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(54) Title: SYSTEM AND METHOD OF COLLECTING MARKET-RELATED DATA VIA A WEB-BASED NETWORKING ENVIRONMENT

(57) Abstract: Systems and methods of tracking web content provided by a plurality of users. In one aspect, embodiments of the present disclosure include a method, which may be implemented on a system, of hosting web content in response to receiving a request from a user of the plurality of users. One embodiment can include, identifying a set of relational attributes of the user associated with the web content, enforcing a set of rules that govern accessibility of the web content, the set of rules to be determined based the set of relational attributes, tracking access and distribution of the web content by one or more of the plurality of users, and collecting data related to the access and distribution of the web content among the one or more of the plurality of users.



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**SYSTEM AND METHOD OF COLLECTING MARKET-RELATED DATA VIA A
WEB-BASED NETWORKING ENVIRONMENT**

CLAIM FOR PRIORITY

[0001] This application claims priority to U.S. Provisional Patent Application No.

- 5 60/972,815 entitled "System and Method of Collecting Market-Related Data via a Web-Based Networking Environment ", filed 16 September 2007 and U.S. Non-Provisional Patent Application No. 11/873,388 entitled "System and Method of Collecting Market-Related Data via a Web-Based Networking Environment", filed 16 October 2007, which are incorporated by reference.

10 **TECHNICAL FIELD**

[0002] The present disclosure relates generally to knowledge networking, and in particular to applications of knowledge networking for obtaining market related information relevant to distribution of promotional content.

BACKGROUND

- 15 [0003] Key-word based search engines facilitate a number of advertisement models based on search engines. Pay-per-click is an advertising model used by search engines, advertising networks, and/or websites. In pay-per-click, a fee is assessed on the advertiser when the advertisement is clicked. Advertisers can bid on keywords relevant to their advertisements. When a user performs a query on a keyword for which bids have been
20 placed, advertisements are displayed in a list of search results. In most instances, the advertisements are ranked in the order of relevance based on the value of the bids. In other examples, advertisements are linked to the contents of a webpage where the advertisements are to be displayed.

- [0004] When a user clicks on an advertisement and reaches the advertiser's website, the
25 advertiser can in most instances determine the search engine or advertising network that routed the user to the advertiser's website. As such, advertisers can track the number of views generated from various search engines or advertising networks. However, the extent to which market data can be obtained by advertisers through keyword based search

advertising schemes is limited.

[0005] In most instances, advertisers can only obtain data about user activity when the user is browsing a webpage through which the advertisement is presented and when the user is on the advertiser's webpage. For example, the advertiser has access to data
5 specifying the search engine where the user viewed the advertisement. The advertiser can also determine which web pages the user has browsed through once the user has reached the advertiser's website. However, other types of market-related data, for example, market-related data that are product specific or user specific cannot be determined by
advertisers in keyword or content-based advertising.

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SUMMARY OF THE DESCRIPTION

[0006] A variety of systems, methods, techniques and strategies of collecting market-related data via a web-based networking environment are described here. Some embodiments of the present disclosure are summarized in this section.

5 [0007] In one aspect, embodiments of the present disclosure include a method, which may be implemented on a system, of tracking web content provided by a plurality of users. The method may include hosting web content in response to receiving a request from a user of the plurality of users and identifying a set of relational attributes of the user associated with the web content. One embodiment further includes, enforcing a set of rules that
10 govern accessibility of the web content, the set of rules to be determined based the set of relational attributes. In one embodiment, access and distribution of the web content by one or more of the plurality of users is tracked and data related to the access and distribution of the web content among the one or more of the plurality of users is collected.

[0008] One embodiment further includes identifying a set of preferences of a content
15 provider associated with accessibility of the web content. The content provider may be a third-party host of the web content. Further, user metadata of user information of the plurality of users can be identified. The set of rules can be further determined by the set of preferences of the content provider and/or the user metadata. In one embodiment, metadata of the web content is identified. The metadata of the web content can be
20 identifiable via meta-tags provided by the user.

[0009] The metadata of the web content may include information associated with one or more of a type, property, intellectual content, a set of keywords, a set of tags, and access rights of the web content. In addition, the metadata of the web content can further provide data associated with multimedia composition of the web content, wherein the multimedia
25 composition comprises one or more of textual, graphics, video, interactive, and animation content.

[0010] One embodiment further includes making a pre-determined set of inquiries to the user to determine the set of relational attributes. In one embodiment, the set of inquiries are specifiable by the content provider. The web content can include promotional content,

wherein the promotional content comprises one or more of an advertisement, a sales promotion, a notice, a product placement, a publication, a sponsorship, an announcement, a broadcast, a commercial, and/or an endorsement. Fees can be assessed from the content provider for hosting the web content provided by the content provider. In one

5 embodiment, tiered service levels are provided based on an adopted fee structure of the content provider.

[0011] One embodiment includes determining a plurality of performance metrics of the promotional content and providing one or more sets of the plurality of the performance metrics to the content provider based on the adopted fee structure. For example, quantified
10 performance metrics and the statistical attributes of the quantified performance metrics and be determined.

[0012] One embodiment includes identifying a set of users to whom the promotional content is to be targeted towards, the set of users to be identified based on one or more of the metadata of the web content including the promotional content and the user metadata
15 of the plurality of users. Tiered placements of the web content can be provided based on the adopted fee structure of the content provider. The tiered placements of the web content can be presented to a user in response to a relevant query by the user and/or an identified set of users having a likelihood of interest in the web content based on the user metadata of the plurality of users.

20 [0013] In one embodiment, one or more of the metadata of the web content and the user metadata of the plurality of users includes semantic metadata. For example, semantic items and/or semantic tags can be identified based on the semantic metadata of the web content. In addition, topical information related to the web content can be determined based on the semantic metadata. One embodiment includes identifying relevant subject
25 matter to the web content via Bayesian classification based on the semantic metadata.

