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<tr><td>19</td><td>20</td></tr>
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zation to which the user belongs, the user's ISP (e.g., the benefit amount may be deducted from the user's ISP bill, or any other bill), or another party that was responsible for controlling the insertion of records into the preference database. Benefit per use field **254** may be used for controlling third-party insertion of records into the preference database. For example, if a third party wants to change address information associated with a data pattern already identified in the preference database, the third party may be required to offer a benefit per use that exceeds the benefit per use stored in field **254** of the corresponding record before being allowed to alter the address information. Field **254** may store an indication of a currency amount, or of some other benefit or value to be provided. Alternatively, field **254** may identify an index or ranking of a record that indicates the comparative value of the record as compared to other records.

In certain embodiments, the viewpoint defined by a particular preference database **216** or **234** is customized for a particular user, who may have a unique user identifier, such as that indicated by reference numeral **256**. For example, the preference database **216** or **234** shown in FIG. **5** defines the viewpoint for a particular user who is identified by user identification number 58120. A different user having a different user identifier will use a different viewpoint. This customized preference database may, for example, be stored by the user device **110**, **120** or **130** being used by the user. Alternatively, this preference database may be stored by DNS server **142** or dial-up server **175**, for use in determining preferences for a particular user, with the user's login identifier used to select between his viewpoint and viewpoints of other users.

In other embodiments, a viewpoint may be customized for a particular class or category of users rather than for a particular user. In these embodiments, a category or class indicia (instead of a unique user identifier) is associated with preference database **216** or **234** in order to customize that database for use by users belonging to a particular category or class. For example, data representative of users belonging to the class of "sales agents" or "engineers" may be associated with database **216** or **234** so that the viewpoint defined by that database is used for users who are sales agents or engineers, respectively.

Referring to FIG. **6**, an exemplary structure of display code database **218** and/or **236** defines different manners in which a hyperlink may be included within an electronic file. Database **218** and/or **236** includes a plurality of records **278-284**, each defining a manner by which a hyperlink may be included within a received file. Each record includes a first field **274** for storing the display code for the hyperlink, corresponding to the values in display code field **243** of preference database **216** and/or **234**, and a second field **276** for storing data representing the manner in which the hyperlink will be included in the file. For example, if the display code is "1", a hyperlink will be included by converting the matching data pattern into an indication of the hyperlink. If the display code is "2", an indication of the hyperlink will be included as a footnote to the matching data pattern. If the display code is "3", an indication of the hyperlink will be included within a margin adjacent to the matching data pattern. If the display code is "4", an indication of the hyperlink will be included just after the matching data pattern. In each case, the hyperlink will be inserted in association with the matching data pattern.

Other manners of including a hyperlink within a received file may also be used. For example, an indication of a hyperlink could be included within an "on MouseOver" tag. An "on MouseOver" is a JavaScript instruction used for testing the position of a pointer such as a mouse. The hyperlink indication could appear, for example, in a "balloon" window that emerges when the user places a pointer over a data pattern and/or clicks on the data pattern with the pointer.

Referring to FIG. **7**, an exemplary structure of user account database **238** includes a plurality of records **296-299**, each record having a user identification number field **286**, a user name field **288**, a user contact information field **290**, a user account information field **292**, and an accumulated total field **294**. Field **286** stores an identifier that uniquely identifies a user. Field **288** stores the user's name. Field **290** stores contact information for the user, such as the user's mailing address, electronic mail address, telephone number, etc. Field **292** stores user account information identifying a financial or other account of the user, such as a credit card account, debit card account, ISP account, telephone account, electronic cash account, etc. Field **294** stores the accumulated total of payments due to the user resulting from the use of the user's preferences. For example, based upon field **254** of record **260** (FIG. **5**), Susan Smith (i.e., the user identified by user identification number 58120) will receive $0.25 from the third-party who inserted record **260** into her preference database each time that she activates a hyperlink providing a linkage to "www.bookstore.com" that was included within presented electronic content due to her preference (assuming that field **254** stores an amount to be paid per visit to that resource).

Referring to FIGS. **8A**-**8**B, another embodiment of a method **300** for providing a link in an electronic file being presented to a user is shown. Method **300** is performed by the Web browser of any of user devices **110**, **120** or **130** (FIG. **2A** or **28**). Similar to method **10**, method **300** includes defining a customized viewpoint for the user including a preference for the user (not shown), generating a request for content (steps **302-308**), receiving an electronic file corresponding to the request (steps **310-312**), and evaluating the electronic file to recognize a match between at least a portion of the file and the data pattern (steps **314-316**). If no match is found, method **300** also includes presenting the file to the user without modification (step **318**). Upon recognizing a match, method **300** also includes modifying the electronic file to include a link to the computer network resource associated with the matching data pattern (step **320** of FIG. **8**B), and presenting the modified file to the user (step **322** of FIG. **8**B). As with method **10**, the viewpoint may include one or more than one preference, and each preference may provide an association between one or more than one data pattern and a computer network resource. The following description assumes that the user device is user device **110** within network **100** (FIG. **2A**). A similar description would apply for user device **120** or **130**, and if user device **110** was coupled to network **170** of FIG. **2B**.

At step **302**, user device **110**, operating Web browser **214**, receives address data (e.g., a text-based URL or numeric IP address) from a hyperlink embedded into a document being viewed by the user. The address data may include an address corresponding to remotely-stored Web site content. In one embodiment, the address data is received by user device **110** in response to the user initiating a request for content by activating the hyperlink. Alternatively, the address data may be received after the user initiates a request for content by entering the address information into an address bar area of the browser's user interface. In each case, the request is initiated by the user. In another alternative, the address data is received without being initiated by the user. For example, the address data may have been received in response to an automatic refresh function that is being performed by the Web browser, or in response to a default mechanism when the browser is launched (e.g., similar to MSN.COM™).

At step **304**, if the address data is in the form of a text-based URL, user device **110** transmits the address data to computer

network **100** (FIG. **2A**). In computer network **100**, this involves transmitting the received address data (i.e., the text-based URL) to DNS server **142** via LAN **132**. Alternatively, in computer network **170** (FIG. **2B**), step **304** would involve transmitting the received address data to dial-up server **175** via a telephone modem or other communication interface (e.g., DSL or cable modem interface).

At step **306**, user device **110** receives the IP address which corresponds to the address data from DNS server **142**. Generally, the IP address will be expressed numerically as opposed to being expressed textually. To provide the IP address, DNS server **142** receives the text-based address data that was transmitted by user device **110** at step **304**, queries a database for a record which associates the text-based address data to the corresponding IP address, and returns the numeric IP address data to user device **110**. Note that steps **304** and **306** may be omitted if the numeric IP address was received at step **302**.

