Box/Seg

Case No. <u>9623/378</u>

PATENT APPLICATION TRANSMITTAL LETTER

To the Commissioner for Patents:

Date of Deposit December 11, 2001

"Express Mail" mailing label number EL920879897US.

Transmitted herewith for filing is the patent application of: Mark Paine, Winton Davies, Don Geddis, Jon Dukes-Schlossberg and Darren

<u>Davis</u> f	or : <u>RECO</u>	MMENDING S	EARCH TERMS	USING COLLABO	RATIVE FILTER	RING	AND WEB SPID	<u>ERING</u> . En	closed	are:		
	20 sheet(s) of drawings, 60 pages of application (including title page), and the following Appendices: two identical compact discs marked COPY 1 and COPY 2 and having a CD-R appendix containing computer source code in IBM-PC format compatible with MS-Windows operating system; a list of the 37,913 files contained on the compact discs is provided in a file at the top directory level of each compact disc in a file called "dir s".											
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	Power o	Power of Attorney.										
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_	Verified statement to establish small entity status under 37 CFR §§ 1.9 and 1.27.											
		Assignment transmittal letter and Assignment of the invention to :										
	Petition under 37 C.F.R. § 1.183, with check for \$130.00.											
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The issue fee set in 37 CFR § 1.18 at or before mailing of the Notice of Allowance, pursuant							ant to 37 CF	R § 1.	311(b).			

Dec. 11, 2001

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2:11-cv-512 (RAJ)

PLAINTIFF'S EXHIBIT 419

"Express Mail" mailir	ng label number	EL920879897US				
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Our Case No.9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE APPLICATION FOR UNITED STATES LETTERS PATENT

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Don Geddis Jon Dukes-Schlossberg

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TITLE:

RECOMMENDING SEARCH TERMS

USING COLLABORATIVE

FILTERING AND WEB SPIDERING

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RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING

RELATED APPLICATIONS

This application is a continuation in part of application serial number 09/911,674 entitled SYSTEM AND METHOD FOR INFLUENCING A POSITION ON A SEARCH RESULT LIST GENERATED BY A COMPUTER NETWORK SEARCH ENGINE, filed on July 24, 2001 in the names Davis, et al., which application is commonly assigned with the present application and incorporated herein in its entirety by this reference and which is a continuation of application serial number 09/322,677, filed May 28, 1999, in the names of Darren J. Davis, et al., now U.S. patent number 6,269,361.

REFERENCE TO COMPUTER PROGRAM LISTINGS SUBMITTED ON COMPACT DISK

A compact disc appendix is included containing computer program code listings pursuant to 37 C.F.R. 1.52(e) and is hereby incorporated by reference in its entirety. The total number of compact discs is 1 including 37,913 files and 539,489,774 bytes. The files included on the compact disc are listed in a file entitled "dir_s" on the compact disc. Because of the large number of files contained on the compact disc, the required listing of file names, dates of creation and sizes in bytes is included in the file dir_s on the compact disk and incorporated by reference herein.

BACKGROUND

U.S. Patent Number 6,269,361 discloses a database having accounts for advertisers. Each account contains contact and billing information for an advertiser. In addition, each account contains at least one search listing having at least three components: a description, a search term comprising one or more keywords, and a bid amount. The advertiser may add, delete, or modify a search listing after logging into his or her account via an authentication process. The advertiser influences a position for a search listing in the advertiser's account by

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first selecting a search term relevant to the content of the web site or other

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information source to be listed. The advertiser enters the search term and the description into a search listing. The advertiser influences the position for a search listing through a continuous online competitive bidding process. The bidding process occurs when the advertiser enters a new bid amount, which is preferably a money amount, for a search listing. The disclosed system then compares this bid amount with all other bid amounts for the same search term, and generates a rank value for all search listings having that search term. The rank value generated by the bidding process determines where the advertiser's listing will appear on the search results list page that is generated in response to a query of the search term by a searcher or user on the computer network. A higher bid by an advertiser will result in a higher rank value and a more advantageous placement. This system is known as a pay-for-placement search engine.

Thus, when a user performs a search on a pay-for-placement search engine, the results are conventionally sorted based on how much each advertiser has bid on the user's search term. Because different users will use different words to find the same information, it is important for an advertiser to bid on a wide variety of search terms in order to maximize the traffic to his site. The better and more extensive an advertiser's list of search terms, the more traffic the advertiser will see.

As an example, a seafood vendor will want to bid not only on the word "seafood", but also on terms like "fish", "tuna", "halibut", and "fresh fish". A well thought out list will often contain hundreds of terms. Good search terms have three significant properties: they are appropriate to the advertiser's site, they are popular enough that many users are likely to search on them, and they provide good value in terms of the amount the advertiser must bid to get a high ranking in the search results. An advertiser willing to take the time to consider all these factors will get good results.

Unfortunately, few advertisers understand how to create a good list of search terms, and right now there are only limited tools to help them. The typical state of the art is the Search Term Suggestion Tool (STST) provided by Overture

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Services, Inc., located at http://inventory.overture.com. STST provides suggestions based on string matching. Given a word, STST returns a sorted list of all the search terms that contain that word. This list is sorted by how often users have searched for the terms in the past month. In the seafood example, if the advertiser enters the word "fish", his results will include terms like "fresh fish," "fish market," "tropical fish," and "fish bait," but not words like "tuna" or "halibut" because they do not contain the string "fish." To create his initial list of search terms, a new advertiser will often enter a few words into STST and then bid on all of the terms that it returns.

There are three problems with this approach. First, although STST finds many good terms like "fresh fish" and "fish market," it also finds many bad terms like "fishing," "tropical fish," and "fish bait" that have no relation to the advertiser's site. These create extra work for the search engine provider, since its editorial staff must filter out inappropriate terms that an advertiser submits. Second, STST misses many good terms like "tuna" and "halibut." These result in lost traffic for the advertiser and less revenue for the provider, since every bid helps to drive up the price for search terms and increase the provider's revenue. Third, it is easy for an advertiser to simply overlook a word that he should enter into STST, thereby missing a whole space of search terms that are appropriate for his site. These missed terms also result in lost traffic for the advertiser and less revenue for the provider.

An improved version of STST is the GoTo Super Term Finder (STF) which may be found at http://users.idealab.com/~charlie/advertisers/start.html. This tool keeps track of two lists: an accept list of good words for an advertiser's site, and a reject list of bad words or words that have no relation to the advertiser's site or its content. STF displays a sorted list of all the search terms that contain a word in the first list, but not in the second list. As with STST, the result list is sorted by how often users have searched for the terms in the past month. In the seafood example, if the accept list contains the word "fish," and the reject list contains the word "bait," then the output will display terms like "fresh fish" and "tropical fish"

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but not "fish bait." An advertiser can use this output to refine his accept and reject lists in an iterative process.

Although STF is an improvement over STST, it still suffers from similar problem. In the seafood example, many search terms contain the word "fish" that are irrelevant to a seafood site. The advertiser must still manually identify these and reject each one. Unless the rejected terms share common words, the amount of work the advertiser must do with STF is the same as with STST. Both tools also share the weakness of not being able to identify good search terms like "tuna" or "halibut". There may be many such semantically related terms; they may even appear commonly on the advertiser's web site. But the burden is still on the advertiser to think of each one. The problem with STST and STF is that they both look for search terms based on syntactic properties, and they force the advertiser to think of the root words himself. There is a clear need for a better approach, one that takes into account the meaning of words and that can identify them automatically by looking at an advertiser's web site.

A system that finds semantically related terms is Wordtracker, which may be found at http://www.wordtracker.com. Given a search term, Wordtracker recommends new terms in two ways. First, Wordtracker recommends words by looking them up in a thesaurus. Second, Wordtracker recommends words by searching for them using an algorithm called *lateral search*. Lateral search runs the original search term through two popular web search engines. It then downloads the top 200 web page results, extracts all the terms from the KEYWORD and DESCRIPTION meta tags for the pages and returns a list sorted by how frequently each term appears in these tags.

Wordtracker is only a marginal improvement over STST and STF. In the seafood example, if an advertiser searches for the word "fish" he is very likely to see results that include "tuna" and "halibut" but he will still see bad terms like "tropical fish" and "fish bait" that are not relevant to his site. A more specific search for "seafood" will get rid of some of these bad terms, but introduce others like "restaurant" and "steak" that come from seafood restaurants. Unlike with STF, there is no way to reject such bad terms and refine the search. Nor is there a

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way to provide a broad list of good terms, since the web search engines work poorly with more than one search term. These two limitations are significant, since it is very rare that an advertiser can identify a single search term that exactly describes his site and others like it. Wordtracker also suffers from the problem that meta keywords are not always indicative of a web site. There is no editorial review, so web site designers often include spurious keywords in an attempt to make their pages more prominent on search engines. The search engines themselves are also limited, and can return many pages in their list of 200 that are irrelevant to an advertiser's site. Finally, like STST and STF, Wordtracker still requires an advertiser to think of his own search terms to get started.

Given these shortcomings, there is a clear need for a better tool, one that can find all of the good search terms for an advertiser's site while getting rid of the bad ones.

BRIEF SUMMARY

By way of introduction only, the present embodiments make search term recommendations in one or more of two ways. A first technique involves looking for good search terms directly on an advertiser's web site. A second technique involves comparing an advertiser to other, similar advertisers and recommending the search terms the other advertisers have chosen. The first technique is called *spidering* and the second technique is called *collaborative filtering*. In the preferred embodiment, the output of the spidering step is used as input to the collaborative filtering step. The final output of search terms from both steps is then interleaved in a natural way.

The foregoing discussion of the preferred embodiments has been provided only by way of introduction. Nothing in this section should be taken as a limitation of the claims, which define the scope of the invention.

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BRIEF DESCRIPTION OF SEVERAL VIEWS OF THE DRAWINGS

- FIG. 1 is a block diagram illustrating the relationship between a large network and one embodiment of the system and method for generating a pay-forperformance search result of the present invention;
- FIG. 2 is a chart of menus, display screens, and input screens used in one embodiment of the present invention;
- FIG. 3 is a flow chart illustrating the advertiser user login process performed in one embodiment of the present invention;
- FIG. 4 is a flow chart illustrating the administrative user login process performed in one embodiment of the present invention;
- FIG. 5 is a diagram of data for an account record for use with one embodiment of the present invention;
- FIG. 6 is a flow chart illustrating a method of adding money to an account record used in one embodiment of the present invention;
- FIG. 7 illustrates an example of a search result list generated by one embodiment of the present invention;
- FIG. 8 is a flow chart illustrating a change bids process used in one embodiment of the present invention;
- FIG. 9 illustrates an example of a screen display used in the change bids process of FIG. 8;
- FIG. 10 is a flow diagram illustrating a method for recommending search terms to an advertiser on a pay-for-placement search engine;
- FIG. 11 is a flow diagram illustrating a method for rating search terms by spidering a web site;
- FIGS. 12-15 are flow diagrams illustrating a method for rating search terms by collaborative filtering;
- FIGS. 15-17 are flow diagrams illustrating computation of the Pearson correlation between two advertisers; and
- FIGS. 18-20 are flow diagrams illustrating combination of predictions from spidering and collaborative filtering.

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED **EMBODIMENTS**

Methods and systems for generating a pay-for-performance search result determined by a site promoter, such as an advertiser, over a client/server based computer network system are disclosed. The following description is presented to enable any person skilled in the art to make and use the invention. For purposes of explanation, specific nomenclature is set forth to provide a thorough understanding of the present invention. Descriptions of specific applications are provided only as examples. Various modifications to the preferred embodiments will be readily apparent to those skilled in the art, and the general principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

Referring now to the drawings, FIG. 1 is an example of a distributed system 10 configured as client/server architecture used in a preferred embodiment of the present invention. A "client" is a member of a class or group that uses the services of another class or group to which it is not related. In the context of a computer network, such as the Internet, a client is a process (i.e. roughly a program or task) that requests a service which is provided by another process, known as a server program. The client process uses the requested service without having to know any working details about the other server program or the server itself. In networked systems, a client process usually runs on a computer that accesses shared network resources provided by another computer running a corresponding server process. However, it should also be noted that it is possible for the client process and the server process to run on the same computer.

A "server" is typically a remote computer system that is accessible over a communications medium such as the Internet. The client process may be active in a second computer system, and communicate with the server process over a communications medium that allows multiple clients to take advantage of the

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information-gathering capabilities of the server. Thus, the server essentially acts as an information provider for a computer network.

The block diagram of FIG. 1 therefore shows a distributed system 10 comprising a plurality of client computers 12, a plurality of advertiser web servers 14, an account management server 22, and a search engine web server 24, all of which are connected to a network 20. The network 20 will be hereinafter generally referred to as the Internet. Although the system and method of the present invention is specifically useful for the Internet, it should be understood that the client computers 12, advertiser web servers 14, account management server 22, and search engine web server 24 may be connected together through one of a number of different types of networks. Such networks may include local area networks (LANs), other wide area networks (WANs), and regional networks accessed over telephone lines, such as commercial information services. The client and server processes may even comprise different programs executing simultaneously on a single computer.

The client computers 12 can be conventional personal computers (PCs), workstations, or computer systems of any other size. Each client 12 typically includes one or more processors, memories, input/output devices, and a network interface, such as a conventional modern. The advertiser web servers 14, account management server 22, and the search engine web server 24 can be similarly configured. However, advertiser web servers 14, account management server 22, and search engine web server 24 may each include many computers connected by a separate private network. In fact, the network 20 may include hundreds of thousands of individual networks of computers.

The client computers 12 can execute web browser programs 16, such as the NAVIGATOR, EXPLORER, or MOSAIC browser programs, to locate the web pages or records 30 stored on advertiser server 14. The browser programs 16 allow the users to enter addresses of specific web pages 30 to be retrieved. These addresses are referred to as Uniform Resource Locators, or URLs. In addition, once a page has been retrieved, the browser programs 16 can provide access to other pages or records when the user "clicks" on hyperlinks to other web pages.

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Such hyperlinks are located within the web pages 30 and provide an automated way for the user to enter the URL of another page and to retrieve that page. The pages can be data records including as content plain textual information, or more complex digitally encoded multimedia content, such as software programs, graphics, audio signals, videos, and so forth.

In a preferred embodiment of the present invention, shown in FIG. 1, client computers 12 communicate through the network 20 with various network information providers, including account management server 22, search engine server 24, and advertiser servers 14 using the functionality provided by a HyperText Transfer Protocol (HTTP), although other communications protocols, such as FTP, SNMP, TELNET, and a number of other protocols known in the art, may be used. Preferably, search engine server 24, account management server 22, and advertiser servers 14 are located on the World Wide Web.

As discussed above, at least two types of server are contemplated in a preferred embodiment of the present invention. The first server contemplated is an account management server 22 comprising a computer storage medium 32 and a processing system 34. A database 38 is stored on the storage medium 32 of the account management server 22. The database 38 contains advertiser account information. It will be appreciated from the description below that the system and method of the present invention may be implemented in software that is stored as executable instructions on a computer storage medium, such as memories or mass storage devices, on the account management server 22. Conventional browser programs 16, running on client computers 12, may be used to access advertiser account information stored on account management server 22. Preferably, access to the account management server 22 is accomplished through a firewall, not shown, which protects the account management and search result placement programs and the account information from external tampering. Additional security may be provided via enhancements to the standard communications protocols such as Secure HTTP or the Secure Sockets Layer.

The second server type contemplated is a search engine web server 24. A search engine program permits network users, upon navigating to the search

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engine web server URL or sites on other web servers capable of submitting queries to the search engine web server 24 through their browser program 16, to type keyword queries to identify pages of interest among the millions of pages available on the World Wide Web. In a preferred embodiment of the present invention, the search engine web server 24 generates a search result list that includes, at least in part, relevant entries obtained from and formatted by the results of the bidding process conducted by the account management server 22. The search engine web server 24 generates a list of hypertext links to documents that contain information relevant to search terms entered by the user at the client computer 12. The search engine web server transmits this list, in the form of a web page, to the network user, where it is displayed on the browser 16 running on the client computer 12. A presently preferred embodiment of the search engine web server may be found by navigating to the web page at URL http://www.goto.com/. In addition, the search result list web page, an example of which is presented in FIG. 7, will be discussed below in further detail.

Search engine web server 24 is connected to the Internet 20. In a preferred embodiment of the present invention, search engine web server 24 includes a search database 40 comprised of search listing records used to generate search results in response to user queries. In addition, search engine web server 24 may also be connected to the account management server 22. Account management server 22 may also be connected to the Internet. The search engine web server 24 and the account management server 22 of the present invention address the different information needs of the users located at client computers 12.

For example, one class of users located at client computers 12 may be network information providers such as advertising web site promoters or owners having advertiser web pages 30 located on advertiser web servers 14. These advertising web site promoters, or advertisers, may wish to access account information residing in storage 32 on account management server 22. An advertising web site promoter may, through the account residing on the account management server 22, participate in a competitive bidding process with other advertisers. An advertiser may bid on any number of search terms relevant to the

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content of the advertiser's web site. In one embodiment of the present invention, the relevance of a bidded search term to an advertiser's web site is determined through a manual editorial process prior to insertion of the search listing containing the search term and advertiser web site URL into the database 40. In an alternate embodiment of the present invention, the relevance of a bidded search term in a search listing to the corresponding web site may be evaluated using a computer program executing at processor 34 of account management server 22, where the computer program will evaluate the search term and corresponding web site according to a set of predefined editorial rules.

The higher bids receive more advantageous placement on the search result list page generated by the search engine 24 when a search using the search term bid on by the advertiser is executed. In a preferred embodiment of the present invention, the amount bid by an advertiser comprises a money amount that is deducted from the account of the advertiser for each time the advertiser's web site is accessed via a hyperlink on the search result list page. A searcher "clicks" on the hyperlink with a computer input device to initiate a retrieval request to retrieve the information associated with the advertiser's hyperlink. Preferably, each access or "click" on a search result list hyperlink will be redirected to the search engine web server 24 to associate the "click" with the account identifier for an advertiser. This redirect action, which is not apparent to the searcher, will access account identification information coded into the search result page before accessing the advertiser's URL using the search result list hyperlink clicked on by the searcher. The account identification information is recorded in the advertiser's account along with information from the retrieval request as a retrieval request event. Since the information obtained through this mechanism conclusively matches an account identifier with a URL in a manner not possible using conventional server system logs known in the art, accurate account debit records will be maintained. Most preferably, the advertiser's web site description and hyperlink on the search result list page is accompanied by an indication that the advertiser's listing is a paid listing. Most preferably, each paid listing displays a "cost to advertiser,"

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which is an amount corresponding to a "price-per-click" paid by the advertiser for each referral to the advertiser's site through the search result list.

A second class of users at client computers 12 may comprise searchers seeking specific information on the web. The searchers may access, through their browsers 16, a search engine web page 36 residing on web server 24. The search engine web page 36 includes a query box in which a searcher may type a search term comprising one or more keywords. Alternatively, the searcher may query the search engine web server 24 through a query box hyperlinked to the search engine web server 24 and located on a web page stored at a remote web server. When the searcher has finished entering the search term, the searcher may transmit the query to the search engine web server 24 by clicking on a provided hyperlink. The search engine web server 24 will then generate a search result list page and transmit this page to the searcher at the client computer 12.

The searcher may click on the hypertext links associated with each listing on the search results page to access the corresponding web pages. The hypertext links may access web pages anywhere on the Internet, and include paid listings to advertiser web pages 18 located on advertiser web servers 14. In a preferred embodiment of the present invention, the search result list also includes non-paid listings that are not placed as a result of advertiser bids and are generated by a conventional World Wide Web search engine, such as the INKTOMI, LYCOS, or YAHOO! search engines. The non-paid hypertext links may also include links manually indexed into the database 40 by an editorial team. Most preferably, the non-paid listings follow the paid advertiser listings on the search results page.

FIG. 2 is a diagram showing menus, display screens, and input screens presented to an advertiser accessing the account management server 22 through a conventional browser program 16. The advertiser, upon entering the URL of the account management server 22 into the browser program 16 of FIG. 1, invokes a login application, discussed below as shown at screen 110 of FIG. 2, running on the processing system 34 of the server 22. Once the advertiser is logged-in, the processing system 34 provides a menu 120 that has a number of options and further services for advertisers. These items, which will be discussed in more

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detail below, cause routines to be invoked to either implement the advertiser's request or request further information prior to implementing the advertiser's request. In one embodiment of the present invention, the advertiser may access several options through menu 120, including requesting customer service 130, viewing advertiser policies 140, performing account administration tasks 150, adding money to the advertiser's account 160, managing the account's advertising presence on the search engine 170, and viewing activity reports 180. Context-specific help 190 may also generally be available at menu 120 and all of the above-mentioned options.

The login procedure of the preferred embodiment of the present invention is shown in FIGS. 3 and 4 for two types of user. FIG. 3 shows the login procedures 270 for an advertiser. FIG. 4 shows the login procedures 290 for an administrator managing and maintaining the system and method of the present invention. As discussed above, the advertiser or administrator at a client computer 12 must first use a browser program at steps 271 or 291 to access the account management server. After the advertiser navigates to the URL of the login page to start the login process at step 272 or 292, the processing system 34 of the account management server 22 invokes a login application at steps 274 or 294. According to this application, the processor provides an input screen 110 (FIG. 2) that requests the advertiser's or administrator's user name and password. These items of information are provided at steps 276 or 296 to a security application known in the art for the purpose of authentication, based on the account information stored in a database stored in storage 32 of account management server 22.

According to FIG. 3, after the user has been authenticated as an advertiser, the advertiser is provided with the menu screen 120 of FIG. 2 and limited read/write access privileges only to the corresponding advertiser account, as shown in step 278. The advertiser login event 278 may also be recorded in step 280 in an audit trail data structure as part of the advertiser's account record in the database. The audit trail is preferably implemented as a series of entries in database 38, where each entry corresponds to an event wherein the advertiser's

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account record is accessed. Preferably, the audit trail information for an account record may be viewed by the account owner and other appropriate administrators.

However, if the user is authenticated as an administrator in step 295 of FIG. 4, the administrator is provided with specified administrative access privileges to all advertiser accounts as shown in step 296. The administrator login event 296 is recorded in step 297 in the audit trail data structure portion of the administrator's account record. This audit trail is preferably implemented as a series of entries in database 38, where each entry corresponds to an event wherein the administrator's account record is accessed. Most preferably, the administrator's audit trail information may be viewed by the account owner and other appropriate administrators.

Furthermore, instead of the general advertiser main menu shown to the authenticated advertiser users in step 282, the authenticated administrator is provided in step 298 with access to search the database 38 of advertiser accounts. Preferably, a database search interface is provided to the administrator that enables the administrator to select an advertiser account to monitor. For example, the interface may include query boxes in which the administrator may enter an account number or username or contact name corresponding to an account the administrator wishes to access. When the administrator selects an advertiser account to monitor in step 299, the administrator is then brought to the main advertiser page 120 of FIG. 2, which is also seen by the advertisers.

Access to the account information 32 located on the account management server 22 is restricted to users having an account record on the system, as only those users are provided with a valid login name and password. Password and login name information is stored along with the user's other account information in the database 38 of the account management server 22, as shown in FIG. 1. Account information, including a login user name and password, is entered in the database 38 of FIG. 1 via a separate online registration process that is outside the scope of the present invention.

FIG. 5 is a diagram showing the types of information contained in each advertiser account record 300 in the database. First, an advertiser account record

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300 contains a username 302 and a password 304, used for online authentication as described above. The account record also contains contact information 310 (e.g., contact name, company name, street address, phone, e-mail address).

Contact information 310 is preferably utilized to direct communications to the advertiser when the advertiser has requested notification of key advertiser events under the notification option, discussed below. The account record 300 also contains billing information 320 (e.g., current balance, credit card information). The billing information 320 contains data accessed when the advertiser selects the option to add money to the advertiser's account. In addition, certain billing information, such as the current balance, may trigger events requiring notification under the notification option. The audit trail section 325 of an account record 300 contains a list of all events wherein the account record 300 is accessed. Each time an account record 300 is accessed or modified, by an administrator or advertiser a short entry describing the account access and/or modification event will be appended to the audit trail section 330 of the administrator or advertiser account that initiated the event. The audit trail information may then be used to help generate a history of transactions made by the account owner under the account.

The advertising information section 330 contains information needed to conduct the online bidding process of the present invention, wherein a position is determined for a web site description and hyperlink within a search result list generated by a search engine. The advertising data 330 for each user account 300 may be organized as zero or more subaccounts 340. Each subaccount 340 comprises at least one search listing 344. Each search listing corresponds to a bid on a search term. An advertiser may utilize subaccounts to organize multiple bids on multiple search terms, or to organize bids for multiple web sites. Subaccounts are also particularly useful for advertisers seeking to track the performance of targeted market segments. The subaccount superstructure is introduced for the benefit of the advertisers seeking to organize their advertising efforts, and does not affect the method of operation of the present invention. Alternatively, the

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The search listing 344 corresponds to a search term/bid pairing and contains key information to conduct the online competitive bidding process. Preferably, each search listing comprises the following information: search term 352, web site description 354, URL 356, bid amount 358, and a title 360. The search term 352 comprises one or more keywords which may be common words in English (or any other language). Each keyword in turn comprises a character string. The search term is the object of the competitive online bidding process. The advertiser selects a search term to bid on that is relevant to the content of the advertiser's web site. Ideally, the advertiser may select a search term that is targeted to terms likely to be entered by searchers seeking the information on the advertiser's web site, although less common search terms may also be selected to ensure comprehensive coverage of relevant search terms for bidding.

The web site description 354 is a short textual description (preferably less than 190 characters) of the content of the advertiser's web site and may be displayed as part of the advertiser's entry in a search result list. The search listing 344 may also contain a title 360 of the web site that may be displayed as the hyperlinked heading to the advertiser's entry in a search result list. The URL 356 contains the Uniform Resource Locator address of the advertiser's web site. When the user clicks on the hyperlink provided in the advertiser's search result list entry, the URL is provided to the browser program. The browser program, in turn, accesses the advertiser's web site through the redirection mechanism discussed above. The URL may also be displayed as part of the advertiser's entry in a search result list.

The bid amount 358 preferably is a money amount bid by an advertiser for a listing. This money amount is deducted from the advertiser's prepaid account or is recorded for advertiser accounts that are invoiced for each time a search is executed by a user on the corresponding search term and the search result list hyperlink is used to refer the searcher to the advertiser's web site. Finally, a rank value is a value generated dynamically, preferably by the processing system 34 of

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the account management server 22 shown in FIG. 1, each time an advertiser places a bid or a search enters a search query. The rank value of an advertiser's search listing determines the placement location of the advertiser's entry in the search result list generated when a search is executed on the corresponding search term. Preferably, rank value is an ordinal value determined in a direct relationship to the bid amount 358; the higher the bid amount, the higher the rank value, and the more advantageous the placement location on the search result list. Most preferably, the rank value of 1 is assigned to the highest bid amount with successively higher ordinal values (e.g., 2, 3, 4, . . .) associated with successively lower ranks and assigned to successively lower bid amounts.

Once logged in, an advertiser can perform a number of straightforward tasks set forth in menu 120 of FIG. 2, including viewing a list of rules and policies for advertisers, and requesting customer service assistance. These items cause routines to be invoked to implement the request. For example, when "Customer Service" is selected, an input screen 130 is displayed to allow the advertiser to select the type of customer service requested. In addition, forms may be provided on screen 130 so that an advertiser may type a customer comment into a webbased input form.

When "View Advertiser Policies" is selected, a routine will be invoked by processing system 34 of the account management server 22 FIG. 1. As shown in FIG. 2, the routine will display an informational web page 140. The web page 140 sets forth the advertiser policies currently in effect (e.g., "All search listing descriptions must clearly relate to the search term").

Menu 120 of FIG. 2 also includes an "Account Administration" selection 150 which allows an advertiser, among other things, to view and change the advertiser's contact information and billing information, or update the advertiser's access profile, if any. Web-based forms well known in the art and similar to those discussed above are provided for updating account information.

The "Account Administration" menu also includes a selection enabling an advertiser to view the transaction history of the advertiser's account. Under the "View Transaction History" selection, the advertiser may invoke routines to view

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a listing of past account transactions (e.g., adding money to account, adding or deleting bidded search terms, or changing a bid amount). Additional routines may be implemented to permit advertisers to display a history of transactions of a specified type, or that occur within a specified time. The transaction information may be obtained from the audit trail list 325 of FIG. 5, described above. Clickable buttons that may be implemented in software, web-based forms, and/or menus may be provided as known in the art to enable advertisers to specify such limitations.

In addition, the "Account Administration" menu 150 of FIG. 2 includes a selection enabling an advertiser to set notification options. Under this selection, the advertiser may select options that will cause the system to notify the advertiser when certain key events have occurred. For example, the advertiser may elect to set an option to have the system send conventional electronic mail messages to the advertiser when the advertiser's account balance has fallen below a specified level. In this manner, the advertiser may receive a "warning" to replenish the account before the account is suspended (meaning the advertiser's listings will no longer appear in search result lists). Another key event for which the advertiser may wish notification is a change in position of an advertiser's listing in the search result list generated for a particular search term. For example, an advertiser may wish to have the system send a conventional electronic mail message to the advertiser if the advertiser has been outbid by another advertiser for a particular search term (meaning that the advertiser's listing will appear in a position farther down on the search result list page than previously). When one of the system-specified key events occurs, a database search is triggered for each affected search listing. The system will then execute the appropriate notification routine in accordance with the notification options specified in the advertiser's account.

Referring back to FIG. 2, a selection also appears in menu 120 that permits an advertiser to add money to the advertiser's account, so that the advertiser will have funds in their account to pay for referrals to the advertiser's site through the search results page. Preferably, only advertisers with funds in their advertiser's accounts may have their paid listings included in any search result lists generated.

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Most preferably, advertisers meeting selected business criteria may elect, in place of maintaining a positive account balance at all times, incur account charges regardless of account balance and pay an invoiced amount at regular intervals which reflects the charges incurred by actual referrals to the advertiser's site generated by the search engine. The process that is executed when the "Add Money to Account" selection is invoked is shown in further detail in FIG. 6, beginning at step 602. When the "Add Money to Account" selection is clicked in step 604, a function is invoked which receives data identifying the advertiser and retrieves the advertiser's account from the database. The executing process then stores the advertiser's default billing information and displays the default billing information for the advertiser in step 606. The displayed billing information includes a default amount of money to be added, a default payment type, and default instrument information.

In the preferred embodiment of the present invention, an advertiser may add funds online and substantially in real time through the use of a credit card, although the use of other payment types are certainly well within the scope of the present invention. For example, in an alternate embodiment of the present invention, advertisers may add funds to their account by transferring the desired amount from the advertiser's bank account through an electronic funds verification mechanism known in the art such as debit cards, in a manner similar to that set forth in U.S. Pat. No. 5,724,424 to Gifford. In another alternate embodiment of the present invention, advertisers can add funds to their account using conventional paper-based checks. In that case, the additional funds may be updated in the account record database through manual entry. The instrument information includes further details regarding the type of payment. For example, for a credit card, the instrument information may include data on the name of the credit card (e.g., MasterCard, Visa, or American Express), the credit card number, the expiration date of the credit card, and billing information for the credit card (e.g., billing name and address). In a preferred embodiment of the present invention, only a partial credit card number is displayed to the advertiser for security purposes.

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The default values displayed to the advertiser are obtained from a persistent state, e.g., stored in the account database. In an embodiment of the present invention, the stored billing information values may comprise the values set by the advertiser the last (e.g. most recent) time the process of adding money was invoked and completed for the advertiser's account. The default billing information is displayed to the advertiser in a web-based form. The advertiser may click on the appropriate text entry boxes on the web-based form and make changes to the default billing information. After the advertiser completes the changes, the advertiser may click on a hyperlinked "Submit" button provided on the form to request that the system update the billing information and current balance in step 608. Once the advertiser has requested an update, a function is invoked by the system which validates the billing information provided by the advertiser and displays it back to the advertiser for confirmation, as shown in step 610. The confirmation billing information is displayed in read-only form and may not be changed by the advertiser.

The validation step functions as follows. If payment is to be debited from an advertiser's external account, payment may be authenticated, authorized and completed using the system set forth in U.S. Pat. No. 5,724,424 to Gifford. However, if the payment type is by credit card, a validating algorithm is invoked by the system, which validates the credit card number using a method such as that set forth in U.S. Patent No. 5,836,241 to Stein et al. The validating algorithm also validates the expiration date via a straightforward comparison with the current system date and time. In addition, the function stores the new values in a temporary instance prior to confirmation by the advertiser.

Once the advertiser ascertains that the displayed data is correct, the advertiser may click on a "Confirm" button provided on the page to indicate that the account should be updated in step 612. In step 612, a function is invoked by the system which adds money to the appropriate account balance, updates the advertiser's billing information, and appends the billing information to the advertiser's payment history. The advertiser's updated billing information is

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stored to the persistent state (e.g., the account record database) from the temporary instance.

Within the function invoked at step 612, a credit card payment function may be invoked by the system at step 614. In an alternate embodiment of the present invention, other payment functions such as debit card payments may be invoked by defining multiple payment types depending on the updated value of the payment type.

If the payment type is credit card, the user's account is credited immediately at step 616, the user's credit card having already been validated in step 610. A screen showing the status of the add money transaction is displayed, showing a transaction number and a new current balance, reflecting the amount added by the just-completed credit card transaction.

In an alternate embodiment of the present invention, after the money has been added to the account, the amount of money added to the account may be allocated between subaccounts the end of the add money process at step 616. If the advertiser has no subaccounts, all of the money in the account is a general allocation. However, if the advertiser has more than one subaccount, the system will display a confirmation and default message prompting the advertiser to "Allocate Money Between Subaccounts".

The menu selection "Allocate Money Between Subaccounts" may be invoked when money is added to the advertiser account after step 616 of FIG. 6, or it may be invoked within the "Account Management" menu 170 shown in FIG. 2. The "Account Management" menu 170 is accessible from the Advertiser Main Page 120, as shown in FIG. 2. This "Allocate Money Between Subaccounts" menu selection permits an advertiser to allocate current and any pending balances of the advertiser's account among the advertiser's subaccounts. The system will then update the subaccount balances. The current balance allocations will be made in real time, while the pending balance allocations will be stored in the persistent state. A routine will be invoked to update the subaccount balances to reflect the pending balance allocations when the payment for the pending balance is processed. Automatic notification may be sent to the advertiser at that time, if

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requested. This intuitive online account management and allocation permits advertisers to manage their online advertising budget quickly and efficiently. Advertisers may replenish their accounts with funds and allocate their budgets, all in one easy web-based session. The computer-based implementation eliminates time consuming, high cost manual entry of the advertiser's account transactions.

The "Allocate Money Between Subaccounts" routine begins when an advertiser indicates the intent to allocate money by invoking the appropriate menu selection at the execution points indicated above. When the advertiser indicates the intent to allocate, a function is invoked by the system to determine whether there are funds pending in the current balance (i.e., unactivated account credits) that have not yet been allocated to the advertiser's subaccounts, and displays the balance selection options. In a preferred embodiment of the present invention, an account instance is created and a pending current balance account field is set from the persistent state.

If there are no unallocated pending funds, the system may display the current available balances for the account as a whole as well as for each subaccount. The advertiser then distributes the current available balance between subaccounts and submits a request to update the balances. A function is invoked which calculates and displays the current running total for subaccount balances. The current running total is stored in a temporary variable which is set to the sum of current balances for all subaccounts for the specified advertiser. The function also validates the new available subaccount balances to make sure that the total does not exceed the authorized amount. If the new advertiser-set available subaccount balances does not exceed the authorized amount, a function is invoked which will update all of the subaccount balances in the persistent state and display the update in read-only format.

If there are pending funds in the current account balance, the pending funds must be allocated separately from the available current balance. The pending funds will then be added into the available current balance when the funds are received. The function must therefore prompt the advertiser to choose between allocating pending funds or allocating available funds. The allocating pending

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funds selection works in much the same manner as the allocating available funds selection outlined above. After the advertiser chooses to allocate pending funds, a routine is invoked to display current pending balances for the account and the subaccounts. The advertiser distributes the pending subaccount balances between campaigns and submits a request to update the balances. A function is invoked which calculates and displays the current running totals for the pending subaccount balances. This function also validates the new pending subaccount allocations to make sure that the allocations do not exceed any authorized amount. The current running total of pending allocations is set to the sum of current pending balances for all subaccounts for the advertiser. If the new user-set pending subaccount balances or the total of such balances do not exceed any authorized amount, the function will update all of the pending subaccount allocations in the persistent state, e.g. the advertiser's account in the database, and display the update in read-only format.

As indicated above and shown in FIG. 2, a routine displaying the account management menu 170 may be invoked from the advertiser main menu 120. Aside from the "Allocate Money Between Subaccounts" selection described above, the remaining selections all use to some extent the search listings present in the advertiser's account on the database, and may also affect the advertiser's entry in the search result list. Thus, a further description of the search result list generated by the search engine is needed at this point.

When a remote searcher accesses the search query page on the search engine web server 24 and executes a search request according to the procedure described previously, the search engine web server 24 preferably generates and displays a search result list where the "canonicalized" entry in search term field of each search listing in the search result list exactly matches the canonicalized search term query entered by the remote searcher. The canonicalization of search terms used in queries and search listings removes common irregularities of search terms entered by searches and web site promoters, such as capital letters and pluralizations, in order to generate relevant results. However, alternate schemes for determining a match between the search term field of the search listing and the

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search term query entered by the remote searcher are well within the scope of the present invention. For example, string matching algorithms known in the art may be employed to generate matches where the keywords of the search listing search term and the search term query have the same root but are not exactly the same (e.g., computing vs. computer). Alternatively a thesaurus database of synonyms may be stored at search engine web server 24, so that matches may be generated for a search term having synonyms. Localization methodologies may also be employed to refine certain searches. For example, a search for "bakery" or "grocery store" may be limited to those advertisers within a selected city, zip code, or telephone area code. This information may be obtained through a cross-reference of the advertiser account database stored at storage 32 on account management server 22. Finally, internationalization methodologies may be employed to refine searches for users outside the United States. For example, country or language-specific search results may be generated, by a cross-reference of the advertiser account database, for example.

An example of a search result list display used in an embodiment of the present invention is shown in FIG. 7, which is a display of the first several entries resulting from a search for the term "zip drives". As shown in FIG. 7, a single entry, such as entry 710a in a search result list consists of a description 720 of the web site, preferably comprising a title and a short textual description, and a hyperlink 730 which, when clicked by a searcher, directs the searcher's browser to the URL where the described web site is located. The URL 740 may also be displayed in the search result list entry 710a, as shown in FIG. 7. The "click through" of a search result item occurs when the remote searcher viewing the search result item display 710 of FIG. 7 selects, or "clicks" on the hyperlink 730 of the search result item display 710. In order for a "click through" to be completed, the searcher's click should be recorded at the account management server and redirected to the advertiser's URL via the redirect mechanism discussed above.

Search result list entries 710a – 710h may also show the rank value of the advertiser's search listing. The rank value is an ordinal value, preferably a

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number, generated and assigned to the search listing by the processing system 34 of FIG. 1. Preferably, the rank value is assigned through a process, implemented in software, that establishes an association between the bid amount, the rank, and the search term of a search listing. The process gathers all search listings that match a particular search term, sorts the search listings in order from highest to lowest bid amount, and assigns a rank value to each search listing in order. The highest bid amount receives the highest rank value, the next highest bid amount receives the next highest rank value, proceeding to the lowest bid amount, which receives the lowest rank value. Most preferably, the highest rank value is 1 with successively increasing ordinal values (e.g., 2, 3, 4, ...) assigned in order of successively decreasing rank. The correlation between rank value and bid amount is illustrated in FIG. 7, where each of the paid search list entries 710a through 710f display the advertiser's bid amount 750a through 750f for that entry. Preferably, if two search listings having the same search term also have the same bid amount, the bid that was received earlier in time will be assigned the higher rank value. Unpaid listings 710g and 710h do not display a bid amount and are displayed following the lowest-ranked paid listing. Preferably, unpaid listings are displayed if there are an insufficient number of listings to fill the 40 slots in a search results page. Unpaid listings are generated by a search engine utilizing objective distributed database and text searching algorithms known in the art. An example of such a search engine may be operated by Inktomi Corporation. The original search query entered by the remote searcher is used to generate unpaid listings through the conventional search engine.

As shown in the campaign management menu 170 of FIG. 2, several choices are presented to the advertiser to manage search listings. First, in the "Change Bids" selection, the advertiser may change the bid of search listings currently in the account. The process invoked by the system for the change bids function is shown in FIG. 8. After the advertiser indicates the intent to change bids by selecting the "Change Bids" menu option, the system searches the user's account in the database and displays the search listings for the entire account or a default subaccount in the advertiser's account, as shown in step 810. Search

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listings may be grouped into subaccounts defined by the advertiser and may comprise one or more search listings. Only one subaccount may be displayed at a time. The display should also preferably permit the advertiser to change the subaccount selected, as shown in step 815. The screen display will then show the search listings for the selected subaccount, as indicated in step 820.

An example of screen display shown to the advertiser in step 810 is shown in FIG. 9 and will be discussed below. To change bids, the advertiser user may specify new bids for search terms for which the advertiser already has an existing bid by entering a new bid amount into the new bid input field for the search term. The advertiser-entered bid changes are displayed to the advertiser at step 820 of FIG. 8 as discussed above. To update the bids for the display page, the advertiser requests, at step 830 of FIG. 8, to update the result of changes. The advertiser may transmit such a request to the account management server by a variety of means, including clicking on a button graphic.

As shown in step 840 of FIG. 8, upon receiving the request to update the advertiser's bids, the system calculates the new current bid amounts for every search listing displayed, the rank values, and the bid amount needed to become the highest ranked search listing matching the search term field. Preferably, the system then presents a display of changes at step 850. After the user confirms the changes, the system updates the persistent state by writing the changes to the account in the database.

The search listing data is displayed in tabular format, with each search listing corresponding to one row of the table 900. The search term 902 is displayed in the leftmost column, followed by the current bid amount 904, and the current rank 906 of the search listing. The current rank is followed by a column entitled "Bid to become #1" 907, defined as the bid amount needed to become the highest ranked search listing for the displayed search term. The rightmost column of each row comprises a new bid input field 908 which is set initially to the current bid amount.

As shown in FIG. 9, the search listings may be displayed as "subaccounts." Each subaccount comprises one search listing group, with multiple subaccounts

residing within one advertiser account. Each subaccount may be displayed on a separate display page having a separate page. The advertiser should preferably be able to change the subaccount being displayed by manipulating a pull-down menu 910 on the display shown in FIG. 9. In addition, search listing groups that cannot be displayed completely in one page may be separated into pages which may be individually viewed by manipulating pull-down menu 920. Again, the advertiser should preferably be able to change the page displayed by clicking directly on a pull-down menu 920 located on the display page of FIG. 9. The advertiser may specify a new bid for a displayed search listing by entering a new bid amount into the new bid input field 908 for the search listing. To update the result of the advertiser-entered changes, the advertiser clicks on button graphic 912 to transmit an update request to the account management server, which updates the bids as described above.

Many of the other selections listed in the "Account Management" menu 170 of FIG. 2 function as variants of the "Change Bid" function described above. For example, if the advertiser selects the "Change Rank Position" option, the advertiser may be presented with a display similar to the display of FIG. 9 used in the "Change Bid" function. However, in the "Change Rank Position" option, the "New Bid" field would be replaced by a "New Rank" field, in which the advertiser enters the new desired rank position for a search term. After the advertiser requests that the ranks be updated, the system then calculates a new bid price by any of a variety of algorithms easily available to one skilled in the art. For example, the system may invoke a routine to locate the search listing in the search database having the desired rank/search term combination, retrieve the associated bid amount of said combination, and then calculate a bid amount that is N cents higher; where N=1, for example. After the system calculates the new bid price and presents a read-only confirmation display to the advertiser, the system updates the bid prices and rank values upon receiving approval from the advertiser.

The "Modify Listing Component" selection on Account Management menu 170 of FIG. 2 may also generate a display similar to the format of FIG. 9. When the advertiser selects the "Modify Listing Component" option, the advertiser may

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input changes to the URL, title, or description of a search listing via web-based forms set up for each search listing. Similar to the process discussed above, the forms for the URL, title, and description fields may initially contain the old URL, title and description as default values. After the advertiser enters the desired changes, the advertiser may transmit a request to the system to update the changes. The system then displays a read-only confirmation screen, and then writes the changes to the persistent state (e.g., the user account database) after the advertiser approves the changes.

A process similar to those discussed above may be implemented for changing any other peripheral options related to a search listing; for example, changing the matching options related to a bidded search term. Any recalculations of bids or ranks required by the changes may also be determined in a manner similar to the processes discussed above.

In the "Delete Bidded Search Term" option, the system retrieves all of the search listings in the account of the advertiser and displays the search listings in an organization and a format similar to the display of FIG. 9. Each search listing entry may include, instead of the new bid field, a check box for the advertiser to click on. The advertiser would then click to place a check (X) mark next to each search term to be deleted, although any other means known in the art for selecting one or more items from a list on a web page may be used. After the advertiser selects all the search listings to be deleted and requests that the system update the changes, the system preferably presents a read-only confirmation of the requested changes, and updates the advertiser's account only after the advertiser approves the changes. The "deleted" search listings are removed from the search database 36 and will not appear in subsequent searches. However, the search listing will remain as part of the advertiser's account record for billing and account activity monitoring purposes.

In the "Add Bidded Search Term" option, the system provides the advertiser with a display having a number of entry fields corresponding to the elements of a search listing. The advertiser then enters into each field information corresponding to the respective search listing element, including the search term,

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the web site URL, the web site title, the web site description, and the bid amount, as well as any other relevant information. After the advertiser has completed entering the data and has indicated thus to the system, the system returns a readonly confirmation screen to the advertiser. The system then creates a new search listing instance and writes it into the account database and the search database upon receiving approval from the advertiser.

Preferably, the "Account Management" menu 170 of FIG. 2 provides a selection for the advertiser to "Get Suggestions On Bidded Search Term". In this case, the advertiser enters a bidded search term into a form-driven query box displayed to the advertiser. The system reads the search term entered by the advertiser and generates a list of additional related search terms to assist the advertiser in locating search terms relevant to the content of the advertiser's web site. Preferably, the additional search terms are generated using methods such as a string matching algorithm applied to a database of bidded search terms and/or a thesaurus database implemented in software. The advertiser may select search terms to bid on from the list generated by the system. In that case, the system displays to the advertisers the entry fields described above for the "Add Bidded Search Term" selection, with a form for entering a search listing for each search term selected. Preferably, the selected search term is inserted as a default value into the form for each search listing. Default values for the other search listing components may also be inserted into the forms if desired. Thus, in one embodiment, the disclosed system receives a list of search terms associated with an advertiser on the database search system, determines candidate search terms based on search terms of other advertisers on the database search system, and recommends the additional search terms from among the candidate search terms. In another embodiment, the disclosed system provides receiving a search term of an advertiser. in response to the received search term, generating a list of additional related search terms, and receiving advertiser selected search terms from the list of additional related search terms.

The "Account Management" menu 170 of FIG. 2 also preferably provides advertisers with a "Project Expenses" selection. In this selection, the advertiser

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specifies a search listing or subaccount for which the advertiser would like to predict a "daily run rate" and "days remaining to expiration." The system calculates the projections based on a cost projection algorithm, and displays the predictions to the advertiser on a read-only screen. The predictions may be calculated using a number of different algorithms known in the art. However, since the cost of a search listing is calculated by multiplying the bid amount by the total number of clicks received by the search listing at that bid amount during a specified time period, every cost projection algorithm must generally determine an estimated number of clicks per month (or other specified time period) for a search listing. The clicks on a search listing may be tracked via implementation of a software counting mechanism as is well known in the art. Clicks for all search listings may be tracked over time, this data may be used to generate estimated numbers of clicks per month overall, and for individual search terms. For a particular search term, an estimated number of searches per day is determined and is multiplied by the cost of a click. This product is then multiplied by a ratio of the average number of clicks over the average number of impressions for the rank of the search listing in question to obtain a daily run rate. The current balance may be divided by the daily run rate to obtain a projected number of days to exhaustion or "expiration" of account funds.

One embodiment of the present invention bases the cost projection algorithm on a simple predictor model that assumes that every search term performs in a similar fashion. This model assumes that the rank of the advertiser's search listing will remain constant and not fluctuate throughout the month. This algorithm has the advantages of being simple to implement and fast to calculate. The predictor model is based on the fact that the click through rate, e.g. the total number of clicks, or referrals, for a particular searcher listing, is considered to be a function of the rank of the search listing. The model therefore assumes that the usage curve of each search term, that is, the curve that result when the number of clicks on a search listing is plotted against the rank of the search listing, is similar to the usage curve for all search terms. Thus, known values extrapolated over time for the sum of all clicks for all search terms, the sum of all clicks at a given rank

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for all search terms, and the sum of all clicks for the selected search term may be employed in a simple proportion to determine the total of all clicks for the given rank for the selected search term. The estimated daily total of all clicks for the selected search term at the selected rank is then multiplied by the advertiser's current bid amount for the search term at that rank to determine a daily expense projection. In addition, if particular search terms or classes of search terms are known to differ markedly from the general pattern, correction values specific to the search term, advertiser, or other parameter may be introduced to fine-tune the projected cost estimate.

Finally, the "Account Management" menu 170 of FIG. 2 provides several selections to view information related to the advertiser's campaigns. The "View Subaccount Information" selection displays read-only information related to the selected subaccount. The "View Search Term List" selection displays the list of the advertiser's selected search terms along with the corresponding URLs, bid price, and rank, with the search terms preferably grouped by subaccount. The advertiser may also view current top bids for a set of search terms selected from a list of search terms from a read-only display generated by the system upon receiving the requested search terms from the advertiser.

For an advertiser who requires a more comprehensive report of search listing activity, the "View Report" option may be selected from the Advertiser Main Page 120 of FIG. 2. In an embodiment of the present invention, the "View Report" options generate reports comprehensive for up to one year preceding the current date. For example, daily reports are available for the each of the immediately preceding 7 days, weekly reports for the preceding four weeks, monthly reports for the preceding twelve months, and quarterly reports for the last four quarters. Additional reports may also be made available depending on advertiser interest. Other predefined report types may include activity tracked during the following time periods: Since Inception of the Account, Year To Date, Yearly, Quarter To Date, Month To Date, and Week to Date. Report Categories may include a Detail Report, viewable by Advertiser Account, by Search Listing, and by URL, and a Summary Report, viewable by Advertiser Account and by

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Subaccount. The reports may include identification data such as advertiser account and subaccount name, the dates covered by the report and the type of report. In addition, the reports may include key search listing account data such as current balance, pending current balance, average daily account debit, and run rate. Furthermore, the reports may also include key data, such as: search terms, URLs, bids, current ranks, and number of clicks, number of searches done for the search term, number of impressions (times that the search listing appeared in a search result list), and click through rate (defined as Number of Clicks/Number of Impressions). Preferably, the report is available in at least HTML view options for viewing via a browser program, printing, or downloading. Note, however, that other view options may be made available, such as Adobe Acrobat, PostScript, ASCII text, spreadsheet interchange formats (e.g., CSV, tab-delimited), and other well-known formats.

When the advertiser has selected the "View Report" option, the system invokes a function which displays a list of available report types, dates, categories, and view options. The system preferably creates a report instance with the following fields, all of which are initially set to null: report type, report date, report category, and view option. Once the advertiser has defined the parameters described above, the system invokes a function to generate the requested report, based on the advertiser-set parameters, and to display the report, based on the view option parameter.

Finally, a preferred embodiment of the present invention implements an option for context specific help that the advertiser may request at any time the advertiser is logged in. The help option may be implemented as a small icon or button located on the system generated display page. The advertiser may click on the icon or button graphic on the display page to request help, upon which the system generates and displays a help page keyed to the function of the particular display the user is viewing. The help may be implemented as separate display pages, a searchable index, dialog boxes, or by any other methods well known in the art.

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FIGS. 10-20 illustrate particular embodiments of a method and apparatus for making search term recommendations to a web site promoter or advertiser in a pay for placement market system such as that described above in conjunction with FIGS. 1-9. Disclosed embodiments provide a method for a database search system. The method includes maintaining a database of search listings including associated search terms, receiving a list of search terms associated with an advertiser, recommending additional search terms to the advertiser. Other disclosed embodiments provide a data base operating method for a database search system which stores advertiser search listings including advertiser selected search terms. The method includes spidering a specified web site to obtain an initial list of advertiser search terms for an advertiser. The method further includes filtering the initial list of advertiser search terms using search terms of other advertisers and storing in a search listing database search listings for the advertiser, the search listings formed with the filtered search terms.

Disclosed embodiments also include a database search system which includes a database of search terms in which each search term is associated with one or more advertisers. Program code is configured to recommend additional search terms for an advertiser based on search terms in the database. Still further, embodiments disclosed herein provide a method for a database search system which includes receiving a search term of an advertiser and, in response, generating a list of additional related search terms. The method then includes receiving advertiser selected search terms from the list of additional related search terms.

In the embodiments shown here, spidering and collaborative filtering are used to identify possible search terms to recommend to an advertiser. The following introduction first describes the individual techniques of spidering and collaborative filtering, and then shows how the two may be combined.

Spidering is a simple technology for downloading a web site rooted at a uniform resource locator (URL). A program downloads the home page given by the URL, then scans it for hyperlinks to other pages and downloads them. The spidering process continues until the program reaches a predefined link depth,

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downloads a predetermined number of pages, or reaches some other stopping criterion. The order in which pages are downloaded can be either breadth-first or depth-first. In breadth-first spidering, the program adds new URL's to the end of its list of pages to download; in depth-first spidering, it adds them to the beginning. These algorithms are straightforward and well known to engineers skilled in the state of the art. Further information about these techniques may be found by consulting Cho, Molina, and Page, "Efficient Crawling through URL Ordering", available from ResearchIndex, http://citeseer.nj.nec.com and Nilsson, *Principles of Artificial Intelligence*, ISBN 0934613109.

Some embodiments described herein use spidering to find search terms that appear directly on an advertiser's web site. Starting at the root of the advertiser's site, the method and system in accordance with the present embodiments downloads pages breadth first and scans them for search terms. It records every term it finds that the provider's database indicates has been searched in the past month. As an example, if the text on a page includes the phrase "tropical fish store," then the program will find the six terms "tropical," "fish," "store," "tropical fish," "fish store," and "tropical fish store." The program scores these terms using a quality metric, adding the ones that are above a particular threshold to its list of recommendations. In the preferred embodiment the quality metric considers two factors: how common a search term is on the World Wide Web, and how often users search for it. When the program has accumulated enough recommendations, it sorts them by either their quality or by the number of times they have occurred in the downloaded pages and returns the list.

The spidering component of the current embodiments differs from previous tools in three important ways. First, it looks directly at the pages in an advertiser's web site, as opposed to downloading other pages that are not in the advertiser's web site, and that might be completely unrelated. Second, it looks at all of the text on a web page, as opposed to just the words in the DESCRIPTION and KEYWORD tags. Third, it uses its quality metric to eliminate poor search terms without ever showing them to the advertiser.

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Collaborative filtering is a technology for making recommendations based on user similarity. As an example, a company like Amazon.com uses collaborative filtering to make book recommendations. Once a customer has bought several books using the on line service available at www.amazon.com, Amazon.com recommends new books by comparing the customer to others in its database. When it finds another customer that has made many of the same purchases, it recommends the choices of each to the customer. The current embodiments extend this idea to recommending search terms for advertisers on a pay-for-placement search engine.

For example, suppose a typical provider has a database of 50,000 advertisers. A portion of that database might look like this:

	Fish	Tuna	Halibut	Bait	Worms	Cars
Joe's Fish	X	X	X	-	-	-
Rick's Car Shop	-	-	-	-	-	X
Bill's Tackle	X	-	-	X	X	_

An X in the table indicates that an advertiser has bid on a term. In the seafood example, an advertiser that is initially interested in "fish" is similar to both Joe and Bill, and the program will recommend "tuna," "halibut," "bait," and "worms." If the advertiser refines his search terms to include "tuna" but exclude "bait," then he is no longer similar to Bill, and the program will stop recommending "worms." Like STF, the current invention allows the advertiser to iteratively accept and reject words until he is satisfied with the list of recommendations.

Quantitatively, collaborative filtering computes the Pearson correlation between the new advertiser and all of the existing advertisers. To calculate this correlation, a numeric rating is assigned to each entry in the advertiser/term table. In one possible assignment, the highest rating is 5, indicating that a term is a perfect description of an advertiser's site, and the lowest rating is 0, indicating that

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a term is irrelevant. In the preferred embodiment, an advertiser gets a rating of 5 for every term he has bid on and a rating of UNKNOWN for every other term. The new advertiser gets a rating of 5 for terms the advertiser has accepted, a 1 for terms he has rejected, and a 2 for every other term. The Pearson correlation between the new advertiser and an existing advertiser is then

$$\rho_a = \frac{\sum_{t} (r_{n,t} - \overline{r_n})(r_{a,t} - \overline{r_a})}{\sigma_n \sigma_a}$$

In this formula, n is the new advertiser, ρ_a is his correlation to advertiser a, $r_{n,t}$ is the rating he assigns to term t, and \overline{r}_n and σ_n are the mean and standard deviation of his ratings. The terms with the a subscripts have the corresponding meanings for the existing advertiser. The sum is taken over all search terms. A rating of UNKNOWN is replaced by the mean of an advertiser's ratings, so any term with an UNKNOWN cancels out of the equation. Correlations range between -1 and 1, with zero being no correlation and a positive correlation indicating that two advertisers have similar ratings. This formula is well known from statistics and familiar to engineers skilled in the state of the art. Further details may be found by consulting Wadsworth [ed], The Handbook of Statistical Methods for Engineers and Scientists, ISBN 007067678X.

Once the collaborative filter has computed the correlation between the new advertiser and the existing advertisers, it predicts how likely it is that each term is a good search term for the new advertiser. It does this by computing the average rating of each term, where an advertiser's contribution to the average is determined by its correlation to the new advertiser. An advertiser that has a high correlation receives full weight; an advertiser that has a low correlation receives little weight; an advertiser that has zero correlation receives no weight. One formula for this prediction is

$$e_t = \overline{r_n} + \frac{\sum_a (r_{a,t} - \overline{r_a}) \rho_a}{\sum_a \rho_a}$$

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In this formula, n is the new advertiser and e_t is his estimated rating for term t. The remaining terms have the same meaning as in the previous formula. The sum is taken over all existing advertisers. An UNKNOWN rating is again replaced by the mean of an advertiser's known ratings, so it cancels out of the equation. The formula is a weighted sum that estimates ratings on the same 0 to 5 scale as the original ratings. A term receives a high estimate if all the highly correlated advertisers rate it highly. The output of the collaborative filter is the list of search terms sorted by their estimated ratings.

These formulas provide a straightforward technique for calculating ratings based on similarity. There are many similar formulas and variations. For example, when making predictions it is usually better not to take a weighted average over all advertisers, but just over the 10-20 most highly correlated ones. There are also techniques for improving the efficiency of the calculations, or for doing collaborative filtering without using correlations or distance metrics. These variations are readily found in the literature on collaborative filtering, and the current embodiments are not constrained to any one of them. More details on the advantages and disadvantages of different collaborative filtering algorithms can be found at the GroupLens web site http://www.cs.umn.edu/Research/GroupLens.

Given the core building blocks of spidering and collaborative filtering, the complete system and method according to one present embodiment works as follows: starting with an initial list of accepted and rejected search terms, run the collaborative filtering algorithm, allow the advertiser to accept and reject new terms, and then rerun the collaborative filtering. End this process when the advertiser is satisfied with his list of accepted terms. The technique gets its initial list of accepted terms in one of three ways: either directly from the advertiser, or from an existing advertiser's bid list, or from the list of recommendations returned by running the web spider on the new advertiser's web site. This last method is the preferred embodiment. When using the web spider, the search terms that it recommends receive initial ratings that vary on a linear scale from 4.9 down to 2.1. Whenever the invention displays recommendations to the advertiser, it interleaves the original spider recommendations with the output of the

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collaborative filtering, since the recommendations from the two techniques are often complementary. The interleaving formula weights the recommendations of the web spider less and less as the advertiser accepts and rejects more terms.

In typical use, a new advertiser will start with the URL of his web site and go through 3-5 iterations of accepting and rejecting terms. As long as his web site is similar to those of existing advertisers, the system will quickly identify them and make high quality recommendations. The recommendations will be good even if no single advertiser is a perfect match, since the weighted sum allows the system to combine recommendations from many advertisers. And when there is no advertiser that is similar to the new advertiser, the web spider still makes good recommendations by finding search terms directly on the advertiser's web site. In contrast to the existing state of the art, the current embodiments provide excellent coverage of good search terms while eliminating bad ones.

Referring now to the drawing, FIG. 10 is a flow diagram illustrating a method for recommending search terms to an advertiser on a pay-for-placement search engine. The method may be implemented on a server or other data processing device associated with the pay-for placement search engine. The method may be embodied as software code operable on the data processing device in conjunction with stored data of a database or other storage element. An advertiser accesses the server to run the program using any suitable device such as a remotely-located personal computer linked to the server over the internet. One exemplary embodiment of a suitable system is shown above in conjunction with FIG. 1. The method begins at block 1000.

In block 1002, the system prompts the advertiser to choose an input method to create the initial list of accepted search terms. This list may come from direct advertiser input, from a uniform resource locator (URL) specified by the advertiser, or from a preexisting advertiser specified by the advertiser. After prompting the advertiser for the method he wants to use, the program follows one of the three paths shown in FIG. 10.

If the advertiser chooses to specify the initial list of search terms directly, at block 1004 the terms are received from the advertiser. In one exemplary

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embodiment, the program displays a text box in which the advertiser can enter a comma-separated list of initial terms. If the advertiser chooses to specify a URL as the source of the initial list of search terms, the advertiser is then prompted to enter a web site URL. The system runs a spider algorithm to extract search terms from that site, block 1008. An exemplary embodiment of such a spider algorithm will be described below in conjunction with FIGS. 11-13. If the advertiser chooses to specify a preexisting advertiser as the source of the initial list of search terms, at block 1010 identification information for the preexisting advertiser is received from the advertiser. The new advertiser picks an existing advertiser and the program sets the list of initially accepted terms to be the list of terms that advertiser has bid on, block 1012.

The method now enters its main loop, including blocks 1014, 1016, 1018, 1020. During each iteration, it runs the collaborative filtering algorithm, block 1016, displays a sorted list of recommended search terms, and allows the advertiser to accept and reject terms, block 1018. In the exemplary embodiment, a web page including the recommended search terms is sent to the advertiser, providing a user interface for advertiser interaction with the system. The advertiser accepts and rejects terms by clicking on suitable check boxes next to the terms. When he is done making his changes, he clicks a button to transmit the page of data to the server and rerun the collaborative filtering algorithm. The advertiser can continue through as many iterations as he likes, repeating the loop, block 1014, until he is satisfied with the terms he has accepted. He then clicks a final button to exit the loop, block 1020, and store or print out his selected search terms. Preferably, communication with the advertiser is over the internet using a suitable data transfer protocol such as TCP/IP. Other data communication channels may be substituted. The method ends at block 1022.

FIG. 11 is a flow diagram showing a method for performing a spidering algorithm. This algorithm may be called, for example, at block 1008 of FIG. 10. The method begins at block 1100. The procedure is called passing a URL that is the root of an advertiser's web site. Starting with this URL, the procedure enters a loop including blocks 1102, 1104, 1106, 1108. The procedure downloads pages

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using a breadth-first spidering algorithm. For each page that it downloads, block 1104, it scans the text on the page to find every phrase that has been used as a search term in the past month. In the preferred embodiment, this scanning is done by constructing a finite state machine that recognizes the regular expression $s_1 \mid s_2 \mid \ldots \mid s_n$, where each s_i is a valid search term. The program scans a page one character at a time using this state machine, and emits each search term as it finds it. Because the state machine only depends on the current set of valid search terms, the preferred embodiment only constructs it at regular intervals when the database of terms that users have searched changes. Algorithms for constructing such a finite state machine are readily available in the literature and appear in common search utilities such as grep, as described in Aho and Hopcraft, *The Design of Computer Algorithms*, ISBN 0201000296. They are well known to practitioners of ordinary skill in the art of computer system design.

Each time the spider finds a new term on a page, it adds it to the list of terms it has found on the web site, block 1106. It keeps track of how many times it has seen each term in an array COUNT[T]. The loop repeats at block 1108. The downloading and scanning process ends when the spider has found 1000 terms as indicated by the looping control of block 1102. Other thresholds or looping control techniques may be used. The looping operation of FIG. 11 is exemplary only.

The next step is to filter out bad terms. This is performed in a loop including block 1110, 1112, 1114. Bad is a subjective measure, and there are many possible metrics that an implementation might use. In the preferred embodiment the quality metric depends on two quantities: the frequency with which a term appears in documents on the World Wide Web, and the frequency with which users search for it. The quality metric is evaluated at block 1112. The method finds a term's frequency on the World Wide Web by querying a search engine that returns the number of documents containing the term. It finds the frequency with which users search for it by looking up that information in the provider's database. The quality measure employed in the illustrated embodiment is the log of the ratio of these two numbers, as shown in block 1112 of FIG. 11.

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To achieve a high quality rating, a term must be a popular one for people to search on, but not so common in web documents that it is useless as a search term. Because quality measures only change slowly, the preferred embodiment only calculates them at periodic intervals and caches the results. Other quality measures may be substituted.

Once the method has calculated the quality of the 1000 terms it has found, the loop is exited at block 1114 and the method discards or throws out all the terms that fall below a predetermined quality threshold, block 1116. This threshold may be variable, changing over time, because it depends on how many pages are indexed on the World Wide Web and how many users are conducting searches using the provider's search engine. In the preferred embodiment, the program automatically calibrates the threshold by looking up the quality of known terms that are on the borderline of being good search terms. It sets the threshold to the average quality of these terms. The exact list of terms depends on the search engine provider and is not constrained by the particular embodiment.

The final step in the spidering algorithm is to sort the terms that are above the quality threshold by how often they occur in the pages the spider has downloaded and scanned, at block 1116. These counts are stored in the COUNT[T] array. The sorted list is the output of the spider algorithm. In a typical embodiment the quality filter discards about 80% of the terms, and the algorithm returns about 200 terms. The spidering method ends at block 1118.

FIG. 12 is a flow diagram showing one method for performing the collaborative filtering algorithm. The method begins at block 1200. At block 1202 and block 1204, rating values for the new advertiser and existing advertisers are initialized. Embodiments for performing these operations are described below in conjunction with FIGS. 13 and 14. At block 1206, control enters a loop including blocks 1206, 1208 and 1210. In this loop, the method processes the search terms selected by the collaborative filtering algorithm of FIG. 11 and calculates the new advertiser's estimated rating for each term, block 1208. One embodiment for this rating prediction method is described below in conjunction with FIGS. 18-20. After processing all search terms, the loop is exited at block

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1210. At the end of the algorithm terms are sorted by their predicted ratings, block 1212. The method returns the final list as its ranked list of recommendations and then ends at block 1214.

In this algorithm and in following algorithms, there are many efficiency optimizations that an implementation might include. For example, it might return only the top 100 search terms, rather than the entire list, or it might cache computational results to avoid repeating work. All of these optimizations will be readily apparent to practitioners ordinarily skilled in the art of computing system design, and the embodiments shown here do not depend on particular optimizations an implementation uses.

FIG. 13 is a flow diagram illustrating a preferred algorithm for initializing the rating values of existing advertisers. The algorithm is a loop over every advertiser/search term pair. For each pair, the program sets the rating to 5 if the advertiser has bid on the term, and to UNKNOWN otherwise. Ratings are stored in the V[A][T] array so that other parts of the program can access them.

The method begins at block 1300. An advertiser-processing loop is entered at block 1302 using an advertiser variable A. A term-processing loop is entered at block 1304 using a term variable T. At block 1306, the method determines if the advertiser associated with the advertiser variable A has bid on the term associated with the variable T. If not, at block 1308, the rating V[A][T] is set to a value of UNKNOWN in an array of rating values. If the advertiser has bid on the term, at block 1310 the array entry V[A][T] is set to 5, which is an arbitrarily chosen value.

At block 1312, the term variable is incremented or otherwise changed to select a next term. Control remains in the loop including blocks 1304, 1306, 1308, 1310, 1312 until all search terms have been processed for the variable associated with variable A. Then at block 1314, the advertiser variable A is incremented or otherwise changed and looping proceeds through search terms for the newly selected advertiser. After all advertisers have been processed for all search terms, the method ends at block 1316.

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FIG. 14 is a flow diagram showing a preferred algorithm for initializing the rating values of the new advertiser. The algorithm is a loop over every search term. For each term, the program sets the rating to 5 if the new advertiser has accepted the term, and to 1 if he has rejected it. If he has done neither, and the spider has recommended the term, then the program sets the rating to the spider's estimated rating. If none of these three cases hold, the program sets the rating value to 2.

