











computers 102 and vendor computing workstations 122 interacting with an advertisement management server 104 over a network 106. As an example, network 106 can be the Internet and system 100 can be arranged to service multiple users in more than one location and for multiple tasks.

[0025] FIG. 1 shows consumer computers 102 and vendor computers 122 connected to a network 106. It is noted that, although FIG. 1 shows only two consumer computers 102 and two vendor computers 122, the system of the present invention supports any number of consumers and vendors. System 100 also includes an advertisement management server 104 connected to the network 106. The advertisement management server 104 and its functions are described in more detail with reference to the figures below.

[0026] In an embodiment of the present invention, the computer systems of client computers 102, 122 and server 104 are one or more Personal Computers (PCs), Personal Digital Assistants (PDAs), hand held computers, palm top computers, lap top computers, smart phones, game consoles or any other information processing devices. A PC can be one or more IBM or compatible PC workstations running a Microsoft Windows or LINUX operating system, one or more Macintosh computers running a Mac OS operating system, or an equivalent. In another embodiment, the client computers 102-103, 122-123 and server 104 are a server system, such as SUN Ultra workstations running a SunOS operating system or IBM RS/6000 workstations and servers running the AIX operating system. Computers 102, 122 and server 104 are described in greater detail below with reference to FIG. 12.

[0027] In an embodiment of the present invention, the network 106 is a circuit switched network, such as the Public Service Telephone Network (PSTN). In another embodiment, the network 104 is a packet switched network. By way of non-limiting example, the packet switched embodiment can be a wide area network (WAN), such as the global Internet, a private WAN, or virtual private network (VPN), a local area network (LAN), a telecommunications network or any combination of the above-mentioned networks. In yet another embodiment, the structure of the network 106 is a wired network, a wireless network, a broadcast network or a point-to-point network.

[0028] In an embodiment of the present invention, the advertisement management server 104 is an application server, which is a software engine that delivers applications to client computers. The advertisement management server 104 handles most, if not all, of the business logic and data access of the advertisement management functions of the present invention. The advertisement management server 104 may adhere to any available server platform, such as the Sun Microsystems J2EE platform, a Web-based application platform, an integrated platform for e-commerce or a content management system platform.

[0029] FIG. 1 further shows several components of advertisement management server 104 connected to the network 106. The advertisement management server 104 includes a consumer data database 114 and an advertisement data database 116. The consumer data database 114 is a repository for consumer data used by advertisement management server 104 during the course of operation. The consumer data database 114 includes information pertaining to each consumer to the advertisement management server 104 to perform the functions described herein. Such consumer information includes one or more of the consumer's name, address, date of birth, age, social security number, etc. The consumer data database 114 also includes consumer information that may be modified by the advertisement management server 104 during the course of operation, such as a consumer's credit attributes, including credit score, surfing history, etc. The data gathered by the advertisement management server 104 for each consumer is described in greater detail below.

[0030] The consumer data database 114 may adhere to any one of the flat model, hierarchical model, object-oriented model or a relational model for databases. Further, the consumer data database 114 can be any commercially available database, such as an Oracle Database, Enterprise or Personal Edition, available from Oracle Corporation, or a Microsoft SQL Server or Access 2000 database available from Microsoft Corporation. Database 114 is not limited to commercially available databases. It is also contemplated that database 114 can be an open source database.

[0031] The consumer data database 114 may also include a database management system, which is an

application that controls the organization, storage and retrieval of data (fields, records and files) in database 114. The database management system accepts requests for data from the advertisement management server 104 and instructs the operating system to transfer the appropriate data. The database management system may also control the security and integrity of the database 114. Data security prevents unauthorized users from viewing or updating certain portions of the consumer database 114. The database management system can be any commercially database management system, such as the Oracle E-Business Suite available from Oracle Corporation, or an open source database management system. The consumer database 114 may be integrated with the server 104 or may be a separate device in communication with the server 104.