At step **308**, user device **110** uses the received IP address data to transmit a request to the corresponding host Web server **140** via router **144**, the Internet **160**, and router **150**. The request includes a header (i.e., a numeric code assigned to a request for content identifying a user's unique IP address). Either the LAN **132** or the ISP server assigns a numeric header corresponding to the user device, which is integrated with the numeric IP address information. The numeric IP address information is then transmitted to and received by a router which executes packet-routing software to accurately and efficiently transmit the request for access of the desired content to the appropriate Web server **140**.

At step **310**, user device **110** receives a signal from the host Web server **140** acknowledging that the host Web server **140** received the request for remotely-stored content. User device **110** may also provide the user with an indication that this signal was received in a status line area of the Web browser interface (e.g., "Web Site Found—Waiting for Reply"). Using the received header information, the host Web server **140** transmitted this signal to user device **110** to indicate that the request for content was received, and input the request to a queue to be addressed sequentially upon fulfillment of other pending requests for access to the desired content. The host Web server **140** may include several computers, including mirror site servers. Alternatively, the host Web server does not transmit such an indication to the user device **110**, and device **110** merely waits to receive the requested content.

At step **312**, user device **110** receives at least one markup language-based electronic file from the host Web server **140**. This file was transmitted by the host Web server **140** after accessing the requested content. This file includes computer-readable code that dictates the formation of the content upon presentation to the user. The code itself may also include URL's associated with supplementary content located on the requested host server, or on a separate host server. The requested content may be delivered completely, or in parts. For example, text and graphic information may be transmitted separately as different is files to be assembled by the user device for presentation to the user. At this point, the requested markup language-based file has been received by user device **110**, but has not yet been presented (e.g., displayed) to the user.

At step **314**, user device **110**, executing Web browser **214**, accesses preference database **216**, and compares the data patterns **240A-240N** stored within preference database **216** with the retrieved electronic file to determine if any portion of the electronic file matches any of the data patterns stored in that database. The preference database **216** may be accessed from local and/or remote storage. In various embodiments,

preference database **216** may be integrated with the user's Web browser or, alternately, the LAN or ISP server may be involved in accessing the preference database. As described above, preference database **216** comprises one or more preferences, each preference providing an association between at least one data pattern that may occur in the retrieved content (e.g., in the markup language-based electronic code) and the address information for the corresponding computer network resource (e.g., numeric IP or text-based address data of the computer network resource).

At step **316**, user device **110** determines if any portion of the electronic file matches any data pattern stored in preference database **216**. In one specific example, user device **110** compares the user-viewable text portion of the markup language-based code that comprises the electronic file with the data patterns **240A-240N** stored in preference database **216**. The Web browser of user device **110** (in the browser embodiment) or a server at another location (in the server embodiment) compares all of the user-viewable text portions of the markup language-based code with each data pattern in the preference database.

In one embodiment, to recognize a "match", user device **110** requires a portion of the requested content to be the same as a data pattern stored in preference database **216**. For example, if a preference in preference database **216** defines data patterns including "jump" and "jumping", a match may be recognized only if one of those data patterns appears in a portion of the requested content. In another embodiment, to recognize a match, user device **110** analyzes the requested content to determine if any portion of that content has a predetermined relationship with a stored data pattern. For example, the predetermined relationship may result in a match being recognized if a portion of the requested content shares a common root with a stored data pattern (e.g., the word "jumped" may be recognized as matching stored data pattern "jump" since they share a common root). Other relationships may also be used to find that a portion of requested content matches a stored data pattern. For example, if the stored data pattern comprises the United States flag, then a portion of the requested content may be found to match the stored data pattern if that portion includes certain combinations of stars and stripes. As another example, if the stored data pattern comprises a graphic, a portion of the requested content may be found to match the stored data pattern if that portion includes more than a predetermined percentage (e.g., 90%) of the same pixels. Thus, a portion of requested content may be recognized as matching a stored data pattern if that portion has a sufficient relationship to the stored data pattern. Various data pattern recognition techniques may be used to determine if a match occurs.

At step **318**, if no part of the requested content (e.g., no part of the user-viewable text portion of the markup language-based code) matches a data pattern stored in preference database **216**, user device **110** displays the markup language-based file to the user as received (i.e., without modification). If, however, any part of the requested content matches any data pattern stored in the preference database, then processing continues at step **320** of FIG. **5B**.

At step **320**, user device **110** accesses preference database **216** to determine the address information for any data pattern that was recognized to match user-viewable text in the received file, and inserts a hyperlink to the computer network resource corresponding to that address information into the markup language-based file for subsequent display to the user via the output device(s) **206** of device **110**. The hyperlink may be inserted into the file such that an indication of the link will be displayed in association with (e.g., at or substantially

adjacent to) the original location of the matching user-viewable text (i.e., the matching data pattern). For example, a hyperlink may be inserted into the file such that, when an indication of the hyperlink is displayed to the user, the hyperlink will be located at or substantially adjacent to the location of the matching data pattern. The indication of the hyperlink will be "substantially adjacent to" the location of the matching data pattern if a user will perceive the hyperlink as being associated with the matching data pattern. Thus, user device **110** (or a separate server) effectively modifies the user-viewable text portion of the markup language-based code to indicate one or more supplemental hyperlinks in accordance with preference database **216**.

A retrieved electronic file may be altered to include a hyperlink indication according to the display code stored in field **243** of the record of the corresponding preference. For example, assume that Web browser **214** causes user device **110** to recognize that a portion of text in the user-viewable portion of requested content matches the data pattern "The Committee" stored in field **240N** of record **260** in preference database **216**. User device **110** may modify the requested content to include a hyperlink for the matching data pattern (e.g., a hyperlink to "www.bookstore.com", based upon field **242** of record **260**). Since the display code for this preference is "1", user device **110** will include a hyperlink indication within the requested content by "converting" the matched data pattern into the hyperlink. For example, if the requested content includes the data pattern "The Committee" as plain text, the Web browser may replace this text with a hyperlink which is displayed to the user as "The Committee" so that, if the user then activates this hyperlink, user device **110** will request an electronic file from the associated network resource ("www.bookstore.com").

