information retrieval capability will permit it to continue to provide accurate, reliable information retrieval as the Internet grows. The Company plans to include a program called the notifier in its next release of EWS. This program is designed to allow the EWS administrator to send a copy of its Web site to the Excite service without waiting for the Company's spider to retrieve the current index. The cost to the EWS server is minimal, and Excite is spared the cost of retrieving and indexing those pages since the task of indexing has been distributed to the remote machines. The Company believes that this notifier technology will assist in increasing the number of Web pages that can be indexed and kept current by its services. The Company has not yet implemented its notifier technology, and there can be no assurance that the Company will be able to release such notifier technology successfully.</p> <p>Id. at GOOG-WRD-00872046.</p> <p>Strategic Alliances</p> <p>A key element of the Company's business strategy is to enter into relationships with both Internet access points and content providers. To this end, the Company has entered into a number of strategic alliances. These alliances include distribution alliances, which provide the Company with access to a wider user base, and media alliances, which are intended to help the Company provide specific content to affinity groups.</p> <p><i>Distribution alliances</i></p> <p>The Company believes that its future success will be substantially dependent upon its ability to attract and retain users for its services. The Company has entered into distribution agreements with leading providers of Internet access in order to increase user traffic to its services.</p> <p><i>Netscape.</i> The Company has entered into an agreement with Netscape under which the Company is designated as one of five "Premier Providers" of search and navigation services accessible from the "Net Search" button from the Netscape home page. Prior to entering into this agreement, the Company had a similar agreement with Netscape. The Company believes that from</p>

Reference	Disclosure
	<p>December 1995 to March 1996 (the term of this prior agreement) approximately 20% to 40% of its user traffic on a weekly basis was directed from Netscape. Although the Company has not yet determined the amount of its user traffic which is directed from Netscape under the new agreement, the Company believes that it will be dependent on its relationship with Netscape for a significant percentage of its user traffic. The agreement provides that the "Premier Provider" status will be established for one year from April 1, 1996, in exchange for which the Company will make payments totalling \$5 million over the course of the year. If the Company were not able to enter into a replacement agreement with Netscape at the end of the one year term or if such a replacement agreement with Netscape is executed containing materially worse terms than those contained in the agreement with Netscape, there would be a material adverse effect on the Company's business, results of operations and financial condition. See "Risk Factors — Netscape Relationship."</p> <p>Id. at GOOG-WRD-00872047-48.</p> <p><i>America Online.</i> The Company has entered into an agreement with AOL under which AOL may provide a co-branded version of the Excite service to AOL users. AOL may also mirror the Company's Web sites in the AOL service and will provide a link directly to the Company's Web sites from a "keyword" command and from AOL's "Internet Connection" channel. In each case, AOL would treat the Excite service as a premier provider of Internet and Web search and directory services. AOL and Excite would share advertising and transaction revenues derived from the use of these services by AOL subscribers. In addition, Excite would advertise AOL's service on Excite's pages, and AOL would pay a commission to the Company for new AOL subscribers referred from these ads. In order to keep the relationship and AOL's commitment in force, the Company must satisfy certain technical, editorial and advertising sales performance criteria. The relationship will be for an initial term of three years. This agreement was entered into in connection with AOL's purchase of Series D Preferred Stock from the Company. In addition, in the Series D Preferred Stock financing, AOL purchased from the Company a warrant to purchase 650,000 shares of Common Stock at an exercise price of \$8.00 per share. This warrant has a term of five years. See "Certain Transactions."</p> <p><i>Microsoft.</i> The Company has entered into a distribution and license agreement with Microsoft whereby the Company receives a license fee for maintaining and operating for Microsoft a separate, co-branded version of Excite that is substantially similar to Excite's services (the "Mirrored Site"). The Mirrored Site is accessible to Microsoft's customers through The Microsoft Network and, at Microsoft's discretion, other channels. The agreement gives Microsoft considerable control over operational matters. The Company and Microsoft share advertising space in the Mirrored Sites, with each party retaining the advertising revenues generated by its advertising space. Neither party may sell advertising on the Mirrored Site to the other party's enumerated competitors. If, during the term of the agreement, the Company desires to sell outright the database and/or tools comprising Excite, Microsoft has a right of first negotiation to negotiate for the purchase of such services. This agreement expires in April 1996. There can be no assurance that the Company will be able to renew this agreement with Microsoft on favorable terms or at all. To date, this agreement has not accounted for a significant portion of the Company's site traffic.</p> <p>Id. at GOOG-WRD-00872048.</p> <p><i>Reuters.</i> The Company has entered into a non-exclusive licensing agreement with Reuters pursuant to which the Company is provided with general news in seven broad categories for use on the Company's various services including Excite and Personal Excite. The Company shares with Reuters a portion of the advertising revenue generated from ads displayed along with Reuters content. This agreement expires in November 1996.</p> <p>Id. at GOOG-WRD-00872049.</p>
<p>Excite, Inc. Prospectus, dated April 3, 1996 ("Excite Prospectus") produced at GOOG-WRD-00871928-GOGL-WRD-00872005</p>	<p>NetSearch and NetDirectory</p> <p>Excite's NetSearch and NetDirectory target the mass Internet market. Consumers can conduct concept-based searches on the full text of more than 1.5 million Web pages, browse a database of over 50,000 Web site reviews and search postings on more than 10,000 Usenet discussion groups.</p> <p>Id. at GOOG-WRD-00871929.</p>

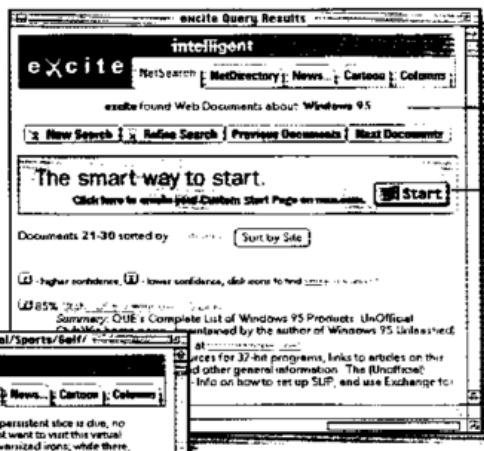
Reference

Disclosure



Customized search forms
 Customized search forms are available for content provider sites and can bring consumers to the Excite service through a variety of entry points.

Id. at GOOG-WRD-00871929.



NetSearch: people to content
 Describe a concept in your own words and Excite NetSearch retrieves a list of relevant documents

Keyword-targeted advertising
 Advertisers can target audiences by assigning key words or concepts to their ad banners

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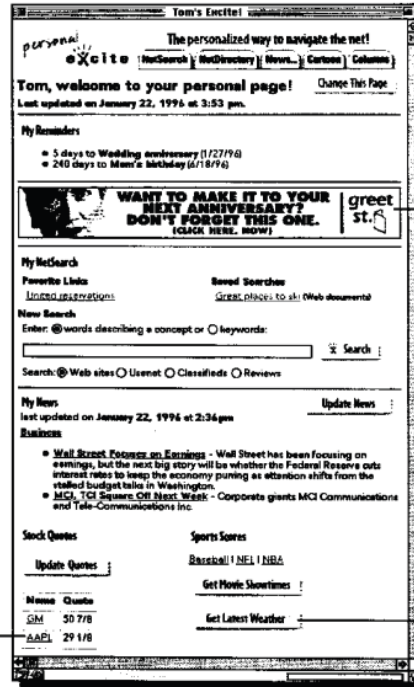
people to people

Id. at GOOG-WRD-00871930.

Reference

Disclosure

Personal Excite
 Personal Excite is a personalized page that selects and compiles Web content, including advertising, to match each individual's unique interests.



Individually-targeted advertising (prototype shown)
 Advertising can be keyed to anniversaries, birthdays and other events that consumers record in a Reminders calendar.

Individual navigational identity

Interests
 The stocks, news headlines, directory topics and other information consumers select for their pages provide another window on their interests.

Demographics
 Zip codes and demographic information collected in Personal Excite profiles allow for highly-targeted delivery of content and advertising.

Id. at GOOG-WRD-00871931.

Intense Competition

The market for Internet services and products, particularly Internet advertising and Internet search and retrieval services and products, is intensely competitive. Since there are no substantial barriers to entry, the Company expects competition in these markets to intensify. The Company believes that the principal competitive factors in these markets are name recognition, performance, ease of use and functionality. The primary competitors of the Company's services and products are Internet search and retrieval companies such as Infoseek Corporation, Lycos, Inc., The McKinley Group, Inc., Open Text Corporation and Yahoo!, Inc. and specific search and retrieval services and products offered by other companies, such as AOL's Web Crawler and Digital Equipment Corporation's Alta Vista. The Company also competes indirectly with services from other database vendors such as Lexis/Nexis and Dialog and other companies that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from online service providers, Web site operators, providers of Web browser software (such as Netscape or Microsoft Corporation ("Microsoft")) and other Internet services and products that incorporate search and retrieval features into their offerings, whether through internal development or by acquisition of one or more of the Company's direct competitors. Many of the Company's existing competitors, as well as a number of potential new competitors, have longer operating histories in the Internet market, greater name recognition, larger customer bases and databases and significantly greater financial, technical and marketing resources than the Company. Such competitors may be able to undertake more extensive marketing campaigns and make more attractive offers to potential employees, distribution partners, advertisers and content providers. Further, there can be no assurance that the Company's competitors will not develop Internet search and retrieval services and products that are equal or superior to those of the Company or that achieve greater market acceptance than the Company's offerings in the area of name recognition, performance, ease of use and functionality. Since a number of the Company's current advertising customers and strategic partners also have established relationships with certain of the Company's competitors, there can be no assurance that the Company will be able to retain a customer base of advertisers or that strategic partners will not sever or will elect to renew their agreements with the Company. There can be no assurance that the Company will be able to compete successfully against its current or future competitors or that competition will not have a material adverse effect on the Company's business, results of operations and financial condition.

Id. at GOOG-WRD-00871937-38.