[0032] FIG. 1 further shows that the advertisement management server 104 includes an advertisement data database 116. The advertisement data database 116, similar to the consumer database 114, is a repository for advertisement data used by the advertisement management server 104 during the course of operation. The advertisement data database 116 includes information pertaining to each advertisement necessary for performing the functions of the advertisement management server 104. Such advertiser information includes one or more of the graphics of an advertisement, the text of an advertisement, the dates of validity of an advertisement, the conditions of an advertisement, etc. The advertisement data database 116 also includes advertisement information that may be modified by the advertisement management server 104 during the course of operation, such as the click-through rate of an advertisement, the view time of an advertisement, etc. The data gathered by the advertisement management server 104 for each advertisement is described in greater detail below.

[0033] The advertisement data database 116 may adhere to any one of the models of the consumer data database 114 and may also include a database management system. The advertisement database 116 may be integrated with the server 104 or may be a separate device in communication with the server 104.

[0034] Advertisement management server 104 connects directly to the network 106 via a network interface, such as a network interface card. Alternatively, the advertisement management server 104 includes a Web server that connects to the network 106 via a network interface. In this alternative, the advertisement management server 104 is logically connected to the Web server, which provides a Web interface available to client computers (such as consumer computers 102 and vendors 122) of the advertisement management server 104. This option is advantageous as a Web interface allows any clients having a Web browser to connect to the advertisement management server 104. A Web interface provides a simple, efficient, highly compatible, economical and highly available connection to the advertisement management server 104 to a wide range of client computers.

[0035] FIG. 1 also shows a credit bureau 110, which represents a credit reporting agency, or a company that provides credit information on individuals. There are currently three main credit reporting agencies in the U.S. Credit reporting agencies are for-profit corporations that collect, organize, and store a consumer's current and past debt payment history and other financial information such as collections, judgments, tax liens, bankruptcies, etc. Credit bureau 110 stores and maintains credit information and scores in a credit attribute database 112. Note that although FIG. 1 shows only one credit bureau 110 and one credit attribute database 112, the present invention supports any number of credit bureaus 110 and credit attribute databases 112.

[0036] FIG. 1 shows a group of clients (such as consumer computers 102 and vendor computers 122) in data communication with the advertisement management server 104. These clients may execute client applications, such as compiled or interpreted executable modules written in C++, Java, Visual Basic, HTML, XML, Flash or separate Java applets, Java scriptlets, Java scripts, Perl scripts, Active X controls or any self-sufficient application executing on a client computer. The clients of FIG. 1, i.e., consumer computers 102 and vendor computers 122, can communicate with the advertisement management server 104 via a Web interface such as a commercially available or open source Web browser, e.g., Netscape Navigator and Microsoft Internet Explorer.

[0037] It should be noted that in the embodiment of the present invention described above, the clients, i.e., consumer computers 102 and vendor computers 122, are depicted as separate from the advertisement management server 104. In this embodiment, the clients communicate with the computer system of the advertisement management server 104 over a network 106 or other communication medium. In an alternative embodiment of the present invention, any one or all of the clients can be integrated with the computer system of





comprise JavaScript, which is a scripting language embedded in HTML code for a Web page, wherein upon execution, the scripting language can produce a visual effect.

[0052] In an embodiment of the present invention, the conditions of an advertisement comprise consumer attributes that identify a target for the advertisement. For example, a condition of an advertisement may specify that the advertisement is targeted towards males of age 25-35 with an annual income greater than \$100,000 and a credit score between 700 and 750.

[0053] In another embodiment of the present invention, the advertisement management server 104 stores the advertisement data for each advertisement in a child object stored in the advertisement data database 116, wherein the object is a child of the object representing the vendor. Each piece of advertisement data, including the source code of an advertisement, the graphics of an advertisement, the text of an advertisement, etc. is stored in the child object as an attribute.

[0054] Optionally, in step S304, the vendor makes arrangements to provide payment to the advertisement management server 104 for its services providing vendor advertisements to consumers. In one embodiment, payment is provided online via an online merchant account wherein payment is determined by any one or more of the following factors: the number of click-throughs experienced by the vendor for each advertisement, the amount of time each advertisement is provided by the server 104, the amount of time each advertisement of the vendor is viewed and the number of registrations or sales.