The method begins at block 1400. At block 1402, a loop is entered using a term variable T as the looping variable. At block 1404, it is determined if the advertiser has accepted the term associated with the variable T for the advertiser's search terms. If so, at block 1406, the rating V[A][T] for the advertiser and term is set to a value of 5 in the array of ratings. Control proceeds to block 1418 to select a next term for the looping variable T. If the advertiser has not accepted the current search term T, at block 1408 it is determined if the advertiser has rejected it. If so, at block 1410, the rating V[A][T] for the advertiser and term is set to a value of 1 and control proceeds to block 1418 to increment the looping variable. If the advertiser has not rejected the term T, at block 1412 it is determined if the spidering algorithm has recommended the term associated with the variable T. If so, at block 1414, the rating V[A][T] for the advertiser and term is set to a value equal to the rating established by the spidering algorithm. Otherwise, the rating V[A][T] for the advertiser and term is set to a value of 2. Control then proceeds to block 1418 to increment the looping variable. After all terms have been processed, the method ends at block 1420.

FIG. 15 is a flow diagram illustrating an algorithm for calculating the Pearson correlation between two advertisers. This algorithm is a loop over every search term. For each term, the program accumulates values that allow it to calculate the Pearson correlation formula.

$$\rho_a = \frac{\sum_{t} (r_{n,t} - \overline{r_n})(r_{a,t} - \overline{r_a})}{\sigma_n \sigma_a}$$

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The X variables accumulate the value of the numerator, and the Y variables accumulate the value of the denominator. After the program has looped over all the search terms, it calculates the correlation using the final expression in the flowchart.

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The method begins at block 1500. At block 1502, variables X, Y1 and Y2 are initialized. A loop is entered at block 1504 for processing each search term in the list of search terms. At block 1506, variables X1 and X2 are calculated using a rating algorithm. The rating algorithm computes the rating an advertiser assigns to a search term. One embodiment of a suitable rating algorithm is described below in conjunction with FIG. 16. At block 1508, the values of X1 and X2 are combined with the previous value of X as shown to produce the current value of X. At block 1510, values of Y1 and Y2 are updated using the calculated values of X1 and X2. At block 1512, control loops back to block 1504 until all search terms have been processed. The Pearson correlation is then calculated as shown at block 1514. The method ends at block 1516 and the value of the Pearson correlation is returned.

FIG. 16 is a flow diagram showing one embodiment of an algorithm for calculating the rating that an advertiser assigns to a term. If the rating recorded in the V[A][T] array is not UNKNOWN, the algorithm simply returns it. Otherwise it returns the advertiser's mean rating.

The method begins at block 1600. Two variables are passed, an advertiser variable and a term variable. At block 1602, it is determined if the rating associated with the advertiser and the term is unknown. If not, at block 1604 the rating is set equal to the rating value in the array of ratings. If the variable is unknown, at block 1606 the rating is set equal to the advertiser's mean rating. One method for calculating the advertiser's mean rating is described below in conjunction with FIG. 17. The rating is returned and the method ends at block 1608.

FIG. 17 is a flow diagram showing one embodiment of an algorithm for calculating an advertiser's mean rating. The algorithm is a loop over every search term. For each search term that has a known rating, the program adds the rating to

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the sum S and increments the counter N. At the end of the loop, the mean rating is simply the ratio S/N.

The method begins at block 1700. At block 1702, a sum variable S and a count variable N are initialized. At block 1704, a loop is entered, selecting search terms of the advertiser's list according to the looping variable. At block 1706, it is determined if the rating for the search term, stored in the rating array, has a value of UNKNOWN. If not, at block 1708, the value of the rating V[A][T] is added to the sum variable S and the count variable N is incremented. Control proceeds to block 1710 where the loop is repeated until all search terms in the advertiser's list of search terms have been processed. At block 1712, the mean rating is calculated as the ratio of S to N. At block 1714, the method ends and the mean rating is returned.

FIG. 18 is a flow diagram showing one embodiment of an algorithm for combining recommendations from the web spider and collaborative filter. A term's combined rating is a weighted sum of the spider's rating and the collaborative filter's rating. Initially, when the advertiser has not yet accepted or rejected any terms, the algorithm weights the ratings of the collaborative filter twice as strongly as it weights the recommendations of the spider. As the number of accepted and rejected terms increases, the weight of the spider ratings decreases proportionally. There are many other possible formulas for generating a combined rating from the individual ratings, and the current invention is not limited to any one of them.

In the embodiment of FIG. 18, the method begins at block 1800. At block 1802, a variable N is set equal to the number of recommended search terms accepted by the advertiser and a variable M is set equal to the number of recommended terms rejected by the advertiser. At block 1804, two routines are called to calculate the predicted rating from the spider and the predicted rating from collaborative filtering. Exemplary embodiments of these routines are discussed below in conjunction with FIGS. 19 and 20 respectively. At block 1806, the predictions are combined and the result returned as the method ends at block 1808.

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FIG. 19 is a flow diagram showing one embodiment of an algorithm for calculating the spider's ratings. If the spider has not found a term, or if the term did not pass its quality filter, then the algorithm assigns it a rating of 2. The remaining terms receive ratings on a linear scale from 4.9 down to 2.1. The top term that the spider recommends receives a rating of 4.9, and the last term that it recommends receives a rating of 2.1. There are many other possible formulas for generating ratings from the spider's ranked recommendations, and the current invention is not limited to any one of them.

The method begins at block 1900. At block 1902, it is determined if the spider found the term passed to the method in the term variable T. If so, at block 1904 a variable N is set equal to the number of terms found by the spider and a variable M is set equal to the position of the term T in the sorted list of recommendations returned by the spider.

At block 1906, the predicted rating from the spider is calculated according to the illustrated formula. At block 1908, if the spider did not find the term T, the predicted rating from the spider is set equal to 2. The method ends at block 1908 and the predicted rating from the spider is returned.

FIG. 20 is a flow diagram showing one embodiment of an algorithm for calculating the collaborative filter's ratings. The algorithm is a loop over every advertiser. For each advertiser, the program accumulates values that allow it to calculate the rating according to the formula

$$e_{t} = \overline{r}_{n} + \frac{\sum_{a} (r_{a,t} - \overline{r}_{a}) \rho_{a}}{\sum_{a} \rho_{a}}$$

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A variable X accumulates the value of the numerator, and a variable Y accumulates the value of the denominator. In the last step, the algorithm calculates the final rating using the expression shown in the flowchart. This final rating may fall outside of the range 0 to 5, but it can still be correctly interpreted on this scale.

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The method begins at block 2000. At block 2002, the variables X and Y are initialized. A loop is entered at block 2004, one advertiser being processed for each iteration through the loop. At block 2006, values for variables XA and W are evaluated as shown. At block 2008, values for X and Y are updated using the values of W and XA. At block 2010, control returns to the start of the loop at block 2004 to process the next advertiser. After all advertisers have been processed, the prediction from collaborative filtering is calculated using the formula in block 2012 and the mean rating algorithm described above in conjunction with FIG. 17. The method ends at block 2014 and the prediction from collaborative filtering is returned.

From the foregoing, it can be seen that the present embodiments provide a method and apparatus for recommending search terms to an advertiser on a payfor-placement search system. The method and apparatus make search term recommendations based on the contents of the advertiser's web site and by comparing the advertiser to other similar advertisers and recommending search terms they have chosen. In this manner, the system recommends good search terms, or terms having a relation to the advertiser's web site or its content, while avoiding bad search terms which have no such relation. The system is interactive with the advertiser, allowing him to decide when the set of search terms is sufficient for his requirements. However, the process of identifying and ranking search terms is automated and is based on actual pages of the advertiser's web site and by comparisons to other advertisers.

While a particular embodiment of the present invention has been shown and described, modifications may be made. It is therefore intended in the appended claims to cover such changes and modifications, which follow in the true spirit and scope of the invention.

CLAIMS

1. A method for a database search system, the method comprising: receiving a list of search terms associated with an advertiser on the database search system;

determining candidate search terms based on search terms of other advertisers on the database search system; and recommending the additional search terms from among the candidate search terms.

2. The method of claim 1 wherein determining candidate search terms comprises:

assigning ratings to search terms; and computing a correlation between the advertiser and one or more of the other advertisers using the assigned ratings of advertiser search terms.

- 3. The method of claim 2 further comprising: predicting a likelihood that a candidate search term will be relevant to the advertiser.
- 4. The method of claim 3 wherein predicting comprises: determining a quality metric for the candidate search terms; and predicting relevance of candidate search terms based on the quality metric.
- 5. A method for a database search system, the method comprising: maintaining a database of search listings including associated search terms; receiving a list of search terms associated with an advertiser; computing ratings for search terms; and recommending additional search terms to the advertiser based on the computed ratings.

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6.	The method of claim 5 wherein computing ratings comprises:
assign	ing ratings to search terms.

- 7. The method of claim 5 wherein computing ratings comprises: predicting ratings for search terms.
- 8. The method of claim 5 wherein receiving a list of search terms comprises:

receiving a list of initial search terms from the advertiser.

9. The method of claim 5 wherein receiving a list of search terms comprises:

identifying an existing advertiser on the database search system; and forming the list of search terms from search terms of the existing advertiser.

10. The method of claim 5 wherein receiving a list of search terms comprises:

receiving a website uniform resource locator (URL); and spidering the website associated with the URL to extract search terms for the list of search terms.

- 11. The method of claim 10 wherein spidering the website comprises: receiving data from pages of the website; recording candidate search terms from the data; and determining a quality metric for each candidate search term.
- 12. The method of claim 11 further comprising: sorting the candidate search terms according to the quality metric; and

- 13. The method of claim 10 wherein spidering comprises: receiving data from one or more pages of the website; and examining text from the one or more pages for candidate search terms.
- 14. The method of claim 13 wherein examining text comprises: examining substantially all text from the one or more pages; and examining meta tags from the one or more pages.
- 15. The method of claim 13 wherein receiving a website URL comprises:

receiving the advertiser's URL as the web site URL.

16. The method of claim 13 wherein receiving a website URL comprises:

receiving the web site URL from the advertiser.

- 17. The method of claim 5 further comprising: receiving a search query from a user; searching for matching search terms in the database of search listings; preparing search results by formatting matching search terms according to advertiser bid amounts associated with the search listings; and communicating the search results to the user.
- 18. A database search system comprising: a database of search terms, each search term being associated with one or more advertisers; and
- program code configured to recommend additional search terms for an advertiser based on search terms in the database.

19. The database search system of claim 18 wherein the program code comprises:

collaborative filtering code configured to recommend the additional search terms based on search terms associated with other advertisers of the database search system.

- 20. The database search system of claim 19 wherein the collaborative filtering code comprises Pearson correlation code.
- 21. The database search system of claim 19 wherein the program code comprises:

a program loop to iterate the collaborative filtering code.

- 22. The database search system of claim 18 further comprising: code to receive accept and reject indications from the advertiser before repeating the program loop.
- 23. The database search system of claim 18 wherein the program code comprises:

spidering code to recommend the additional search terms.

24. The database search system of claim 18 wherein the program code comprises:

spidering code to find initially accepted search terms in a web site; and collaborative filtering code to provide the recommended additional search terms.

25. The database search system of claim 24 wherein the spidering code is configured to spider a web site of the advertiser.

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- 26. The database search system of claim 23 wherein the spidering code is configured to spider a web site specified by the advertiser.
- 27. The database search system of claim 18 further comprising: filtering code to filter candidate search terms according to a quality metric to produce the recommended additional search terms.
- 28. The database search system of claim 15 further comprising: search engine program code configured to search the database in response to a search query from a user.
- 29. A data base operating method for a database search system storing advertiser search listing, the method comprising:

spidering a specified web site to obtain an initial list of advertiser search terms for an advertiser;

filtering the initial list of advertiser search terms using search terms of other advertisers; and

storing in a search listing database search listings for the advertiser, the search listings formed with the filtered search terms.

- 30. The data base operating method of claim 29 wherein the specified web site comprises an advertiser specified website.
- 31. The data base operating method of claim 29 wherein the specified web site comprises a website specified by the database search system.
 - 32. The data base operating method of claim 29 further comprising: assigning ratings to search terms; and

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- 33. The data base operating method of claim 32 further comprising: predicting a likelihood that a search term will be relevant to the advertiser.
- 34. The data base operating method of claim 33 wherein predicting comprises:

determining a quality metric for candidate search terms; and predicting relevance of candidate search terms based on the quality metric.

35. The data base operating method of claim 29 wherein spidering the specified web site comprises:

receiving data from pages of the specified website; recording candidate search terms from the data; and determining a quality metric for each candidate search term.

- 36. The data base operating method of claim 35 further comprising: sorting the candidate search terms according to the quality metric; and recommending only candidate search terms having a quality metric exceeding a threshold.
- 37. The data base operating method of claim 29 wherein filtering comprises:

determining a correlation between a web site of the advertiser and web sites of other advertisers on the database search system;

using the correlation, determining ratings for each advertiser search term in the initial list of advertiser search terms; and

organizing search terms of the initial list of advertiser search terms according to the ratings.

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38.	The data base operating method of claim 29 further comprising:
presen	ting the organized search terms to the advertiser;
receivi	ng advertiser acceptance indications for the organized search terms;
adjusti	ng the list of advertiser search terms according to the acceptance
	indications; and
filterin	g the adjusted list.

- 39. The data base operating method of claim 38 further comprising: iteratively presenting the organized search terms, receiving revised advertiser acceptance indications, and adjusting the list of advertiser search terms.
- 40. The data base operating method of claim 38 further comprising: receiving a search query from a user; searching for matching search terms in the search listing database; preparing search results by formatting matching search terms according to advertiser bid amounts associated with the matching search listings; and communicating the search results to the user.
- 41. A method for a database search system, the method comprising: receiving a search term of an advertiser; in response to the received search term, generating a list of additional related search terms; and receiving advertiser selected search terms from the list of additional related search terms.
- 42. The method of claim 41 wherein generating the list of additional search terms comprises:

matching one or more text strings from the received search term with a database of search terms.

43. The method of claim 38 wherein generating the list of additional search terms comprises:

matching one or more text strings from the received search term with a thesaurus.

- 44. The method of claim 41 further comprising: displaying a form for entering one or more search listings for a selected search term.
- 45. The method of claim 42 further comprising: entering the selected search term as a default value in each of the one or more search listings
 - 46. A method for recommending search terms, the method comprising: receiving information describing an advertiser; and recommending search terms based on the advertiser's similarity to other advertisers.
 - 47. The method of claim 46 further comprising:
 assigning ratings based on the information describing the advertiser and
 information describing the other advertisers; and
 recommending search terms based at least in part on the ratings.
 - 48. The method of claim 46 further comprising:

 predicting ratings for the advertiser and the other advertisers based on the
 information describing the advertiser and information describing the
 other advertisers; and
 recommending search terms based at least in part on the ratings.

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49. The method of claim 46 further comprising: computing correlations for the advertiser and the other advertisers based on the information describing the advertiser and information describing the other advertisers; and recommending search terms based at least in part on the correlations.

- 50. The method of claim 49 wherein computing correlations comprises: computing Pearson correlations.
- 51. A method for recommending search terms, the method comprising: downloading web pages rooted at a specified uniform resource locator (URL); and recommending search terms that appear in the body text of the web pages.
- 52. The method of claim 51 further comprising: identifying an advertiser having a web site; specifying the advertiser's web site as the specified URL.
- 53. The method of claim 51 further comprising: receiving a web site identifier from an advertiser as the specified URL.
- 54. A method for recommending search terms, the method comprising: receiving a uniform resource locator (URL); downloading web pages rooted at the URL; and recommending search terms that appear in the web pages.
- 55. The method of claim 54 further comprising: identifying an advertiser having a web site; receiving the advertiser's web site as the URL.

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56.	A method for recommending search terms, the method comprising:
calculating a quality metric for candidate search terms, the quality metric	
	for a respective candidate search term being a function of the
	respective search term's web frequency and a function of a search
	term's search frequency; and
recom	mending search terms for which the calculated quality metric
	exceeds a quality threshold

- 57. The method of claim 56 further comprising: sorting the candidate search terms according to a second metric.
- 58. The method of claim 56 further comprising: automatically calibrating the quality threshold.
- 59. A method for recommending search terms for a database search system, the method comprising:

 maintaining a database of search terms associated with advertiser listings; receiving information describing an advertiser; and recommending search terms to the advertiser.
 - 60. The method of claim 59 further comprising: determining candidate search terms by collaborative filtering; and recommending search terms from the candidate search terms.
 - 61. The method of claim 59 further comprising: downloading web pages rooted at a uniform resource locator; and recommending the search terms based on terms that appear in body text of the web pages.
 - 62. The method of claim 59 further comprising: receiving a uniform resource locator (URL);

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downloading web pages rooted at the URL; and recommending search terms based on terms that appear in the web pages.

63. The method of claim 59 further comprising:

calculating a quality metric for candidate search terms, the quality metric for a respective candidate search term being a function of the respective search term's web frequency and a function of a search term's search frequency; and

recommending the search terms based on search terms for which the calculated quality metric exceeds a quality threshold

- 65. The method of claim 59 further comprising:
- receiving feedback from the advertiser on the recommended search terms; and

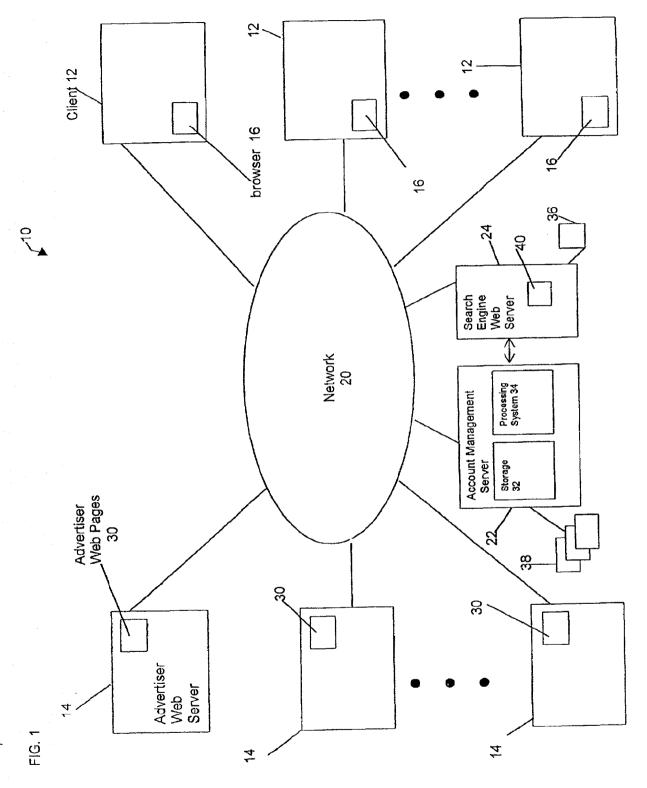
changing the recommended search terms based on the feedback.

- 64. The method of claim 59 further comprising:
- receiving feedback from the advertiser on the recommended search terms; and

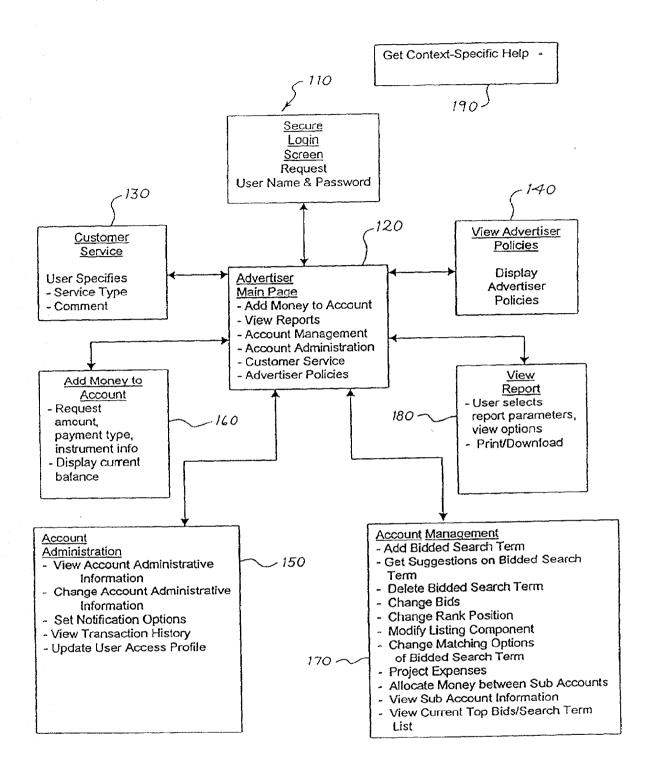
changing the recommended search terms based on the feedback.

ABSTRACT OF THE DISCLOSURE

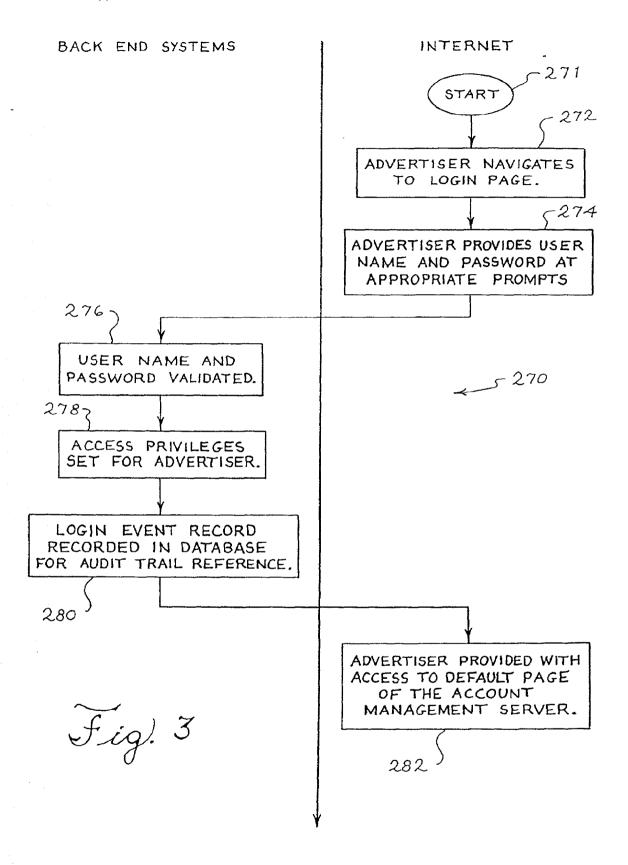
In a pay-for-placement search system, the system makes search term recommendations to advertisers managing their accounts in one or more of two ways. A first technique involves looking for good search terms directly on an advertiser's web site. A second technique involves comparing an advertiser to other, similar advertisers and recommending the search terms the other advertisers have chosen. The first technique is called spidering and the second technique is called collaborative filtering. In the preferred embodiment, the output of the spidering step is used as input to the collaborative filtering step. The final output of search terms from both steps is then interleaved in a natural way.

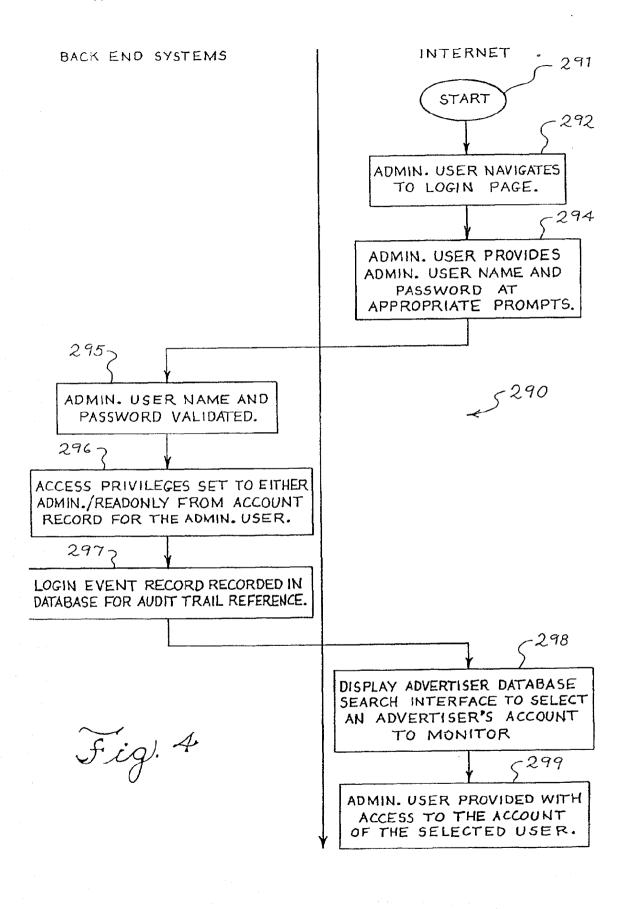


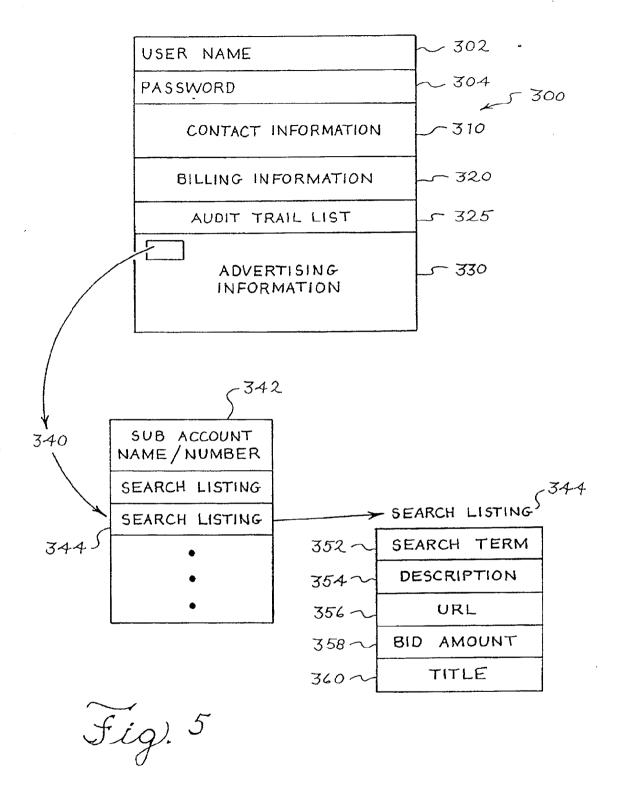
Patent Application for: RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING Inventor(s): Mark Paine, et al. 1/20 Attorney Docket No.: 9623/378

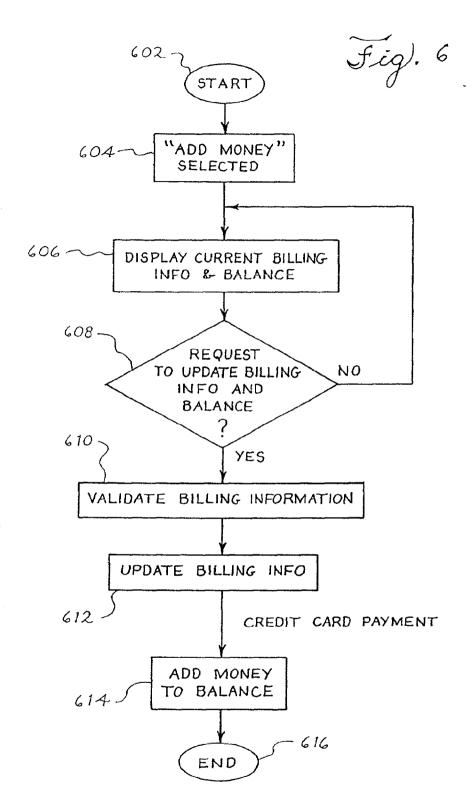


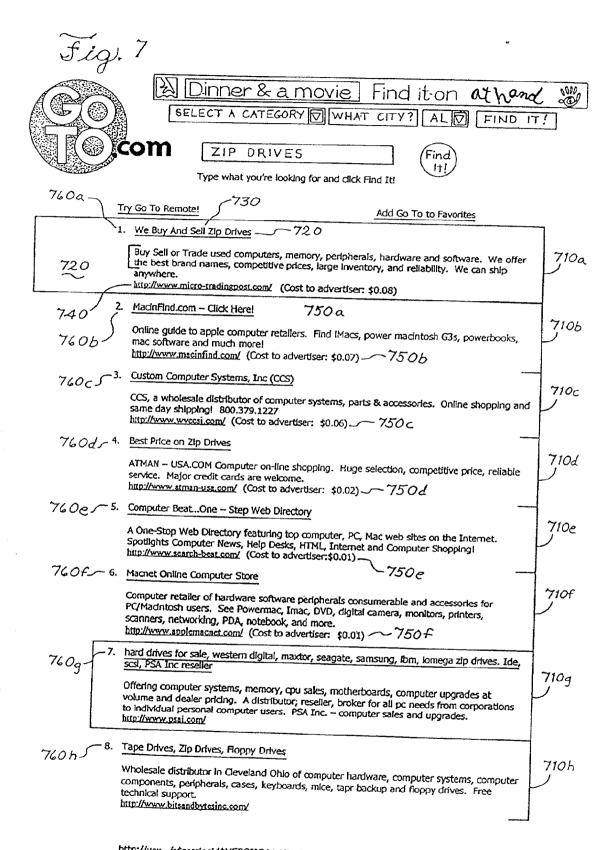
Figl. 2



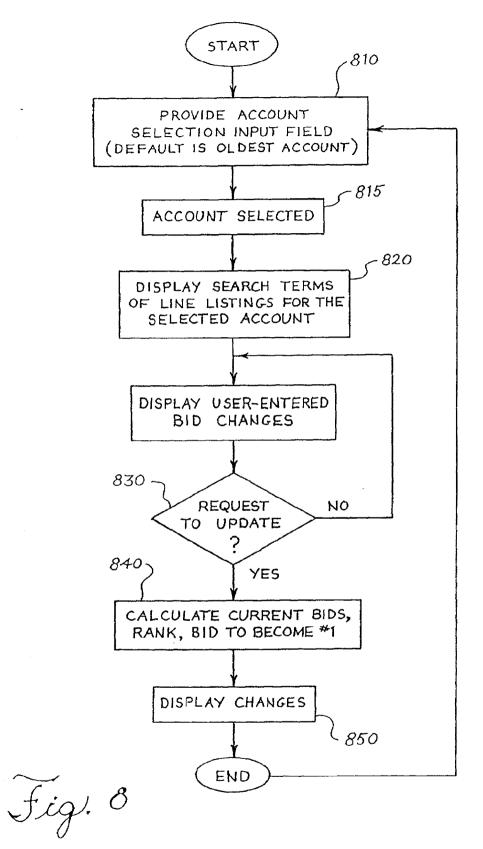


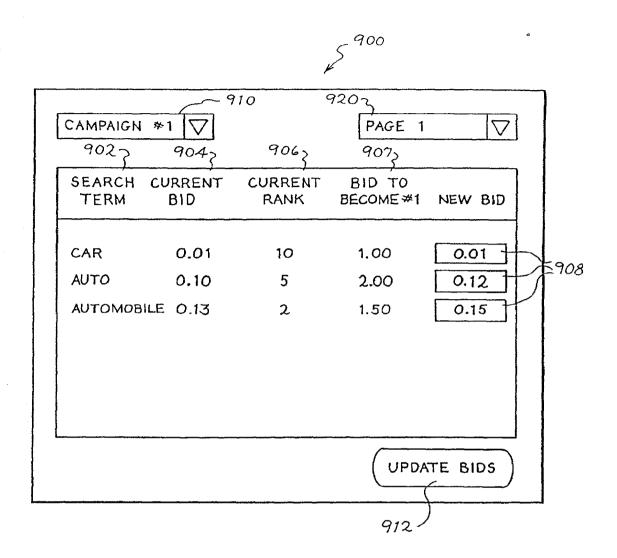




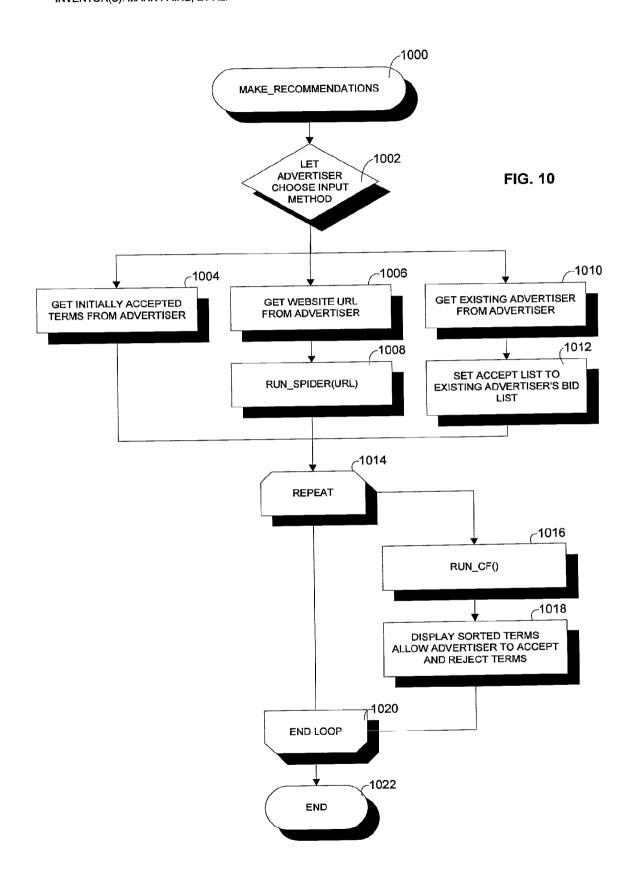


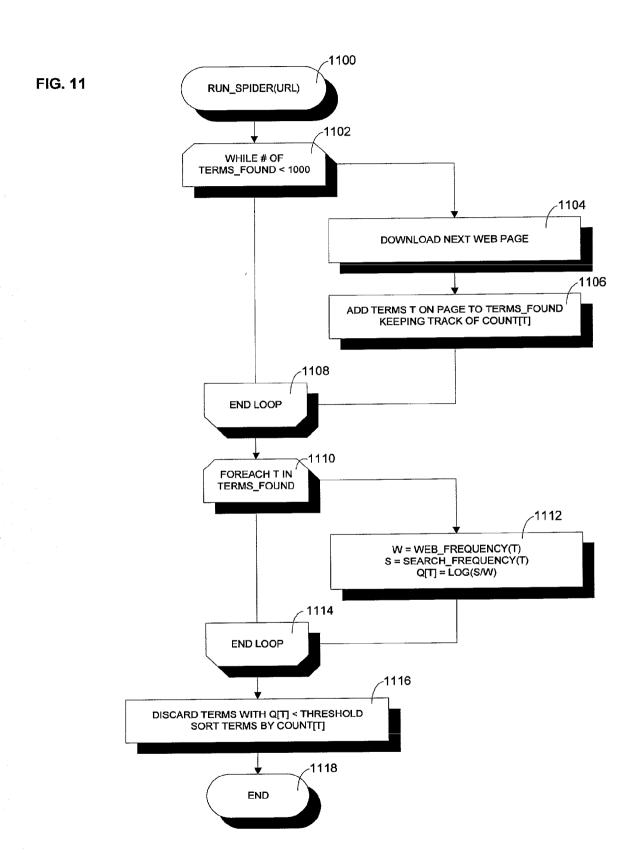
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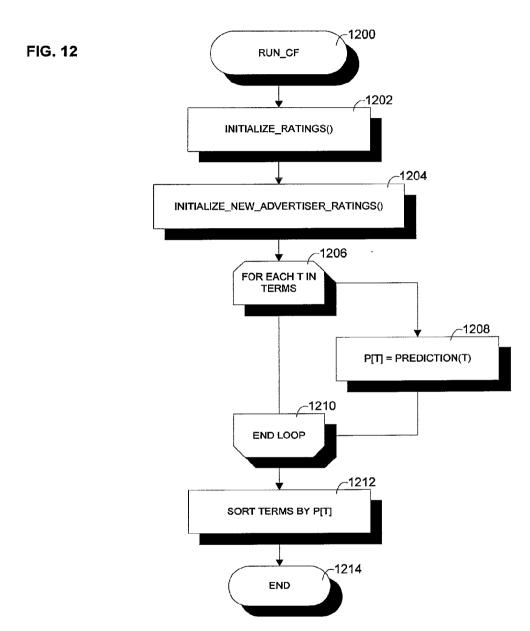


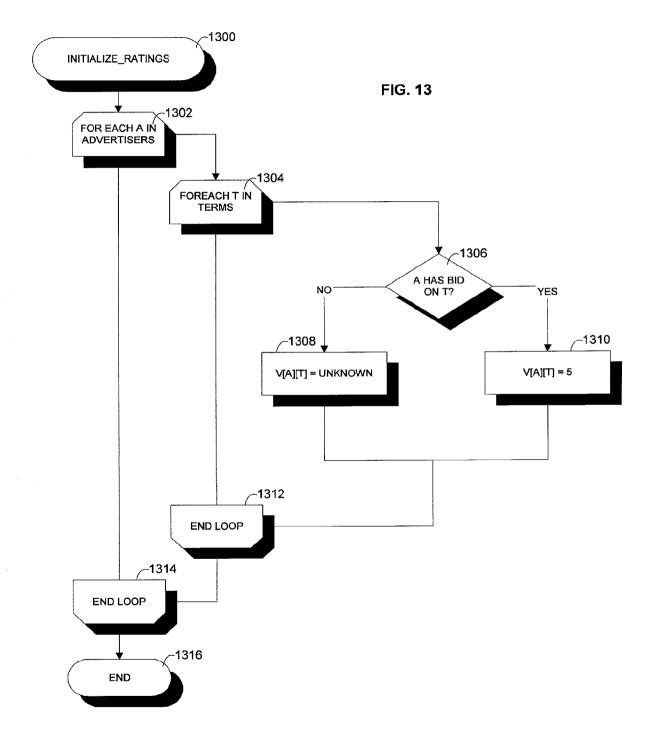


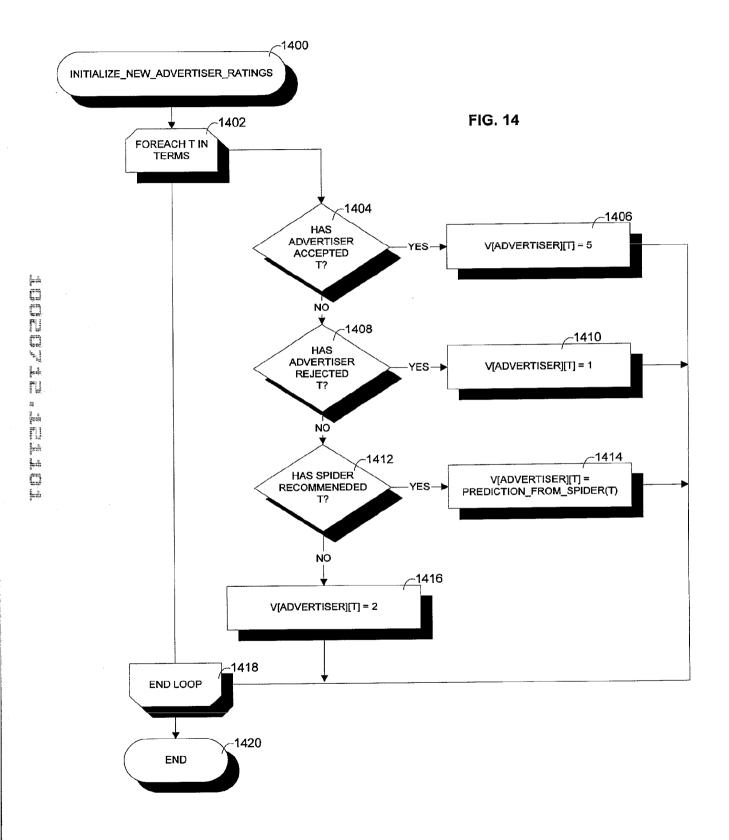
Fig! 9

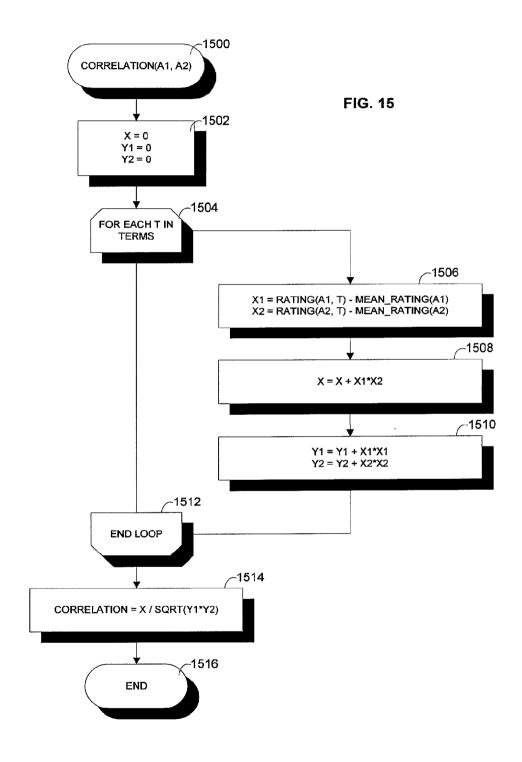


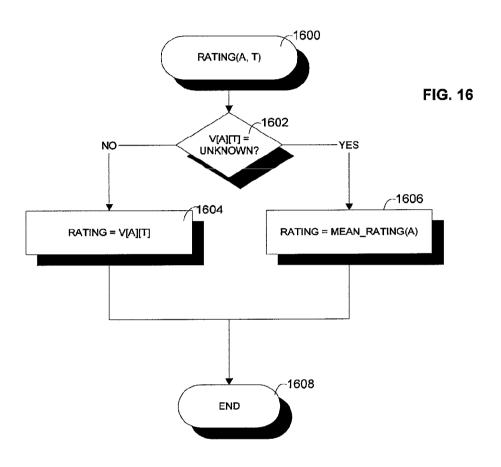


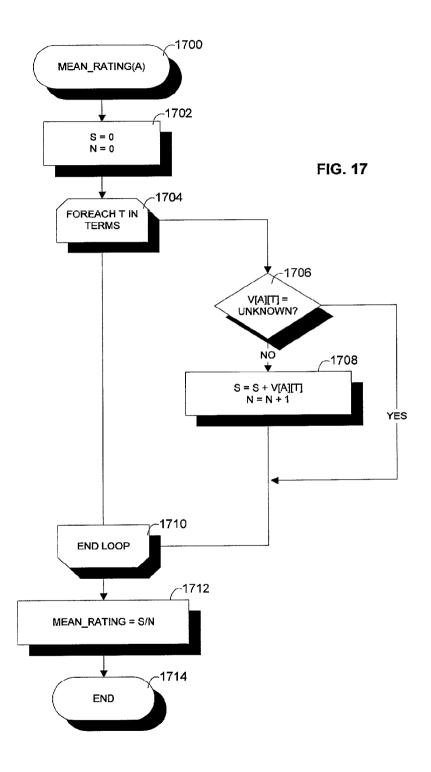


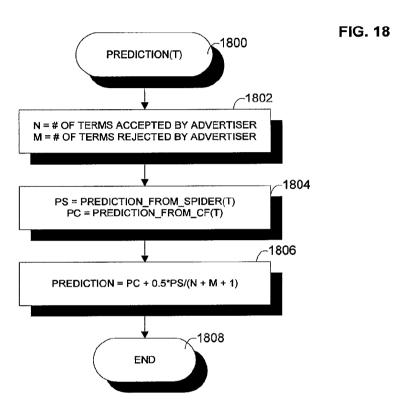


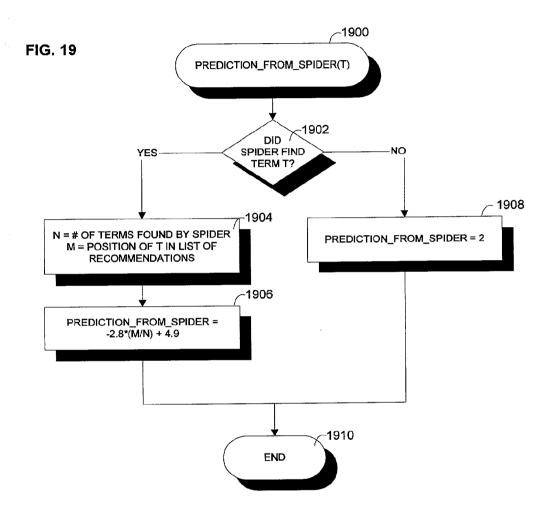


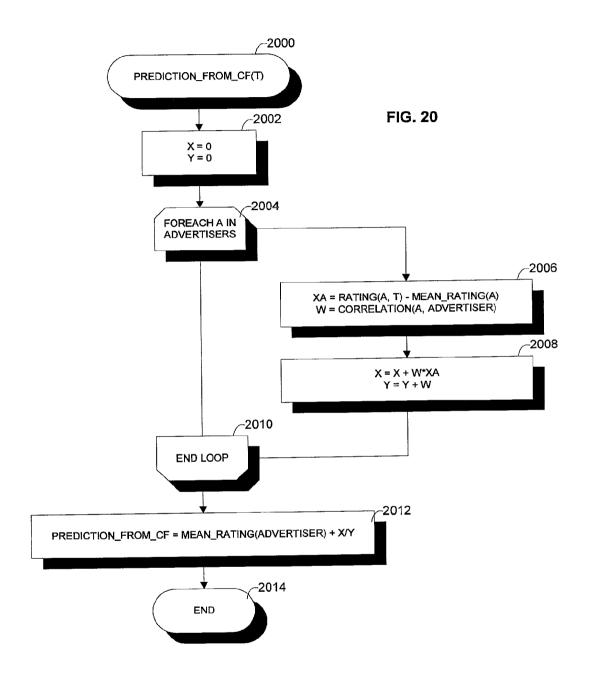






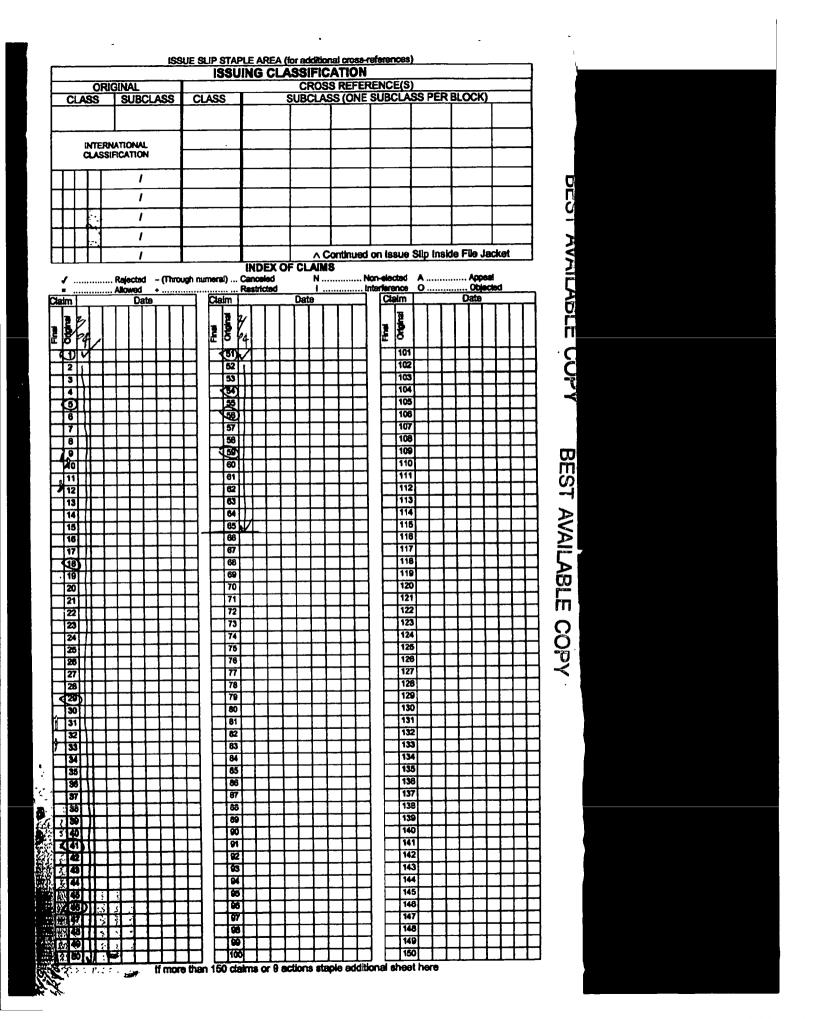






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Case No. 9623/378

PATENT APPLICATION TRANSMITTAL LETTER

To the Commissioner for Patents:

Transmitted herewith for filing is the patent application of: Mark Paine, Winton Davies, Don Geddis, Jon Dukes-Schlossberg and Darren

Davis for : RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING. Enclosed are:

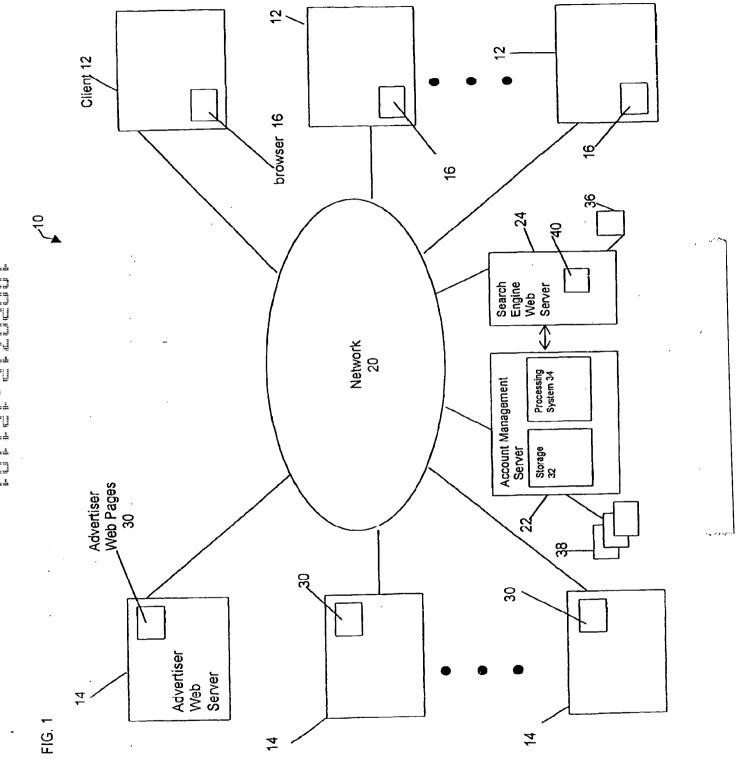
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	20 sheet(s) of drawings, 60 pages of application (including title page), and the following Appendices: two identical compact discs marked COPY 1 and COPY 2 and having a CD-R appendix containing computer source code in IBM-PC format compatible with MS-Windows operating system; a list of the 37,913 files contained on the compact discs is provided in a file at the top directory level of each compact disc in a file called "dir s".									
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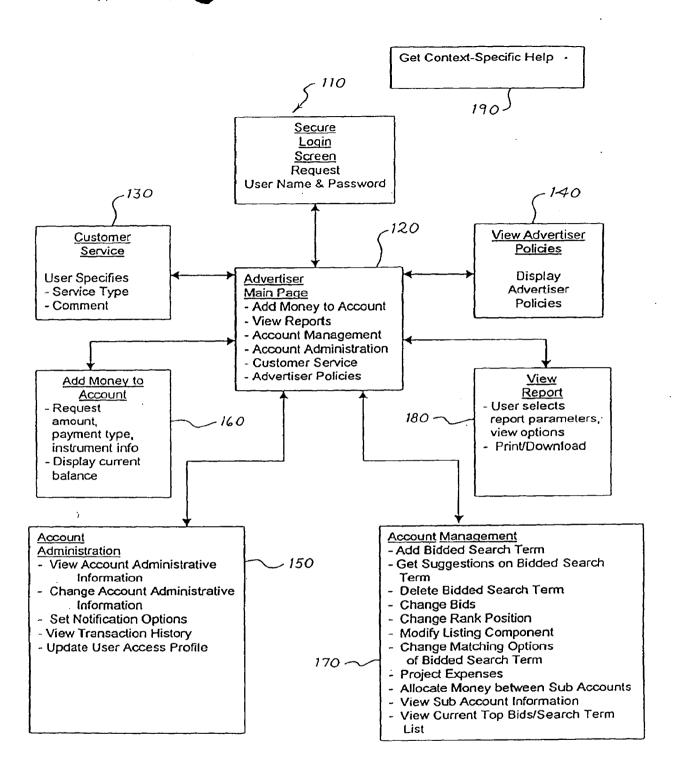
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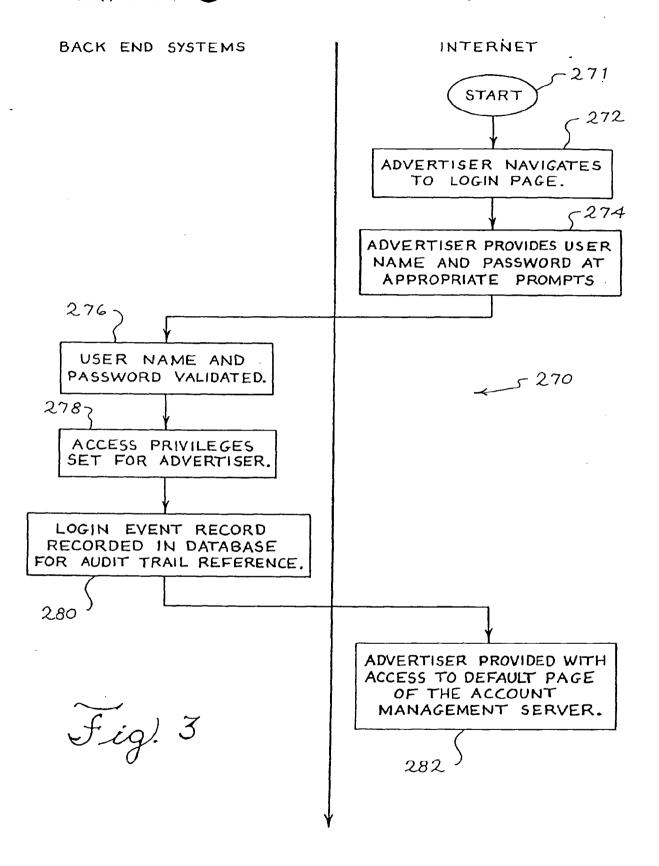
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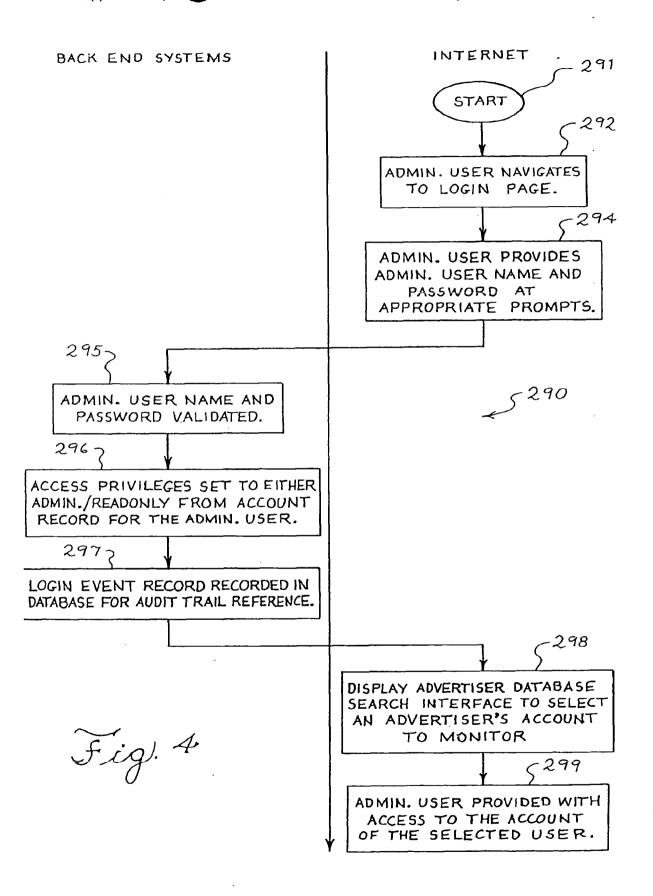


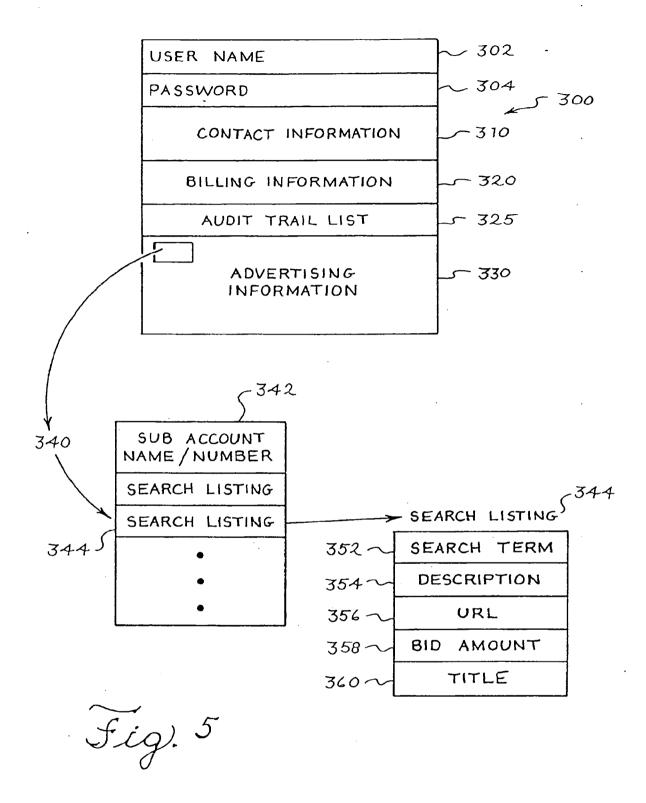
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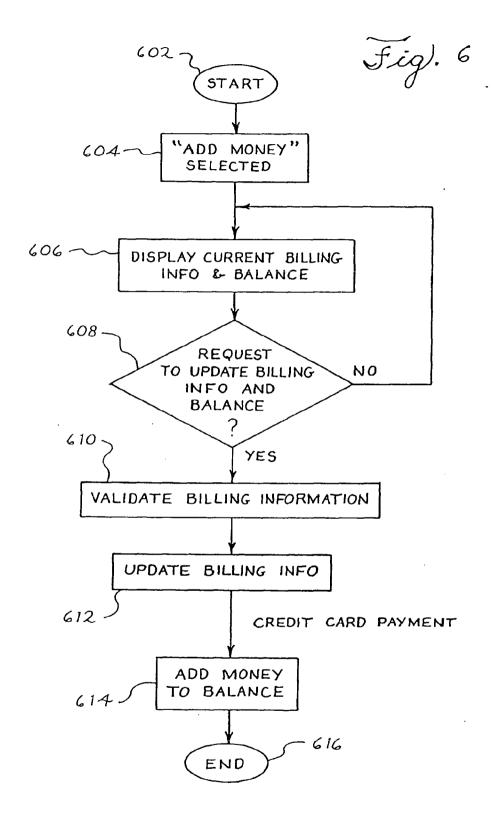


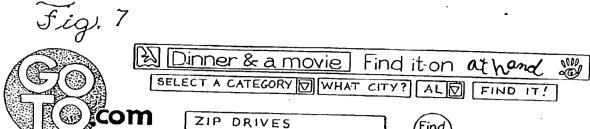
Figl. 2







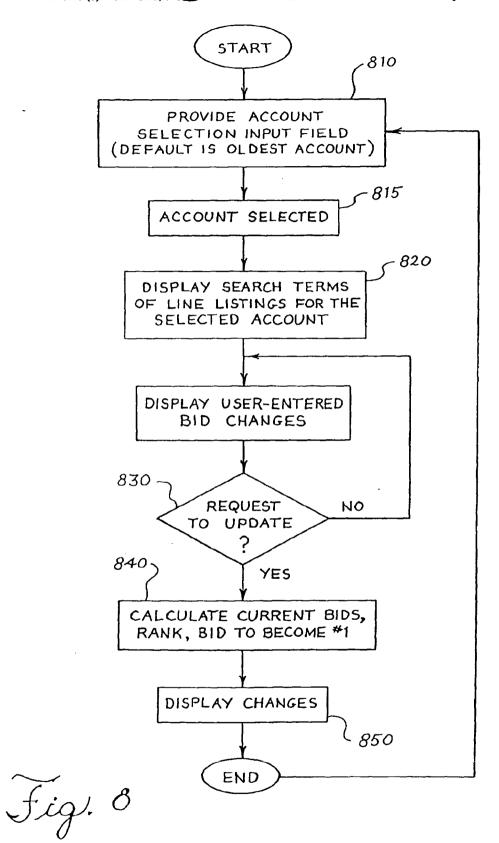


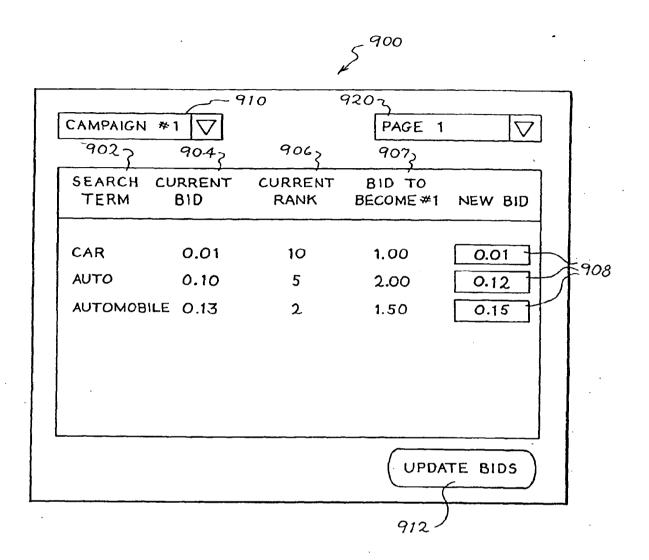


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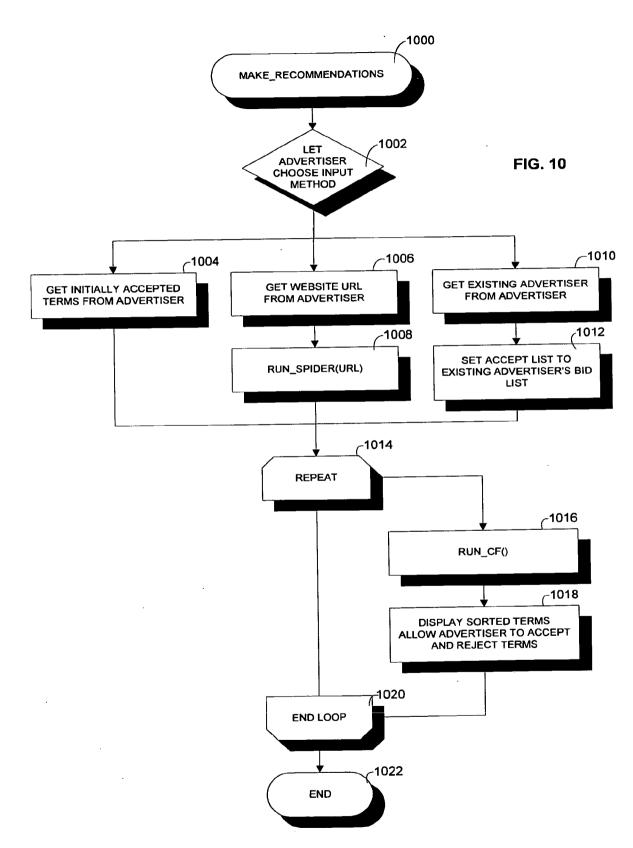
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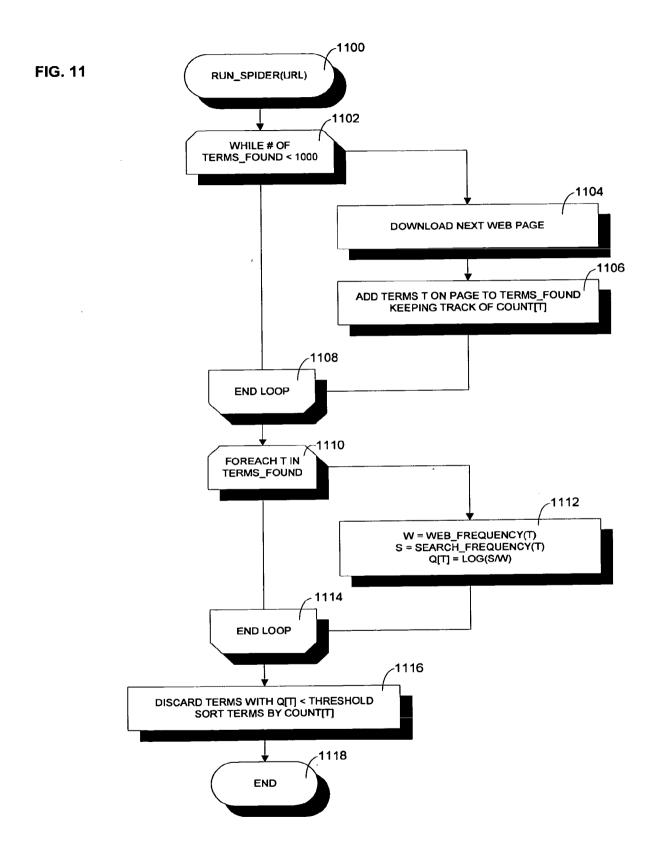


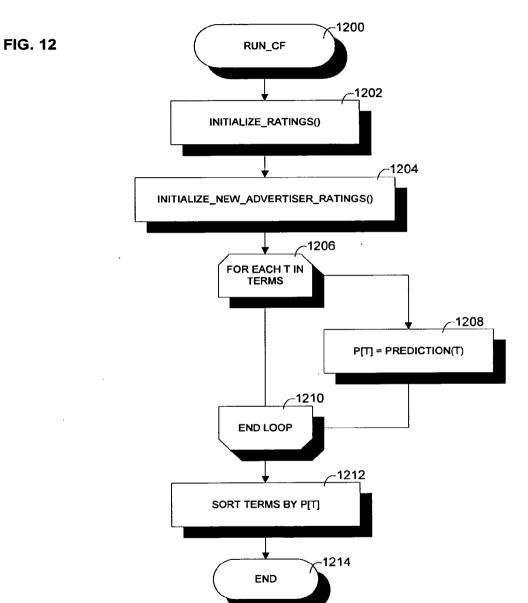


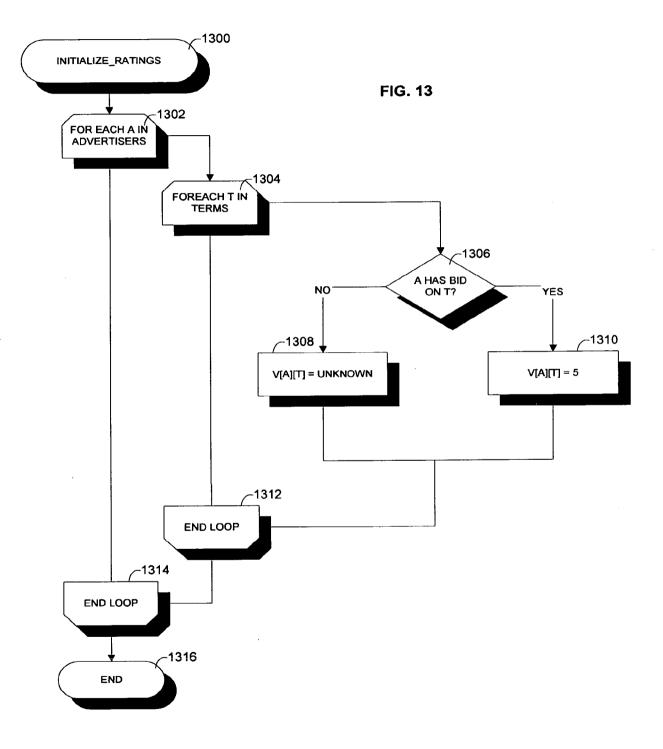
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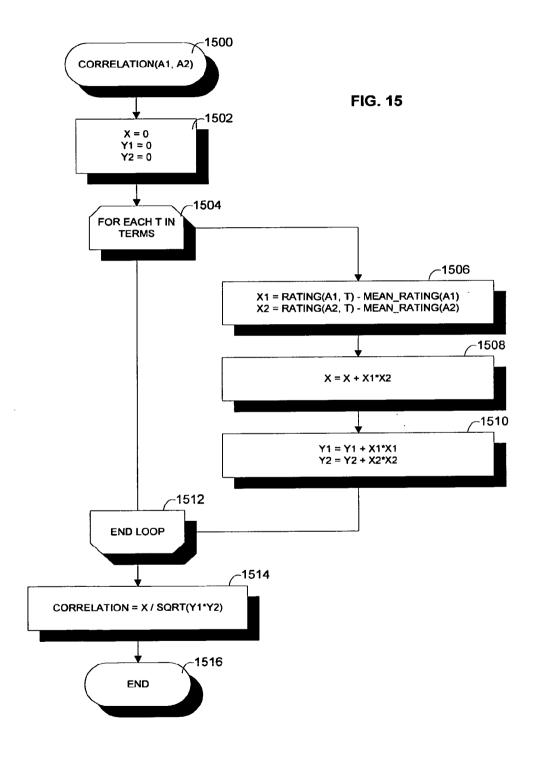
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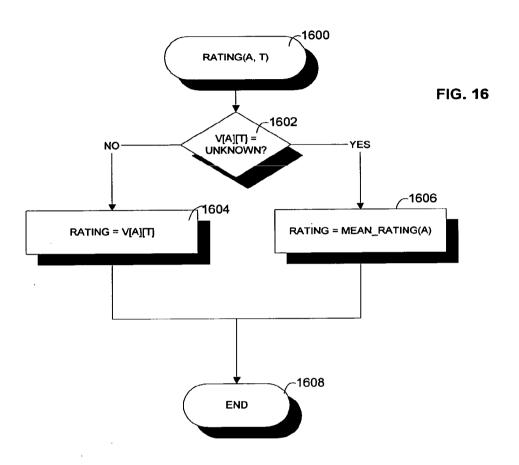








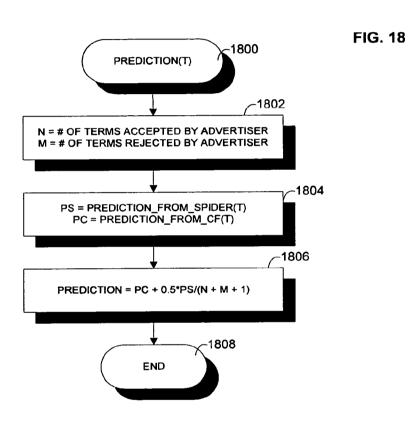




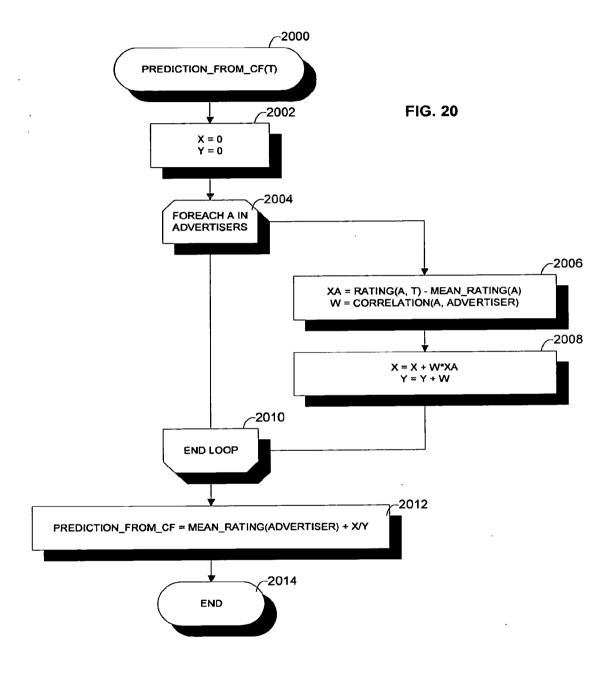


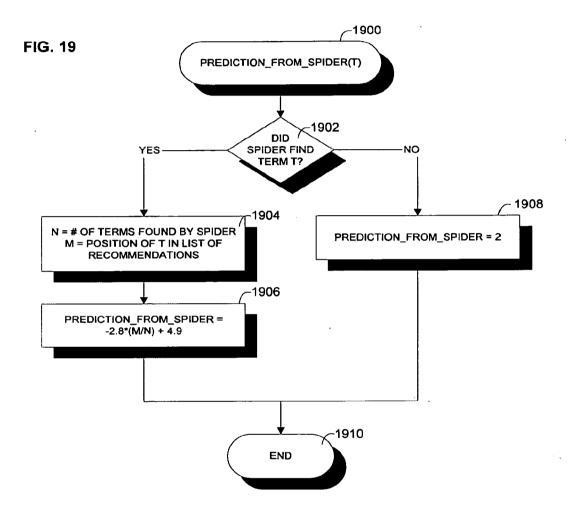


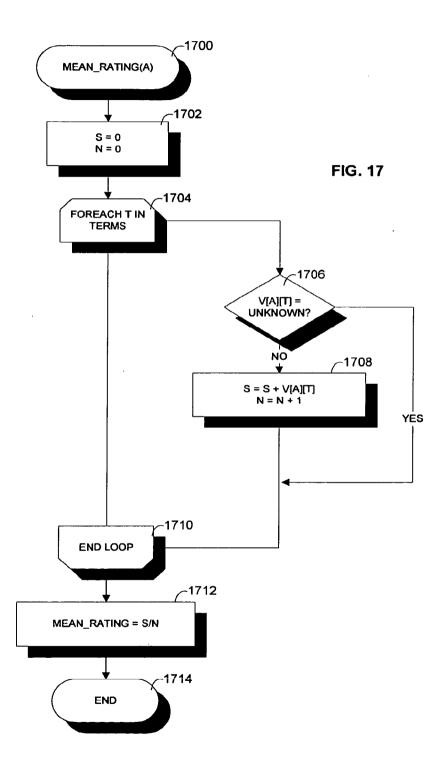




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Date of Deposit:	December 11, 2001			

Our Case No.9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE APPLICATION FOR UNITED STATES LETTERS PATENT

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TITLE:

RECOMMENDING SEARCH TERMS

USING COLLABORATIVE

FILTERING AND WEB SPIDERING

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RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING

RELATED APPLICATIONS

This application is a continuation in part of application serial number 09/911,674 entitled SYSTEM AND METHOD FOR INFLUENCING A POSITION ON A SEARCH RESULT LIST GENERATED BY A COMPUTER NETWORK SEARCH ENGINE, filed on July 24, 2001 in the names Davis, et al., which application is commonly assigned with the present application and incorporated herein in its entirety by this reference and which is a continuation of application serial number 09/322,677, filed May 28, 1999, in the names of Darren J. Davis, et al., now U.S. patent number 6,269,361.