Reference	Disclosure
	<p>The Excite Solution</p> <p>Excite develops and provides targeted Internet navigation services and products designed to allow consumers, content providers and advertisers to interact more effectively on the Web. Excite believes that to fully realize the Web's potential as a new communications medium, the Company must focus on the way consumers use the Web. By combining its state-of-the-art navigation technology and media expertise, Excite seeks to develop and introduce consumer-focused navigation services and products. Excite believes that these services and products will not only allow consumers to better experience the Web, but that they will also assist content providers in delivering content and provide advertisers with more value-added advertising options.</p> <p>Id. at GOOG-WRD-00871958.</p> <p>Advertisements on the Excite service are banner or billboard style advertisements and are prominently displayed on the interface of all Excite navigation services. As the consumer interacts with the service, new advertisements are displayed. From each advertisement screen, consumers can hyperlink directly to an advertiser's own Web site, thus allowing the advertiser an opportunity to directly interact with a consumer who has expressed interest in its advertisement.</p> <p>Id. at GOOG-WRD-00871963.</p> <p>The Company offers a variety of advertising programs that enable advertisers to target their audiences at various levels of market segmentation: mass market placement, which does not have any market segmentation; affinity placement, which delivers advertisements to an audience with a specific topical or regional interest; and individual placement, which displays advertisements to users of a specific profile. The Company currently offers the following advertising programs:</p> <p><i>General Rotation.</i> The Company offers a general rotation program that allows advertisers to reach a large number of Web consumers. Advertising banners rotate through well-trafficked Excite pages, including the main NetSearch and NetDirectory pages and NetSearch results pages. This program delivers a higher volume of mass market consumers and provides frequent exposure to advertisers.</p> <p><i>City.Net and Regional Excite.</i> The Company provides a City.Net program and will provide a Regional Excite program that allow advertisers to direct advertisements to geographical affinity groups. This targeted approach can be used to complement a national marketing strategy with local or regional messages.</p> <p><i>Keywords.</i> The Company's keyword program offers advertisers an opportunity to target specific audiences by assigning ad banners to certain key words or concepts. For example, when Windows 95 is searched, a Microsoft advertisement could be displayed. Because of the ability to customize the targeted nature of potential customers, the Company is able to charge premium rates for such keyword advertising.</p> <p>Id. at GOOG-WRD-00871964.</p> <p>Advertisers can also combine multiple advertising packages in order to develop a complete advertising plan that reaches multiple audiences and that is designed to maximize reach, frequency of exposure and customer response. For example, an airline company might have general rotation as a base of mass exposure. The advertising schedule could be enhanced based upon topical affinity, by displaying a banner every time a user searches using the word "travel" or "airfare," as well as by displaying an advertisement to all Personal Excite users who are interested in travel. The schedule could be further refined by placing banners on the Life & Style/Travel page in NetDirectory, as well as on a variety of U.S. and international city pages on City.Net that may correspond to hubs of national or international business.</p> <p>Advertising is sold primarily through a combination of a small direct sales force and an advertising sales agency. The Company's direct sales operation currently consists of two individuals, both experienced in selling Internet advertising, who are based in San Francisco and New York. To supplement its internal sales force, the Company has retained the services of Double Click, of Mountain View, California, an advertising sales agency specializing in interactive advertising placement. The Company has only a limited number of sales and marketing personnel at the present time. See "Risk Factors — Limited Sales Force; Evolving Distribution Channels."</p> <p>Id.</p>

Reference	Disclosure
	<p>Businesses and individuals connect to the Internet either through direct access, growing numbers of competitive Internet service providers ("ISPs") or traditional online services such as America Online and Prodigy. Dataquest estimates that the worldwide Internet population of individual consumers will grow from approximately 15 million subscribers in 1995 to approximately 60 million subscribers in 1998. The number of content providers has also increased dramatically. <i>Business Week</i> reported in February 1996 that approximately 200,000 Web sites existed, then providing almost 20 million pages of information. Content providers desire a presence on the Web for three primary purposes: (i) to promote their products and services for the purposes of brand development, (ii) to inform and entertain users and (iii) to engage in commercial transactions. The opportunity to connect in an interactive Web environment with potential partners, customers, employees or other stakeholders is potentially very attractive. Although the cost of building and maintaining Web sites can be substantial, these costs are modest relative to the cost of starting a business or launching a conventional advertising campaign. Given these relatively low barriers to entry, much of the early content on the Web came from newly-formed organizations, and only recently have larger, more established companies created a presence on the Web.</p> <p>Id. at GOOG-WRD-00871955.</p> <p>In response to the unstructured organization of the Web, several emerging companies have developed Web directories, also known as guides, catalogs or reviews. Web directories are beginning to serve as the needed broker between consumers, looking for content, and content providers, looking to expose their content to consumers. Typically, Web directories are based on a combination of "spider" and database searching technologies. A spider, also known as a crawler or robot, scans the Internet, sending information about the content it discovers to a centrally managed database, or directory, of indexed Internet addresses and content descriptions. Many directories offer a search interface to this centrally-managed database. A directory's search tool responds to a consumers' inputted keyword or phrase by locating and displaying a list of results that match the desired topic. Directories may also offer manually compiled categorizations of selected Web sites organized by topic, or may include brief descriptions or reviews of certain Web content. Some directories offer only one or two of these methods of accessing Web information.</p> <p>Id.</p> <p>Consumer traffic has concentrated on the more popular directory sites. Internet entry points, including ISPs and traditional on-line providers, are offering direct access to one or more directories as a key functionality for their consumers. In addition, the Company believes that some consumers are using directory sites as their "home base" for sessions on the Web, returning to the directory after a particular Web site or collection of sites has been visited. The Company believes that advertisers have followed this consumer traffic pattern and now increasingly concentrate much of their Web advertising budgets on directory sites. See "Risk Factors — Developing Market; Validation of the Internet as an Effective Advertising Medium."</p> <p>Id. at GOOG-WRD-00871957.</p> <p>The Excite Solution</p> <p>Excite develops and provides targeted Internet navigation services and products designed to allow consumers, content providers and advertisers to interact more effectively on the Web. Excite believes that to fully realize the Web's potential as a new communications medium, the Company must focus on the way consumers use the Web. By combining its state-of-the-art navigation technology and media expertise, Excite seeks to develop and introduce consumer-focused navigation services and products. Excite believes that these services and products will not only allow consumers to better experience the Web, but that they will also assist content providers in delivering content and provide advertisers with more value-added advertising options.</p> <p>Id. at GOOG-WRD-00871958.</p>

Reference	Disclosure
	<p><i>Content Providers</i></p> <p>Many current navigation solutions only passively address the needs of Internet content providers; usually by updating an index of a Web site on an occasional basis through the use of an automated spider. With its technical and media expertise, Excite actively addresses the needs of content providers in a variety of ways. Excite's editorial reviews of Web sites, which are organized by topic, provide greater visibility to content providers. When the Company's search technology is installed at a Web site, consumers can more easily navigate the local content at that site. Furthermore, the Company is developing technology that can be installed on a Web site which will automatically update the Company's Web site index as the site is modified. This will ensure that consumers reviewing a search result will be viewing a current, accurate description of a site.</p> <p>Id.</p> <p><i>Advertisers</i></p> <p>The Company believes that offering a suite of consumer segmented navigational services allows for more specifically tailored advertising. For example, Excite's navigational services permit advertisers to target the mass audience of Internet consumers or tailor an advertising strategy for specific affinity groups or individuals possessing certain demographic traits. In addition, the Company has begun to offer advertising packages that allow advertisers to move from the traditional CPM-based advertising model to one of delivered value, in which an advertisement is priced based upon the amount of business generated from the advertisement as opposed to the number of times it is displayed.</p> <p>Id. at GOOG-WRD-00871959.</p> <p><i>Increasing access points</i></p> <p>Access points are places on the Internet, such as Internet gateways from online services or other Web sites, which are frequently visited by consumers. The Company actively seeks to obtain new consumers by increasing its visibility on Internet access points, thus providing multiple gateways into the Excite service.</p> <p>The Company believes that the most attractive Internet access points are large, frequently utilized areas, including Web sites such as that operated by Netscape, and Internet gateways from on-line services like AOL and Compuserve. Because of the significant volume of consumer traffic flowing through these access points, the Company can specifically market and customize its services to each of these sites. Currently, the Company has a presence on a number of large access points, including Microsoft Network, Netscape, AOL and Compuserve. There can be no assurance that the Company's presence on any or all of these sites or online services can be maintained on commercially reasonable terms, or at all. Although the Company is also pursuing opportunities to establish a presence on other large access points, there can be no assurance that it will be able to establish a presence successfully on such sites on commercially reasonable terms if at all. See "— Strategic Alliances" and "Risk Factors — Netscape Relationship" and "— Dependence on Third Party Relationships."</p> <p>The Company also targets midsize and smaller access points such as relatively well-subscribed ISPs such as NETCOM On-Line Communication Services, and popular Web sites, such as that operated by Intuit. Because there are a substantially greater number of these types of sites, the Company has developed a number of prepackaged value-added links to the Excite services that include search forms that can easily be customized and co-branded by the site provider. In addition, access points that install EWS are encouraged to create a link to the Excite service.</p> <p>Id. at GOOG-WRD-00871962.</p>