[0014] One embodiment includes identifying a set of related concepts to the web content through entity detection and ontological classification based on the semantic data and one or more sets of ontologies and further identifying web-based objects related to the web content and providing the web-based objects to one or more users having a reasonable
30 likelihood of interest in the web content.

[0015] The web-based objects may be identifiable based on one or more of the detection of related intellectual content through semantics and/or an identification of related intellectual content through keyword matches. In one embodiment, one or more users having the reasonable likelihood of interest in the web content are identified by comparing
5 the identified semantic metadata of the user metadata with the semantic metadata of the web content.

[0016] One embodiment includes providing tiered placements of a plurality of web content based on an identified social distance between one or more of the users that provided the plurality of web content and the user that placed a relevant query, the
10 relevant query to trigger one or more of a semantic match and/or a keyword match with the plurality of web content.

[0017] The present disclosure includes methods and systems which perform these methods, including processing systems which perform these methods, and computer readable media which when executed on processing systems cause the systems to perform
15 these methods.

[0018] Other features of the present disclosure will be apparent from the accompanying drawings and from the detailed description which follows.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] **FIGURE 1** illustrates a block diagram of a plurality of client devices able to communicate with a plurality of content providers and a server hosting a knowledge networking environment through a network, according to one embodiment.

- 5 [0020] **FIGURE 2** depicts a block diagram of the components of a host server for a knowledge networking environment, according to one embodiment.

[0021] **FIGURE 3A** depicts a block diagram illustrating a database for storing user information of users (visitors and/or service subscribers) and a database for storing user group information, according to one embodiment.

- 10 [0022] **FIGURE 3B** depicts a block diagram of a database for storing items, a database for storing emails, and a database for storing photographs, according to one embodiment.

[0023] **FIGURE 3C** depicts a block diagram of a database for storing popular searches, a database for storing popular tags, a database for storing popular nets, and a database for storing user nets, according to one embodiment.

- 15 [0024] **FIGURE 3D** depicts a block diagram of a database for storing ontologies and a database for storing promotional content sponsorship information, according to one embodiment.

[0025] **FIGURE 4A** illustrates a screenshot of a login screen to access the knowledge networking environment, according to one embodiment.

- 20 [0026] **FIGURE 4B** illustrates an example screenshot of a graphical user interface for user information and subscription management, according to one embodiment.

[0027] **FIGURE 5** illustrates an example screenshot of a graphical user interface displaying relationships between a user and contacts of the user in the knowledge networking environment, according to one embodiment.

- 25 [0028] **FIGURE 6A** illustrates an example screenshot of a graphical user interface for a user to access and manage various services provided by the networking environment, including connections, items, tags, and/or events, according to one embodiment.

[0029] **FIGURE 6B** illustrates an example screenshot of a graphical user interface displaying third party web content hosted by the networking environment, according to one embodiment.

5 [0030] **FIGURE 6C** illustrates an example screenshot of a graphical user interface for sharing the web content shown in **FIGURE 6B** with another user net, according to one embodiment.

[0031] **FIGURE 6D** illustrates an example screenshot of a graphical user interface for sharing the web content shown in **FIGURE 6B** with another user, according to one embodiment.

10 [0032] **FIGURE 7A** illustrates an example screenshot of a graphical user interface for viewing and managing web content added to the networking environment, according to one embodiment.

[0033] **FIGURE 7B** illustrates an example screenshot of an applet for adding web content to the networking environment from the original web page hosting the web content,
15 according to one embodiment.

[0034] **FIGURE 8** depicts a block diagram illustrating components of a system for collecting market-related data through the web-based networking environment, according to one embodiment.

20 [0035] **FIGURE 9** depicts a table illustrating an example set of options and features for promotional content placement in the knowledge networking environment, according to one embodiment.

[0036] **FIGURE 10** depicts a flow diagram illustrating a process of hosting web content in the knowledge networking environment at the request of a user, according to one embodiment.

25 [0037] **FIGURE 11** depicts a flow diagram illustrating a process of providing performance metrics of the promotional content to the content provider (e.g., sponsor), according to one embodiment.

[0038] **FIGURE 12** depicts a flow diagram illustrating a process of providing targeted

placement of promotional content, according to one embodiment.

[0039] FIGURE 13 depicts a flow diagram illustrating a process of providing targeted placement of promotional content based on semantic matching, according to one embodiment.

DETAILED DESCRIPTION

[0040] The following description and drawings are illustrative and are not to be construed as limiting. Numerous specific details are described to provide a thorough understanding of the disclosure. However, in certain instances, well-known or conventional details are not described in order to avoid obscuring the description. References to one or an embodiment in the present disclosure can be, but not necessarily are, references to the same embodiment; and, such references mean at least one of the embodiments.

[0041] Reference in this specification to “one embodiment” or “an embodiment” means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the disclosure. The appearances of the phrase “in one embodiment” in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Moreover, various features are described which may be exhibited by some embodiments and not by others. Similarly, various requirements are described which may be requirements for some embodiments but not other embodiments.

[0042] The terms used in this specification generally have their ordinary meanings in the art, within the context of the disclosure, and in the specific context where each term is used. Certain terms that are used to describe the disclosure are discussed below, or elsewhere in the specification, to provide additional guidance to the practitioner regarding the description of the disclosure. For convenience, certain terms may be highlighted, for example using italics and/or quotation marks. The use of highlighting has no influence on the scope and meaning of a term; the scope and meaning of a term is the same, in the same context, whether or not it is highlighted. It will be appreciated that same thing can be said in more than one way.

[0043] Consequently, alternative language and synonyms may be used for any one or more of the terms discussed herein, nor is any special significance to be placed upon whether or not a term is elaborated or discussed herein. Synonyms for certain terms are provided. A recital of one or more synonyms does not exclude the use of other synonyms. The use of examples anywhere in this specification including examples of any terms discussed herein is illustrative only, and is not intended to further limit the scope and

meaning of the disclosure or of any exemplified term. Likewise, the disclosure is not limited to various embodiments given in this specification.