[0055] In step S306, one or more consumers respond to an advertisement of the vendor by contacting the vendor to take advantage of the advertisement. As explained above, an advertisement may include HTML code that includes a link that re-routes a consumer to a web site of the vendor. In this scenario, the vendor may provide its offer of goods or services to the consumer.

[0056] FIG. 4 is a flowchart of an advertisement management process from the perspective of the advertisement management server 104 in accordance with the principles of the present invention. FIG. 4 details the interaction between the advertisement management server 104 and the consumer computers 102.

[0057] At step S402, a consumer via consumer computer 102, registers with a web site of the advertisement management server 104. In an embodiment of the present invention, this act instantiates an instance of an object representing the consumer in the consumer data database 114. At step S402, the consumer may provide consumer data such as the consumer data described below. As discussed below, the consumer need not register before being presented with non-targeted ads and other content.

[0058] At step S404, the consumer is optionally provided with advertisements that are not targeted to credit attribute. In this step, the advertisement management server 104 provides advertisements to the consumer, wherein the advertisements can be either random or selected based on certain attributes, such as age, gender, and income level. In an embodiment of the present invention, the advertisement management server 104 provides the selected advertisements to the consumer via a web page. For example, the advertisement management server 104 may execute or interpret the source of a selected advertisement in a web page provided to the consumer or simply display the text of the advertisement in the web page.

[0059] At step S406, the consumer is provided with a choice as to whether to opt to obtain his/her credit score (or other credit attributes) free of charge so as to receive advertisements targeted to his/her credit attributes. In one embodiment, the consumer may effectuate this choice by clicking a button or other widget on a web page. At step S408, the consumer interacts with the server 104 so as to provide consumer authorization and identification data to allow the advertisement management server (or some other computing device under the control of the service provider) to obtain the consumer's credit attributes from one or more credit bureaus 100 (step S410). The advertisement management server 104 may garner identifying information for each consumer (not already garnered in step S402 above), such as a consumer's name, address, date of birth, age, gender, income, occupation, education level, social security number, etc. in a variety of ways. For example, the advertisement management server 104 may garner identifying information via a web page presented to the

consumer via his client computer. Such a web page is described in greater detail below with reference to FIG. 6. Subsequent to gathering the consumer data, the advertisement management server 104 stores this data in the consumer data database 114.

[0060] In step S410, the advertisement management server 104 garners additional consumer information, such as credit attributes, by interacting with a third party, such as a credit bureau 110. The advertisement management server 104 may obtain this information by sending, via an Internet communications module, a request to the credit bureau 110, wherein the request includes the identifying and authorization data for a consumer. The credit bureau 110 may then send a response to the advertisement management server 104, wherein the response includes a credit attribute for the consumer. This additional consumer information is also stored in the consumer data database 114. In an embodiment of the present invention, the request and response above may be exchanged using a variety of information exchange formats, including Electronic Data Interchange (EDI), Transfer Control Protocol/Internet Protocol (TCP/IP), File Transfer Protocol (FTP), HyperText Transfer Protocol (HTTP), Simple Mail Transfer Protocol (SMTP), or an equivalent.

[0061] In an embodiment of the present invention, the advertisement management server 104 stores the consumer data for each consumer in an object stored in the consumer data database 114. Each element of consumer data, including the consumer's name, address, date of birth, credit attribute, etc. is stored in the object as a consumer attribute.

[0062] Also in step S410, the advertisement management server 104 determines which advertisements from advertisement data database 116 are provided to the consumer. This step is described in more detail with reference to step S206 of FIG. 2 above.

[0063] In step S412, the consumer is provided with advertisements that are targeted to credit attributes. In this step, the advertisement management server 104 provides advertisements to the consumer, wherein the advertisements are selected based on one or more consumer attributes in which credit score (or some other credit-related attribute) is a consumer attribute. In an embodiment of the present invention, the advertisement management server 104 provides the selected advertisements to the consumer via a web page. For example, the advertisement management server 104 may execute or interpret the source of a selected advertisement in a web page provided to the consumer or simply display the text of the advertisement in the web page.

[0064] In step S414, a consumer determines whether to respond to an advertisement. If the consumer responds to the advertisement (such as by clicking on a button or selecting a link on a web page), then step S416 is executed. Otherwise, the process ends or the consumer may view other ads and content within the web site (not shown).