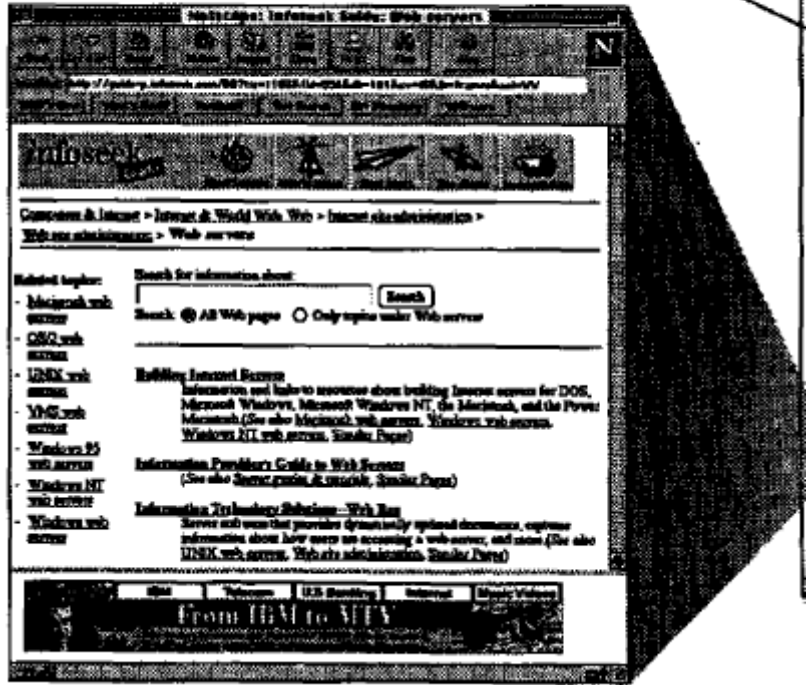
Reference	Disclosure
	<p><i>Distributed Search Capabilities</i></p> <p>The Company's information retrieval technology has been designed to address the complex problems that arise in information retrieval when a database is distributed across multiple nodes in a wide-area network. The primary goal in distributed information retrieval is to ensure that the results of a search of a database distributed across multiple nodes closely approximate the results that would have been achieved if the search had been performed on the same data collected on a single, local database. Although the Company believes that most distributed retrieval systems use a protocol that does not yield results that are similar to those that could be obtained on a search of a single, local database, the Company's distributed information retrieval protocol has been engineered to provide distributed results that are very similar to the concept-based results that the Company's technology yields for a single, local database. The Company believes that this distributed protocol will enable the Company's services and products to scale with, and thereby benefit from, the rapid growth of the Internet.</p> <p>The Company believes that its distributed information retrieval capability will permit it to continue to provide accurate, reliable information retrieval as the Internet grows. The Company plans to include a program called the notifier in its next release of EWS. This program is designed to allow the EWS administrator to send a copy of its Web site to the Excite service without waiting for the Company's spider to retrieve the current index. The cost to the EWS server is minimal, and Excite is spared the cost of retrieving and indexing those pages since the task of indexing has been distributed to the remote machines. The Company believes that this notifier technology will assist in increasing the number of Web pages that can be indexed and kept current by its services. The Company has not yet implemented its notifier technology, and there can be no assurance that the Company will be able to release such notifier technology successfully.</p> <p>Id. at GOOG-WRD-00871966.</p> <p>Strategic Alliances</p> <p>A key element of the Company's business strategy is to enter into relationships with both Internet access points and content providers. To this end, the Company has entered into a number of strategic alliances. These alliances include distribution alliances, which provide the Company with access to a wider user base, and media alliances, which are intended to help the Company provide specific content to affinity groups.</p> <p><i>Distribution alliances</i></p> <p>The Company believes that its future success will be substantially dependent upon its ability to attract and retain users for its services. The Company has entered into distribution agreements with leading providers of Internet access in order to increase user traffic to its services.</p> <p><i>Netscape.</i> The Company has entered into an agreement with Netscape under which the Company is designated as one of five "Premier Providers" of search and navigation services accessible from the "Net Search" button from the Netscape home page. Prior to entering into this agreement, the Company had a similar agreement with Netscape. The Company believes that from</p> <p>December 1995 to March 1996 (the term of this prior agreement) approximately 20% to 40% of its user traffic on a weekly basis was directed from Netscape. Although the Company has not yet determined the amount of its user traffic which is directed from Netscape under the new agreement, the Company believes that it will be dependent on its relationship with Netscape for a significant percentage of its user traffic. The agreement provides that the "Premier Provider" status will be established for one year from April 1, 1996, in exchange for which the Company will make payments totalling \$5 million over the course of the year. If the Company were not able to enter into a replacement agreement with Netscape at the end of the one year term or if such a replacement agreement with Netscape is executed containing materially worse terms than those contained in the agreement with Netscape, there would be a material adverse effect on the Company's business, results of operations and financial condition. See "Risk Factors — Netscape Relationship."</p> <p>Id. at GOOG-WRD-00871967-68.</p>

Reference	Disclosure
	<p><i>America Online.</i> The Company has entered into an agreement with AOL under which AOL may provide a co-branded version of the Excite service to AOL users. AOL may also mirror the Company's Web sites in the AOL service and will provide a link directly to the Company's Web sites from a "keyword" command and from AOL's "Internet Connection" channel. In each case, AOL would treat the Excite service as a premier provider of Internet and Web search and directory services. AOL and Excite would share advertising and transaction revenues derived from the use of these services by AOL subscribers. In addition, Excite would advertise AOL's service on Excite's pages, and AOL would pay a commission to the Company for new AOL subscribers referred from these ads. In order to keep the relationship and AOL's commitment in force, the Company must satisfy certain technical, editorial and advertising sales performance criteria. The relationship will be for an initial term of three years. This agreement was entered into in connection with AOL's purchase of Series D Preferred Stock from the Company. In addition, in the Series D Preferred Stock financing, AOL purchased from the Company a warrant to purchase 650,000 shares of Common Stock at an exercise price of \$8.00 per share. This warrant has a term of five years. See "Certain Transactions."</p> <p><i>Microsoft.</i> The Company has entered into a distribution and license agreement with Microsoft whereby the Company receives a license fee for maintaining and operating for Microsoft a separate, co-branded version of Excite that is substantially similar to Excite's services (the "Mirrored Site"). The Mirrored Site is accessible to Microsoft's customers through The Microsoft Network and, at Microsoft's discretion, other channels. The agreement gives Microsoft considerable control over operational matters. The Company and Microsoft share advertising space in the Mirrored Sites, with each party retaining the advertising revenues generated by its advertising space. Neither party may sell advertising on the Mirrored Site to the other party's enumerated competitors. If, during the term of the agreement, the Company desires to sell outright the database and/or tools comprising Excite, Microsoft has a right of first negotiation to negotiate for the purchase of such services. This agreement expires in April 1996. There can be no assurance that the Company will be able to renew this agreement with Microsoft on favorable terms or at all. To date, this agreement has not accounted for a significant portion of the Company's site traffic.</p> <p>Id. at GOOG-WRD-00871968.</p> <p><i>Reuters.</i> The Company has entered into a non-exclusive licensing agreement with Reuters pursuant to which the Company is provided with general news in seven broad categories for use on the Company's various services including Excite and Personal Excite. The Company shares with Reuters a portion of the advertising revenue generated from ads displayed along with Reuters content. This agreement expires in November 1996.</p> <p>Id. at GOOG-WRD-00871969.</p>

Reference	Disclosure
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InfoSeek Corporation S-1 Registration Statement No. 333-4142, Amendment No. 1, dated May 3, 1996 (“InfoSeek S-1”) produced at GOOG-WRD-00872371-GOOG-WRD-00872464

Search in Context
 Integrated, browsable, directory topics accompany a search result, provide related information and help narrow the context of a search.



Id. at GOOG-WRD-00872375.

The Infoseek Solution

Infoseek develops and provides branded, comprehensive Web-based navigational services that help users access and personalize the vast resources of the Internet. Infoseek's primary service offering, *Infoseek Guide*, not only provides specific and relevant responses to consumer searches, but also aggregates and packages the resources of the Internet in order to serve a consumer's unique and personal interests. By integrating the capabilities of a search engine and a directory, Infoseek packages specific responses to search queries with communities of related Web, USENET and branded third party content and targeted, related advertising. By creating communities of related information in real-time for users, *Infoseek Guide* satisfies the needs of consumers to access relevant and related information, the needs of content providers to reach interested audiences, and the needs of advertisers to deliver advertisements to a targeted group of potential buyers.

Id. at GOOG-WRD-00872403.

With every search on *Infoseek Guide*, the consumer receives some or all of the following: specific and relevant Web site listings in response to the query, a directory of other related Web sites, related and appropriate advertising, unique editorials on related subjects by well-known third party content providers, links to relevant discussion groups and other resources. For example, a user who enters the query "rock music concerts in San Francisco" would find not only a listing of relevant Web pages, but would also find a link to the Billboard Online section of the *iZone* (a third-party sponsored editorial feature related to popular music) and a directory of related topics including regional music, alternative music, music stores, and jazz that would be linked to other related Web sites. The user may also see advertising appropriate to the user's interests in rock music. The Company believes that the creation of real-time content enhances a user's Internet experience by immediately linking the user to an environment of relevant and related content and information.

Reference	Disclosure
	<ul style="list-style-type: none"> • <i>State-of-the-Art Searching.</i> The search engine underlying <i>Infoseek Guide</i>, which has been licensed from ACS/OM, is noted for its high accuracy and ability to quickly perform complex searches. The Company's search engine has won a number of industry awards, including "Number 1 Rated Search Engine" (PC Computing Sept 95), "Best of the Test" (Internet World May 96) and "MVP: Internet Tools" (PC Computing Dec 95). The Company is currently working on its next generation search engine, <i>Ultraseek</i>, which the Company plans to release in the second half of 1996. <i>Ultraseek</i> will enable the searching of a much greater number of Web sites at even faster speeds with the same level of accuracy for which <i>Infoseek Guide</i> is currently known. • <i>Search-in-Context.</i> <i>Infoseek Guide</i> integrates search and directory functions, providing not only specific responses to user queries, but also direct links in real-time to areas of content of interest that contain relevant content related to the specific request. Through this approach, consumers can either find specific answers to a search query or access a broader environment of other relevant and related information on the Internet. <p>Id.</p> <p>Infoseek's services provide advertisers with an increased ability to undertake measurable, targeted, cost-effective and interactive advertising on the Internet. The Company's services provide advertisers with the flexibility to target the mass audience of the Internet by advertising on the Company's general search pages, to target special interest groups by placing advertisements on directory pages, or, to narrowcast advertisements to specific audiences by placing advertising only when the user's query contains a specific word that has been designated as a key word for a particular advertiser. The Company believes that each of these types of advertising can provide significant value to advertisers. While larger, mass market campaigns increase brand awareness, narrower campaigns through directory ads or keyword ads provide opportunities to engage in high response, product specific advertising. The Company is also actively exploring new technologies</p> <p>Id. at GOOG-WRD-00872404.</p> <p><i>Create Innovative Solutions for Advertisers.</i> The Company seeks to provide advertisers with innovative solutions to effectively reach their target audiences through the Internet. The Company currently offers a broad range of customized alternatives for advertisers, providing advertisers with the flexibility to target mass audiences or specific communities, or link advertisements to keyword searches. In addition, the Company is actively exploring new technologies which will enable advertisers to utilize user demographic, profile, and psychographic information. For example, the Company has entered into a letter of intent with HNC which provides that the Company and HNC will jointly develop an advertising and management system to anonymously track individual usage behavior that is based upon technology developed by HNC. The Company believes that these innovative advertising approaches, which will allow advertisers to microcast advertisements to specific user types based on sophisticated analysis of searching behavior, will significantly differentiate the Company's services.</p> <p>Id. at GOOG-WRD-00872404-05.</p> <p><i>Utilize Leading-edge Search and Directory Technologies.</i> The Company believes that technology is an important component in differentiating its services. Accordingly, the Company develops and licenses from third parties leading-edge technologies which aid the Company in providing Internet users with quick, precise and thorough search results, and comprehensive state-of-the-art directory services. For example, the Company is currently working on its next generation search engine, <i>Ultraseek</i>, which the Company plans to release in the second half of 1996. <i>Ultraseek</i> will enable the searching of a much greater number of Web sites at even faster speeds with the same level of accuracy for which <i>Infoseek Guide</i> is currently known. The Company is also developing, through its relationship with HNC, leading-edge, proprietary technology for the automated abstracting and categorization of Web sites.</p> <p>Id. at GOOG-WRD-00872405.</p>