Alternatively, using a display code, a hyperlink indication may be displayed to a user in association with a matched data pattern by being placed at or adjacent to that data pattern. For example, a hyperlink indication may be placed just after "The Committee" (display code "4"), or just after the end of the sentence containing "The Committee" (e.g., "To purchase this book online, click on www.bookstore.com"). As this example shows, additional text may be inserted in the requested content to describe the hyperlink to the user. This text may be stored in another field (not shown) of preference database **216** or display code database **218**, **236**. A hyperlink indication may also be displayed at other locations in the requested content that provide an association with the matched pattern. For example, an indication may be placed in a footnote from the matched pattern (display code "2"), or in a margin adjacent to the matched pattern (display code "3").

When a hyperlink associated with a matching data pattern is inserted into requested content, any existing hyperlink in the requested content may, or may not, be overridden with the inserted hyperlink. The Web browser may determine whether an existing hyperlink is present within a user-viewable text portion and, if so, overwrite (or not overwrite) that existing hyperlink with a new hyperlink associated with a matching data pattern. For example, if the original requested content includes: "We recommend 'The Committee'. To purchase this book online, click on www.departmentstore.com", the browser could replace the hyperlink "www.departmentstore-.com" with the hyperlink "www.bookstore. com". By activating this hyperlink, the user may then access "www.bookstore-.com" in accordance with his or her previously-established viewpoint.

At step **322**, the altered markup language-based electronic file is presented (e.g., displayed) to the user via the output device(s) **206** of user device **110**. This file includes a hyper-

link for the address information stored within preference database **216** for each matching user-viewable text portion of the markup language-based code, as determined above. If the user activates one of these hyperlinks, he or she will access the computer network resource specified by the address information. Thus, additional Web traffic resulting from the display of the altered markup language-based file may be directed to one or more third-party Web sites as dictated by the preference database.

At step **324**, user device **110** updates the usage fields for each record of preference database **216** for which a data pattern was found to match a portion of the requested content. In particular, user device **110** updates fields **248** and **250** to reflect the number of times accessed and the number of times accessed since last visit. For example, user device **110** may increment by one the numeric data stored within fields **248** and **250** of each record determined to store a matching data pattern. Fields **248** and **250** are maintained for tracking the number of occurrences of text-based user-viewable content and the display of resultant hyperlinks associated therewith, and may be used to provide data for billing purposes and/or for providing benefits to the user.

At step **326**, user device **110** transmits a notification(s) to all of the originators identified by preference database records as having matched data patterns. For each record of the preference database that was accessed in step **320** and used for inserting a hyperlink into content, the originator data in field **246** of the record is used to generate a notification to the originator of the record indicating that the record was used. This notification may or may not trigger an action if the originator was the user or an administrator of the user's organization. If no action is triggered, the notification need not be provided. However, if the originator was a third party that offered compensation or another benefit for the use of associations that were inserted by the third party into the preference database, this notification may be used to trigger payment from the third party to the user or another designated recipient. Alternatively, a coupon may be delivered, or a points value in an incentive program may be incremented, in response to receiving this notification. Other forms of benefit or compensation may also be used by each third-party organization wishing to have records included within the preference database used by a user. In other embodiments, instead of generating a notification to the originator of a record each time that the record is used, data fields **248**, **249** and **250** are used to track the usage of each record, and billing/notification is performed afterwards in batches.

In another embodiment, user device **110** transmits a notification to DNS server **142** (FIG. **2A**) or dial-up server **175** (FIG. **2B**), and that server updates the accumulated total due the user stored in field **294** of user account database **238**. This database can later be used to provide payments to the user, and to bill the originator of the preference that caused the link to be inserted.

After step **326**, the user will view the modified electronic file that has been presented to the user by the output device(s) of his or her user device **110**. Ultimately, the user will close the Web browser, or will initiate a request for additional content by delivering new address data to the browser. Thus, at step **328**, the browser may receive new address data from the user, in a similar fashion to that described above with reference to step **302** (FIG. **8A**).

At step **330**, user device **110** evaluates if the new address data received from the user originated from a hyperlink previously inserted into an electronic file presented to the user via the actions that are described above. If not (e.g., if the user typed a new address into an address box of his or her Web

browser, or clicked on a preexisting hyperlink in the retrieved content), then processing continues at step **304** (FIG. **5A**) to retrieve the newly-requested content. If, however, the user has clicked on a hyperlink added by the Web browser according to the above-described steps, then user device **110** transmits a notification of the visit derived from the preference database record that was used to generate the hyperlink to the originator of that record, at step **332**.

In particular, at step **332**, user device **110** accesses the record of the preference database previously accessed at step **320** to obtain the originator information from field **246** of that record, and uses this information to generate a notification to the originator that a visit was initiated by that record. This notification may not be provided if the originator was the user, or was an administrator of the user's organization. If, however, the originator was a third party that offered a benefit (e.g., compensation) for visits initiated by use of the associations inserted by the third party into preference database **216**, this notification may trigger providing the benefit from the third party to the user or to another designated recipient. Alternatively, a coupon may be delivered or the number of points in an incentive program (e.g., frequent flyer miles) may be incremented in response to this notification. Other forms of benefits may also be used by each third-party organization wishing to entice visits to particular network resources. In some embodiments, instead of generating a notification to the originator of a record each time a visit is initiated by the record, a data field (as discussed above) is used to track the number of visits initiated by each record (e.g., by being incremented whenever a link that was added using the record is activated), and billing/notification is performed later in batches. As another alternative, the notification may be sent to the DNS server **142** or dial-up server **175** for use in updating the user account database **238** by, for example, incrementing the accumulated total due to the user in field **294**.

At step **334**, user device **110** updates the usage fields for the corresponding record in the preference database (i.e., the record that was accessed at step **320** to insert the hyperlink). In particular, user device **110** updates (e.g., increments by one) the numeric data stored in field **249** of that record to reflect the user's access of the computer network resource, and resets field **250** (i.e., sets field **250** equal to zero) of that record. The data in field **249** can be used for billing purposes and/or for providing payment to the user. These actions maintain accurate statistics on the use of each record. After step **334**, processing continues at step **304** (FIG. **8A**) to obtain the newly-requested content.

Referring to FIG. **9**, an exemplary method **340** performed by user device **110** for updating preference database **216** based upon a received signal and a monetary value associated with the signal is illustrated. In this manner, an ISP or a user may benefit by allowing preference database **216** to be updated by a third party, such as a merchant, a service provider, or a portal-type Web site. In accordance with method **340**, preference database **216** may be implemented using a commonly-accessible "cookie" file. A "cookie" is a set of data created by a Web server and stored on a client system (e.g., a user's computer) which allows a Web site to track a user's patterns and preferences. A "cookie" contains a range of addresses or URLs for which it is valid. When a user's browser encounters one of those URLs again, the browser sends a copy of the cookie to the Web server. Cookies may be used to identify the user computer, to instruct the Web server to transmit a customized version of a Web page, to submit account information for the user, and for other administrative purposes.