REFERENCE TO COMPUTER PROGRAM LISTINGS SUBMITTED ON COMPACT DISK

A compact disc appendix is included containing computer program code listings pursuant to 37 C.F.R. 1.52(e) and is hereby incorporated by reference in its entirety. The total number of compact discs is 1 including 37,913 files and 539,489,774 bytes. The files included on the compact disc are listed in a file entitled "dir_s" on the compact disc. Because of the large number of files contained on the compact disc, the required listing of file names, dates of creation and sizes in bytes is included in the file dir_s on the compact disk and incorporated by reference herein.

BACKGROUND

U.S. Patent Number 6,269,361 discloses a database having accounts for advertisers. Each account contains contact and billing information for an advertiser. In addition, each account contains at least one search listing having at least three components: a description, a search term comprising one or more keywords, and a bid amount. The advertiser may add, delete, or modify a search listing after logging into his or her account via an authentication process. The advertiser influences a position for a search listing in the advertiser's account by

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first selecting a search term relevant to the content of the web site or other information source to be listed. The advertiser enters the search term and the description into a search listing. The advertiser influences the position for a search listing through a continuous online competitive bidding process. The bidding process occurs when the advertiser enters a new bid amount, which is preferably a money amount, for a search listing. The disclosed system then compares this bid amount with all other bid amounts for the same search term, and generates a rank value for all search listings having that search term. The rank value generated by the bidding process determines where the advertiser's listing will appear on the search results list page that is generated in response to a query of the search term by a searcher or user on the computer network. A higher bid by an advertiser will result in a higher rank value and a more advantageous placement. This system is known as a pay-for-placement search engine.

Thus, when a user performs a search on a pay-for-placement search engine, the results are conventionally sorted based on how much each advertiser has bid on the user's search term. Because different users will use different words to find the same information, it is important for an advertiser to bid on a wide variety of search terms in order to maximize the traffic to his site. The better and more extensive an advertiser's list of search terms, the more traffic the advertiser will see.

As an example, a seafood vendor will want to bid not only on the word. "seafood", but also on terms like "fish", "tuna", "halibut", and "fresh fish". A well thought out list will often contain hundreds of terms. Good search terms have three significant properties: they are appropriate to the advertiser's site, they are popular enough that many users are likely to search on them, and they provide good value in terms of the amount the advertiser must bid to get a high ranking in the search results. An advertiser willing to take the time to consider all these factors will get good results.

Unfortunately, few advertisers understand how to create a good list of search terms, and right now there are only limited tools to help them. The typical state of the art is the Search Term Suggestion Tool (STST) provided by Overture

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Services, Inc., located at http://inventory.overture.com. STST provides suggestions based on string matching. Given a word, STST returns a sorted list of all the search terms that contain that word. This list is sorted by how often users have searched for the terms in the past month. In the seafood example, if the advertiser enters the word "fish", his results will include terms like "fresh fish," "fish market," "tropical fish," and "fish bait," but not words like "tuna" or "halibut" because they do not contain the string "fish." To create his initial list of search terms, a new advertiser will often enter a few words into STST and then bid on all of the terms that it returns.

There are three problems with this approach. First, although STST finds many good terms like "fresh fish" and "fish market," it also finds many bad terms like "fishing," "tropical fish," and "fish bait" that have no relation to the advertiser's site. These create extra work for the search engine provider, since its editorial staff must filter out inappropriate terms that an advertiser submits. Second, STST misses many good terms like "tuna" and "halibut." These result in lost traffic for the advertiser and less revenue for the provider, since every bid helps to drive up the price for search terms and increase the provider's revenue. Third, it is easy for an advertiser to simply overlook a word that he should enter into STST, thereby missing a whole space of search terms that are appropriate for his site. These missed terms also result in lost traffic for the advertiser and less revenue for the provider.

An improved version of STST is the GoTo Super Term Finder (STF) which may be found at http://users.idealab.com/~charlie/advertisers/start.html. This tool keeps track of two lists: an accept list of good words for an advertiser's site, and a reject list of bad words or words that have no relation to the advertiser's site or its content. STF displays a sorted list of all the search terms that contain a word in the first list, but not in the second list. As with STST, the result list is sorted by how often users have searched for the terms in the past month. In the seafood example, if the accept list contains the word "fish," and the reject list contains the word "bait," then the output will display terms like "fresh fish" and "tropical fish"

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but not "fish bait." An advertiser can use this output to refine his accept and reject lists in an iterative process.

Although STF is an improvement over STST, it still suffers from similar problem. In the seafood example, many search terms contain the word "fish" that are irrelevant to a seafood site. The advertiser must still manually identify these and reject each one. Unless the rejected terms share common words, the amount of work the advertiser must do with STF is the same as with STST. Both tools also share the weakness of not being able to identify good search terms like "tuna" or "halibut". There may be many such semantically related terms; they may even appear commonly on the advertiser's web site. But the burden is still on the advertiser to think of each one. The problem with STST and STF is that they both look for search terms based on syntactic properties, and they force the advertiser to think of the root words himself. There is a clear need for a better approach, one that takes into account the meaning of words and that can identify them automatically by looking at an advertiser's web site.

A system that finds semantically related terms is Wordtracker, which may be found at http://www.wordtracker.com. Given a search term, Wordtracker recommends new terms in two ways. First, Wordtracker recommends words by looking them up in a thesaurus. Second, Wordtracker recommends words by searching for them using an algorithm called *lateral search*. Lateral search runs the original search term through two popular web search engines. It then downloads the top 200 web page results, extracts all the terms from the KEYWORD and DESCRIPTION meta tags for the pages and returns a list sorted by how frequently each term appears in these tags.

Wordtracker is only a marginal improvement over STST and STF. In the seafood example, if an advertiser searches for the word "fish" he is very likely to see results that include "tuna" and "halibut" but he will still see bad terms like "tropical fish" and "fish bait" that are not relevant to his site. A more specific search for "seafood" will get rid of some of these bad terms, but introduce others like "restaurant" and "steak" that come from seafood restaurants. Unlike with STF, there is no way to reject such bad terms and refine the search. Nor is there a

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way to provide a broad list of good terms, since the web search engines work poorly with more than one search term. These two limitations are significant, since it is very rare that an advertiser can identify a single search term that exactly describes his site and others like it. Wordtracker also suffers from the problem that meta keywords are not always indicative of a web site. There is no editorial review, so web site designers often include spurious keywords in an attempt to make their pages more prominent on search engines. The search engines themselves are also limited, and can return many pages in their list of 200 that are irrelevant to an advertiser's site. Finally, like STST and STF, Wordtracker still requires an advertiser to think of his own search terms to get started.

Given these shortcomings, there is a clear need for a better tool, one that can find all of the good search terms for an advertiser's site while getting rid of the bad ones.

BRIEF SUMMARY

By way of introduction only, the present embodiments make search term recommendations in one or more of two ways. A first technique involves looking for good search terms directly on an advertiser's web site. A second technique involves comparing an advertiser to other, similar advertisers and recommending the search terms the other advertisers have chosen. The first technique is called *spidering* and the second technique is called *collaborative filtering*. In the preferred embodiment, the output of the spidering step is used as input to the collaborative filtering step. The final output of search terms from both steps is then interleaved in a natural way.

The foregoing discussion of the preferred embodiments has been provided only by way of introduction. Nothing in this section should be taken as a limitation of the claims, which define the scope of the invention.

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BRIEF DESCRIPTION OF SEVERAL VIEWS OF THE DRAWINGS

FIG. 1 is a block diagram illustrating the relationship between a large network and one embodiment of the system and method for generating a pay-forperformance search result of the present invention;

- FIG. 2 is a chart of menus, display screens, and input screens used in one embodiment of the present invention;
- FIG. 3 is a flow chart illustrating the advertiser user login process performed in one embodiment of the present invention;
- FIG. 4 is a flow chart illustrating the administrative user login process performed in one embodiment of the present invention;
- FIG. 5 is a diagram of data for an account record for use with one embodiment of the present invention;
- FIG. 6 is a flow chart illustrating a method of adding money to an account record used in one embodiment of the present invention;
- FIG. 7 illustrates an example of a search result list generated by one embodiment of the present invention;
- FIG. 8 is a flow chart illustrating a change bids process used in one embodiment of the present invention;
- FIG. 9 illustrates an example of a screen display used in the change bids process of FIG. 8;
- FIG. 10 is a flow diagram illustrating a method for recommending search terms to an advertiser on a pay-for-placement search engine;
- FIG. 11 is a flow diagram illustrating a method for rating search terms by spidering a web site;
- FIGS. 12-15 are flow diagrams illustrating a method for rating search terms by collaborative filtering;
- FIGS. 15-17 are flow diagrams illustrating computation of the Pearson correlation between two advertisers; and
- FIGS. 18-20 are flow diagrams illustrating combination of predictions from spidering and collaborative filtering.

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DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

Methods and systems for generating a pay-for-performance search result determined by a site promoter, such as an advertiser, over a client/server based computer network system are disclosed. The following description is presented to enable any person skilled in the art to make and use the invention. For purposes of explanation, specific nomenclature is set forth to provide a thorough understanding of the present invention. Descriptions of specific applications are provided only as examples. Various modifications to the preferred embodiments will be readily apparent to those skilled in the art, and the general principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

Referring now to the drawings, FIG. 1 is an example of a distributed system 10 configured as client/server architecture used in a preferred embodiment of the present invention. A "client" is a member of a class or group that uses the services of another class or group to which it is not related. In the context of a computer network, such as the Internet, a client is a process (i.e. roughly a program or task) that requests a service which is provided by another process, known as a server program. The client process uses the requested service without having to know any working details about the other server program or the server itself. In networked systems, a client process usually runs on a computer that accesses shared network resources provided by another computer running a corresponding server process. However, it should also be noted that it is possible for the client process and the server process to run on the same computer.

A "server" is typically a remote computer system that is accessible over a communications medium such as the Internet. The client process may be active in a second computer system, and communicate with the server process over a communications medium that allows multiple clients to take advantage of the

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information-gathering capabilities of the server. Thus, the server essentially acts as an information provider for a computer network.

The block diagram of FIG. 1 therefore shows a distributed system 10 comprising a plurality of client computers 12, a plurality of advertiser web servers 14, an account management server 22, and a search engine web server 24, all of which are connected to a network 20. The network 20 will be hereinafter generally referred to as the Internet. Although the system and method of the present invention is specifically useful for the Internet, it should be understood that the client computers 12, advertiser web servers 14, account management server 22, and search engine web server 24 may be connected together through one of a number of different types of networks. Such networks may include local area networks (LANs), other wide area networks (WANs), and regional networks accessed over telephone lines, such as commercial information services. The client and server processes may even comprise different programs executing simultaneously on a single computer.

The client computers 12 can be conventional personal computers (PCs), workstations, or computer systems of any other size. Each client 12 typically includes one or more processors, memories, input/output devices, and a network interface, such as a conventional modem. The advertiser web servers 14, account management server 22, and the search engine web server 24 can be similarly configured. However, advertiser web servers 14, account management server 22, and search engine web server 24 may each include many computers connected by a separate private network. In fact, the network 20 may include hundreds of thousands of individual networks of computers.

The client computers 12 can execute web browser programs 16, such as the NAVIGATOR, EXPLORER, or MOSAIC browser programs, to locate the web pages or records 30 stored on advertiser server 14. The browser programs 16 allow the users to enter addresses of specific web pages 30 to be retrieved. These addresses are referred to as Uniform Resource Locators, or URLs. In addition, once a page has been retrieved, the browser programs 16 can provide access to other pages or records when the user "clicks" on hyperlinks to other web pages.

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Such hyperlinks are located within the web pages 30 and provide an automated way for the user to enter the URL of another page and to retrieve that page. The pages can be data records including as content plain textual information, or more complex digitally encoded multimedia content, such as software programs, graphics, audio signals, videos, and so forth.

In a preferred embodiment of the present invention, shown in FIG. 1, client computers 12 communicate through the network 20 with various network information providers, including account management server 22, search engine server 24, and advertiser servers 14 using the functionality provided by a HyperText Transfer Protocol (HTTP), although other communications protocols, such as FTP, SNMP, TELNET, and a number of other protocols known in the art, may be used. Preferably, search engine server 24, account management server 22, and advertiser servers 14 are located on the World Wide Web.

As discussed above, at least two types of server are contemplated in a preferred embodiment of the present invention. The first server contemplated is an account management server 22 comprising a computer storage medium 32 and a processing system 34. A database 38 is stored on the storage medium 32 of the account management server 22. The database 38 contains advertiser account information. It will be appreciated from the description below that the system and method of the present invention may be implemented in software that is stored as executable instructions on a computer storage medium, such as memories or mass storage devices, on the account management server 22. Conventional browser programs 16, running on client computers 12, may be used to access advertiser account information stored on account management server 22. Preferably, access to the account management server 22 is accomplished through a firewall, not shown, which protects the account management and search result placement programs and the account information from external tampering. Additional security may be provided via enhancements to the standard communications protocols such as Secure HTTP or the Secure Sockets Layer.

The second server type contemplated is a search engine web server 24. A search engine program permits network users, upon navigating to the search

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engine web server URL or sites on other web servers capable of submitting queries to the search engine web server 24 through their browser program 16, to type keyword queries to identify pages of interest among the millions of pages available on the World Wide Web. In a preferred embodiment of the present invention, the search engine web server 24 generates a search result list that includes, at least in part, relevant entries obtained from and formatted by the results of the bidding process conducted by the account management server 22. The search engine web server 24 generates a list of hypertext links to documents that contain information relevant to search terms entered by the user at the client computer 12. The search engine web server transmits this list, in the form of a web page, to the network user, where it is displayed on the browser 16 running on the client computer 12. A presently preferred embodiment of the search engine web server may be found by navigating to the web page at URL http://www.goto.com/. In addition, the search result list web page, an example of which is presented in FIG. 7, will be discussed below in further detail.

Search engine web server 24 is connected to the Internet 20. In a preferred embodiment of the present invention, search engine web server 24 includes a search database 40 comprised of search listing records used to generate search results in response to user queries. In addition, search engine web server 24 may also be connected to the account management server 22. Account management server 22 may also be connected to the Internet. The search engine web server 24 and the account management server 22 of the present invention address the different information needs of the users located at client computers 12.

For example, one class of users located at client computers 12 may be network information providers such as advertising web site promoters or owners having advertiser web pages 30 located on advertiser web servers 14. These advertising web site promoters, or advertisers, may wish to access account information residing in storage 32 on account management server 22. An advertising web site promoter may, through the account residing on the account management server 22, participate in a competitive bidding process with other advertisers. An advertiser may bid on any number of search terms relevant to the

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content of the advertiser's web site. In one embodiment of the present invention, the relevance of a bidded search term to an advertiser's web site is determined through a manual editorial process prior to insertion of the search listing containing the search term and advertiser web site URL into the database 40. In an alternate embodiment of the present invention, the relevance of a bidded search term in a search listing to the corresponding web site may be evaluated using a computer program executing at processor 34 of account management server 22, where the computer program will evaluate the search term and corresponding web site according to a set of predefined editorial rules. The higher bids receive more advantageous placement on the search result

list page generated by the search engine 24 when a search using the search term bid on by the advertiser is executed. In a preferred embodiment of the present invention, the amount bid by an advertiser comprises a money amount that is deducted from the account of the advertiser for each time the advertiser's web site is accessed via a hyperlink on the search result list page. A searcher "clicks" on the hyperlink with a computer input device to initiate a retrieval request to retrieve the information associated with the advertiser's hyperlink. Preferably, each access or "click" on a search result list hyperlink will be redirected to the search engine web server 24 to associate the "click" with the account identifier for an advertiser. This redirect action, which is not apparent to the searcher, will access account identification information coded into the search result page before accessing the advertiser's URL using the search result list hyperlink clicked on by the searcher. The account identification information is recorded in the advertiser's account along with information from the retrieval request as a retrieval request event. Since the information obtained through this mechanism conclusively matches an account identifier with a URL in a manner not possible using conventional server system logs known in the art, accurate account debit records will be maintained. Most preferably, the advertiser's web site description and hyperlink on the search result list page is accompanied by an indication that the advertiser's listing is a paid listing. Most preferably, each paid listing displays a "cost to advertiser,"

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which is an amount corresponding to a "price-per-click" paid by the advertiser for each referral to the advertiser's site through the search result list.

A second class of users at client computers 12 may comprise searchers seeking specific information on the web. The searchers may access, through their browsers 16, a search engine web page 36 residing on web server 24. The search engine web page 36 includes a query box in which a searcher may type a search term comprising one or more keywords. Alternatively, the searcher may query the search engine web server 24 through a query box hyperlinked to the search engine web server 24 and located on a web page stored at a remote web server. When the searcher has finished entering the search term, the searcher may transmit the query to the search engine web server 24 by clicking on a provided hyperlink. The search engine web server 24 will then generate a search result list page and transmit this page to the searcher at the client computer 12.

The searcher may click on the hypertext links associated with each listing on the search results page to access the corresponding web pages. The hypertext links may access web pages anywhere on the Internet, and include paid listings to advertiser web pages 18 located on advertiser web servers 14. In a preferred embodiment of the present invention, the search result list also includes non-paid listings that are not placed as a result of advertiser bids and are generated by a conventional World Wide Web search engine, such as the INKTOMI, LYCOS, or YAHOO! search engines. The non-paid hypertext links may also include links manually indexed into the database 40 by an editorial team. Most preferably, the non-paid listings follow the paid advertiser listings on the search results page.

FIG. 2 is a diagram showing menus, display screens, and input screens presented to an advertiser accessing the account management server 22 through a conventional browser program 16. The advertiser, upon entering the URL of the account management server 22 into the browser program 16 of FIG. 1, invokes a login application, discussed below as shown at screen 110 of FIG. 2, running on the processing system 34 of the server 22. Once the advertiser is logged-in, the processing system 34 provides a menu 120 that has a number of options and further services for advertisers. These items, which will be discussed in more

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detail below, cause routines to be invoked to either implement the advertiser's request or request further information prior to implementing the advertiser's request. In one embodiment of the present invention, the advertiser may access several options through menu 120, including requesting customer service 130, viewing advertiser policies 140, performing account administration tasks 150, adding money to the advertiser's account 160, managing the account's advertising presence on the search engine 170, and viewing activity reports 180. Context-specific help 190 may also generally be available at menu 120 and all of the above-mentioned options.

The login procedure of the preferred embodiment of the present invention is shown in FIGS. 3 and 4 for two types of user. FIG. 3 shows the login procedures 270 for an advertiser. FIG. 4 shows the login procedures 290 for an administrator managing and maintaining the system and method of the present invention. As discussed above, the advertiser or administrator at a client computer 12 must first use a browser program at steps 271 or 291 to access the account management server. After the advertiser navigates to the URL of the login page to start the login process at step 272 or 292, the processing system 34 of the account management server 22 invokes a login application at steps 274 or 294. According to this application, the processor provides an input screen 110 (FIG. 2) that requests the advertiser's or administrator's user name and password. These items of information are provided at steps 276 or 296 to a security application known in the art for the purpose of authentication, based on the account information stored in a database stored in storage 32 of account management server 22.

According to FIG. 3, after the user has been authenticated as an advertiser, the advertiser is provided with the menu screen 120 of FIG. 2 and limited read/write access privileges only to the corresponding advertiser account, as shown in step 278. The advertiser login event 278 may also be recorded in step 280 in an audit trail data structure as part of the advertiser's account record in the database. The audit trail is preferably implemented as a series of entries in database 38, where each entry corresponds to an event wherein the advertiser's

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account record is accessed. Preferably, the audit trail information for an account record may be viewed by the account owner and other appropriate administrators.

However, if the user is authenticated as an administrator in step 295 of FIG. 4, the administrator is provided with specified administrative access privileges to all advertiser accounts as shown in step 296. The administrator login event 296 is recorded in step 297 in the audit trail data structure portion of the administrator's account record. This audit trail is preferably implemented as a series of entries in database 38, where each entry corresponds to an event wherein the administrator's account record is accessed. Most preferably, the administrator's audit trail information may be viewed by the account owner and other appropriate administrators.

Furthermore, instead of the general advertiser main menu shown to the authenticated advertiser users in step 282, the authenticated administrator is provided in step 298 with access to search the database 38 of advertiser accounts. Preferably, a database search interface is provided to the administrator that enables the administrator to select an advertiser account to monitor. For example, the interface may include query boxes in which the administrator may enter an account number or username or contact name corresponding to an account the administrator wishes to access. When the administrator selects an advertiser account to monitor in step 299, the administrator is then brought to the main advertiser page 120 of FIG. 2, which is also seen by the advertisers.

Access to the account information 32 located on the account management server 22 is restricted to users having an account record on the system, as only those users are provided with a valid login name and password. Password and login name information is stored along with the user's other account information in the database 38 of the account management server 22, as shown in FIG. 1. Account information, including a login user name and password, is entered in the database 38 of FIG. 1 via a separate online registration process that is outside the scope of the present invention.

FIG. 5 is a diagram showing the types of information contained in each advertiser account record 300 in the database. First, an advertiser account record

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300 contains a username 302 and a password 304, used for online authentication as described above. The account record also contains contact information 310 (e.g., contact name, company name, street address, phone, e-mail address).

Contact information 310 is preferably utilized to direct communications to the advertiser when the advertiser has requested notification of key advertiser events under the notification option, discussed below. The account record 300 also contains billing information 320 (e.g., current balance, credit card information). The billing information 320 contains data accessed when the advertiser selects the option to add money to the advertiser's account. In addition, certain billing information, such as the current balance, may trigger events requiring notification under the notification option. The audit trail section 325 of an account record 300 contains a list of all events wherein the account record 300 is accessed. Each time an account record 300 is accessed or modified, by an administrator or advertiser a short entry describing the account access and/or modification event will be appended to the audit trail section 330 of the administrator or advertiser account that initiated the event. The audit trail information may then be used to help generate a history of transactions made by the account owner under the account.

The advertising information section 330 contains information needed to conduct the online bidding process of the present invention, wherein a position is determined for a web site description and hyperlink within a search result list generated by a search engine. The advertising data 330 for each user account 300 may be organized as zero or more subaccounts 340. Each subaccount 340 comprises at least one search listing 344. Each search listing corresponds to a bid on a search term. An advertiser may utilize subaccounts to organize multiple bids on multiple search terms, or to organize bids for multiple web sites. Subaccounts are also particularly useful for advertisers seeking to track the performance of targeted market segments. The subaccount superstructure is introduced for the benefit of the advertisers seeking to organize their advertising efforts, and does not affect the method of operation of the present invention. Alternatively, the

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advertising information section need not include the added organizational layer of subaccounts, but may simply comprise one or more search listings.

The search listing 344 corresponds to a search term/bid pairing and contains key information to conduct the online competitive bidding process. Preferably, each search listing comprises the following information: search term 352, web site description 354, URL 356, bid amount 358, and a title 360. The search term 352 comprises one or more keywords which may be common words in English (or any other language). Each keyword in turn comprises a character string. The search term is the object of the competitive online bidding process. The advertiser selects a search term to bid on that is relevant to the content of the advertiser's web site. Ideally, the advertiser may select a search term that is targeted to terms likely to be entered by searchers seeking the information on the advertiser's web site, although less common search terms may also be selected to ensure comprehensive coverage of relevant search terms for bidding.

The web site description 354 is a short textual description (preferably less than 190 characters) of the content of the advertiser's web site and may be displayed as part of the advertiser's entry in a search result list. The search listing 344 may also contain a title 360 of the web site that may be displayed as the hyperlinked heading to the advertiser's entry in a search result list. The URL 356 contains the Uniform Resource Locator address of the advertiser's web site. When the user clicks on the hyperlink provided in the advertiser's search result list entry, the URL is provided to the browser program. The browser program, in turn, accesses the advertiser's web site through the redirection mechanism discussed above. The URL may also be displayed as part of the advertiser's entry in a search result list.

The bid amount 358 preferably is a money amount bid by an advertiser for a listing. This money amount is deducted from the advertiser's prepaid account or is recorded for advertiser accounts that are invoiced for each time a search is executed by a user on the corresponding search term and the search result list hyperlink is used to refer the searcher to the advertiser's web site. Finally, a rank value is a value generated dynamically, preferably by the processing system 34 of

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the account management server 22 shown in FIG. 1, each time an advertiser places a bid or a search enters a search query. The rank value of an advertiser's search listing determines the placement location of the advertiser's entry in the search result list generated when a search is executed on the corresponding search term. Preferably, rank value is an ordinal value determined in a direct relationship to the bid amount 358; the higher the bid amount, the higher the rank value, and the more advantageous the placement location on the search result list. Most preferably, the rank value of 1 is assigned to the highest bid amount with successively higher ordinal values (e.g., 2, 3, 4, . . .) associated with successively lower ranks and assigned to successively lower bid amounts.

Once logged in, an advertiser can perform a number of straightforward tasks set forth in menu 120 of FIG. 2, including viewing a list of rules and policies for advertisers, and requesting customer service assistance. These items cause routines to be invoked to implement the request. For example, when "Customer Service" is selected, an input screen 130 is displayed to allow the advertiser to select the type of customer service requested. In addition, forms may be provided on screen 130 so that an advertiser may type a customer comment into a webbased input form.

When "View Advertiser Policies" is selected, a routine will be invoked by processing system 34 of the account management server 22 FIG. 1. As shown in FIG. 2, the routine will display an informational web page 140. The web page 140 sets forth the advertiser policies currently in effect (e.g., "All search listing descriptions must clearly relate to the search term").

Menu 120 of FIG. 2 also includes an "Account Administration" selection 150 which allows an advertiser, among other things, to view and change the advertiser's contact information and billing information, or update the advertiser's access profile, if any. Web-based forms well known in the art and similar to those discussed above are provided for updating account information.

The "Account Administration" menu also includes a selection enabling an advertiser to view the transaction history of the advertiser's account. Under the "View Transaction History" selection, the advertiser may invoke routines to view

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a listing of past account transactions (e.g., adding money to account, adding or deleting bidded search terms, or changing a bid amount). Additional routines may be implemented to permit advertisers to display a history of transactions of a specified type, or that occur within a specified time. The transaction information may be obtained from the audit trail list 325 of FIG. 5, described above. Clickable buttons that may be implemented in software, web-based forms, and/or menus may be provided as known in the art to enable advertisers to specify such limitations.

In addition, the "Account Administration" menu 150 of FIG. 2 includes a selection enabling an advertiser to set notification options. Under this selection, the advertiser may select options that will cause the system to notify the advertiser when certain key events have occurred. For example, the advertiser may elect to set an option to have the system send conventional electronic mail messages to the advertiser when the advertiser's account balance has fallen below a specified level. In this manner, the advertiser may receive a "warning" to replenish the account before the account is suspended (meaning the advertiser's listings will no longer appear in search result lists). Another key event for which the advertiser may wish notification is a change in position of an advertiser's listing in the search result list generated for a particular search term. For example, an advertiser may wish to have the system send a conventional electronic mail message to the advertiser if the advertiser has been outbid by another advertiser for a particular search term (meaning that the advertiser's listing will appear in a position farther down on the search result list page than previously). When one of the system-specified key events occurs, a database search is triggered for each affected search listing. The system will then execute the appropriate notification routine in accordance with the notification options specified in the advertiser's account.

Referring back to FIG. 2, a selection also appears in menu 120 that permits an advertiser to add money to the advertiser's account, so that the advertiser will have funds in their account to pay for referrals to the advertiser's site through the search results page. Preferably, only advertisers with funds in their advertiser's accounts may have their paid listings included in any search result lists generated.

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Most preferably, advertisers meeting selected business criteria may elect, in place of maintaining a positive account balance at all times, incur account charges regardless of account balance and pay an invoiced amount at regular intervals which reflects the charges incurred by actual referrals to the advertiser's site generated by the search engine. The process that is executed when the "Add Money to Account" selection is invoked is shown in further detail in FIG. 6, beginning at step 602. When the "Add Money to Account" selection is clicked in step 604, a function is invoked which receives data identifying the advertiser and retrieves the advertiser's account from the database. The executing process then stores the advertiser's default billing information and displays the default billing information for the advertiser in step 606. The displayed billing information includes a default amount of money to be added, a default payment type, and default instrument information.

In the preferred embodiment of the present invention, an advertiser may add funds online and substantially in real time through the use of a credit card, although the use of other payment types are certainly well within the scope of the present invention. For example, in an alternate embodiment of the present invention, advertisers may add funds to their account by transferring the desired amount from the advertiser's bank account through an electronic funds verification mechanism known in the art such as debit cards, in a manner similar to that set forth in U.S. Pat. No. 5,724,424 to Gifford. In another alternate embodiment of the present invention, advertisers can add funds to their account using conventional paper-based checks. In that case, the additional funds may be updated in the account record database through manual entry. The instrument information includes further details regarding the type of payment. For example, for a credit card, the instrument information may include data on the name of the credit card (e.g., MasterCard, Visa, or American Express), the credit card number, the expiration date of the credit card, and billing information for the credit card (e.g., billing name and address). In a preferred embodiment of the present • invention, only a partial credit card number is displayed to the advertiser for security purposes.

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The default values displayed to the advertiser are obtained from a persistent state, e.g., stored in the account database. In an embodiment of the present invention, the stored billing information values may comprise the values set by the advertiser the last (e.g. most recent) time the process of adding money was invoked and completed for the advertiser's account. The default billing information is displayed to the advertiser in a web-based form. The advertiser may click on the appropriate text entry boxes on the web-based form and make changes to the default billing information. After the advertiser completes the changes, the advertiser may click on a hyperlinked "Submit" button provided on the form to request that the system update the billing information and current balance in step 608. Once the advertiser has requested an update, a function is invoked by the system which validates the billing information provided by the advertiser and displays it back to the advertiser for confirmation, as shown in step 610. The confirmation billing information is displayed in read-only form and may not be changed by the advertiser.

The validation step functions as follows. If payment is to be debited from an advertiser's external account, payment may be authenticated, authorized and completed using the system set forth in U.S. Pat. No. 5,724,424 to Gifford. However, if the payment type is by credit card, a validating algorithm is invoked by the system, which validates the credit card number using a method such as that set forth in U.S. Patent No. 5,836,241 to Stein et al. The validating algorithm also validates the expiration date via a straightforward comparison with the current system date and time. In addition, the function stores the new values in a temporary instance prior to confirmation by the advertiser.

Once the advertiser ascertains that the displayed data is correct, the advertiser may click on a "Confirm" button provided on the page to indicate that the account should be updated in step 612. In step 612, a function is invoked by the system which adds money to the appropriate account balance, updates the advertiser's billing information, and appends the billing information to the advertiser's payment history. The advertiser's updated billing information is

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stored to the persistent state (e.g., the account record database) from the temporary instance.

Within the function invoked at step 612, a credit card payment function may be invoked by the system at step 614. In an alternate embodiment of the present invention, other payment functions such as debit card payments may be invoked by defining multiple payment types depending on the updated value of the payment type.

If the payment type is credit card, the user's account is credited immediately at step 616, the user's credit card having already been validated in step 610. A screen showing the status of the add money transaction is displayed, showing a transaction number and a new current balance, reflecting the amount added by the just-completed credit card transaction.

In an alternate embodiment of the present invention, after the money has been added to the account, the amount of money added to the account may be allocated between subaccounts the end of the add money process at step 616. If the advertiser has no subaccounts, all of the money in the account is a general allocation. However, if the advertiser has more than one subaccount, the system will display a confirmation and default message prompting the advertiser to "Allocate Money Between Subaccounts".

The menu selection "Allocate Money Between Subaccounts" may be invoked when money is added to the advertiser account after step 616 of FIG. 6, or it may be invoked within the "Account Management" menu 170 shown in FIG. 2. The "Account Management" menu 170 is accessible from the Advertiser Main Page 120, as shown in FIG. 2. This "Allocate Money Between Subaccounts" menu selection permits an advertiser to allocate current and any pending balances of the advertiser's account among the advertiser's subaccounts. The system will then update the subaccount balances. The current balance allocations will be made in real time, while the pending balance allocations will be stored in the persistent state. A routine will be invoked to update the subaccount balances to reflect the pending balance allocations when the payment for the pending balance is processed. Automatic notification may be sent to the advertiser at that time, if

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requested. This intuitive online account management and allocation permits advertisers to manage their online advertising budget quickly and efficiently. Advertisers may replenish their accounts with funds and allocate their budgets, all in one easy web-based session. The computer-based implementation eliminates time consuming, high cost manual entry of the advertiser's account transactions.

The "Allocate Money Between Subaccounts" routine begins when an advertiser indicates the intent to allocate money by invoking the appropriate menu selection at the execution points indicated above. When the advertiser indicates the intent to allocate, a function is invoked by the system to determine whether there are funds pending in the current balance (i.e., unactivated account credits) that have not yet been allocated to the advertiser's subaccounts, and displays the balance selection options. In a preferred embodiment of the present invention, an account instance is created and a pending current balance account field is set from the persistent state.

If there are no unallocated pending funds, the system may display the current available balances for the account as a whole as well as for each subaccount. The advertiser then distributes the current available balance between subaccounts and submits a request to update the balances. A function is invoked which calculates and displays the current running total for subaccount balances. The current running total is stored in a temporary variable which is set to the sum of current balances for all subaccounts for the specified advertiser. The function also validates the new available subaccount balances to make sure that the total does not exceed the authorized amount. If the new advertiser-set available subaccount balances does not exceed the authorized amount, a function is invoked which will update all of the subaccount balances in the persistent state and display the update in read-only format.

If there are pending funds in the current account balance, the pending funds must be allocated separately from the available current balance. The pending funds will then be added into the available current balance when the funds are received. The function must therefore prompt the advertiser to choose between allocating pending funds or allocating available funds. The allocating pending

funds selection works in much the same manner as the allocating available funds selection outlined above. After the advertiser chooses to allocate pending funds, a routine is invoked to display current pending balances for the account and the subaccounts. The advertiser distributes the pending subaccount balances between campaigns and submits a request to update the balances. A function is invoked which calculates and displays the current running totals for the pending subaccount balances. This function also validates the new pending subaccount allocations to make sure that the allocations do not exceed any authorized amount. The current running total of pending allocations is set to the sum of current pending balances for all subaccounts for the advertiser. If the new user-set pending subaccount balances or the total of such balances do not exceed any authorized amount, the function will update all of the pending subaccount allocations in the persistent state, e.g. the advertiser's account in the database, and display the update in read-only format.

As indicated above and shown in FIG. 2, a routine displaying the account management menu 170 may be invoked from the advertiser main menu 120. Aside from the "Allocate Money Between Subaccounts" selection described above, the remaining selections all use to some extent the search listings present in the advertiser's account on the database, and may also affect the advertiser's entry in the search result list. Thus, a further description of the search result list generated by the search engine is needed at this point.

When a remote searcher accesses the search query page on the search engine web server 24 and executes a search request according to the procedure described previously, the search engine web server 24 preferably generates and displays a search result list where the "canonicalized" entry in search term field of each search listing in the search result list exactly matches the canonicalized search term query entered by the remote searcher. The canonicalization of search terms used in queries and search listings removes common irregularities of search terms entered by searches and web site promoters, such as capital letters and pluralizations, in order to generate relevant results. However, alternate schemes for determining a match between the search term field of the search listing and the

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search term query entered by the remote searcher are well within the scope of the present invention. For example, string matching algorithms known in the art may be employed to generate matches where the keywords of the search listing search term and the search term query have the same root but are not exactly the same (e.g., computing vs. computer). Alternatively a thesaurus database of synonyms may be stored at search engine web server 24, so that matches may be generated for a search term having synonyms. Localization methodologies may also be employed to refine certain searches. For example, a search for "bakery" or "grocery store" may be limited to those advertisers within a selected city, zip code, or telephone area code. This information may be obtained through a crossreference of the advertiser account database stored at storage 32 on account management server 22. Finally, internationalization methodologies may be employed to refine searches for users outside the United States. For example, country or language-specific search results may be generated, by a cross-reference of the advertiser account database, for example.

An example of a search result list display used in an embodiment of the present invention is shown in FIG. 7, which is a display of the first several entries resulting from a search for the term "zip drives". As shown in FIG. 7, a single entry, such as entry 710a in a search result list consists of a description 720 of the web site, preferably comprising a title and a short textual description, and a hyperlink 730 which, when clicked by a searcher, directs the searcher's browser to the URL where the described web site is located. The URL 740 may also be displayed in the search result list entry 710a, as shown in FIG. 7. The "click through" of a search result item occurs when the remote searcher viewing the search result item display 710 of FIG. 7 selects, or "clicks" on the hyperlink 730 of the search result item display 710. In order for a "click through" to be completed, the searcher's click should be recorded at the account management server and redirected to the advertiser's URL via the redirect mechanism discussed above.

Search result list entries 710a – 710h may also show the rank value of the advertiser's search listing. The rank value is an ordinal value, preferably a

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number, generated and assigned to the search listing by the processing system 34 of FIG. 1. Preferably, the rank value is assigned through a process, implemented in software, that establishes an association between the bid amount, the rank, and the search term of a search listing. The process gathers all search listings that match a particular search term, sorts the search listings in order from highest to lowest bid amount, and assigns a rank value to each search listing in order. The highest bid amount receives the highest rank value, the next highest bid amount receives the next highest rank value, proceeding to the lowest bid amount, which receives the lowest rank value. Most preferably, the highest rank value is 1 with successively increasing ordinal values (e.g., 2, 3, 4, ...) assigned in order of successively decreasing rank. The correlation between rank value and bid amount is illustrated in FIG. 7, where each of the paid search list entries 710a through 710f display the advertiser's bid amount 750a through 750f for that entry. Preferably, if two search listings having the same search term also have the same bid amount, the bid that was received earlier in time will be assigned the higher rank value. Unpaid listings 710g and 710h do not display a bid amount and are displayed following the lowest-ranked paid listing. Preferably, unpaid listings are displayed if there are an insufficient number of listings to fill the 40 slots in a search results page. Unpaid listings are generated by a search engine utilizing objective distributed database and text searching algorithms known in the art. An example of such a search engine may be operated by Inktomi Corporation. The original search query entered by the remote searcher is used to generate unpaid listings through the conventional search engine.

As shown in the campaign management menu 170 of FIG. 2, several choices are presented to the advertiser to manage search listings. First, in the "Change Bids" selection, the advertiser may change the bid of search listings currently in the account. The process invoked by the system for the change bids function is shown in FIG. 8. After the advertiser indicates the intent to change bids by selecting the "Change Bids" menu option, the system searches the user's account in the database and displays the search listings for the entire account or a default subaccount in the advertiser's account, as shown in step 810. Search

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listings may be grouped into subaccounts defined by the advertiser and may comprise one or more search listings. Only one subaccount may be displayed at a time. The display should also preferably permit the advertiser to change the subaccount selected, as shown in step 815. The screen display will then show the search listings for the selected subaccount, as indicated in step 820.

An example of screen display shown to the advertiser in step 810 is shown in FIG. 9 and will be discussed below. To change bids, the advertiser user may specify new bids for search terms for which the advertiser already has an existing bid by entering a new bid amount into the new bid input field for the search term. The advertiser-entered bid changes are displayed to the advertiser at step 820 of FIG. 8 as discussed above. To update the bids for the display page, the advertiser requests, at step 830 of FIG. 8, to update the result of changes. The advertiser may transmit such a request to the account management server by a variety of means, including clicking on a button graphic.

As shown in step 840 of FIG. 8, upon receiving the request to update the advertiser's bids, the system calculates the new current bid amounts for every search listing displayed, the rank values, and the bid amount needed to become the highest ranked search listing matching the search term field. Preferably, the system then presents a display of changes at step 850. After the user confirms the changes, the system updates the persistent state by writing the changes to the account in the database.

The search listing data is displayed in tabular format, with each search listing corresponding to one row of the table 900. The search term 902 is displayed in the leftmost column, followed by the current bid amount 904, and the current rank 906 of the search listing. The current rank is followed by a column entitled "Bid to become #1" 907, defined as the bid amount needed to become the highest ranked search listing for the displayed search term. The rightmost column of each row comprises a new bid input field 908 which is set initially to the current bid amount.

As shown in FIG. 9, the search listings may be displayed as "subaccounts." Each subaccount comprises one search listing group, with multiple subaccounts

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residing within one advertiser account. Each subaccount may be displayed on a separate display page having a separate page. The advertiser should preferably be able to change the subaccount being displayed by manipulating a pull-down menu 910 on the display shown in FIG. 9. In addition, search listing groups that cannot be displayed completely in one page may be separated into pages which may be individually viewed by manipulating pull-down menu 920. Again, the advertiser should preferably be able to change the page displayed by clicking directly on a pull-down menu 920 located on the display page of FIG. 9. The advertiser may specify a new bid for a displayed search listing by entering a new bid amount into the new bid input field 908 for the search listing. To update the result of the advertiser-entered changes, the advertiser clicks on button graphic 912 to transmit an update request to the account management server, which updates the bids as described above.

Many of the other selections listed in the "Account Management" menu 170 of FIG. 2 function as variants of the "Change Bid" function described above. For example, if the advertiser selects the "Change Rank Position" option, the advertiser may be presented with a display similar to the display of FIG. 9 used in the "Change Bid" function. However, in the "Change Rank Position" option, the "New Bid" field would be replaced by a "New Rank" field, in which the advertiser enters the new desired rank position for a search term. After the advertiser requests that the ranks be updated, the system then calculates a new bid price by any of a variety of algorithms easily available to one skilled in the art. For example, the system may invoke a routine to locate the search listing in the search database having the desired rank/search term combination, retrieve the associated bid amount of said combination, and then calculate a bid amount that is N cents higher; where N=1, for example. After the system calculates the new bid price and presents a read-only confirmation display to the advertiser, the system updates the bid prices and rank values upon receiving approval from the advertiser.

The "Modify Listing Component" selection on Account Management menu 170 of FIG. 2 may also generate a display similar to the format of FIG. 9. When the advertiser selects the "Modify Listing Component" option, the advertiser may

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input changes to the URL, title, or description of a search listing via web-based forms set up for each search listing. Similar to the process discussed above, the forms for the URL, title, and description fields may initially contain the old URL, title and description as default values. After the advertiser enters the desired changes, the advertiser may transmit a request to the system to update the changes. The system then displays a read-only confirmation screen, and then writes the changes to the persistent state (e.g., the user account database) after the advertiser approves the changes.

A process similar to those discussed above may be implemented for changing any other peripheral options related to a search listing; for example, changing the matching options related to a bidded search term. Any recalculations of bids or ranks required by the changes may also be determined in a manner similar to the processes discussed above.

In the "Delete Bidded Search Term" option, the system retrieves all of the search listings in the account of the advertiser and displays the search listings in an organization and a format similar to the display of FIG. 9. Each search listing entry may include, instead of the new bid field, a check box for the advertiser to click on. The advertiser would then click to place a check (X) mark next to each search term to be deleted, although any other means known in the art for selecting one or more items from a list on a web page may be used. After the advertiser selects all the search listings to be deleted and requests that the system update the changes, the system preferably presents a read-only confirmation of the requested changes, and updates the advertiser's account only after the advertiser approves the changes. The "deleted" search listings are removed from the search database 36 and will not appear in subsequent searches. However, the search listing will remain as part of the advertiser's account record for billing and account activity monitoring purposes.

In the "Add Bidded Search Term" option, the system provides the advertiser with a display having a number of entry fields corresponding to the elements of a search listing. The advertiser then enters into each field information corresponding to the respective search listing element, including the search term,

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the web site URL, the web site title, the web site description, and the bid amount, as well as any other relevant information. After the advertiser has completed entering the data and has indicated thus to the system, the system returns a readonly confirmation screen to the advertiser. The system then creates a new search listing instance and writes it into the account database and the search database upon receiving approval from the advertiser.

Preferably, the "Account Management" menu 170 of FIG. 2 provides a selection for the advertiser to "Get Suggestions On Bidded Search Term". In this case, the advertiser enters a bidded search term into a form-driven query box displayed to the advertiser. The system reads the search term entered by the advertiser and generates a list of additional related search terms to assist the advertiser in locating search terms relevant to the content of the advertiser's web site. Preferably, the additional search terms are generated using methods such as a string matching algorithm applied to a database of bidded search terms and/or a thesaurus database implemented in software. The advertiser may select search terms to bid on from the list generated by the system. In that case, the system displays to the advertisers the entry fields described above for the "Add Bidded Search Term" selection, with a form for entering a search listing for each search term selected. Preferably, the selected search term is inserted as a default value into the form for each search listing. Default values for the other search listing components may also be inserted into the forms if desired. Thus, in one embodiment, the disclosed system receives a list of search terms associated with an advertiser on the database search system, determines candidate search terms based on search terms of other advertisers on the database search system, and recommends the additional search terms from among the candidate search terms. In another embodiment, the disclosed system provides receiving a search term of an advertiser, in response to the received search term, generating a list of additional related search terms, and receiving advertiser selected search terms from the list of additional related search terms.

The "Account Management" menu 170 of FIG. 2 also preferably provides advertisers with a "Project Expenses" selection. In this selection, the advertiser

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specifies a search listing or subaccount for which the advertiser would like to predict a "daily run rate" and "days remaining to expiration." The system calculates the projections based on a cost projection algorithm, and displays the predictions to the advertiser on a read-only screen. The predictions may be calculated using a number of different algorithms known in the art. However, since the cost of a search listing is calculated by multiplying the bid amount by the total number of clicks received by the search listing at that bid amount during a specified time period, every cost projection algorithm must generally determine an estimated number of clicks per month (or other specified time period) for a search listing. The clicks on a search listing may be tracked via implementation of a software counting mechanism as is well known in the art. Clicks for all search listings may be tracked over time, this data may be used to generate estimated numbers of clicks per month overall, and for individual search terms. For a particular search term, an estimated number of searches per day is determined and is multiplied by the cost of a click. This product is then multiplied by a ratio of the average number of clicks over the average number of impressions for the rank of the search listing in question to obtain a daily run rate. The current balance may be divided by the daily run rate to obtain a projected number of days to exhaustion or "expiration" of account funds.

One embodiment of the present invention bases the cost projection algorithm on a simple predictor model that assumes that every search term performs in a similar fashion. This model assumes that the rank of the advertiser's search listing will remain constant and not fluctuate throughout the month. This algorithm has the advantages of being simple to implement and fast to calculate. The predictor model is based on the fact that the click through rate, e.g. the total number of clicks, or referrals, for a particular searcher listing, is considered to be a function of the rank of the search listing. The model therefore assumes that the usage curve of each search term, that is, the curve that result when the number of clicks on a search listing is plotted against the rank of the search listing, is similar to the usage curve for all search terms. Thus, known values extrapolated over time for the sum of all clicks for all search terms, the sum of all clicks at a given rank

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for all search terms, and the sum of all clicks for the selected search term may be employed in a simple proportion to determine the total of all clicks for the given rank for the selected search term. The estimated daily total of all clicks for the selected search term at the selected rank is then multiplied by the advertiser's current bid amount for the search term at that rank to determine a daily expense projection. In addition, if particular search terms or classes of search terms are known to differ markedly from the general pattern, correction values specific to the search term, advertiser, or other parameter may be introduced to fine-tune the projected cost estimate.

Finally, the "Account Management" menu 170 of FIG. 2 provides several selections to view information related to the advertiser's campaigns. The "View Subaccount Information" selection displays read-only information related to the selected subaccount. The "View Search Term List" selection displays the list of the advertiser's selected search terms along with the corresponding URLs, bid price, and rank, with the search terms preferably grouped by subaccount. The advertiser may also view current top bids for a set of search terms selected from a list of search terms from a read-only display generated by the system upon receiving the requested search terms from the advertiser.

For an advertiser who requires a more comprehensive report of search listing activity, the "View Report" option may be selected from the Advertiser Main Page 120 of FIG. 2. In an embodiment of the present invention, the "View Report" options generate reports comprehensive for up to one year preceding the current date. For example, daily reports are available for the each of the immediately preceding 7 days, weekly reports for the preceding four weeks, monthly reports for the preceding twelve months, and quarterly reports for the last four quarters. Additional reports may also be made available depending on advertiser interest. Other predefined report types may include activity tracked during the following time periods: Since Inception of the Account, Year To Date, Yearly, Quarter To Date, Month To Date, and Week to Date. Report Categories may include a Detail Report, viewable by Advertiser Account, by Search Listing, and by URL, and a Summary Report, viewable by Advertiser Account and by

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Subaccount. The reports may include identification data such as advertiser account and subaccount name, the dates covered by the report and the type of report. In addition, the reports may include key search listing account data such as current balance, pending current balance, average daily account debit, and run rate. Furthermore, the reports may also include key data, such as: search terms, URLs, bids, current ranks, and number of clicks, number of searches done for the search term, number of impressions (times that the search listing appeared in a search result list), and click through rate (defined as Number of Clicks/Number of Impressions). Preferably, the report is available in at least HTML view options for viewing via a browser program, printing, or downloading. Note, however, that other view options may be made available, such as Adobe Acrobat, PostScript, ASCII text, spreadsheet interchange formats (e.g., CSV, tab-delimited), and other well-known formats.

When the advertiser has selected the "View Report" option, the system invokes a function which displays a list of available report types, dates, categories, and view options. The system preferably creates a report instance with the following fields, all of which are initially set to null: report type, report date, report category, and view option. Once the advertiser has defined the parameters described above, the system invokes a function to generate the requested report, based on the advertiser-set parameters, and to display the report, based on the view option parameter.

Finally, a preferred embodiment of the present invention implements an option for context specific help that the advertiser may request at any time the advertiser is logged in. The help option may be implemented as a small icon or button located on the system generated display page. The advertiser may click on the icon or button graphic on the display page to request help, upon which the system generates and displays a help page keyed to the function of the particular display the user is viewing. The help may be implemented as separate display pages, a searchable index, dialog boxes, or by any other methods well known in the art.

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FIGS. 10-20 illustrate particular embodiments of a method and apparatus for making search term recommendations to a web site promoter or advertiser in a pay for placement market system such as that described above in conjunction with FIGS. 1-9. Disclosed embodiments provide a method for a database search system. The method includes maintaining a database of search listings including associated search terms, receiving a list of search terms associated with an advertiser, recommending additional search terms to the advertiser. Other disclosed embodiments provide a data base operating method for a database search system which stores advertiser search listings including advertiser selected search terms. The method includes spidering a specified web site to obtain an initial list of advertiser search terms for an advertiser. The method further includes filtering the initial list of advertiser search terms using search terms of other advertisers and storing in a search listing database search listings for the advertiser, the search listings formed with the filtered search terms.

Disclosed embodiments also include a database search system which includes a database of search terms in which each search term is associated with one or more advertisers. Program code is configured to recommend additional search terms for an advertiser based on search terms in the database. Still further, embodiments disclosed herein provide a method for a database search system which includes receiving a search term of an advertiser and, in response, generating a list of additional related search terms. The method then includes receiving advertiser selected search terms from the list of additional related search terms.

In the embodiments shown here, spidering and collaborative filtering are used to identify possible search terms to recommend to an advertiser. The following introduction first describes the individual techniques of spidering and collaborative filtering, and then shows how the two may be combined.

Spidering is a simple technology for downloading a web site rooted at a uniform resource locator (URL). A program downloads the home page given by the URL, then scans it for hyperlinks to other pages and downloads them. The spidering process continues until the program reaches a predefined link depth,

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downloads a predetermined number of pages, or reaches some other stopping criterion. The order in which pages are downloaded can be either breadth-first or depth-first. In breadth-first spidering, the program adds new URL's to the end of its list of pages to download; in depth-first spidering, it adds them to the beginning. These algorithms are straightforward and well known to engineers skilled in the state of the art. Further information about these techniques may be found by consulting Cho, Molina, and Page, "Efficient Crawling through URL Ordering", available from ResearchIndex, http://citeseer.nj.nec.com and Nilsson, Principles of Artificial Intelligence, ISBN 0934613109.

Some embodiments described herein use spidering to find search terms that appear directly on an advertiser's web site. Starting at the root of the advertiser's site, the method and system in accordance with the present embodiments downloads pages breadth first and scans them for search terms. It records every term it finds that the provider's database indicates has been searched in the past month. As an example, if the text on a page includes the phrase "tropical fish store," then the program will find the six terms "tropical," "fish," "store," "tropical fish," "fish store," and "tropical fish store." The program scores these terms using a quality metric, adding the ones that are above a particular threshold to its list of recommendations. In the preferred embodiment the quality metric considers two factors: how common a search term is on the World Wide Web, and how often users search for it. When the program has accumulated enough recommendations, it sorts them by either their quality or by the number of times they have occurred in the downloaded pages and returns the list.

The spidering component of the current embodiments differs from previous tools in three important ways. First, it looks directly at the pages in an advertiser's web site, as opposed to downloading other pages that are not in the advertiser's web site, and that might be completely unrelated. Second, it looks at all of the text on a web page, as opposed to just the words in the DESCRIPTION and KEYWORD tags. Third, it uses its quality metric to eliminate poor search terms without ever showing them to the advertiser.

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Collaborative filtering is a technology for making recommendations based on user similarity. As an example, a company like Amazon.com uses collaborative filtering to make book recommendations. Once a customer has bought several books using the on line service available at www.amazon.com, Amazon.com recommends new books by comparing the customer to others in its database. When it finds another customer that has made many of the same purchases, it recommends the choices of each to the customer. The current embodiments extend this idea to recommending search terms for advertisers on a pay-for-placement search engine.

For example, suppose a typical provider has a database of 50,000 advertisers. A portion of that database might look like this:

	Fish	Tuna	Halibut	Bait	Worms	Cars
Joe's Fish	X	X	X	_	-	-
Rick's Car Shop	-	-	-	-	-	X
Bill's Tackle	X	-	-	X	X	_

An X in the table indicates that an advertiser has bid on a term. In the seafood example, an advertiser that is initially interested in "fish" is similar to both Joe and Bill, and the program will recommend "tuna," "halibut," "bait," and "worms." If the advertiser refines his search terms to include "tuna" but exclude "bait," then he is no longer similar to Bill, and the program will stop recommending "worms." Like STF, the current invention allows the advertiser to iteratively accept and reject words until he is satisfied with the list of recommendations.

Quantitatively, collaborative filtering computes the Pearson correlation between the new advertiser and all of the existing advertisers. To calculate this correlation, a numeric rating is assigned to each entry in the advertiser/term table. In one possible assignment, the highest rating is 5, indicating that a term is a perfect description of an advertiser's site, and the lowest rating is 0, indicating that

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a term is irrelevant. In the preferred embodiment, an advertiser gets a rating of 5 for every term he has bid on and a rating of UNKNOWN for every other term. The new advertiser gets a rating of 5 for terms the advertiser has accepted, a 1 for terms he has rejected, and a 2 for every other term. The Pearson correlation between the new advertiser and an existing advertiser is then

$$\rho_a = \frac{\sum_{t} (r_{n,t} - \overline{r_n})(r_{a,t} - \overline{r_a})}{\sigma_a \sigma_a}$$

In this formula, n is the new advertiser, ρ_a is his correlation to advertiser a, $r_{n,t}$ is the rating he assigns to term t, and \overline{r}_n and σ_n are the mean and standard deviation of his ratings. The terms with the a subscripts have the corresponding meanings for the existing advertiser. The sum is taken over all search terms. A rating of UNKNOWN is replaced by the mean of an advertiser's ratings, so any term with an UNKNOWN cancels out of the equation. Correlations range between -1 and 1, with zero being no correlation and a positive correlation indicating that two advertisers have similar ratings. This formula is well known from statistics and familiar to engineers skilled in the state of the art. Further details may be found by consulting Wadsworth [ed], The Handbook of Statistical Methods for Engineers and Scientists, ISBN 007067678X.

Once the collaborative filter has computed the correlation between the new advertiser and the existing advertisers, it predicts how likely it is that each term is a good search term for the new advertiser. It does this by computing the average rating of each term, where an advertiser's contribution to the average is determined by its correlation to the new advertiser. An advertiser that has a high correlation receives full weight; an advertiser that has a low correlation receives little weight; an advertiser that has zero correlation receives no weight. One formula for this prediction is

$$e_{t} = \overline{r}_{n} + \frac{\sum_{a} (r_{a,t} - \overline{r}_{a}) \rho_{a}}{\sum_{a} \rho_{a}}$$

In this formula, n is the new advertiser and e_t is his estimated rating for term t. The remaining terms have the same meaning as in the previous formula. The sum is taken over all existing advertisers. An UNKNOWN rating is again replaced by the mean of an advertiser's known ratings, so it cancels out of the equation. The formula is a weighted sum that estimates ratings on the same 0 to 5 scale as the original ratings. A term receives a high estimate if all the highly correlated advertisers rate it highly. The output of the collaborative filter is the list of search terms sorted by their estimated ratings.

These formulas provide a straightforward technique for calculating ratings based on similarity. There are many similar formulas and variations. For example, when making predictions it is usually better not to take a weighted average over all advertisers, but just over the 10-20 most highly correlated ones. There are also techniques for improving the efficiency of the calculations, or for doing collaborative filtering without using correlations or distance metrics. These variations are readily found in the literature on collaborative filtering, and the current embodiments are not constrained to any one of them. More details on the advantages and disadvantages of different collaborative filtering algorithms can be found at the GroupLens web site http://www.cs.umn.edu/Research/GroupLens.

Given the core building blocks of spidering and collaborative filtering, the complete system and method according to one present embodiment works as follows: starting with an initial list of accepted and rejected search terms, run the collaborative filtering algorithm, allow the advertiser to accept and reject new terms, and then rerun the collaborative filtering. End this process when the advertiser is satisfied with his list of accepted terms. The technique gets its initial list of accepted terms in one of three ways: either directly from the advertiser, or from an existing advertiser's bid list, or from the list of recommendations returned by running the web spider on the new advertiser's web site. This last method is the preferred embodiment. When using the web spider, the search terms that it recommends receive initial ratings that vary on a linear scale from 4.9 down to 2.1. Whenever the invention displays recommendations to the advertiser, it interleaves the original spider recommendations with the output of the

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collaborative filtering, since the recommendations from the two techniques are often complementary. The interleaving formula weights the recommendations of the web spider less and less as the advertiser accepts and rejects more terms.

In typical use, a new advertiser will start with the URL of his web site and go through 3-5 iterations of accepting and rejecting terms. As long as his web site is similar to those of existing advertisers, the system will quickly identify them and make high quality recommendations. The recommendations will be good even if no single advertiser is a perfect match, since the weighted sum allows the system to combine recommendations from many advertisers. And when there is no advertiser that is similar to the new advertiser, the web spider still makes good recommendations by finding search terms directly on the advertiser's web site. In contrast to the existing state of the art, the current embodiments provide excellent coverage of good search terms while eliminating bad ones.

Referring now to the drawing, FIG. 10 is a flow diagram illustrating a method for recommending search terms to an advertiser on a pay-for-placement search engine. The method may be implemented on a server or other data processing device associated with the pay-for placement search engine. The method may be embodied as software code operable on the data processing device in conjunction with stored data of a database or other storage element. An advertiser accesses the server to run the program using any suitable device such as a remotely-located personal computer linked to the server over the internet. One exemplary embodiment of a suitable system is shown above in conjunction with FIG. 1. The method begins at block 1000.

In block 1002, the system prompts the advertiser to choose an input method to create the initial list of accepted search terms. This list may come from direct advertiser input, from a uniform resource locator (URL) specified by the advertiser, or from a preexisting advertiser specified by the advertiser. After prompting the advertiser for the method he wants to use, the program follows one of the three paths shown in FIG. 10.

If the advertiser chooses to specify the initial list of search terms directly, at block 1004 the terms are received from the advertiser. In one exemplary

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embodiment, the program displays a text box in which the advertiser can enter a comma-separated list of initial terms. If the advertiser chooses to specify a URL as the source of the initial list of search terms, the advertiser is then prompted to enter a web site URL. The system runs a spider algorithm to extract search terms from that site, block 1008. An exemplary embodiment of such a spider algorithm will be described below in conjunction with FIGS. 11-13. If the advertiser chooses to specify a preexisting advertiser as the source of the initial list of search terms, at block 1010 identification information for the preexisting advertiser is received from the advertiser. The new advertiser picks an existing advertiser and the program sets the list of initially accepted terms to be the list of terms that advertiser has bid on, block 1012.

The method now enters its main loop, including blocks 1014, 1016, 1018, 1020. During each iteration, it runs the collaborative filtering algorithm, block 1016, displays a sorted list of recommended search terms, and allows the advertiser to accept and reject terms, block 1018. In the exemplary embodiment, a web page including the recommended search terms is sent to the advertiser, providing a user interface for advertiser interaction with the system. The advertiser accepts and rejects terms by clicking on suitable check boxes next to the terms. When he is done making his changes, he clicks a button to transmit the page of data to the server and rerun the collaborative filtering algorithm. The advertiser can continue through as many iterations as he likes, repeating the loop, block 1014, until he is satisfied with the terms he has accepted. He then clicks a final button to exit the loop, block 1020, and store or print out his selected search terms. Preferably, communication with the advertiser is over the internet using a suitable data transfer protocol such as TCP/IP. Other data communication channels may be substituted. The method ends at block 1022.

FIG. 11 is a flow diagram showing a method for performing a spidering algorithm. This algorithm may be called, for example, at block 1008 of FIG. 10. The method begins at block 1100. The procedure is called passing a URL that is the root of an advertiser's web site. Starting with this URL, the procedure enters a loop including blocks 1102, 1104, 1106, 1108. The procedure downloads pages

using a breadth-first spidering algorithm. For each page that it downloads, block 1104, it scans the text on the page to find every phrase that has been used as a search term in the past month. In the preferred embodiment, this scanning is done by constructing a finite state machine that recognizes the regular expression $s_1 \mid s_2 \mid \ldots \mid s_n$, where each s_i is a valid search term. The program scans a page one character at a time using this state machine, and emits each search term as it finds it. Because the state machine only depends on the current set of valid search terms, the preferred embodiment only constructs it at regular intervals when the database of terms that users have searched changes. Algorithms for constructing such a finite state machine are readily available in the literature and appear in common search utilities such as grep, as described in Aho and Hopcraft, *The Design of Computer Algorithms*, ISBN 0201000296. They are well known to practitioners of ordinary skill in the art of computer system design.

Each time the spider finds a new term on a page, it adds it to the list of terms it has found on the web site, block 1106. It keeps track of how many times it has seen each term in an array COUNT[T]. The loop repeats at block 1108. The downloading and scanning process ends when the spider has found 1000 terms as indicated by the looping control of block 1102. Other thresholds or looping control techniques may be used. The looping operation of FIG. 11 is exemplary only.

The next step is to filter out bad terms. This is performed in a loop including block 1110, 1112, 1114. Bad is a subjective measure, and there are many possible metrics that an implementation might use. In the preferred embodiment the quality metric depends on two quantities: the frequency with which a term appears in documents on the World Wide Web, and the frequency with which users search for it. The quality metric is evaluated at block 1112. The method finds a term's frequency on the World Wide Web by querying a search engine that returns the number of documents containing the term. It finds the frequency with which users search for it by looking up that information in the provider's database. The quality measure employed in the illustrated embodiment is the log of the ratio of these two numbers, as shown in block 1112 of FIG. 11.

To achieve a high quality rating, a term must be a popular one for people to search on, but not so common in web documents that it is useless as a search term. Because quality measures only change slowly, the preferred embodiment only calculates them at periodic intervals and caches the results. Other quality measures may be substituted.

Once the method has calculated the quality of the 1000 terms it has found, the loop is exited at block 1114 and the method discards or throws out all the terms that fall below a predetermined quality threshold, block 1116. This threshold may be variable, changing over time, because it depends on how many pages are indexed on the World Wide Web and how many users are conducting searches using the provider's search engine. In the preferred embodiment, the program automatically calibrates the threshold by looking up the quality of known terms that are on the borderline of being good search terms. It sets the threshold to the average quality of these terms. The exact list of terms depends on the search engine provider and is not constrained by the particular embodiment.

The final step in the spidering algorithm is to sort the terms that are above the quality threshold by how often they occur in the pages the spider has downloaded and scanned, at block 1116. These counts are stored in the COUNT[T] array. The sorted list is the output of the spider algorithm. In a typical embodiment the quality filter discards about 80% of the terms, and the algorithm returns about 200 terms. The spidering method ends at block 1118.