Reference	Disclosure
	<p>Infoseek Navigational Services</p> <p>Infoseek's primary service offering, <i>Infoseek Guide</i>, is a navigation and content aggregation service targeted towards individuals and offered free to users. In addition to <i>Infoseek Guide</i>, the Company offers <i>Infoseek Professional</i>, a subscription-based service featuring premium content from commercial information databases and targeted to business and professional users. The Company plans to continue to introduce new services for individual and organizational markets over time. The Company's current and future service offerings are described below:</p> <p><i>Infoseek Guide</i></p> <p><i>Infoseek Guide</i>, the Company's primary navigation and content aggregation service, assists users in locating relevant information on the Internet. <i>Infoseek Guide</i> provides to the user fast and relevant search results in response to the user's query. Moreover, <i>Infoseek Guide's</i> integrated search and browse functions guide the user to a real-time generated, personalized, Web community related to the area of inquiry. <i>Infoseek Guide</i> is offered free of charge to Internet users. Introduced in January 1996, <i>Infoseek Guide</i> is a successor to the Company's initial search service launched in April 1995.</p> <p>Id. at GOOG-WRD-00872406.</p> <p><i>Infoseek Guide</i> integrates multiple methods of obtaining information from the Internet. Users are presented with four principal resources — <i>Search, Directory, iZones and Toolbar</i> — from which they can launch specific queries, browse or access proprietary content.</p> <ul style="list-style-type: none"> • <i>Search</i>: The Search function allows the user to effect query-based searches of the Web, USENET News and other premium content databases or the Directory. To perform a search, a user types a query in the search box and is then presented a highly specific response from a search of the entire database. A search can be effected using either simple keywords, full text (natural languages) or more formal logic formats such as boolean. For example, a user can search for "Olympics and Atlanta" or type in "Tell Me About the Atlanta Olympic Games." The Search function utilizes sophisticated techniques to allow users to obtain specific results for queries, such as "AT&T", "NeXT," "49ers" or "Vitamin C," which can pose significant challenges to other search services, due to the case sensitive, numerical or singular letter aspect of the query. <i>Infoseek Guide</i> has won a number of industry awards including "Number 1 Rated Search Engine" (PC Computing Sept 95), "Best of the Test" (Internet World May 96) and "MVP: Internet Tools" (PC Computing Dec 95). In addition, the Company is currently working on its next generation search engine, <i>Ultraseek</i>, which the Company plans to release in the second half of 1996. <i>Ultraseek</i> will enable the searching of a much greater number of Web sites at even faster speeds with the same level of accuracy for which <i>Infoseek Guide</i> is currently known. • <i>Directory</i>: Directory is a hierarchical listing of Web pages that have been selected and abstracted by the Company and organized by category. As of March 31, 1996, Directory consisted of over 25,000 abstracted entries. Directory enables a user to click on a directory entry such as Arts & Entertainment or Sports, and to look through a hierarchy of relevant Internet sites for areas of interest. For example, under Sports, the user can proceed from Baseball to Players, and finally, to Ken Griffey Jr. Directory assists the user by providing abstracts of each directory entry. In addition, the Company has entered into a letter of intent with HNC to license certain technology from HNC which is intended to allow the Company to enhance the Company's Web Directory feature. Infoseek expects to use this technology to automate the construction of Directory categories, the assignment of Web pages to each Directory category and the creation of abstracts for each Web page included in the Directory, as well as to increase the number of entries in the Directory. <p>Id.</p> <p><i>Core Search Engine Technology</i></p> <p>The Company's current search engine technology is based upon technology licensed perpetually from ACSIOM to the Company. The Company's search engine has won a number of industry awards, including "Number 1 Rated Search Engine" (PC Computing Sept 95), "Best of the Test" (Internet World May 96) and "MVP: Internet Tools" (PC Computing Dec 95).</p> <p>The Company's search engine seeks to deliver high accuracy, which is characterized by the level of precision and the level of recall. Precision and recall are two criteria by which the effectiveness of a search engine technology is often measured. Precision is a measure of how effectively a search engine calculates the relevance of documents that match the query. Recall is a measure of what percentage of the total number of relevant documents in the database are found during the search. Together, these two measures of search engine performance tend to be the most important factors to users in evaluating the accuracy and usefulness of a search engine. For example, in a database of 100 documents with two documents that exactly match the desired query, the ideal search engine would retrieve only the two matching documents, thereby achieving both 100% precision and 100% recall.</p>

Reference	Disclosure
	<p>Id. at GOOG-WRD-00872408.</p> <p>Infoseek's search engine is able to recognize proper nouns and analyze keyword proximity. A request in <i>Infoseek Guide</i> for "Pete Rose" will return the former baseball player and not a large selection of flowers or other persons named "Pete," thereby retrieving more accurate results. In addition, the technology is case-sensitive, so that it can distinguish between a search for "NeXT," the computer company, and "next," the common word. Another key element of the technology include its ability to "stem" words so that all tenses and inflections of a word (such as stop, stops, stopped and stopping) are considered in the search. Stemming, improperly performed, results in the retrieval of large volumes of irrelevant information. The technology also makes use of operators that can filter documents by either requiring a specific term to appear in all search results or rejecting any results containing a specific term. Field operators are also used so that a search term may be linked to or excluded from a specific portion, or field, of a document, such as the title of a document.</p> <p>To facilitate the ease of use of the service, <i>Infoseek Guide</i> includes a sophisticated technology to interpret "natural language" queries. Although most current search engines also provide natural language capabilities, the results achieved may differ dramatically. The Infoseek technology is based upon a weighting of various factors such as the case of the words in the search phrase, how common the words appear in usage, word proximity and how the words appear in the pages searched. By using the stemming, case-sensitivity, word proximity, operators and other algorithms in the search engine, <i>Infoseek Guide</i> is able to retrieve highly accurate and relevant results.</p> <p>Id. at GOOG-WRD-00872408-09.</p> <p><i>Advertising Management</i></p> <p>Infoseek has developed certain proprietary systems for the instantaneous placement of advertisements with targeted audiences on appropriate <i>Infoseek Guide</i> Web pages. Infoseek's advertising management systems are capable of presenting in real-time advertising that corresponds to a user's inquiry. If certain key words have been purchased by more than one advertiser, the system automatically determines which advertisement is displayed based upon the number of impressions under contract and delivered to date. As part of the Company's proprietary advertising management system, Infoseek also maintains a database that tracks the number of searches of each word queried by Infoseek users, the number of browses through each Directory category and the number of impressions of each advertisement. This system assists the Company in estimating the number of expected impressions of specific advertisement options marketed by the Company or otherwise sought by advertisers.</p> <p>Id. at GOOG-WRD-00872409-10.</p> <p><i>Advertising Products and Pricing</i></p> <p>The Company offers advertisers four main advertising options that may be purchased individually or in packages: general rotation, topic pages, keyword and special placement. These options all contain hypertext links to the advertiser's home page. To date, most of Infoseek's contracts with advertisers have terms of three months or less.</p> <p>Id. at GOOG-WRD-00872410.</p> <p><i>Keyword:</i> Keyword advertisements are displayed when an Infoseek user's search contains a particular keyword selected by the advertiser. This option offers the advertiser a highly targeted, self-selected audience. Through its proprietary advertising management system, the Company tracks every word that is queried by Infoseek users. From it, the Company has identified approximately 200 keywords that are most frequently queried by Infoseek users and requested by advertisers. The current four week CPM for a keyword is \$50, with a \$1,000 minimum.</p> <p>Id. at GOOG-WRD-00872411.</p>