[0065] In step S416, the consumer responds to an advertisement of the vendor by contacting the vendor to take advantage of the advertisement. As explained above, an advertisement may include HTML code that includes a link that re-routes a consumer to a web site of the sponsoring vendor. In this scenario, the vendor may provide its offer of goods or services to the consumer. In the case of an ad targeted to the consumer based on credit attributes, it is contemplated that the offer by the vendor will provide preferential pricing or some other preferential incentive to consumers having credit attributes in a particular range, such as credit scores above a predetermined level. It is also contemplated that the pricing of offers can be banded such that different ranges of credit attributes, such as credit scores, result in different offer prices.

[0066] It is noted that the present invention advantageously provides an environment in which credit attribute information is not provided to the vendors. This allows consumers to maintain anonymity with respect to the vendors but still benefit from their good credit scores.

[0067] Exemplary display screen arrangements constructed in accordance with the principles of the present invention are described. It is understood however, that the present invention is not limited to the screen arrangements described herein. FIG. 5 is an illustration of a web page 502 used to greet a first time visitor to the web site of the advertisement management server 104. Exemplary web page 502 includes a text area 504, such as a text field, four buttons 510, 512, 514 and 516 and a banner ad 508. In an embodiment of the present

invention, text field 504 includes welcome text and the banner ad 508 includes a non-targeted advertisement since no information is known about the current visitor. Web page 502 also includes a "Register" button 506 used to bring the user to another Web page that allows the user to register with the advertisement management server 104.

[0068] The button 510, entitled "Home," is used to bring the user back to the home page while the button 512, entitled "Credit Score," is used to bring the user to another Web page used to obtain the user's credit score free of charge. The button 514, entitled "Offers," is used to bring the user to a Web page containing targeted offers while the button 516, entitled "About," is used to bring the user to another Web page including information about the company hosting the Web site.

[0069] FIG. 6 is an illustration of a web page 602 used to allow a consumer to register with the web site of the advertisement management server 104. FIG. 6 corresponds to step S408 of FIG. 4. Web page 602 can include one or more of the same components as web page 502, except that text field 504 includes multiple fields into which the consumer enters identifying information such as name, address, etc. Web page 602 also includes a "Get Score" button 606 used to bring the user to another web page that allows the user to see his credit score (and/or other credit attributes) obtained by the advertisement management server 104 via step S410.

[0070] FIG. 7 is an illustration of a web page 702 used to allow a consumer to see his/her credit score (and/or other credit attributes) obtained by advertisement management server 104. Web page 702 can include one or more of the same components as web page 502, except that text field 504 includes the consumer's credit score(s). Web page 702 also includes a "Get Offers" button 706 used to bring the user to another Web page that allows the user to see targeted offers provided to him by the advertisement management server 104 via processes 206, 208. The banner ad 508 includes a targeted advertisement since credit attribute information is known about the consumer.

[0071] FIG. 8 is an illustration of a web page 802 used to allow a consumer to see targeted offers provided to him/her by the advertisement management server 104. FIG. 8 corresponds to step 208 of FIG. 2. Web page 802 can include one or more of the same elements as web page 502, except that text field 504 includes the targeted offers provided to the consumer by the advertisement management server 104. The banner ad 508 includes a targeted advertisement since credit attribute information is known about the consumer.

[0072] FIG. 9 is an illustration of a web page 902 used to greet a consumer upon return to the web site of the advertisement management server 104. FIG. 9 corresponds to step 208 of FIG. 2. Web page 902 can include one or more of the same elements as web page 502, except that text field 504 includes the offers provided to the consumer by the advertisement management server 104. The banner ad 508 includes a targeted advertisement since credit attribute information is known about the consumer.

[0073] FIG. 10 is an illustration of a web page 1002 used to allow a consumer to retrieve his/her credit attributes, such as credit score, a subsequent time from the web site of the advertisement management server 104. Web page 1002 can include one or more of the same elements as web page 502, except that text field 504 includes text that indicates to the consumer that he should press the button 1006 if his identifying information is accurate. Web page 1002 also includes a "Get Score" button 1006 used to bring the user to another web page that allows the user to see his re-generated credit score obtained by the advertisement management server 104 via process S410.