[0044] Without intent to further limit the scope of the disclosure, examples of instruments, apparatus, methods and their related results according to the embodiments of the present disclosure are given below. Note that titles or subtitles may be used in the examples for convenience of a reader, which in no way should limit the scope of the disclosure. Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this disclosure pertains. In the case of conflict, the present document, including definitions will control.

10 [0045] Embodiments of the present disclosure include systems and methods of collecting market-related data via a web-based networking environment, for example, through knowledge networking. Some embodiments of the present disclosure further include a networking environment for distributing promotional content and quantifying promotional performance metrics based on, for example, semantic relationships between participants.

15 [0046] In one aspect, the present disclosure relates to facilitating sharing and distribution of promotional content among users (e.g., visitors and/or service subscribers) of the networking environment.

[0047] Users can add items to the networking environment from a number of external or third party sources. In addition, items can be created by the user. For example, the user (e.g., a visitor and/or service subscriber) can have one or more nets with differing themes where each net has a collection of web content related to the particular theme of the net. Items may include, by way of example but not limitation, third-party web content, web content developed by the user, emails, photography, contacts, notes, links, events, tags, and/or any other textual, image, video, animated data.

25 [0048] The user (e.g., a visitor and/or service subscriber) may be, in some embodiments, an individual, an institution, business entity, non-profit organization, or any other entity wishing to promote an idea, service, and/or product through for example, increased publicity, product placement, publication, announcement, broadcast, commercial, endorsement, sponsorship, and/or sales promotion. For example, the user (e.g., a visitor and/or service subscriber) can be, but is not limited to, a political party, a political

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candidate, a lobbying group, an interest group, a religious organization, a company, a university, an online retailer, an online wholesaler. Thus, promotional content can be supplied to the networking environment to increase public exposure for access and/or distribution purposes, in the push model and/or the pull model-based promotional content distribution.

[0049] Since the networking environment hosts a number of users (e.g., a visitor and/or service subscriber), and in many instances, the systems and methods have access to and manage information of the services subscribers, focused and targeted distribution of promotional content to those likely to have an interest can be achieved. In addition, promotional content is further propagated through the connections of a user to other users. For example, connected first and second users can have access to each other's items.

[0050] Users can actively send web content (e.g., promotional content) to other users to whom the content may be of interest. Services subscribers (e.g., users) can create groups or join groups having a common theme or interest (e.g., public or private nets).

Promotional content relevant to the theme or interest can be automatically posted or shared with group members. Other methods through which promotional content can be distributed through a networking environment are contemplated and do not deviate from the novel art of this disclosure.

[0051] In one aspect, the present disclosure relates to determining statistical attributes associated with the popularity (e.g., sharing and/or distribution) of promotional content on the networking environment.

[0052] Raw data related sharing and distribution of objects including promotional content on the networking environment can be collected and stored, to gauge interest in the promoted content. In addition, the sharing and distribution of promotional content can be measured relative to users and/or user data. In one embodiment, statistical attributes of data related to object distribution and sharing that can be determined, include, but is not limited to, the number of visitors and/or service subscribers that collected the object, the number of visitors who collected and/or shared the object, average number of sharing actions per visitor/service subscriber, speed of spread of object, acceleration of spread of object, the volume of object collecting per unit time, and/or the demographic, geographic, and/or psychographic distributions of the statistical attributes.

[0053] Further, in addition to statistical analysis, additional analyses can be performed on recorded data regarding sharing and distribution of promotional content. For example, curve fitting, principle component analysis, data mining, or discarding and retaining subsets of data according to certain criteria, can be performed and do not deviate from the novel art of this disclosure. In addition to sharing and distribution, metrics related to the performance level of promotional content can be measured and quantified. For example, performance metrics can include, number of views of the object, number of visits to a third party site to obtain more information on the promoted content, number of searches performed on the networking environment to obtain more information on the promoted content, number of purchases that resulted from the objected placed on the networking environment, etc.

[0054] In some embodiment, raw data and/or results of data analysis can be provided to the content providers upon request or automatically such that the content providers can deduce market related information regarding the promotional content. Furthermore, performance metrics (qualitative and quantitative) of the promotional content, can be provided to the content providers. The content providers may use the performance metrics, e.g., to determine the effectiveness of various marketing channels or various formats/digital content of the objects.

[0055] In one aspect, the present disclosure relates to a tiered fee structure to provide varying levels of marketing-related services to suit the varying business needs of clients (e.g., sponsors and/or promotional content providers).

[0056] Since the networking environment has access to user data (e.g., subscription information, user declared hobbies/interests, implicit interests identified from: objects collected, types of objects collected, content of objects collected, etc.), targeted and contextual advertising can be provided to the content provider. The content provider can identify service subscribers having particular hobbies/interests, subscribers that belong to certain interest groups/nets/discussion groups, and/or forums, for targeting distribution of the promotional content.

[0057] In addition, historical trends including raw data and/or the analyzed data of a similar product/service previously promoted through the networking environment provide additional insight to a content provider, such as identifying specific demographics that

have demonstrated interest in the product/services. Such options and access to historical data can be provided to content providers, free of charge, or on a fee basis such that the content providers and/or sponsors can better position their promotional content.

5 [0058] In one embodiment, semantic matching and placement can be offered to promotional content providers and/or sponsors, for example, free of charge, on a fee basis, or through any suitable scheme. For example, through semantics, a particular product/service can be linked to another relevant product/service such that placement and distribution on the networking environment can expand further to users not identified on keyword matching alone. In one aspect, the present disclosure relates to providing
10 marketing-related services based on semantic matching. Objects with promotional content can be tagged, automatically or manually, with semantic meta-tags. In addition, user metadata can include semantic metadata, thus enabling the networking system to perform semantic matches, among objects (e.g., items including promotional content), between objects and users, and among users.

15 [0059] In most instances, privacy attributes (inherent to the system, specified by the content providers and/or the users) govern the interactions occurring in the networking system. The privacy attributes typically include a set of rules governing the connecting, sharing, distribution, and/or access rights of objects by services subscribers and content providers. The rules are tracked and enforced in the transactions and interactions between
20 items, users and items, users and users, etc. In some embodiments, interactive marketing, mobile marketing, and/or social marketing are facilitated in the networking environment through utilizing intelligent knowledge of promotional material and user information.