Reference	Disclosure
	<p>A number of companies offer competitive products and services addressing certain of the Company's target markets. These companies include America Online, Digital Equipment Corporation, Excite, Inc., Lycos, Inc., The McKinley Group, Open Text Corporation, CompuServe, Prodigy and Yahoo! Corporation. In addition, the Company competes with metasearch services that allow a user to search the databases of several catalogs and directories simultaneously. The Company also competes indirectly with database vendors that offer information search and retrieval capabilities with their core database products. In the future, the Company may encounter competition from providers of Web browser software, including Netscape and Microsoft, online services and other providers of other Internet products and services who elect to incorporate their own search and retrieval features into their offerings.</p> <p>Id. at GOOG-WRD-00872413.</p>
<p>Yahoo Prospectus Registration Statement No. 333-2142, dated April 12, 1996 ("Yahoo Prospectus") produced at GOOG-WRD-00874251-GOOG-WRD-00874328</p>	<p>The Internet and the World Wide Web</p> <p>The Internet is a global collection of computer networks, linking millions of public and private computers around the world. Historically, the Internet was used by academic institutions and government agencies to exchange information and send and receive electronic mail. A number of factors, including the proliferation of communication-enabled personal computers, the availability of intuitive, graphical software and wide accessibility to an increasingly robust network infrastructure, have allowed widespread access to the Internet at a rapidly declining cost and have facilitated the emergence of the Web, a client/server system of hyper-linked, multimedia databases. The Web enables non-technical users to easily access information on the Internet and enables individuals or organizations to offer textual, graphical and other information directly to end-users. Users can easily access information on the Web using client software known as Web "browsers." In recent years the Web has experienced a rapid increase in the number of individual users. International Data Corporation ("IDC") has estimated that the number of Internet users will reach approximately 200 million by the end of 1999, from approximately 56 million at the end of 1995; and an October 1995 CommerceNet/Nielsen Internet Demographics Survey indicated that approximately 18 million people in the U.S. and Canada had used the Web during the three month period prior to the survey.</p> <p>Id. at GOOG-WRD-00874279.</p> <p>Advertisers also have recognized that Web-based advertising may be more effective in a number of respects than traditional media advertising. Because the Web involves "point-to-point" communication between a server and client that is requested by the user, rather than broad indiscriminate distribution of messages, the Web offers the potential for advertisers to present messages to specific, self-selected audiences, and to enable users to interact with advertising information presented in Web pages. This characteristic of the Web also permits advertisers to measure more precisely the number of impressions, or times that an advertisement appears in page views downloaded by users, through verification by an independent third party auditor such as Nielsen I/PRO (Internet Profiles Corporation). Advertisers can also measure the effectiveness of advertising in generating "click-through," or user requests for additional information made by clicking on the advertiser's banner, linking the user to the advertiser's Web site. The Company believes that increases in transmission bandwidth through higher speed Internet connections, and wider adoption of advanced content delivery technologies for the Web, such as Java, VRML and other multimedia enabling technologies, will increase the functionality of advertising, and will make the Web an even more attractive advertising medium. The Company also believes that technological developments may result in greater ability to provide information and analysis about the effectiveness of Web advertising, the demographic profiles of users, as well as the capability for advertisers to frequently modify and more closely tailor their messages. This should result in more targeted, higher impact advertising opportunities, and greater integration of Web-based advertising into the range of marketing options available to advertisers.</p> <p>Id. at GOOG-WRD-00874280.</p> <p>The Company believes that <i>Yahoo!</i> currently is among the most widely used Internet navigational services available and that <i>Yahoo!</i> currently enjoys the strongest brand presence among offerings in this category. According to a Nielsen I/PRO independent audit report, <i>Yahoo!</i> averaged in excess of 1 million visits (defined as individual user sessions), 6 million page views (defined as electronic page displays) and 11 million file accesses or "hits" (defined as client requests to the Web server, several of which may be requested in viewing a single page) per day in February 1996; these levels represented increases from approximately 546,000 visits, approximately 3 million page views and approximately 5 million file accesses per day in September 1995. The Company believes that Internet users generally view <i>Yahoo!</i> as independent, comprehensive, intuitive, user-friendly, fast, fun and current. <i>Yahoo!</i> has been recognized with a number of industry awards, including the "Best of the Internet" and "Outstanding Service" awards at Internet World in April 1995 and "Best of the Net" for Internet Navigation as determined by GNN in December 1995. As an indication of the strength of the <i>Yahoo!</i> brand, the Company also has received hundreds of citations and references per month in newspapers and popular publications, including features in business and general interest publications.</p>

Reference	Disclosure
	<p>Id. at GOOG-WRD-00874281.</p> <ul style="list-style-type: none"> <li> <p>• Responsive and Scalable Technology Architecture. The Company believes that <i>Yahoo!</i> has achieved a high level of user satisfaction by implementing and optimizing state-of-the-art Web server and communications technologies. The Company has engineered the hierarchical <i>Yahoo!</i> database structure and directory search features to provide rapid user response times even with low bandwidth connections, and to permit growth in the size of the <i>Yahoo!</i> directory listings while maximizing performance. The Company's open and scalable architecture also has enabled <i>Yahoo!</i> to incorporate advanced search engine, database and communications technologies to make the user experience more productive and enjoyable.</p> <p>Id. at GOOG-WRD-00874282.</p> <p>Technology Alliance</p> <p>In connection with the Company's license of the Open Text Web-wide search engine, the Company has established a relationship with Open Text to jointly develop and improve Web-wide search engine capabilities for <i>Yahoo!</i>. The Company's engineering personnel work closely with Open Text to optimize and better integrate the Open Text technology into <i>Yahoo!</i> and other properties. Under the agreement with Open Text, the Company has agreed for a limited period to share revenues from advertising on pages returning results from Web-wide searches using the Open Text engine. As part of its relationship with the Company, Open Text has established its Web-wide search engine and database on a server operating on the same local area network as the Company's server in order to provide faster performance for queries originating from the <i>Yahoo!</i> directory. The Company's licenses to Open Text's Web-wide search engine and database are non-exclusive and perpetual, subject to payment of certain annual maintenance fees.</p> <p>Id. at GOOG-WRD-00874287.</p> <p>Infrastructure, Operations and Technology</p> <p>The Company makes <i>Yahoo!</i> available to users through a set of network servers housed in Mountain View, California, operating with public domain server software that has been optimized internally by the Company to provide an efficient and responsive user experience. A third party provider, ISI, provides the Company with access to two partial T3 (45 megabit per second) Internet connections on a 24 hour a day, seven days a week basis. The Company currently intends to establish similar access points with duplicate servers in the Eastern United States, Asia and Europe in the latter half of 1996, in order to optimize access speeds for the Company's end users, and to provide redundancy in the Company's systems. Any disruption in the Internet access provided by ISI or any failure of ISI to handle higher volumes of queries could have a material adverse effect on the Company's business, results of operations and financial condition.</p> <p>Id. at GOOG-WRD-00874290.</p> <p>The Company utilizes Web-wide searching technology from Open Text pursuant to a perpetual, worldwide, non-exclusive license. Open Text's search engine technology utilizes a "string search" algorithm that enables a user to search for strings of data of arbitrary length, whether partial words, complete words or phrases. Open Text's search technology is scalable, which enables a search to be conducted simultaneously across a number of databases. Accordingly, Open Text's search technology is designed to deliver consistent response times despite an increase in the amount of data and number of databases searched. As part of its relationship with the Company, Open Text has established its Web-wide search engine and database on a server operating on the same local area network as the Company's servers in order to provide faster performance for queries originating from the <i>Yahoo!</i> directory.</p> <p>Id. at GOOG-WRD-00874291.</p>

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<p>Yahoo Form SB-2 Registration Statement No. 333-2142, dated March 7, 1996 ("Yahoo Form SB-2") produced at GOOG-WRD-00874329-GOOG-WRD-00874418</p>	<p><i>The Internet and the World Wide Web</i></p> <p>The Internet is a global collection of computer networks, linking millions of public and private computers around the world. Historically, the Internet was used by academic institutions and government agencies to exchange information and send and receive electronic mail. A number of factors, including the proliferation of communication-enabled personal computers, the availability of intuitive, graphical software and wide accessibility to an increasingly robust network infrastructure, have allowed widespread access to the Internet at a rapidly declining cost and have facilitated the emergence of the Web, a client/server system of hyper-linked, multimedia databases. The Web enables non-technical users to easily access information on the Internet and enables individuals or organizations to offer textual, graphical and other information directly to end-users. Users can easily access information on the Web using client software known as Web "browsers." In recent years the Web has experienced a rapid increase in the number of individual users. International Data Corporation ("IDC") has estimated that the number of Internet users will reach approximately 200 million by the end of 1999, from approximately 56 million at the end of 1995; and an October 1995 CommerceNet/Nielsen Internet Demographics Survey indicated that approximately 18 million people in the U.S. and Canada had used the Web during the three month period prior to the survey.</p> <p>Id. at GOOG-WRD-00874357.</p> <p>Advertisers also have recognized that Web-based advertising may be more effective in a number of respects than traditional media advertising. Because the Web involves "point-to-point" communication between a server and client that is requested by the user, rather than broad indiscriminate distribution of messages, the Web offers the potential for advertisers to present messages to specific, self-selected audiences, and to enable users to interact with advertising information presented in Web pages. This characteristic of the Web also permits advertisers to measure more precisely the number of impressions, or times that an advertisement appears in page views downloaded by users of <i>Yahoo!</i>, through verification by an independent third party auditor such as Nielsen - I/PRO (Internet Profiles Corporation). Advertisers can also measure the effectiveness of advertising in generating "click-through," or user requests for additional information made by clicking on the advertiser's banner, linking the user to the advertiser's Web site. The Company believes that increases in transmission bandwidth through higher speed Internet connections, and wider adoption of advanced content delivery technologies for the Web, such as Java, VRML and other multimedia enabling technologies will increase the functionality of advertising, and will make the Web an even more attractive advertising medium. The Company also believes that technological developments may result in greater ability to provide information and analysis about the effectiveness of Web advertising, the demographic profiles of users and the ability for advertisers to frequently modify their messages. This should result in more targeted, higher impact advertising opportunities, and greater integration of Web-based advertising into the range of marketing options available to advertisers.</p> <p>Id. at GOOG-WRD-00874358.</p> <p>The Company believes that <i>Yahoo!</i> currently is among the most widely used Internet navigational services available and that <i>Yahoo!</i> currently enjoys the strongest brand presence among offerings in this category. The Company estimates that <i>Yahoo!</i> averaged in excess of 1 million visits (defined as individual user sessions), 7 million page views (defined as electronic page displays) and 12 million file accesses or "hits" (defined as client file requests, several of which may be made for each single page viewed) per day in February 1996; these levels represented increases from approximately 546,000 visits, approximately 3 million page views and approximately 5 million file accesses per day in September 1995. The Company believes that Internet users generally view <i>Yahoo!</i> as independent, comprehensive, intuitive, user-friendly, fast, fun and current. <i>Yahoo!</i> has been recognized with a number of industry awards, including the "Best of the Internet" and "Best Internet Service" awards at Internet World in April 1995 and "Best of the Net" for Internet Navigation as determined by GNN in December 1995. As an indication of the strength of the <i>Yahoo!</i> brand, the Company also has received hundreds of citations and references per month in newspapers and popular publications, including features in business and general interest publications.</p> <p>Id. at GOOG-WRD-00874359.</p>