Additionally, it is envisioned that the method of FIG. **9** may facilitate the addition of data records to preference database **216** in a manner that does not require any monetary or other benefit "override". The addition of records into preference database **216** may be facilitated merely in response to an absence of certain data patterns within the preference database.

At step **342**, user device **110** receives a signal indicating a third party's interest in updating preference database **216**. Optionally, the received signal may be received by the Web browser as part of viewing content, in which case the signal may be presented to the user in the form of a text box message or audio prompt for acceptance or decline by the user. The signal may also be received by the user in the form of an electronic mail message including or having a hyperlink leading to an executable script or program (e.g., an applet) for updating the preference database. The signal preferably comprises data including benefit values and an indication of the particular records within the preference database to be updated. Preferably the indication includes data corresponding to one or more portions of user-viewable text. The signal may comprise other data needed to complete a record within the preference database, such as expiration information for the proposed update.

At step **344**, user device **110** analyzes the received signal and compares that signal to preference database **216** to determine if there is any conflict between a requested addition to the preference database and a record already existing in that database. This process involves evaluating any data patterns (e.g., user-viewable text portion(s)) identified by the received signal and comparing these data patterns to data patterns **240-240N** already existing in the preference database. Any match indicates a possible override of a record already in the preference database. If there are no such overrides, preference database **216** is updated as described below in relation to step **356**. If there are one or more potential overrides, processing continues at step **346**.

At step **346**, user device **10** determines the value of each potential override request. To determine the value, the browser in conjunction with processor **200** examines the received signal to determine the value of the benefit identified by the override signal, and compares the value with a benefit that is identified in field **254** of the existing preference database record.

In an embodiment in which field **254** stores an amount paid per visit, or an amount paid per hyperlink insertion, this analysis may involve the comparison of monetary values. In non-monetary embodiments (e.g., where the benefit is a coupon, discount or points awarded in an incentive program), the browser may access stored information regarding the ranking of benefits to produce an index or ranking of the benefit provided by the existing preference database entry and the benefit offered by the received signal. If sufficient data to perform such a comparison is not available, the Web browser may produce a dialog box for display to the user that provides a comparison of the benefit described by the current preference database entry with the benefit offered by the received signal, and may request that the user identify a comparative ranking or an index value for use in determining which benefit is preferable. The browser can thus develop data for ranking benefits, enabling automatic evaluation of the comparative preference of the user (e.g., frequent flyer miles vs. cash payments, or between frequent flyer miles from different airlines).

At step **348**, after the values of potential override requests are determined, user device **110** selects one potential override request. At step **350**, user device **110** compares the deter-

mined value of the selected potential override request with the benefit per use value stored in field **254** of preference database **216** for the conflicting record that may be overridden by the received signal. If the received signal identifies a greater value, processing proceeds at step **352** and the preference database is updated to reflect the new preference or preferences identified by the received signal (by updating fields **240A-240N** and **242**), any expiration data for the new preference (by updating field **244**), the new originator (by updating field **246**), and the new benefit per use (by updating field **254**). Usage fields **248-250** and status field **252** are reset to their initial values, and the updating process is complete for that request.

After step **352**, or after step **350** if the potential override request has a lower value than the value of the existing preference database record, user device **110** determines at step **354** whether the received signal included any additional override request that should be analyzed. If so, processing returns to step **348** to select one of these additional override requests.

After all of the potential override requests are processed, or if there were no potential override requests, processing proceeds from step **354** to **356**. At step **356**, preference database **216** is updated to reflect (e.g., by adding) any nonconflicting association(s) identified by the received signal. At this point, method **340** for updating the preference database is complete.

Method **340**, as shown in FIG. **9**, may automatically update the preference database upon receipt of a signal requesting an update. Alternately, the step of updating the preference database to reflect any new preference(s) may be postponed or canceled based upon a received accept/decline response signal that is generated by the user via user device **110**. The user may also individually accept and/or decline each new proposed preference. The Web browser may also be configured to allow the user to select a certain level of involvement that the user desires to have in updating the preference database.

In one embodiment, a user may specify a maximum number of custom hyperlinks that will be allowed to appear within a single electronic file. For example, a user could specify that only one association may be made between a matching data pattern and an associated computer network resource for a given electronic file, even if more than one data pattern within the file matches one of the data patterns stored within preference database **216**. The user can thus limit the extent to which requested content can be customized.

In another embodiment, a user may specify that his or her viewpoint may not be modified to contain particular preferences or types of preferences. For example, a user could specify that his or her viewpoint may not be customized by a third-party to include any preferences that provide an association to an adult-oriented Web site, or an organization could specify that the viewpoints used by its members may not be customized by a third-party to include preferences providing an association with any competing organization.

In one embodiment, an originator who wishes to add a new or updated preference to the viewpoint of a user may offer the user a benefit that will be provided to the user if the user agrees to accept the new or updated preference. For example, if a third party wishes to add a new preference to the viewpoint of a user, the potential override request received by user device **110** at step **342** includes an offer, which is presented to the user. The user may then accept or decline the new preference. If the user declines, his or her viewpoint is not changed. If the user accepts, his or her viewpoint is modified to include the new preference, and the user's account is credited with the offered benefit (e.g., by incrementing accumulated total field **294** for the user's record). Based on the terms of the offer, the

user may then receive additional payments based upon use of the new or updated preference, as previously described.

To prevent the user from quickly deleting the new preference, the offer to add a new or updated preference may include a condition that must be met for the user to receive the offer amount. For example, the condition may specify a time period during which the new or updated preference must remain in effect, and which cannot be overridden by the user. Alternatively, the condition may specify a minimum number of times that the preference must be accessed and used to insert a hyperlink into received content, or a minimum number of times that the associated computer network resource must be visited, during which the new or updated preference must remain in effect. When a condition is present, the party establishing the preference may (but need not) withhold payment to the user until the condition has been met.

As described above, a third party may pay a user for the right to include one or more preferences within the user's viewpoint, and/or for uses of one or more preferences within the user's viewpoint. Alternatively, any of these payments may be made by a third party to another party who establishes or operates a viewpoint for use by one or more users. For example, an organization may evaluate offers received from third parties for the right to insert preferences in the customized viewpoint that is used by members of that organization. For a specific example, a book club that provides its members with a viewpoint that is customized to include a variety of book-related preferences may determine which preferences to include in the viewpoint based on offers made by online bookstores. If Bookstore1 offers $100.00 for the right to include a preference providing an association to its Web site, and Bookstore2 offers $200.00 for the right to include a preference providing an association to its Web site, the club may decide to accept Bookstore2's offer such that the customized viewpoint will drive the book club's members to Bookstore2's Web site. The club and/or its members then receive additional payments whenever the members use that preference.