FIG. 12 is a flow diagram showing one method for performing the collaborative filtering algorithm. The method begins at block 1200. At block 1202 and block 1204, rating values for the new advertiser and existing advertisers are initialized. Embodiments for performing these operations are described below in conjunction with FIGS. 13 and 14. At block 1206, control enters a loop including blocks 1206, 1208 and 1210. In this loop, the method processes the search terms selected by the collaborative filtering algorithm of FIG. 11 and calculates the new advertiser's estimated rating for each term, block 1208. One embodiment for this rating prediction method is described below in conjunction with FIGS. 18-20. After processing all search terms, the loop is exited at block

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1210. At the end of the algorithm terms are sorted by their predicted ratings, block 1212. The method returns the final list as its ranked list of recommendations and then ends at block 1214.

In this algorithm and in following algorithms, there are many efficiency optimizations that an implementation might include. For example, it might return only the top 100 search terms, rather than the entire list, or it might cache computational results to avoid repeating work. All of these optimizations will be readily apparent to practitioners ordinarily skilled in the art of computing system design, and the embodiments shown here do not depend on particular optimizations an implementation uses.

FIG. 13 is a flow diagram illustrating a preferred algorithm for initializing the rating values of existing advertisers. The algorithm is a loop over every advertiser/search term pair. For each pair, the program sets the rating to 5 if the advertiser has bid on the term, and to UNKNOWN otherwise. Ratings are stored in the V[A][T] array so that other parts of the program can access them.

The method begins at block 1300. An advertiser-processing loop is entered at block 1302 using an advertiser variable A. A term-processing loop is entered at block 1304 using a term variable T. At block 1306, the method determines if the advertiser associated with the advertiser variable A has bid on the term associated with the variable T. If not, at block 1308, the rating V[A][T] is set to a value of UNKNOWN in an array of rating values. If the advertiser has bid on the term, at block 1310 the array entry V[A][T] is set to 5, which is an arbitrarily chosen value.

At block 1312, the term variable is incremented or otherwise changed to select a next term. Control remains in the loop including blocks 1304, 1306, 1308, 1310, 1312 until all search terms have been processed for the variable associated with variable A. Then at block 1314, the advertiser variable A is incremented or otherwise changed and looping proceeds through search terms for the newly selected advertiser. After all advertisers have been processed for all search terms, the method ends at block 1316.

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FIG. 14 is a flow diagram showing a preferred algorithm for initializing the rating values of the new advertiser. The algorithm is a loop over every search term. For each term, the program sets the rating to 5 if the new advertiser has accepted the term, and to 1 if he has rejected it. If he has done neither, and the spider has recommended the term, then the program sets the rating to the spider's estimated rating. If none of these three cases hold, the program sets the rating value to 2.

The method begins at block 1400. At block 1402, a loop is entered using a term variable T as the looping variable. At block 1404, it is determined if the advertiser has accepted the term associated with the variable T for the advertiser's search terms. If so, at block 1406, the rating V[A][T] for the advertiser and term is set to a value of 5 in the array of ratings. Control proceeds to block 1418 to select a next term for the looping variable T. If the advertiser has not accepted the current search term T, at block 1408 it is determined if the advertiser has rejected it. If so, at block 1410, the rating V[A][T] for the advertiser and term is set to a value of 1 and control proceeds to block 1418 to increment the looping variable. If the advertiser has not rejected the term T, at block 1412 it is determined if the spidering algorithm has recommended the term associated with the variable T. If so, at block 1414, the rating V[A][T] for the advertiser and term is set to a value equal to the rating established by the spidering algorithm. Otherwise, the rating V[A][T] for the advertiser and term is set to a value of 2. Control then proceeds to block 1418 to increment the looping variable. After all terms have been processed, the method ends at block 1420.

FIG. 15 is a flow diagram illustrating an algorithm for calculating the Pearson correlation between two advertisers. This algorithm is a loop over every search term. For each term, the program accumulates values that allow it to calculate the Pearson correlation formula.

$$\rho_a = \frac{\sum_{t} (r_{n,t} - \overline{r_n})(r_{a,t} - \overline{r_a})}{\sigma_n \sigma_a}$$

The X variables accumulate the value of the numerator, and the Y variables accumulate the value of the denominator. After the program has looped over all the search terms, it calculates the correlation using the final expression in the flowchart. The method begins at block 1500. At block 1502, variables X, Y1 and Y2

are initialized. A loop is entered at block 1504 for processing each search term in the list of search terms. At block 1506, variables X1 and X2 are calculated using a rating algorithm. The rating algorithm computes the rating an advertiser assigns to a search term. One embodiment of a suitable rating algorithm is described below in conjunction with FIG. 16. At block 1508, the values of X1 and X2 are combined with the previous value of X as shown to produce the current value of X. At block 1510, values of Y1 and Y2 are updated using the calculated values of X1 and X2. At block 1512, control loops back to block 1504 until all search terms have been processed. The Pearson correlation is then calculated as shown at block 1514. The method ends at block 1516 and the value of the Pearson correlation is returned.

FIG. 16 is a flow diagram showing one embodiment of an algorithm for calculating the rating that an advertiser assigns to a term. If the rating recorded in the V[A][T] array is not UNKNOWN, the algorithm simply returns it. Otherwise it returns the advertiser's mean rating.

The method begins at block 1600. Two variables are passed, an advertiser variable and a term variable. At block 1602, it is determined if the rating associated with the advertiser and the term is unknown. If not, at block 1604 the rating is set equal to the rating value in the array of ratings. If the variable is unknown, at block 1606 the rating is set equal to the advertiser's mean rating. One method for calculating the advertiser's mean rating is described below in conjunction with FIG. 17. The rating is returned and the method ends at block 1608.

FIG. 17 is a flow diagram showing one embodiment of an algorithm for calculating an advertiser's mean rating. The algorithm is a loop over every search term. For each search term that has a known rating, the program adds the rating to

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the sum S and increments the counter N. At the end of the loop, the mean rating is simply the ratio S/N.

The method begins at block 1700. At block 1702, a sum variable S and a count variable N are initialized. At block 1704, a loop is entered, selecting search terms of the advertiser's list according to the looping variable. At block 1706, it is determined if the rating for the search term, stored in the rating array, has a value of UNKNOWN. If not, at block 1708, the value of the rating V[A][T] is added to the sum variable S and the count variable N is incremented. Control proceeds to block 1710 where the loop is repeated until all search terms in the advertiser's list of search terms have been processed. At block 1712, the mean rating is calculated as the ratio of S to N. At block 1714, the method ends and the mean rating is returned.

FIG. 18 is a flow diagram showing one embodiment of an algorithm for combining recommendations from the web spider and collaborative filter. A term's combined rating is a weighted sum of the spider's rating and the collaborative filter's rating. Initially, when the advertiser has not yet accepted or rejected any terms, the algorithm weights the ratings of the collaborative filter twice as strongly as it weights the recommendations of the spider. As the number of accepted and rejected terms increases, the weight of the spider ratings decreases proportionally. There are many other possible formulas for generating a combined rating from the individual ratings, and the current invention is not limited to any one of them.

In the embodiment of FIG. 18, the method begins at block 1800. At block 1802, a variable N is set equal to the number of recommended search terms accepted by the advertiser and a variable M is set equal to the number of recommended terms rejected by the advertiser. At block 1804, two routines are called to calculate the predicted rating from the spider and the predicted rating from collaborative filtering. Exemplary embodiments of these routines are discussed below in conjunction with FIGS. 19 and 20 respectively. At block 1806, the predictions are combined and the result returned as the method ends at block 1808.

FIG. 19 is a flow diagram showing one embodiment of an algorithm for calculating the spider's ratings. If the spider has not found a term, or if the term did not pass its quality filter, then the algorithm assigns it a rating of 2. The remaining terms receive ratings on a linear scale from 4.9 down to 2.1. The top term that the spider recommends receives a rating of 4.9, and the last term that it recommends receives a rating of 2.1. There are many other possible formulas for generating ratings from the spider's ranked recommendations, and the current invention is not limited to any one of them.

The method begins at block 1900. At block 1902, it is determined if the spider found the term passed to the method in the term variable T. If so, at block 1904 a variable N is set equal to the number of terms found by the spider and a variable M is set equal to the position of the term T in the sorted list of recommendations returned by the spider.

At block 1906, the predicted rating from the spider is calculated according to the illustrated formula. At block 1908, if the spider did not find the term T, the predicted rating from the spider is set equal to 2. The method ends at block 1908 and the predicted rating from the spider is returned.

FIG. 20 is a flow diagram showing one embodiment of an algorithm for calculating the collaborative filter's ratings. The algorithm is a loop over every advertiser. For each advertiser, the program accumulates values that allow it to calculate the rating according to the formula

$$e_{t} = \overline{r}_{n} + \frac{\sum_{a} (r_{a,t} - \overline{r}_{a}) \rho_{a}}{\sum_{a} \rho_{a}}$$

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A variable X accumulates the value of the numerator, and a variable Y accumulates the value of the denominator. In the last step, the algorithm calculates the final rating using the expression shown in the flowchart. This final rating may fall outside of the range 0 to 5, but it can still be correctly interpreted on this scale.

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The method begins at block 2000. At block 2002, the variables X and Y are initialized. A loop is entered at block 2004, one advertiser being processed for each iteration through the loop. At block 2006, values for variables XA and W are evaluated as shown. At block 2008, values for X and Y are updated using the values of W and XA. At block 2010, control returns to the start of the loop at block 2004 to process the next advertiser. After all advertisers have been processed, the prediction from collaborative filtering is calculated using the formula in block 2012 and the mean rating algorithm described above in conjunction with FIG. 17. The method ends at block 2014 and the prediction from collaborative filtering is returned.

From the foregoing, it can be seen that the present embodiments provide a method and apparatus for recommending search terms to an advertiser on a payfor-placement search system. The method and apparatus make search term recommendations based on the contents of the advertiser's web site and by comparing the advertiser to other similar advertisers and recommending search terms they have chosen. In this manner, the system recommends good search terms, or terms having a relation to the advertiser's web site or its content, while avoiding bad search terms which have no such relation. The system is interactive with the advertiser, allowing him to decide when the set of search terms is sufficient for his requirements. However, the process of identifying and ranking search terms is automated and is based on actual pages of the advertiser's web site and by comparisons to other advertisers.

While a particular embodiment of the present invention has been shown and described, modifications may be made. It is therefore intended in the appended claims to cover such changes and modifications, which follow in the true spirit and scope of the invention.

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CLAIMS

 A method for a database search system, the method comprising: receiving a list of search terms associated with an advertiser on the database search system;

determining candidate search terms based on search terms of other advertisers on the database search system; and recommending the additional search terms from among the candidate search terms.

2. The method of claim 1 wherein determining candidate search terms comprises:

assigning ratings to search terms; and computing a correlation between the advertiser and one or more of the other advertisers using the assigned ratings of advertiser search terms.

- The method of claim 2 further comprising:
 predicting a likelihood that a candidate search term will be relevant to the advertiser.
- 4. The method of claim 3 wherein predicting comprises: determining a quality metric for the candidate search terms; and predicting relevance of candidate search terms based on the quality metric.
- 5. A method for a database search system, the method comprising: maintaining a database of search listings including associated search terms; receiving a list of search terms associated with an advertiser; computing ratings for search terms; and recommending additional search terms to the advertiser based on the computed ratings.

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6.	The method of claim 5 wherein computing ratings comprises:
assigni	ing ratings to search terms.

- 7. The method of claim 5 wherein computing ratings comprises: predicting ratings for search terms.
- 8. The method of claim 5 wherein receiving a list of search terms comprises:

receiving a list of initial search terms from the advertiser.

9. The method of claim 5 wherein receiving a list of search terms comprises:

identifying an existing advertiser on the database search system; and forming the list of search terms from search terms of the existing advertiser.

10. The method of claim 5 wherein receiving a list of search terms comprises:

receiving a website uniform resource locator (URL); and spidering the website associated with the URL to extract search terms for the list of search terms.

- 11. The method of claim 10 wherein spidering the website comprises: receiving data from pages of the website; recording candidate search terms from the data; and determining a quality metric for each candidate search term.
- 12. The method of claim 11 further comprising: sorting the candidate search terms according to the quality metric; and

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- 13. The method of claim 10 wherein spidering comprises: receiving data from one or more pages of the website; and examining text from the one or more pages for candidate search terms.
- 14. The method of claim 13 wherein examining text comprises: examining substantially all text from the one or more pages; and examining meta tags from the one or more pages.
- 15. The method of claim 13 wherein receiving a website URL comprises:

receiving the advertiser's URL as the web site URL.

16. The method of claim 13 wherein receiving a website URL comprises:

receiving the web site URL from the advertiser.

- 17. The method of claim 5 further comprising:
 receiving a search query from a user;
 searching for matching search terms in the database of search listings;
 preparing search results by formatting matching search terms according to
 advertiser bid amounts associated with the search listings; and
 communicating the search results to the user.
- 18. A database search system comprising:
- a database of search terms, each search term being associated with one or more advertisers; and
- program code configured to recommend additional search terms for an advertiser based on search terms in the database.

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19.	The database search system of claim 18 wherein the program of	ode
comprises:		

collaborative filtering code configured to recommend the additional search terms based on search terms associated with other advertisers of the database search system.

- 20. The database search system of claim 19 wherein the collaborative filtering code comprises Pearson correlation code.
- 21. The database search system of claim 19 wherein the program code comprises:

a program loop to iterate the collaborative filtering code.

- 22. The database search system of claim 18 further comprising: code to receive accept and reject indications from the advertiser before repeating the program loop.
- 23. The database search system of claim 18 wherein the program code comprises:

spidering code to recommend the additional search terms.

24. The database search system of claim 18 wherein the program code comprises:

spidering code to find initially accepted search terms in a web site; and collaborative filtering code to provide the recommended additional search terms.

25. The database search system of claim 24 wherein the spidering code is configured to spider a web site of the advertiser.

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- 26. The database search system of claim 23 wherein the spidering code is configured to spider a web site specified by the advertiser.
- 27. The database search system of claim 18 further comprising: filtering code to filter candidate search terms according to a quality metric to produce the recommended additional search terms.
- 28. The database search system of claim 15 further comprising: search engine program code configured to search the database in response to a search query from a user.
- 29. A data base operating method for a database search system storing advertiser search listing, the method comprising:

spidering a specified web site to obtain an initial list of advertiser search terms for an advertiser;

filtering the initial list of advertiser search terms using search terms of other advertisers; and

storing in a search listing database search listings for the advertiser, the search listings formed with the filtered search terms.

- 30. The data base operating method of claim 29 wherein the specified web site comprises an advertiser specified website.
- 31. The data base operating method of claim 29 wherein the specified web site comprises a website specified by the database search system.
 - 32. The data base operating method of claim 29 further comprising: assigning ratings to search terms; and

computing a correlation between the advertiser and one or more of the other advertisers using the assigned ratings of advertiser search terms.

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- 33. The data base operating method of claim 32 further comprising: predicting a likelihood that a search term will be relevant to the advertiser.
- 34. The data base operating method of claim 33 wherein predicting comprises:

determining a quality metric for candidate search terms; and predicting relevance of candidate search terms based on the quality metric.

35. The data base operating method of claim 29 wherein spidering the specified web site comprises:

receiving data from pages of the specified website; recording candidate search terms from the data; and determining a quality metric for each candidate search term.

- 36. The data base operating method of claim 35 further comprising: sorting the candidate search terms according to the quality metric; and recommending only candidate search terms having a quality metric exceeding a threshold.
- 37. The data base operating method of claim 29 wherein filtering comprises:

determining a correlation between a web site of the advertiser and web sites of other advertisers on the database search system;

using the correlation, determining ratings for each advertiser search term in the initial list of advertiser search terms; and

organizing search terms of the initial list of advertiser search terms according to the ratings.

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38.	The data base operating method of claim 29 further comprising:				
presenting the organized search terms to the advertiser;					
receiv	receiving advertiser acceptance indications for the organized search terms				
adjust	adjusting the list of advertiser search terms according to the acceptance				
	indications; and				
filterin	ng the adjusted list.				

- 39. The data base operating method of claim 38 further comprising: iteratively presenting the organized search terms, receiving revised advertiser acceptance indications, and adjusting the list of advertiser search terms.
- 40. The data base operating method of claim 38 further comprising: receiving a search query from a user; searching for matching search terms in the search listing database; preparing search results by formatting matching search terms according to advertiser bid amounts associated with the matching search listings; and communicating the search results to the user.
- 41. A method for a database search system, the method comprising: receiving a search term of an advertiser; in response to the received search term, generating a list of additional related search terms; and receiving advertiser selected search terms from the list of additional related search terms.
- 42. The method of claim 41 wherein generating the list of additional search terms comprises:

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matching one or more text strings from the received search term with a database of search terms.

43. The method of claim 38 wherein generating the list of additional search terms comprises:

matching one or more text strings from the received search term with a thesaurus.

- 44. The method of claim 41 further comprising: displaying a form for entering one or more search listings for a selected search term.
- 45. The method of claim 42 further comprising: entering the selected search term as a default value in each of the one or more search listings
 - 46. A method for recommending search terms, the method comprising: receiving information describing an advertiser; and recommending search terms based on the advertiser's similarity to other advertisers.
 - 47. The method of claim 46 further comprising:
 assigning ratings based on the information describing the advertiser and
 information describing the other advertisers; and
 recommending search terms based at least in part on the ratings.
 - 48. The method of claim 46 further comprising:

 predicting ratings for the advertiser and the other advertisers based on the
 information describing the advertiser and information describing the
 other advertisers; and
 recommending search terms based at least in part on the ratings.

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49. The method of claim 46 further comprising:					
computing correlations for the advertiser and the other advertisers based on					
the information describing the advertiser and information describing					
the other advertisers; and					
recommending search terms based at least in part on the correlations.					

- 50. The method of claim 49 wherein computing correlations comprises: computing Pearson correlations.
- 51. A method for recommending search terms, the method comprising: downloading web pages rooted at a specified uniform resource locator (URL); and recommending search terms that appear in the body text of the web pages.
- 52. The method of claim 51 further comprising: identifying an advertiser having a web site; specifying the advertiser's web site as the specified URL.
- 53. The method of claim 51 further comprising: receiving a web site identifier from an advertiser as the specified URL.
- 54. A method for recommending search terms, the method comprising: receiving a uniform resource locator (URL); downloading web pages rooted at the URL; and recommending search terms that appear in the web pages.
- 55. The method of claim 54 further comprising: identifying an advertiser having a web site; receiving the advertiser's web site as the URL.

56.	A method for recommending search terms, the method comprising:					
calcul	calculating a quality metric for candidate search terms, the quality metric					
	for a respective candidate search term being a function of the					
	respective search term's web frequency and a function of a search					
	term's search frequency; and					
recom	mending search terms for which the calculated quality metric					
	exceeds a quality threshold					

- 57. The method of claim 56 further comprising: sorting the candidate search terms according to a second metric.
- 58. The method of claim 56 further comprising: automatically calibrating the quality threshold.
- 59. A method for recommending search terms for a database search system, the method comprising:

 maintaining a database of search terms associated with advertiser listings; receiving information describing an advertiser; and recommending search terms to the advertiser.
 - 60. The method of claim 59 further comprising: determining candidate search terms by collaborative filtering; and recommending search terms from the candidate search terms.
 - 61. The method of claim 59 further comprising:
 downloading web pages rooted at a uniform resource locator; and
 recommending the search terms based on terms that appear in body text of
 the web pages.
 - 62. The method of claim 59 further comprising: receiving a uniform resource locator (URL);

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downloading web pages rooted at the URL; and recommending search terms based on terms that appear in the web pages.

63. The method of claim 59 further comprising:
calculating a quality metric for candidate search terms, the quality metric
for a respective candidate search term being a function of the
respective search term's web frequency and a function of a search
term's search frequency; and
recommending the search terms based on search terms for which the
calculated quality metric exceeds a quality threshold

The method of claim 59 further comprising:
receiving feedback from the advertiser on the recommended search terms;
and
changing the recommended search terms based on the feedback.

The method of claim 59 further comprising:
receiving feedback from the advertiser on the recommended search terms;
and
changing the recommended search terms based on the feedback.

ABSTRACT OF THE DISCLOSURE

In a pay-for-placement search system, the system makes search term recommendations to advertisers managing their accounts in one or more of two ways. A first technique involves looking for good search terms directly on an advertiser's web site. A second technique involves comparing an advertiser to other, similar advertisers and recommending the search terms the other advertisers have chosen. The first technique is called spidering and the second technique is called collaborative filtering. In the preferred embodiment, the output of the spidering step is used as input to the collaborative filtering step. The final output of search terms from both steps is then interleaved in a natural way.



Commissioner for Patents Washington, DC 20237



Bib Data Sheet

CONFIRMATION NO. 1404

SERIAL NUMBER 10/020,712	FILING DATE 12/11/2001 RULE	CLASS 707	GROUP ART	T UNIT	ATTORNEY DOCKET NO. 9623/378	
APPLICANTS Mark Paine, San Francisco, CA; Winton Davies, San Francisco, CA; Don F. Geddis, Hillsborough, CA; Jon Dukes-Schlossberg, Palo Alto, CA; Darren Davis, Rowland Heights, CA; *** CONTINUING DATA This application is a CIP of 09/911,674 07/24/2001 which is a CON of 09/322,677 05/28/1999 PAT 6,269,361 *** FOREIGN APPLICATIONS *** FOREIGN FILING LICENSE GRANTED *** 06/24/2002						
Foreign Priority claimed 35 USC 119 (a-d) condition met Verified and Acknowledged Exa	state or country ca	SHEETS DRAWING 20	TOTA CLAIM 65	MS CLAIMS		
75 7						
TITLE Recommending searc	h terms using collabora	tive filtering and web s	pidering			
FILING FEE RECEIVED No to charge/credit DEPOSIT ACCOUNT 2268 No for following:				Fees 6 Fees (I 7 Fees (I 8 Fees (I	Processing Ext. of	



PATENT APPLICATION SERIAL NO.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE FEE RECORD SHEET

12/20/2001 SZEWDIE1 00000055 10020712

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370.00 OP 294.00 OP 396.00 OP

12/20/2001 SZEUDIE1 00000056 231925 10020712

01 FC:203

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PTO-1556 (5/87)

*U.S. GPO: 2000-468-987/39595

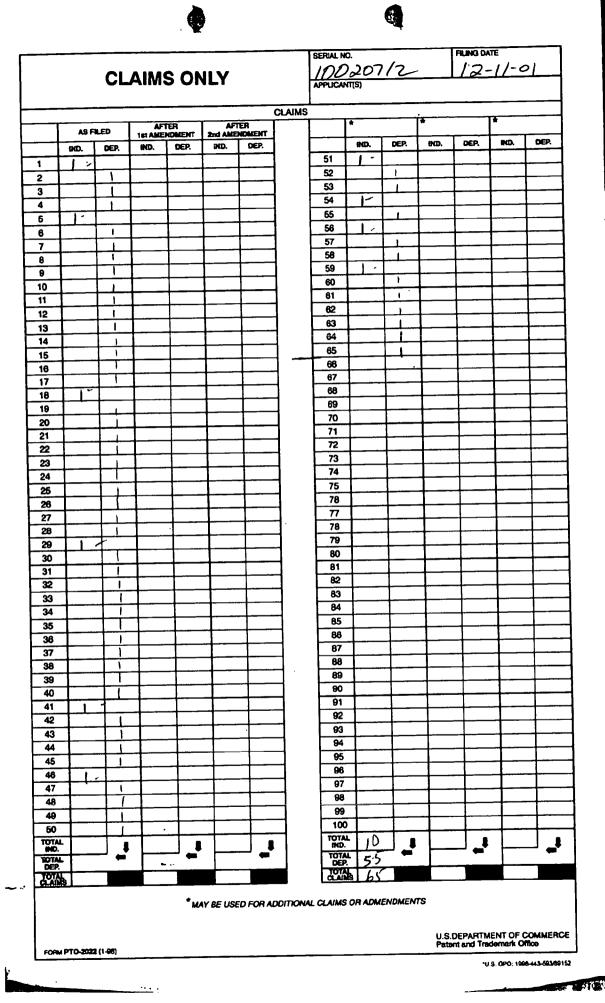
PATENT APPLICATION FEE DETERMINATION RECORD

Effective October 1, 2001

Application or Docket Number

9623/378

		CLAIMS AS	Column		(Colur	mn 2)		SMALL EN	_	OR	OTHER SMALL I	
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FO	R		NUMBER F	ILED	NUMBE	ER EXTRA		BASIC FEE	370.00	OR	BASIC FEE	740.00
то	TAL CHARGEA	BLE CLAIMS	b) min	us 20=	• 45			X\$ 9=	405	OR	X\$18=	
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:	* If the entry in column 1 is less than the entry in column 2, write *0" in column 3.											
-	** If the 'Highest Number Previously Paid For' IN THIS SPACE is less than 20, enter "20." ADDIT. FEEOH ADDIT. FEE											



IPE 0003234

Date of Deposit: December 11, 2001



Our Case No. 9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re	Application of:)	
Paine	, Mark, et al.)	
Seria	l No. not yet assigned)	Examiner not yet assigned
Filing	g Date: December 11, 2001)	Group Art Unit No.: not yet assigned
For	RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING)	

PETITION UNDER 37 C.F.R. 1.183

Commissioner for Patents Washington, D.C. 20231

Dear Sir:

Applicants respectfully request waiver of the requirement under 37 C.F.R. § 1.52(e) for including in the transmittal letter and specification of the patent application filed herewith a list of the names of the files contained on the compact disk, with other identifying information. The number of files on the enclosed disk is too great to practically include such a list.

Background

For filing electronic documents that are to become part of permanent records of the U.S. Patent and Trademark Office, 37 C.F.R. § 1.52(e) provides that such documents may be submitted on a compact disc read only memory (CD-ROM) or compact disk-recordable (CD-R). Rules are provided for format and content of the submission.

Among the information to be provided is a list of the files contained on the submitted compact discs. This information must be provided in two places when submitting a compact disk as part of a patent application. "The specification must contain an incorporation-by-reference of the material on the compact disc in a separate paragraph..., identifying each

compact disc by the names of the files contained on each of the compact discs, their date of creation and their sizes in bytes." 37 C.F.R. § 1.52(e)(5) (2001). Further, "[t]he transmittal letter must list for each compact disc ... a list of files contained on the compact disc including their names, sizes in bytes, and dates of creation...." 37 C.F.R. § 1.52(e)(3)(ii) (2001).

Accordingly, the currently-established rules for submitting documents in electronic form on CD-ROM or CD-R require listing of the names of all files in both the patent application and transmittal letter.

The Present Application

The present application is related to U.S. patent application number 09/911,674 filed July 24, 2001 in the names of Darren J. Davis, et al., entitled SYSTEM AND METHOD FOR INFLUENCING A POSITION ON A SEARCH RESULT LIST GENERATED BY A COMPUTER NETWORK SEARCH ENGINE, which in turn is a continuation application claiming priority of grandparent application serial number 09/322,677 ("the '677 application"), issued as U.S. patent number 6,269,361 on July 31, 2001. The '677 application was filed on May 29, 1999. The '677 application included a source code appendix filed in microfiche format and consisting of sixty three sheets of microfiche filed with the application in accordance with US Patent and Trademark Office practice at the time. The specification of the '677 application included an incorporation by reference of the microfiche appendix.

A source code appendix is also included with the present application. In accordance with 37 C.F.R. § 1.52(e), the source code appendix has been stored on two identical CD-R compact discs in IBM-PC format under the MS-Windows operating system. On the compact discs filed with the application, at the top directory level of each disc is a file named "dir_s" which identifies each file on the compact disc by the names of the files, their date of creation and their sizes in bytes. Also at the top directory level of each disc is a folder named "Goto" which contains seventeen sub-folders including the files identified in the file dir_s. Also at the top directory level is a folder named "EightBall" which contains subfolders "Data," "Goto" and "Rawinput," and files "Phrasemap," "Stoplist," "Terms" and "Wordmap."

The total number of files contained on the CD-R compact disc is 37,913. The total number of bytes contained on the CD-R compact disc is 539,489,774.

The total number of files is so large that the required identifying information can not be reasonably included in the incorporation by reference in the specification of the present application or in the transmittal letter for the present application. When displayed, the file dir_s which identifies each file on the compact disc is more than 1,000 pages long. Including such a large file in hard-copy form in the patent specification and transmittal letter would produce a patent file which is inconvenient to handle and process within the U.S. Patent and Trademark Office. Expenses for photocopying, data capture and other processing will be unduly increased both for the application and any continuation or divisional applications, and for any patents which may be granted on such applications.

Accordingly, it is proposed to include in the incorporation by reference of the specification of the present application a reference to the file dir_s on the compact disc which identifies each file on the compact disc. The present patent application has been filed with the following incorporation by reference:

A compact disc appendix is included containing computer program code listings pursuant to 37 C.F.R. 1.52(e) and is hereby incorporated by reference in its entirety. The total number of compact discs is 1 including 37,913 files and 435,383,970 bytes. The files included on the compact disc are listed in a file on the compact disc entitled "dir_s". Because of the large number of files contained on the compact disc, the required listing of file names, dates of creation and sizes in bytes is included in the file on the compact disk and incorporated by reference herein.

It is further proposed to include in the transmittal letter a reference to the file dir_s on the compact disc which identifies each file on the compact disc. The transmittal letter for the present application includes the following information:

Enclosed are: ... two identical compact discs marked COPY 1 and COPY 2 and having a CD-R appendix containing computer source code in IBM-PC format compatible with MS-Windows operating system; a list of the 37,913 files contained on the compact discs is provided in a file at the top directory level of each compact disc in a file called "dir_s"

Accordingly, because of the extraordinary situation created by the large number of files – 37,913 files -- contained on the compact discs filed with the present application, Applicants respectfully request waiver of the requirement under 37 C.F.R. § 1.52(e) for inclusion in the

specification and transmittal letter of a list of files contained on each compact disc. Applicants further request approval of the above-quoted incorporation by reference and listing of the transmittal filed with the present application in fulfillment of the requirements of 37 C.F.R. § 1.52(e).

Fee payment

A check in the amount of \$130.00 is enclosed for the Petition fee under 37 C.F.R. § 1.17(h). Any additional fee required may be charged or credit for any excess fee may be paid to Deposit Account No. 23-1925. A duplicate of this document is attached.

Respectfully submitted,

John G. Rauch

Registration No. 37,218 Attorney for Applicant

December 11, 2001

BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, ILLINOIS 60610 (312) 321-4200

ARTIFACT SHEET

Enter artifact number below. Artifact number is application number + artifact type code (see list below) + sequential letter (A, B, C. . .) The first artifact folder for an artifact type receives the letter A, the second B, etc. . . Example: 59 123 456 PA, 59 123 456 PB, 59 123 456 ZA, 59 123 456 ZB

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e quantity of a single type of a folder/ box and artifact number		
CD(s) containing: Computer program listing Doc Code: Computer	·	Artifact Type Code: P
Pages of specification and sequence listing and /or ta Doc Code: Artifact		Artifact Type Code: S
Content unspecified or co Doc Code: Artifact	mbined .	Artifact Type Code: S
Staple Set(s) Color Document Doc Code: Artifact	s or B / W Photograpl Artifact Type Code: (
Video tape(s)	Artifact Type Code: F Artifact Type Code: \	
Model(s) Doc Code: Artifact	Artifact Type Code: N	М
Bound Document(s) Doc Code: Artifact	Artifact Type Code: I	3
Confidential Information Disc marked Proprietary, Trade Sec Material Submitted under MPI Doc Code: Artifact	crets, Subject to Prote	ctive Order,
Other, description:	Artifact Type Code: 7	,



Date of Deposit: December 11, 2001

Our Case No. 9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re A	Application of:)	
Paine,	Mark, et al.)	
Serial	No. not yet assigned)	Examiner not yet assigned
Filing	Date: December 11, 2001)	Group Art Unit No.: not yet assigned
For	RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING)	

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Commissioner for Patents Washington, D.C. 20231

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compact disc by the names of the files contained on each of the compact discs, their date of creation and their sizes in bytes." 37 C.F.R. § 1.52(e)(5) (2001). Further, "[t]he transmittal letter must list for each compact disc ... a list of files contained on the compact disc including their names, sizes in bytes, and dates of creation...." 37 C.F.R. § 1.52(e)(3)(ii) (2001).

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A source code appendix is also included with the present application. In accordance with 37 C.F.R. § 1.52(e), the source code appendix has been stored on two identical CD-R compact discs in IBM-PC format under the MS-Windows operating system. On the compact discs filed with the application, at the top directory level of each disc is a file named "dir_s" which identifies each file on the compact disc by the names of the files, their date of creation and their sizes in bytes. Also at the top directory level of each disc is a folder named "Goto" which contains seventeen sub-folders including the files identified in the file dir_s. Also at the top directory level is a folder named "EightBall" which contains subfolders "Data," "Goto" and "Rawinput," and files "Phrasemap," "Stoplist," "Terms" and "Wordmap."

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FEB 1 9 2002

OFFICE OF PETITIONS

specification and transmittal letter of a list of files contained on each compact disc. Applicants further request approval of the above-quoted incorporation by reference and listing of the transmittal filed with the present application in fulfillment of the requirements of 37 C.F.R. § 1.52(e).

Fee payment

A check in the amount of \$130.00 is enclosed for the Petition fee under 37 C.F.R. § 1.17(h). Any additional fee required may be charged or credit for any excess fee may be paid to Deposit Account No. 23-1925. A duplicate of this document is attached.

Respectfully submitted,

John G. Rauch

Registration No. 37,218 Attorney for Applicant

December 11, 2001

BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, ILLINOIS 60610 (312) 321-4200

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UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents United States Patent and Trademark Office Washington, D.C. 20231

Paper No. 3

John G. Rauch Brinks Hofer Gilson & Lione PO Box 10395 Chicago, IL 60610

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MAR - 7 2002

In re Application of

Paine et al.

OFFICE OF PETITIONS

Application No. 10/020,712

Filed: December 11, 2001

ON PETITION

Attorney Docket No. 9623/378

This is a decision on the petition under 37 C.F.R. § 1.183, filed February 19, 2002, to waive 37 CFR 1.52(e).

When a compact disc has been submitted as part of an application, one is required to list the files on the disc in the application and on the transmittal sheet. In the instant case, applicant seeks a waiver of the requirement and seeks to submit such a listing on compact disc rather than in the application and on the transmittal sheet.

The petition is granted.

Petitioner has demonstrated that a listing of the files would be over 1,000 pages long. Petitioner has submitted a "table" on the compact disc listing each file on the disc by file name, file size, and creation date.

Petitioner should note that petitioner, and not the Office, is responsible for identifying and correcting any difference between the file list on the compact disc and the files actually on the compact disc.

The file is being forwarded to the Office of Initial Patent Examination for further processing.

Telephone inquiries should be directed to Petitions Attorney Steven Brantley at (703) 306-5683.

Beverly M. Flanagan

Supervisory Petitions Examiner

Office of Petitions

Office of the Deputy Commissioner for Patent Examination Policy



United States Patent and Trademark Office

COMMISSIONER FOR PATENTS UNITED STATES PATENT AND TRADEMARK OFFICE WASHINGTON, D.C. 2023 www.uspto.gov

APPLICATION NUMBER FILING/RECEIPT DATE FIRST NAMED APPLICANT ATTORNEY DOCKET NUMBER 9623/378

10/020,712 12/11/2001 Mark Paine

CONFIRMATION NO. 1404

John G. Rauch **BRINKS HOFER GILSON & LIONE** P.O. BOX 10395 CHICAGO, IL 60610



Date Mailed: 06/24/2002

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given TWO MONTHS from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing. A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(I) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

Items Required To Avoid Processing Delays:

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is \$65 for a Small Entity

\$65 Late oath or declaration Surcharge.

A copy of this notice MUST be returned with the reply.

Customer Service Center Initial Patent Examination Division (703) 308-1202

PART 3 - OFFICE COPY



CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to: Commissioner for Patents, Washington, D.C. 20231, on

August 26, 2002
Date of Deposit

John G. Rauch, Reg. No. 37,218

Name of Applicant, Assignee or Registered Representative

Signature

Date of Signature

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Technology Center 2100

Our Case No.: 9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mark Paine et al.

Serial No.: 10/020,712

Filing Date: December 11, 2001

For: RECOMMENDING SEARCH TERMS

USING COLLABORATIVE

FILTERING AND WEB SPIDERING

Examiner: To Be Assigned

Group Art Unit: 2171

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents Washington, D.C. 20231

Dear Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed below and on the attached Form PTO-1449 be considered by the Examiner and made of record.

The references now cited are the following:

US PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
5,659,732	08/19/97	Kirsch	395/605	05/17/95
5,717,923	02/10/98	Dedrick	396/613	11/03/94
5,724,424	03/03/98	Gifford	380/24	11/29/95
5,724,521	03/03/98	Dedrick	395/226	11/03/94
5,724,524	03/1998	Hunt et al.	395/237	12/15/95
5,748,954	05/1998	Maudlin .	395/610	06/05/95
5,752,238	05/12/98	Dedrick	705/14	11/03/94
5,768,521	06/16/98	Dedrick	395/226	02/02/96
5,794,210	08/11/98	Goldhaber, et al.	705/14	12/11/95
5,826,241	10/20/98	Stein, et al.	705/26	09/16/94
5,848,397	12/08/98	Marsh, et al.	705/14	04/19/96
5,848,407	12/08/98	Ishikawa, et al.	707/2	05/22/97
5,852,820	12/22/98	Burrows	707/2	08/09/96
5,855,008	12/29/98	Goldhaber, et al.	705/14	08/28/97
5,864,845	01/26/99	Voorhees, et al.	707/5	06/28/96
5,864,846	01/26/99	Voorhees, et al.	707/5	06/28/96
5,903,882	05/1999	Asay et al.	705/44	12/13/96
5,918,014	06/29/99	Robinson	395/200.49	12/26/96
5,920,854	07/06/99	Kirsch, et al.	707/3	08/14/96
5,920,859	07/06/99	Li	707/5	02/05/97
6,078,866	06/2000	Buck et al.	702/2	09/14/98
6,296,361 B1	07/31/01	Davis et al.	707/3	05/28/99
* US 2002/0004735 A1	01/10/2002	Gross		·

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY
WO 99/20486	09/1999	WIPO
WO 99/48028	09/1999	WIPO
WO 2000/16218	03/2000	WIPO
WO 2000/41090	07/2000	WIPO

OTHER ART AND RELATED DOCUMENTS

Database of Corporate ResourceNet, "New Service Puts An Auction Search Engine Under One Roof", Electronic Advertising & Marketplace Report, Vol. 12, Issue 8, Apr. 1998, page 6. Espe, "Online Search Engines Start To Charge For Listings", Washington Business Journal, Vol. 18, Issue 1, May 1999, page 31. Dawson et al., "2 Search Sites Narrow Their Parameters", Adweek-Western Edition, Vol. 48, Issue 42, Oct. 1998, page 1. Database of Corporate ResourceNet, "Bits", from Adweek-Eastern Edition, Vol. 40, Issue 14, April 1999, page 46. Komando, "Searching For Search Engines - from Dogpile to Deja News", Business First-Colombus, Vol. 14, Issue 43, June 1998, page 46. Database of Corporate ResourceNet, New services Aim to Boost Efficiency of Search Engines", Electronic Advertising & Marketplace Report, Vol. 12, Issue 13, June 1998, page 6. Database of Corporate ResourceNet, "Goto.com Chooses Quest's SharePlex(R) for Oracle Software to Ensure Uptime for Business-Critical Web Site", PR Newswire, June 2000. Database of Corporate ResourceNet, "Capitalist Tool", Time Canada, Vol. 151, Issue 8, March 1998, page 41. Database of DialogClassic(m), :Homestead Technologies' Continued Success Draws \$17.50 Million In second Round of Venture Funding", PR Newswire, April 1999. "APS Search Tools - Patent Search Client Strategy", by US Patent & Trademark Office, Sept. 1997. "Frequently Asked Questions NT Image Search & Retrieval (IS&R)", by US Patent & Trademark Office, Dec. 1997. "Chapter 1-Introduction to Dialog", by Dialog Information Service, Inc. pp 1-1 to 1-14. "Automated Patent System (APS) Workstation Reference Manual", by US Patent & Trademark Office, July 1996. Frentzen, Jeff, "Help for Getting the Word Out About Web Sites", PC Week, v14, n46, p. 27(1), Nov. 3, 1997. Miller, Karen L., "Improve Your Ranking (Building Web Sites to Attract Web Searches)", Home Office Computer, v16, n1, p 51(2) Jan, 1998. Wingfiled, "Another Engine Takes Ads By The Click", from http://www.news.com?news/Item/0.4.1387,00/html, May 1996. Pelline, "New Search Engine Goes Commercial", by CNET News.com, Feb. 1998. Wang, "Engines Battle Irrelevance of Results-New Search Service Hope To Fill The Void", by Internet World, Feb. 1998. Vondr Haar, "Searching For The Highest Bidder", from Inter@active week. Riedman, "Search Engine Startup To Auction Listings", from Interactive-Advertising, Feb. 1998. Rich, "New Search Engine Allows Sites To Pay Their Way to Top", from http://www.adweek.com/iq/iqnews02.asp. Mardesich, "Web Site Operators Pay for Top Billing-Search Engine Allows Site Sponsors to Buy Place On Special List", from Knight Ridder Newspapers, March 1998.

Hilty, "GoTo.Hell-What Happens When On Line Search Engine Accepts Cash From Web Sites?" from http://www.ocweekly.com/link/archives/97/27/byte-3.11.98-1.html, March 1998.

Flynn, "With GoTo.com's Search Engine, the Highest Bidder Shall Be Ranked First", by the New York Times, March 1998.

Clark, "Start-Up Plans Internet Search Service Tying Results To Advertising Spending", from the Wall Street Journal, Feb. 1998.

"Going, Going ...", from A Closer Look of the Wall Street Journal-Marketplace, April 1998.

"Coursey.com", David Coursey's Insider report on Personal Computing, the Internet and Communications", March 1998.

Glaser, "Who Will GoTo.com", from OnlinePress.com, Feb. 1998.

Mardesic, "Search Engine Charges Hit Sites", from

http://www.sjmercury.com/business/center/goti022198.html, Feb. 1998.

"News Watch About Search Engines", from http://searchenginewatch.com/ness.html, Feb. 1998.

Wang, "Engines Battle Irrelevence of Results", from Internet World.

Swartz, "Browser Only Lists Paying Web Sites Critics Fear Approach Will Squeeze Out Most Small Internet Players", from http://www.sfgate.com/cgi-bin/ publish on San Francisco Chronicle, Feb. 1998.

McWilliams, PC World Online, February 23, 1998, "Search Engine To Sell Top Positions On Results Lists", from http://www.pcworld.com/news/daily/data/0298/...html.

"Search Engine Start Up To Auction Listings", from

http://www.adage.com/interactive/daily/index/html, Feb. 1998.

Alyson, "Searching The Search Engines", from Bacon's, May 1998.

Pelline, "Pay-for-placement gets another shot", from

http://www.newscom.?news/item/0,4,19307,00.html, Sept. 1997.

IBM Technical Disclosure Bulletin, "Organizing A Ranked List of Search Matches", Nov. 1994.

Jeffrey Brewer, ClickZ Today, August 18, 1998, "Pay-For-Performance: Creating More And Better Value", obtained at the internet address http://www.clickz.com, August 18, 1998.

Jesse Berst, ZDNet, August 17, 1998, "Search Sites' Shocking Secret", obtained at the internet address http://www.zdnet.com/anchordesk/story/story_2432.html, August 17, 1998.

Sara Fisher, "Budding Internet Firm Finds Niche in Satisfaction", L.A. Business Journal, August 10, 1998.

"Disclosure Rules", The Industry Standard – The Newsmagazine of the Internet Economy, August 10, 1998.

G. David Doran, "Pay to Play", Entrepreneur, July 1998, p. 18.

Advertising Age-Interactive Daily Homepage; obtained at the internet address http://www.adage.com/interactive/daily/index.html, June 8, 1998.

Kim Komando, "With About 320 Million Sites, Search Engines Offer Some Help", copyright 1998, Los Angeles Times Syndication.

Margot Williams, "How To Ease Your Online Searches", Lansing State Journal, June 1, 1998.

"GoTo.com Gets Venture Funding", Internet World Magazine, June 1, 1998. Sasha Alyson, "Searching The Search Engines", Front Page, May 8, 1998.

Advertising Age-Interactive Daily Homepage, February 23, 1998, "Search Engine Startup To Auction Listings", obtained at the internet address http://www.adage.com/interactive/ mdaily/index.html.

Brian McWilliams, PC World Online, February 23, 1998, "Search Engine To Sell Top Positions On Results Lists", obtained at the internet address

http://www.pcworld.com/news/daily/data/ 0298/9880223173204.html.

Jon Swartz, San Francisco Chronicle, February 23, 1998, "Browser Only Lists Paying Web Sites Critics Fear Approach Will Squeeze Out Most Small Internet Players", obtained at the internet address http://www.sfgate.com/cgi-

bin/arti...le/archive/1998/02/21/BU102470.DTL.

Nelson Wang, "Engines Battle Irrelevance of Results", from

http://www.internetworld,com/print/current/news/19980223-battle.html, Feb. 1998.

Search Engine Watch, February 21, 1998, "GoTo Sells Positions", obtained at the internet address http://www.searchenginewatch.com/news.html, February 23, 1998.

Jodi Mardesich, "Search Engine Charges Hit Sites", from

http://www.sjmercury.com/businrss/center/goto022198.html, Feb. 1998.

Ken Glaser, Who Will GoTo.com?", OnlinePress.com, Feb. 1998

Jeff Pelline, "New Search Engine Goes Commercial", from

http://www.news.com/News/Item/ 0,4,19281,00.html, February 20, 1998.

"Going, Going...", The Wall Street Journal, April 1998. p. B1.

David Coursey, "Coursey.com", March 1998.

Don Clark, "Start-Up Plans Internet Search Service Tying Results To Advertising Spending", The Wall Street Journal, February 20, 1998.

Laurie J. Flynn, "With GoTo.com's Search Engine, The Highest Bidder Shall Be Ranked First", The New York Times, March 1998, p. C1.

Wyn Hilty, OCWeekly byte marks, "GoTo.Hell", from

http://www.ocweekly.com/ink/archives/97/27byte-3.11.98-1.shtml, March 13, 1998.

Jodi Mardesich, "Web Site Operators Pay For Top Billing", The News – Herald (Willoughby, OH), March 2, 1998.

Laura Rich, Adweek Online IQ News Online, February 23, 1998, "New Search Engine Allows Sites to Pay Their Way to Top", from http://www.adweek.com/iq/ iqnews02.asp, Feb. 1998.

Patricia Riedman, "Search Engine Startup To Auction Listings", Advertising Age Magazine, February 23, 1998, p. 34.

Steven Vonder Haar, ZDNet,com, February 19, 1998, "Searching For The Highest Bidder", obtained at the internet address

http://www.zdnet.com/intweek/daily/980219i.html, February 23, 1998.

Nelson Wang, "Engines Battle Irrelevance of Results", Internet World, Feb. 10, 1998, p.1

Interactive Week Magazine, Garden City, N.Y. May 25, 1998.

Jeff Pelline, "New Search Engine Goes Commerical", CNET News.com, from http://www.news.com/News/Item/0,4,19281,00.html, Feb. 20, 1998.

Nick Wingfield, Staff Writer, CNET News.com, June 21, 1996, "Engine Sells Results, Draws Fire", obtained at the internet address

http://www.news.com/News/Item/Textonly/0,25,1635,00. html, July 29, 1999.

Nick Wingfield, Staff Writer, CNET News.com, May 22, 1996, "Another Engine Takes Ads By The Click", obtained at the internet address

http://www.news.com/News/Item/0,4,1387,00.html, July 29, 1999.

Rose Aguilar, Staff Writer, CNET News.com, April 29, 1996, "New Ad Model Charges By The Click", obtained at the internet address

http://www.news.com/News/Item/0,4,1199,00.html, July 29, 1999.

Alex Lash, Staff Writer, CNET News.com, December 11, 1996, "Open Text Updates Tools", obtained at the internet address

http://www.news.com/News/Item/0,4,6118,00.html, July 29, 1999.

"About SearchUP, Inc.", July 15, 1999, obtained at the internet address http://www.searchup.com/about.cfm.

"Testimonials"., July 15, 1999, obtained at the internet address http://www.searchup.com/testimonials.cfm.

"Benefits", July 15, 1999, obtained at the internet address http://www.searchup.com/benefits.cfm.

"Information", July 15, 1999, obtained at the internet address http://www.searchup.com/information.cfm.

"Tips & Tricks", July 15, 1999, obtained at the internet address http://www.searchup.com/tipsandtricks.cfm.

Correspondence from Bryan Buck, President of SearchUp.com, July 7, 1999.

Saul Hansell "Alta Vista Invites Advertisers to Pay for Top Ranking", The New York Times, April 15, 1999, p. C2

Galore – Super Search Engine, May 21, 1999, obtained at the internet address http://www.galore.com/1/mainframe.shtml.

hitsgalore.com Search Engine, May 21, 1999, obtained at the internet address http://www.hitsgalore.com

I Seek It "The Next Generation Search Engine", May 21, 1999, obtained at the internet address http://www.iseekit.com.

Correspondence from Emilia F. Cannella to Robert Brahms, CEO of BeFirst Internet Corporation regarding findwhat.com, July 20, 1999.

Correspondence from Emilia F. Cannella to Michael Melcher, MC Services regarding SearchUP.com, July 1, 1999.

Correspondence from Emilia F. Cannella to Robert G. Schuler, Esq., Kegler, Brown, Hill & Ritter regarding iseekit.com, July 1, 1999.

Correspondence from Emilia F. Cannella to Andrew Conru, Vote Publishing regarding galore.com, June 30, 1999.

SearchUP.com – Internet Directory, Automated Bid Placement System, obtained at the internet address http://www.searchup.com/search.cfm, August 25, 1999.

SearchUP: URL Position Manager, obtained at the internet address https://www.securearea.net/searchup/login.cfm, August 25, 1999.

SearchUP: URL Position Manager, obtained at the internet address https://www.securearea.net/searchup/newaccount.cfm, August 25, 1999.

SearchUP: URL Position Manager, obtained at the internet address https://www.securearea.net/getaccount/login.cfm, August 25, 1999.

Correspondence from Emilia F. Cannella to Mr. D. Reed, Reports Galore, regarding hitsgalore.com, June 30, 1999.

Miller, Karen L., "Improve Your Ranking", Home Office Computer, Vol. 16, No. 1, Jan. 1998, p. 51(2).

Jeff Fretzen, "Help For Getting The Word Out About Web Sites", PC Week, Vo. 14, No. 46, Nov. 3, 1997, p. 27(1).

Article from the Search Engine Report, "GoTo To Sell Positions", March 3, 1998, http://www.searchenginewatch.com/sereport/9803-to-to-html.

Article from CNET News, "Engine Sells Results, Draws Fire", June 21, 1996, http://www.nees.com/News?Item/0,4,1635,00.html.

Press release on Lightweight Directory Access protocol (LDAP), Netscape Comm. Corp. Mountain View, CA., April 1996.

ClickMail Central directory, circa April 1996,

GoTo.com, circa 1998, at www.goto.com

Northern Light, circa 1997-98, at sirocco.northernlight.com

Laura Rich, Adweek Online IQ News Online, February 23, 1998, "New Search Engine Allows Sites to Pay Their Way to Top", from http://www.adweek.com/iq/ iqnews02.asp, February 23, 1998.

Smith, Laura B., article "Going ... Gone", PC Week, Vol. 13, No. 34, August 26, 1996, p E1(2), http://www.dialog-classic.com/DialogClassic/dialog.

- * Cliff Kurtzman, "Another Internet Advertising List", Internet Advertising Digest #006, dated June 19, 1996, from http://www.o-a.com/archive/1996/june.0021.html, printed 09/28/01, 5 pages.
- * Press Release article titled "GoTo.com Announces First round of Financing, Totaling More Than \$6 Million, Led by Draper, Fisher Jurvetson", *Business Wire*, dated May 19, 1998, printed from the Internet at http://www.dialogclassic.com/main.vingw on 11/9/00, 2 pages.

In accordance with 37 C.F.R. § 1.97(g),(h), this Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

This Information Disclosure Statement is being filed prior to the receipt of the first Official Action reflecting an examination on the merits and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these material, the Commissioner is hereby authorized to deduct said fees from Brinks Hofer Gilson & Lione's deposit account number 23-1925.

This application is a continuation-in-part application of U.S. Serial No. 09/911,674, filed July 24, 2001 which a continuation of 09/322,677, filed May 28, 1999, now issued US Patent No. 6,269,361 and is relied upon for an earlier filing date under

35 U.S.C. § 120. In accordance with Rule 37 C.F.R. § 1.98(d) only copies of documents not previously cited and submitted to the Patent and Trademark Office in the prior application Serial No. 09/322,677 are enclosed for the convenience of the Examiner. The items not included that were not cited in the parent application Serial No. 09/322,677 are marked by an asterisk.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

John G. Rauch

Registration No. 37,218 Attorney for Applicants

BRINKS HOFER GILSON & LIONE P.O. Box 10395 Chicago, IL 60610 Tel. (312) 321-4200 Fax (312) 321-4299

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to: Commissioner for Patents, Washington, D.C. 20231, on

August 26, 2002

Date of Deposit

John G. Rauch, Reg. No. 37,218

Name of Applicant, Assignee or
Registered Representative

_Signature

Signature

RESP 8/26/02

Date of Signature

Our Case No. 9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mark Paine et al.

Serial No.: 10/020,712

Filing Date: December 11, 2001

For RECOMMENDING SEARCH TERMS

USING COLLABORATIVE FILTERING

AND WEB SPIDERING

Attention: Manager, Application Branch

Group Art Unit No.: 2171

RESPONSE TO NOTICE TO FILE MISSING PARTS OF NONPROVISDIONAL APPLICATION FILED UNDER 37 CFR 1.53(b)

Attn.: Box Missing Parts Commissioner for Patents Washington, D.C. 20231

Dear Sir:

In accordance with the Notice to File Missing Parts of Application Filing Date Granted dated <u>June 24, 2002</u>, a copy of which is attached, enclosed herewith for filing are the following documents:

\boxtimes		executed Declaration for Patent Application for the above- enced patent application.
\boxtimes		executed Power of Attorney for the above-referenced patent cation.
\boxtimes	Appli	cant is:
		a small entity, verified statement is:
		attached
		already filed
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		on for Extension of Time (37 C.F.R. § 1.136(a)) with check for to file missing parts (in duplicate).
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\boxtimes	fees	Commissioner is hereby authorized to charge any deficiencies in or credit overpayment to Deposit Account No. 23-1925. A cate copy of this paper is enclosed.
	.•	Respectfully submitted,
Date	d: <u>/</u>	August 26, 2002 John G. Rauch Registration No. 37,218 Attorney for Applicant(s)
P.O. CHIC	BOX 1	IL 60610

SEP 0	3	RANSMITTAL LETTER			Case No:	523/378
Serial No.:	1020 712	Filing Date: December 11, 2001	Examiner	To Be Assigned	Group Art Unit	2171
Inventor(s)	APaine et a	il				

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APPLICATION NUMBER	PPLICATION NUMBER FILING/RECEIPT DATE		ATTORNEY DOCKET NUMBER
10/020.712	12/11/2001	Mark Paine	9623/378

John G. Rauch **BRINKS HOFER GILSON & LIONE** P.O. BOX 10395 CHICAGO, IL 60610

CONFIRMATION NO. 1404 FORMALITIES LETTER *OC000000008343237*

Date Mailed: 06/24/2002

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

09/05/2002 DAMTE1 00008097 10020712

FILED UNDER 37 CFR 1.53(b)

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Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given TWO MONTHS from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing. A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(I) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

Items Required To Avoid Processing Delays:

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is \$65 for a Small Entity

\$65 Late oath or declaration Surcharge.

A copy of this notice <u>MUST</u> be returned with the reply.

Customer Service Center

Initial Patent Examination Division (703) 308-1202
PART 1 - ATTORNEY/APPLICANT COPY

Case No. 9623/378

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

SEP 0 3 2002

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING, the specification of which:

of which:			•		
	is attached hereto.			•	
\boxtimes	was filed on Dece	mber 11, 2001	as Application Serial No. 10/02	<u> 20,712</u> .	
	and was amended	on (if ap	pplicable).		
-	at I have reviewed amendment referre		d the contents of the above-ide	entified specification	, including the claims, as
I acknowledge t Regulations, § 1		information w	hich is material to the patenta	ability as defined in	Fitle 37, Code of Federal
inventor's certifi United States, lis	icate or § 365(a) of sted below and have	f any PCT Inte e also identifie	U.S.C. § 119(a)-(d) or § 365(ernational application which d d below, by checking the box, a a filing date before that of the	lesignated at least or any foreign application	ne country other than the on for patent or inventor's
Prior Foreign Ap	oplication(s)				Priority Claimed
(Number)	(Co	ountry)	(Day/Month/Yea	ar Filed)	Yes No
		U.S.C. § 119(e)	of any United States provision	nal application(s) liste	ed below:
(Applica	ation Serial No.)		(Filing Date)		
application designs is not disclosed U.S.C. § 112, 1	gnating the United S in the prior United acknowledge the d	States, listed be States or PCT uty to disclose	O of any United States application and, insofar as the subject International application in the information which is material the prior application and the n	matter of each of the manner provided by to patentability as of	claims of this application the first paragraph of 35 defined in 37 CFR § 1.56
09	9/911,674		July 24, 2001		Pending
(Applica	ation Serial No.)		(Filing Date)	(Status-patent	ed, pending, abandoned)
09	9/322,677	_	May 28, 1999		Patented
(Applica	ation Serial No.)		(Filing Date)	(Status-patent	ed, pending, abandoned)
belief are believe the like so made	ed to be true; and for are punishable by	urther that thes fine or imprisor	my own knowledge are true are statements were made with the statement, or both, under Section I be validity of the application or	he knowledge that w 1001 of Title 18 of th	illful false statements and the United States Code and
Inventor's Signat	hira	MX	1465	Date	9/0/2

Inventor's Signature		Date:	
Full name of second joint inventor	Winton Davies		
Residence	790 Church Street, # 302, San Francisco, CA 94114		
Citizenship	Great Britain		
Post Office Address	790 Church Street, # 302, San Francisco, CA 94114		
Inventor's Signature		Date:	
Full name of third joint inventor	Donald F. Geddis		
Residence	80 Southdown Court, Hillsborough, CA 94010		
Citizenship	United States		
Post Office Address	80 Southdown Court, Hillsborough, CA 94010	· · · · · · · · · · · · · · · · · · ·	
Inventor's Signature		Date:	
Full name of fourth joint inventor	Jon Dukes-Schlossberg		
Residence	748 La Para Ave., Palo Alto, CA 94306		
Citizenship	United States		
Post Office Address	748 La Para Ave., Palo Alto, CA 94306		
Inventor's Signature	agreen to	Date:	8/9/02
Full name of fifth joint inventor	Darren J. Davis		- ('
Residence	1571 Sekio Street, Rowland Heights, CA 91748		
Citizenship	United States		
Post Office Address	1571 Sekio Street, Rowland Heights, CA 91748		

BRINKS HOFER GILSON & LIONE P.O. Box 10395 Chicago, IL 60610 (312) 321-4200

Case No. 9623/378

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as state	d be	low next to my name.
--	------	----------------------

I believe I am the original first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if

plural names are listed below) of the s RECOMMENDING SEARCH TERM	subject matter w	hich is claimed and for which	h a patent is sought on the	e invention	entitled
of which:	10 0011·10 002	DITO OTC TITLE TIE TELEVISION	2.11.13 23 01 13 2141	<u>s, are speen</u>	
is attached hereto.			•		
was filed on <u>Decemb</u>	per 11, 2001 as A	Application Serial No. <u>10/020</u>	<u>),712</u> .		
and was amended or		••			
I hereby state that I have reviewed an amended by any amendment referred t	nd understand th		ntified specification, inclu	ding the cla	ims, as
I acknowledge the duty to disclose in Regulations, § 1.56(a).	nformation whic	h is material to the patentab	oility as defined in Title 3	7, Code of	Federal
I hereby claim foreign priority benefinventor's certificate or § 365(a) of a United States, listed below and have a certificate, or PCT International applic	ny PCT Interna Iso identified be	ational application which de clow, by checking the box, a	signated at least one country ny foreign application for	ntry other t	han the ventor's
Prior Foreign Application(s)				Priority Clain	
			•		
(Number) (Cou	ntry)	(Day/Month/Year	Filed)	Yes	No
I hereby claim the benefit under 35 U.	S.C. § 119(e) of	any United States provisiona	al application(s) listed belo)W:	~
(Application Serial No.)		(Filing Date)	_		
I hereby claim the benefit under 35 application designating the United Sta is not disclosed in the prior United St. U.S.C. § 112, I acknowledge the dut which became available between the application:	ites, listed below tates or PCT Int y to disclose in	vand, insofar as the subject nernational application in the formation which is material	natter of each of the claim manner provided by the f to patentability as defined	is of this app Trst paragrap d in 37 CFF	olication oh of 35 R § 1.56
09/911,674		July 24, 2001	Pend	ling	
(Application Serial No.)		(Filing Date)	(Status-patented, pe	nding, aban	doned)
09/322,677		May 28, 1999	Pater		
(Application Serial No.)		(Filing Date)	(Status-patented, pe	nding, aban	doned)
I hereby declare that all statements m belief are believed to be true; and fur the like so made are punishable by fir that such willful false statements may	ther that these s ne or imprisonm	tatements were made with the ent, or both, under Section 1	ne knowledge that willful 001 of Title 18 of the Uni	false statem	ents and
Inventor's Signature			Date:		
Full name of sole or first inventor	Mark Paine				
Residence		San Francisco, CA 94117			
Citizenship	USA	<u> </u>			
Post Office Address	552 Page St.,	San Francisco, CA 94117			

Inventor's Signature Full name of second joint inventor Residence Citizenship Post Office Address	Winton Davies 790 Church Street, # 302, San Francisco, CA 94114 Great Britain 790 Church Street, # 302, San Francisco, CA 94114	Date: Stration -
Inventor's Signature Full name of third joint inventor Residence	Donald F. Geddis 80 Southdown Court, Hillsborough, CA 94010	Date: 8-9-2062
Citizenship	United States	
Post Office Address	80 Southdown Court, Hillsborough, CA 94010	
Inventor's Signature Full name of fourth joint inventor Residence Citizenship Post Office Address	Jon Dukes-Schlossberg 748 La Para Ave. Palo Alto, CA 94306 United States 748 La Para Ave., Palo Alto, CA 94306	
Inventor's Signature Full name of fifth joint inventor Residence Citizenship Post Office Address	Darren J. Davis 1571 Sekio Street, Rowland Heights, CA 91748 United States 1571 Sekio Street, Rowland Heights, CA 91748	Date:
FUSI OTHER MUNICSS	1371 Sekio Street, Rowland Heights, CA 31746	· · · · · · · · · · · · · · · · · · ·

BRINKS HOFER GILSON & LIONE P.O. Box 10395 Chicago, IL 60610 (312) 321-4200 Inventor(s): Mark Paine, Winton Davies, Donald Geddis, Jon Dukes-Schlossberg and Darren J. Davis

Title:

RECOMMENDING SEARCH TERMS USING COLLABORATIVE FILTERING AND WEB SPIDERING

POWER OF ATTORNEY

	The specification of the	above-identified patent application:				
	is attached hereto was filed on <u>December</u>	11, 2001 as application Serial No. 10/020,712				
	I hereby revoke all preving attorneys to prosecuted therewith:	viously granted powers of attorney in the above-identifie said patent application and to transact all business	ed patent application and appoint the in the Patent and Trademark Office			
		James P. Naughton - 30,665 John G. Rauch - 37,218 Vincent J. Gnoffo, Reg. No. 44,714				
	Please address	all correspondence and telephone calls to John G. Rauci	h in care of:			
•		Brinks Hofer Gilson & Lione P.O. Box 10395 Chicago, IL 60610 (312)321-4200				
without	on and John G. Rauch a direct communication be	y authorizes the U.S. attorneys named herein to accept a is to any action to be taken in the Patent and Tradema etween the U.S. attorney and the undersigned. In the e , the U.S. attorneys named herein will be so notified by the	ark Office regarding this application vent of a change in the persons from			
patent a	Overture Services, Inc. pplication identified above	, a <u>Delaware corporation</u> , certifies that it is the assignment of either:	ee of the entire right, title and interest in the			
\boxtimes	An assignment from the inventor(s) of the patent application identified above, a copy of which is attached hereto. OR					
		e inventor(s) of the patent application identified above. It Reel, frame	The assignment was recorded in the Patent			
	A chain of title from the	e inventor(s), of the patent application identified above, t	to the current assignee as shown below:			
	The d	To: ocument was recorded in the Patent and Trademark Offi , frame, or a copy thereof is attached.	ice at			
	The d	To: ocument was recorded in the Patent and Trademark Offi, frame, or a copy thereof is attached.	ice at			
		Additional documents in the chain of title a	re listed on a supplemental sheet.			
above ar		eviewed the assignment or all the documents in the charged's knowledge and belief, title is in the assignee identity				
	The undersigned (whose	e title is supplied below) is empowered to act on behalf of	of the assignee.			
like so r	ef are believed to be true made, are punishable by	statements made herein of my own knowledge are true; and further, that these statements are made with the krifine or imprisonment, or both, under Section 1001, Titleardize the validity of the application or any patent issuir	nowledge that willful false statements, and the le 18 of the United States Code, and that such			
Signatur Name:	Joshua Metzger,	Principal Services Inc.	Date:			
Title:	Senior vice Presiden	t, Business Affairs, Overture Services, Inc.				



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to: Commissioner for Patents, Washington, D.C. 20231, on

> August 26, 2002 **Date of Deposit**

John G. Rauch, Reg. No. 37,218 Name of Applicant, Assignee or Registered Representative

Date of Signature

Our Case No. 9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mark Paine et al.

Serial No.: 10/020,712

Filing Date: December 11, 2001

For: RECOMMENDING SEARCH TERMS USING

COLLABORATIVE FILTERING AND WEB

SPIDERING

Examiner: TBA

Group Art Unit No.: 2171

NOTIFICATION OF CHANGE FROM SMALL ENTITY STATUS **PURSUANT TO 37 C.F.R. §1.28(c)**

Assistant Commissioner for Patents Washington, D.C. 20231

Dear Sir:

Pursuant to 37 C.F.R. §1.28(c), please note that applicant is no longer entitled to small entity status for this United States patent application. Please update the file for this case to indicate that small entity status no longer applies to U.S. Serial No.

09/05/2002 AWONDAF1 00000017 10020712

740.00 OP

2. filed on December 11, 2001.

396.**00** OP

The captioned application was filed in the United States Patent and Trademark Office on December 11, 2001. Applicant asserted small entity status by paying a filing fee for small entity in the amount of \$370 for the filing fee, a \$396 surcharge for forty-four extra claims and a \$294.00 surcharge for seven independent claims for a total of \$1,060.00. The assertion of small entity status and the payment of fees as a small entity was made in good faith.

It has now been discovered that applicant no longer qualifies for such status.

Applicant hereby encloses a check in the amount of \$1,060.00 as additional payment of the application fees for a Large Entity.

Accordingly, it is respectfully requested that the error in payment of the application fees as a small entity be excused and the enclosed fee be accepted and the applicant's status be changed from small entity to large entity.

This patent application is in the process of being assigned from the inventors to Overture Services, Inc., 74 N. Pasadena Avenue, Pasadena, California 91103. A copy of the Assignment Recordal Sheet and the Assignment is enclosed.

The deficiency owed is itemized in the following chart:

Type of Fee Erroneously Paid for Small Entity	37 CFR 1.16(a)	Small Entity Fee Actually Paid and Date of Payment	Deficiency Owed Amount	Total Large Entity Amount Owed	
Application Fee	Х	\$370.00; 12/11/01	\$370.00	\$740.00	
Total Claims 64-20=44	Х	\$396.00; 12/11/01	\$396.00	\$792.00	
Independent Claims (7)		\$294.00; 12/11/01	\$294.00	\$588.00	

Applicants attorneys submit that should the enclosed check for \$1,060.00 be insufficient, omitted or should any additional fees be deemed necessary for any reason relating to this deficiency, the Commissioner is hereby authorized to deduct said fees from Brinks Hofer Gilson & Lione Deposit Account No. 23-1925. A duplicate copy of this document is enclosed.

Applicant respectfully requests the status for US Serial No. 10/020,712 be changed from small entity to large entity and the enclosed deficiency fee be accepted.

Respectfully submitted,

John G. Rauch

Registration No. 37,218 Attorney for Applicant

July

BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, ILLINOIS 60610 Tel. (312) 321-4200 Fax (312) 321-4299

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 2023 I
www.uspto.gov

Paper No. 6

BRINKS HOFER GILSON & LIONE P O BOX 10395 CHICAGO, IL 60610

COPY MAILED

SEP 1 6 2002

In re Application of Mark Paine et al

OFFICE OF PETITIONS

Application No. 10/020,712

NOTICE

Filed: December 11, 2001

Attorney Docket No. 9623/378

This is a notice regarding your request for acceptance of a fee deficiency submission under 37 CFR 1.28. On September 1, 1998, the Court of Appeals for the Federal Circuit held that 37 CFR 1.28(c) is the sole provision governing the time for correction of the erroneous payment of the issue fee as a small entity. See DH Technology v. Synergystex International, Inc. 154 F.3d 1333, 47 USPQ2d 1865 (Fed. Cir. Sept. 1, 1998).