[0060] **FIGURE 1** illustrates a block diagram of a plurality of client devices 104A-N able to communicate with a plurality of content providers 108A-N, 110 and a server 100
25 hosting a knowledge networking environment through a network, according to one embodiment.

[0061] The plurality of client devices 104A-N and content providers 108A-N, 110 can be any system and/or device, and/or any combination of devices/systems that is able to establish a connection with another device, a server and/or other systems. The client
30 devices 104A-N and content providers 108A-N, 110 typically include display or other output functionalities to present data exchanged between the devices to a user. For

example, the client devices and content providers can be, but are not limited to, a server desktop, a desktop computer, a computer cluster, a mobile computing device such as a notebook, a laptop computer, a handheld computer, a mobile phone, a smart phone, a PDA, a Blackberry device, a Treo, and/or an iPhone, etc. In one embodiment, the client
5 devices 104A-N and content providers 108A-N, 110 are coupled to a network 106. In some embodiments, the modules may be directly connected to one another.

[0062] The network 106, over which the client devices 104A-N and content providers 108A-N, 110 communicate, may be a telephonic network, an open network, such as the Internet, or a private network, such as an intranet and/or the extranet. For example, the
10 Internet can provide file transfer, remote log in, email, news, RSS, and other services through any known or convenient protocol, such as, but is not limited to the TCP/IP protocol, Open System Interconnections (OSI), FTP, UPnP, iSCSI, NSF, ISDN, PDH, RS-232, SDH, SONET, etc.

[0063] The network 106 can be any collection of distinct networks operating wholly or
15 partially in conjunction to provide connectivity to the client devices, host server, and/or the content providers 108A-N, 110 and may appear as one or more networks to the serviced systems and devices. In one embodiment, communications to and from the client devices 104A-N and content providers 108A-N, 110 can be achieved by, an open network, such as the Internet, or a private network, such as an intranet and/or the extranet. In one
20 embodiment, communications can be achieved by a secure communications protocol, such as secure sockets layer (SSL), or transport layer security (TLS).

[0064] In addition, communications can be achieved via one or more wireless networks, such as, but is not limited to, one or more of a Local Area Network (LAN), Wireless Local Area Network (WLAN), a Personal area network (PAN), a Campus area network (CAN),
25 a Metropolitan area network (MAN), a Wide area network (WAN), a Wireless wide area network (WWAN), Global System for Mobile Communications (GSM), Personal Communications Service (PCS), Digital Advanced Mobile Phone Service (D-Amps), Bluetooth, Wi-Fi, Fixed Wireless Data, 2G, 2.5G, 3G networks, enhanced data rates for GSM evolution (EDGE), General packet radio service (GPRS), enhanced GPRS,
30 messaging protocols such as, TCP/IP, SMS, MMS, extensible messaging and presence protocol (XMPP), real time messaging protocol (RTMP), instant messaging and presence

protocol (IMPP), instant messaging, USSD, IRC, or any other wireless data networks or messaging protocols.

[0065] **FIGURE 2** illustrates a block diagram of the components of a host server 200 for knowledge networking, according to one embodiment.

5 [0066] In the example of **FIGURE 2**, the host server 200 includes a network controller 202, a firewall 204, an image server 206, an application server 208, a web application server 212, a mail server 214, and a database including a database storage 216 and database software 218.

[0067] In the example of **FIGURE 2**, the network controller 202 can be a networking
10 device that enables the host server 200 to mediate data in a network with an entity that is external to the host server, through any known and/or convenient communications protocol supported by the host and the external entity. The network controller 202 can include one or more of a network adaptor card, a wireless network interface card, a router, an access point, a wireless router, a switch, a multilayer switch, a protocol converter, a
15 gateway, a bridge, bridge router, a hub, a digital media receiver, and/or a repeater.

[0068] The firewall 204, can, in some embodiments, govern and/or manage permission to access/proxy data in a computer network, and track varying levels of trust between different machines and/or applications. The firewall 204 can be any number of modules having any combination of hardware and/or software components able to enforce a
20 predetermined set of access rights between a particular set of machines and applications, machines and machines, and/or applications and applications, for example, to regulate the flow of traffic and resource sharing between these varying entities. The firewall 204 may additionally manage and/or have access to an access control list which details permissions including for example, the access and operation rights of an object by an individual, a
25 machine, and/or an application, and the circumstances under which the permission rights stand.

[0069] Other network security functions can be performed or included in the functions of the firewall 204, can be, for example, but are not limited to, intrusion-prevention, intrusion detection, next-generation firewall, personal firewall, etc. without deviating from the novel
30 art of this disclosure. In some embodiments, the functionalities of the network controller

202 and the firewall 204 are partially or wholly combined and the functions of which can be implemented in any combination of software and/or hardware, in part or in whole.

[0070] In the example of **FIGURE 2**, the host server 200 includes the image server 206 or a combination of image servers to manage images, photographs, animation, and/or other
5 types of image data. The image server 206 is any web server software suitable for delivering messages to facilitate efficacious retrieval of image data in web servers to be provided to other components and/or systems of the host server 200, for example when rendering a web page with images. In addition, the image server 206 can facilitate streaming data such as streaming images and/or video. The image server 206 can be
10 configured separately or together with the web application server 212, depending on a desired scalability of the host server 200. Examples of graphics file formats that can be managed by the image server 206 include but are not limited to, ADRG, ADRI, AI, GIF, IMA, GS, JPG, JP2, PNG, PSD, PSP, TIFF, and/or BMP, etc.