Referring to FIG. **10**, an alternative method **360** for updating or populating preference database **216** is performed via maintenance of the Web browser by the user. In method **360**, a user specifies one or more data patterns (e.g., user-viewable text portions of markup language-based electronic files), and corresponding address data to be incorporated upon receipt of a markup language-based file including a matching user-viewable text portion. Method **360** may be repeated to add additional records to preference database **216**.

At step **362**, user device **110** creates a new record in the preference database. At step **364**, user device **110** receives one or more data patterns (e.g., user-viewable text) specified by the user, to be used as the one or more data patterns for the new record. At step **366**, user device **110** receives and stores address information to be associated with the specified data patterns that are provided by the user. Next, at step **368**, the user-specified data patterns and the address information received from the user are stored in the new record of the preference database. Thereafter, the preference database record is available for use according to the process of FIGS. **5**A and **5**B for the receipt and modification of content.

Referring to FIG. **11**, still another method **370** for updating or populating the preference database is based upon installation of Web browser **214** by the user. In method **370**, upon installation of Web browser **214**, a user may accept or reject the default preference settings that were previously stored by the publisher or developer of the Web browser. If the user wishes to reject one or more of the default preference settings,

the user, as shown in method **360** (FIG. **10**), may manually specify a replacement preference setting.

At step **372**, user device **110** provides a user with the option of accepting the default preference settings built into the installation pro gram for the Web browser. If the user accepts the default settings, the process is done. However, if the user rejects the default settings, user device **110** displays the default preference settings to the user using its output device(s) **206** at step **374**. At step **376**, user device **110** provides the user with the option of modifying any or all of the default preference settings. If the user does not choose to perform any modification, the process is done. However, if the user wants to make one or more modifications, processing continues at step **364** (FIG. **10**) to allow the user to manually indicate one or more data patterns and address information.

While the invention has been illustrated by a description of various embodiments and while these embodiments have been described in considerable detail, it is not Applicants' intent to restrict or limit the scope of the appended claims to such detail. Other advantages and modifications will be readily apparent to those of skill in the art. For example, various databases described above may reside, and various functions may be performed, in other locations or via other devices. For example, while user account database **238** has been described as residing in DNS server **142** or dial-up server **175**, user account database **238** could also be located within another computer in communication with user devices **110**, **120** and **130**, such as another server coupled to LAN **132** (FIG. **2A**). This server would then receive indications from each user device whenever a payment or other benefit is earned by the respective user, and would update the accumulated total for that user. As another example, while the viewpoint defined by preference database **216** and/or **234** have been described as residing in user device **110**, **120** or **130** and/or DNS server **142** or dial-up server **175**, the viewpoint could reside at one or more other devices that operate in conjunction with the user's device. For example, a viewpoint may be partially or completely implemented at a user's computer, a device operating with the user's computer (e.g., a firewall, a remotely-accessible library, a router, a server, etc.), or another system.

Alternate Embodiments

In the Web browser embodiment described above, preference database **214** resides within the user's Web browser, and is updated by a third party (e.g., an online merchant) that registers the data patterns, or by the user. Alternatively, instead of interacting directly with users, a merchant (or other third party) who wants to include preferences in a viewpoint may interact with the provider or developer of the Web browser to establish default preferences leading to the Web site of the merchant. In this case, the provider or developer of the Web browser would control updates to the default preference database, and the users' agreement to updates would not be needed. Such preferences would drive Web traffic from content being viewed by users to the merchant's site. For example, a user installing the NETSCAPE NAVIGATOR® browser may be provided with default preferences compiled by Netscape. A user may be required to use these preferences. Alternatively, a user's preferences may be established entirely or partly by the user during installation of the browser, or later, to allow the user to entirely or partly override the default viewpoint.

Further, a user may input his or her own preferences to be associated with content to be viewed later. For example, a user may prefer to do his or her book shopping at a particular Web site. The user could register a preference such that each time the name of his or her favorite author occurs in a user-viewable text portion of a markup language-based document that is being read, a hyperlink to the corresponding bibliography Web page at that Web site would be automatically inserted at the location of the author's name. Thus, a user utilizing a Web browser to view a Web page for a newly published book review may access his or her choice of on-line bookseller simply by clicking on the authors name within the book review document.

In another embodiment, multiple parties may be involved in brokering modifications to a preference database. For example, an ISP such as AMERICA ON-LINE (AOL) may accept competitive bids from multiple on-line merchants who seek to derive traffic from occurrences of data patterns (e.g., words or phrases) in documents presented to users. Once a user logs-on to AOL, the preference database that is stored on the user's hard-drive could be automatically updated by AOL to reflect any newly-registered preferences. Alternatively, the preference database may reside at the user's ISP. In this manner, the results corresponding to the updated preference database may be broadcast or reflected across a large number of user devices, as reflected by the preference database that is centrally-maintained on an ISP server.

The above embodiment may also be implemented and practiced by a portal Web site, such as "YAHOO!®". For example, a portal Web site could create a preference database based upon bids made by online merchants. Then, before the Web site sends any content (e.g., search results, news, email, chat group messages, etc.) to a user, the Web site may include a hyperlink based on that preference database. For example, any Web site user receiving search results containing a data pattern that matches a data pattern stored by one of the preferences may be provided with an inserted hyperlink that leads to a computer network resource that has been associated with that data pattern.

As another example, a news organization (e.g., CNN.com™) could register a number of data patterns relevant to current events with a portal Web site (e.g., "YAHOO!®). For example, the news organization could register the keywords "Federal Investigation", "Supreme Court decision", "War in Chechnya", etc. Then, whenever any of the registered data patterns is found on the portal Web site, the content could be marked up with a link to the news organization. For example, a link to CNN.com™ could be inserted wherever "Federal investigation" is found on YAHOO!'s content. Thus, users of the portal Web site would be driven to the CNN.com™ site.