The Office no longer investigates or rejects original or reissue applications under 37 CFR 1.56. **1098 Off. Gaz. Pat. Office 502 (January 3, 1989)**. Therefore, nothing in this Notice is intended to imply that an investigation was done.

Your fee deficiency submission under 37 CFR 1.28 is hereby ACCEPTED.

Inquiries related to this communication should be directed to the Office of Petitions Staff at (703) 305-9285.

This file is being forwarded to the Office of Initial Patent Examination.

Wan Laymon

Petitions Examiner

Office of Petitions

Office of the Deputy Commissioner

for Patent Examination Policy



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

May 23, 2003

Date of Deposit

John G. Rauch, Reg. No. 37,218

Name of Applicant, Assignee or
Registered Representative

Signature

Date of Signature

Technology Center 2100

Our Case No.: 9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mark Paine et al.

Serial No.: 10/020,712

Filing Date: December 11, 2001

For: RECOMMENDING SEARCH TERMS

USING COLLABORATIVE

FILTERING AND WEB SPIDERING

Examiner: Safet Metjahic

Group Art Unit: 2171

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed below and on the attached Form PTO-1449 be considered by the Examiner and made of record.

In accordance with 37 C.F.R. § 1.97(g),(h), this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

This Supplemental Information Disclosure Statement is being filed prior to the receipt of the first Official Action reflecting an examination on the merits and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with filing of this Supplemental Information Disclosure Statement. However, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Brinks Hofer Gilson & Lione Deposit Account No. 23-1925.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

Registration No. 37,218 Attorney for Applicants

Date: $\frac{5/23/03}{}$

BRINKS HOFER GILSON & LIONE P.O. Box 10395 Chicago, IL 60610 Tel. (312) 321-4200 Fax (312) 321-4299

The references now cited are the following:

US PATENT DOCUMENTS

DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
5,778,367	07/07/98	Wesinger, Jr. et al.
5,862,223	01/19/99	Walker et al.
US 6,285,987 B1	09/04/01	Roth et al.

OTHER ART AND RELATED DOCUMENTS

News of The Week articles, Telephony, May 1, 1995, pages 8 and 10.

Nuts 'N Bolts articles, Target Marketing, October 1997, 1 page.

DoubleClick TestIt!, obtained at the internet address:

http://web.archive.org/web/19980205034316/www.doubleclick.com/nf/adinfo/testiset.htm, dated 10/16/2002, 4 pages.

DoubleClick Frequently Asked Questions, obtained at the internet address:

http://web.archive.org/web/19980205033925/www.doubleclick.com/nf/adinfo/facts.htm, dated 10/16/2002, 5 pages.

"New Service Puts Ad Auction, Search Engine Under One Roof", article from Electronic Advertising & Marketplace Report, Simba Information, Inc. April 28, 1998, 2 pages.

Google Search, communication from Jeffrey Brewer at Jeffrey@goto.com, titled "Need reverse stemming software", dated May 27, 1998, obtained at the internet address:

http://groups.google.com/groups?selm=356CEE4A8DE882A8%40goto.com, on 12/19/02, 1 page.

Ketchpel, Steven P. et al. "U-PAI: A Universal Payment Application Interface", conference material article from the Second USENIX Workshop on Electronic Commerce Proceedings", Oakland, California, November 18-21, 1996, 17 pages.

Schwartz, Randal L., "Click-Through Tracking in Perl", Web Techniques, dated May 1998, located at the internet address: www.webtechniques.com, 3 pages.

Van Roeden, Adriaan, "Your Own Search Engine With SWISH, A Custom Search Facility For Your Web Site", *Web Techniques*, dated November 1996, located at the internet address: www.webtechniques.com, pp. 63-66 pages.

Full Catalog – Categories Menu, Sun Microsystems Sun Solutions Catalog, obtained at the internet address:

http://web.archive.org/web/19981205110211/solutions.sun.com/catalogs/all/index.htm, printed on 12/19/02, 2 pages.

Help on Making Queries – Search by Company or Product, obtained at the internet address: http://web.archive.org/web/19981203050002/solutions.sun.com/search-help.htm, printed on 12/19/02, 4 pages.

Online Updating, Sun Microsystems Sun Solutions Catalog obtained at the internet address: http://web.archive.org/web/19990220190636/solutions.sun.com/editmodule/help.html, printed on 12/19/02, 2 pages.

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	Small entity sta	tus of th				1.27 has b	een est	ablished b	y verified s	Than Entity
	A verified staten	nent to es	stablish small en	tity st	atus under	37 CFR §§	1.9 and	1.27 is end	closed.	3
	Petition for a	monf	h extension of ti	me.						9
	No additional fe	•							•	
	The fee has bee	en calcula	ted as shown be	low:						
						Sma	II Entity		Other Small	Than Entity
	Claims Remaining After Amendment		Highest No. Previously Paid For		esent tra	Rate	Add'l Fee	or	Rate	Add'l Fee
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	, · u. ··			<u>. I</u>		Total add'l fee	\$		total add'l fee	\$
	Please charge D A duplicate copy				BRINKS H	OFER GILSO	ON & LIC	ONE) in th	e amount of	\$
	A check in the a	mount of	\$ to cover	the	iling fee is	enclosed.				
	The Commission CFR § 1.16 ar communication centrosed.	nd any p	atent applicatio	n pr	ocessing f	ees under	37 CFR	§ 1.17 a	associated v	vith thi
	I hereby petition under 37 CFR § 1.136(a) for any extension of time required to ensure that this paper is timely filed. Please charge any associated fees which have not otherwise been paid to Deposit Account No. 23-1925. A duplicate copy of this sheet is enclosed.									
				R	espectfully	submitted,				
					ohn G. Rau	yla uch	NU			
BRINKS	HOFER GILSON	N & LION	E		egistration gent for Ap	No. 37,218 oplicants				
	X 10395 GO, ILLINOIS 606	10 - (312) 321-4200							
l boroby	certify that this c	orrespond	dence is being d	epos	ted with th	e United Sta	tes Post	al Service	as	

CEST FICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

January 13, 2004
Date of Deposit

John G. Rauch, Reg. No. 37,218

Name of Applicant, Assignee or Registered Representative

Signature

Date of Signature

RECEIVED

JAN 1 6 2004

Technology Center 2100

Our Case No.: 9623/378

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mark Paine et al.

Serial No.: 10/020,712

Filing Date: December 11, 2001

For:

RECOMMENDING SEARCH TERMS

USING COLLABORATIVE

FILTERING AND WEB SPIDERING

Examiner: Etienne Pierre Leroux

Group Art Unit: 2171

SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Second Supplemental Information Disclosure Statement be entered and the documents listed below and on the attached Form PTO-1449 be considered by the Examiner and made of record.

The references now cited are the following:

US PATENT DOCUMENT

DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
US 2001/0047354 A1	11/29/2001	Davis et al.

FOREIGN PATENT DOCUMENT

DOCUMENT NUMBER Number-Kind Code (if kno	DATE	COUNTRY
WO 02/03303 A1	01/10/2002	WIPO

RECEIVED

JAN 1 6 2004

Technology Center 2100

OTHER RELATED DOCUMENT

Great Britain Search Report for corresponding patent application No. GB 0227454.6, dated May 6, 2003, 1 page.

In accordance with 37 C.F.R. § 1.97(g),(h), this Second Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

This Second Supplemental Information Disclosure Statement is being filed prior to the receipt of the first Official Action reflecting an examination on the merits and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with filing of this Second Supplemental Information Disclosure Statement. However, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Brinks Hofer Gilson & Lione Deposit Account No. 23-1925.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

Date: ///3/0Y

John G. Rauch Registration No. 37,218 Attorney for Applicants

BRINKS HOFER GILSON & LIONE P.O. Box 10395 Chicago, IL 60610 Tel. (312) 321-4200 Fax (312) 321-4299

			NSMITTAL LET	TER			Case No:		523/378
Serial N	lo. 10/020,712	Filing	Date December 11, 20	Examin	er Etienne Pierre	Leroux	Group Ar		2171
Invantor					- "			•	.
Title f I	Invention COMMNEDING		TERMS USING	COLLABORA	ATIVE FILTERI	NG ANI	D WEB SP	IDERING	
RIFE					FOR PATENT				
Transmi	itted herewith is:	Transmit	tal Letter (in du	plicate); Seco	ond Supplemer	ntal Info	rmation Di	sclosure Sta	tement;
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REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	C1	US 2001/0047354 A1	11/29/2001	Davis et al.		
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES OR NO
	C2	WO 02/03303 A1	01/10/2002	WIPO		
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EXAMINER INITIAL	(l syr	OTHER ART – NON PATENT LITERATURE DOCUMENTS (Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date page(s), volume-issue number(s), publisher, city and/or country where published.					
	C3	Great Britain Search Report for corresponding patent application No. GB 0227454.6, dated May 6, 2003, 1 page.					
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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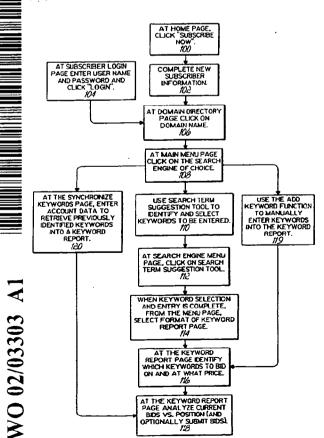
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[Continued on next page]

(54) Title: PAID SEARCH ENGINE BID MANAGEMENT



(57) Abstract: A method and apparatus for improving efficiencies in the current paid search engine keyword bidding market and optimizing use of use of such engines. The system accumulates bid amounts for a plurality of target keywords at one or more paid search engines and presents bid amounts to a user enabling the user to evaluate and optimize bids on those keywords. Bid amounts of keywords of interest are highlighted (302). Differential bids can be identified to optimize bids. Keyword bid changes are monitored to identify changes of interest to a potential hidder (306).

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- 1 -

ATTORNEY DOCKET NO: KBO/03

PAID SEARCH ENGINE BID MANAGEMENT

Cross Reference To Related Applications

This application is a United States continuation of U.S.

Provisional Patent Application serial no. 60/215,976, filed July 5, 2000, and entitled "PAID SEARCH ENGINE BID MANAGEMENT", which is

incorporated by reference herein in its entirety.

Field of the Invention

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The present invention relates to the management of advertising expenses in online media.

Background of the Invention

Use of the Internet has expanded at a nearly geometric rate in the most recent few years, both in the number of users online and the number of sites and associated content that content providers have made available online. The increases in both categories have enhanced the importance of so-called "portal" sites, such as large Internet access providers and popular

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Internet search engines. Statistics indicate that an overwhelming majority of traffic to Internet sites passes through such portal sites.

Until recently, Internet search engines have indexed available
Internet sites by a process of search and selection. Professionals employed by
the search engine sponsor identify and index Internet sites of potential interest
to users. In some cases, this process would be embellished by "spidering"
identified sites, i.e., traversing links within the site to accumulate word
indexes for all reachable pages at the site. Content providers could participate
in this process by submitting links to their site to the search engine, but other
than through such submissions, could not influence whether these links would
be added to the search engine.

Recently, a new model for a paid Internet search engine has been introduced, best exemplified by the site GoTo.com. In a paid Internet search engine, content providers submit bids for each one or more keywords they desire to associate with their site. The paid search engine will respond to a user's request for sites with one or more keywords, by producing a list of links to those sites that have submitted bids on those keywords. The order in which links are identified is determined by the bid amounts provided by the sites -- the site with the largest (cumulative) bid(s) for the keywords(s) identified by the user, appears first in the list of sites presented to the user, followed by the site with the second largest (cumulative) bid(s) and so on.

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Content providers are invoiced the bid amount each time a link to the provider's site is used by a user to access that site.

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As paid search engines become increasingly popular, the rate of change of bid amounts at those sites has increased, a consequence of competition for desirable keywords and relative positions in those keywords. To foster competition, paid search engines have provided facilities for bidders to monitor certain statistics, such as a daily count of "hits" on particular keywords, and reports of current bids on a given single keyword. However, paid search engines have not, to date, made such competitive information readily accessible. For example, a bidder can only view current bid positions of one keyword at a time, and has no mechanism for quickly identifying large gaps in bid amounts indicative of an opportunity for bid optimization. For a content provider managing tens or hundreds of keyword bids, the burden of evaluating each keyword individually can be substantial. The apparent reason for this situation is that paid search engines do not wish to incur the lost revenue that would result were the content providers able to fully optimize their bidding strategies, e.g., by quickly determining whether any current bids for keywords of interests can be lowered, without any or any important change in ranking relative to other bidders. A non-optimal bid on any given keyword, meaning any bid with a difference of greater than one cent from the next lower

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bid, represents consumer surplus captured by the paid search engine, which the search engine sponsor does not wish to relinquish.

To date, few services have been introduced to aid in bidding on paid search engine keywords. One such service accumulates generic statistics on the bid ranges for particular positions (e.g., 6, 12, etc.) for particular keywords at a paid search engine. This data is useful in selecting keywords on which to bid, but does not provide any assistance in managing bids that have been placed to ensure those bids are optimized and that a desired position has been maintained as competitors change their bids for the selected keywords.

Summary of the Invention

The present invention provides a method and apparatus (information processing system) for overcoming these deficiencies and inefficiencies in the current paid search engine keyword bidding market. Specifically, the present invention provides keyword bidders with information they need to better optimize their use of paid search engines.

In accordance with a first aspect, the invention features accumulating bid amounts for a plurality of target keywords at one or more paid Internet search engines, and presenting the bid amounts to a user.

In specific embodiments of this aspect, bid amounts for either a single paid Internet search engine, or multiple paid Internet search engines, may be accumulated and presented. The bids accumulated may be, e.g., the 20

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largest bids for each target keyword. Other information accumulated and/or presented may include a statistic or the rate of use of a target keyword by users of a paid search engine, demographics of users of a target keyword, demographics or commercial information regarding bidders for a target keyword, identification of additional keywords used in conjunction with the target keywords of users of a paid Internet search engine, and identification of additional keywords so bid upon by bidders for a target keyword.

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In accordance with a second aspect, the invention features presenting bid amounts for a keyword at one or more paid Internet search engines, in a manner highlighting one or more selected bid amounts of interest to a potential bidder.

In specific embodiments of this aspect, the highlighted bid amount is a bid submitted by an identified entity, e.g., the entity to which said bid amounts are presented. Alternatively, or in addition, the highlighted bid amount(s) may be associated with a differential in bid amounts meeting certain criteria. These criteria may include identifying differentials in bid amounts characteristic of an opportunity for bid optimization, such as differentials between bids larger than a minimum currency amount. These criteria may alternatively include identifying differentials between bids of the entity to whom the presentation is made, and bids of other parties.

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In accordance with a third aspect, the present invention features monitoring keyword bids at one or more paid Internet search engines to identify bid changes of interest to a potential bidder.

In specific embodiments of this aspect, the identified changes are those which create a differential in bid amounts meeting certain criteria. These criteria may include identifying differentials in bid amounts characteristic of bid optimization opportunities, such as differentials between bids larger than a minimum currency amount. These criteria may alternatively include identifying differentials between bids of the entity to whom the presentation is made, and bids of other parties.

The above and other objects and advantages of the present invention shall be made apparent from the accompanying drawings and the description thereof.

Brief Description of the Drawing

Fig. 1 is a flow chart illustrating a process for accumulating account and keyword information from a bidder to be used in keyword bid management;

Fig. 2 is a flow chart illustrating a process for generation of a keyword report;

Fig. 3 is a flow chart illustrating a process for keyword bid monitoring for keywords of interest; and

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Fig. 4 is an illustration of a keyword bid report.

The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with a general description of the invention given above, and the detailed description of the embodiments given below, serve to explain the principles of the invention.

Detailed Description of Specific Embodiments

The following provides an exemplary description of an implementation of principles of the present invention. Referring to Fig. 1, a process for subscribing a bidder for the use of keyword bid optimization services can be described. It is anticipated that keyword bid optimization services will be provided through an Internet site either affiliated with or separate from a paid search engine or a plurality of paid search engines. Thus, the subscription process begins in step 100 at which a bidder uses a home page of a keyword bid optimization services website and requests to subscribe, e.g., by clicking on a "subscribe now" hyperlink. In a subsequent step 102, the subscriber provides subscriber information. The subscriber information may be limited the subscriber's name, address, telephone number and email contact information, or maybe more extensive, such as including credit card information, or banking information such as bank accounts, that can be used for automatic entry in management of keyword bids as discussed below.

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Furthermore, a subscriber's information may include information on the subscriber's business, area of commerce, product line or other information useful in evaluating potential keywords of interest to that subscriber.

A subscriber to the keyword bid optimization service may manage keywords bids for one or a number of Internet domain names to which that subscriber wishes to direct internet traffic from a paid search engine. The new subscriber information provided by the subscriber, therefore, includes the one or several domain names to which the subscriber wishes to direct internet traffic. These domain names are then used by the system to obtain reports of keyword bids and positions for those domain names.

A final part of the new subscriber information received in step 102 is a user name and password that may be used by the subscriber to access the keyword bid optimization service and manage the bidding of keywords through the service. After a subscriber has enrolled, the subscriber may return as seen in step 104 to log into the service and thereby be associated with the previously stored subscriber information collected in step 102, including the subscriber's keywords and domain names as well as other information previously collected. After a subscriber has completed subscription to the service in step 102, or when a subscriber returns and logs into the service, the subscriber is delivered to a domain directory page in step 106. In the domain directory page, the subscriber is presented with a list of domain names that

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have been entered by the subscriber. The subscriber can manage keyword bids for each domain name. In the domain directory page, a subscriber selects from among the domains being managed by the subscriber and clicks on that domain name to be delivered to a main menu page of options for managing keyword bids for the selected domain name.

In the main menu page at step 108, the subscriber has a number of options to utilize the keyword bid optimization service. A first option is to use a search word suggestion tool (step 110) to select and/or identify keywords at a particular paid search engine, that are of interest to the subscriber. This process begins at a search engine selection page (step 112), at which a subscriber can select a search engine at which to submit a bid, and then activate a search term suggestion tool. At the search term suggestion tool page (step 114), the subscriber may provide keywords or search terms for keywords which are submitted to the selected paid search engine, to identify the current bids for the keyword or keywords matching the provided keywords or search terms, such as for example the twenty highest bids for the keywords. In addition, other summary information on the keywords may be provided, such as the number of times the keyword was searched by paid search engine user in a recent period, the subscriber's position and/or the position of competitors of the subscriber who have been identified by the subscriber in their subscriber information. Demographic information on users of the paid search engine who

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have searched using that keyword may also be provided. The summary information may also identify related keywords, i.e., keywords that users of the paid search engine have used in conjunction with the identified keyword.

The information that is collected is stored and presented to the subscriber in an organized format. In step 114, a format of the report is selected. One example of such a format is shown in Fig. 4, and is a table of keywords identified by a subscriber and provides, for each keyword, information on the number of times that keyword has been accessed, and the first twenty bids for that keyword in a paid search engine. Selection of the format may involve, for example, selecting a number of keywords (e.g., up to 100) that are to be viewed in a table such as that shown in Fig. 4.

From a keyword report created in step 116, a subscriber may select a keyword for which to submit a bid, may delete bids, or change bids. Multiple bids may be submitted for one or more keywords, and/or existing bids may be revised to optimize those bids based on current market conditions as reported in the keyword report. In each case, the step of submitting and/or changing bids is represented by step 118 in Fig. 1.

To create, change or delete bids as represented by step 118, subscribers may select keywords and then proceed, e.g., through a separate browser window, to the paid search engine to submit their bid directly to the

paid search engine. Alternatively, the keyword bid optimizing server may submit bids on behalf of the subscriber.

Bids may also be reviewed after their submission as also represented in step 118. For example, a keyword report may be produced after the submission of bid to view the current keyword positions for the subscriber and potentially also for competitors of the subscriber. The bid of the subscriber and/or competitors and/or bids that are separated by a gap suggesting possible optimization may be highlighted in the report of Fig. 4 to facilitate use of that report by the subscriber.

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The process described above utilizes a search term suggestion tool to select a paid search engine and keywords for bidding. The subscriber may also manually select keywords for bidding in step 119, and similarly proceed to view a keyword bid report in step 116, and then proceed to submit, delete or change bids in step 118 as described above.

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Alternatively, in step 120, the subscriber may retrieve previously identified keywords associated with the subscriber's account, and automatically produce a keyword report on those keywords. Thereafter in step 118, again the keyword report may be analyzed to determine the current bids, positions of those bids and other information of interest, and bids may be added, deleted or changed.

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Referring to Fig. 2, the process for creating a keyword bid report can be further explained. In a first step 200, keywords or key phrases that are to be analyzed for a subscriber are received by the system through one of the various processes described above. Then in step 202, prices and other data for each keyword are collected as explained above. Finally, in step 204, those keywords are and those prices and any other data such as optimization opportunities are presented in a report to the subscriber.

Referring now to Fig. 3, the process of monitoring keyword bids for a subscriber can be explained. In a first step 300, prices and other data are collected for each keyword of a subscriber that has been previously identified by the subscriber. This process may proceed in a manner that minimizes burdens on the paid search engine, such as by obtaining these items of data overnight while the paid search engine is not heavily occupied. In a subsequent step 302, the new prices or data obtained in step 300 are compared to previously identified prices and data to identify new opportunities for optimization, changes in keyword bid position, or other monitored data such as an increase or decrease in the use of the keyword by users of the paid search engine. The changes that have been identified in step 302 are then communicated to the subscriber. In one example, in step 304 the information collected in step 302 is organized and reported to the subscriber in an electronic mail message, which may be simply a report of bid positions and

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prices for each of the keywords of the subscriber, or may have more detailed information up to and including a complete keyword bid report of the format shown in Fig. 4 or of any other format. Alternatively, if authorization has been obtained from the subscriber, the keyword bid optimizing service may automatically submit new bids on behalf of the subscriber to the paid search engine. For example, bid prices may be increased or lowered, as needed to meet the subscriber's pre-identified requirements. Bids may be increased in order to recapture the bidder position desired by the subscriber. Bids may be decreased whenever a gap of greater than the minimum bid difference exists between the subscriber's bid and the next lower bid. Automatic optimization of bids in this manner frees the subscriber of the burden of resubmitting bids with each new optimization opportunity. It will be noted that the automatic submission of new bids in step 306 and the reporting of changes in step 304 may be combined so that bid changes are made and reported to a subscriber with whatever frequency is desired.

While the present invention has been illustrated by a description of various embodiments and while these embodiments have been described in considerable detail, it is not the intention of the applicants to restrict or in any way limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the

specific details, representative apparatus and method, and illustrative example shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of applicant's general inventive concept.

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What is claimed is:

Claims

- 1. A method of managing paid search engine bids, comprising accumulating bid amounts for a plurality of target keywords at one or more paid Internet search engines, and presenting the bid amounts to a user.
- 2. The method of claim 1, wherein said accumulating step comprises accumulating bid amounts for multiple paid Internet search engines.
- 3. The method of claim 1 wherein said accumulating step comprises accumulating the 20 largest bids for each target keyword.
- 4. The method of claim 1 wherein said accumulating step further comprises accumulating a statistic on one or more of:

the rate of use of a target keyword by users of a paid search engine,

demographics of users of a target keyword,

demographics or commercial information regarding bidders for a target keyword,

identification of additional keywords used in conjunction with the target keywords of users of a paid Internet search engine, and

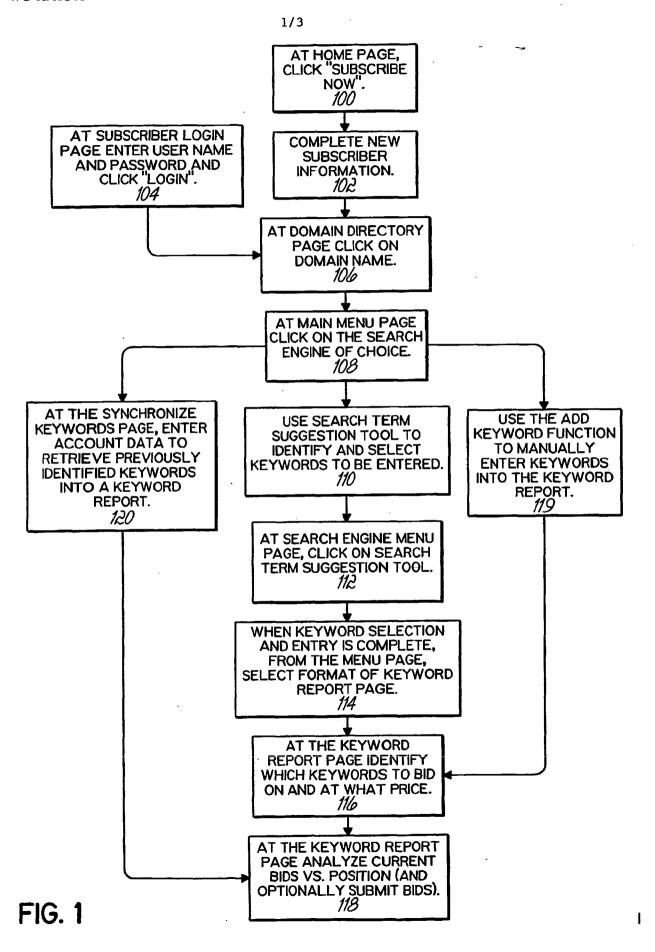
identification of additional keywords bid upon by bidders for a target keyword.

- 5. A method of managing paid search engine bids, comprising presenting bid amounts for a keyword at one or more paid Internet search engines, in a manner highlighting one or more selected bid amounts of interest to a potential bidder.
- 6. The method of claim 5, wherein the one or more highlighted bid amounts are bids submitted by an identified entity.
- 7. The method of claim 6 wherein the identified entity is an entity to which said bid amounts are presented.
- 8. The method of claim 5 wherein the one or more highlighted bid amounts are associated with a differential in bid amounts meeting certain criteria.
- 9. The method of claim 8 wherein the criteria identify differentials in bid amounts characteristic of an opportunity for bid optimization.

- 10. The method of claim 9 wherein said differentials are larger than a minimum currency amount.
- 11. The method of claim 8 wherein the criteria identify differentials between bids of the entity to whom the presentation is made, and bids of other parties.
- 12. A method of managing paid search engine bids, comprising monitoring keyword bids at one or more paid Internet search engines to identify bid changes of interest to a potential bidder.
- 13. The method of claim 12 wherein the identified changes are those which create a differential in bid amounts meeting certain criteria.
- 14. The method of claim 13 wherein-said criteria identify differentials in bid amounts characteristic of bid optimization opportunities.
- 15. The method of claim 14 wherein the criteria identify differentials between bids larger than a minimum currency amount.

16. The method of claim 13 wherein the criteria identify differentials between bids of the entity to whom the presentation is made, and bids of other parties.

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INTERNATIONAL SEARCH REPORT

International application No. PCT/US01/41263

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C. DOC	UMENTS CONSIDERED TO BE RELEVANT			
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Y	MCKENZIE, M. Web Services Go Se Report on Internet Publishing July document	earching for Dollars Seybold 1998 Vol. 2 No. 7, entire	1-16	
Y	US 5,752,238 A (DEDRICK) 12 May 1	1998, figs 3-8 and related text	1-16	
Y	US 5,983,205 A (BRAMS et al) (document	09 November 1999, entire	1-16	
Y,E	US 6,269,361 B1 (DAVIS et al) 31 Ju	ly 2001, entire document	1-16	
Y,E	US 6,272,473 B1 (SANDHOLM) 07 related text	August 2001, Figs. 2, 5 and	1-16	
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Search History

DATE: Tuesday, February 17, 2004 Printable Copy Create Case

Set Name side by side	Query	<u>Hit</u> Count	<u>Set</u> <u>Name</u> result set
DB=P	PGPB, USPT; PLUR=YES; OP=ADJ		
<u>L37</u>	L36 and recommend\$5	1	<u>L37</u>
<u>L36</u>	20010049623.pn.	1	<u>L36</u>
<u>L35</u>	L33 and (recommend\$5 near5 search\$\$)	6	<u>L35</u>
<u>L34</u>	L33 and recommend\$5	84	L34
<u>L33</u>	L32 and @ad<19990528	124	<u>L33</u>
<u>L32</u>	collaborative filtering	480	<u>L32</u>
<u>L31</u>	L30 and recommendation	6	<u>L31</u>
<u>L30</u>	L29 and @ad<19990528	20	<u>L30</u>
<u>L29</u>	(amazon.com).as.	38	<u>L29</u>
<u>L28</u>	L27 and @ad<19990528	57	<u>L28</u>
<u>L27</u>	recommendation near3 engine	185	<u>L27</u>
<u>L26</u>	L25 and @ad<19990528	93	<u>L26</u>
<u>L25</u>	recommend\$5 near3 (search or query)	322	<u>L25</u>

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<u>L24</u>	L21 and recommend\$5	0	<u>L24</u>
<u>L23</u>	L21 and query	1	<u>L23</u>
<u>L22</u>	L21and query	0	<u>L22</u>
<u>L21</u>	6374241.pn.	1	<u>L21</u>
<u>L20</u>	('6295526')!.PN.	1	<u>L20</u>
<u>L19</u>	L18 and (search\$3 near3 additional)	3	<u>L19</u>
<u>L18</u>	('6496843' '6295526' '6208975' '6088717' '6078916' '5946646' '5937037' '5862325')!.PN.	8	<u>L18</u>
<u>L17</u>	L16 and advertiser	57	<u>L.17</u>
<u>L16</u>	L15 and @ad<19990528	3798	<u>L16</u>
<u>L15</u>	(addition\$3 or expand\$3) near3 search\$3	7748	<u>L.15</u>
<u>L14</u>	recommend\$5 near3 additional near3 search\$3	4	<u>L14</u>
<u>L13</u>	L12 and @ad<19990528	21	<u>L13</u>
<u>L12</u>	L6 and (additional near3 recommend\$53)	70	<u>L12</u>
<u>L11</u>	L9 and (additional near6 search\$3)	1	<u>L11</u>
<u>L10</u>	L9 and additional	1	<u>L10</u>
<u>L9</u>	6374241.pn	1	<u>L9</u>
<u>L8</u>	L7 and @ad<19990528	9	<u>L8</u>
<u>L7</u>	L6 and (additional near3 search near3 terms)	37	<u>L7</u>
<u>L6</u>	advertis\$3	38999	<u>L6</u>
<u>L5</u>	L4 and advertis\$3	10	<u>L5</u>
<u>L4</u>	L3 and ((expand\$3 or additional) near3 search\$3)	49	<u>L4</u>
<u>L3</u>	L2 and @ad<19990528	117	<u>L3</u>
<u>L2</u>	(list\$3 near3 search\$3 near3 terms)	314	<u>L2</u>
<u>L1</u>	10/020712	1	<u>L1</u>

Freeform Search

Database:	US Pre-Grant Publication Full-Text Database US Patents Full-Text Database US OCR Full-Text Database EPO Abstracts Database JPO Abstracts Database Derwent World Patents Index IBM Technical Disclosure Bulletins
Term:	L74 and @ad<19990528
	Documents in <u>Display Format</u> : Starting with Number 1 C Hit List • Hit Count C Side by Side C Image
	Search Clear Interrupt
	Search History

DATE: Wednesday, February 18, 2004 Printable Copy Create Case

Set Name side by side		Hit Count	Set Name result set
DB=PC	GPB,USPT; PLUR=YES; OP=ADJ		
<u>L75</u>	L74 and @ad<19990528	1	<u>L75</u>
<u>L74</u>	search near3 results near4 bid\$4	31	<u>L74</u>
<u>L73</u>	L72 and (search near3 terms)	2	<u>L73</u>
<u>L72</u>	L71 and @ad<19990528	157	<u>L72</u>
<u>L71</u>	banner near3 advertis\$3	917	L71
<u>L70</u>	L69 and @ad<19990528	10153	<u>L70</u>
L69	banner	18205	L69
<u>L68</u>	L66 and advertis\$4	22	L68
<u>L67</u>	L66 and advertis\$4.ab.	1	<u>L67</u>
<u>L66</u>	L65 and @ad<19990528	132	<u>L66</u>
<u>L65</u>	bid\$4 same search\$3	633	<u>L65</u>
<u>L64</u>	L63 and @ad<19990528	0	<u>L64</u>
<u>L63</u>	advertiser same bid\$4 same search\$3	28	<u>L63</u>
<u>L62</u>	L61 and @ad<19990528	0	<u>L62</u>
<u>L61</u>	advertiser near3 bid\$4 with search\$3	21	<u>L61</u>
<u>L60</u>	L59 and @ad<19990528	0	<u>L60</u>

<u>L59</u>	advertiser near3 bid\$4 near3 search	20	<u>L59</u>
<u>L58</u>	L56 and @ad<19990528	9	<u>L58</u>
<u>L57</u>	L56 and @ad<19990528	9	<u>L57</u>
<u>L56</u>	meta tag near3 web near3 page	50	<u>L56</u>
<u>L55</u>	L54 and @ad<19990528	2	<u>L55</u>
<u>L54</u>	L52 and filter\$3	50	<u>L54</u>
<u>L53</u>	L52 same filter\$3	4	<u>L53</u>
<u>L52</u>	meta tag near3 page	114	<u>L52</u>
<u>L51</u>	L50 and @ad<19990528	3	<u>L51</u>
<u>L50</u>	L46 and filter\$3.ab.	16	<u>L.50</u>
<u>L49</u>	L476and filter\$3.ab.	0	<u>L49</u>
<u>1.48</u>	L47 and filter\$3.ab.	0	<u>L.48</u>
<u>L47</u>	L46 and 6314420.pn.	0	<u>L47</u>
<u>L.46</u>	meta tag	412	<u>I.46</u>
<u>L45</u>	L43 and (crawling or spidering)	5	<u>L45</u>
1.44	L43 and (crawling or spidering)	5	<u>I.44</u>
<u>L43</u>	L40 and @ad<19990528	72	<u>LA3</u>
<u>I.42</u>	L41 and (crawling or spidering)	18	<u>I.42</u>
<u>L41</u>	L40 and ad<19990528	751	<u>L41</u>
<u>L40</u>	website near3 url	751	<u>L40</u>
<u>L39</u>	L38 and @ad<19990528	4	L39
L38	url near3 (crawling or spidering)	21	<u>L38</u>
L37	website same url same (crawling or spidering)	12	<u>L37</u>
<u>L36</u>	webite same url same (crawling or spidering)	0	L36
L35	webite near3 url near3 crawling	0	<u>L35</u>
<u>L34</u>	webite near3 url near3 spidering	0	<u>L34</u>
<u>L33</u>	L30 and collaborative	4	<u>L33</u>
<u>L32</u>	L30 and filter\$3.ab.	0	L32
<u>L31</u>	L30 and collaborative.ab.	0	L31
L30	L29 and @ad<19990528	72	L30
L29	website near3 url	751	L29
L28	L26 and collaborative	7	L28
L27	L25 and collaborative	53	L27
L26	L25 and @ad<19990528	61	L26
L25	filter\$3 near3 url	228	L25
L24	L23 and @ad<19990528	53	L24
L23	L22 and (collaborative near3 filter\$3)	143	L23
<u>L22</u>	url	20793	<u>L22</u>
<u>L21</u>	5867799.pn. and URL	0	<u>L21</u>
<u>L20</u>	L13 and URL	0	<u>L20</u>
<u>L19</u>	L18 and @ad<20000101	48	<u>L19</u>
			

<u>L18</u>	L17 and browser and address and line	134	<u>L18</u>
<u>L17</u>	string near3 complet\$3	3688	<u>L17</u>
<u>L16</u>	L13 and rating	1	<u>L16</u>
<u>L15</u>	L13 and advert\$7	1	<u>L15</u>
<u>L14</u>	L13 and advert\$5	0	<u>L14</u>
<u>L13</u>	6314420.pn.	1	<u>L13</u>
<u>L12</u>	version near3 tag	406	<u>L12</u>
<u>L11</u>	(andrew near2 lang).in.	20	<u>L11</u>
<u>L10</u>	L9 and @ad<19990528	25	<u>L10</u>
<u>L9</u>	lycos.as.	36	<u>L9</u>
<u>L8</u>	6314420 pn. and rating	1	<u>L.8</u>
<u>L.7</u>	L6 and rating	1	<u>L7</u>
<u>L6</u>	5867799.pn.	1	<u>1.6</u>
<u>L5</u>	L4 and @ad<19990528	18	<u>L5</u>
<u>L4</u>	average same rating same (search or query)	49	<u>1.4</u>
<u>L3</u>	average near3 rating near3 (search or query)	3	<u>L3</u>
<u>L2</u>	L1 and predict\$3	1	<u>12</u>
<u>L1</u>	10/020712	1	Ll

Refine Search

Search Results -

Terms	Documents		
L6 and equivalent	1		

US Pre-Grant Publication Full-Text Database US Patents Full-Text Database

Database:

US OCR Full-Text Database EPO Abstracts Database JPO Abstracts Database Derwent World Patents Index IBM Technical Disclosure Bulletins

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Search History

DATE: Wednesday, February 18, 2004 Printable Copy Create Case

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DB=PC	GPB,USPT; PLUR=YES; OP=ADJ			
<u>L7</u>	L6 and equivalent	1	<u>L7</u>	
<u>L6</u>	5404507.pn.	1	<u>L6</u>	
<u>1.5</u>	('6282548' '6078916')!.PN.	2	<u>L5</u>	
<u>L4</u>	L3 and addition\$4	3	<u>1.4</u>	
<u>1.3</u>	('6457009' '6415281' '6282548' '6078916')!.PN.	4	<u>L3</u>	
<u>L2</u>	L1 and @ad<19990528	29	<u>1.2</u>	
<u>L1</u>	advertiser near6 search	142	<u>L1</u>	

Freeform Search Page 1 of 1

Freeform Search

Database:	US OCR Full-Text Database EPO Abstracts Database JPO Abstracts Database
	Derwent World Patents Index IBM Technical Disclosure Bulletins
Term:	(andrew near2 lang).in.
Display:	50 Documents in Display Format: - Starting with Number 1
Generate:	○ Hit List ● Hit Count ○ Side by Side ○ Image
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DATE: Wednesday, February 18, 2004 Printable Copy Create Case

Set Name	····•	Hit Count	Set Name result set
side by side			result set
DB=PC	GPB,USPT; PLUR=YES; OP=ADJ		
<u>L11</u>	(andrew near2 lang).in.	20	<u>L11</u>
<u>L10</u>	L9 and @ad<19990528	25	<u>L10</u>
<u>L9</u>	lycos.as.	36	<u>L9</u>
<u>L8</u>	6314420.pn. and rating	1	<u>L8</u>
<u>L7</u>	L6 and rating	1	<u>L7</u>
<u>L6</u>	5867799.pn.	1	<u>L6</u>
<u>L5</u>	L4 and @ad<19990528	18	<u>L5</u>
<u>L4</u>	average same rating same (search or query)	49	<u>L4</u>
<u>L3</u>	average near3 rating near3 (search or query)) 3	<u>L3</u>
<u>L2</u>	L1 and predict\$3	1	<u>L2</u>
<u>L1</u>	10/020712	1	<u>L1</u>

Refine Search

Search Results -

Terms	Documents
5867799.pn. and URL	0

US Pre-Grant Publication Full-Text Database US Patents Full-Text Database

US OCR Full-Text Database

Database:

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### Search History

DATE: Wednesday, February 18, 2004 Printable Copy Create Case

Set Name Query side by side		Hit Count Set Name result set	
DB=PGPB,USPT; PLUR=YES; OP=ADJ			
<u>L21</u>	5867799.pn. and URL	0	<u>L21</u>
<u>1.20</u>	L13 and URL	0	<u>1.20</u>
<u>L19</u>	L18 and @ad<20000101	48	<u>L19</u>
<u>L.18</u>	L17 and browser and address and line	134	<u>1.18</u>
<u>L17</u>	string near3 complet\$3	3688	<u>L17</u>
<u>L16</u>	L13 and rating	1	<u>1.16</u>
<u>L15</u>	L13 and advert\$7	1	<u>L15</u>
<u>L14</u>	L13 and advert\$5	0	<u>1.14</u>
<u>L13</u>	6314420.pn.	1	<u>L13</u>
<u>L12</u>	version near3 tag	406	<u>L12</u>
<u>L11</u>	(andrew near2 lang).in.	20	<u>L11</u>
<u>L10</u>	L9 and @ad<19990528	25	<u>L10</u>
<u>L9</u>	lycos.as.	36	<u>L9</u>
<u>L8</u>	6314420.pn. and rating	1	<u>L8</u>

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<u>L7</u>	L6 and rating	l	<u>L7</u>
<u>L6</u>	5867799.pn.	1	<u>L6</u>
<u>L5</u>	L4 and @ad<19990528	18	<u>L5</u>
<u>L4</u>	average same rating same (search or query)	49	<u>L4</u>
<u>L3</u>	average near3 rating near3 (search or query)	3	<u>L3</u>
<u>L2</u>	L1 and predict\$3	1	<u>L2</u>
<u>L1</u>	10/020712	1	<u>L1</u>

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## Freeform Search

Database:	US Pre-Grant Publication Full-Text Database US Patents Full-Text Database US OCR Full-Text Database EPO Abstracts Database JPO Abstracts Database Derwent World Patents Index IBM Technical Disclosure Bulletins
Term:	6314420.pn. and thesaurus
	Documents in <u>Display Format</u> : Starting with Number 1  C Hit List © Hit Count C Side by Side C Image
	Search Clear Interrupt
	Search History

DATE: Thursday, February 19, 2004 Printable Copy Create Case

Set Name		Hit Count	Set Name result set
DB=P	GPB, USPT; PLUR=YES; OP=ADJ		
<u>L13</u>	6314420.pn. and thesaurus	1	<u>L13</u>
<u>L12</u>	L10 and thes\$7	0	<u>L12</u>
<u>L11</u>	L10 and thesaurus	0	<u>L11</u>
<u>L10</u>	5404507.pn.	1	<u>L10</u>
<u>L9</u>	L7 and filter\$3	1	<u>L9</u>
<u>L8</u>	L7 and (crawl\$3 or spider\$3)	1	<u>L8</u>
<u>L7</u>	5933822.pn.	1	<u>L7</u>
<u>L6</u>	priorit\$5 near5 (id or identification or serial or number)	20450	<u>L6</u>
<u>L5</u>	L4 and @ad<19990528	17	<u>L5</u>
<u>L4</u>	web site near3 (spider\$ or crawl\$3)	161	<u>L4</u>
<u>L3</u>	web site near3 search near3 (spider\$ or crawl\$3)	29	<u>L3</u>
<u>L2</u>	L1 and spider\$3	1	<u>L2</u>
<u>L1</u>	10/020712	1	<u>L1</u>

# Freeform Search

Database:	US Pre-Grant Publication Full-Text Database US Patents Full-Text Database US OCR Full-Text Database EPO Abstracts Database JPO Abstracts Database Derwent World Patents Index IBM Technical Disclosure Bulletins		
Term:	L21 and bid		
	Documents in <u>Display Format</u> : Starting with Number 1  C Hit List • Hit Count C Side by Side C Image		
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Search History			

DATE: Friday, February 20, 2004 Printable Copy Create Case

Set Name	_	Hit Count	Set Name result set
DB=PC	GPB, USPT; PLUR=YES;	OP=ADJ	
L22	L21 and bid	1	L22
L21	6078866.pn.	1	<u>L21</u>
<u>L20</u>	L19 and keyword	11	<u>L20</u>
L19	L18 and website	15	<u>L19</u>
<u>L18</u>	L17 and @ad<19990528	69	<u>L18</u>
<u>L17</u>	meta tag or meta-tag	412	<u>L17</u>
<u>L16</u>	L12 and tag	0	<u>L16</u>
<u>L15</u>	L12 and meta-tag	0	<u>L15</u>
<u>L14</u>	L12 and metatag	0	<u>L14</u>
<u>L13</u>	L12 and meta	0	<u>L13</u>
<u>L12</u>	6141101.pn.	1	<u>L12</u>
<u>L11</u>	L10 and url	1	<u>L11</u>
<u>L10</u>	6141653.pn.	1	<u>L10</u>
<u>L9</u>	L3 and url	0	<u>L9</u>
<u>L8</u>	L3 and meaning	0	<u>L8</u>
<u>L7</u>	L3 and synonym	0	<u>L7</u>

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<u>L6</u>	L3 and thesaurus	0	<u>L6</u>
<u>L5</u>	Ls and thesaurus	498	<u>L5</u>
<u>L4</u>	L3 and predicting	0	<u>L4</u>
<u>L3</u>	5799268.pn.	1	<u>L3</u>
<u>L2</u>	L1 and advertiser	1	<u>L2</u>
Ll	6269361.pn.	1	Li



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US Patent & Trademark Office



Search-Results

Search Results for: [spidering <AND>((collaborative <near> filter<AND> ((recommending <near> search <near> term) )) )]
Found 7 of 127,132 searched.

Search within Results			
> Search HelpTipe			
Sort by: Title Publication Publication Date Score Bander	**********		
Results 1 - 7 of 7 short listing			
1 Building task-specific interfaces to high volume conversational data Loren G. Terveen , William C. Hill , Brian Amento , David McDonald , Josh Creter Proceedings of the SIGCHI conference on Human factors in computing systems March 1997	52%		
World Wide Web: Using navigation data to improve IR functions in the context of web search mark H. Hansen, Elizabeth Shriver Proceedings of the tenth international conference on Information and knowledge management October 2001  As part of the process of delivering content, devices like proxies and gateways log valuable information about the activities and navigation patterns of users on the Web In this study, we consider how this navigation data can be used to improve Web search. A query posted to a search engine together with the set of pages accessed during a search task is known as a search session. We develop a mixture model for the observed set of search sessions, and propose variants of the classical EM a	21%		
3 Strategic directions in electronic commerce and digital libraries: towards a digital agora Nabil Adam, Yelena Yesha ACM Computing Surveys (CSUR) December 1996 Volume 28 Issue 4	14%		
4 SIFTER-II: a heterogeneous agent society for information filtering Rajeev R. Raje , Mingyong Qiao , Snehasis Mukhopadhyay Proceedings of the 2001 ACM symposium on Applied computing March 2001	5%		
	5%		

**5** Personal ontologies for web navigation Jason Chaffee , Susan Gauch

Proceedings of the ninth international conference on Information and knowledge management November 2000

6 Indexing and retrieval of scientific literature

2%

Steve Lawrence , Kurt Bollacker , C. Lee Giles

Proceedings of the eighth international conference on Information and knowledge management November 1999

The web has greatly improved access to scientific literature. However, scientific articles on the web are largely disorganized, with research articles being spread across archive sites, institution sites, journal sites, and researcher homepages. No index covers all of the available literature, and the major web search engines typically do not index the content of Postscript/PDF documents at all. This paper discusses the creation of digital libraries of scientific literature on the web, incl ...

7 Structured hypertext with domain semantics

2%

Weigang Wang , Roy Rada

ACM Transactions on Information Systems (TOIS) October 1998

Volume 16 Issue 4

One important facet of current hypertext research involves using knowledge-based techniques to develop and maintain document structures. A semantic net is one such technique. However, most semantic-net-based hypertext systems leave the linking consistency of the net to individual users. Users without guidance may accidentally introduce structural and relational inconsistencies in the semantic nets. The relational inconsistency hinders the creation of domain information models. The structura ...

Results 1 - 7 of 7 short listing

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	corone.		Welforre
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O- Horse O- What Can	Your search matched		documents. yed, <b>15</b> to a page, sorted by <b>Relevanc</b> e
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O- Journals	You may refine your s		g the current search expression or enter
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O- Conference Proceedings	Check to search w	thin this result :	set
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	IFSA World Congress	and 20th NAFIP	S International Conference, 2001. Joint
	9th , Volume: 1 , 25- Pages:610 - 615 vol.:		
	-		
	[Abstract] [PDF Ful	-Text (500 KB)	IEEE CNF
	management consideration of the Kimzey, C.H.; Kuroka	derations for e wa, S.;	ternally sourced technology-practic xploiting global technology sources
			nology, 2001. PICMET '01. Portland :: 1 , 29 July-2 Aug. 2001
	[Abstract] [PDF Ful	-Text (47 KB)]	IEEE CNF

4 **UUV** master plan: a vision for navy **UUV** development Fletcher, B.;
OCEANS 2000 MTS/IEEE Conference and Exhibition , Volume: 1 , 11-14 Sept.

http://ieeexplore.ieee.org/search/searchresult.jsp?SortField=Score&SortOrder=desc&ResultC... 2/23/04

Pages:65 - 71 vol.1

[Abstract] [PDF Full-Text (660 KB)] IEEE CNF

#### 5 VLSI video processing elements for real time applications

Lopez, J.F.; Tobajas, F.; Lopez, S.; Cortes, P.; Lalchand, S.; Sarmiento, R.; IECON 02 [Industrial Electronics Society, IEEE 2002 28th Annual Conference the], Volume: 3, 5-8 Nov. 2002

Pages: 1930 - 1935 vol.3

[Abstract] [PDF Full-Text (525 KB)] IEEE CNF

#### 6 Towards flexible teamwork in persistent teams

Tambe, M.; Weixiong Zhang;

Multi Agent Systems, 1998. Proceedings. International Conference on , 3-7 June 1998.

1998

Pages: 277 - 284

[Abstract] [PDF Full-Text (164 KB)] IEEE CNF

7 Mars high resolution Shallow Radar (SHARAD) for the MRO 2005 mi

Biccari, D.; Picardi, G.; Seu, R.;

Geoscience and Remote Sensing Symposium, 2002. IGARSS '02. 2002 IEEE

International, Volume: 4, 24-28 June 2002

Pages:2159 - 2161 vol.4

[Abstract] [PDF Full-Text (637 KB)] IEEE CNF

# 8 Defining surf zone crawler search strategies for minefield reconnaissance

Howell, L.R.;

OCEANS, 2001. MTS/IEEE Conference and Exhibition , Volume: 1 , 5-8 Nov. 2 Pages:85 - 96 vol.1

[Abstract] [PDF Full-Text (1403 KB)] IEEE CNF

# 9 In search of convenient techniques for reducing bias in the estimati Weibull parameters for uncensored tests

Montanari, G.C.; Mazzanti, G.; Cacciari, M.; Fothergill, J.C.;

Dielectrics and Electrical Insulation, IEEE Transactions on [see also Electrical

Insulation, IEEE Transactions on], Volume: 4, Issue: 3, June 1997

Pages: 306 - 313

[Abstract] [PDF Full-Text (640 KB)] IEEE JNL

# 10 ITU-T G.729 Annex A: reduced complexity 8 kb/s CS-ACELP codec 1 digital simultaneous voice and data

Salami, R.; Laflamme, C.; Bessette, B.; Adoul, J.-P.;

Communications Magazine, IEEE, Volume: 35, Issue: 9, Sept. 1997

Pages:56 - 63

[Abstract] [PDF Full-Text (3076 KB)] IEEE JNL

# 11 Robust space-time adaptive processing for airborne nonhomogeneous clutter environments

Yong-Liang Wang; Jian-Wen Chen; Zheng Bao; Ying-Ning Peng) Aerospace and Electronic Systems, IEEE Transactions on , Volum 1 , Jan. 2003

Pages: 70 - 81

[Abstract] [PDF Full-Text (843 KB)] IEEE JNL

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UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APP	LICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
	10/020,712	12/11/2001	Mark Paine	9623/378	1404
	757 7	7590 03/01/2004		EXAM	INER
		NUMBER 00757 ER GILSON & LIONE		LEROUX, ETIE	NNE PIERRE
	P.O. BOX 103			ART UNIT	PAPER NUMBER
	CHICAGO, II	L 60611		2171	
				DATE MAILED: 03/01/2004	10

Please find below and/or attached an Office communication concerning this application or proceeding.

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* •					
		Applicat	lion No.	Applicant(s)	
	_	10/020,	712	PAINE ET AL.	
	Office Action Summary	Examine	ər	Art Unit	
			P LeRoux	2171	
Period fo	The MAILING DATE of this commun or Reply	ication appears on tl	ne cover sheet with the c	orrespondence ad	ldress
THE   - Exter after - if the - if NO - Failu Any	ORTENED STATUTORY PERIOD FOMAILING DATE OF THIS COMMUNI INSIGN STATE OF THIS COMMUNI INSIGN STATE OF THIS COMMUNI INSIGN STATE OF THE PROPERTY	ICATION. of 37 CFR 1.136(a). In no e nunication. 0) days, a reply within the st atutory period will apply and will, by statute, cause the ap	event, however, may a reply be time atutory minimum of thirty (30) day will expire SIX (6) MONTHS from application to become ABANDONE	nely filed  rs will be considered time! It the mailing date of this co	
Status					
1)	Responsive to communication(s) file	ed on			
		2b)⊠ This action is	non-final.		
3)□	Since this application is in condition	for allowance excep	ot for formal matters, pro	osecution as to the	e merits is
	closed in accordance with the practic	ce under <i>Ex parte</i> C	uayle, 1935 C.D. 11, 45	53 O.G. 213.	
Dispositi	ion of Claims				
5)□ 6)⊠ 7)□	Claim(s) <u>1-65</u> is/are pending in the a 4a) Of the above claim(s) is/a Claim(s) is/are allowed. Claim(s) <u>1-65</u> is/are rejected. Claim(s) is/are objected to. Claim(s) are subject to restrict	re withdrawn from c			
Applicati	ion Papers				
10)⊠	The specification is objected to by the The drawing(s) filed on <u>11 December</u> Applicant may not request that any object Replacement drawing sheet(s) including The oath or declaration is objected to	$r = 2001$ is/are: a) $\square$ ction to the drawing(s) the correction is requ	be held in abeyance. See ired if the drawing(s) is ob	e 37 CFR 1.85(a). jected to. See 37 CF	FR 1.121(d).
Priority u	under 35 U.S.C. § 119				
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>					
Attachmen	t(s)	,			
1) Notic	e of References Cited (PTO-892)		4) Interview Summary		
3) 🛛 Inforr	e of Draftsperson's Patent Drawing Review (P mation Disclosure Statement(s) (PTO-1449 or r No(s)/Mail Date <u>7.8.9</u> .		Paper No(s)/Mail Da 5) Notice of Informal P 6) Other:		D-152)

U.S. Patent and Trademark Office PTOL-326 (Rev. 1-04) Art Unit: 2171

## Claim Objections

Claim 1 is objected to because of the following informalities: Claim 1 recites "recommending the additional search terms from among the candidate search terms." The phrase "recommending the additional search terms" does not need the word "the." Appropriate correction is required.

Claim 65 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 64. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

#### Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites "code to receive accept and reject indications from the advertiser." It is unclear how Applicant can simultaneously claim accepting and rejecting.

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#### Claim Rejections - 35 USC § 101

#### 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4, 5-9, 41-45, 46-50, 59, 64 and 65 of the claimed invention are directed to non-statutory subject matter for the reasons given below:

#### MPEP 2106 states:

#### 1. Nonstatutory Subject Matter

Claims to computer-related inventions that are clearly nonstatutory fall into the same general categories as nonstatutory claims in other arts, namely natural phenomena such as magnetism, and abstract ideas or laws of nature which constitute "descriptive material."

Abstract ideas, Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759, or the mere manipulation of abstract ideas, Schrader, 22 F.3d at 292-93, 30 USPQ2d at 1457-58, are not patentable. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.

Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). When nonfunctional descriptive material is recorded

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on some computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make it statutory. Such a result would exalt form over substance. In re Sarkar, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978).

Claims 1-4, 5-9, 41-45, 46-50, 59, 64 and 65 are not directed to functional descriptive material on a computer-readable medium such that the use of technology permits the function of the descriptive material to be realized.

#### Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13, 15, 16, 18, 19, 21, 23-39, 41-43, 45-49 and 51-65 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,867,799 issued to Lang et al (hereafter Lang).

Claims 1, 46 and 59:

Lang discloses a method for a database search system, the method comprising:

- receiving a list of search terms associated with an advertiser on the database search
   system [user profile per col 7, lines 31-54]
- determining candidate search terms based on search terms of other advertisers on the database search system [information filtering per col 8, lines 4-13]

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recommending the additional search terms from among the candidate search terms
 [providing relevant information entity of particular or actual interest to a particular user,
 col 7, lines 14-30 col 7, line 55 through col 8, line 12]

#### Claims 2 and 32 and 47:

Lang discloses assigning ratings to search terms and computing a correlation between the advertiser and one or more of the other advertisers using the assigned ratings of advertiser search terms [Fig 6, 427].

#### Claim 3 and 33 and 48:

Lang discloses predicting a likelihood that a candidate search term will be relevant to the advertiser [Fig 1, 33 and col 13, lines 53-58].

#### Claims 4 and 34:

Lang discloses determining a quality metric for the candidate search terms, and predicting relevance of candidate search terms based on the quality metric [Fig 6, 430].

#### Claims 5 and 6:

Lang discloses:

- maintaining a database of search listings including associated search terms [Fig 1, 31]
- receiving a list of search terms associated with an advertiser [information filtering per col
   8, lines 4-13]
- computing ratings for search terms [Fig 6, 427, 430]

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recommending additional search terms to the advertiser based on the computed ratings
 [providing relevant information entity of particular or actual interest to a particular user,
 col 7, lines 14-30 col 7, line 55 through col 8, line 12]

#### Claim 7:

Lang discloses predicting ratings of search terms [Fig 1, 33 and col 13, lines 53-58 and Fig 6, 427, 430 and 432].

#### Claim 8:

Lang discloses receiving a list of initial search terms from the advertiser [user profile per col 7, lines 31-54]

#### Claim 9:

Lang discloses identifying an existing advertiser on the database search system and forming the list of search terms from search terms of the existing advertiser [information filtering per col 8, lines 4-13].

#### Claims 10, 15, 16, 30, 31, 51-55, 61 and 62:

Lang discloses receiving a website URL [inherently disclosed in internet connections of claim 88]

Lang discloses spidering the website associated with the URL to extract search terms for the list of search terms [receiving a data stream from a computer network, col 4, lines 43-47].

Claim 11:

Lang discloses receiving data from pages of the website [receiving a data stream from a computer network, col 4, lines 43-47], recording candidate search terms from the data

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[information filtering per col 8, lines 4-13] and determining a quality metric for each candidate

search term [Fig 6, 427, 430 432]

Claims 12 and 36:

Lang discloses sorting the candidate search terms according to the quality metric [Fig 6].

Lang discloses recommending only candidate search terms having a quality metric

exceeding a threshold [col 15, lines 38-64].

<u>Claim 13:</u>

Lang discloses receiving data from one or more pages of the site [receiving a data stream

from a computer network, col 4, lines 43-47] and examining text from the one or more pages for

candidate search terms [information filtering per col 8, lines 4-13]

Claim 18:

Lang discloses a database search system comprising a database of search terms each

search term being associated with one or more advertisers [Fig 1, 31], and program code

configured to recommend additional search terms for an advertiser based on search terms in the

database [providing relevant information entity of particular or actual interest to a particular user,

col 7, lines 14-30 col 7, line 55 through col 8, line 12].

Claim 19:

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Lang discloses collaborative filtering code configured to recommend the additional

search terms based on search terms associated with other advertisers of the database search

system [Fig 4, 260].

Claim 21:

Lang discloses the program code comprises a program loop [Fig 4].

Claim 23:

Lang discloses wherein the program code comprises spidering code to recommend the

additional search terms [receiving a data stream from a computer network, col 4, lines 43-47].

Claims 24 and 60:

Lang discloses wherein the program code comprises spidering code to find initially

accepted search terms in a web site; and collaborative filtering code to provide the recommended

additional search terms [receiving a data stream from a computer network, [col 4, lines 43-47].

Claim 25:

Lang discloses wherein the spidering code is configured to spider a web site of the

advertiser [receiving a data stream from a computer network, col 4, lines 43-47].

Claim 26:

Lang discloses wherein the spidering code is configured to spider a web site specified by

the advertiser [receiving a data stream from a computer network, col 4, lines 43-47].

<u>Claim 27:</u>

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Lang discloses filtering code to filter candidate search terms according to a quality metric

to produce the recommended additional search terms [Fig 6, 427, 430 432].

Claim 28:

Lang discloses search engine program code configured to search the database in response

to a search query from a user [information filtering per col 8, lines 4-13].

Claim 29:

Lang discloses a data base operating method for a database search system [Fig 1],

filtering the initial list of advertiser search terms using search terms of other advertisers

[information filtering per col 8, lines 4-13], and storing in a search listing database search listings

for the advertiser, the search listings formed with the filtered search terms [Fig 1, 31], spidering a

specified web site to obtain an initial list of advertiser search terms for an advertiser [receiving a

data stream from a computer network, col 4, lines 43-47].

Claim 35:

Lang discloses wherein spidering the specified web site comprises: receiving data from

pages of the specified website [inherently disclosed in internet connections of claim 88];

recording candidate search terms from the data [information filtering per col 8, lines 4-13]; and

determining a quality metric for each candidate search term [Fig 6, 427, 430, 432].

<u>Claim 37:</u>

Lang discloses determining a correlation between a web site of the advertiser and web

sites of other advertisers on the database search system [Fig 4, 260]; using the correlation [Fig 4,

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260]; determining ratings for each advertiser search term in the initial list of advertiser search

terms [Fig 6, 427, 430, 432].

Claims 38 and 39:

Lang discloses presenting the organized search terms to the advertiser and receiving

advertiser acceptance indications for the organized search terms [presenting the proposed

informon to the user, col 4, lines 43-63], adjusting the list of advertiser search terms according to

the acceptance indications, filtering the adjusted list [adapting the content profile per col 4, lines

43-63].

Claim 41:

Lang discloses receiving a search term of an advertiser [user profile, col 7, lines 31-54];

in response to the received search term, generating a list of additional related search terms

[information filtering, col 8, lines 4-13] and receiving advertiser selected search terms from the

list of additional related search terms [providing relevant information entity of particular or

actual interest to a particular user, col 7, lines 14-30, col 7 line 55 through col 8, line 12].

Claim 42:

Lang discloses generating the list of additional search terms comprises matching one or

more text strings from the received search term with a database of search terms [user profile per

col 7, lines 31-54]

Claim 43:

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Lang discloses matching one or more text strings from the received term with a thesaurus

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[col 20, lines 9-13].

Claim 45:

Lang discloses entering the selected search term as a default value in each of the one or

more search listings [user profile per col 7, lines 31-54].

Claim 49:

Lang discloses computing correlations for the advertiser and the other advertisers based

on the information describing the advertiser and information describing the other advertisers [Fig.

6, 432], and recommending search terms based at least in part on the correlations [Fig 6, 432]

Claims 56 and 63:

Lang discloses calculating a quality metric for candidate search terms, the quality metric

for a respective candidate search term being a function of the respective search term's web

frequency and a function of a search term's search frequency [col 10, lines 20-45] and

recommending search terms for which the calculated quality metric exceeds a threshold [col 15,

lines 38-64].

<u>Claim 57:</u>

Lang discloses a second metric [col 11, lines 8-17].

Claim 58:

Lang discloses automatically calibrating the quality threshold [col 15, lines 38-64].

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Claim 64:

Lang discloses receiving feedback from the advertiser on the recommended search terms;

and changing the recommended search terms based on the feedback [col 4, lines 55-60].

Claim 65:

Lang discloses receiving feedback from the advertiser on the recommended search terms;

and changing the recommended search terms based on the feedback [col 4, lines 55-60].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill

in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the

invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lang in view of US Pat No 6,141,010 issued to Hoyle (hereafter Hoyle).

#### Claim 14:

Lang discloses the elements of claims 5, 10 and 13 as noted above.

Lang fails to disclose examining meta tags from the one or more pages.

Hoyle discloses examining meta tags from the one or more pages [col 15, line 54 through col 16, line 8].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lang to include examining meta tags from the one or more pages as taught by Hoyle.

The ordinarily skilled artisan would have been motivated to modify the combination of Lang per the above for the purpose of obtaining key words which are embedded in a web page.

Claims 17 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lang in view of US Pat No 6,078,866 issued to Buck et al (hereafter (Buck).

#### Claims 17 and 40:

Lang discloses the elements of claims 5, 29 and 38 as noted above.

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Lang fails to disclose preparing search results by formatting matching search terms

according to advertiser bid amounts associated with the search listings; and communicating the

search results to the user.

Buck discloses preparing search results by formatting matching search terms according to

advertiser bid amounts associated with the search listings; and communicating the search results

to the user [claim1]

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify Lang to include preparing search results by formatting matching search

terms according to advertiser bid amounts associated with the search listings; and

communicating the search results to the user as taught by Buck.

The ordinarily skilled artisan would have been motivated to modify Lang per the

above for the purpose of providing a means for generating revenue for the internet service

provider.

Claims 20 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lang in

view of US Pat No 5,872,850 issued to Klein et al (hereafter Klein).

Claim 20 and 50:

Lang discloses the elements of claims 18, 19, 46 and 49 as noted above.

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Lang fails to disclose wherein the collaborative filtering code comprises Pearson correlation code.

Klein discloses wherein the collaborative filtering code comprises Pearson correlation code [col 10, lines 9-34].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lang to include wherein the collaborative filtering code comprises Pearson correlation code as taught by Klein.

The ordinarily skilled artisan would have been motivated to modify Lang per the above for the purpose of determining a similarity factor between two users [col 10, lines 9-13].

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lang in view of US Pat No 5,799,268 issued to Boguraev.

#### Claim 44:

Lang discloses the elements of claim 41 as noted above.

Lang fails to disclose displaying a form for entering one or more search listings for a selected search term.

Boguraev discloses displaying a form for entering one or more search listings for a selected search term [Fig 1].

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lang to include displaying a form for entering one or more search listings for a selected search term as taught by Boguraev.

The ordinarily skilled artisan would have been motivated to modify Lang per the above for the purpose of providing a convenient means of inputting user data.

#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (703) 305-0620. The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (703) 308-1436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Patent related correspondence can be forwarded via the following FAX number (703) 872-9306

Etienne LeRoux

2/23/2004 at the

## Notice of References Cited

Application/Control No.

10/020,712

Examiner

Etienne P LeRoux

Art Unit

Page 1 of 1

#### U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	Α	US-5,867,799	02-1999	Lang et al.	707/1
	В	US-6,141,010	10-2000	Hoyle, Martin David	345/854
	С	US-6,078,866	06-2000	Buck et al.	702/2
	D	US-5,872,850	02-1999	Klein et al.	705/51
	Ε	US-5,799,268	08-1998	Boguraev, Branimir K.	704/9
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#### FOREIGN PATENT DOCUMENTS

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#### NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)					
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

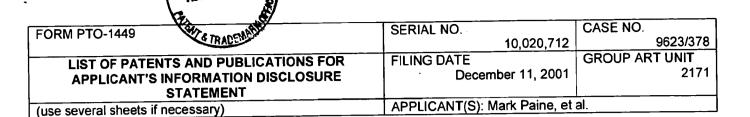
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office PTO-892 (Rev. 01-2001)

**Notice of References Cited** 

Part of Paper No. 10





REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

EXAM	INER	220.0	DOCUMENT NUMBER	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
241	_	A1	5,659,732	08/19/97	Kirsch	395/605	05/17/95
- 241		A2	5,717,923	02/10/98	Dedrick	396/613	11/03/94
		A3	5,724,424	03/03/98	Gifford	380/24	11/29/95
		A4	5,724,521	03/03/98	Dedrick	395/226	11/03/94
1		A5	5,724,524	03/1998	Hunt et al.	395/237	12/15/95
<del> 1</del>		A6	5.748,954	05/1998	Maudlin	395/610	06/05/95
<del>                                     </del>		A7	5,752,238	05/12/98	Dedrick	705/14	11/03/94
		A8	5,768,521	06/16/98	Dedrick	395/226	02/02/96
		A9	5,794,210	08/11/98	Goldhaber, et al.	705/14	12/11/95
		A10	5,826,241	10/20/98	Stein, et al.	705/26	09/16/94
		A11	5,848,397	12/08/98	Marsh, et al.	705/14	04/19/96
		A12	5,848,407	12/08/98	Ishikawa, et al.	707/2	05/22/97
		A13	5,852,820	12/22/98	Burrows	707/2	08/09/96
		A14	5,855,008	12/29/98	Goldhaber, et al.	705/14	08/28/97
		A15	5,864,845	01/26/99	Voorhees, et al.	707/5	06/28/96
		A16	5,864,846	01/26/99	Voorhees, et al.	707/5	06/28/96
		A17	5,903,882	05/1999	Asay et al.	705/44	12/13/96
		A18	5,918,014	06/29/99	Robinson	395/200.49	12/26/96
		A19	5,920,854	07/06/99	Kirsch, et al.	707/3	08/14/96
-		A20	5,920,859	07/06/99	Li	707/5	02/05/97
	-	A21	6,078,866	06/2000	Buck et al.	702/2	09/14/98
		A22	6,296,361 B1	07/31/01	Davis et al.	707/3	05/28/99
*	/	A23	US 2002/0004735 A1	01/10/01	Gross	705/10	01/18/01

**FOREIGN PATENT DOCUMENTS** 

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS/ SUBCLASS	TRANS	LATION NO
Elek	A24	WO 99/20486	09/1999	WIPO			<u>:</u>
1	A25	WO 99/48028	09/1999	WIPO		-	
	A26	WO 2000/16218	03/2000	WIPO			· ·
1/	A27	WO 2000/41090	07/2000	WIPO		PECEIV	
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		Page 2 of 6
FORM PTO-1449	SERIAL NO. 10,020,712	CASE NO. 9623/378
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	FILING DATE December 11, 2001	GROUP ART UNIT 2171
(use several sheets if necessary)	APPLICANT(S): Mark Paine, et	al.