[0071] The application server 208 can be any combination of software agents and/or
15 hardware modules for providing software applications to end users, external systems and/or devices. The application server 208 can facilitate interaction and communication with the web application server 212, or with other related applications and/or systems. The application server 208 can in some instances, be wholly or partially functionally integrated with the web application server 212. The web application server 212 is any combination of
20 software agents and/or hardware modules for accepting Hypertext Transfer Protocol (HTTP) requests from end users, external systems, and/or external client devices and responding to the request by providing the requestors with web pages, such as HTML documents and objects that can include static and/or dynamic content (e.g., via one or more supported interfaces, such as the Common Gateway Interface (CGI), Simple CGI
25 (SCGI), PHP, JavaServer Pages (JSP), Active Server Pages (ASP), ASP.NET, etc.).

[0072] In addition, a secure connection, SSL and/or TLS can be established by the web application server 212. In some embodiments, the web application server 212 renders the web pages having graphic user interfaces of the networking environment as shown in the example screenshots of **FIGURES 4-7**. The web pages provided by the web application
30 server 212 to client users/end devices enable user interface screens 104A-104N for example, to be displayed on client devices 102A-104N. In some embodiments, the web

application server 212 also performs an authentication process before responding to requests for resource access and data retrieval.

[0073] In one embodiment, the host server 200 includes a mail server 214 including software agents and/or hardware modules for managing and transferring emails from one system to another, such as but is not limited to Sendmail, Postfix, Microsoft Exchange Server, Eudora, Novell NetMail, and/or IMail, etc. The mail server 214 can also store email messages received from the network. In one embodiment, the mail server 214 includes a storage component, a set of access rules which may be specified by users, a list of users and contact information of the users' contacts, and/or communication modules able to communicate over a network with a predetermined set of communication protocols.

[0074] The databases 216, 218 can store software, descriptive data, images, system information, drivers, and/or any other data item utilized by other components of the host server for operation. The databases 216, 218 may be managed by a database management system (DBMS), for example but not limited to, Oracle, DB2, Microsoft Access, Microsoft SQL Server, PostgreSQL, MySQL, FileMaker, etc. The databases 216, 218 can be implemented via object-oriented technology and/or via text files, and can be managed by a distributed database management system, an object-oriented database management system (OODBMS) (e.g., ConceptBase, FastDB Main Memory Database Management System, JDOInstruments, ObjectDB, etc.), an object-relational database management system (ORDBMS) (e.g., Informix, OpenLink Virtuoso, VMDS, etc.), a file system, and/or any other convenient or known database management package.

[0075] In the example of **FIGURE 2**, the host server 200 includes components (e.g., a network controller, a firewall, a storage server, an application server, a web application server, a mail server, and/or a database including a database storage and database software, etc.) coupled to one another and each component is illustrated as being individual and distinct. However, in some embodiments, some or all of the components, and/or the functions represented by each of the components can be combined in any convenient or known manner. Furthermore, the functions represented by the devices can be implemented individually or in any combination thereof, in hardware, software, or a combination of hardware and software.

[0076] **FIGURE 3A** depicts a block diagram illustrating a database for storing user information of users (visitors and/or service subscribers) 302 and a database for storing user group information 304, according to one embodiment.

[0077] In the example of **FIGURE 3A**, the database 302A can store information about users, including visitors and/or service subscribers. For example, the user information stored can include descriptive data of personal information such as, but is not limited to, a first name and last name of the user, a valid email ID, a unique user name, age, marital status, occupation, location, education, home town, schools attended, number of siblings, heritage, ethnicity, race, etc. The user information further includes interest information, which may include, but is not limited to, activities, hobbies, professional information, photos, etc.

[0078] The database also stores web content (e.g., third-party) provided by the user, for example, the web content themselves can be stored, the types of web contents (e.g., email, vcf card, calendar events, web content, web links, etc.), tags in the web content, nets that the user belongs to, information of contacts, connections to other users and/or items, etc. In one embodiment, a user creates one or more nets with varying themes to which objects (e.g., web content) can be added. The user can also join nets created by other users and access items in the nets of the other users, while conforming to the access rights specified by the other users and specific for the nets. Further, in addition to storing information of contacts in the database, the user is able to connect to other users (e.g., visitors and/or service subscribers) and specify a designated relationship to the other users. The user's connections and the relationships of the connections (e.g., friends, relatives, and co-workers) are, in some embodiments, stored in the database.

[0079] In one embodiment, user information stored in the database is explicitly specified by the user. For example, when the user (e.g., visitor/service subscriber) signs up for access to the networking environment, a set of information may be required, such as a valid email address, a username, and/or age. A user information form can include optional entries, by way of example but not limitation, location, activity, hobbies, ethnicity, photos, etc. In one embodiment, user information is identified from web content the user added to the networking environment. For example, the networking environment can automatically determine user interests and/or hobbies based on the identified intellectual content of the

web objects provided by the user. Hobbies and interest can also be determined by, for example, but are not limited to, the events that a user attends and/or common interests of a user's contacts.

[0080] Each entry or a category of entries (e.g., subscription information, personal
5 information, interest information, etc.) related to user information in the database 302A can have permission settings regarding visibility and accessibility to other users. The privacy settings may, in some embodiments, vary between registered and non-registered users (visitors), contacts with different relationships with the user (e.g., a friend, colleague, family, etc.). In addition, the privacy settings may be different and individually specifiable
10 for each contact of a user.

[0081] An example of the user information for the user "Tom Jerry" that is stored in database 302A is shown in 302B. The user "Tom Jerry" has an email address of "TomJerry@radarnetworks.com", an age of "25", is located in "Bermudas" and is "Bermudan" by ethnicity. The user "Tom Jerry" is recorded to have an education level of
15 "BS, MBA", and likes to engage in activities related to "Scuba Diving, outdoors activities". Specifically, "Tom Jerry" is also interested in "Fishing". The items that "Tom Jerry" has provided include web content, photographs, and emails.