[0074] FIG. 11 is an illustration of a web page 1102 used to allow a vendor to enter an advertisement and its attributes via the web site of the advertisement management server 104. FIG. 11 corresponds to step S304 of FIG. 3. Web page 1102 includes a text field 1104 that itself can include multiple fields into which the vendor enters advertisement information such as the offer of the text, the credit attribute target, etc. Web page 1102 also includes an "Enter Data" button 1106 used to enter the data typed into field 1104 into the advertisement management server 104 for storage in advertisement data database 116.

[0075] The present invention can be realized in hardware, software, or a combination of hardware and software

in the system described in FIG. 1. A system according to a preferred embodiment of the present invention can be realized in a centralized fashion in one computer system, or in a distributed fashion where different elements are spread across several interconnected computer systems. Any kind of computer system, or other apparatus adapted for carrying out the methods described herein, is suited for implementing the present invention. A typical combination of hardware and software could be a general-purpose computer system with a computer program that, when being loaded and executed, controls the computer system such that it carries out the methods described herein.

[0076] An embodiment of the present invention can also be embedded in a computer program product, which comprises all the features enabling the implementation of the methods described herein, and which--when loaded in a computer system--is able to carry out these methods. Computer program means or computer program as used in the present invention indicates any expression, in any language, code or notation, of a set of instructions intended to cause a system having an information processing capability to perform a particular function either directly or after either or both of the following a) conversion to another language, code or notation; and b) reproduction in a different material form.

[0077] A computer system may include, inter alia, one or more computers and at least a computer readable medium, allowing a computer system, to read data, instructions, messages or message packets, and other computer readable information from the computer readable medium. The computer readable medium may include non-volatile memory, such as ROM, Flash memory, Disk drive memory, CD-ROM, and other permanent storage. Additionally, a computer readable medium may include, for example, volatile storage such as RAM, buffers, cache memory, and network circuits. Furthermore, the computer readable medium may comprise computer readable information in a transitory state medium such as a network link and/or a network interface, including a wired network or a wireless network that allows a computer system to read such computer readable information.

[0078] FIG. 12 is a block diagram of a computer system useful for implementing an embodiment of the present invention. The computer system of FIG. 12 is a more detailed representation of client computers 102-103, 122-123 and server 104. The computer system of FIG. 12 includes one or more processors, such as processor 1204. The processor 1204 is connected to a communication infrastructure 1202 (e.g., a communications bus, cross-over bar, or network). Various software embodiments are described in terms of this exemplary computer system. After reading this description, it will become apparent to a person of ordinary skill in the relevant art(s) how to implement the invention using other computer systems and/or computer architectures.

[0079] The computer system can include a display interface 1208 that forwards graphics, text, and other data from the communication infrastructure 1202 (or from a frame buffer not shown) for display on the display unit 1210. The computer system also includes a main memory 1206, preferably random access memory (RAM), and may also include a secondary memory 1212. The secondary memory 1212 may include, for example, a hard disk drive 1214 and/or a removable storage drive 1216, representing a floppy disk drive, a magnetic tape drive, an optical disk drive, etc. The removable storage drive 1216 reads from and/or writes to a removable storage unit 1218 in a manner well known to those having ordinary skill in the art. Removable storage unit 1218, represents, for example, a floppy disk, magnetic tape, optical disk, etc. which is read by and written to by removable storage drive 1216. As will be appreciated, the removable storage unit 1218 includes a computer usable storage medium having stored therein computer software and/or data.

[0080] In alternative embodiments, the secondary memory 1212 may include other similar means for allowing computer programs or other instructions to be loaded into the computer system. Such means may include, for example, a removable storage unit 1222 and an interface 1220. Examples of such may include a program cartridge and cartridge interface (such as that found in video game devices), a removable memory chip (such as an EPROM, or PROM) and associated socket, and other removable storage units 1222 and interfaces 1220 which allow software and data to be transferred from the removable storage unit 1222 to the computer system.

[0081] The computer system may also include a communications interface 1224. Communications interface 1224 allows software and data to be transferred between the computer system and external devices. Examples of