XAMINER	<del></del>	OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)
INITIAL		OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)
608	A28	Database of Corporate ResourceNet, "New Service Puts An Auction Search Engine Under
Eleh		One Roof", Electronic Advertising & Marketplace Report, Vol. 12, Issue 8, Apr. 1998, page 6.
	A29	Espe, "Online Search Engines Start To Charge For Listings", Washington Business Journal,
1		Vol. 18, Issue 1, May 1999, page 31.
	A30	Dawson et al., "2 Search Sites Narrow Their Parameters", Adweek-Western Edition, Vol. 48, Issue 42, Oct. 1998, page 1.
	A31	Database of Corporate ResourceNet, "Bits", from Adweek-Eastern Edition, Vol. 40, Issue 14, April 1999, page 46.
	A32 -	Komando, "Searching For Search Engines - from Dogpile to Deja News", Business First-
	A33	Database of Corporate ResourceNet, New services Aim to Boost Efficiency of Search Engines", Electronic Advertising & Marketplace Report, Vol. 12, Issue 13, June 1998, page 6.
	A34	Database of Corporate ResourceNet, "Goto.com Chooses Quest's SharePlex(R) for Oracle Software to Ensure Untime for Business-Critical Web Site", PR Newswire, June 2000.
	A35	Database of Corporate ResourceNet, "Capitalist Tool", Time Canada, Vol. 151, Issue 8. March 1998, page 41.
	A36	Database of DialogClassic(m), :Homestead Technologies' Continued Success Draws \$17.50 Million In second Round of Venture Funding", PR Newswire, April 1999.
	A37	"APS Search Tools - Patent Search Client Strategy", by US Patent & Trademark Office, Sept.
	A38	"Frequently Asked Questions NT Image Search & Retrieval (IS&R)", by US Patent & Trademark Office, Dec. 1997.
	A39	"Chapter 1-Introduction to Dialog", by Dialog Information Service, Inc. pp 1-1 to 1-14.
	A40	"Automated Patent System (APS) Workstation Reference Manual", by US Patent & Trademark
	A41	Frentzen, Jeff, "Help for Getting the Word Out About Web Sites", PC Week, v14, n46, p. 27(1), Nov. 3, 1997.
	A42	Miller, Karen L., "Improve Your Ranking (Building Web Sites to Attract Web Searches)", Home Office Computer, v16, n1, p 51(2) Jan, 1998.
	A43	Wingfiled, "Another Engine Takes Ads By The Click", from http://www.news.com?news/ltem/0.4.1387,00/html, May 1996.
	A44	Pelline "New Search Engine Goes Commercial", by CNET News.com, Feb. 1998.
	A45	Wang, "Engines Battle Irrelevance of Results-New Search Service Hope To Fill The Void", by Internet World, Feb. 1998.
	A46	Vondr Haar: "Searching For The Highest Bidder", from Inter@active week.
	A47	Riedman, "Search Engine Startup To Auction Listings", from Interactive-Advertising, Feb. 1998
1 7	A48	Rich, "New Search Engine Allows Sites To Pay Their Way to Top", from http://www.adweek.com/iq/iqnews02.asp.

EXAMINER EXAMINER DATE CONSIDERED 2/23/04 Technology Center 2100

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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(use several sheets if necessary)	APPLICANT(S): Mark Paine, et	al

EXAMINER INITIAL		OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)
OYPE.	A49	Mardesich, "Web Site Operators Pay for Top Billing-Search Engine Allows Site Sponsors to Buy Place On Special List", from Knight Ridder Newspapers, March 1998.
AUG 2 9 2002 R	A50	Hilty, "GoTo.Hell-What Happens When On Line Search Engine Accepts Cash From Web Sites?" from http://www.ocweekly.com/link/archives/97/27/byte-3.11.98-1.html, March 1998.
	A51	Flynn, "With GoTo.com's Search Engine, the Highest Bidder Shall Be Ranked First", by the New York Times, March 1998.
TRADEMARY	A52	Clark, "Start-Up Plans Internet Search Service Tying Results To Advertising Spending", from the Wall Street Journal, Feb. 1998.
	A53	"Going, Going", from A Closer Look of the Wall Street Journal-Marketplace, April 1998.
	A54	"Coursey.com", David Coursey's Insider report on Personal Computing, the Internet and Communications", March 1998.
	A55	Glaser, "Who Will GoTo.com", from OnlinePress.com, Feb. 1998.
	A56	Mardesic, "Search Engine Charges Hit Sites", from http://www.simercury.com/business/center/goti022198.html, Feb. 1998.
	A57	"News Watch About Search Engines", from http://searchenginewatch.com/ness.html, Feb. 1998.
	A58	Wang, "Engines Battle Irrelevence of Results", from Internet World.
	A59	Swartz, "Browser Only Lists Paying Web Sites Critics Fear Approach Will Squeeze Out Most Small Internet Players", from http://www.sfgate.com/cgi-bin/ publish on San Francisco Chronicle, Feb. 1998
	A60	McWilliams, PC World Online, February 23, 1998, "Search Engine To Sell Top Positions On Results Lists", from http://www.pcworld.com/news/daily/data/ 0298/html.
	A61	"Search Engine Start Up To Auction Listings", from http://www.adage.com/interactive/daily/index/html, Feb. 1998.
	A62	Alyson, "Searching The Search Engines", from Bacon's, May 1998.
	A63	Pelline, "Pay-for-placement gets another shot", from http://www.newscom.?news/item/0,4,19307,00.html, Sept. 1997.
-	A64	IBM Technical Disclosure Bulletin, "Organizing A Ranked List of Search Matches", Nov. 1994.
	A65	Jeffrey Brewer, ClickZ Today, August 18, 1998, "Pay-For-Performance: Creating More And Better Value", obtained at the internet address http://www.clickz.com, August 18, 1998.
	A66	Jesse Berst, ZDNet, August 17, 1998, "Search Sites' Shocking Secret", obtained at the internet address http://www.zdnet.com/anchordesk/story/story_2432.html, August 17, 1998.
	A67	Sara Fisher, "Budding Internet Firm Finds Niche in Satisfaction", L.A. Business Journal, August 10, 1998.
	A68	"Disclosure Rules", The Industry Standard – The Newsmagazine of the Internet Economy, August 10, 1998.
	A69	G. David Doran, "Pay to Play", Entrepreneur, July 1998, p. 18.
	A70	Advertising Age-Interactive Daily Homepage; obtained at the internet address http://www.adage.com/interactive/daily/index.html, June 8, 1998.
	A71	Kim Komando, "With About 320 Million Sites, Search Engines Offer Some Help", copyright 1998, Los Angeles Times Syndication.

EXAMINER	EP Mayor	DATE CONSIDERED	2/23/04	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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FORM PTO-1449	SERIAL NO. 10,020,712	CASE NO. 9623/378
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(use several sheets if necessary)	APPLICANT(S): Mark Paine, et	<u>al</u>

EXAMINER INITIAL		OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)
Elik	A72	Margot Williams, "How To Ease Your Online Searches", Lansing State Journal, June 1, 1998.
EMA	A73	"GoTo.com Gets Venture Funding", Internet World Magazine, June 1, 1998.
PE	A74	Sasha Alyson, "Searching The Search Engines", Front Page, May 8, 1998.
2 9 2002 15		Advertising Age-Interactive Daily Homepage, February 23, 1998, "Search Engine Startup To Auction Listings", obtained at the internet address http://www.adage.com/interactive/mdaily/index.html.
TRANT MARTEN	A76	Brian McWilliams, PC World Online, February 23, 1998, "Search Engine To Sell Top Positions On Results Lists", obtained at the internet address http://www.pcworld.com/news/daily/data/0298/9880223173204.html.
	A77	Jon Swartz, San Francisco Chronicle, February 23, 1998, "Browser Only Lists Paying Web Sites Critics Fear Approach Will Squeeze Out Most Small Internet Players", obtained at the internet address http://www.sfgate.com/cgi-bin/artile/archive/1998/02/21/BU102470.DTL.
	A78	Nelson Wang, "Engines Battle Irrelevance of Results", from http://www.internetworld.com/print/current/news/19980223-battle.html, Feb. 1998.
	A79	Search Engine Watch, February 21, 1998, "GoTo Sells Positions", obtained at the internet address http://www.searchenginewatch.com/news.html, February 23, 1998.
	A80 .	Jodi Mardesich, "Search Engine Charges Hit Sites", from http://wwww.simercury.com/businrss/center/goto022198.html, Feb. 1998.
	A81	Ken Glaser, Who Will GoTo.com?", OnlinePress.com, Feb. 1998 SFP 0 3 2000
	A82	Jeff Pelline, "New Search Engine Goes Commercial", from http://www.news.com/News/Item/ 0,4,19281,00.html, February 20, 1998.  Technology Center 2
	A83	"Going, Going", The Wall Street Journal, April 1998. p. B1.
	A84	David Coursey. "Coursey.com", March 1998.
	A85	Don Clark, "Start-Up Plans Internet Search Service Tying Results To Advertising Spending", The Wall Street Journal February 20, 1998.
	A86	Laurie J. Flynn, "With GoTo.com's Search Engine, The Highest Bidder Shall Be Ranked First", The New York Times, March 1998, p. C1.
•	A87	Wyn Hilty, OCWeekly byte marks, "GoTo.Hell", from http://www.gcweekly.com/ink/archives/97/27byte-3.11.98-1.shtml, March 13, 1998.
	A88	Jodi Mardesich, "Web Site Operators Pay For Top Billing", The News – Herald (Willoughby, OH), March 2, 1998.
	A89	Laura Rich, Adweek Online IQ News Online, February 23, 1998, "New Search Engine Allows Sites to Pay Their Way to Top", from http://www.adweek.com/iq/ iqnews02.asp, Feb. 1998.
	A90	Patricia Riedman, "Search Engine Startup To Auction Listings", Advertising Age Magazine, February 23, 1998, p. 34.
	A91	Steven Vonder Haar, ZDNet,com, February 19, 1998, "Searching For The Highest Bidder", obtained at the internet address http://www.zdnet.com/intweek/daily/980219i.html, February 23, 1998.
	A92	Nelson Wang, "Engines Battle Irrelevance of Results", Internet World, Feb. 10, 1998, p. 1
<del>l/</del>	A93	Interactive Week Magazine, Garden City, N.Y. May 25, 1998.

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EXAMINER	EVULOUR	DATE CONSIDERED	2/23/	04	· <u> </u>

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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EXAMINER		OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)	
INITIAL			
Eleh	A94 Jeff Pelline, "New Search Engine Goes Commerical", CNET News.com, from http://www.news.com/News/Item/0,4,19281,00.html, Feb. 20, 1998.		
ZWIV	A95	Nick Wingfield, Staff Writer, CNET News.com, June 21, 1996, "Engine Sells Results, Draws	
ر	ASS	Fire", obtained at the internet address http://www.news.com/News/Item/Textonly/0,25,1635,00.	
1		html, July 29, 1999.	
	A96	Nick Wingfield, Staff Writer, CNET News.com, May 22, 1996, "Another Engine Takes Ads By	
	790	The Click", obtained at the internet address http://www.news.com/News/Item/0,4,1387,00.html,	
		.lulv 29, 1999	
	A97	Rose Aguilar, Staff Writer, CNET News.com, April 29, 1996, "New Ad Model Charges By The	
	'``'	Click", obtained at the internet address http://www.news.com/News/Item/0,4,1199,00.html, July	
'		29 1999	
	A98	Alex Lash, Staff Writer, CNET News.com, December 11, 1996, "Open Text Updates Tools",	
		obtained at the internet address http://www.news.com/News/Item/0,4,6118,00.html, July 29,	
		1999.	
	A99	"About SearchUP, Inc.", July 15, 1999, obtained at the internet address	
		http://www.searchup.com/about.cfm.  "Testimonials", July 15, 1999, obtained at the internet address http://www.searchup.com/testimonials.cfm.  "Benefits", July 15, 1999, obtained at the internet address  "Benefits", July 15, 1999, obtained at the internet address	
	A100	"Testimonials", July 15, 1999, obtained at the internet address	
		http://www.searchup.com/testimonials.cfm.	
	A101	"Benefits", July 15, 1999, obtained at the internet address	
		"Benefits", July 15, 1999, obtained at the internet address  http://www.searchup.com/benefits.cfm.  "Information" July 15, 1999, obtained at the internet address  Technology Center 210	
	A102	i illioliticatori i cari i cara carantere e	
		http://www.searchup.com/information.cfm.	
1	A103	"Tips & Tricks", July 15, 1999, obtained at the internet address	
		http://www.searchup.com/tipsandtricks.cfm.	
	A104	Correspondence from Bryan Buck, President of SearchUp.com, July 7, 1999.	
	A105	Saul Hansell "Alta Vista Invites Advertisers to Pay for Top Ranking", The New York Times,	
	1	April 15, 1999, p. C2 Galore – Super Search Engine, May 21, 1999, obtained at the internet address http://www.	
	A106		
	1 107	galore.com/1/mainframe.shtml. hitsgalore.com Search Engine, May 21, 1999, obtained at the internet address	
1 1	A107		
-   -	A 100	http://www.hitsgalore.com I Seek It "The Next Generation Search Engine", May 21, 1999, obtained at the internet address	
	A108	http://www.iseekit.com.	
<del>                                     </del>	A109	Correspondence from Emilia F. Cannella to Robert Brahms, CEO of BeFirst Internet	
	A 109	Corporation regarding findwhat com, July 20, 1999.	
<del></del>	A110	Correspondence from Emilia F. Cannella to Michael Melcher, MC Services regarding	
	^110	SearchUP.com, July 1, 1999.	
<del>                                     </del>	A111	Correspondence from Emilia F. Cannella to Robert G. Schuler, Esq., Kegler, Brown, Hill &	
1 1,		Ritter regarding iseekit.com, July 1, 1999.	
<del>                                     </del>	A112	Correspondence from Emilia F. Cannella to Andrew Conru, Vote Publishing regarding	
W	'''-	galore.com, June 30, 1999.	

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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EXAMINER INITIAL		OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)
Elik)	A113	SearchUP.com – Internet Directory, Automated Bid Placement System, obtained at the internet address http://www.searchup.com/search.cfm, August 25, 1999.
- ensu	A114	SearchUP: URL Position Manager, obtained at the internet address https://www.securearea.net/searchup/login.cfm, August 25, 1999.
	A115	SearchUP: URL Position Manager, obtained at the internet address https://www.securearea.net/searchup/newaccount.cfm, August 25, 1999.
	A116	SearchUP: URL Position Manager, obtained at the internet address https://www.securearea.net/getaccount/login.cfm, August 25, 1999.
	A117	Correspondence from Emilia F. Cannella to Mr. D. Reed, Reports Galore, regarding hitsgalore.com, June 30, 1999.
	A118	Miller, Karen L., "Improve Your Ranking", Home Office Computer, Vol. 16, No. 1, Jan. 1998, p. 51(2).
	A119	Jeff Fretzen, "Help For Getting The Word Out About Web Sites", PC Week, Vo. 14, No. 46, Nov. 3, 1997, p. 27(1).
	A120	Article from the Search Engine Report, "GoTo To Sell Positions", March 3, 1998, http://www.searchenginewatch.com/sereport/9803-to-to-html.
	A121	Article from CNET News, "Engine Sells Results, Draws Fire", June 21, 1996, http://www.nees.com/News?ltem/0,4,1635,00.html.
	A122	Press release on Lightweight Directory Access protocol (LDAP), Netscape Comm. Corp. Mountain View, CA., April 1996.
	A123	ClickMail Central directory, circa April 1996,
	A124	GoTo.com, circa 1998, at www.goto.com
	A125	Northern Light, circa 1997-98, at sirocco.northernlight.com
	A126	Laura Rich, Adweek Online IQ News Online, February 23, 1998, "New Search Engine Allows Sites to Pay Their Way to Top", from http://www.adweek.com/iq/ iqnews02.asp, February 23, 1998.
	A127	Smith, Laura B., article "Going Gone", PC Week, Vol. 13, No. 34, August 26, 1996, p E1 (2), http://www.dialog-classic.com/DialogClassic/dialog.
*	A128	* Cliff Kurtzman, "Another Internet Advertising List", Internet Advertising Digest #006, dated June 19, 1996, from http://www.o-a.com/archive/1996/june.0021.html, printed 09/28/01, 5 pages.
	A129	* Press Release article titled "GoTo.com Announces First round of Financing, Totaling More Than \$6 Million, Led by Draper, Fisher Jurvetson", <i>Business Wire</i> , dated May 19, 1998, printed from the Internet at <a href="http://www.dialogclassic.com/main.vingw">http://www.dialogclassic.com/main.vingw</a> on 11/9/00, 2 pages.

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	EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	Elec	B1	5,778,367	07/07/98	Wesinger, Jr. et al.		90
	1	B2	5,862,223	01/19/99	Walker et al.		
	V	В3	US 6,285,987 B1	09/04/01	Roth et al.		

EXAMINER INITIAL	OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)					
Eleh	B4	News of The Week articles, <i>Telephony</i> , May 1, 1995, pages 8 and 10.				
1	B5	Nuts 'N Bolts articles, Target Marketing, October 1997, 1 page.				
	B6	DoubleClick Testit!, obtained at the internet address: http://web.archive.org/web/19980205034316/www.doubleclick.com/nf/adinfo/testiset.htm, dated 10/16/2002, 4 pages.				
	B7	DoubleClick Frequently Asked Questions, obtained at the internet address: http://web.archive.org/web/19980205033925/www.doubleclick.com/nf/adinfo/facts.htm, dated 10/16/2002, 5 pages.				
	B8	"New Service Puts Ad Auction, Search Engine Under One Roof", article from Electronic Advertising & Marketplace Report, Simba Information, Inc. April 28, 1998, 2 pages.				
	B9	Google Search, communication from Jeffrey Brewer at Jeffrey@goto.com, titled "Need reverse stemming software", dated May 27, 1998, obtained at the internet address: http://groups.google.com/groups?selm=356CEE4A8DE882A8%40goto.com, on 12/19/02, 1 page.				
	B10	Ketchpel, Steven P. et al. "U-PAI: A Universal Payment Application Interface", conference material article from the Second USENIX Workshop on Electronic Commerce Proceedings", Oakland, California, November 18-21, 1996, 17 pages.				
	B11	Schwartz, Randal L., "Click-Through Tracking in Perl", Web Techniques, dated May 1998, located at the internet address: www.webtechniques.com, 3 pages.				
	B12	Van Roeden, Adriaan, "Your Own Search Engine With SWISH, A Custom Search Facility For Your Web Site", Web Techniques, dated November 1996, located at the internet address: www.webtechniques.com, pp. 63-66 pages.				
	B13	Full Catalog – Categories Menu, Sun Microsystems Sun Solutions Catalog, obtained at the internet address: http://web.archive.org/web/19981205110211/solutions.sun.com/catalogs/all/index.htm, printed on 12/19/02, 2 pages.				
	B14	Help on Making Queries – Search by Company or Product, obtained at the internet address: http://web.archive.org/web/19981203050002/solutions.sun.com/search-help.htm, printed on 12/19/02, 4 pages.				
	B15	Online Updating, Sun Microsystems Sun Solutions Catalog obtained at the internet address: http://web.archive.org/web/19990220190636/solutions.sun.com/editmodule/help.html, printed on 12/19/02, 2 pages.				

EXAMINER	Et Share-	DATE CONSIDERED	2/23/04	

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I hereby certify that this correspondence is being deposited with the United States Postal Service, with sufficient stage, as first class mail in an envelope addressed to:

Mailstop Amendment Commissioner for Patents P.O. Box 1450 Alexandra, VA 22313-1450 on August 2, 2004

Date of Deposit

John G. Rauch - Reg. No. 37,218

Name of applicant, assignee or Registered Representative

> Signature 8/2/04

Date of Signature



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**Technology Center 2100** 

Our Case No. 9623/378

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applic	ation of:	)	
Paine, Mark	et al:	)	· · · · · · · · · · · · · · · · · ·
Serial No. 10/020,712			Examiner Leroux, Etienne Pierre
Filing Date: December 11, 2001			Group Art Unit No. 2171
TER	COMMENDING SEARCH LMS USING COLLABORATIVE FERING AND WEB SPIDERING	)	

#### **AMENDMENT**

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated March 1, 2004, please amend the application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 14 of this paper.

### Amendments to the Claims

Please cancel claim 65

Please amend claims 1, 5, 17, 18, 29, 41, 46, 51, 54, 56 and 59 as shown below.

#### Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method for a database search system, the method comprising: receiving a list of search terms associated with an advertiser on the database search system, the database search system including a database having stored therein a plurality of search listings which are associated with an advertiser, at least one search term, a money amount, and a computer network location;

determining candidate search terms based on search terms of other advertisers on the database search system; and

recommending the additional search terms from among the candidate search terms.

2. (Original) The method of claim 1 wherein determining candidate search terms comprises:

assigning ratings to search terms; and

computing a correlation between the advertiser and one or more of the other advertisers using the assigned ratings of advertiser search terms.

- 3. (Original) The method of claim 2 further comprising: predicting a likelihood that a candidate search term will be relevant to the advertiser.
- 4. (Original) The method of claim 3 wherein predicting comprises:

determining a quality metric for the candidate search terms; and predicting relevance of candidate search terms based on the quality metric.

5. (Currently amended) A method for a database search system, the method comprising: maintaining a database of search listings, each search listing being associated with an advertiser and including associated search terms, a money amount and a computer network location;

receiving a list of search terms associated with an advertiser; computing ratings for search terms; and recommending additional search terms to the advertiser based on the computed ratings.

- 6. (Original) The method of claim 5 wherein computing ratings comprises: assigning ratings to search terms.
- 7. (Original) The method of claim 5 wherein computing ratings comprises: predicting ratings for search terms.
- 8. (Original) The method of claim 5 wherein receiving a list of search terms comprises: receiving a list of initial search terms from the advertiser.
- 9. (Original) The method of claim 5 wherein receiving a list of search terms comprises: identifying an existing advertiser on the database search system; and forming the list of search terms from search terms of the existing advertiser.
- 10. (Original) The method of claim 5 wherein receiving a list of search terms comprises: receiving a website uniform resource locator (URL); and spidering the website associated with the URL to extract search terms for the list of search terms.
- 11. (Original) The method of claim 10 wherein spidering the website comprises:

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receiving data from pages of the website; recording candidate search terms from the data; and determining a quality metric for each candidate search term.

- 12. (Original) The method of claim 11 further comprising: sorting the candidate search terms according to the quality metric; and recommending only candidate search terms having a quality metric exceeding a threshold.
- 13. (Original) The method of claim 10 wherein spidering comprises: receiving data from one or more pages of the website; and examining text from the one or more pages for candidate search terms.
- 14. (Original) The method of claim 13 wherein examining text comprises: examining substantially all text from the one or more pages; and examining meta tags from the one or more pages.
- 15. (Original) The method of claim 13 wherein receiving a website URL comprises: receiving the advertiser's URL as the web site URL.
- 16. (Original) The method of claim 13 wherein receiving a website URL comprises: receiving the web site URL from the advertiser.
- 17. (Currently amended) The method of claim 5 further comprising:
  receiving at an input device a search query from a user;
  searching for matching search terms in the database of search listings;
  preparing search results by formatting matching search terms according to advertiser bid
  amounts associated with the search listings; and
  communicating the search results to the user.

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18. (Original) A database search system comprising:

a database of search terms, each search term being associated with one or more advertisers, a money amount and a computer network location, the search terms being searchable in response to a query received from a user to identify search terms which match the query, matching search listings being returnable to the user in a search result list in which the matching search listings are ordered using the money amounts for the respective matching search listings; and

program code configured to recommend additional search terms for an advertiser based on search terms in the database.

19. (Original) The database search system of claim 18 wherein the program code comprises:

collaborative filtering code configured to recommend the additional search terms based on search terms associated with other advertisers of the database search system.

- 20. (Original) The database search system of claim 19 wherein the collaborative filtering code comprises Pearson correlation code.
- 21. (Original) The database search system of claim 19 wherein the program code comprises:

a program loop to iterate the collaborative filtering code.

22. (Currently amended) The database search system of claim [[18]] <u>21</u> further comprising:

code to receive accept <u>indications or</u> [[and]] reject indications from the advertiser before repeating the program loop.

23. (Original) The database search system of claim 18 wherein the program code comprises:

spidering code to recommend the additional search terms.

24. (Original) The database search system of claim 18 wherein the program code comprises:

spidering code to find initially accepted search terms in a web site; and collaborative filtering code to provide the recommended additional search terms.

- 25. (Original) The database search system of claim 24 wherein the spidering code is configured to spider a web site of the advertiser.
- 26. (Original) The database search system of claim 23 wherein the spidering code is configured to spider a web site specified by the advertiser.
- 27. (Original) The database search system of claim 18 further comprising: filtering code to filter candidate search terms according to a quality metric to produce the recommended additional search terms.
- 28. (Original) The database search system of claim 15 further comprising: search engine program code configured to search the database in response to a search query from a user.
- 29. (Currently amended) A data base operating method for a database search system storing advertiser search listing, the method comprising:
  - spidering a specified web site to obtain an initial list of advertiser search terms for an advertiser;

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filtering the initial list of advertiser search terms using search terms of other advertisers; and

storing in a search listing database search listings for the advertiser, the search listings formed with the filtered search terms, the search listing database being searchable by a search engine web server which identifies listings having a search term matching a search query entered by a user, orders the identified listings using advertiser bid amounts associated with the search term in the search listing and generates a result list including at least some of the ordered listings.

- 30. (Original) The data base operating method of claim 29 wherein the specified web site comprises an advertiser specified website.
- 31. (Original) The data base operating method of claim 29 wherein the specified web site comprises a website specified by the database search system.
  - 32. (Original) The data base operating method of claim 29 further comprising: assigning ratings to search terms; and computing a correlation between the advertiser and one or more of the other advertisers using the assigned ratings of advertiser search terms.
  - 33. (Original) The data base operating method of claim 32 further comprising: predicting a likelihood that a search term will be relevant to the advertiser.
- 34. (Original) The data base operating method of claim 33 wherein predicting comprises:

determining a quality metric for candidate search terms; and predicting relevance of candidate search terms based on the quality metric.

35. (Original) The data base operating method of claim 29 wherein spidering the specified web site comprises:

receiving data from pages of the specified website; recording candidate search terms from the data; and determining a quality metric for each candidate search term.

- 36. (Original) The data base operating method of claim 35 further comprising: sorting the candidate search terms according to the quality metric; and recommending only candidate search terms having a quality metric exceeding a threshold.
- 37. (Original) The data base operating method of claim 29 wherein filtering comprises: determining a correlation between a web site of the advertiser and web sites of other advertisers on the database search system; using the correlation, determining ratings for each advertiser search term in the initial list of advertiser search terms; and organizing search terms of the initial list of advertiser search terms according to the ratings.
- 38. (Original) The data base operating method of claim 29 further comprising: presenting the organized search terms to the advertiser; receiving advertiser acceptance indications for the organized search terms; adjusting the list of advertiser search terms according to the acceptance indications; and filtering the adjusted list.
- 39. (Original) The data base operating method of claim 38 further comprising: iteratively presenting the organized search terms, receiving revised advertiser acceptance indications, and adjusting the list of advertiser search terms.
- 40. (Original) The data base operating method of claim 38 further comprising: receiving a search query from a user; searching for matching search terms in the search listing database;

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preparing search results by formatting matching search terms according to advertiser bid amounts associated with the matching search listings; and communicating the search results to the user.

41. (Currently amended) A method for a database search system, the method comprising:

receiving a search term of an advertiser, the search term being associated with a search listing of the advertiser, the search listing being stored in a search listing database of search listings, the search listing database being searchable by a search engine web server which identifies listings having a search term matching a search query entered by a user, orders the identified listings using advertiser bid amounts associated with the search term in the search listing and generates a result list including at least some of the ordered listings;

in response to the received search term, generating a list of additional related search terms; and

receiving advertiser selected search terms from the list of additional related search terms.

42. (Original) The method of claim 41 wherein generating the list of additional search terms comprises:

matching one or more text strings from the received search term with a database of search terms.

43. (Original) The method of claim 38 wherein generating the list of additional search terms comprises:

matching one or more text strings from the received search term with a thesaurus.

- 44. (Original) The method of claim 41 further comprising: displaying a form for entering one or more search listings for a selected search term.
- 45. (Original) The method of claim 42 further comprising:

entering the selected search term as a default value in each of the one or more search listings

46. (Currently amended) A method for recommending search terms in a pay for placement market system, the method comprising:

receiving information describing an advertiser who maintains search listings in the pay

for placement market system; and

recommending search terms based on the advertiser's similarity to other advertisers.

- 47. (Original) The method of claim 46 further comprising:
- assigning ratings based on the information describing the advertiser and information describing the other advertisers; and

recommending search terms based at least in part on the ratings.

- 48. (Original) The method of claim 46 further comprising:
- predicting ratings for the advertiser and the other advertisers based on the information describing the advertiser and information describing the other advertisers; and recommending search terms based at least in part on the ratings.
- 49. (Original) The method of claim 46 further comprising:
- computing correlations for the advertiser and the other advertisers based on the information describing the advertiser and information describing the other advertisers; and

recommending search terms based at least in part on the correlations.

- 50. (Original) The method of claim 49 wherein computing correlations comprises: computing Pearson correlations.
- 51. (Currently amended) A method for recommending search terms in a pay for placement market system, the method comprising:

downloading web pages rooted at a specified uniform resource locator (URL); and

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recommending to an advertiser who maintains search listings in the pay for placement market system search terms that appear in the body text of the web pages.

- 52. (Original) The method of claim 51 further comprising: identifying an advertiser having a web site; specifying the advertiser's web site as the specified URL.
- 53. (Original) The method of claim 51 further comprising: receiving a web site identifier from an advertiser as the specified URL.
- 54. (Currently amended) A method for recommending search terms to an advertiser who maintains search listings in a pay for placement market system, each search listing including one or more search terms, the method comprising:

receiving a uniform resource locator (URL);
downloading web pages rooted at the URL; and
recommending to the advertiser search terms that appear in the web pages to the
advertiser.

- 55. (Original) The method of claim 54 further comprising: identifying an advertiser having a web site; receiving the advertiser's web site as the URL.
- 56. (Currently amended) A method for recommending search terms to an advertiser who maintains search listings in a pay for placement market system, each search listing including one or more search term, the method comprising:

calculating a quality metric for candidate search terms, the quality metric for a respective candidate search term being a function of the respective search term's web frequency and a function of a search term's search frequency; and recommending search terms for which the calculated quality metric exceeds a quality threshold

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- 57. (Original) The method of claim 56 further comprising: sorting the candidate search terms according to a second metric.
- 58. (Original) The method of claim 56 further comprising: automatically calibrating the quality threshold.
- 59. (Original) A method for recommending search terms to an advertiser who maintains search listings in a pay for placement market system incorporating for a database search system, the method comprising:

maintaining a database of search terms associated with advertiser listings; receiving information describing an the advertiser; and recommending search terms to the advertiser.

- 60. (Original) The method of claim 59 further comprising: determining candidate search terms by collaborative filtering; and recommending search terms from the candidate search terms.
- 61. (Original) The method of claim 59 further comprising:
  downloading web pages rooted at a uniform resource locator; and
  recommending the search terms based on terms that appear in body text of the web pages.
- 62. (Original) The method of claim 59 further comprising: receiving a uniform resource locator (URL); downloading web pages rooted at the URL; and recommending search terms based on terms that appear in the web pages.
- 63. (Original) The method of claim 59 further comprising:

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calculating a quality metric for candidate search terms, the quality metric for a respective candidate search term being a function of the respective search term's web frequency and a function of a search term's search frequency; and recommending the search terms based on search terms for which the calculated quality metric exceeds a quality threshold

64. (Original) The method of claim 59 further comprising: receiving feedback from the advertiser on the recommended search terms; and changing the recommended search terms based on the feedback.

65. (Cancelled)

### **REMARKS**

Claims 1-64 are pending in the application. By this paper, claims 1, 5, 17, 18, 29, 41, 46, 51, 54, 56 and 59 have been amended and claim 65 has been cancelled. Reconsideration and allowance of claims 1-64 are respectfully requested.

### Prior art rejections

Claims 1-13, 15, 16, 18, 19, 21, 23-39, 41-43, 45-49 and 51-65 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. patent number 5,867,799 to Lang, et al. ("Lang"). Claims 14, 17, 20, 40, 44, 50 under 35 U.S.C. § 103(a) as being unpatentable over Lang in combination with various references, including U.S. patent number 6,078,866 to Buck. Claims 1, 5, 17, 18, 29, 41, 46, 51, 54, 56 and 59 have been amended. Reconsideration of claims 1-64 and withdrawal of the prior art rejections of these claims is respectfully requested.

#### Introduction

The present invention relates to a method and apparatus for making search term recommendations to a web site promoter or advertiser in a pay for placement market system such as is described in conjunction with FIGS. 1-9 of the present application. The method for making search term recommendations is particularly described in conjunction with figures 10-20 of the application. Two particular techniques for identifying search terms to recommend are spidering (see, e.g., FIG. 11) and collaborative filtering (see, e.g., FIG. 12).

A pay for placement market system as described in the present application includes a database of search listings (such as databases 38, 40, of the present application). Stored on the database is a plurality of search listings such as search listing 344. Advertisers who wish to display their search listings to users of the database enter and maintain search listings in the database. Each advertiser specifies a "keyword" or search term that is compared with a search term received by the database as part of a search query from a user. If the advertiser's search listing includes the search term, information from the advertiser's search listing is returned to the user with other search results that matched the search query. The advertiser pays a money

amount (sometimes referred to as a bid or bid amount) to the operator of the pay for placement market system upon occurrence of a predetermined event, such as selection ("clickthrough") by the user.

In the pay for placement marketplace, the advertisers can control the positioning of their search listings in the search results. This is done by adjusting the bid amount of a search listing. The search listing can include a number of components or fields, including the keyword or search term (352) and bid amount (358). When a search query is received, the search results that match the query are ordered according to bid amount, so that the search listings with the highest bid amounts appear highest in the search result list, where they are most likely to be seen by the user. By adjusting the bid amount of his search listing in relation to the bid amounts of other advertisers in the pay for placement marketplace system, the advertiser can control where in the search result list his search listing will appear. If a searcher clicks on the advertiser's search listing, his account with the marketplace operator is chargeable by a money amount corresponding to the bid amount for the search listing. Thus, the advertiser "pays for placement" of his advertisement or search listing.

### The Lang reference

Lang is completely unrelated to a pay for placement marketplace. Lang actually relates to information filtering in a computer system receiving a data stream from a computer network. Entities of information relevant to a user, called "informons," are extracted from the data stream. Column 6, line 66 – column 7, line 4. Lang does not disclose any features of a pay for placement marketplace, such as advertisers, bid amounts, search listings, etc.

Accordingly, independent claims 1, 5, 18, 29, 41, 46, 51, 54, 56 and 59 have been amended to distinguish the invention defined by these claims over the disclosure of Lang. For example, claim 1 recites "receiving a list of search terms associated with an advertiser on the database search system, the database search system including a database having stored therein a plurality of search listings which are associated with an advertiser, at least one search term, a money amount, and a computer network location" (emphasis added). Lang does not relate to such a database search system, which is necessarily segmented into separate search listings. Instead, Lang deals with a "data stream from a computer network" (column 7, line 1). As

another example, claim 46 has been amended to recite "a method for recommending search terms," including "receiving information describing an advertiser who maintains search listings in the pay for placement market system." The invention defined by this claim is thus limited to a method in a pay for placement market system, as that term is used in the present application.

Thus, Lang fails to disclose all the elements of independent claims 1, 5, 18, 29, 41, 46, 51, 54, 56 and 59, as amended. Accordingly, the rejection under 35 U.S.C. § 102(b) of claims 1-13, 15, 16, 18, 19, 21, 23-39, 41-43, 45-49 and 51-65 may not be maintained. Moreover, the prior art of record, including Lang, fails to provide any suggestion or motivation for modifying or extending the disclosure of this reference to a pay for placement system. Accordingly, withdrawal of the prior art rejections of claims 1-64 is respectfully requested.

#### The Buck reference

While Lang fails to show, describe or suggest a pay for placement marketplace system or any of its features, it is respectfully submitted that Buck discloses one type of online marketplace system. Buck discloses a system in which "subscribers pay a monetary amount of their own choosing as a subscription fee to list a site with the listing service for a defined subscription period. The higher the amount paid for a given subscription period in relation to other listers, the higher the site's ranking on the service's search reports." Buck, column 4, lines 13-18. Thus, unlike the method and apparatus of amended claims 1-64 which relate to a pay for placement system relying on bid amounts chargeable to the system operator for an event such as a clickthrough, Buck instead discloses a subscription service. Moreover, Buck fails to disclose the additional features of recommending additional search terms based on other advertisers' terms, or other distinguishing limitations of the claims. Buck fails to suggest that these features could be added to the system disclosed therein.

Accordingly, a determination that claims 1-64 are patentable over the prior art of record is respectfully solicited.

### Rejection under 35 U.S.C. § 101

Claims 1-4, 5-9, 41-45, 46-50, 59, 64 and 65 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. According to the office action, these claims are

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not directed to functional descriptive material on a computer-readable medium such that use of technology permits the function of the descriptive material to be realized.

Reconsideration of this rejection is respectfully requested. The U.S. Patent & Trademark Office's Examination Guidelines for Computer-Related Inventions provide that computer-related process claims, to be statutory, must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. MPEP § 2106(IV)(B)(2)(b). The Guidelines list two safe harbors under (A) above: (1) independent physical acts, and (2) manipulation of data representing physical objects or activities. Id. at § 2106(IV)(B)(2)(b)(i).

Under the first safe harbor provision, a process is statutory if it requires physical acts to be performed outside the computer independent of and following the steps to be performed by a programmed computer, where those acts involve the manipulation of tangible physical objects and result in the object having a different physical attribute or structure. Thus, if a process claim includes one or more post-computer process steps that result in a physical transformation outside the computer (beyond merely conveying the direct result of the computer operation), the claim is clearly statutory. Under the second safe harbor provision, a process is statutory if it requires the measurements of physical objects or activities to be transformed outside of the computer into computer data, where the data comprises signals corresponding to physical objects or activities external to the computer system, and where the process causes a physical transformation of the signals which are intangible representations of the physical objects or activities.

It is respectfully submitted that at least some of the rejected claims fall within the first safe harbor provision. For example, claims 1, 5 and 59 recite recommending search terms and claim 41 recites 'generating a list of additional related search terms." Claim 46 similarly recites "recommending search terms." This is done, for example, in claim 1, after the computer-process steps of "determining candidate search terms based on search terms of other advertisers." Thus, the invention in accordance with the invention defined by these claims, a physical transformation implicitly occurs as the raw data defining the search term for internal processing by the computer is transformed to a format meaningful and useful to an advertiser, such as text or graphical

material on a screen, HTML information conveyed over a network to the advertiser's computer, a printout or formatted electronic mail message, etc.

In regard to (B) above, if the claim produces a useful, concrete, and tangible result, the claim is limited to a practical application, and is therefore statutory. MPEP § 2106(IV)(B)(2)(b)(ii). Thus, claims 1, 5 and 59 recite recommending additional search terms to an advertiser. Similarly, claim 41 recites "generating a list of additional related search terms" and claim 46 recites "recommending search terms." The resulting search terms produced by the computer system are tangible and concrete as portions of text or words meaningful to the advertiser.

Accordingly, it is respectfully submitted that independent claims 1, 5, 41, 46 and 59 each define statutory subject matter as required by 35 U.S.C. § 101. The recitations of these claims fall within the PTO's guidelines for computer-related inventions. Withdrawal of the rejection of claims 1-4, 5-9, 41-45, 46-50, 59 and 64 is requested.

### Claim rejections under 35 U.S.C. § 112

Claim 22 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. The office action asserts that "code to receive accept and reject indications from the advertiser" is unclear.

Claim 22 has been amended to correct the noted deficiency. Claim 22 as amended recites "code to receive accept indications or reject indications from the advertiser," making clear that accept indications or reject indications may be received (or both, at different times) from the advertiser. Claim 22 has also been amended by changing its dependency from claim 18 to claim 22 to obviate another antecedent basis deficiency noted during review of the application.

Accordingly, withdrawal of the 35 U.S.C. § 112 rejection of claim 22 is respectfully requested.

### Claim Objections

Claim 1 stands objected to for informal reasons. The examiner has required deletion of the word "the" from the recitation "recommending the additional search terms..." Claim 65 stands objected to as being a substantial duplicate of claim 64.

By this paper, claim 1 has been amended as required by the examiner and claim 65 has been cancelled. Withdrawal of the objections to these claims is respectfully requested.

With this response, the application is believed to be in condition for allowance. Should the examiner deem a telephone conference to be of assistance in advancing the application to allowance, the examiner is invited to call the undersigned attorney at the telephone number below.

Respectfully submitted,

John G. Rauch

Registration No. 37,218 Attorney for Applicant

August 2, 2004 BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, ILLINOIS 60610 (312) 321-4200



#### **CERTIFICATE OF MAILING**

nereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

August 2, 2004
Date of Deposit

John G. Rauch, Reg. No. 37,218

Name of Applicant, Assignee or Registered Representative

Signature

8/2/2004
Date of Signature

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AUG 0 9 2004

**Technology Center 2100** 

Our Case No.: 9623/378

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mark Paine et al.

Serial No.: 10/020,712

Filing Date: December 11, 2001

For: RECOMMENDING SEARCH TERMS

USING COLLABORATIVE FILTERING

AND WEB SPIDERING

## THIRD SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents

08/05/2004 UASFAW1 00000002 231925 10020712

Alexandria, VA 22313-1450

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180.00 DP

Examiner: Etienne Pierre Leroux

Group Art Unit No.: 2171

Dear Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Third Supplemental Information Disclosure Statement be entered and the documents listed below and on the attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

The references now cited are the following:

#### **US PATENT**

DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
5,931,907	8/03/1999	Davies et al.
6,085,186	07/04/2000	Christianson et al.
US 2001/0047354 A1	11/29/2001	Davis et al.
US 6,421,675 B1	07/16/2002	Ryan, et al.

#### **FOREIGN PATENT DOCUMENTS**

DOCUMENT NUMBER Number-Kind Code (if known)	DATE	COUNTRY
WO 97/22066 A	06/19/1997	WIPO
WO 00/16218 A	03/23/2000	WIPO

#### OTHER ART REFERENCES

European Patent Office Search Report for corresponding application No. EP 0 25 8082.3, dated April 6, 2004, 3 pages.

Preliminary Search Report for corresponding application No. FR 0215627, dated March 31, 2004, 2 pages.

Cho, Junghoo et al., "Efficient crawling through URL ordering", Computer Networks and ISDN Systems, 1998, pp. 161-172,

Cohen, William W. et al., "Web-collaborating filtering: recommending music by crawling the Web", Computer Networks 33, 2000, pp. 685-698.

Supplementary Search Report for corresponding European Patent Application No. EP 00 936393, dated February 20, 2004, 3 pages.

Brin, Sergey et al., "The Anatomy of a Large Scale Hypertextual Web Search Engine", Computer Networks and ISDN Systems, North Holland Publishing, Amsterdam, NL, dated April 14, 1998, pp. 1-20.

Doran, David, "Search Engines....Their popularity, their secrets, their flaws", *Entrepreneur*, July 1998, page 18.

Glaser, Ken, "Who Will GoTo.com?", OnlinePress.com, dated February 20, 1998, 2 pages.

Kramer, Raif et al., "Thesaurus federations: loosely integrated thesauri for document retrieval in networks based on Internet technologies", Int. J. Digit Libr, 1997, pp. 122-131.

Sullivan, Danny, "GoTo Sells Positions", *The Search Engine Report*, dated March 3, 1998, 4 pages.

"GoTo.com Announces First Round of Financing, Totaling More Than \$6 Million, Led by Draper Fisher Jurvetson", *Business Wire*, dated May 19, 1998, printed from Dialog Gale Group New products, 2 pages.

...

"New Service Puts Ad Auction, Search Engine Under One Roof", Electronic Advertising & Marketplace Report, dated April 28, 1998, Vol. 12, Issue 8, 2 pages.

In accordance with 37 C.F.R. § 1.97(g),(h), this Third Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

Please note that several of the cited references cited in the Supplementary Search Report for corresponding European Patent Application No. EP 00 936393 dated February 20, 2004, were previously cited in the original Information Disclosure Statement filed for this application.

A fee as set forth in 37 C.F.R. § 1.17(p) in the amount of \$180.00 is enclosed herewith. Should the enclosed check be insufficient, omitted or should any additional fees be deemed necessary under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to this communication, the Commissioner is hereby authorized to deduct said fees from Brinks Hofer Gilson & Lione Deposit Account No. 23-1925. A duplicate copy of this document is enclosed.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

flame

ionn G. Rauch

Registration No. 37,218 Attorney for Applicants

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FORM RTO 249	<i>b.</i>	SERIAL NO.		CASE NO.	
NIT BORNE	A DEL MAN		10/020,712	962	3/378
LIST OF PATENTS AND PUBLICATION	ONS FOR	FILING DATE		GROUP ART U	VIT
APPLICANT'S INFORMATION DISCI		Decer	mber 11, 2001		2171
STAT <u>EMENT</u>					
(use several sheets if necessary)		APPLICANT(S):	Mark Paine et a	i.	

REFERENCE D	ESIGNATION	U.S. PATENT DO	CUMENTS

REFERENCE	DESIG	MATION 0.3.	PATENT DOG	ONENTS		
EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	D1	5,794,210	8/11/1998	Goldhaber et al.		
	D2	5,931,907	8/03/1999	Davies et al.		
	D3	6,085,186	7/04/2000	Christianson et al.	DEC	
	D4	US 2001/0047354 A1	11/29/2001	Davis et al.	NEC	EIVED
	D5	US 6,421,675 B1	07/16/2002	Ryan, et al.		
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### **FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES OR NO
	D6	WO 97/22066 A	06/19/1997	WIPO		
	D7	WO 00/16218 A	03/23/2000	WIPO		

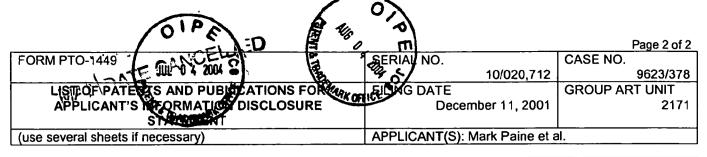
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	D8	European Patent Office Search Report for corresponding application No. EP 0 25 8082.3, dated April 6, 2004, 3 pages.		
	D9	Preliminary Search Report for corresponding application No. FR 0215627, dated March 31, 2004, 2 pages.		
	D10	Cho, Junghoo et al., "Efficient crawling through URL ordering", Computer Networks and ISDN Systems, 1998, pp. 161-172,		
	D11	Cohen, William W. et al., "Web-collaborating filtering: recommending music by crawling the Web", Computer Networks 33, 2000, pp. 685-698.		

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	D12	Supplementary Search Report for corresponding European Patent Application No. EP 00 936393, dated February 20, 2004, 3 pages.				
	D13	Brin, Sergey et al., "The Anatomy of a Large Scale Hypertextual Web Search Engine", Computer Networks and ISDN Systems, North Holland Publishing, Amsterdam, NL, dated April 14, 1998, pp. 1-20.				
	D14	Doran, David, "Search EnginesTheir popularity, their secrets, their flaws", <i>Entrepreneur</i> , July 1998, page 18.				
	D15	Glaser, Ken, "Who Will GoTo.com?", OnlinePress.com, dated February 20, 1998, 2 pages.				
	D16	Kramer, Ralf et al., "Thesaurus federations: loosely integrated thesauri for document retrieval in networks based on Internet technologies", <i>Int. J. Digit Libr</i> , 1997, pp. 122-131.				
	D17	Sullivan, Danny, "GoTo Sells Positions", <i>The Search Engine Report</i> , dated March 3, 1998, 4 pages.				
	D18	"GoTo.com Announces First Round of Financing, Totaling More Than \$6 Million, Led by Draper Fisher Jurvetson", <i>Business Wire</i> , dated May 19, 1998, printed from Dialog Gale Group New products, 2 pages.				
	D19	"New Service Puts Ad Auction, Search Engine Under One Roof", Electronic Advertising & Marketplace Report, dated April 28, 1998, Vol. 12, Issue 8, 2 pages.				

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MAILING UNDER 37 C.F.R. §1.8

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RECOMMENDING SEARCH TERMS

Examiner: Leroux, Etienne

Pierre

Art Unit: 2171

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# **TRANSMITTAL**

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Attached	is/are:

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Indep.	10	Minus	10	0	x 43≃			x \$86=	0
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A check in the amount of \$180 is enclosed for the Information Disclosure Statement.

Please charge Deposit Account No. 23-1925 in the amount of \$420 for the Petition for Extension of Time. A copy of this Transmittal is enclosed for this purpose.

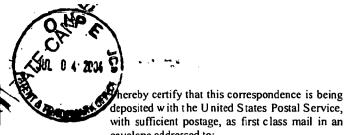
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The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 associated with this paper (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit

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8/2/2004

John G. Rauch (Reg. No. 37,218)





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Case No. 9623/378

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In re Applic	ation of:	
	Paine, Mark et al.	
Serial No:	10/020,712	Examiner: Leroux, Etienne Pierre
Filed:	December 11, 2001	Group Art Unit: 2171
For: RECO	MMENDING SEARCH	

PETITION AND FEE FOR EXTENSION OF TIME (37 CFR § 1.136(a))

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

**TERMS USING** 

**COLLABORATIVE FILTERING** 

AND WEB SPIDERING

Dear Sir:

This is a petition for an extension of the time to respond to the Office Action

dated 1	March	1, 2004 for a period of two month(s).
$\boxtimes$	Applic	eant:
		claims small entity status. See 37 C.F.R. §1.27.

 $\boxtimes$ is other than small entity **Small Entity Extension** Other Than **RECEIVED Months Small Entity** AUG 0 9 2004 \$110.00 \$55.00 One Month Technology Center 2100 Two Months \$420.00 \$210.00 Three Months \$950.00 \$475.00 Four Months \$1,480.00 \$740.00 Five Months \$2,010.00 \$1,005.00 Fee Payment Attached is a check for \$_____ for the Petition fee. Attached is a credit card authorization form for \$_____ for the Petition fee. M Charge Petition fee to Deposit Account No. 23-1925. A duplicate copy of this Petition is attached. M Charge any additional fee required or credit for any excess fee paid to Deposit Account No. 23-1925. A duplicate copy of this Petition is attached. Respectfully submitted, Dated: August 2, 2004 Registration No. 37,218 Attorney for Applicant

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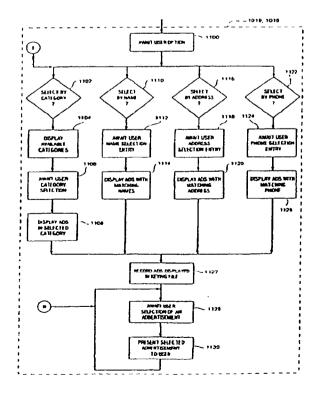
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### (54) Title: METHOD FOR COMPUTER AIDED ADVERTISEMENT

#### (57) Abstract

A computer implemented method for presenting vendor advertising information to a user of a computer system (100). The advertising information (404, 406) is presented to the user as a multimedia presentation including text, graphics, audio, and video information. The advertising information is searchable by the user according to any of several indices (500) including: name (1110), address(1116), phone number (1122), location (1010), category of commerce (1312), etc. Vendors may select a locked, preferred position for their advertising information. Additionally, vendors may select to lock their position by alphanumeric sorting (500) with other vendors in the selected geographic area and/or category of commerce. Otherwise, all non-fixed position ads in a particular category of commerce are rotated each time the corresponding category is selected by the user. The method facilitates selection of a vendor nearest the user's location (1016). Keying information is maintained to account for the usage of each advertisement on each user's computer system for reporting to the vendors. An HTML document and an associated browser program, implemented on the user's computer system, are used to implement the method.



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# METHOD FOR COMPUTER AIDED ADVERTISMENT

# Field of the Invention

The present invention relates to advertising medium and methods and in particular to computer operable methods for presenting multimedia advertisements regarding client/advertiser activities to a user of a computer operating in accordance with the methods of the present invention.

#### **Problem**

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Advertising media are selected for their suitability in particular styles or areas of commerce. For example, in some areas of commerce, simple textual presentation of information about a business may suffice, whereas in other areas of commerce, audio and/or video information presentation style may be required to convey a particular message regarding a business. It is also common in directories of such advertising to index the advertisements of the participating merchants to aid the user of the directory in locating the information. For example, so-called "White Pages" phone directories are indexed by name only, while so-called "Yellow Pages" phone directories are indexed by category first, then by name second. Other aspects of business advertising attempt to target the audience by geography or other demographic information. For example, direct mail advertisements typically focus the advertising on a particular geographic area.

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Current advertisement media and techniques all suffer from one or more problems. Some advertising media are incapable of storing and presenting a large volume of advertisements or a large volume of data in a particular advertisement. To provide for and present such large volumes may be too costly under some advertising techniques using some advertising media. Some advertising techniques and media severely limit the manner in which a user may search the voluminous advertisements. For example, telephone books do not index the advertisers by geographic location. Or for example, other media may not index the advertisers by categories of commerce. Most advertising techniques and media are limited in their variety of presentation styles. For example, television advertisements are not searchable by indices, telephone directories are incapable of presenting audio or visual information, radio

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advertising cannot present video information, etc.

In view of the above discussion it is clear that a need exists for an advertising medium and method which combines features of other mediums to permit large volumes of advertising information, comprised of any of several styles of presentation data. Further a need exists for the advertisements to be searchable by any of several indices, and to be rapidly and frequently updated.

### Solution

The present invention solves the above and other problems, thereby advancing the useful arts, by providing computer operable methods and associated apparatus for computer aided advertising. The present invention includes computer data structures for storing and structuring advertising information and computer operable methods for manipulating and presenting the structured advertising information on a standard personal computer (with or without multimedia functionality). information includes information constructed in any of several medium and presentation styles, including: audio, video, text, graphics, etc. The advertising information is searchable by any of several indices, including: alphabetically by name, by address, by business/commerce categories, etc. The advertising information may include coupons for special promotional offers. Associated computer operable methods help assure that the coupons may be printed and used only a predetermined, fixed number of times. The advertising information and associated methods include features which generate a graphical map and textual directions to the corresponding vendors establishment from the user's starting point (user's location and address). The advertising information may be stored on CDROM medium and physically delivered to prospective customers or may reside on nodes of local (or national) computing networks for access via computer to computer communications. In either case, large volumes of advertising information may be inexpensively delivered to prospective customers and may be easily and frequently updated. Certain preferred positions and timing of the advertising information presentation may be used by vendors to provide the user with more noticeable, unsolicited, advertising information. For example, a

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portion of the user's computer screen may be dedicated to a continuous "ticker" advertisement or the "title" screen when the program is started may present a preferred vendor's advertisement. The first advertisement presented to a user in response to a commerce category search may be a preferred position at which a vendor may elect to lock their presentation. A vendor may elect to lock their presentation by a fixed alphanumeric ordering within a particular category. And finally, other advertisements in a commerce category will simply have their vendor names listed in alphabetical order. Those vendors with standard position advertisements will be highlighted in the alphabetical listing of other vendors. In an alternative embodiment, the vendors having standard position ads may have their ads displayed to the extent space remains on the display following presentation of preferred position ads and reserving space for an alphabetical listing. It will be common that more standard position ads are present in a category than may be simultaneously presented on the display. The subset of standard ads selected for display each time a category is selected is therefore rotated each time the category is accessed to provide fair access by customers to the other vendors advertisements.

In particular, the present invention may be embodied as a standard computer application program which presents the user with menu options to search, select, and receive the desired advertising information presentation. Such programming techniques are well known to those of ordinary skill in the software arts. In addition, such menu oriented user interfaces are typical in common computing environments such as Microsoft® Windows® or the Apple Macintosh®. In the best presently known preferred embodiment, the present invention may be implemented as a Hypertext document written in the Hypertext Markup Language (HTML). The HTML document describes the structure and interrelation of the various components of the advertising information as well as encoding the actual advertising data itself. An HTML document includes information content as well as structure which directs the browser to other related information in a manner analogous to hierarchical menus common in the Windows® programming environment noted above. The information content may be textual, graphical, audio, or video in its style of presentation. The HTML document is

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then "viewed" (i.e. the information content is presented to the user) by any of several well known, commercially available, browser programs. Exemplary of such "Web browser" programs are Netscape™ and Mosaic™ which are well known by, and readily available to, those of ordinary skill in the art. The browser program includes capabilities to present any such presentation styles to the user (assuming appropriate computer accessories are attached to the computer).

The HTML document may be distributed to prospective users on CDROM media so as to provide large volumes of advertising data to users inexpensively. A single CDROM may contain the advertising data for a particular city or town. The browser program is simply directed to browse the HTML document stored on the CDROM. All other advertising information is then stored on the CDROM and accessible through the structures and operations coded in the root HTML document. In addition, the HTML document may be browsed by access to computer networks as is well known to those of ordinary skill in the art. The HTML document may simply be located at a node in the computer network and reviewed by the user by directing the browser program to the location which stores the HTML document. Such network browser capabilities are well known to those of ordinary skill in the art. Commercial examples of such network browsing capabilities include, for example, browsing "home pages" (HTML documents) on the so-called World Wide Web (also referred to as "the Web" or simply "WWW") as available on Internet or, for example, browsing titles published on the Microsoft Network (MSN). Programs and other tools used in construction and browsing of such HTML documents are readily available in commerce and well known to those of ordinary skill in the art.

The above improvements and other objects, aspects, features, and advantages of the present invention will become apparent from the following description and the attached drawing.

# **Brief Description of the Drawing**

FIG. 1 is a block diagram of a typical computing environment in which the methods of the present invention may be operated;

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- FIG. 3 is exemplary of the opening image as seen on the display of the computer system when the methods of the present invention are initiated;
- FIG. 4 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention permit selection of advertising material based upon commerce categories and alphabetical index;
- FIG. 5 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention display advertisements located for a particular commerce area namely attorneys;
- FIG. 6 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention provide additional detail as to the advertised information for a selected vendor;
- FIG. 7 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention present special offer coupons provided by the selected vendor;
- FIG. 8 is exemplary of an image as seen on the display o the computer system wherein the methods of the present invention generates a map and associated textual directions from the user's location to the selected vendor's location;
- FIG. 9 shows the structure of vendor advertising information stored on CDROM or in a central database;
- FIG. 10 is a flowchart describing the highest level of processing of the methods of the present invention from program startup;
- FIG. 11 is a flowchart describing additional detail of the user directed search of an area or online directory as shown in FIG. 10;
- FIG. 12 is a flowchart describing additional detail of the presentation of information regarding a selected vendor as shown in FIG. 11;
- FIG. 13 is a flowchart describing the methods of processing toolbar or menu bar functions requested by the user at any time in the processing of the methods of FIGS.

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FIG. 14 is exemplary of the title page on which a vendor may elect to lock their advertisement for increased exposure.

# Detailed Description of the Preferred Embodiment

While the invention is susceptible to various modifications and alternative forms, a specific embodiment thereof has been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that it is not intended to limit the invention to the particular form disclosed, but on the contrary, the invention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

# COMPUTER ASSISTED MULTIMEDIA ADVERTISING:

The present invention includes methods and data structures operable within a computing system for presenting multimedia advertising information for a plurality of vendors to a user of the computer system. The present invention further includes data structures which permit the advertising information to be searched according to any of several indices. A user may select a particular one of the plurality of vendors for presentation of the corresponding advertising information. The advertising information may include, for example, text, graphics, and video information for presentation on the computer system's display device as well as audio information for presentation on the computer system's speakers.

In addition to indexing the advertising information based upon the vendors' names, addresses, and phone numbers, the advertising information is searchable by geographic areas (such as by town or by sections of a city) and by category of commerce. Special groupings of vendors are identified for governmental agencies, community services, or local emergency information. The geographic information regarding the vendor and the user of the present invention (entered at installation and setup of the present invention) are used to permit selection of a nearest vendor in a particular business category or geographic area.

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The advertising information may be stored on a CDROM disk and distributed to potential customers in the appropriate marketplace or may be accessed via computer network communications with a centrally managed database of all subscribing areas and categories. As discussed below, the term database as used herein refers to the collection of advertising information and its associated data structures utilized in searching the advertising information. The actual implementation of such a database is a matter of design choice and may include a traditional database structure managed by a commercial database management system as well as a collection of structured Hypertext Markup Language (HTML) documents. The HTML documents may be considered a database as the term is utilized herein in the sense that they contain both the advertising information and associated data structures utilized in searching the advertising information.

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In addition to presentation of vendor advertising information, the present system includes features to generate a graphical map and associated textual directions to the vendors location from the user's location. Other information includes special promotional offers (such as coupons) which may be printed by the user for redemption at the vendor's location. The number of times a coupon may be printed may be limited to a fixed number if so desired by the vendor.

FIG. 1 is a block diagram of an exemplary computing environment in which the methods and structures of the present invention may be utilized. A user's computer 100 may include a CDROM drive 106 for selecting and receiving multimedia vendor advertising information stored on CDROM media. In addition, user computer 100 may include a modem 108 which may be used in the methods of the present invention to connect the user's computer 100 directly to the vendor's computer 102 via telephone line 114 and modem 110 attached to the vendor's computer 102. Additionally, user's computer 100 may be attached to network 112 to a vendor's computer 102 or to a service provider's computer 104 at which resides a central database 116 containing all subscribing vendors' multimedia advertisements.

A user at computer 100 selects advertisements from the CDROM media in CDROM drive 106 or from the central database over network 112 for vendors which

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provide desired goods or services. The vendors may be selected by any of several indices (discussed below in additional detail). When a user identifies a desired advertisement, the user selects the advertisement for presentation of the corresponding multimedia information stored on the CDROM or the central database. Other detailed information may then be requested by the user including special promotional offers (coupons if available from the vendor) as well as graphic maps and textual directions to the selected vendor's location.

FIG. 2 provides additional detail of the architecture of a user computer system 100 in which the methods of the present invention may be implemented. CPU 200 is connected to ROM memory 202 for storage of programmed instructions and RAM memory 202 for storage of program instructions and data. Keyboard 206 and pointer device (mouse) 208 are used to received user input commands and data to direct the selection and presentation of vendor advertisement information. Speakers 222 are used by CPU 200 to present audio information to the user. CPU 200 communicates with display interface 210, disk interface 212, modem 214, and network interface 216 via interface bus 224. Display 218 is used by CPU 200 via display interface 210 to present visual information to the user including, for example, text, graphics, animation, and full motion video. Disk 220 is used by CPU 200 via disk interface 212 to store data structures and program instructions for searching, selecting, and presenting advertising information for a particular vendor.

CDROM drive 106 is connected to CPU 200 through disk interface 212 and is used to permanently store the vendor advertising multimedia presentation information. Vendor advertising information may also be accessed from a central database maintained by the advertising service provider via network 112 via network interface 216. Modern 214 is used by CPU 200 to directly connect to a selected vendor's computer system for vendor specific processing or as an alternate connection path for access to the central database.

One of ordinary skill in the art will recognize that the computing environment represented in FIGS. 1 and 2 is exemplary of one computing environment capable of performing the methods of the present invention. Many equivalent computing

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environments may be utilized to perform the methods of the present invention and to store the advertising information for selection by, and presentation to a user.

#### **EXEMPLARY SCREEN DISPLAYS:**

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FIGS. 3-8 and 14 depict exemplary screen displays typical of the displays generated by the methods of the present invention operating on a computer system. One of ordinary skill in the art will readily recognize many equivalent graphical user interface styles, text, icons, etc. which may be utilized to perform the advertising search and presentation methods of the present invention.

There are a variety of advertising placements available under the methods of the present inanition. For example, certain placements are preferred because they command more attention from a user or because they are presented more frequently. A vendor may therefore request that their advertisement be placed in such a preferred position. In the alternative, a vendor may place an ad but not request such preferred placement. Such a standard placement ad is therefore presented to the user in a position of less prominence than that of a preferred position ad. Further, a vendor may have no ad but rather a single line (or multiple line) textual listing to be displayed in an alphabetical list for a particular selected area or category of commerce.

Each add therefore has a type attribute value associated with the advertising information to identify the type of the ad for placement purposes in the methods of the present invention. Exemplary attribute type include: preferred placement ad, standard placement ad, text listing, etc.

FIG. 14 is exemplary of the title page advertisement which is displayed each time the methods of the present invention are invoked on the user's computer system. A vendor may elect to present their advertising information at this preferred position to maximize exposure of their goods and services to the user. The title page advertising screen is displayed for a predetermined interval or until a user response is received to clear the screen and move on to normal operation of the methods of the present invention. Specifically, the user may strike any key on the keyboard or click the mouse device to cause the methods of the present invention to proceed to the opening screen

(discussed below).

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FIG. 3 is exemplary of the opening screen of the present methods operating on a computer system. As on every exemplary screen discussed below, toolbar 300 contains iconic representations of commonly used functions in the operation of the methods of the present invention. Clicking the pointer device (mouse) on the iconic representation of a function invokes that function. Menu bar 302 provides a pull-down menu mode of access to the functions of the methods of the present invention. All functions available through the methods of the present invention are accessible via the pull-down menu operations of the menu bar. Functions such as the toolbar 300 and the menu bar 302 are well known to those of ordinary skill in the art of graphical user interface programming such as in the Microsoft Windows or Apple Macintosh computing environments. Further detail of the structure of the toolbar 300 and menu bar 302 need not be provided herein. The functions which are performed by the toolbar 300 and menu bar 302 are discussed below in additional detail with respect to the methods of the present invention.

The exemplary opening screen of FIG. 3 depicts iconic representations of the available directory areas in the database on the computer system. Depicted are directory areas for Fort Collins 304, Loveland 306, and Estes Park 308. The precise areas available on the local database are dependent upon the geographic areas served by the database. As discussed below, the database supplied to a user on a CDROM medium is subdivided as shown in FIG. 3 into geographic areas. The central database accessed via computer communication and networking techniques (as discussed below) provides advertising information for all geographic areas in which the service is provided. The user selects an advertising area by clicking the pointer device on the icon for the desired area (or alternatively by selecting the Phonebook menu bar pull-down menu). Once an area is so selected, a directory for that area is displayed on the user's screen. The opening screen title 310 identifies the provider of the advertising products and services of the present invention.

FIG. 4 depicts an exemplary display screen displayed by the methods of the present invention after an area has been selected. The screen suggests a closed

directory for the selected area (i.e. Fort Collins). Preferred position advertisements 404, 406, 408, and 410 for the selected area (Fort Collins) are displayed along with the closed directory cover 426. These preferred position advertisements are sold to vendors who choose to maximize their exposure to user's in the selected area.

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In addition to the toolbar 300 and menu bar 302 (discussed above), the user is provided with index tabs A-Z 412 for viewing the area advertisements in alphabetical order by name. The user may "open" the closed directory for Fort Collins by clicking the pointer device on a desired first letter of the vendor's name (A-Z). In addition, the user is provided with category index tabs 414-424 to view a menu of commercial categories grouped by the supplied index tabs. For example, the user is provided a menu of business categories from which to select by clicking the pointer device on the Business index tab 414. Similarly, a menu of government categories is provided to the user by clicking the Gov't index tab 416, etc.

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FIG. 5 depicts the directory for Fort Collins opened to the "Attorney" business category and in particular to the "A" index tab of attorneys. Mr. Armstrong and Mr. Aston are displayed on the open page 500 as the first two attorneys in the "A" index of the "Attorney" category of the Fort Collins directory. As noted above, preferred position advertisements 502 and 504 may be displayed regardless of the user's positioning of other normal advertisements according to the index searching methods. Additional pages of attorneys may be viewed by "turning" the pages of the directory. The pages may be turned by the page forward and page backward functions discussed below and accessible through related toolbar 300 icons, menu bar 302 functions, and keyboard or pointer device input from the user as is well known to those of ordinary skill in the art of graphical user interface programming.

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A user may select an advertisement of particular interest from any display discussed above (as well as others not shown). An advertisement may be selected by simply clicking the pointer device on the desired advertisement. When an advertisement is so selected, a screen exemplified by FIG. 6 is displayed to provide the user with additional details of the selected vendor. Additional detail window 600 is presented to the user as a multimedia presentation. The presentation as discussed

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above may include any combination of text, graphics, audio, and video information. Scroll bar 608 permits the user to easily view the entire content of the additional detail provided in window 600.