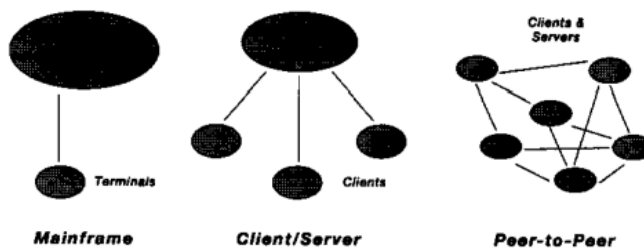
Reference	Disclosure
	<p>• Responsive and Scalable Technology Architecture. The Company believes that <i>Yahoo!</i> has achieved a high level of user satisfaction by implementing and optimizing state-of-the-art Web server and communications technologies. The Company has engineered the hierarchical <i>Yahoo!</i> database structure and directory search features to provide rapid user response times even with low bandwidth connections, and to permit growth in the size of the <i>Yahoo!</i> directory listings while maximizing performance. The Company's open and scalable architecture also has enabled <i>Yahoo!</i> to incorporate advanced search engine, database and communications technologies to make the user experience more productive and enjoyable.</p> <p>Id. at GOOG-WRD-00874360.</p> <p>Technology Alliance</p> <p>In connection with the Company's license of the Open Text Web-wide search engine, the Company has established a relationship with Open Text to jointly develop and improve Web-wide search engine capabilities for <i>Yahoo!</i>. The Company's engineering personnel work closely with Open Text to optimize and better integrate the Open Text technology into <i>Yahoo!</i> and other properties. Under the agreement with Open Text, the Company has agreed for a limited period to share revenues from advertising on pages returning results from Web-wide searches using the Open Text engine. As part of its relationship with the Company, Open Text has established its Web-wide search engine and database on a server operating on the same local area network as the Company's server in order to provide faster performance for queries originating from the <i>Yahoo!</i> directory. The Company's licenses to Open Text's Web-wide search engine and database are non-exclusive and perpetual, subject to payment of certain annual maintenance fees.</p> <p>Id. at GOOG-WRD-00874365.</p> <p>Infrastructure, Operations and Technology</p> <p>The Company makes <i>Yahoo!</i> available to users through a set of network servers housed in Mountain View, California, operating with public domain server software that has been optimized internally by the Company to provide an efficient and responsive user experience. A third party provider, ISI, provides the Company with access to two partial T3 (45 megabit per second) Internet connections on a 24 hour a day, seven days a week basis. The Company currently intends to establish similar access points with duplicate servers in the Eastern United States, Asia and Europe in the latter half of 1996, in order to optimize access speeds for the Company's end users, and to provide redundancy in the Company's systems. Any disruption in the Internet access provided by ISI or any failure of ISI to handle higher volumes of queries could have a material adverse effect on the Company's business, results of operations and financial condition.</p> <p>Id. at GOOG-WRD-00874368.</p> <p>The Company utilizes Web-wide searching technology from Open Text pursuant to a perpetual, worldwide, non-exclusive license. Open Text's search engine technology utilizes a "string search" algorithm that enables a user to search for strings of data of arbitrary length, whether partial words, complete words or phrases. Open Text's search technology is scalable, which enables a search to be conducted simultaneously across a number of databases. Accordingly, Open Text's search technology is designed to deliver consistent response times despite an increase in the amount of data and number of databases searched. As part of its relationship with the Company, Open Text has established its Web-wide search engine and database on a server operating on the same local area network as the Company's servers in order to provide faster performance for queries originating from the <i>Yahoo!</i> directory.</p> <p>Id. at GOOG-WRD-00874368-69.</p>

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<p>Open Text Form F-1 Registration Statement No. 33-98858, dated November 1, 1995 (“Open Text Form F-1”) produced at GOOG-WRD-00873727-GOOG-WRD-00873878</p>	<p style="text-align: center;">The Company</p> <p>Open Text Corporation (the “Company”) develops, markets, licenses and supports software for use on local and wide area networks and the Internet that enables users to find electronically stored information, work together in creative and collaborative processes and distribute or make available to users across networks or the Internet the resulting work product and other information. The Company’s search engine enables users to transparently search vast amounts of data stored in a wide variety of formats and in disparate locations, including World Wide Web sites. The Company’s search technology is characterized by rapid response times that do not increase materially as the amount of data searched increases from gigabytes to terabytes, if adequate server and communications resources are employed. The Company’s workflow and document management software enables users to establish and manage document-oriented collaborative work processes that involve a diversity of workers, computing platforms and data. In addition, the Company’s products enable organizations to flexibly manage the distribution and availability of information. The Company’s strategy is to offer information search, work process management and information distribution products that collectively represent an information management solution addressing the needs of the spectrum of users of local and wide area networks and the Internet.</p> <p>Employing its search engine and related technologies, the Company has created the <i>Open Text Index</i>, an index of the World Wide Web (the “Web”), that it licenses together with its search technology to major Web information providers, including Yahoo!, internetMCI and IBM infoMarket. The Company also offers the <i>Open Text Index</i> as a search tool to Web users on the Company’s own Web site in order to increase awareness of the Company’s technology and products and to capitalize on the emerging advertising revenue opportunity on the Internet.</p> <p>The Company’s search engine, currently marketed as <i>Open Text 5</i>, has application as a stand-alone search tool for use on local and wide area networks and the Internet and as part of more comprehensive information management solutions. For example, the Company’s search engine is a key component of <i>Latitude</i>, the Company’s document distribution product that enables an organization’s users to find and view, in native format, documents in large collections of information stored on local or remote servers and CD-ROMs spread across local and wide area networks and the Internet.</p> <p>Id. at GOOG-WRD-00873603.</p> <p>Industry Overview</p> <p>Organizations are increasingly seeking to streamline their business processes in order to increase worker productivity and reduce costs through the implementation of information management solutions. Through investments in traditional information management tools, organizations often establish a variety of data processing infrastructures that are rigidly designed to complete specific tasks or perform narrowly defined functions. As a result, organizations are increasingly faced with significant information management challenges attributable to rapidly increasing amounts of data created and stored in a variety of formats and in disparate locations across various networks. In addition, the emergence of the Internet as an important medium for communications is an increasingly significant influence on the configuration of network computing environments, and organizations are increasingly adopting private networks that are based on client/server architectures and that employ Internet data formats and communications protocols to connect geographically dispersed networks and facilities.</p> <p><i>Proliferation of Information on Client/Server Networks and the Internet</i></p> <p>In recent years, advances in computer hardware and software technology have resulted in dramatic increases in the amount of electronically stored information available to computer users. The ease of use, increased performance and declining cost of computer hardware and software have resulted in rapid growth in the number of business and individual personal computer users and the migration of corporate networks from centralized mainframe systems to distributed local and wide area networks based on client/server architectures and, more recently, on network-based architectures. The prevalence of client/server networks facilitates the creation and storage of information on numerous computers in disparate locations and in a wide variety of files and formats. Client/server networks consist of desktop computers (“clients”) that can access powerful computers (“servers”) that store large amounts of information and perform computing functions on behalf of clients. These networks enable dispersed users to communicate with and access the information and other resources of other computers in the network across traditional geographic and organizational boundaries. As a result, information that is critical to organizations increasingly is created, managed and stored on a decentralized basis in numerous sites and in a variety of files and formats.</p>

Reference

Disclosure

Network Computing Evolution



Computer architectures have evolved with advances in hardware and software technologies. The mainframe architecture, which initially dominated computing, was supplanted by the client/server architecture that resulted from increases in desktop computing power. Recent advances in network hardware and protocols have created an open network architecture, based on Internet communications protocols, that facilitates flexible communication among multiple servers and multiple clients (peer-to-peer architecture).

The rapid growth in the use of on-line services and the Internet has enabled both organizations and individual computer users to communicate with other users and access large amounts of information published for general public reference and for access by consumers. The Internet is a global web linking thousands of computer networks. International Data Corporation estimates that the number of Internet users was approximately 38 million at the end of 1994 and predicts that the number of Internet users will grow to approximately 200 million by the year 2000. Much of the recent growth in the use of the Internet is attributable to the emergence of the network of servers and information available on the Internet known as the World Wide Web. The Web employs a client/server architecture that, when integrated with "browser" software, enables non-technical users to exploit the capabilities of the Internet.

The Web is characterized by a standard document format described by the Hypertext Mark-Up Language ("HTML") and a standard information transfer protocol called Hypertext Transfer Protocol ("HTTP"). As organizations become familiar with the use of the Web, they are increasingly adopting Internet data formats and communications protocols, such as Transmission Control Protocol/Internet Protocol ("TCP/IP"), and using Web client and server software and, in some cases, the Internet's facilities as the backbone for private networks ("Private Webs") that connect an organization's local area networks. The implementation of a Private Web is a low cost alternative to the establishment of a proprietary private network. Private Webs enable network users to communicate and access information within an organization's boundaries, collaborate with external groups or individuals, including suppliers, customers and consultants, and use the Web to access information on the Internet and communicate with other Web users. An organization also may use its Private Web servers to publish documents and data on the Web that are created and resident on its Private Web.

In addition to providing access to a vast array of information, the Internet represents a new medium through which organizations and individuals can conduct business. The potential benefits of conducting business on the Internet include direct, immediate communications with consumers, customers, vendors and other parties, increased access to a large and growing universe of organizations and individuals, novel advertising opportunities and low communications and transaction costs. The amount of information available on the Internet, the commercial applications of the Internet, the number of Web sites on which data reside and the amount of data residing on individual Web sites are all increasing rapidly. As a result, both business and home computer users face the challenge of locating and retrieving the specific information that responds to their needs from the vast sea of data available on the Internet.