In one embodiment, users may be presented with offers made by online merchants or ISPs who seek to derive or influence Web traffic based upon the occurrence of data patterns such as single words or phrases within user-viewable text portions of documents. The users could then accept the offers to receive benefits. In one embodiment, a user who elects to allow his or her personal preferences to be updated by an on-line merchant or ISP may receive a discount, a coupon or another type of benefit. For example, a user who previously indicated his preferred online bookseller is "Bookstore1.com" may be willing to accept a discount, such as 10% off of his first purchase, to allow "Bookstore2.com" (a competitor of "Bookstore1.com") to adjust his personal preferences in its favor. For another example, an ISP may decrease the price that is charged to the user for providing Internet access services in exchange for being allowed to update a preference database associated with the user (e.g., the user may receive a discount of $5.00/month from the normal access rate of $19.95/month). It is also envisioned that

a portal Web site may aggregate several preference updates to be presented to a user in a batch.

As noted above, the preference database may reside within the user device as part of the user's Web browser, or may reside remotely (e.g., at a dial-up ISP Server or LAN Server). The preference database may also be stored in cache, thus allowing it to be updated with "cookie" files. In this manner, a Web site may generate and store an indication of the preference database currently associated with a particular user device. The preference database may alternatively reside as a remote library, accessible by the ISP Server, LAN Server, and/or the user device's Web browser program. The preference database may also reside in the RAM of the user device.

As described above, the user device processes retrieved content to include additional hyperlinks. The processing could also occur at another location. For example, the processing may be performed at a LAN server, proxy server or firewall responsible for handling the Internet traffic for the members of an organization. Also, the processing could be performed by a server at an ISP as a value-added service for its customers. Further, the processing may be performed at an Internet site so that all content retrieved via that site would be delivered with appropriate hyperlinks incorporated therein.

In one embodiment, the preference database stores or uses records based upon one or more additional criteria or conditions (e.g., geography) for creating a specific association. For example, a user in New England who is viewing a document including one or more occurrences of the user-viewable text portion "groceries" may be directed to the Web site of a grocer conducting business in New England. The user's geographic location may be determined, for example, from his contact information (e.g., zip code, telephone number, street address, ISP provider, etc.) stored in field **290** of user account database **238**. Meanwhile, another user located in Texas viewing the same document may be presented with a link to the Web site of a different grocer conducting business in Texas. This result may be achieved by inserting associations into the request that represent the geographic location of the user. Alternatively, this result could be achieved using geographic information (e.g., zip code) for each preference such that any preferences that are geographically specific to the current location of the user could be preferred over preferences that are not geographically specific to the user's location, or over preferences geographically specific to an area that does not include the location of the user.

In one embodiment, a user may indicate a preference for certain Web sites to be included and/or excluded from his or her preference database by an ISP or by a third-party. For example, a user may indicate that his or her preference database may be updated by an ISP or third party to reflect links for merchants A and B, while excluding links for merchant D. Alternatively, a user may indicate a preference for one or more particular classes of Web sites to be included and/or excluded from his or her preference database. The user-specified preferences could be entered into the database during, for example, a setup or installation routine such as that described in relation to FIGS. **10-11**.

In one embodiment, the features of the present invention may be activated and inactivated by a user using a button on the toolbar area of the browser interface. Similar to a "refresh" function, the user could initiate such a "view preferred links" function. In this manner, a user of the disclosed Web browser may view Web content either as intended by the content's authors or publishers, or in accordance with the preference database of the invention.

In a similar embodiment, the hyperlinks corresponding to the user-viewable text portions within retrieved markup language-based electronic files may be displayed separately from the user-viewable text itself. For example, if the user device is a personal computer, the links may appear in a separate area or "frame" of the output screen of the user device. The links may also appear using a different color, font or other attribute. The user may then select whether to activate the original link, if any, or a "preferred" link.

As described above, a Web browser in accordance with an embodiment of the invention can modify an electronic file being presented to a user to include a link to a computer network resource associated with a data pattern matching one of the data patterns stored in a viewpoint. Alternatively, in addition to or in lieu of including such a link, a Web browser can modify an electronic file being presented to a user to include content retrieved from the computer network resource that is associated with the matching data pattern. For example, if a user's viewpoint specifies an association between the data pattern "The Committee" and the URL for an online bookstore, and the user retrieves an electronic file which includes the data pattern "The Committee", the user's Web browser could recognize the match between the data pattern "The Committee" in the electronic file and the viewpoint, then contact the online bookstore to receive content associated with this data pattern (e.g., a book review for the book entitled "The Committee"), and then modify the electronic file being presented to the user to include both the book review for the book "The Committee" and the URL of the online bookstore. The user could then read the book review as part of the electronic file to decide whether to activate the URL of the online bookstore to purchase the book. For another alternative, the viewpoint itself could store content associated with the one or more data patterns of a preference within, for example, another field of the record for that preference. Then, when the data pattern is recognized as being within a received electronic file, the Web browser could modify the file to include the content that is stored in association with that preference.

In another embodiment, a Web browser can modify an electronic file being presented to a user to include a "purchasing link" which, if activated, allows a user to buy a product from a computer network resource without being required to visit that network resource. For example, if a user's viewpoint specifies an association between the data pattern "The Committee" and the URL for an online bookstore, and the user retrieves an electronic file which includes the data pattern "The Committee", the user's Web browser could recognize the match between the data pattern "The Committee" in the electronic file and the viewpoint. In response, the Web browser could modify the electronic file to include a "purchasing link" by, for example, adding a hyperlink stating; "Click here to purchase 'The Committee' for $19.95". By clicking on this hyperlink, the user could purchase "The Committee" via an appropriate message sent by the Web browser to the online bookstore, or could add the book to his or her electronic shopping cart for subsequent purchase.

It is to be understood that the embodiments and variations shown and described herein merely illustrate the principles of this invention and that various modifications may be implemented by those skilled in the art without departing from the scope and the spirit of the invention. For example, while the invention has been illustrated as being implemented using particular computer networks including hardware components such as user devices, domain name servers, dial-up servers, routers, proxy servers and Web servers, the invention could be implemented using other hardware components and/or other interconnections therebetween. Some or all of the network components may be implemented by discrete hard-

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wired components instead of computers. Furthermore, while the above description refers to particular databases, other databases or data structures may be used. Also, while various embodiments of methods in accordance with the invention have been discussed as including specific steps listed in specific orders, the steps may be performed in different combinations and orders. While other modifications will be evident to those of ordinary skill in the art, the present invention is intended to extend to those modifications that nevertheless fall within the scope of the appended claims.