[0082] The database 302A also records information about the content of the items, for example, the items provided by "Tom Jerry" includes "blogs on fishing" and
20 "advertisements for wetsuits/regulators", and "websites of online retailers selling scuba diving gear"; recent content includes <http://www.scuba.com> and "emails from Joe"; personal nets include "Snorkeling in the Bermudas". The tags of Tom Jerry's web content include "Hawaii", "Scuba masks", and "Sharks". "Tom Jerry" has also specified the privacy settings such that the contents of Tom Jerry's web objects and/or user information
25 are "visible to contacts only". Tom Jerry's contacts include "Anne Smith" and "Joe Shmoe"; he belongs to the nets "World Peace" and "Snorkel Club"; he is also connected to another user's item, for example "Joe's web link to a snorkel vest".

[0083] With further reference to **FIGURE 3A**, database 304A includes data related to information of user groups formed in the networking environment. A user can form a
30 group, where invitees are invited to join the group. Alternatively, one or more users can create a group, for example, based on a common theme or interest. In other examples,

groups may be formed as a channel for sharing information with a focused group of users within the networking environment, with or without a common interest. Group data in the database 304A, includes, for example, shared interests represented by the group. The database, in addition, stores information about the privacy attributes of the group, which
5 can indicate group membership criteria, access to information posted in the group between group members and visitors, for example. Certain content and/or information may only be visible and/or accessible to a subset of members of the group. In addition, items posted on the group net may not be visible to users that are not members of the group. The database further stores membership information regarding the members of the group, membership
10 requests, and/or items that are shared between group members.

[0084] An example of group information stored in the database 304A is shown in 304B for “the Under-water Club”. The group interests include “diving”, “snorkeling”, and the “Peace Corps”. The privacy attributes of “The Under-water Club” are “invite only”, which indicates that a user can only join the group when a membership request is approved.

15 Current members of “The Under-water club” include “Tom Jerry” and “Anne Smith”; a membership request is currently active for user “Joe Shmoe”. The shared items between the members of “The Under-water Club” include “Underwater Photography” and “Online retailers for underwater gear”.

[0085] **FIGURE 3B** depicts a block diagram of a database for storing items 312A, a
20 database for storing emails 314A, and a database for storing photographs 316A, according to one embodiment.

[0086] The database 312A can store data regarding information of items (referred to herein after as “item data”) provided by users. The items are, in some instances, web objects, such as, web content, emails, photography, emails, calendar events, contact
25 information, etc. Item data stored in the database can also include information about the item type, the subject matter of the content provided in the item (e.g., whether the web content contains information regarding fishing, the presidential election, etc.), and/or who added the item to the networking environment (e.g., the user that posted the item, or the user that authored the item). Item data can also include information regarding the privacy
30 attributes associated with the item. For example, if the item can be viewed publicly, if the item can only be viewed by registered users, if the item is blocked from particular users, if

the item is public to users that belong to certain user groups, if the item is available upon request on an individual or subgroup basis, etc.

[0087] Item data may further include the number of views of the item. For example, the number of views can be stored as the total number of views since the item has been

5 posted, the number of views for a predetermined amount of time (e.g., a day, an hour, last 12 hours, etc.), the total number of views from users that belong to a particular user group, from users having a particular interest, are some ways that popularity of an item can be determined. In some embodiments, the same item may be posted on the networking environment by different users, thus, the database can include item data to indicate how
10 many users have posted the same item.

[0088] In addition, item data regarding the number of collections of an item can be stored in the database 312A. For example, once an item has been visited, a user may wish to add an item of interest to a net in the networking platform for future access. Similarly, a user may bookmark (e.g., add the link to the item as a bookmark in the web browser) an item

15 for future access as an alternative to collecting the item. A user may also wish to share an item (e.g., that either the user posted on the networking environment or collected from another user) with a third user. In one embodiment, item data indicative of item popularity, including but not limited to, collection data, bookmarking data, and sharing data, data indicating shares with other nets, is stored in the database 312A.

20 [0089] Additional item data that may be indicative of item popularity include data of visits to the third-party web site hosting the web content provided by the item, transactions (e.g., purchases, sales, rents, leases, bids, etc.) that occurred due to viewing of the object via the networking environment, comments and/or reviews related to the web content provided by the object, for example. In one embodiment, item data stored in the database 312A include
25 keywords identified from the content of the web object.

[0090] In some embodiments, item data include semantic tags identified from the web content, tagged by the system, tagged by the user that provided the web content, tagged by the third party content provider and/or tagged by the sponsor. Thus, in addition,

30 content/items related to the web content, web links containing information related to the contents of the object, additional content including topics similar to content provided by the object can also be identified (e.g., based on a keyword match and/or a semantic match)

and stored in the database 312A.

[0091] In one embodiment, survey questions can be presented to a user that demonstrated interest in the item. For example, interest can be indicated when the user clicks on a link to the item, when the user submits the item to the networking environment, when a user
5 bookmarks the item, when a user shares the item, when a user collects the item, etc. The survey questions may be a predetermined default set of questions or the survey questions may be provided by the third-party that provided the web content. Thus, the survey questions associated with an item are stored in the database 312A, in one embodiment. The database 312A can further store data indicating the triggers that cause a particular
10 survey question to be presented to a user. For example, a first set of questions can be presented to a user when the user adds the item to the networking environment, whereas a second set of questions are presented to a user when the user shares an item with another user on the networking environment.

[0092] An example of item data stored in the database 312A is shown in 312B. The type
15 of the item is "web content" and content of the item belongs to the category of "Scuba gear". The item is posted by/authored by "Tom Jerry" and its privacy attribute is "Public". The item has had "31" views, "1" post, "3" collections, "13" shares, "6" bookmarks, and "2" purchases via the networking environment. The number of visits to the third-party content provider site from a viewing of the item on the networking environment is "5".
20 The item status for comments and/or review is "Not yet rated".

[0093] An object that is related to the content of the item is stored on the database as an image of a pair of flippers. A related link to the content of the item is
http://en.wikipedia.org/wiki/Scuba_diving. The related topics to item content include "Snorkeling", "antipollution", "corals", and "fish". The semantic tags related to the item
25 include, "Bermuda", "sharks", "Hawaii", "scuba gear", "masks", "waterproof camera", "Cayman Islands", and "tropical". The survey questions associated with the item are "what are your favorite places to shop for scuba gear?" and "how often do you shop for scuba gear?"