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In addition to the multimedia detailed information presented in window 600. iconic buttons are provided for the user to simplify access to other common information Coupons button 602 provides the user with special for the selected vendor. promotional offers (if any) from the selected vendor. Autodial button 604 initiates processing to dial the vendor's voice phone number automatically through the user's computer. A data modem within the user's computer system (or other auto-dial equipment known to the telephony arts) may be used to dial the vendor's telephone. When the dialing process has completed, the computer system prompts the user to pick up the telephone receiver to commence discussions with the vendor. Directions button 606 generates and displays textual and graphical (map) directions to the vendor's location from the user's location (provided at registration of the program noted below). The network button 614 on the exemplary screen of FIG. 6 is used to connect the user's computer to the vendor's computer for direct computer interactions. The connection so established may be a direct modem link to the vendor's computer system or may be indirect through public data networks as is known to those of ordinary skill in the art. Finally, the E-mail button 612 is used to initiate processing to compose a message for the vendor and to direct the composed message to the vendor's E-mail address through standard computer communication and networking methods. The network button 614 and the E-mail button 612 may be utilized for computer data communications to, for example, retrieve vendor pricing or availability information, or, for example, to transmit order entry and processing data to the vendor's computing systems.

FIG. 7 depicts an exemplary screen showing the display of the selected vendor's promotional offer coupons. This screen is displayed at the user's request by clicking the Coupons button 602 of FIG. 6. One or more coupons 700 may be thus presented on the user's display. Close button 702 returns the user to the previous vendor detail screen (of FIG. 6) while the Print button 704 prints the selected coupon for redemption by the user. As noted below, options of the methods of the present invention permit the

vendor to specify a limit on the number of times each coupon displayed on the screen depicted in FIG. 7 may be printed. Log files written to the user's computer system record the number of times each coupon is printed and limit the printing if the vendor so desires.

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FIG. 8 depicts an exemplary screen showing the display of graphical and textual direction to the vendor's location from the user's location. This screen is displayed in response to the user's request indicated by clicking the Directions button 606 of FIG. 6. A static map 800 of the geographic area surrounding the vendor's location is displayed along with static textual directions 802 to the vendor's location from nearby well-known landmarks or intersections. In an alternate embodiment of the present invention, a dynamic map 800 (graphical directions) is generated by methods of the present invention from the user's location (entered at program registration when first run on the user's computer system) to the vendor's location (provided in the advertising database along with other information about the vendor). Geographic mapping information for towns, cities, states, the Nation, as well as much of the world is readily available from a variety of commercial and governmental sources. Methods to compute a path from one location to another are well known in both the art of map generation as well as more generally in the mathematical study of graph theory. Any of such methods may be employed in the present invention. In addition to the dynamic map 800 generation, dynamic textual directions 802 corresponding to the map are generated and displayed in the screen of FIG. 8. The Close button 804 is used to exit the directions display and return the user display to the previous vendor detail display. The Print button 806 serves to print the displayed map and directions on the user's printer.

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# **ADVERTISING DATA STRUCTURES**:

FIG. 9 depicts an exemplary structure of the advertising information as stored on CDROM (distributed to each user) or as stored on the disks or CDROMs of a central database server accessed through computer communication links (such as a Web server on the Internet). Advertising information for each of a plurality of vendors may

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be accessed (located) by any of several indices. Vendors V1^EV10 (918-936, respectively) may each be located by a link in the global master index 900. The global master index 900 includes the name, address, and phone number for each vendor V1-V10 (918-936) and an associated link to each vendor V1-V10 (918-936). The global master index 900 therefore permits a user to locate any vendor, regardless of geographic area, by name, address, or phone number.

In addition, the vendors may be accessed by their geographic area. Each geographic area, AREA1 902 and AREA2 908, includes a master index with an entry containing name, address, and phone number for each vendor in the area and a link to the corresponding vendor advertising files. Specifically, as shown in FIG. 9, the master index 904 of AREA1 902 has links to each of vendors V1-V5 (918-926, respectively) while the master index 910 of AREA2 908 has a link to each of vendors V6-V10 (928-936, respectively). The master index of each area permits the user to locate any vendor in the corresponding area by name, address, or phone number.

Each area also includes a category index with links to entries containing information about an area of commerce (a category). The category index 906 of AREA1 902 includes links to categories 914 (C1, C2, C3, etc.) while the category index 912 of AREA2 908 includes links to categories 916 (C1, C2, C3, etc.). In turn, each category contains links to vendors who choose to advertise in that category of commerce. For example, category C1 in categories table 914 of AREA1 902 has a link to vendor V1 918. Category C3 has links to vendors V3 922 and V4 924. Vendor V5 926 advertises in category C3 as well as others. The category index in each area permits a user to locate all vendors who provide goods or services in a particular category of commerce.

One of ordinary skill in the art will recognize many equivalent data structures within the scope of the present invention which may be utilized to represent the advertising information and the associated linking and relationship information. For example, the data structures may be represented by an HTML structured document as well as by traditional indexed file structures (i.e. database methods and structure).

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### **ADVERTISING KEYING:**

Vendors utilize information regarding efficacy of their advertising. Methods of the present invention discussed below provide keying information to vendors gathered from a user's pattern of use of the advertising products and services provided by the present invention. In particular, a keying file is created and maintained by the methods of the present invention to record a user's interaction with the advertising methods of the present invention. Each time an advertisement is displayed on the user's display (as discussed below), an entry is updated in the keying file to so indicate that the advertisement was presented to the user. Each time a particular advertisement is selected for detailed presentation (as discussed below), an entry in the keying file is updated to reflect the user's selection of a particular advertisement. The information in the keying file is transmitted to the central server site of the advertising service provider when the methods of the present invention are applied to connect to the service provider's central server. The information gathered in each user's keying file and collected at the provider's central server node may be reported to the vendors to provide the advertising efficacy information required by the vendors.

### **ADVERTISING SEARCH AND DISPLAY METHODS:**

Methods of the present invention permit the user of a computing system to search, select, and review a desired vendor's advertisement or a group of related advertisements. The methods of the present invention include a plurality of search techniques and indices to permit significant flexibility to the user in selecting and receiving the vendor's multimedia advertising information presentation. The flowchart of FIG. 10 describes the operation of the methods of the present invention at the direction of the user's input and in conjunction with the vendors' multimedia advertising information presentations. A more detailed list of the specific menu functions and their hierarchical relationship to one another is presented below in tabular form.

Elements 1000-1004 of FIG. 10 initialize operation of the methods of the present invention by requesting that the user enter registration information on the first invocation of the method. The user's registration information is entered at the computer

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system keyboard (or other user input devices) and is then stored on non-volatile storage of the user's computer system (e.g. a disk file) so that subsequent invocations of the method will skip this step. Element 1000 therefore tests whether the registration information is located on the disk of the computer system. If found, processing continues by skipping to element 1006. Otherwise, processing continues with element 1002 receiving the user's input information, and element 1006 storing the entered information in a disk file. Among other data, the registration information includes the user's address (geographic location). The user's address is used in several of the search options noted below, such as to determine the nearest advertising vendor or to generate a map and/or textual directions to a selected vendors location from the user's location.

Element 1006 is next operable to present the title page advertisement to the user through the multimedia presentation devices of the computer system. The title page advertisement may be selected by a vendor to afford improved visibility of the advertisement. Since the title page advertisement is always presented to the user, a vendor may perceive added marketing value in placing their advertisement in this portion of the advertising method. Typically, the title page advertisement will be presented to the user for a fixed period of time sufficient to convey the desired message to the user. The user may terminate the display of the title page advertisement by striking any key on the keyboard or by clicking the pointer device anywhere on the title page advertisement. An additional title page advertisement, possibly limited to text and graphics, may be constantly displayed in a reserved section of the user's computer system display. For example, such a constant advertisement may display scrolling or stationary text and/or animated or static graphical images. This advertising presentation may be preferred by vendors to maintain their advertising information at the forefront of the user's attention.

Following presentation of the title page advertisement, element 1008 is then operable to await a selection by the user before further processing continues. The user selects the next desired action by entering information through a keyboard or clicking a mouse or other graphic input device. The functions available include: selection of

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one of several available geographic area subsets of the advertising information available on the user's computer system (i.e. the specific local groupings on the distributed CDROM), selection of the online directory services to connect to the central advertising database, or selection of any of several "toolbar" options (noted below in tabular form) to allow the user to more rapidly control the details of the presentation of the advertising information.

When a function selection is made by the user and sensed by operation of element 1008, elements 1010-1020 then perform processing steps appropriate to the selected function. Elements 1010-1014 serve to switch processing to the element appropriate for the selected function, namely elements 1016-1020, respectively. Specifically, when element 1010 determines that a particular geographic area has been selected by the user, element 1016 is next operable to permit further interaction with the user to present selected advertisements in the selected geographic area. One of ordinary skill in the art will readily recognize that elements 1010 and 1020 are representative of the processing to select one of one or more available geographic areas stored on the database presently in use (i.e. the user's CDROM or the central database). A particular user's CDROM may contain a single geographic area or even a portion of a larger area (such as may be the case in a large metropolitan area). Alternatively, a particular user's CDROM may contain a plurality of geographic areas (such as may be the case in rural or less densely populated areas). The central database contains all advertising of all participating vendors in all geographic areas supported by the service provider. Processing as depicted in FIG. 10 then continues by looping back to element 1008 to await another selection by the user.

FIG. 11 is a flowchart depicting additional detail of operation of the methods of the present invention which permit the user to select a particular advertisement or group of advertisements for presentation of the vendor's information. The flowchart of FIG. 11 is representative of the processing of both elements 1016 and 1018 of FIG. 10 in that both permit the user any of several options to narrow the search for relevant vendor advertising information. Element 1016 differs from element 1018 primarily in that element 1016 processes user selections relative to the advertising information in

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a particular geographic area while element 1018 permits essentially the same user selection processing but over the entire online central database of advertising accessible over computer communication networks.

Element 1100 is first operable to await a selection by the user as to a desired mode of searching or limiting the numerous advertisements stored in the selected storage medium (i.e. CDROM or central database via a network connection). Following the user's selection, elements 1102, 1110, 1116, and 1122 are operable to determine which type of search mode the user selected in element 1100 and to switch processing to the appropriate next element.

If the user selected a search by category of commerce, then elements 1102-1108 are operable to determine which predefined category of commerce the user desires. Element 1104 presents the user with a menu of predefined categories from which to select. Element 1106 is then operable to await the user's selection of a desired area to limit the number of advertisements to search. Responsive to the user's selection input, element 1108 is next operable to present the user with the first page of advertisements in the selected category. Subsequent pages of advertisements may be selected by the user selecting the page forward and page backward functions discussed below.

Element 1127 is then operable to update the keying file (discussed above) to reflect the presentation of all advertisements on presently on the display. Processing then continues with element 1128 to await user selection of a particular advertisement.

In like manner, if the user selected a search by vendor name, address, or phone number, then elements 1110-1114, 1116-1120, and 1122-1126, respectively, are operable to determine which vendor the user seeks. Element 1112, 1118, or 1124 prompts the user to enter the desired name, address, or phone number, respectively according to the type of search selected by the user and determined by elements 1110, 1116, and 1122. Following entry of the desired search data, elements 1114, 1120, or 1126 displays the first page of vendor advertisements which match the desired search data entered by the user responsive to the prompt of elements 1112, 1118, and 1124, respectively. Processing then continues with elements 1127 to update the keying file

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and element 1128 to await user selection of a particular advertisement (as above).

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Positioning of an advertisement on the first page of a category may be preferred by vendors to improve exposure or visibility of their business to the users. This preferred position may be provided with assurance to vendors who choose to pay for such assurances. Such an advertisement is referred to herein as a preferred position advertisement or as an advertisement with a preferred position attribute associated therewith as compared to an advertisement with a normal position attribute associated therewith. A second type of preferred positioning is available to vendors by selecting presentation of their advertising information in a rotating format with other preferred advertisements. Vendors selecting rotating preferred ordering are presented next after the first page preferred position advertisements. To assure approximate equality of exposure to the rotating advertisements, all rotating preferred position advertisements are shifted or rotated in their positioning on the first and subsequent pages. In other words, each time a category is accessed, the positions of the rotating preferred position advertisements are shifted so that a different set of vendors' advertisements appears first (following the preferred position advertisements) when the user selects the category. The positions of the rotating preferred position advertisements may be shifted or rotated in a repeated sequence or may be randomly altered to help assure equal distribution of the vendor presentations. This shifting or rotating of rotating preferred position advertisements helps assure rough equality of exposure to the various vendors in a particular category.

All other vendors' advertisement (non-preferred position advertisements) will appear in standard alphanumeric order after the preferred position and rotating preferred position advertisements.

An alternate embodiment of the present invention simply lists all vendors without preferred position ads rather than defining another type of ad for rotating display. Only the preferred position ads are presented (graphically) to the user in such a case and all other vendors are simply listed in alphabetical order (e.g., in a scrolling textual section of the display screen - not shown). Vendors in the listing who have a standard ad (not a preferred position ad) are highlighted to draw attention of the user to these

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vendors. The user may then click the highlighted listed of a selected vendor to view the ad presentation.

Elements 1128 and 1130 are then repetitively operable to await selection of a particular one of the displayed vendor advertisements. The advertisements may be presented in a mixture of text and/or graphics as though on the pages of a telephone directory with its pages open to a desired category, or to groups of similar names, addresses, or phone numbers. The text and graphics displayed on the user's computer system provide a brief summary of the associated vendor's advertised information. Alternatively, at the user's option, the advertisements may be displayed in an alphanumerically indexed mode showing only textual keys related to the corresponding vendors (e.g. name, address, phone, etc.). A user may utilize the toolbar functions discussed below to change the display to other pages of advertisements or to return to earlier selection functions discussed above. Toolbar functions (noted below) are used to switch the display between the pure textual index of vendors and the text and/or graphics display mode. Specifically, the A-Z index button, discussed below. switches the display to the textual display of vendors in alphanumeric order while the advertisements button, discussed below, switches the display back to the text and/or graphics mode. Element 1128 awaits the user's selection of a particular advertisement displayed in either mode on the presently displayed pages. The user selects a desired advertisement by clicking a pointer on the desired advertisement. In response to the user's selection of a particular advertisement, element 1130 is next operable to present the multimedia presentation and associated details of the vendor's advertising information. As noted above, the multimedia advertising information may present any combination of text, graphics, video, and audio information depending upon the desire of the advertised vendor and depending upon the capabilities of the user's computer system. Following presentation of the selected vendor's advertising information, processing then continues by looping back to element 1128 to await the user's selection of another vendor's advertising information displayed on the open pages on the user's computer system display.

Any time the user's computer display is altered by the methods of the present

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invention to present different advertisements, the methods of the present invention will resume operation at element 1127 of FIG. 11 to update the keying file to reflect the newly displayed advertisements. Specifically, several toolbar functions, discussed below, cause the screen display to be re-drawn with new advertisements which in turn causes the methods of the present invention to continue operation at element 1127 updating the keying file.

### PRESENTATION OF A SELECTED ADVERTISEMENT:

FIG. 12 is a flowchart depicting additional detail of the processing associated with element 1130 of FIG. 1 presenting a selected vendor's advertisement to a user. Element 1200 is representative of all the processing required to present the selected vendor's advertising information to the user. As noted above, the information is a multimedia collection of parts including one or more of the following types of information: text, graphics, video, and audio. Apparatus and methods appropriate for presenting multimedia information are well known to those of ordinary skill in the art. The information is stored in one or more files on the CDROM or central database and is associated through the indexing structures of the database with the selected vendor.

Element 1201 is next operable to further key the presented advertisement. A keying file, as discussed above, is maintained by the methods of the present invention to record each selection by the computer system user of a displayed advertisement. Keying information is provided to participating vendors by the provider of the products and services of the present invention to permit the vendors to improve the content and to better target their advertising presentations to the marketplace. This keying file records the number of "hits" and presentations of each advertisement over a period of time. The entire keying file is transferred to the provider of the advertising products and services when the user connects to the central database server. The advertising service provider may then accumulate the keying information from each user's computer system to provide each vendor with periodic reports on the effectiveness of their advertising information presentations.

Element 1202 then awaits further direction from the user to select which, if any,

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Responsive to the user's selection, elements 1204, 1214, 1226, and 1234 are then operable to switch processing to the appropriate next element to process the user's selection. Specifically, element 1204 switches processing to elements 1206-1212 responsive to a user request to view special offer coupons of the selected vendor, element 1214 switches processing to elements 1216-1224 responsive to a user request to view directions to the vendor's location, element 1226 switches processing to elements 1228-1232 responsive to a user request to connect to the vendor's computer system, element 1236 switches processing to elements 1238-1240 in response to a user's request to dial the vendor's voice telephone number, element 1242 switches processing to elements 1244-1246 in response to a user's request to E-mail a message to the vendor's E-mail address, and element 1234 completes processing for the presently selected advertisement.

Elements 1204-1212 perform the processing required to present the user with the vendor's special offer coupons (if any). A vendor may choose to include coupons to offer special promotions to users of the present invention. Element 1206 displays the text and graphics associated with the coupon (if any) on the users computer system display. Element 1207 then awaits the user's selection of a particular one of the displayed vendor coupons. Elements 1208-1212 are then operable to determine whether the user wishes to print the displayed coupon. If the user does not wish to print the coupon, then element 1208 continues processing by looping back to element 1202 to permit other detailed information to be obtained by the user. If the user requests printing of the coupon has not been printed too many times, then processing continues with element 1212 to print the vendor's special offer coupon. In either case, processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

Each time a coupon is printed by element 1212 a log of the coupon being printed is recorded on the permanent storage (i.e. in a disk file) of the user's computer system. If the vendor wishes to limit the number of times a coupon is printed, the methods of the

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present invention will determine by operation of element 1210 whether the coupon has already been printed the permitted number of times. This log information is maintained by methods well known to those of ordinary skill in the art in a manner which hides the recorded log so as to make it more difficult for a user to circumvent the vendor's desire to limit use of the coupon.

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Elements 1214-1224 perform the processing required to present the user with directions to the vendor's location. The information stored in the CDROM or central database includes geographic positioning information of each vendors' location. At time of registration of the present invention, at first use of the invention, the user supplies geographic location information for their home site. This geographic information is combined with map information pertaining to the geographic area selected for search to generate a graphic map and associated textual directions from the user's location to the selected vendor's location. Element 1216 generates the requisite map and directions and element 1218 displays the generated map and directions on the user's computer system display. Elements 1220-1222 are then operable to determine whether the user wishes to print the displayed map and directions. If the user does not wish to print the information, then element 1220 continues processing by looping back to element 1202 to permit other detailed information to be obtained by the user. If the user requests printing of the map and directions then element 1222 prints the displayed map and directions. As noted above, an alternative embodiment of the present invention displays and prints statically defined maps and associated directions to simplify operation of the present invention and to reduce processing requirements on the user's computer for the generation of dynamic maps and directions. In either case, static or dynamic direction printed or not, processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

Elements 1226-1232 perform the processing required to connect the user's computer to the selected vendor's computing system(s). Such a connection may be by direct dialing of a modem or may utilize standard computer networking capabilities. One of ordinary skill in the art will readily recognize that the connectivity may be used

for direct interaction with proprietary computing applications on the vendor's systems (i.e. order entry and marketing functions) or may utilize standard computer networking features (such as Internet E-mail, Web access, Telnet, or FTP). The methods and apparatus required for such connectivity are well known and readily available to those of ordinary skill in the computing arts. Element 1228 is first operable to make the requisite connection between the user's computer system and the vendor's computing system(s) via modem connections or other well known network connections. Element 1230 is next operable to await the user's completion of the use of the established connection after which element 1232 is operable to disconnect the connected computing systems. Processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

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Elements 1236-1240 perform the processing required to automatically dial the vendor's voice telephone number to permit oral communications between the user and the vendor. Element 1238 is operable to dial the user's telephone by use of autodial features of the user's computer system. A computer data/fax modem is often used for this autodial function (as are many other telephone devices). When the dialing is completed, element 1240 is next operable to prompt the user to pick up the dialed telephone to commence oral communications. Such computer automated dialing is well known to those of ordinary skill in the art and need not be discussed in further detail. Processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

Elements 1242-1246 perform the processing required to compose and transmit E-mail to the vendor's E-mail address. Element 1244 is first operable to permit the user to compose a desired E-mail message. Any of several well known text editing techniques readily available to those of ordinary skill in the art may be used to permit the user to compose the desired E-mail message. Element 1246 is then operable to initiate the transmission of the E-mail message to the vendor's E-mail address. Well known computer communication and networking techniques may be used to transmit the E-mail message. Processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

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# **TOOLBAR FUNCTIONS**:

The toolbar functions are activated by a user by clicking the labeled button on the display (or by other standard user interface techniques). The toolbar functions are displayed at all times during the execution of the methods of the present invention. Each toolbar function provides the user with a quick and convenient function to control the operation of the methods of the present invention. Each pointer function which is presently meaningful in view of the present state of interaction with the user may be activated by clicking the pointer on a corresponding button icon. Functions which are not presently meaningful in view of the state of interaction with the user perform no function and are simply ignored by the methods of the present invention.

Computer programming methods and structure to implement the toolbar functions are well known to those of ordinary skill in the design and implementation of user interfaces in, for example, Microsoft Windows. Such event driven user interfaces are common in the design of graphical user interfaces. FIG. 13 is a flowchart which suggests the detailed processing performed in response to a user's click of the pointer on one of the toolbar button icons. FIG. 13 graphically depicts the toolbar functions as a method which awaits a user toolbar function selection and then processes the selected toolbar function.

Elements 1300-1302 are operable to switch the processing of the methods of the present invention back to a point wherein the user's computer system display presents the open page of advertisements corresponding to the most recent search by category discussed above. The advertisements are displayed in the mode of text and/or graphics. Elements 1304-1310 are conversely operable to switch the advertisement display to a text only mode wherein the textual key fields of a vendor (e.g. the name address and phone number) are displayed on the open pages of the directory. Specifically, elements 1304-1306 are operable to switch the method back to a text only display of the last displayed category of vendor names in the presently selected geographic area while elements 1308-1310 are operable to switch the user's display to a master A-Z index of all vendors stored in the selected medium (CDROM or online central database). In all cases, processing then continues at label "H" at element 1128

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of FIG. 11 to await the user's selection of another advertisement from the open page of advertisements.

Elements 1312-1314 are operable to switch the processing of the methods of the present invention back to a point wherein the user selected a business category from the predefined list of categories. Processing then continues at label "E" with element 1102 of FIG. 11 to await the user's selection of one of the predefined categories of business. In like manner, elements 1316-1318 permit the user to select a new geographic area by continuing processing at label "A" with element 1008 of FIG. 10.

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Elements 1320-1324 are operable to locate the vendors in the presently selected area and category which are geographically nearest the user's location. If the user has not yet selected an area and category, this function will first prompt the user to select an area and category. Specifically, element 1322 determines the nearest vendors by determining the distance from each vendor's location to the user's location. The proximity of the vendors to the user's location is determined by any of several well known computational or graphical techniques (e.g. grid mapping). The nearest vendors so determined are displayed to the user so that if there are multiple vendors within a small area, the user may select the preferred vendor. The advertisement for the nearest vendor is then presented to the user by operation of element 1324. Processing then continues at label "B" with element 1202 of FIG. 12 to permit the user to select additional detail of the vendor's advertisement for presentation.

Elements 1326-1328 are operable to switch the user's display to a previous or subsequent page in the selected category of vendor advertisements. Processing then continues at label "H" with element 1128 to await the user's selection of a displayed advertisement. In like manner, elements 1330-1332 are operable to print whatever is presently displayed on the user's computer system display while elements 1346-1348 are operable to provide the user with context sensitive help information relevant to the present operation of the invention. Elements 1336-1338 operate to close the presently displayed screen (whether an advertisement, a category selection list, etc...) and switches the screen back to the display which preceded the present display. In all cases, processing continues at label "D" (on FIG. 13) by resuming the operation in

process before the print, close, or help operation was selected by the user.

Elements 1340-1342 are operable to close the currently selected geographic area. Processing then continues at label "A" with element 1008 of FIG. 10 to permit the user to select a new geographic area. Element 1334 switches the user's display to the online connection screen for accessing the central database of vendor advertisements. Processing then continues at label "F" with element 1012 to effectuate the connection to the central database and permit user selection of vendors therefrom.

Lastly, element 1344 is operable to terminate the operation of the methods of the present invention in response to the user's selection. One of ordinary skill in the art will readily recognize that the toolbar functions described above are only exemplary of a user interface that eases the user's interaction with the present invention. Many other equivalent and related functions and structures may be implemented by those of ordinary skill in the art to provide an easy to use interface between the advertising database and the user.

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#### **MENU STRUCTURE:**

The methods and structure of the present invention may also be understood as a hierarchical set of menus comprised of selectable items and submenus. The menus may be implemented as a traditional graphical user interface application program written for operation on systems such as Microsoft Windows or Apple Macintosh, or, as noted above, may be implemented as a structured object as defined by the Hypertext Markup language (HTML). The HTML document is then viewed using a standard commercially available "browser" program such as Netscape or Mosaic. In the table below, each item is labeled with a numeric identifier which indicates its hierarchy in the menu structure. Items selectable at the same level are indicated by incrementing numerals at the same level of the hierarchy. An item which comprises a submenu of additional items has each submenu item identified by a number having the same higher level (major) number with an incrementing minor number. For example, items numbered 1, 2, 3, etc. are all accessible at the highest menu level, whereas items numbered 2, 1, 2, 2, 3, etc. are accessible as items in a submenu corresponding to

Item	Brief Description	
0 Title Advertisement	Advertisement always displayed (in this preferred position) at start of program until user acknowledges or until a fixed timeout.	
1 Opening Page	Displays name of advertising service and product provider and any preferred position advertisement along with geographic areas available for display.	
2 Setup	Special setup menu available at first program startup to register user	
3 Ad Areas	Submenu of geographic areas (i.e. cities) to select including global database available with network access	
3.1 Ad Area 1N	Displays a "closed" directory and awaits user selection from submenu to select type of search desired	
3.1.1 A-Z Buttons	Displays a "closed" directory with buttons for the user to select an alphabetic section of the directory (options continue as for selection of an advertisement as below analogous to 3.1.2.1.1 and 3.1.2.1.2 above))	
3.1.2 Business Directory	Limits the user's search to only vendors in the business section of the directory and awaits user selection of a particular method of search	
3.1.2.1 By Category	Further limits user search to a selected category of commerce and awaits user selection for particular area of commerce	
3.1.2.1.1 Category 1N	Displays an "open" directory with advertisements in the selected category and awaits user selection of a particular advertisement for additional detailed display	

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3.1.2.1.1.1 Ad Detail 1N	Displays the detailed information corresponding to the selected vendor's ad and awaits selection of special features of the advertisement
3.1.2.1.1.1 Coupon	Displays the selected vendor's special offer coupons (if any)
3.1.2.1.1.1.2 Directions	Generates and displays a map and textual directions from the user's location to the vendors location
3.1.2.1.1.1.3 Auto-dial	Automatically dials the vendor's phone number using a modern attached to the computer for purposes of oral, telephonic communications
3.1.2.1.1.1.4 Net Connect	Connects the user's computer to the selected vendor's system via standard network connections
3.1.2.1.1.1.5 E-mail	Permits the user to compose and send an e-mail message to the selected vendor
3.1.2.1.2 Nearest	Selects the vendor in the selected category which is geographically nearest the user and displays the corresponding advertisement (options continue analogous to 3.1.2.1.1.1 above)
3.1.2.2 By Name	Further limits the user's search to vendors whose name contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.2.3 By Address	Further limits the user's search to vendors whose address contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.2.4 By Phone	Further limits the user's search to vendors whose phone number contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)

3.1.3 Government Directory	Limits the user's search to only agencies in the government section of the directory and awaits user selection of a particular method of search
3.1.3.1 By Agency/Office	Further limits the user's search to agencies whose name contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.3.2 By Agent/Officer	Further limits the user's search to agencies who are represented by the person whose name contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.4 Community Directory	Limits the user's search to only agencies in the community section of the directory and awaits user selection of a particular method of search (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.5 Online Directories	Displays the directory of information currently available at the provider's central database of advertisements including other geographic areas (see 4.13 described below)
3.1.6 <b>Maps</b> *	Displays a map of the selected geographic area and awaits user interaction to print or display other details of the mapped area
3.1.7 Favorite Selections	Displays a list of the user's favorite selections from the advertising database to permit rapid selection of commonly used advertisements
3.1.8 Reference	Displays a menu of common reference material and awaits user selection from the menu (e.g. metric or financial conversion data, agencies for reporting bad business practice, etc.)

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3.1.9 Emergency	Displays a menu of emergency numbers appropriate to the selected geographic area
4 Toolbar Options	A number of options are available for user selection at all times on the display screen and are collectively referred to as toolbar options
4.1 Ads	Switches the user's display of the open directory to the text and/or graphics mode of display
4.2 A-Z Index	Switches the user's display of the open directory to the pure textual keys mode of display (e.g. name address and phone)
4.3 Category Index	Switches the user's display back to the category selection menu of the most recently selected area (as above at 3.1.2.1)
4.4 A-Z Master Index	Switches the user's display to an A-Z indexed display of all advertisers in all areas on the current database
4.5 Nearest	Selects the vendor in the selected category which is geographically nearest the user and displays the corresponding advertisement (options continue analogous to 3.1.2.1.1.1 above)
4.6 Page Fwd/Bwd	Displays the next/previous page of advertisements of the open directory for a particular geographic area or category of commerce
4.7 Close	Closes the currently displayed screen and returns to the previous screen (that which preceded selection of the currently displayed screen)
4.8 Close Area	Closes the directory for the selected area and returns the user to the area selection screen (as in 3 above)

4.9 Ad Areas	Permits the user to view advertisements in another area without closing the currently display area directory (if any)	
4.10 Print	Print the current screen to the user's printer	
4.11 Exit	Exits the program from any displayed screen	
4.12 Help	Provides context sensitive help for any screen or any particular field of any screen	
4.13 Online Connect	Automatically connects the user's computer to a central database of advertisements including other geographic areas	
4.13.1 Long Distance Directory	Displays a menu of other areas geographically remote from the user for which advertising is available on the central database (options continue analogous to 3 above)	
4.13.2 Wholesalers Directory	Displays a directory of wholesalers (options continue analogous to 3.1.2.1.1 above)	
4.13.3 Manufacturers Directory	Displays a directory of manufacturers (options continue analogous to 3.1.2.1.1 above)	
4.13.4 Mail-order Directory	Displays a directory of mail-order vendors (options continue analogous to 3.1.2.1.1 above)	
4.13.5 Classified/Personal Ads	Displays a directory of classified/personal advertisements (options continue analogous to 3.1.2.1 above)	
4.13.5 Political Gallery	Displays political advertising for federal, state, and local election issues and candidates (options continue analogous to 3.1.2.1 above)	

4.13.6 Products Gallery	Displays product advertising (e.g. advertising a product rather than the vendor - options continue analogous to 3.1.2.1 above)
4.13.7 Catalog Gallery	Displays catalogs from businesses of all types (options continue analogous to 3.1.2.1 above)
4.13.8 Internet Directory	Displays a directory of Internet addresses for advertising vendors (options continue analogous to 3.1.2.1 above)

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While the invention has been illustrated and described in detail in the drawings and foregoing description, such illustration and description is to be considered as exemplary and not restrictive in character, it being understood that only the preferred embodiment and minor variants thereof have been shown and described and that all changes and modifications that come within the spirit of the invention are desired to be protected.

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## <u>Claims</u>

#### What is claimed is:

1. A method, operable on a computer system having a display, for presenting multimedia advertising information to users of said computer system, said method comprising the steps of:

searching said multimedia advertising information responsive to a user request; and

presenting said multimedia advertising information to a user of said computer system.

- 2. The method of claim 1 further comprising the step of: presenting a preferred portion of said multimedia advertising information at the start of performance of the method independent of user search requests.
- 3. The method of claim 1 wherein said multimedia advertising information includes an entry for each of a plurality of vendors and wherein the searching step further comprises the step of:

searching said multimedia advertising information based upon a predefined index value on each said entry.

- 4. The method of claim 3 wherein said predefined index value is a value associated with each said entry and is selected from the group consisting of; a vendor name value, vendor address value, vendor phone number value, vendor geographic location, and vendor category of commerce value.
- 5. The method of claim 4 wherein each said has associated therewith a type attribute value selected from the group consisting of: preferred position ad, standard position ad, and listing.
- 6. The method of claim 5 wherein the searching step further comprises the step of:

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providing a selected category of commerce value; and locating a subset of said entries having a category of commerce value equal to said selected category of commerce value.

- 7. The method of claim 6 wherein the step of presenting includes the step of:
  displaying, on said display of said computer system, each said entry of said
  subset having said preferred position type attribute value associated therewith.
- 8. The method of claim 7 further wherein the step of presenting further includes the step of

listing, on said display of said computer system, each said entry of said subset having type attribute values associated therewith other than said preferred position type attribute value.

9. The method of claim 7 wherein the step of presenting further includes the step of:

shifting the position on said display of said computer system of each of said subset of entries having a standard position associated therewith, wherein said shifting is relative to a previous display position of said each of said subset of entries having a standard position attribute associated therewith.

- 10. The method of claim 4 further comprising the step of: providing a geographic location of a user on said computer system.
- 11. The method of claim 10 wherein the searching step further comprises the step of:

locating a subset of said entries having a geographic location value near said geographic location of said user.

12. The method of claim 11 wherein the presenting step further comprises the step

of:

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displaying said subset of said entries in order of geographic proximity to said geographic location of said user.

- 13. The method of claim 3 further comprising the steps of:
- displaying additional information for a particular one of said plurality of vendors in response to a user selection of said one of said plurality of vendors.
- 14. The method of claim 13 wherein said additional information is information selected from the group consisting of: vendor coupons, map to vendor location, directions to vendor location, inter-computer connection to vendor systems, inter-computer connection to advertising provider systems, email interfacing, and auto-dial for voice communication with vendor.
- 15. The method of claim 14 wherein the step of displaying additional information includes the step of:

displaying a static map to a vendor location.

16. The method of claim 14 wherein the step of displaying additional information includes the step of:

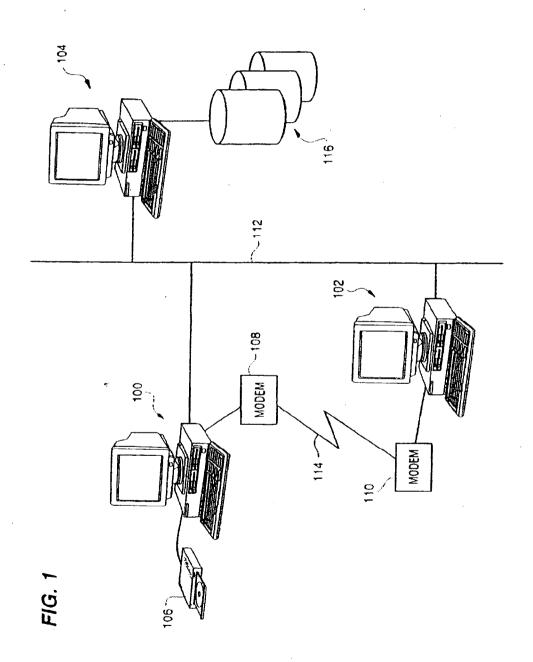
displaying static directions to a vendor location.

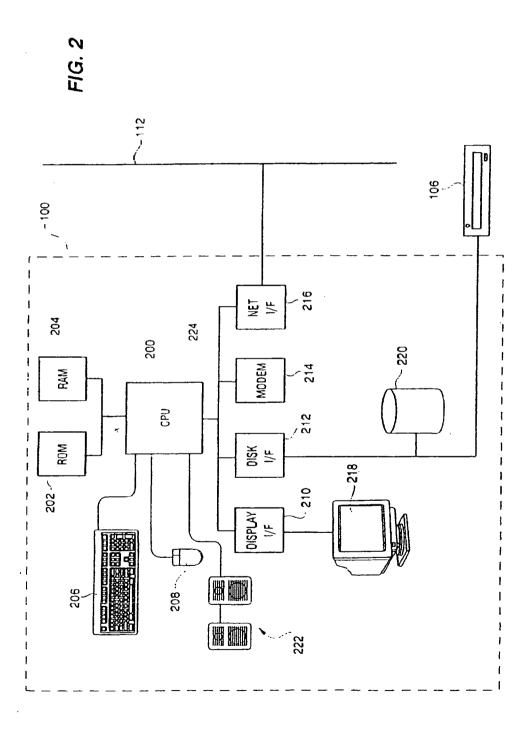
17. The method of claim 14 wherein the step of displaying additional information includes the steps of:

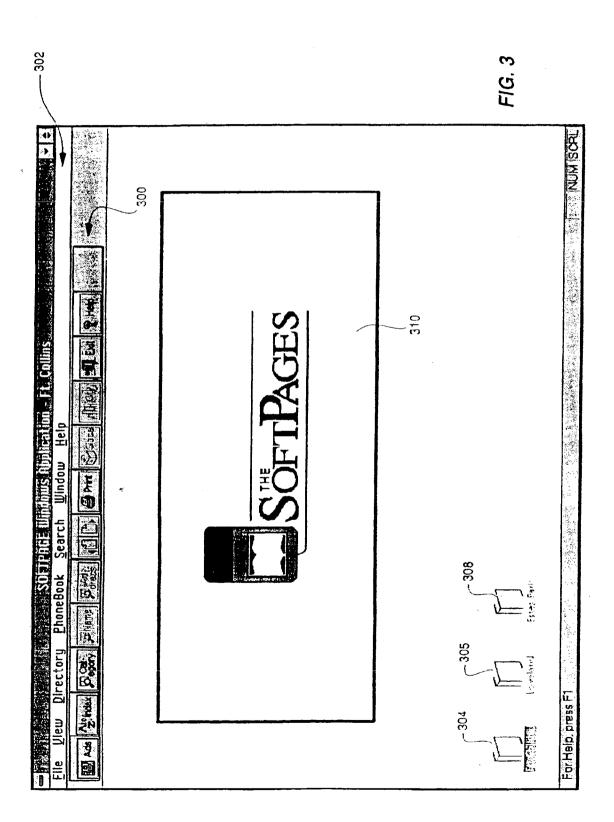
providing a user location of a user on said computer system; generating a map from said user location to a vendor location; and displaying the generated map.

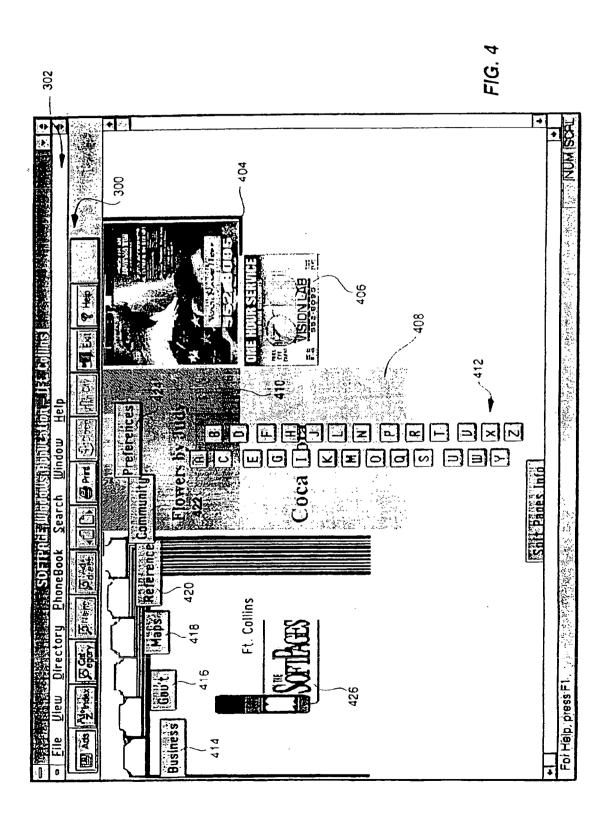
18. The method of claim 14 wherein the step of displaying additional information includes the steps of:

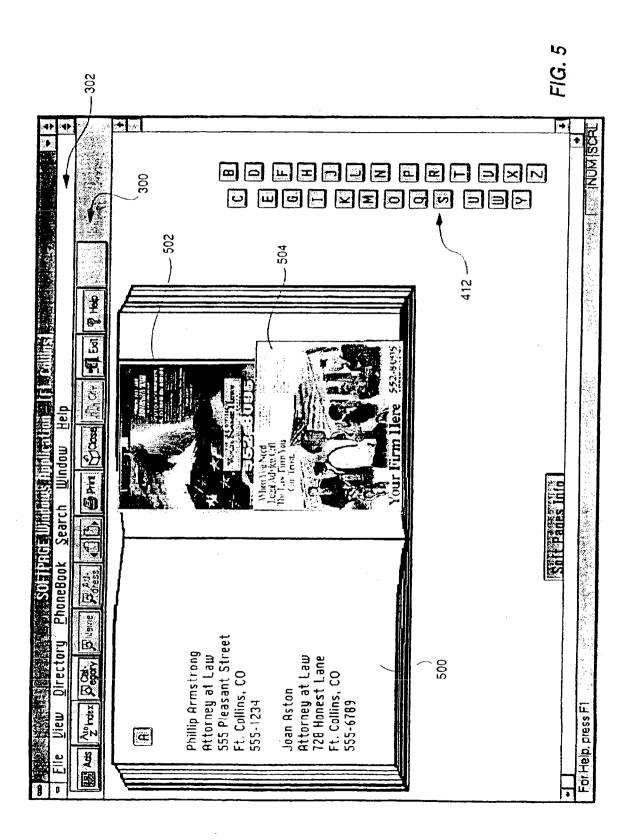
providing a user location of a user on said computer system; generating textual directions from said user location to a vendor location; and displaying the generated textual direction.

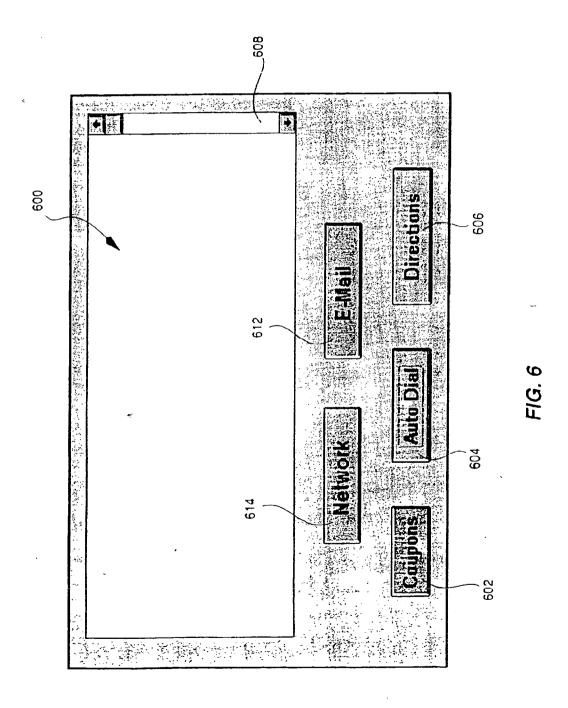


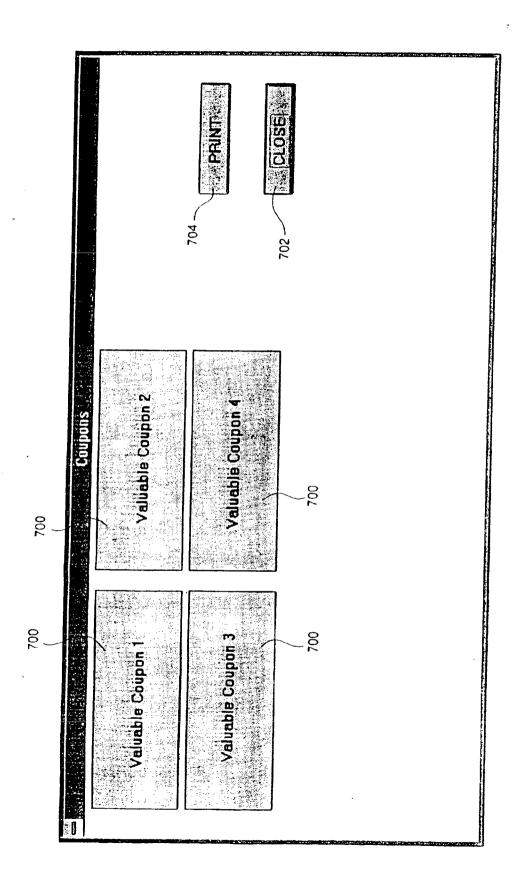








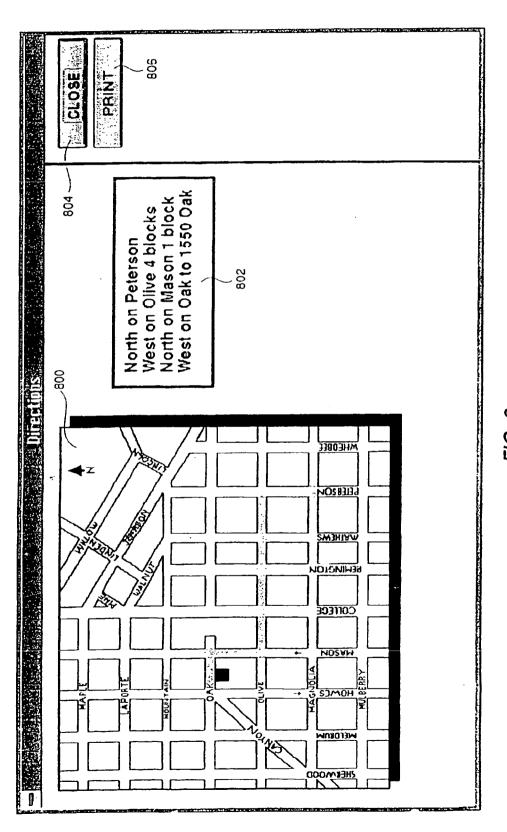




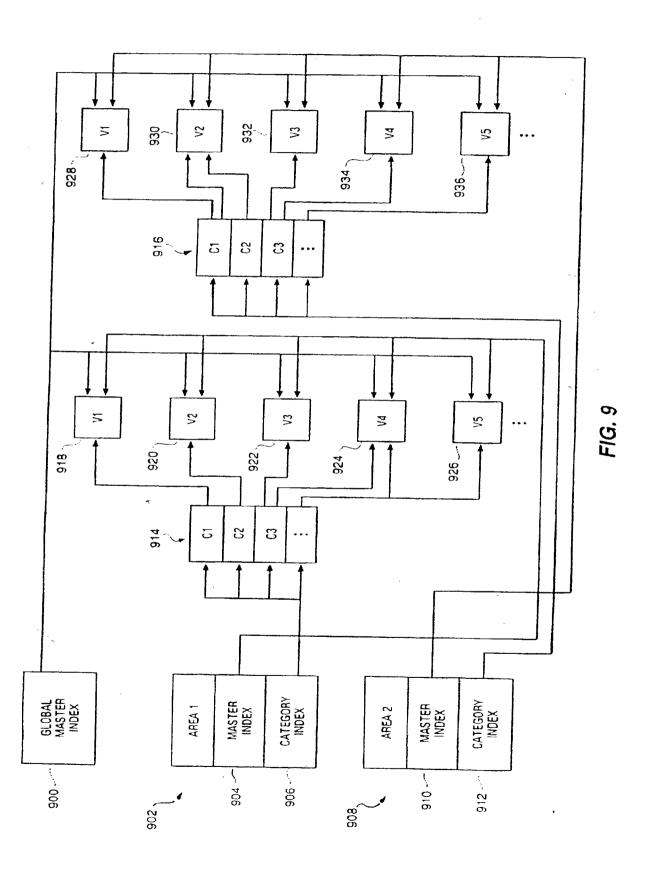
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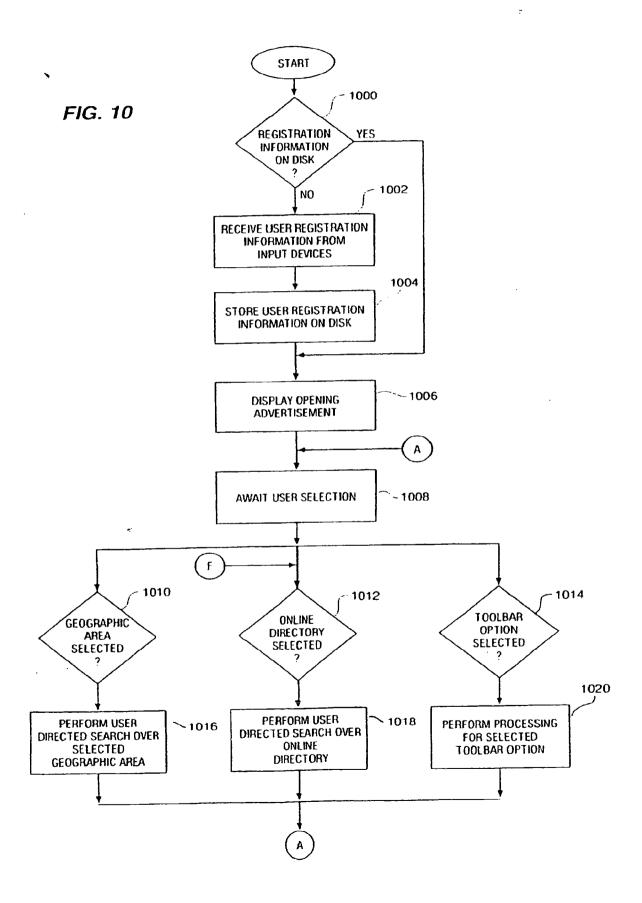
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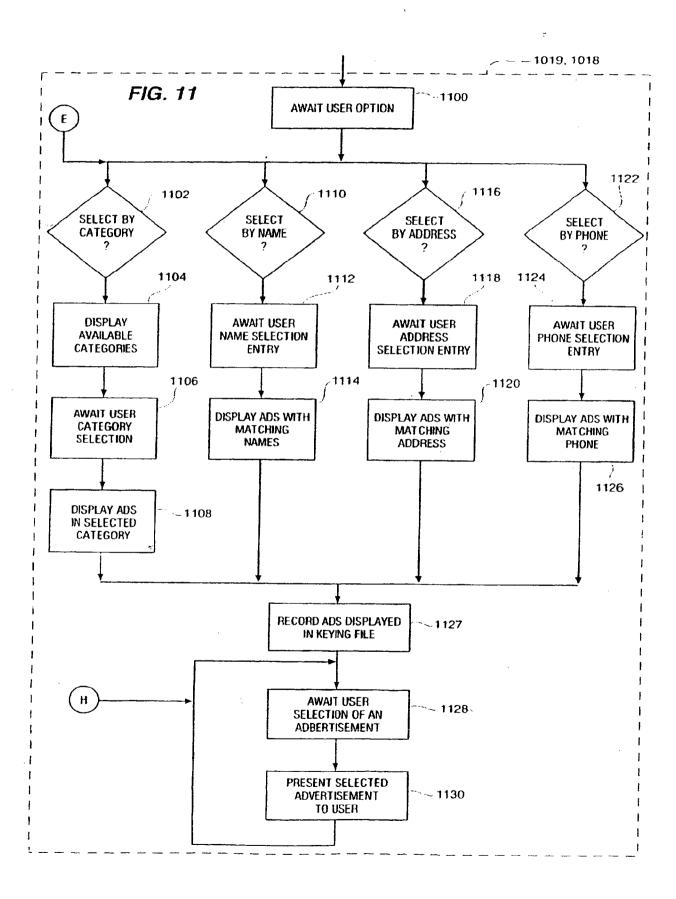
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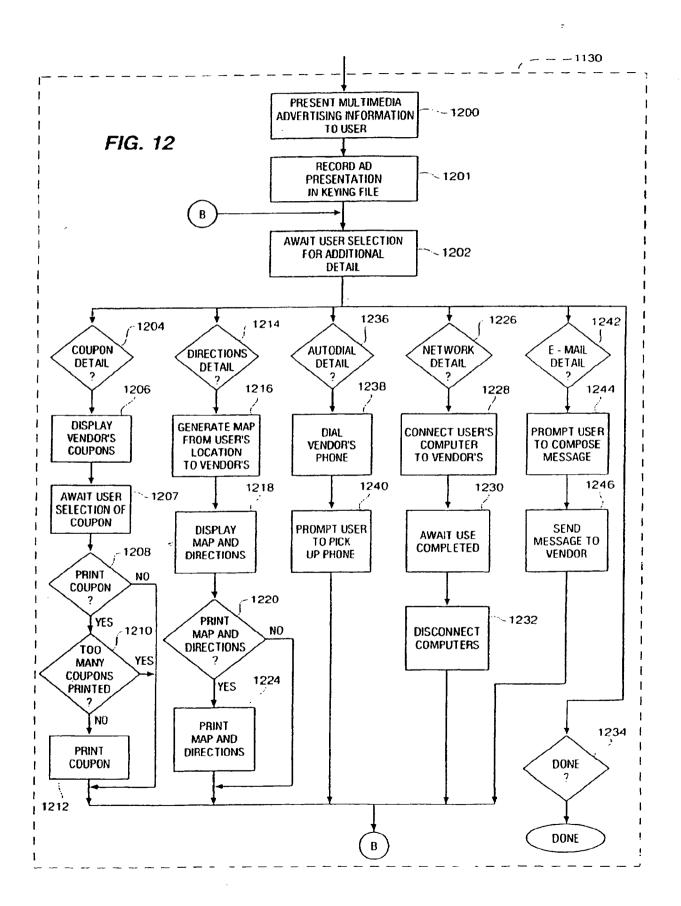


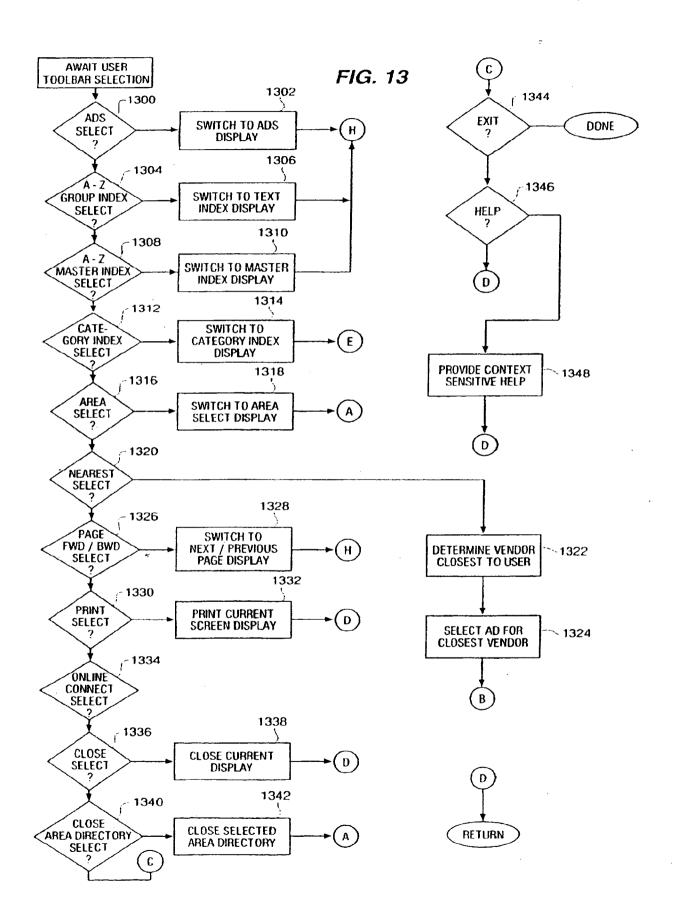
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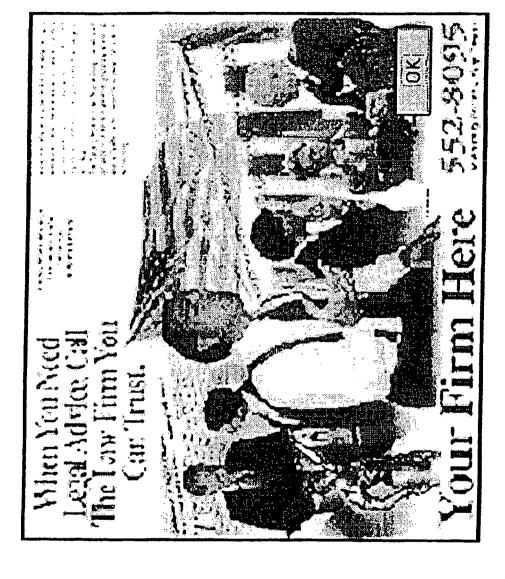


FIG. 14

# INTERNATIONAL SEARCH REPORT

International application No. PCT/US96/20879

IPC(6)	ASSIFICATION OF SUBJECT MATTER :GOGF 17/21 :395/807, 762, 227	-
<del></del>	to International Patent Classification (IPC) or to both national classification and IPC  LDS SEARCHED	
	documentation scarched (classification system followed by classification symbols)	
<b>U.S.</b> :	395/807, 762, 227, 201, 226, 601, 603, 615, 335, 774	
Documenta	tion searched other than minimum documentation to the extent that such documents are include	ed in the fields searched
Electronic o	data base consulted during the international search (name of data base and, where practicab	le, search terms used)
C. DOC	UMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Α	US, A, 5,471,382 (TALLMAN ET AL) 28 November 1995	1-18
A	US, A, 5,319,544 (SCHMERER ET AL) 07 June 1994.	1-18
Υ	US, A, 4,992,940 (DWORKIN) 12 February 1991, abstract, figures 2A-2b, col. 3-10.	1-18
Y,P	US, A, 5,500,514 (VEENEMAN ET AL) 19 March 1996, col. 3-16.	1-14
A	US, A, 5,283,639 (ESCH ET AL) 01 February 1994.	1-18
Furthe	er documents are listed in the continuation of Box C. See patent family annex.	
Special categories of cited documents:  A* document defining the general state of the art which is not considered to be part of particular relevance  I* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention		
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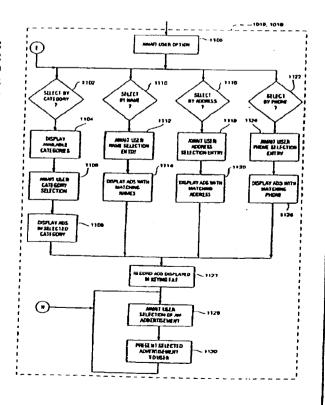
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: METHOD FOR COMPUTER AIDED ADVERTISEMENT

#### (57) Abstract

A computer implemented method for presenting vendor advertising information to a user of a computer system (100). The advertising information (404, 406) is presented to the user as a multimedia presentation including text, graphics, audio, and video information. The advertising information is searchable by the user according to any of several indices (500) including: name (1110), address(1116), phone number (1122), location (1010), category of commerce (1312), etc. Vendors may select a locked, preferred position for their advertising information. Additionally, vendors may select to lock their position by alphanumeric sorting (500) with other vendors in the selected geographic area and/or category of commerce. Otherwise, all non-fixed position ads in a particular category of commerce are rotated each time the corresponding category is selected by the user. The method facilitates selection of a vendor nearest the user's location (1016). Keying information is maintained to account for the usage of each advertisement on each user's computer system for reporting to the vendors. An HTML document and an associated browser program, implemented on the user's computer system, are used to implement the method.



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### METHOD FOR COMPUTER AIDED ADVERTISMENT

### Field of the Invention

The present invention relates to advertising medium and methods and in particular to computer operable methods for presenting multimedia advertisements regarding client/advertiser activities to a user of a computer operating in accordance with the methods of the present invention.

# **Problem**

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Advertising media are selected for their suitability in particular styles or areas of commerce. For example, in some areas of commerce, simple textual presentation of information about a business may suffice, whereas in other areas of commerce, audio and/or video information presentation style may be required to convey a particular message regarding a business. It is also common in directories of such advertising to index the advertisements of the participating merchants to aid the user of the directory in locating the information. For example, so-called "White Pages" phone directories are indexed by name only, while so-called "Yellow Pages" phone directories are indexed by category first, then by name second. Other aspects of business advertising attempt to target the audience by geography or other demographic information. For example, direct mail advertisements typically focus the advertising on a particular geographic area.

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Current advertisement media and techniques all suffer from one or more problems. Some advertising media are incapable of storing and presenting a large volume of advertisements or a large volume of data in a particular advertisement. To provide for and present such large volumes may be too costly under some advertising techniques using some advertising media. Some advertising techniques and media severely limit the manner in which a user may search the voluminous advertisements. For example, telephone books do not index the advertisers by geographic location. Or for example, other media may not index the advertisers by categories of commerce. Most advertising techniques and media are limited in their variety of presentation styles. For example, television advertisements are not searchable by indices, telephone directories are incapable of presenting audio or visual information, radio

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advertising cannot present video information, etc.

In view of the above discussion it is clear that a need exists for an advertising medium and method which combines features of other mediums to permit large volumes of advertising information, comprised of any of several styles of presentation data. Further a need exists for the advertisements to be searchable by any of several indices, and to be rapidly and frequently updated.

## Solution

The present invention solves the above and other problems, thereby advancing the useful arts, by providing computer operable methods and associated apparatus for computer aided advertising. The present invention includes computer data structures for storing and structuring advertising information and computer operable methods for manipulating and presenting the structured advertising information on a standard personal computer (with or without multimedia functionality). information includes information constructed in any of several medium and presentation styles, including: audio, video, text, graphics, etc. The advertising information is searchable by any of several indices, including: alphabetically by name, by address, by business/commerce categories, etc. The advertising information may include coupons for special promotional offers. Associated computer operable methods help assure that the coupons may be printed and used only a predetermined, fixed number of times. The advertising information and associated methods include features which generate a graphical map and textual directions to the corresponding vendors establishment from the user's starting point (user's location and address). The advertising information may be stored on CDROM medium and physically delivered to prospective customers or may reside on nodes of local (or national) computing networks for access via computer to computer communications. In either case, large volumes of advertising information may be inexpensively delivered to prospective customers and may be easily and frequently updated. Certain preferred positions and timing of the advertising information presentation may be used by vendors to provide the user with more noticeable, unsolicited, advertising information. For example, a

portion of the user's computer screen may be dedicated to a continuous "ticker" advertisement or the "title" screen when the program is started may present a preferred vendor's advertisement. The first advertisement presented to a user in response to a commerce category search may be a preferred position at which a vendor may elect to lock their presentation. A vendor may elect to lock their presentation by a fixed alphanumeric ordering within a particular category. And finally, other advertisements in a commerce category will simply have their vendor names listed in alphabetical order. Those vendors with standard position advertisements will be highlighted in the alphabetical listing of other vendors. In an alternative embodiment, the vendors having standard position ads may have their ads displayed to the extent space remains on the display following presentation of preferred position ads and reserving space for an alphabetical listing. It will be common that more standard position ads are present in a category than may be simultaneously presented on the display. The subset of standard ads selected for display each time a category is selected is therefore rotated each time the category is accessed to provide fair access by customers to the other vendors advertisements.

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In particular, the present invention may be embodied as a standard computer application program which presents the user with menu options to search, select, and receive the desired advertising information presentation. Such programming techniques are well known to those of ordinary skill in the software arts. In addition, such menu oriented user interfaces are typical in common computing environments such as Microsoft® Windows® or the Apple Macintosh®. In the best presently known preferred embodiment, the present invention may be implemented as a Hypertext document written in the Hypertext Markup Language (HTML). The HTML document describes the structure and interrelation of the various components of the advertising information as well as encoding the actual advertising data itself. An HTML document includes information content as well as structure which directs the browser to other related information in a manner analogous to hierarchical menus common in the Windows® programming environment noted above. The information content may be textual, graphical, audio, or video in its style of presentation. The HTML document is

then "viewed" (i.e. the information content is presented to the user) by any of several well known, commercially available, browser programs. Exemplary of such "Web browser" programs are Netscape™ and Mosaic™ which are well known by, and readily available to, those of ordinary skill in the art. The browser program includes capabilities to present any such presentation styles to the user (assuming appropriate computer accessories are attached to the computer).

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The HTML document may be distributed to prospective users on CDROM media so as to provide large volumes of advertising data to users inexpensively. A single CDROM may contain the advertising data for a particular city or town. The browser program is simply directed to browse the HTML document stored on the CDROM. All other advertising information is then stored on the CDROM and accessible through the structures and operations coded in the root HTML document. In addition, the HTML document may be browsed by access to computer networks as is well known to those of ordinary skill in the art. The HTML document may simply be located at a node in the computer network and reviewed by the user by directing the browser program to the location which stores the HTML document. Such network browser capabilities are well known to those of ordinary skill in the art. Commercial examples of such network browsing capabilities include, for example, browsing "home pages" (HTML documents) on the so-called World Wide Web (also referred to as "the Web" or simply "WWW") as available on Internet or, for example, browsing titles published on the Microsoft Network (MSN): Programs and other tools used in construction and browsing of such HTML documents are readily available in commerce and well known to those of ordinary skill in the art.

The above improvements and other objects, aspects, features, and advantages of the present invention will become apparent from the following description and the attached drawing.

### **Brief Description of the Drawing**

FIG. 1 is a block diagram of a typical computing environment in which the methods of the present invention may be operated;

FIG. 2 is a block diagram showing additional details of the user's computer shown in FIG. 1;

- FIG. 3 is exemplary of the opening image as seen on the display of the computer system when the methods of the present invention are initiated;
- FIG. 4 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention permit selection of advertising material based upon commerce categories and alphabetical index;

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- FIG. 5 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention display advertisements located for a particular commerce area namely attorneys;
- FIG. 6 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention provide additional detail as to the advertised information for a selected vendor:
- FIG. 7 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention present special offer coupons provided by the selected vendor;
- FIG. 8 is exemplary of an image as seen on the display of the computer system wherein the methods of the present invention generates a map and associated textual directions from the user's location to the selected vendor's location:
- FIG. 9 shows the structure of vendor advertising information stored on CDROM or in a central database;
- FIG. 10 is a flowchart describing the highest level of processing of the methods of the present invention from program startup;
- FIG. 11 is a flowchart describing additional detail of the user directed search of an area or online directory as shown in FIG. 10;
- FIGS. 12 and 13 are a flowchart describing additional detail of the presentation of information regarding a selected vendor as shown in FIG. 11;
- FIGS. 14 and 15 are a flowchart describing the methods of processing toolbar or menu bar functions requested by the user at any time in the processing of the

methods of FIGS. 10-13; and

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FIG. 16 is exemplary of the title page on which a vendor may elect to lock their advertisement for increased exposure.

# **Detailed Description of the Preferred Embodiment**

While the invention is susceptible to various modifications and alternative forms, a specific embodiment thereof has been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that it is not intended to limit the invention to the particular form disclosed, but on the contrary, the invention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

# COMPUTER ASSISTED MULTIMEDIA ADVERTISING:

The present invention includes methods and data structures operable within a computing system for presenting multimedia advertising information for a plurality of vendors to a user of the computer system. The present invention further includes data structures which permit the advertising information to be searched according to any of several indices. A user may select a particular one of the plurality of vendors for presentation of the corresponding advertising information. The advertising information may include, for example, text, graphics, and video information for presentation on the computer system's display device as well as audio information for presentation on the computer system's speakers.

In addition to indexing the advertising information based upon the vendors' names, addresses, and phone numbers, the advertising information is searchable by geographic areas (such as by town or by sections of a city) and by category of commerce. Special groupings of vendors are identified for governmental agencies, community services, or local emergency information. The geographic information regarding the vendor and the user of the present invention (entered at installation and setup of the present invention) are used to permit selection of a nearest vendor in a particular business category or geographic area.

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**SUBSTITUTE SHEET (RULE 26)** 

The advertising information may be stored on a CDROM disk and distributed to potential customers in the appropriate marketplace or may be accessed via computer network communications with a centrally managed database of all subscribing areas and categories. As discussed below, the term database as used herein refers to the collection of advertising information and its associated data structures utilized in searching the advertising information. The actual implementation of such a database is a matter of design choice and may include a traditional database structure managed by a commercial database management system as well as a collection of structured Hypertext Markup Language (HTML) documents. The HTML documents may be considered a database as the term is utilized herein in the sense that they contain both the advertising information and associated data structures utilized in searching the advertising information.

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In addition to presentation of vendor advertising information, the present system includes features to generate a graphical map and associated textual directions to the vendors location from the user's location. Other information includes special promotional offers (such as coupons) which may be printed by the user for redemption at the vendor's location. The number of times a coupon may be printed may be limited to a fixed number if so desired by the vendor.

FIG. 1 is a block diagram of an exemplary computing environment in which the methods and structures of the present invention may be utilized. A user's computer 100 may include a CDROM drive 106 for selecting and receiving multimedia vendor advertising information stored on CDROM media. In addition, user computer 100 may include a modern 108 which may be used in the methods of the present invention to connect the user's computer 100 directly to the vendor's computer 102 via telephone line 114 and modern 110 attached to the vendor's computer 102. Additionally, user's computer 100 may be attached to network 112 to a vendor's computer 102 or to a service provider's computer 104 at which resides a central database 116 containing all subscribing vendors' multimedia advertisements.

A user at computer 100 selects advertisements from the CDROM media in CDROM drive 106 or from the central database over network 112 for vendors which

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provide desired goods or services. The vendors may be selected by any of several indices (discussed below in additional detail). When a user identifies a desired advertisement, the user selects the advertisement for presentation of the corresponding multimedia information stored on the CDROM or the central database. Other detailed information may then be requested by the user including special promotional offers (coupons if available from the vendor) as well as graphic maps and textual directions to the selected vendor's location.

FIG. 2 provides additional detail of the architecture of a user computer system 100 in which the methods of the present invention may be implemented. CPU 200 is connected to ROM memory 202 for storage of programmed instructions and RAM memory 202 for storage of program instructions and data. Keyboard 206 and pointer device (mouse) 208 are used to received user input commands and data to direct the selection and presentation of vendor advertisement information. Speakers 222 are used by CPU 200 to present audio information to the user. CPU 200 communicates with display interface 210, disk interface 212, modem 214, and network interface 216 via interface bus 224. Display 218 is used by CPU 200 via display interface 210 to present visual information to the user including, for example, text, graphics, animation, and full motion video. Disk 220 is used by CPU 200 via disk interface 212 to store data structures and program instructions for searching, selecting, and presenting advertising information for a particular vendor.