We claim:

1. A computer-implemented method, comprising:
   defining, by a device operated by a user, a customized viewpoint for the user that includes a preference for the user, wherein the preference provides an association between a data pattern and a computer network resource, in which the data pattern defines an arrangement of user-viewable text;
   locating, by the user device, the data pattern in a first data structure by determining that the arrangement of user-viewable text matches a portion of text in the first data structure;
   generating, by the user device, a second data structure including a link indicating the computer network resource associated with the located data pattern, in which generating the second data structure comprises:
      inserting into the first data structure a hyperlink associated with a URL of the computer network resource, such that an indication of the hyperlink is included in a balloon window that emerges while a pointer is placed over the located data pattern; and
      storing a status indicating whether the association provided by the preference is enabled; and
   altering the status of the association in accordance with an offer, from a third party, accepted by the user, wherein the offer comprises an offer to provide the user a benefit having a monetary value in exchange for the user agreeing to include the preference in the customized viewpoint for a predetermined period of time.

2. The method of claim 1, further comprising receiving an instruction from the user to disable the association provided by the preference.

3. The method of claim 1, further comprising receiving an instruction from the user to enable the association provided by the preference.

4. The method of claim 1, further comprising receiving an instruction from the third party to disable the association provided by the preference.

5. The method of claim 1, further comprising receiving an instruction from the third party to enable the association provided by the preference.

6. The method of claim 1, further comprising:
   determining the status based on an instruction received from the user; and
   receiving an instruction from the third party to override the determined status.

7. The method of claim 1, in which altering the status comprises disabling the preference after the predetermined period of time.

8. A computer-implemented method comprising:
   defining, by a device operated by a user, a customized viewpoint for the user that includes a preference for the user, wherein the preference provides an association between a data pattern and a computer network resource, in which the data pattern defines an arrangement of user-viewable text;

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locating, by the user device, the data pattern in a first data structure by determining that the arrangement of user-viewable text matches a portion of text in the first data structure;
generating, by the user device, a second data structure including a link indicating the computer network resource associated with the located data pattern, in which generating the second data structure comprises:
   inserting into the first data structure a hyperlink associated with a URL of the computer network resource, such that an indication of the hyperlink is included in a balloon window that emerges while a pointer is placed over the located data pattern; and
   storing a status indicating whether the association provided by the preference is enabled; and
altering the status of the association in accordance with an offer, from a third party, accepted by the user, wherein the offer comprises an offer provide the user a benefit having a monetary value in exchange for the user agreeing to include the preference in the customized viewpoint until a predetermined number of hyperlinks are generated using the preference.

9. The method of claim 1, further comprising deleting the preference when the association has been made a predetermined number of times.

10. The method of claim 1, further comprising disabling the association when the association has been made a predetermined number of times.

11. The method of claim 1, further comprising altering the status when the association has been made a predetermined number of times.

12. The method of claim 1, further comprising disabling the association when the link to the computer network resource has been activated to access the computer network resource a predetermined number of times.

13. The method of claim 1, further comprising altering the status when the link to the computer network resource has been activated to access the computer network resource a predetermined number of times.

14. The method of claim 1, further comprising:
   receiving an authorization to adjust the status of the association; and
   altering the status based upon the authorization.

15. The method of claim 1, further comprising altering the status as a function of time.

16. The method of claim 1, further comprising storing an indication of a total number of times the preference has been accessed.

17. The method of claim 1, further comprising storing an indication of a number of times the preference has been accessed since the user last activated a link that was generated using that preference.

18. The method of claim 1, in which the balloon window emerges in response to the pointer being placed over the located data pattern.

19. The method of claim 1, in which the balloon window emerges if the located data pattern is clicked on using the pointer.

20. A computer readable memory storing instructions configured to direct a processor to:
   define a customized viewpoint for a user that includes a preference for the user, wherein the preference provides an association between a data pattern and a computer network resource, in which the data pattern defines an arrangement of user-viewable text;

locate the data pattern in the first data structure by deter-
mining that the arrangement of user-viewable text
matches a portion of text in the first data structure;
generate a second data structure including a link indicating
the computer network resource associated with the
located data pattern, in which the instructions for gen-
erating the second data structure comprise instructions
configured to direct the processor to:
insert into the first data structure a hyperlink associated
with a URL of the computer network resource, such
that an indication of the hyperlink is included in a
balloon window that emerges while a pointer is placed
over the located data pattern; and
store a status indicating whether the association pro-
vided by the preference is enabled; and
alter the status of the association in accordance with an
offer, from a third party, accepted by the user, wherein
the offer comprises an offer to provide the user a benefit
having a monetary value in exchange for the user agree-
ing to include the preference in the customized view-
point for a predetermined period of time.

21. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
receive an instruction to disable the association provided by
the preference.

22. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
receive an instruction to enable the association provided by
the preference.

23. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to:
determine the status based on an instruction received from
the user; and
receive an instruction from the third party to override the
determined status.

24. The computer readable medium of claim **20**, in which
the instructions for altering the status comprise instructions
configured to direct the processor to disable the preference
after a predetermined period of time.

25. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
delete the preference when the association has been made a
predetermined number of times.

26. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
disable the preference when the association has been made a
predetermined number of times.

27. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
alter the status when the association has been made a prede-
termined number of times.

28. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
disable the association when the link to the computer network
resource has been activated to access the computer network
resource a predetermined number of times.

29. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
alter the status when the link to the computer network
resource has been activated to access the computer network
resource a predetermined number of times.

30. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to:
receive an authorization to adjust the status of the associa-
tion; and
alter the status based upon the authorization.

31. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
alter the status as a function of time.

32. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
store an indication of a total number of times the preference
has been accessed.

33. The computer readable medium of claim **20**, further
comprising instructions configured to direct the processor to
store an indication of a number of times the preference has
been accessed since the user last activated a link that was
generated using that preference.

34. An apparatus comprising:
a processor; and
a data storage device coupled to the processor, wherein the
data storage device stores Web browser software and
stores instructions configured to direct the processor to:
define a customized viewpoint for a user that includes a
preference for the user, wherein the preference pro-
vides an association between a data pattern and a
computer network resource, in which the data pattern
defines an arrangement of user-viewable text;
locate the data pattern in the first data structure by deter-
mining that the arrangement of user-viewable text
matches a portion of text in the first data structure;
generate a second data structure including a link indi-
cating the computer network resource associated with
the located data pattern, in which the instructions for
generating the second data structure comprise instruc-
tions configured to direct the processor to:
insert into the first data structure a hyperlink associ-
ated with a URL of the computer network resource,
such that an indication of the hyperlink is included
in a balloon window that emerges while a pointer is
placed over the located data pattern; and
store a status indicating whether the association pro-
vided by the preference is enabled; and
alter the status of the association in accordance with an
offer, from a third party, accepted by the user, wherein
the offer comprises an offer to provide the user a
benefit having a monetary value in exchange for the
user agreeing to include the preference in the custom-
ized viewpoint for a predetermined period of time.