[0094] The database 314A in the example of **FIGURE 3B** stores the emails and data/
30 information associated with the emails (referred to herein after as 'email data') added by the users to the networking environment. Examples of email data that are stored include

but are not limited to the recipient(s) of the email, whom the email is sent from, the content of the email, the semantic tags associated with the email, the keywords identified from the text body of the email, and/or scheduled events identifiable via the body of the email.

5 [0095] An example of email data stored in the database 314A is shown in 314B. The title of subject line of the email is "Sat. Sept 22, meet at the Cayman Islands?" The recipients of the email are "Anne" and "Joe", the email is sent from "Tom Jerry. The identified content of the email is an "Invitation to the annual scuba divers' symposium". The semantic tags identified from the email, either tagged by a user, specified by the content
10 provider, or automatically identified by the networking environment, are "scuba", "Cayman Islands", "meet", and "carpool". The identified event to be scheduled in this email is "Sept. 22 – Annual Scuba Divers' Symposium in the Cayman Islands".

[0096] The database 316A in the example of **FIGURE 3B** stores the photographs and data/ information associated with the photographs (referred to herein after as 'photograph
15 data') provided by the users to the networking environment. Examples of photograph data that are stored include but are not limited to the author of the photograph, the content of the photograph, the day/time the photograph was taken, saved, edited, and/or otherwise modified. The pixel count and file type of the photograph. An example of photograph data stored in the database 316A is shown in 316B. The author of the photograph is "Anne
20 Smith", and the contents of the photograph include the "whale shark". The photograph was taken at "3:25PM on 4/5/2005"; the pixel count of the photograph is "6.7MP" and the file type is ".TIFF".

[0097] **FIGURE 3C** depicts a block diagram of a database for storing popular searches
25 322, a database for storing popular tags 324, a database for storing popular nets 326A, and a database for storing user nets 326B, according to one embodiment.

[0098] The database 322 stores a list of popular searches that occurred on the networking environment. The popular searches can be determined based on the total number of searches that occurred for the keyword over a predetermined amount of time. Similarly, the popular searches can be determined based on the rate of increase in the number of
30 searches for a particular keyword over a predetermined amount of time. In some embodiments, the searches for the same keyword that originate from the same user, IP

address, or machine ID, for example, are factored in and not counted towards the tally towards determining popularity of a search term. In the example database 322 of **FIGURE 3C**, the identified popular searches include the keywords "iPhone", "Apple", "Iraq", "Presidential campaign", "Interest rate", "Subprime", "Italy", and "Spanish Wine".

5 **[0099]** The database 324 stores a list of popular tags on the networking environment. The tags can, in some embodiments, be identified from items (e.g., web content, email, web objects, photographs, contacts, calendar events, etc.) provided by users in the networking environment. For example, an item can be tagged with keywords added by a user to the networking environment and/or be tagged automatically by the system based on a set of
10 metadata/meta-tags associated with the item. In addition, the item may be tagged by the third-party provider of the item. In some embodiments, the meta-tags include semantic tags. Thus, items having topically similar and/or related content can be identified in the networking environment items database and counted towards identifying the popular tags.

[00100] Additionally, tags indicating similar and/or related keywords and tags can
15 be identified in user information databases in determining the popular tags on the networking environment. Additional methods and/or algorithms for identifying popular tags are contemplated and expected and do not deviate from the novel art of this disclosure. In the example database 324 of **FIGURE 3C**, the identified popular tags include "Web 3.0", "India", "New York Times", "Hillary Clinton", "Semantic Web",
20 "Terrorism", "Travel", "Wine", "Web 2.0", "Xbox 360", "iPhone", "Foreclosure", and "Interest rates".

[00101] The database 326A stores a list of popular nets on the networking environment. In the example database 326A of **FIGURE 3C**, the identified popular nets stored in database 326A include "Fishing", "India", "Web 2.0", "Wine", "Real Estate", and
25 "Scuba Diving". In one embodiment, each net that is identified as popular in the database 326A is an individual net and determined as 'popular' based on the number of members in the net. Alternatively, the popularity can be determined by the total number of views of the net over a predetermined amount of time, regardless of whether the net was viewed by a registered user or a visitor. The popularity can also be determined by the rate of increase
30 of views over a predetermined amount of time. In some embodiments, the popularity is determined by the total number of views of the net generated by users who are not

members of the net.

[00102] In some embodiments, the views generated by the same user in a net do not count towards the number of views that determine popularity of a net. In one embodiment, each identified popular net includes a plurality of nets that relate to a similar topic. For example, the popular net "India" may include the nets having topics similar to but is not limited to the "Taj Mahal", "tombstones", "Bangalore", "Bombay", "authentic curry", etc. Since in some embodiments, the contents of the nets have semantic meta-tags, other related content (e.g., similar and/or related content on other nets) shared on the networking environment are identified and a set of popular nets having similar and/or related content can be determined.

[00103] The database 326B stores the user nets and data/information associated with the user nets (hereinafter referred to as 'user net data'). The user net data stored in the database 326B can include, for example, but is not limited to, the user(s) who created the net, the contents of the net, items posted in the net, the number of items posted in the net, the number of members in the net, the number of guest visitors in the net, the number of views, promotional items, semantic tags and/or keywords, related nets, and/or related items.

[00104] One or more users can create a net, for example, to facilitate information/knowledge sharing and/or to provide centralized access to a set of data/information. In addition, since in some embodiments, semantic meta-data tagging enables similar and/or related data/information to be identified on the networking environment, nets can be created by a user to add information and to identify additional related information provided by other users through items added by the other users and/or the nets created by the other users. The additional items and nets of other users can be stored in the database 326B such that when the net is accessed by a user, the user is apprised of related or similar items and nets that may be of interest to the user. The items in a net may or may not have a common theme or topic of interest. Thus, the identified contents of the net, either based on keyword matches, semantic matches, as identified automatically, by the user, and/or by the third party content provider, can be stored in the database 326B. In one embodiment, a list of promotion items provided in the net is stored in the database 326B. A promotional item can be a third party advertisement or other types

of endorsements for a product and/or service added to the net by a user or members of the net.