Reference	Disclosure														
	<p><i>Diverse Data Formats</i></p> <p>Information can be classified as either "relational" or "non-relational" data, as outlined in the chart below. Relational data generally consists of data organized in strictly defined row and column formats. While relational database management systems, such as those marketed by Oracle and Sybase, enable organizations to manage their relational data, only a small percentage of electronically stored information is stored in relational databases. The vast majority of the remaining data is stored in non-relational format, which is not suited for search and retrieval using relational database management systems.</p> <p>Non-relational data can be divided into two categories, "unstructured" and "structured." Non-relational data created with word processing programs and other programs, such as spreadsheets, are unstructured and include proposals, reports, budgets, engineering drawings, memoranda, electronic mail and multimedia files. Increasingly, a significant portion of the information stored as unstructured data contains information of continuing value to an organization.</p> <p>Documents intended to have a long life and continuing value and that are frequently revised or updated are often created in a structured format called Standard Generalized Markup Language ("SGML"). Such documents include maintenance and owners manuals, parts lists, catalogs and operating policies and procedures manuals. SGML records the elements of the document's structure (e.g., titles, headings, footnotes and various other organizational elements selected by the author) in addition to its text. SGML is well suited for documents that will be stored in databases and delivered in a variety of media and has found wide acceptance in the fields of reference publishing, technical documentation and regulatory compliance, including the Securities and Exchange Commission's "EDGAR" document repository. The importance of SGML has increased recently, because it is the basis upon which HTML, the language of the Web, is built. SGML theory and practice will play a significant role in the future development of HTML.</p> <table border="1"> <thead> <tr> <th></th> <th colspan="2">Non-Relational Data</th> </tr> <tr> <th>Relational Data</th> <th>Structured</th> <th>Unstructured</th> </tr> </thead> <tbody> <tr> <td>Data and File Formats</td> <td>SQL (Oracle, Sybase and Informix)</td> <td>SGML HTML</td> <td>ASCII WordPerfect Excel Word Lotus 1-2-3</td> </tr> <tr> <td>Document Types</td> <td>Sales data reports Accounting reports Invoices Customer records Backlog status</td> <td>Web sites Owner's manuals Operating procedures Parts lists Product catalogs Product documentation</td> <td>Memoranda E-mail Presentations Business reports Correspondence Spreadsheets Technical documents Multimedia presentations</td> </tr> </tbody> </table> <p>In the client/server environment, an increasing proportion of information of continuing value to organizations is non-relational and cannot be found or retrieved using relational database management systems. Accordingly, organizations will increasingly demand software solutions that enable users to find and use information in a variety of data and file formats, regardless of whether it is structured or unstructured.</p> <p>Id. at GOOG-WRD-00873633-35.</p> <p><i>Parallel Execution Monitor.</i> The Company's search technology also includes a routing function called the Parallel Execution Monitor (the "PEM"). The PEM provides a single point of access for distributed parallel searching of large databases in networked environments, including the Internet, in which it is difficult or impossible to unify all data on a single server or to build a single index of the data to be searched. The PEM performs all the network connection and remote process management functions necessary to accomplish this task. Accordingly, the index may reside on a number of servers in a variety of locations, and the use of the PEM enables the search to be simultaneously conducted across a number of servers that contain the index. The PEM enables the user to conduct searches quickly and without concern for the specific location of the data for any given query. The use of the PEM also enables the Company's search engine to deliver consistent response times regardless of database size or configuration, if adequate server and communications resources are employed.</p> <p>Id. at GOOG-WRD-00873639.</p> <p><i>Workflow and Document Management Technology</i></p> <p><i>Architecture.</i> <i>Livelink</i>, the Company's workflow and document management product, employs a client/server architecture that enables organizations to connect standard desktop computers, networks, databases and servers in an organization-wide workflow and document management system. <i>Livelink</i> supports a variety of computing platforms, including Microsoft Windows and Windows 95, Apple Macintosh and Unix.</p> <p>Id. at GOOG-WRD-00873640.</p>		Non-Relational Data		Relational Data	Structured	Unstructured	Data and File Formats	SQL (Oracle, Sybase and Informix)	SGML HTML	ASCII WordPerfect Excel Word Lotus 1-2-3	Document Types	Sales data reports Accounting reports Invoices Customer records Backlog status	Web sites Owner's manuals Operating procedures Parts lists Product catalogs Product documentation	Memoranda E-mail Presentations Business reports Correspondence Spreadsheets Technical documents Multimedia presentations
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The Company is establishing physical facilities for the <i>Open Text Index</i> at Yahoo! Corporation in Mountain View, California with eight servers. After the facilities in California are established, the servers in Toronto will be used to store a redundant copy of the <i>Open Text Index</i> and to crawl the Internet to expand the scope of the <i>Open Text Index</i>. The Company leases all of the servers on which the <i>Open Text Index</i> is stored.</p> <p>Id. at GOOG-WRD-00873650.</p> <p>Hypertext Transfer Protocol (HTTP). HTTP is a File Transfer Protocol specifically developed to enable Web servers to send data to clients, including HTML and graphic add-ins.</p>	Product	Application	Distribution Channel	Current Version Release Date	Initial Version Release Date	<i>Open Text Index</i>	On-line Internet directory service	Direct sales	March 1995	Same	<i>Latitude Web Server</i>	Directory tool kit for enterprise libraries enabling organizations to index internal and external Web pages	Direct sales VARs	November 1995* (Beta version October 1995)	Same	<i>Latitude</i>	Information retrieval and viewing system for data located in disparate locations and formats	Direct sales VARs	March 1995	Same	<i>Livelihood</i>	Workflow and document management software enabling workgroup collaboration	Direct sales OEMs VARs Distributors	May 1995	March 1992	<i>Open Text 5</i>	Indexing and search product resident on a server	Direct sales OEMs VARs	January 1995	September 1991	<i>Internet Anywhere</i>	Client-based Internet access tools	OEMs Retail	October 1995	June 1994	<i>PC Search</i>	Indexing and search product resident on a PC	Direct sales VARs	November 1995* October (Beta version October 1995)	Same
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	<p>Id. at GOOG-WRD-00873675.</p> <p>Structured Query Language (SQL). A data access language designed to simplify and standardize the way relational data can be manipulated and retrieved on heterogeneous computer platforms from multiple vendors. Prevalent for several years on mainframe platforms, SQL is an emerging standard on other platforms, including client/server systems.</p> <p>Id. at GOOG-WRD-00873676.</p> <p>World Wide Web. A network of computer servers that uses a special communications protocol to link different servers throughout the Internet and permits communication of graphics, video and sound.</p> <p>Id. at GOOG-WRD-00873677.</p>
<p>Open Prospectus, dated January 23, 1996 (“Open Text Prospectus”) produced at OT03652-3758</p>	<p style="text-align: center;">The Company</p> <p>Open Text Corporation (the “Company”) develops, markets, licenses and supports software for use on local and wide area networks, Intranets and the Internet that enables users to find electronically stored information, work together in creative and collaborative processes and distribute or make available to users across networks or the Internet the resulting work product and other information. The Company’s search engine enables users to transparently search vast amounts of data stored in a wide variety of formats and in disparate locations, including World Wide Web sites. The Company’s search technology is characterized by rapid response times that do not increase materially as the amount of data searched increases, if adequate server and communications resources are employed. The Company’s workflow and document management software enables users to establish and manage document-oriented collaborative work processes that involve a diversity of workers, computing platforms and data. In addition, the Company’s products enable organizations to flexibly manage the distribution and availability of information. The Company’s strategy is to offer information search, work process management and information distribution products that collectively represent a suite of information management solutions addressing the needs of the spectrum of users of local and wide area networks, Intranets and the Internet.</p> <p>Employing its search engine and related technologies, the Company has created the <i>Open Text Index</i>, an index of the World Wide Web (the “Web”), that it licenses together with its search technology to major Web information providers, including Yahoo!, internetMCI and IBM.infoMarket. The Company also offers the <i>Open Text Index</i> as a search tool to Web users on the Company’s own Web site in order to increase awareness of the Company’s technology and products and to capitalize on the emerging advertising revenue opportunity on the Internet. Netscape Communications Corporation (“Netscape”) has agreed to list the <i>Open Text Index</i> on the Netscape Navigator under the “Net Search” button.</p> <p>The Company’s search engine, currently marketed as <i>Open Text 5</i>, has application as a stand-alone search tool for use on local and wide area networks and the Internet and as part of more comprehensive information management solutions. For example, the Company’s search engine is a key component of <i>Latitude</i>, the Company’s document distribution product that enables an organization’s users to find and view, in native format, documents in large collections of information stored on local or remote servers and CD-ROMs spread across local and wide area networks and the Internet. In November 1995, the Company introduced <i>Latitude Web Server</i>, a software tool kit that facilitates an organization’s creation of an internal Internet-protocol network, or “Intranet,” that enables users to find and retrieve information and documents available on the organization’s Intranet and on other Web sites, and enables the organization to make selected documents available to the public over the Internet.</p> <p>The Company’s workflow and document management system, <i>Livelink</i>, combines the features of an integrated document management system with workflow management and collaborative computing functions on local and wide area networks. The Company is developing <i>Livelink</i> to enable users to manage documents, establish collaborative workgroups and manage and track the progress of their work using Intranets and the Internet. The Company is also integrating <i>Livelink</i> and <i>Latitude Web Server</i> to enable users to find and retrieve information from the organization’s Intranet and from other Web sites and manage the distribution of this information using Intranets and the Internet.</p> <p>Id. at OT03653.</p>