CDROM drive 106 is connected to CPU 200 through disk interface 212 and is used to permanently store the vendor advertising multimedia presentation information. Vendor advertising information may also be accessed from a central database maintained by the advertising service provider via network 112 via network interface 216. Modem 214 is used by CPU 200 to directly connect to a selected vendor's computer system for vendor specific processing or as an alternate connection path for access to the central database.

One of ordinary skill in the art will recognize that the computing environment represented in FIGS. 1 and 2 is exemplary of one computing environment capable of performing the methods of the present invention. Many equivalent computing

environments may be utilized to perform the methods of the present invention and to store the advertising information for selection by, and presentation to a user.

# **EXEMPLARY SCREEN DISPLAYS:**

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FIGS. 3-8 and 16 depict exemplary screen displays typical of the displays generated by the methods of the present invention operating on a computer system. One of ordinary skill in the art will readily recognize many equivalent graphical úser interface styles, text, icons, etc. which may be utilized to perform the advertising search and presentation methods of the present invention.

There are a variety of advertising placements available under the methods of the present inanition. For example, certain placements are preferred because they command more attention from a user or because they are presented more frequently. A vendor may therefore request that their advertisement be placed in such a preferred position. In the alternative, a vendor may place an ad but not request such preferred placement. Such a standard placement ad is therefore presented to the user in a position of less prominence than that of a preferred position ad. Further, a vendor may have no ad but rather a single line (or multiple line) textual listing to be displayed in an alphabetical list for a particular selected area or category of commerce.

Each add therefore has a type attribute value associated with the advertising information to identify the type of the ad for placement purposes in the methods of the present invention. Exemplary attribute type include: preferred placement ad, standard placement ad, text listing, etc.

FIG. 16 is exemplary of the title page advertisement which is displayed each time the methods of the present invention are invoked on the user's computer system. A vendor may elect to present their advertising information at this preferred position to maximize exposure of their goods and services to the user. The title page advertising screen is displayed for a predetermined interval or until a user response is received to clear the screen and move on to normal operation of the methods of the present invention. Specifically, the user may strike any key on the keyboard or click the mouse device to cause the methods of the present invention to proceed to the opening screen

(discussed below).

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FIG. 3 is exemplary of the opening screen of the present methods operating on a computer system. As on every exemplary screen discussed below, toolbar 300 contains iconic representations of commonly used functions in the operation of the methods of the present invention. Clicking the pointer device (mouse) on the iconic representation of a function invokes that function. Menu bar 302 provides a pull-down menu mode of access to the functions of the methods of the present invention. All functions available through the methods of the present invention are accessible via the pull-down menu operations of the menu bar. Functions such as the toolbar 300 and the menu bar 302 are well known to those of ordinary skill in the art of graphical user interface programming such as in the Microsoft Windows or Apple Macintosh computing environments. Further detail of the structure of the toolbar 300 and menu bar 302 need not be provided herein. The functions which are performed by the toolbar 300 and menu bar 302 are discussed below in additional detail with respect to the methods of the present invention.

The exemplary opening screen of FIG. 3 depicts iconic representations of the available directory areas in the database on the computer system. Depicted are directory areas for Fort Collins 304, Loveland 306, and Estes Park 308. The precise areas available on the local database are dependent upon the geographic areas served by the database. As discussed below, the database supplied to a user on a CDROM medium is subdivided as shown in FIG. 3 into geographic areas. The central database accessed via computer communication and networking techniques (as discussed below) provides advertising information for all geographic areas in which the service is provided. The user selects an advertising area by clicking the pointer device on the icon for the desired area (or alternatively by selecting the Phonebook menu bar pulldown menu). Once an area is so selected, a directory for that area is displayed on the user's screen. The opening screen title 310 identifies the provider of the advertising products and services of the present invention.

FIG. 4 depicts an exemplary display screen displayed by the methods of the present invention after an area has been selected. The screen suggests a closed

directory for the selected area (i.e. Fort Collins). Preferred position advertisements 404, 406, 408, and 410 for the selected area (Fort Collins) are displayed along with the closed directory cover 426. These preferred position advertisements are sold to vendors who choose to maximize their exposure to user's in the selected area.

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In addition to the toolbar 300 and menu bar 302 (discussed above), the user is provided with index tabs A-Z 412 for viewing the area advertisements in alphabetical order by name. The user may "open" the closed directory for Fort Collins by clicking the pointer device on a desired first letter of the vendor's name (A-Z). In addition, the user is provided with category index tabs 414-424 to view a menu of commercial categories grouped by the supplied index tabs. For example, the user is provided a menu of business categories from which to select by clicking the pointer device on the Business index tab 414. Similarly, a menu of government categories is provided to the user by clicking the Gov't index tab 416, etc.

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FIG. 5 depicts the directory for Fort Collins opened to the "Attorney" business category and in particular to the "A" index tab of attorneys. Mr. Armstrong and Mr. Aston are displayed on the open page 500 as the first two attorneys in the "A" index of the "Attorney" category of the Fort Collins directory. As noted above, preferred position advertisements 502 and 504 may be displayed regardless of the user's positioning of other normal advertisements according to the index searching methods. Additional pages of attorneys may be viewed by "turning" the pages of the directory. The pages may be turned by the page forward and page backward functions discussed below and accessible through related toolbar 300 icons, menu bar 302 functions, and keyboard or pointer device input from the user as is well known to those of ordinary skill in the art of graphical user interface programming.

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A user may select an advertisement of particular interest from any display discussed above (as well as others not shown). An advertisement may be selected by simply clicking the pointer device on the desired advertisement. When an advertisement is so selected, a screen exemplified by FIG. 6 is displayed to provide the user with additional details of the selected vendor. Additional detail window 600 is presented to the user as a multimedia presentation. The presentation as discussed

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above may include any combination of text, graphics, audio, and video information. Scroll bar 608 permits the user to easily view the entire content of the additional detail provided in window 600.

In addition to the multimedia detailed information presented in window 600. iconic buttons are provided for the user to simplify access to other common information Coupons button 602 provides the user with special for the selected vendor. promotional offers (if any) from the selected vendor. Autodial button 604 initiates processing to dial the vendor's voice phone number automatically through the user's computer. A data modem within the user's computer system (or other auto-dial equipment known to the telephony arts) may be used to dial the vendor's telephone. When the dialing process has completed, the computer system prompts the user to pick up the telephone receiver to commence discussions with the vendor. Directions button 606 generates and displays textual and graphical (map) directions to the vendor's location from the user's location (provided at registration of the program noted below). The network button 614 on the exemplary screen of FIG. 6 is used to connect the user's computer to the vendor's computer for direct computer interactions. The connection so established may be a direct modern link to the vendor's computer system or may be indirect through public data networks as is known to those of ordinary skill in the art. Finally, the E-mail button 612 is used to initiate processing to compose a message for the vendor and to direct the composed message to the vendor's E-mail address through standard computer communication and networking methods. The network button 614 and the E-mail button 612 may be utilized for computer data communications to, for example, retrieve vendor pricing or availability information, or, for example, to transmit order entry and processing data to the vendor's computing systems.

FIG. 7 depicts an exemplary screen showing the display of the selected vendor's promotional offer coupons. This screen is displayed at the user's request by clicking the Coupons button 602 of FIG. 6. One or more coupons 700 may be thus presented on the user's display. Close button 702 returns the user to the previous vendor detail screen (of FIG. 6) while the Print button 704 prints the selected coupon for redemption by the user. As noted below, options of the methods of the present invention permit the

vendor to specify a limit on the number of times each coupon displayed on the screen depicted in FIG. 7 may be printed. Log files written to the user's computer system record the number of times each coupon is printed and limit the printing if the vendor so desires.

FIG. 8 depicts an exemplary screen showing the display of graphical and textual

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direction to the vendor's location from the user's location. This screen is displayed in response to the user's request indicated by clicking the Directions button 606 of FIG. 6. A static map 800 of the geographic area surrounding the vendor's location is displayed along with static textual directions 802 to the vendor's location from nearby well-known landmarks or intersections. In an alternate embodiment of the present invention, a dynamic map 800 (graphical directions) is generated by methods of the present invention from the user's location (entered at program registration when first run on the user's computer system) to the vendor's location (provided in the advertising database along with other information about the vendor). Geographic mapping information for towns, cities, states, the Nation, as well as much of the world is readily available from a variety of commercial and governmental sources. Methods to compute a path from one location to another are well known in both the art of map generation as well as more generally in the mathematical study of graph theory. Any of such methods may be employed in the present invention. In addition to the dynamic map 800 generation, dynamic textual directions 802 corresponding to the map are generated and displayed in the screen of FIG. 8. The Close button 804 is used to exit the directions display and return the user display to the previous vendor detail display.

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#### **ADVERTISING DATA STRUCTURES:**

FIG. 9 depicts an exemplary structure of the advertising information as stored on CDROM (distributed to each user) or as stored on the disks or CDROMs of a central database server accessed through computer communication links (such as a Web server on the Internet). Advertising information for each of a plurality of vendors may

The Print button 806 serves to print the displayed map and directions on the user's

be accessed (located) by any of several indices. Vendors V1-V10 (918-936, respectively) may each be located by a link in the global master index 900. The global master index 900 includes the name, address, and phone number for each vendor V1-V10 (918-936) and an associated link to each vendor V1-V10 (918-936). The global master index 900 therefore permits a user to locate any vendor, regardless of geographic area, by name, address, or phone number.

In addition, the vendors may be accessed by their geographic area. Each geographic area, AREA1 902 and AREA2 908, includes a master index with an entry containing name, address, and phone number for each vendor in the area and a link to the corresponding vendor advertising files. Specifically, as shown in FIG. 9, the master index 904 of AREA1 902 has links to each of vendors V1-V5 (918-926, respectively) while the master index 910 of AREA2 908 has a link to each of vendors V6-V10 (928-936, respectively). The master index of each area permits the user to locate any vendor in the corresponding area by name, address, or phone number.

Each area also includes a category index with links to entries containing information about an area of commerce (a category). The category index 906 of AREA1 902 includes links to categories 914 (C1, C2, C3, etc.) while the category index 912 of AREA2 908 includes links to categories 916 (C1, C2, C3, etc.). In turn, each category contains links to vendors who choose to advertise in that category of commerce. For example, category C1 in categories table 914 of AREA1 902 has a link to vendor V1 918. Category C3 has links to vendors V3 922 and V4 924. Vendor V5 926 advertises in category C3 as well as others. The category index in each area permits a user to locate all vendors who provide goods or services in a particular category of commerce.

One of ordinary skill in the art will recognize many equivalent data structures within the scope of the present invention which may be utilized to represent the advertising information and the associated linking and relationship information. For example, the data structures may be represented by an HTML structured document as well as by traditional indexed file structures (i.e. database methods and structure).

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#### **ADVERTISING KEYING:**

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Vendors utilize information regarding efficacy of their advertising. Methods of the present invention discussed below provide keying information to vendors gathered from a user's pattern of use of the advertising products and services provided by the present invention. In particular, a keying file is created and maintained by the methods of the present invention to record a user's interaction with the advertising methods of the present invention. Each time an advertisement is displayed on the user's display (as discussed below), an entry is updated in the keying file to so indicate that the advertisement was presented to the user. Each time a particular advertisement is selected for detailed presentation (as discussed below), an entry in the keying file is updated to reflect the user's selection of a particular advertisement. The information in the keying file is transmitted to the central server site of the advertising service provider when the methods of the present invention are applied to connect to the service provider's central server. The information gathered in each user's keying file and collected at the provider's central server node may be reported to the vendors to provide the advertising efficacy information required by the vendors.

# **ADVERTISING SEARCH AND DISPLAY METHODS:**

Methods of the present invention permit the user of a computing system to search, select, and review a desired vendor's advertisement or a group of related advertisements: The methods of the present invention include a plurality of search techniques and indices to permit significant flexibility to the user in selecting and receiving the vendor's multimedia advertising information presentation. The flowchart of FIG. 10 describes the operation of the methods of the present invention at the direction of the user's input and in conjunction with the vendors' multimedia advertising information presentations. A more detailed list of the specific menu functions and their hierarchical relationship to one another is presented below in tabular form.

Elements 1000-1004 of FIG. 10 initialize operation of the methods of the present invention by requesting that the user enter registration information on the first invocation of the method. The user's registration information is entered at the computer

system keyboard (or other user input devices) and is then stored on non-volatile storage of the user's computer system (e.g. a disk file) so that subsequent invocations of the method will skip this step. Element 1000 therefore tests whether the registration information is located on the disk of the computer system. If found, processing continues by skipping to element 1006. Otherwise, processing continues with element 1002 receiving the user's input information, and element 1006 storing the entered information in a disk file. Among other data, the registration information includes the user's address (geographic location). The user's address is used in several of the search options noted below, such as to determine the nearest advertising vendor or to generate a map and/or textual directions to a selected vendors location from the user's location.

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Element 1006 is next operable to present the title page advertisement to the user through the multimedia presentation devices of the computer system. The title page advertisement may be selected by a vendor to afford improved visibility of the advertisement. Since the title page advertisement is always presented to the user, a vendor may perceive added marketing value in placing their advertisement in this portion of the advertising method. Typically, the title page advertisement will be presented to the user for a fixed period of time sufficient to convey the desired message to the user. The user may terminate the display of the title page advertisement by striking any key on the keyboard or by clicking the pointer device anywhere on the title page advertisement. An additional title page advertisement, possibly limited to text and graphics, may be constantly displayed in a reserved section of the user's computer system display. For example, such a constant advertisement may display scrolling or stationary text and/or animated or static graphical images. This advertising presentation may be preferred by vendors to maintain their advertising information at the forefront of the user's attention.

Following presentation of the title page advertisement, element 1008 is then operable to await a selection by the user before further processing continues. The user selects the next desired action by entering information through a keyboard or clicking a mouse or other graphic input device. The functions available include: selection of

one of several available geographic area subsets of the advertising information available on the user's computer system (i.e. the specific local groupings on the distributed CDROM), selection of the online directory services to connect to the central advertising database, or selection of any of several "toolbar" options (noted below in tabular form) to allow the user to more rapidly control the details of the presentation of the advertising information.

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When a function selection is made by the user and sensed by operation of element 1008, elements 1010-1020 then perform processing steps appropriate to the selected function. Elements 1010-1014 serve to switch processing to the element appropriate for the selected function, namely elements 1016-1020, respectively. Specifically, when element 1010 determines that a particular geographic area has been selected by the user, element 1016 is next operable to permit further interaction with the user to present selected advertisements in the selected geographic area. One of ordinary skill in the art will readily recognize that elements 1010 and 1020 are representative of the processing to select one of one or more available geographic areas stored on the database presently in use (i.e. the user's CDROM or the central database). A particular user's CDROM may contain a single geographic area or even a portion of a larger area (such as may be the case in a large metropolitan area). Alternatively, a particular user's CDROM may contain a plurality of geographic areas (such as may be the case in rural or less densely populated areas). The central database contains all advertising of all participating vendors in all geographic areas supported by the service provider. Processing as depicted in FIG. 10 then continues by looping back to element 1008 to await another selection by the user.

FIG. 11 is a flowchart depicting additional detail of operation of the methods of the present invention which permit the user to select a particular advertisement or group of advertisements for presentation of the vendor's information. The flowchart of FIG. 11 is representative of the processing of both elements 1016 and 1018 of FIG. 10 in that both permit the user any of several options to narrow the search for relevant vendor advertising information. Element 1016 differs from element 1018 primarily in that element 1016 processes user selections relative to the advertising information in

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a particular geographic area while element 1018 permits essentially the same user selection processing but over the entire online central database of advertising accessible over computer communication networks.

Element 1100 is first operable to await a selection by the user as to a desired mode of searching or limiting the numerous advertisements stored in the selected storage medium (i.e. CDROM or central database via a network connection). Following the user's selection, elements 1102, 1110, 1116, and 1122 are operable to determine which type of search mode the user selected in element 1100 and to switch processing to the appropriate next element.

If the user selected a search by category of commerce, then elements 1102-1108 are operable to determine which predefined category of commerce the user desires. Element 1104 presents the user with a menu of predefined categories from which to select. Element 1106 is then operable to await the user's selection of a desired area to limit the number of advertisements to search. Responsive to the user's selection input, element 1108 is next operable to present the user with the first page of advertisements in the selected category. Subsequent pages of advertisements may be selected by the user selecting the page forward and page backward functions discussed below.

Element 1127 is then operable to update the keying file (discussed above) to reflect the presentation of all advertisements on presently on the display. Processing then continues with element 1128 to await user selection of a particular advertisement.

In like manner, if the user selected a search by vendor name, address, or phone number, then elements 1110-1114, 1116-1120, and 1122-1126, respectively, are operable to determine which vendor the user seeks. Element 1112, 1118, or 1124 prompts the user to enter the desired name, address, or phone number, respectively according to the type of search selected by the user and determined by elements 1110, 1116, and 1122. Following entry of the desired search data, elements 1114, 1120, or 1126 displays the first page of vendor advertisements which match the desired search data entered by the user responsive to the prompt of elements 1112, 1118, and 1124, respectively. Processing then continues with elements 1127 to update the keying file

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and element 1128 to await user selection of a particular advertisement (as above).

Positioning of an advertisement on the first page of a category may be preferred by vendors to improve exposure or visibility of their business to the users. This preferred position may be provided with assurance to vendors who choose to pay for such assurances. Such an advertisement is referred to herein as a preferred position advertisement or as an advertisement with a preferred position attribute associated therewith as compared to an advertisement with a normal position attribute associated therewith. A second type of preferred positioning is available to vendors by selecting presentation of their advertising information in a rotating format with other preferred advertisements. Vendors selecting rotating preferred ordering are presented next after the first page preferred position advertisements. To assure approximate equality of exposure to the rotating advertisements, all rotating preferred position advertisements are shifted or rotated in their positioning on the first and subsequent pages. In other words, each time a category is accessed, the positions of the rotating preferred position advertisements are shifted so that a different set of vendors' advertisements appears first (following the preferred position advertisements) when the user selects the category. The positions of the rotating preferred position advertisements may be shifted or rotated in a repeated sequence or may be randomly altered to help assure equal distribution of the vendor presentations. This shifting or rotating of rotating preferred position advertisements helps assure rough equality of exposure to the various vendors in a particular category.

All other vendors' advertisement (non-preferred position advertisements) will appear in standard alphanumeric order after the preferred position and rotating preferred position advertisements.

An alternate embodiment of the present invention simply lists all vendors without preferred position ads rather than defining another type of ad for rotating display. Only the preferred position ads are presented (graphically) to the user in such a case and all other vendors are simply listed in alphabetical order (e.g., in a scrolling textual section of the display screen - not shown). Vendors in the listing who have a standard ad (not a preferred position ad) are highlighted to draw attention of the user to these

vendors. The user may then click the highlighted listed of a selected_vendor to view the ad presentation.

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Elements 1128 and 1130 are then repetitively operable to await selection of a particular one of the displayed vendor advertisements. The advertisements may be presented in a mixture of text and/or graphics as though on the pages of a telephone directory with its pages open to a desired category, or to groups of similar names. addresses, or phone numbers. The text and graphics displayed on the user's computer system provide a brief summary of the associated vendor's advertised information. Alternatively, at the user's option, the advertisements may be displayed in an alphanumerically indexed mode showing only textual keys related to the corresponding vendors (e.g. name, address, phone, etc.). A user may utilize the toolbar functions discussed below to change the display to other pages of advertisements or to return to earlier selection functions discussed above. Toolbar functions (noted below) are used to switch the display between the pure textual index of vendors and the text and/or graphics display mode. Specifically, the A-Z index button, discussed below, switches the display to the textual display of vendors in alphanumeric order while the advertisements button, discussed below, switches the display back to the text and/or graphics mode. Element 1128 awaits the user's selection of a particular advertisement displayed in either mode on the presently displayed pages. The user selects a desired advertisement by clicking a pointer on the desired advertisement. In response to the user's selection of a particular advertisement, element 1130 is next operable to present the multimedia presentation and associated details of the vendor's advertising information. As noted above, the multimedia advertising information may present any combination of text, graphics, video, and audio information depending upon the desireof the advertised vendor and depending upon the capabilities of the user's computer system. Following presentation of the selected vendor's advertising information, processing then continues by looping back to element 1128 to await the user's selection of another vendor's advertising information displayed on the open pages on the user's computer system display.

Any time the user's computer display is altered by the methods of the present

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invention to present different advertisements, the methods of the present invention will resume operation at element 1127 of FIG. 11 to update the keying file to reflect the newly displayed advertisements. Specifically, several toolbar functions, discussed below, cause the screen display to be re-drawn with new advertisements which in turn causes the methods of the present invention to continue operation at element 1127 updating the keying file.

# PRESENTATION OF A SELECTED ADVERTISEMENT:

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FIGS. 12 and 13, collectively, are a flowchart depicting additional detail of the processing associated with element 1130 of FIG. 1 presenting a selected vendor's advertisement to a user. Element 1200 is representative of all the processing required to present the selected vendor's advertising information to the user. As noted above, the information is a multimedia collection of parts including one or more of the following types of information: text, graphics, video, and audio. Apparatus and methods appropriate for presenting multimedia information are well known to those of ordinary skill in the art. The information is stored in one or more files on the CDROM or central database and is associated through the indexing structures of the database with the selected vendor.

Element 1201 is next operable to further key the presented advertisement. A keying file, as discussed above, is maintained by the methods of the present invention to record each selection by the computer system user of a displayed advertisement. Keying information is provided to participating vendors by the provider of the products and services of the present invention to permit the vendors to improve the content and to better target their advertising presentations to the marketplace. This keying file records the number of "hits" and presentations of each advertisement over a period of time. The entire keying file is transferred to the provider of the advertising products and services when the user connects to the central database server. The advertising service provider may then accumulate the keying information from each user's computer system to provide each vendor with periodic reports on the effectiveness of their advertising information presentations.

Element 1202 then awaits further direction from the user to select which, if any,

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additional details the user wishes to view with respect to the selected vendor. Responsive to the user's selection, elements 1204, 1214, 1226, and 1234 are then operable to switch processing to the appropriate next element to process the user's selection. Specifically, element 1204 switches processing to elements 1206-1212 responsive to a user request to view special offer coupons of the selected vendor, element 1214 switches processing to elements 1216-1224 responsive to a user request to view directions to the vendor's location, element 1226 switches processing to elements 1228-1232 responsive to a user request to connect to the vendor's computer system, element 1236 switches processing to elements 1238-1240 in response to a user's request to dial the vendor's voice telephone number, element 1242 switches processing to elements 1244-1246 in response to a user's request to E-mail a message to the vendor's E-mail address, and element 1234 completes processing for the presently selected advertisement.

Elements 1204-1212 perform the processing required to present the user with the vendor's special offer coupons (if any). A vendor may choose to include coupons to offer special promotions to users of the present invention. Element 1206 displays the text and graphics associated with the coupon (if any) on the users computer system display. Element 1207 then awaits the user's selection of a particular one of the displayed vendor coupons. Elements 1208-1212 are then operable to determine whether the user wishes to print the displayed coupon. If the user does not wish to print the coupon, then element 1208 continues processing by looping back to element 1202 to permit other detailed information to be obtained by the user. If the user requests printing of the coupon then element 1210 determines whether the coupon may be printed again. If the coupon has not been printed too many times, then processing continues with element 1212 to print the vendor's special offer coupon. In either case, processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

Each time a coupon is printed by element 1212 a log of the coupon being printed is recorded on the permanent storage (i.e. in a disk file) of the user's computer system. If the vendor wishes to limit the number of times a coupon is printed, the methods of the

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present invention will determine by operation of element 1210 whether the coupon has already been printed the permitted number of times. This log information is maintained by methods well known to those of ordinary skill in the art in a manner which hides the recorded log so as to make it more difficult for a user to circumvent the vendor's desire to limit use of the coupon.

Elements 1214-1224 perform the processing required to present the user with directions to the vendor's location. The information stored in the CDROM or central database includes geographic positioning information of each vendors' location. At time of registration of the present invention, at first use of the invention, the user supplies geographic location information for their home site. This geographic information is combined with map information pertaining to the geographic area selected for search to generate a graphic map and associated textual directions from the user's location to the selected vendor's location. Element 1216 generates the requisite map and directions and element 1218 displays the generated map and directions on the user's computer system display. Elements 1220-1222 are then operable to determine whether the user wishes to print the displayed map and directions. If the user does not wish to print the information, then element 1220 continues processing by looping back to element 1202 to permit other detailed information to be obtained by the user. If the user requests printing of the map and directions then element 1222 prints the displayed map and directions. As noted above, an alternative embodiment of the present invention displays and prints statically defined maps and associated directions to simplify operation of the present invention and to reduce processing requirements on the user's computer for the generation of dynamic maps and directions. In either case, static or dynamic direction printed or not, processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

Elements 1226-1232 perform the processing required to connect the user's computer to the selected vendor's computing system(s). Such a connection may be by direct dialing of a modem or may utilize standard computer networking capabilities. One of ordinary skill in the art will readily recognize that the connectivity may be used

for direct interaction with proprietary computing applications on the vendor's systems (i.e. order entry and marketing functions) or may utilize standard computer networking features (such as Internet E-mail, Web access, Telnet, or FTP). The methods and apparatus required for such connectivity are well known and readily available to those of ordinary skill in the computing arts. Element 1228 is first operable to make the requisite connection between the user's computer system and the vendor's computing system(s) via modern connections or other well known network connections. Element 1230 is next operable to await the user's completion of the use of the established connection after which element 1232 is operable to disconnect the connected computing systems. Processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

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Elements 1236-1240 perform the processing required to automatically dial the vendor's voice telephone number to permit oral communications between the user and the vendor. Element 1238 is operable to dial the user's telephone by use of autodial features of the user's computer system. A computer data/fax modem is often used for this autodial function (as are many other telephone devices). When the dialing is completed, element 1240 is next operable to prompt the user to pick up the dialed telephone to commence oral communications. Such computer automated dialing is well known to those of ordinary skill in the art and need not be discussed in further detail. Processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

Elements 1242-1246 perform the processing required to compose and transmit E-mail to the vendor's E-mail address. Element 1244 is first operable to permit the user to compose a desired E-mail message. Any of several well known text editing techniques readily available to those of ordinary skill in the art may be used to permit the user to compose the desired E-mail message. Element 1246 is then operable to initiate the transmission of the E-mail message to the vendor's E-mail address. Well known computer communication and networking techniques may be used to transmit the E-mail message. Processing continues by looping back to element 1202 to permit other detailed information to be obtained by the user.

# **TOOLBAR FUNCTIONS:**

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The toolbar functions are activated by a user by clicking the labeled button on the display (or by other standard user interface techniques). The toolbar functions are displayed at all times during the execution of the methods of the present invention. Each toolbar function provides the user with a quick and convenient function to control the operation of the methods of the present invention. Each pointer function which is presently meaningful in view of the present state of interaction with the user may be activated by clicking the pointer on a corresponding button icon. Functions which are not presently meaningful in view of the state of interaction with the user perform no function and are simply ignored by the methods of the present invention.

Computer programming methods and structure to implement the toolbar functions are well known to those of ordinary skill in the design and implementation of user interfaces in, for example, Microsoft Windows. Such event driven user interfaces are common in the design of graphical user interfaces. FIGS. 14 and 15, collectively, are a flowchart which suggests the detailed processing performed in response to a user's click of the pointer on one of the toolbar button icons. FIGS. 14 and 15 graphically depicts the toolbar functions as a method which awaits a user toolbar function selection and then processes the selected toolbar function.

Elements 1300-1302 are operable to switch the processing of the methods of the present invention back to a point wherein the user's computer system display presents the open page of advertisements corresponding to the most recent search by category discussed above. The advertisements are displayed in the mode of text and/or graphics. Elements 1304-1310 are conversely operable to switch the advertisement display to a text only mode wherein the textual key fields of a vendor (e.g. the name address and phone number) are displayed on the open pages of the directory. Specifically, elements 1304-1306 are operable to switch the method back to a text only display of the last displayed category of vendor names in the presently selected geographic area while elements 1308-1310 are operable to switch the user's display to a master A-Z index of all vendors stored in the selected medium (CDROM or online central database). In all cases, processing then continues at label "H" at element 1128

of FIG. 11 to await the user's selection of another advertisement from the open page of advertisements.

Elements 1312-1314 are operable to switch the processing of the methods of the present invention back to a point wherein the user selected a business category from the predefined list of categories. Processing then continues at label "E" with element 1102 of FIG. 11 to await the user's selection of one of the predefined categories of business. In like manner, elements 1316-1318 permit the user to select a new geographic area by continuing processing at label "A" with element 1008 of FIG. 10.

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Elements 1320-1324 are operable to locate the vendors in the presently selected area and category which are geographically nearest the user's location. If the user has not yet selected an area and category, this function will first prompt the user to select an area and category. Specifically, element 1322 determines the nearest vendors by determining the distance from each vendor's location to the user's location. The proximity of the vendors to the user's location is determined by any of several well known computational or graphical techniques (e.g. grid mapping). The nearest vendors so determined are displayed to the user so that if there are multiple vendors within a small area, the user may select the preferred vendor. The advertisement for the nearest vendor is then presented to the user by operation of element 1324. Processing then continues at label "B" with element 1202 of FIG. 12 to permit the user to select additional detail of the vendor's advertisement for presentation.

Elements 1326-1328 are operable to switch the user's display to a previous or subsequent page in the selected category of vendor advertisements. Processing then continues at label "H" with element 1128 to await the user's selection of a displayed advertisement. In like manner, elements 1330-1332 are operable to print whatever is presently displayed on the user's computer system display while elements 1346-1348 are operable to provide the user with context sensitive help information relevant to the present operation of the invention. Elements 1336-1338 operate to close the presently displayed screen (whether an advertisement, a category selection list, etc...) and switches the screen back to the display which preceded the present display. In all cases, processing continues at label "D" (on FIG. 15) by resuming the operation in

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process before the print, close, or help operation was selected by the user.

Elements 1340-1342 are operable to close the currently selected geographic area. Processing then continues at label "A" with element 1008 of FIG. 10 to permit the user to select a new geographic area. Element 1334 switches the user's display to the online connection screen for accessing the central database of vendor advertisements. Processing then continues at label "F" with element 1012 to effectuate the connection to the central database and permit user selection of vendors therefrom.

Lastly, element 1344 is operable to terminate the operation of the methods of the present invention in response to the user's selection. One of ordinary skill in the art will readily recognize that the toolbar functions described above are only exemplary of a user interface that eases the user's interaction with the present invention. Many other equivalent and related functions and structures may be implemented by those of ordinary skill in the art to provide an easy to use interface between the advertising database and the user.

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#### **MENU STRUCTURE:**

The methods and structure of the present invention may also be understood as a hierarchical set of menus comprised of selectable items and submenus. The menus may be implemented as a traditional graphical user interface application program written for operation on systems such as Microsoft Windows or Apple Macintosh, or, as noted above, may be implemented as a structured object as defined by the Hypertext Markup language (HTML). The HTML document is then viewed using a standard commercially available "browser" program such as Netscape or Mosaic. In the table below, each item is labeled with a numeric identifier which indicates its hierarchy in the menu structure. Items selectable at the same level are indicated by incrementing numerals at the same level of the hierarchy. An item which comprises a submenu of additional items has each submenu item identified by a number having the same higher level (major) number with an incrementing minor number. For example, items numbered 1, 2, 3, etc. are all accessible at the highest menu level, whereas items numbered 2.1, 2.2, 2.3, etc. are accessible as items in a submenu corresponding to

# item 2 at the higher level menu.

Item	Brief Description
0 Title Advertisement	Advertisement always displayed (in this preferred position) at start of program until user acknowledges or until a fixed timeout.
1 Opening Page	Displays name of advertising service and product provider and any preferred position advertisement along with geographic areas available for display.
2 Setup	Special setup menu available at first program startup to register user
3 Ad Areas	Submenu of geographic areas (i.e. cities) to select including global database available with network access
3.1 Ad Area 1N	Displays a "closed" directory and awaits user selection from submenu to select type of search desired
3.1.1 A-Z Buttons	Displays a "closed" directory with buttons for the user to select an alphabetic section of the directory (options continue as for selection of an advertisement as below analogous to 3.1.2.1.1 and 3.1.2.1.2 above))
3.1.2 Business Directory	Limits the user's search to only vendors in the business section of the directory and awaits user selection of a particular method of search
3.1.2.1 By Category	Further limits user search to a selected category of commerce and awaits user selection for particular area of commerce
3.1.2.1.1 Category 1N	Displays an "open" directory with advertisements in the selected category and awaits user selection of a particular advertisement for additional detailed display

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3.1.2.1.1.1 Ad Detail 1N	Displays the detailed information corresponding to the selected vendor's ad and awaits selection of special features of the advertisement
3.1.2.1.1.1.1 Coupon	Displays the selected vendor's special offer coupons (if any)
3.1.2.1.1.1.2 Directions	Generates and displays a map and textual directions from the user's location to the vendors location
3.1.2.1.1.1.3 Auto-dial	Automatically dials the vendor's phone number using a modem attached to the computer for purposes of oral, telephonic communications
3.1.2.1.1.1.4 Net Connect	Connects the user's computer to the selected vendor's system via standard network connections
3.1.2.1.1.1.5 E-mail	Permits the user to compose and send an e-mail message to the selected vendor
3.1.2.1.2 Nearest	Selects the vendor in the selected category which is geographically nearest the user and displays the corresponding advertisement (options continue analogous to 3.1.2.1.1.1 above)
3.1.2.2 By Name	Further limits the user's search to vendors whose name contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.2.3 By Address	Further limits the user's search to vendors whose address contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.2.4 By Phone	Further limits the user's search to vendors whose phone number contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)

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3.1.3 Government Directory	Limits the user's search to only agencies in the government section of the directory and awaits user selection of a particular method of search
3.1.3.1 By Agency/Office	Further limits the user's search to agencies whose name contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.3.2 By Agent/Officer	Further limits the user's search to agencies who are represented by the person whose name contains the search characters entered by the user (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.4 Community Directory	Limits the user's search to only agencies in the community section of the directory and awaits user selection of a particular method of search (options continue analogous to 3.1.2.1.1 and 3.1.2.1.2 above)
3.1.5 Online Directories	Displays the directory of information currently available at the provider's central database of advertisements including other geographic areas (see 4.13 described below)
3.1.6 <b>Maps</b> *	Displays a map of the selected geographic area and awaits user interaction to print or display other details of the mapped area
3.1.7 Favorite Selections	Displays a list of the user's favorite selections from the advertising database to permit rapid selection of commonly used advertisements
3.1.8 Reference	Displays a menu of common reference material and awaits user selection from the menu (e.g. metric or financial conversion data, agencies for reporting bad business practice, etc.)

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3.1.9 Emergency	Displays a menu of emergency numbers appropriate to the selected geographic area
4 Toolbar Options	A number of options are available for user selection at all times on the display screen and are collectively referred to as toolbar options
4.1 Ads	Switches the user's display of the open directory to the text and/or graphics mode of display
4.2 A-Z Index	Switches the user's display of the open directory to the pure textual keys mode of display (e.g. name address and phone)
4.3 Category Index	Switches the user's display back to the category selection menu of the most recently selected area (as above at 3.1.2.1)
4.4 A-Z Master Index	Switches the user's display to an A-Z indexed display of all advertisers in all areas on the current database
4.5 Nearest	Selects the vendor in the selected category which is geographically nearest the user and displays the corresponding advertisement (options continue analogous to 3.1.2.1.1.1 above)
4.6 Page Fwď/Bwd	Displays the next/previous page of advertisements of the open directory for a particular geographic area or category of commerce
4.7 Close	Closes the currently displayed screen and returns to the previous screen (that which preceded selection of the currently displayed screen)
4.8 Close Area	Closes the directory for the selected area and returns the user to the area selection screen (as in 3 above)

4.9 Ad Areas	Permits the user to view advertisements in another area without closing the currently display area directory (if any)
4.10 Print	Print the current screen to the user's printer
4.11 Exit	Exits the program from any displayed screen
4.12 Help	Provides context sensitive help for any screen or any particular field of any screen
4.13 Online Connect	Automatically connects the user's computer to a central database of advertisements including other geographic areas
4.13.1 Long Distance Directory	Displays a menu of other areas geographically remote from the user for which advertising is available on the central database (options continue analogous to 3 above)
4.13.2 Wholesalers Directory	Displays a directory of wholesalers (options continue analogous to 3.1.2.1.1 above)
4.13.3 Manufacturers Directory	Displays a directory of manufacturers (options continue analogous to 3.1.2.1.1 above)
4.13.4 Mail-order Directory	Displays a directory of mail-order vendors (options continue analogous to 3.1.2.1.1 above)
4.13.5 Classified/Personal Ads	Displays a directory of classified/personal advertisements (options continue analogous to 3.1.2.1 above)
4.13.5 Political Gallery	Displays political advertising for federal, state, and local election issues and candidates (options continue analogous to 3.1.2.1 above)

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4.13.6 Products Gallery	Displays product advertising (e.g. advertising a product rather than the vendor - options continue analogous to 3.1.2.1 above)
4.13.7 Catalog Gallery	Displays catalogs from businesses of all types (options continue analogous to 3.1.2.1 above)
4.13.8 Internet Directory	Displays a directory of Internet addresses for advertising vendors (options continue analogous to 3.1.2.1 above)

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While the invention has been illustrated and described in detail in the drawings and foregoing description, such illustration and description is to be considered as exemplary and not restrictive in character, it being understood that only the preferred embodiment and minor variants thereof have been shown and described and that all changes and modifications that come within the spirit of the invention are desired to be protected.

### **Claims**

#### What is claimed is:

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1. A method, operable on a computer system having a display, for presenting multimedia advertising information to users of said computer system, said method comprising the steps of:

searching said multimedia advertising information responsive to a user request; and

presenting said multimedia advertising information to a user of said computer system.

- The method of claim 1 further comprising the step of: presenting a preferred portion of said multimedia advertising information at the start of performance of the method independent of user search requests.
- 3. The method of claim 1 wherein said multimedia advertising information includes an entry for each of a plurality of vendors and wherein the searching step further comprises the step of:

searching said multimedia advertising information based upon a predefined index value on each said entry.

- 4. The method of claim 3 wherein said predefined index value is a value associated with each said entry and is selected from the group consisting of; a vendor name value, vendor address value, vendor phone number value, vendor geographic location, and vendor category of commerce value.
- 5. The method of claim 4 wherein each said has associated therewith a type attribute value selected from the group consisting of: preferred position ad, standard position ad, and listing.
- 6. The method of claim 5 wherein the searching step further comprises the step of:

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providing a selected category of commerce value; and
locating a subset of said entries having a category of commerce value equal to said selected category of commerce value.

- 7. The method of claim 6 wherein the step of presenting includes the step of: displaying, on said display of said computer system, each said entry of said subset having said preferred position type attribute value associated therewith.
- 8. The method of claim 7 further wherein the step of presenting further includes the step of

listing, on said display of said computer system, each said entry of said subset having type attribute values associated therewith other than said preferred position type attribute value.

9. The method of claim 7 wherein the step of presenting further includes the step of:

shifting the position on said display of said computer system of each of said subset of entries having a standard position associated therewith, wherein said shifting is relative to a previous display position of said each of said subset of entries having a standard position attribute associated therewith.

- 10. The method of claim 4 further comprising the step of: providing a geographic location of a user on said computer system.
- 11. The method of claim 10 wherein the searching step further comprises the step of:

locating a subset of said entries having a geographic location value near said geographic location of said user.

12. The method of claim 11 wherein the presenting step further comprises the step

of:

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displaying said subset of said entries in order of geographic proximity to said geographic location of said user.

13. The method of claim 3 further comprising the steps of:

displaying additional information for a particular one of said plurality of vendors in response to a user selection of said one of said plurality of vendors.

- 14. The method of claim 13 wherein said additional information is information selected from the group consisting of: vendor coupons, map to vendor location, directions to vendor location, inter-computer connection to vendor systems, inter-computer connection to advertising provider systems, email interfacing, and auto-dial for voice communication with vendor.
- 15. The method of claim 14 wherein the step of displaying additional information includes the step of:

displaying a static map to a vendor location.

16. The method of claim 14 wherein the step of displaying additional information includes the step of:

displaying static directions to a vendor location.

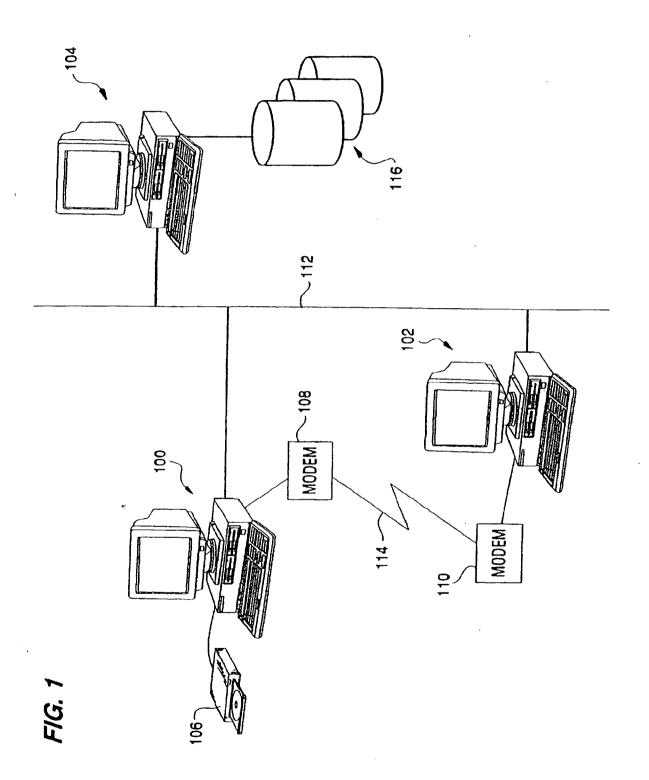
17. The method of claim 14 wherein the step of displaying additional information includes the steps of:

providing a user location of a user on said computer system; generating a map from said user location to a vendor location; and displaying the generated map.

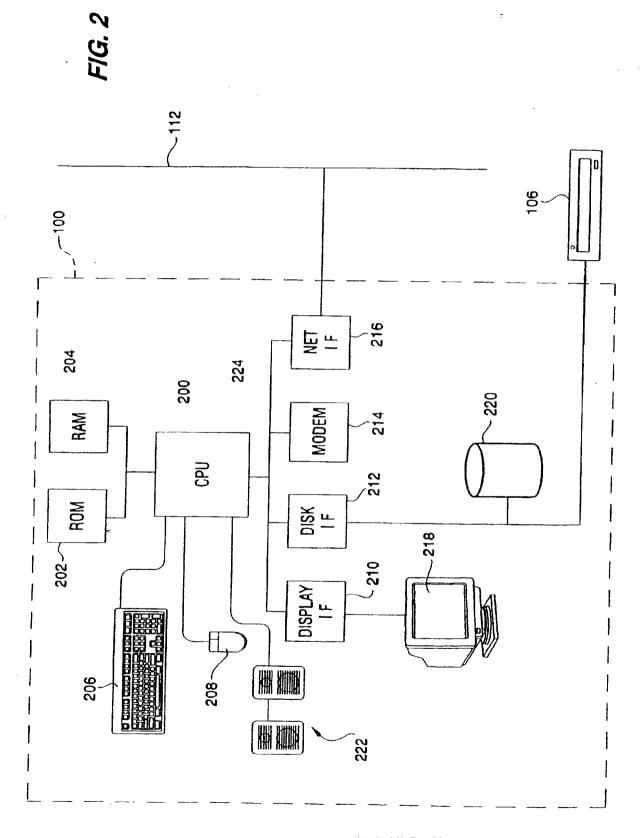
18. The method of claim 14 wherein the step of displaying additional information includes the steps of:

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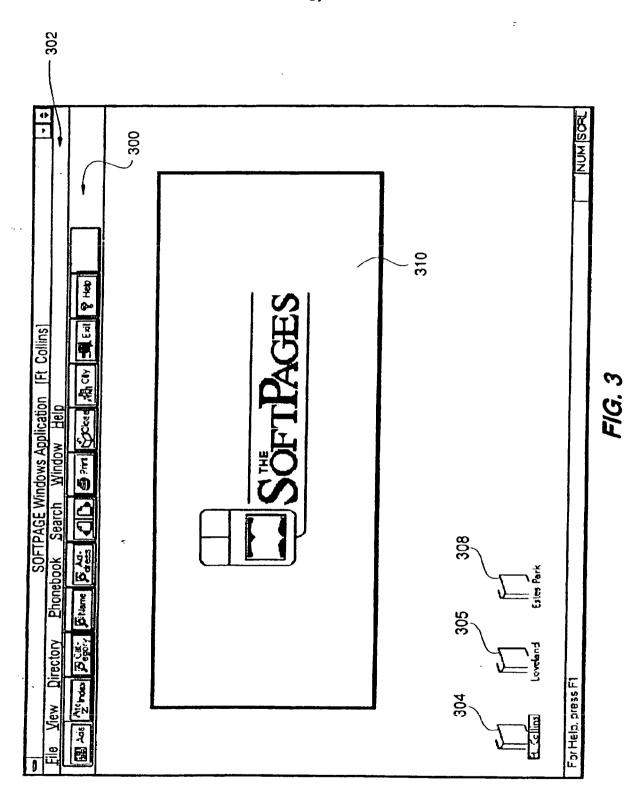
providing a user location of a user on said computer system; generating textual directions from said user location to a vendor location; and displaying the generated textual direction.



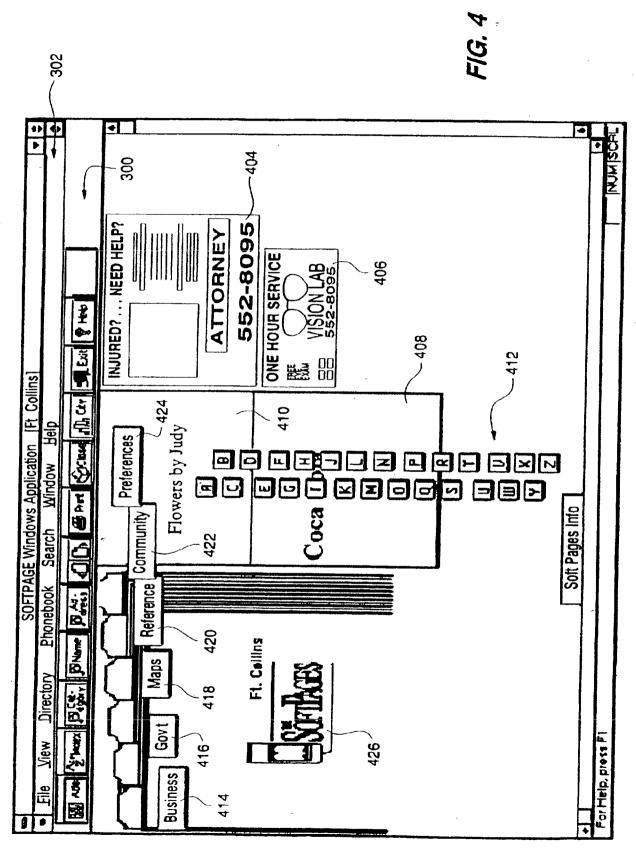
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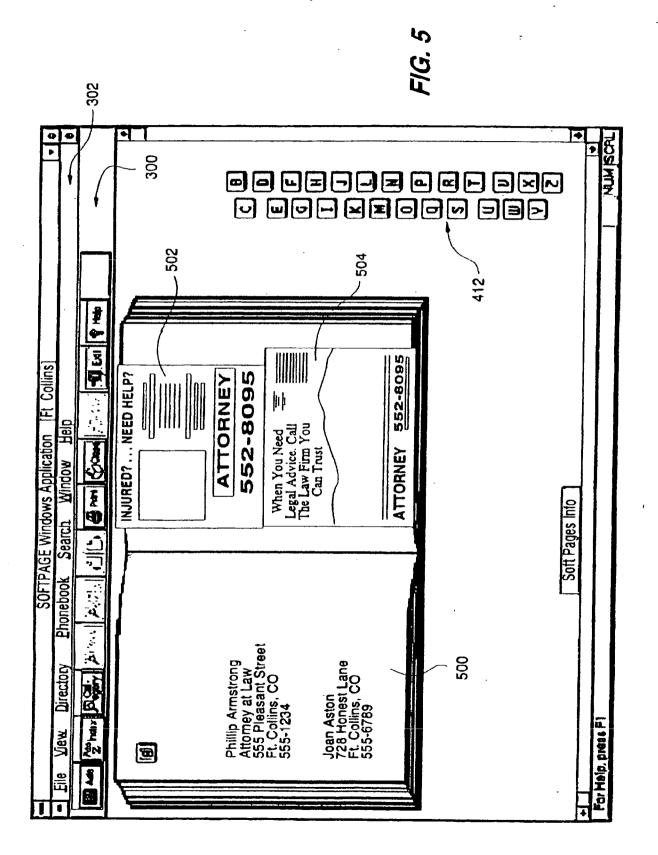
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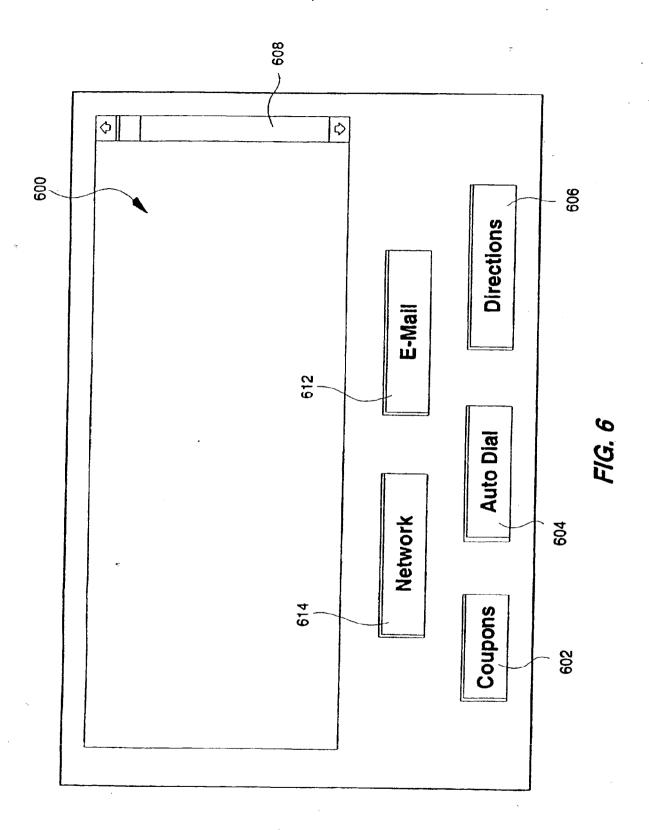
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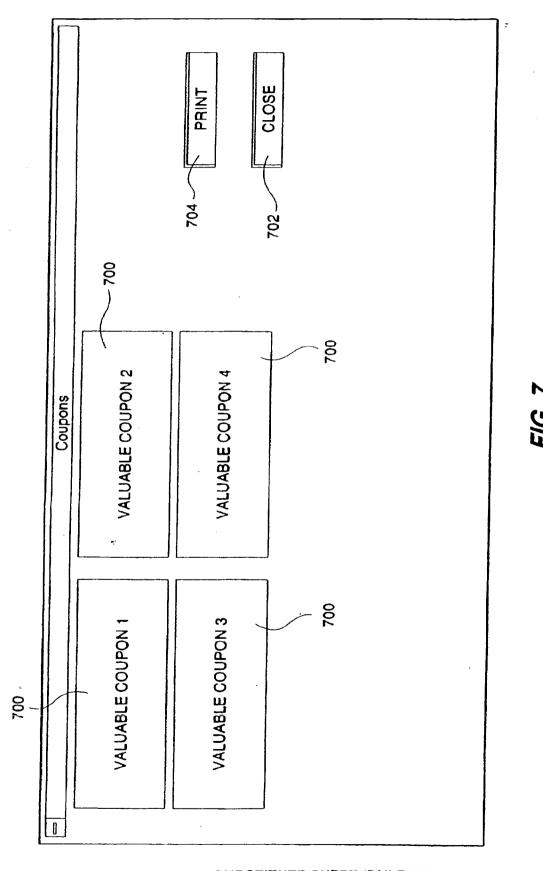
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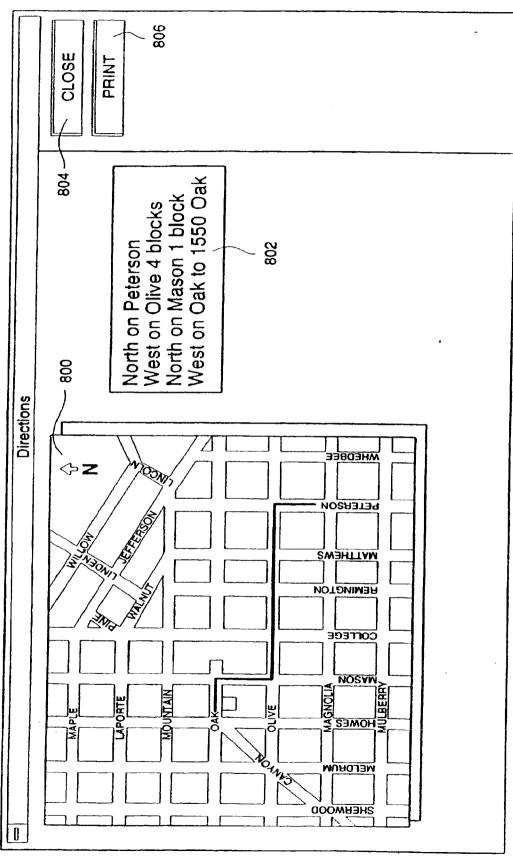
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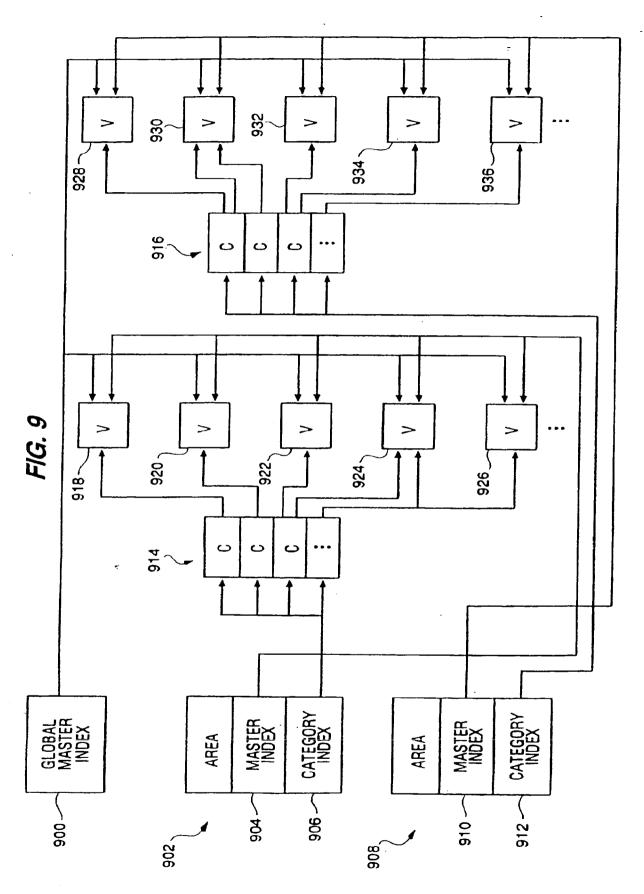


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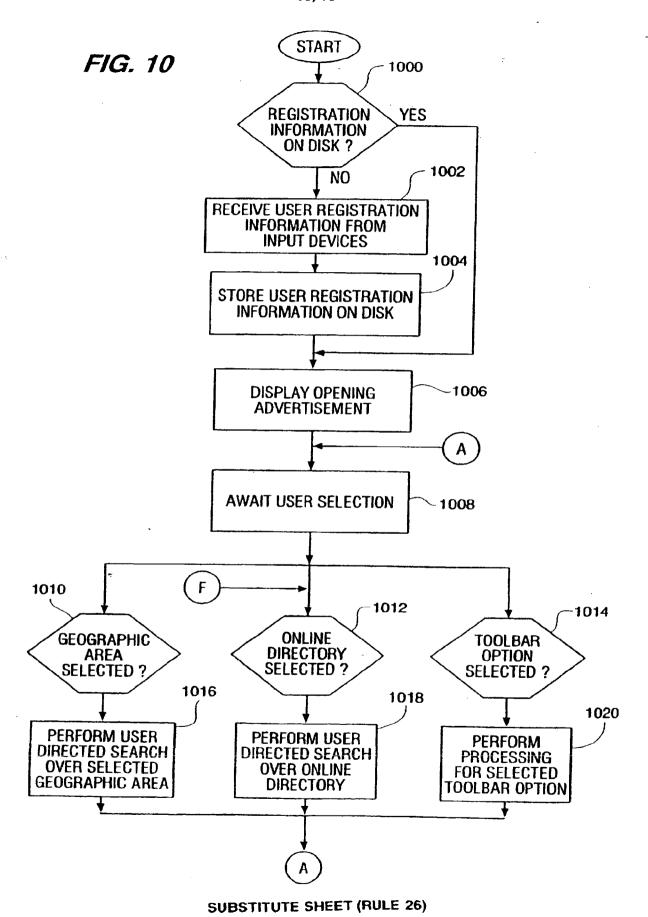


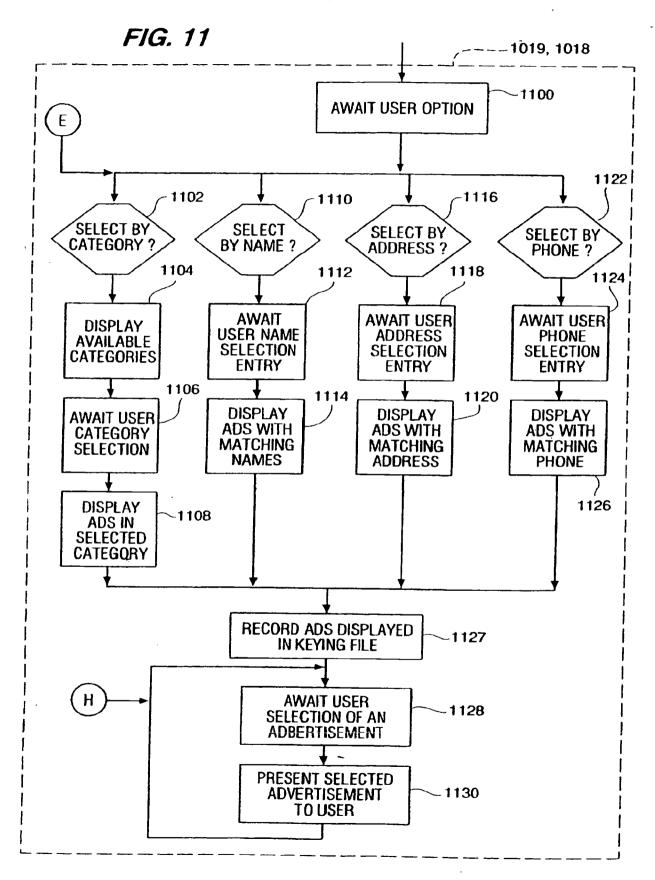
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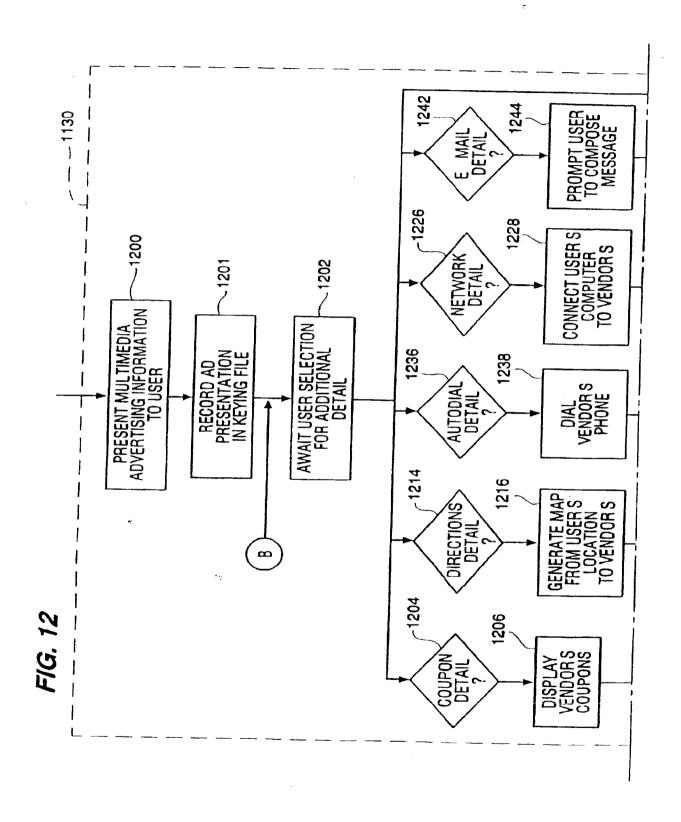


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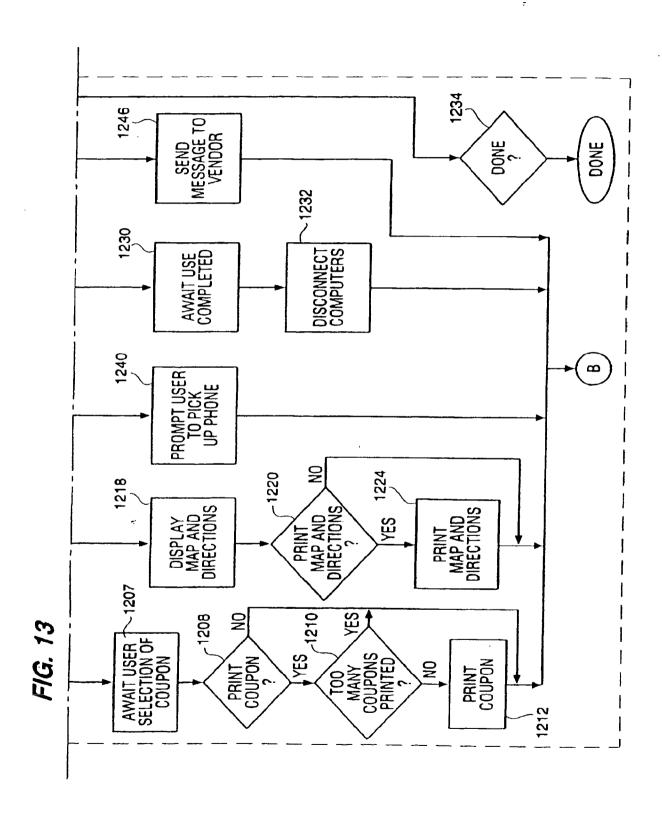




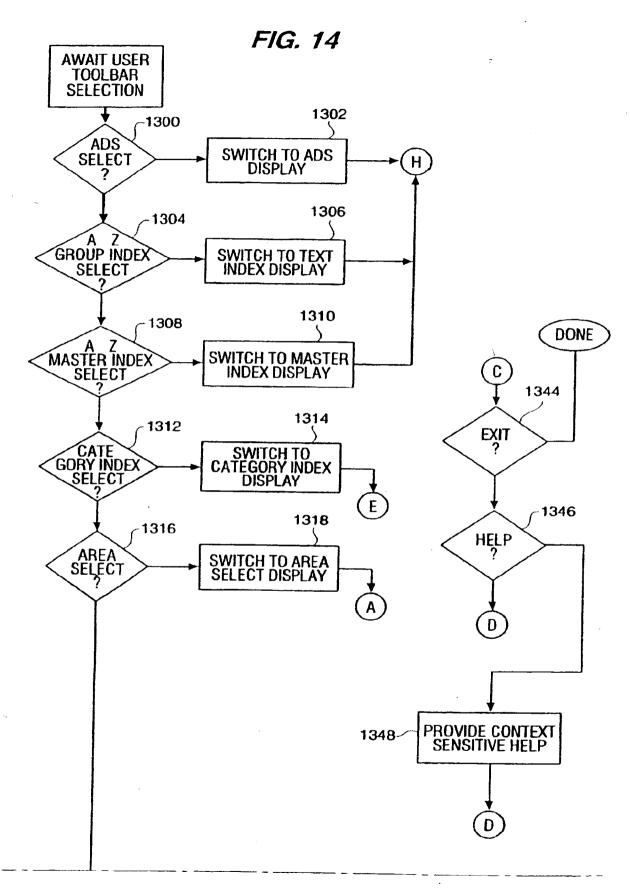
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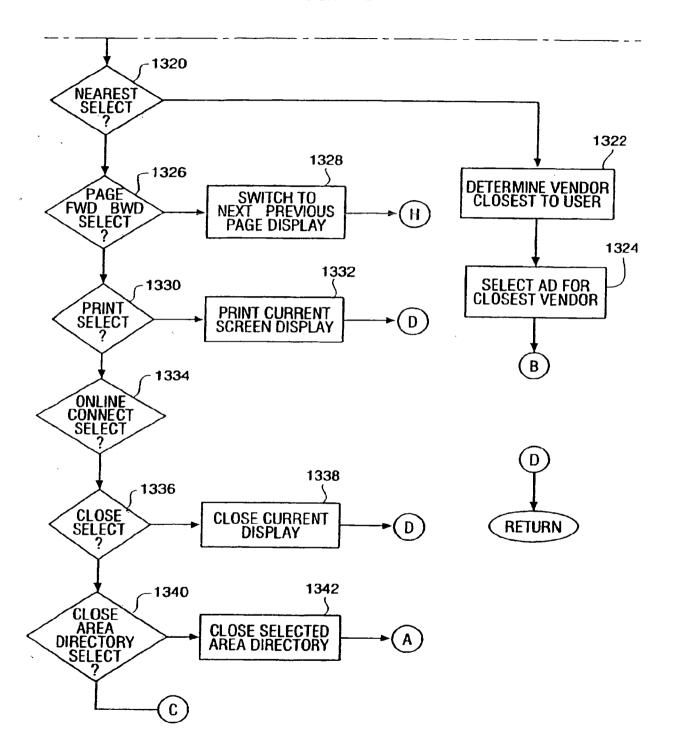


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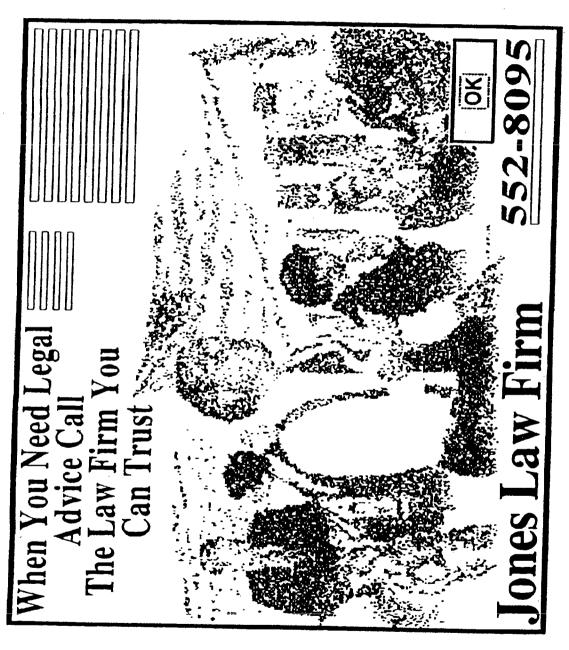


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FIG. 15



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## INTERNATIONAL SEARCH REPORT

International application No. PCT/US96/20879

A. CL IPC(6)	ASSIFICATION OF SUBJECT MATTER :GOGP 17/21	7
According	:395/807, 762, 227 to International Patent Classification (IPC) or to both national classification and IPC	
B. FIE	ELDS SEARCHED	
	documentation searched (classification system followed by classification symbols)	
<b>U.S</b> . :	395/807, 762, 227, 201, 226, 601, 603, 615, 335, 774	
Document	ation scarched other than minimum documentation to the extent that such documents are include	d in the fields scarched
	•	
Electronic	data base consulted during the international search (name of data base and, where practicable	;, scarch terms used)
C. DOG	CUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US, A, 5,471,382 (TALLMAN ET AL) 28 November 1995	1-18
۸.	US, A, 5,319,544 (SCHMERER ET AL) 07 June 1994.	1-18
	US, A, 4,992,940 (DWORKIN) 12 February 1991, abstract, figures 2A-2b, col. 3-10.	1-18
',P	US, A, 5,500,514 (VEENEMAN ET AL) 19 March 1996, col. 3-16.	1-14
	US, A, 5,283,639 (ESCH ET AL) 01 February 1994.	1-18
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1		
Furthe	documents are listed in the continuation of Box C. See patent family annex.	
A" document defining the general state of the art which is not considered to be part of particular relevance  The document defining the general state of the art which is not considered to be part of particular relevance  The document published after the international filing date or price date and not in conflict with the application but cited to understand principle or theory underlying the invention		on but cited to understand the
cartic	or document published on or after the international filing date. "X" document of particular relevance; the	lained invention cannot be
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