35. A computer-implemented method of brokering modi-
fications to a preference database, the method comprising:
receiving, by a device operated by a user, a first competitive
bid from a first on-line merchant to define a preference
that associates the first on-line merchant with a pattern
of user-viewable text for a Web site;
receiving, by the user device, a second competitive bid
from a second on-line merchant to define a preference
that associates the second on-line merchant with the
pattern of user-viewable text for the Web site;
accepting, by the user device, one of the first competitive
bid and the second competitive bid;
defining, by the user device, a preference that associates the
pattern of user-viewable text for the Web site with the
respective on-line merchant corresponding to the
accepted competitive bid;
updating, by the user device, a preference database based
on the defined preference;
receiving, by the user device, a request from the user to
retrieve electronic content of the Web site, in which the
electronic content comprises a user-viewable portion;
determining, by the user device, that a portion of the user-
viewable portion matches the pattern of user-viewable
text;

modifying, by the user device, the electronic content to include an HTML hyperlink to a computer network resource that is associated with the respective on-line merchant, in which the HTML hyperlink is included substantially at the location of the matched portion of the user-viewable text portion; and

presenting, by the user device, the modified electronic content to the user, such that the hyperlink appears to the user in place of the portion of the user-viewable portion that matches the matched pattern.

36. The method of claim 35, in which the preference database is stored at a computer of the user.

37. The method of claim 35, in which the preference database is stored at a computer of the Web site.

38. The method of claim 35, in which the preference database is stored at a computer of an internet service provider.

39. The method of claim 35, in which the Web site is a portal Web site.

40. The method of claim 35, in which the electronic content comprises search results.

41. The method of claim 35, in which the electronic content comprises news.

42. The method of claim 35, in which the electronic content comprises email.

43. The method of claim 35, in which the electronic content comprises chat messages.

44. A computer readable memory storing instructions configured to direct a processor to:

receive a first competitive bid from a first on-line merchant to define a preference that associates the first on-line merchant with a pattern of user-viewable text for a Web site;

receive a second competitive bid from a second on-line merchant to define a preference that associates the second on-line merchant with the pattern of user-viewable text for the Web site;

accept one of the first competitive bid and the second competitive bid;

define a preference that associates the pattern of user-viewable text for the Web site with the respective on-line merchant corresponding to the accepted competitive bid;

update a preference database based on the defined preference;

receive a request from the user to retrieve electronic content of the Web site, in which the electronic content comprises a user-viewable portion;

determine that a portion of the user-viewable portion matches the pattern of user-viewable text;

modify the electronic content to include an HTML hyperlink to a computer network resource that is associated with the respective on-line merchant, in which the HTML hyperlink is included substantially at the location of the matched portion of the user-viewable text portion; and

present the modified electronic content to the user, such that the hyperlink appears to the user in place of the portion of the user-viewable portion that matches the matched pattern.

45. The computer readable medium of claim 44, in which the instructions for updating the preference database comprise instructions configured to direct the processor to store the preference database at a computer of the user.

46. The computer readable medium of claim 44, in which the instructions for updating the preference database comprise instructions configured to direct the processor to store the preference database at a computer of the Web site.

47. The computer readable medium of claim 44, in which the instructions for updating the preference database comprise instructions configured to direct the processor to store the preference database at a computer of an internet service provider.

48. An apparatus comprising:

a processor; and

a data storage device coupled to the processor, wherein the data storage device stores Web browser software and stores instructions configured to direct the processor to:

receive a first competitive bid from a first on-line merchant to define a preference that associates the first on-line merchant with a pattern of user-viewable text for a Web site;

receive a second competitive bid from a second on-line merchant to define a preference that associates the second on-line merchant with the pattern of user-viewable text for the Web site;

accept one of the first competitive bid and the second competitive bid;

define a preference that associates the pattern of user-viewable text for the Web site with the respective on-line merchant corresponding to the accepted competitive bid;

update a preference database based on the defined preference;

receive a request from the user to retrieve electronic content of the Web site, in which the electronic content comprises a user-viewable portion;

determine that a portion of the user-viewable portion matches the pattern of user-viewable text;

modify the electronic content to include an HTML hyperlink to a computer network resource that is associated with the respective on-line merchant, in which the HTML hyperlink is included substantially at the location of the matched portion of the user-viewable text portion; and

present the modified electronic content to the user, such that the hyperlink appears to the user in place of the portion of the user-viewable portion that matches the matched pattern.

49. A computer readable memory storing instructions configured to direct a processor to:

define a customized viewpoint for a user that includes a preference for the user, wherein the preference provides an association between a data pattern and a computer network resource, in which the data pattern defines an arrangement of user-viewable text;

locate the data pattern in a first data structure by determining that the arrangement of user-viewable text matches a portion of text in the first data structure;

generate a second data structure including a link indicating the computer network resource associated with the located data pattern, in which a generating of the second data structure comprises:

inserting into the first data structure a hyperlink associated with a URL of the computer network resource, such that an indication of the hyperlink is included in a balloon window that emerges while a pointer is placed over the located data pattern; and

storing a status indicating whether the association provided by the preference is enabled; and

alter the status of the association in accordance with an offer, from a third party, accepted by the user, wherein the offer comprises an offer provide the user a benefit having a monetary value in exchange for the user agreeing to include the preference in the customized view-

point until a predetermined number of hyperlinks are generated using the preference.

50. An apparatus comprising:

a processor; and

a data storage device coupled to the processor, wherein the data storage device stores Web browser software and stores instructions configured to direct the processor to:

define a customized viewpoint for a user that includes a preference for the user, wherein the preference provides an association between a data pattern and a computer network resource, in which the data pattern defines an arrangement of user-viewable text;

locate the data pattern in a first data structure by determining that the arrangement of user-viewable text matches a portion of text in the first data structure;

generate a second data structure including a link indicating the computer network resource associated with

the located data pattern, in which a generating of the second data structure comprises:

inserting into the first data structure a hyperlink associated with a URL of the computer network resource, such that an indication of the hyperlink is included in a balloon window that emerges while a pointer is placed over the located data pattern; and

storing a status indicating whether the association provided by the preference is enabled; and

alter the status of the association in accordance with an offer, from a third party, accepted by the user, wherein the offer comprises an offer provide the user a benefit having a monetary value in exchange for the user agreeing to include the preference in the customized viewpoint until a predetermined number of hyperlinks are generated using the preference.

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