Reference	Disclosure
	<p>Industry Overview</p> <p>Organizations are increasingly seeking to streamline their business processes in order to increase worker productivity and reduce costs through the implementation of information management solutions. Through investments in traditional information management tools, organizations often establish a variety of data processing infrastructures that are rigidly designed to complete specific tasks or perform narrowly defined functions. As a result, organizations are increasingly faced with significant information management challenges attributable to rapidly increasing amounts of data created and stored in a variety of formats and in disparate locations across various networks. In addition, the emergence of the Internet as an important medium for communications is an increasingly significant influence on the configuration of network computing environments, and organizations are increasingly adopting private Intranets that are based on client/server architectures and that employ Internet data formats and communications protocols to connect geographically dispersed networks and facilities.</p> <p><i>Proliferation of Information on Client/Server Networks and the Internet</i></p> <p>In recent years, advances in computer hardware and software technology have resulted in dramatic increases in the amount of electronically stored information available to computer users. The ease of use, increased performance and declining cost of computer hardware and software have resulted in the rapid growth of the number of business and individual personal computer users and the migration of corporate networks from centralized mainframe systems to distributed local and wide area networks based on client/server architectures and, more recently, on peer to peer architectures. The prevalence of client/server networks facilitates the creation and storage of information on numerous computers in disparate locations and in a wide variety of files and formats. Client/server networks consist of desktop computers ("clients") that can access powerful computers ("servers") that store large amounts of information and perform computing functions on behalf of clients. These networks enable dispersed users to communicate with and access the information and other resources of other computers in the network across traditional geographic and organizational boundaries. As a result, information that is critical to organizations increasingly is created, managed and stored on a decentralized basis in numerous sites and in a variety of files and formats.</p>

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	<div> <p>The diagram consists of three parts. On the left, a large oval labeled 'Mainframe' is connected by a vertical line to a smaller oval labeled 'Terminals'. In the middle, a large oval labeled 'Server' is connected by three lines to three smaller ovals labeled 'Clients'. On the right, a network of seven ovals is shown, with some labeled 'Clients & Servers', interconnected by multiple lines representing network connections.</p> </div> <div> <p>Computer architectures have evolved with advances in hardware and software technologies. The mainframe architecture, which initially dominated computing, was supplanted by the client/server architecture that resulted from increases in desktop computing power. Recent advances in network hardware and protocols have resulted in the creation of an open network architecture, based on Internet communications protocols, that facilitates flexible communication among multiple servers and multiple clients (Internet/Intranet architecture).</p> </div> <div> <p>The rapid growth in the use of on-line services and the Internet has enabled both organizations and individual computer users to communicate with other users and access large amounts of information published for general public reference or for access by consumers. The Internet is a global web linking thousands of computer networks. International Data Corporation estimates that the number of Internet users was approximately 38 million at the end of 1994 and predicts that the number of Internet users will grow to approximately 200 million in the year 1999. Much of the recent growth in the use of the Internet is attributable to the emergence of the network of servers and information available on the Internet known as the World Wide Web. The Web employs a client/server architecture that, when integrated with "browser" software, enables non-technical users to exploit the capabilities of the Internet.</p> </div> <div> <p>In addition to providing access to a vast array of information, the Internet represents a new medium through which organizations and individuals can conduct business. The potential benefits of conducting business on the Internet include direct, immediate communications with consumers, customers, vendors and other parties; increased access to a large and growing universe of organizations and individuals, novel advertising opportunities and low communications and transaction costs. The amount of information available on the Internet, the commercial applications of the Internet, the number of Web sites on which data reside and the amount of data residing on individual Web sites are all increasing rapidly. As a result, both business and home computer users face the challenge of locating and retrieving the specific information that responds to their needs from the vast sea of data available on the Internet.</p> </div> <div> <p>The Web is characterized by a standard document format described by the Hypertext Mark-Up Language ("HTML") and a standard information transfer protocol called Hypertext Transfer Protocol ("HTTP"). As organizations become familiar with the use of the Web, they are increasingly adopting Internet data formats and communications protocols, such as Transmission Control Protocol/Internet Protocol ("TCP/IP"), and using Web client and server software and, in some cases, the Internet's facilities as the backbone for private networks ("Intranets") that connect an organization's local area networks. The implementation of an Intranet is a low cost alternative to the establishment of a proprietary private network. Intranets enable network users to communicate and access information within an organization's boundaries, collaborate with external groups or individuals, including suppliers, customers and consultants, and use the Web to access information on the Internet and communicate with other Web users. An organization also may use its Intranet servers to publish documents and data on the Web that are created and resident on its Intranet. An increasing number of</p> </div>

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	<p>organizations are implementing Intranets as an alternative to traditional client/server networks. Accordingly, demand for business-oriented software solutions that support Internet protocols is increasing, and expected to continue to increase.</p> <p><i>Diverse Data Formats</i></p> <p>Electronically stored information can be classified as either "relational" or "non-relational" data, as outlined in the chart below. Relational data generally consists of data organized in strictly defined row and column formats. While relational database management systems, such as those marketed by Oracle Corporation ("Oracle"), Sybase, Inc. ("Sybase") and Informix Software ("Informix"), enable organizations to manage their relational data, only a small percentage of electronically stored information is stored in relational databases. The vast majority of the remaining data is stored in non-relational format, which is not suited for search and retrieval using relational database management systems.</p> <p>Non-relational data can be divided into two categories, "unstructured" and "structured." Non-relational data created with word processing programs and other programs, such as spreadsheets, are unstructured and include documents such as proposals, reports, budgets, engineering drawings, memoranda, electronic mail and multimedia files. Increasingly, a significant portion of the information stored as unstructured data contains information of continuing value to an organization.</p> <p>Documents intended to have a long life and continuing value and that are frequently revised or updated are often created in a structured format called Standard Generalized Markup Language ("SGML"). Such documents include maintenance and owners manuals, parts lists, catalogs and operating policies and procedures manuals. SGML records the elements of the document's structure (e.g., titles, headings, footnotes and various other organizational elements selected by the author) in addition to its text. SGML is well suited for documents that will be stored in databases and delivered in a variety of media and has found wide acceptance in the fields of reference publishing, technical documentation and regulatory compliance, including the Securities and Exchange Commission's "EDGAR" document repository. The importance of SGML has increased recently, because it is the basis upon which HTML, the language of the Web, is built. SGML theory and practice will play a significant role in the future development of HTML.</p> <table border="1"> <thead> <tr> <th></th> <th colspan="3">Non-Relational Data</th> </tr> <tr> <th></th> <th>Relational Data</th> <th>Structured</th> <th>Unstructured</th> </tr> </thead> <tbody> <tr> <td>Data and File Formats</td> <td>SQL <i>(Oracle, Sybase and Informix)</i></td> <td>SGML HTML</td> <td>ASCII WordPerfect Excel Word Lotus 1-2-3</td> </tr> <tr> <td>Document Types</td> <td>Sales data reports Accounting reports Invoices Customer records Backlog status</td> <td>Web sites Owner's manuals Operating procedures Parts lists Product catalogs Product documentation</td> <td>Memoranda E-mail Presentations Business reports Correspondence Spreadsheets Technical documents Multimedia presentations</td> </tr> </tbody> </table> <p>In the client/server environment, an increasing proportion of information of continuing value to organizations is non-relational and cannot be found or retrieved using relational database management systems. Accordingly, organizations will increasingly demand software solutions that enable users to find and use information in a variety of data and file formats, regardless of whether it is structured or unstructured.</p> <p>Id. at OT03689-91.</p> <p><i>Parallel Execution Monitor.</i> The Company's search technology also includes a routing function called the Parallel Execution Monitor (the "PEM"). The PEM provides a single point of access for distributed parallel searching of large databases in networked environments, including the Internet, in which it is difficult or impossible to unify all data on a single server or to build a single index of the data to be searched. The PEM performs all the network connection and remote process management functions necessary to accomplish this task. 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For example, Caterpillar has purchased and is implementing <i>Latitude</i> as a search tool for information found in the electronic repair and maintenance manuals that are used by 180 Caterpillar equipment dealers. <i>Latitude</i> will enable Caterpillar's dealers to find and view repair and maintenance-related information requested by a user, including instructional video clips, on hundreds of thousands of equipment parts and maintenance procedures.</p> <p>Id. at OT03698.</p> <p><i>Hypertext Transfer Protocol (HTTP).</i> HTTP is a file transfer protocol specifically developed to enable Web servers to send data to clients, including HTML and graphic add-ins.</p> <p>Id. at OT03735.</p>	Product	Application	Distribution Channel	Current Version Release Date	Initial Version Release Date	<i>Open Text Index</i>	On-line Internet directory service	Direct sales	March 1995	Same	<i>Latitude Web Server</i>	Directory tool kit enabling organizations to index internal and external Web pages	Direct sales OEMs VARs	November 1995	Same	<i>Latitude</i>	Information retrieval and viewing system for data located in disparate locations and formats	Direct sales VARs	March 1995	Same	<i>Livelink</i>	Workflow and document management software enabling workgroup collaboration	Direct sales OEMs VARs Distributors	May 1995	March 1992	<i>Open Text 5</i>	Indexing and search product resident on a server	Direct sales OEMs VARs	January 1995	September 1991	<i>Internet Anywhere</i>	Client-based Internet access tools	OEMs Retail	October 1995	June 1994	<i>PC Search</i>	Indexing and search product resident on a PC	Direct sales VARs	November 1995	Same
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<i>Latitude Web Server</i>	Directory tool kit enabling organizations to index internal and external Web pages	Direct sales OEMs VARs	November 1995	Same																																					
<i>Latitude</i>	Information retrieval and viewing system for data located in disparate locations and formats	Direct sales VARs	March 1995	Same																																					
<i>Livelink</i>	Workflow and document management software enabling workgroup collaboration	Direct sales OEMs VARs Distributors	May 1995	March 1992																																					
<i>Open Text 5</i>	Indexing and search product resident on a server	Direct sales OEMs VARs	January 1995	September 1991																																					
<i>Internet Anywhere</i>	Client-based Internet access tools	OEMs Retail	October 1995	June 1994																																					
<i>PC Search</i>	Indexing and search product resident on a PC	Direct sales VARs	November 1995	Same																																					

Reference	Disclosure
	<p><i>Structured Query Language (SQL).</i> A data access language designed to simplify and standardize the way relational data can be manipulated and retrieved on heterogeneous computer platforms from multiple vendors. Prevalent for several years on mainframe platforms, SQL is an emerging standard on other platforms, including client/server systems.</p> <p>Id. at OT03736.</p> <p><i>World Wide Web.</i> A network of computer servers that uses a special communications protocol to link different servers throughout the Internet and permits communication of graphics, video and sound.</p> <p>Id. at OT03737.</p>