[00105] An example of user net data stored in the database 326B is shown in 326C. The user that created the net "Tourism in India" has a user name of "iLoVEtraVel2007", and the contents of the net include "Indian food", "Indian culture", "Taj Mahal", "Agra", "Bangalore", and "Delhi". The items posted on the net include "Emails about itinerary", "scheduled meetings", "hotel reservations", and "car reservations", "web content about scenic spots in India", and "Notes about plans in India and soliciting advise/comments about India Travels".

[00106] The number of items posted in the net is '15', the number of members of the net is '3', the number of guests to the net is '8', and the number of views of the net is '35'. The promotional items in the net include "3 days/4 nights road trip special from Bangalore to Agra", and "Discount tickets to the Taj Mahal". The semantic tags/keywords determined in the items included in the net include "tombstones", "Taj Mahal", "Agra", "deserts", Ministry of Tourism", "visa", "yoga", "IIT Kanpur", "Monsoon", and "Goa". Nets related to "Tourism in India" include "Beautiful Taj Mahal", "Bombay", "Curry!", and "Safaris".

[00107] **FIGURE 3D** depicts a block diagram of a database for storing ontologies 342A and a database for storing promotional content sponsorship information 344A, according to one embodiment.

[00108] The database 342A stores the ontologies available in the networking environment. The ontologies can be provided and integrated by administrators of the networking environment. In addition, ontologies can be requested by a user to be added into the platform, or added to the platform by a user. In the example database 342A of **FIGURE 3D**, the currently available ontologies include the ontologies for "Web 2.0", "Oceanography", "Enology", "cosmology", "Biomedical Ontology", "Proteomics", "Clothing", "Internet", "Electronics", "Real estate", "Agricultural", "Beer", and "Investment". An example of a portion of the enology ontology stored in the database 342A is shown in 342B. The enology ontology includes a list of the different types of barrels ("Oak" (e.g., French oak and American oak), "Stainless Steel", different types of wines ("White wine (e.g., Chardonnay and Sauvignon Blanc), "Red wine" (e.g., Cabernet

Sauvignon, Burgundy, Bordeaux, and Pinot Noir), "Champagne"), and the different steps involved in wine making ("harvesting", "destemming", "crushing", "fermentation", "barreling", and "bottling").

[00109] The database 344A stores a list of sponsors and data/information associated with the sponsors (referred to hereinafter as 'sponsor data'). As discussed, the web content added by users to the networking environment can sometimes include promotional content that promotes one or more of an idea, product, and/or service. Similarly, the content provider can be a service subscriber of the networking environment services and shares items having promotional content on the network to increase exposure and access of the promotional content to users of the networking environment.

[00110] In some embodiments, the content provider can become a sponsor, such that when web content provided by the content provider is added to the networking environment (e.g., either by the third-party content provider and/or another user), the content provider can have access to additional services, in particular, marketing services and access to market-related data relevant to the ideal/product/service the content provider wishes to promote. In some instances, the sponsor is not necessarily the content provider of the web content but merely an entity with vested interest in the promotional material in the web content. In some embodiments, membership fees are assessed in association with sponsorship of promotional content in the networking environment. The assessment of membership fees and the additional functions/services provided in association with promotional content are described in more detail in the description of **FIGURE 9**.

[00111] The sponsor data stored in the database can include but is not limited to, the company making the sponsorship, the advertisements that are being sponsored by the company, the payment method, the fee structure adopted by the sponsor, the survey questions the sponsor wishes to be presented to users, the promotional features included in the membership, and the semantic tags/keywords related to the sponsorship, business, trade, service and/or product.

[00112] An example of a portion of the sponsorship data stored in the database 344A is shown in 344B. The sponsor "Vino Discounters" sponsors "all advertisements from Vino Discounters" on behalf of the company "Vino Discounters Co.". The sponsor has signed up for the additional services to "pay for keyword placement", "pay for

semantic keyword placement", "pay for targeted advertisement", and "pay for track advertisement distribution" and the payments are to be remitted via "Automatic debit".

[00113] The survey questions to be presented to a user whom has indicated interest in a sponsored advertisement include "where do you purchase wine and wine related apparatus". The promotional features included in the sponsorship of "Vino Discounters" include "cross-link to related products/services", "distribute advertisements to members of specific mailing lists", and "personalize advertisement content". The semantic tags/keywords associated with content provided by the sponsor include "wine", "wine bottles", "wine opener", "storage", "pairings", "decant", "age", "Zinfandel", "reservatol", "heart disease", "liver disease", "grapes", "tastings", "nose", and "Brut".

[00114] More or less databases may be included. The databases can store other types of information, including but not limited to, information, data, services pertaining to knowledge/information sharing, and user friendliness, and/or additional information related to tracking and monitoring propagation of web content and information among the users in the networking environment. Additional data types that can be stored in databases, such as data related to delivering the services, functions, and features of a web-based networking environment to providing advanced marketing services to entities utilizing the knowledge networking to intelligently promote an idea/service/product, are contemplated and expected, and do not deviate from the novel art of this disclosure.

[00115] In some embodiments, one or more databases can be implemented as one database and different types of information can be stored in combination rather than in separation as shown in the example databases of **FIGURES 3A-3D**.

[00116] **FIGURE 4A** illustrates a screenshot 400 of a login screen to access the knowledge networking environment, according to one embodiment.

[00117] In the example of **FIGURE 4A**, the platform utilizes a username/email and password identification method for authorizing access. The screen in the example screenshot collects data to determine if the user is authorized to access the system and if so, securely logs the user into the system. In other embodiments, other forms of identity authentication, include but is not limited to, security cards, digital certificates, biometric identifiers (e.g., fingerprints, retinal scans, facial scans, DNA, etc.) can be utilized and are

contemplated and in accordance with this disclosure. A user may be able to specify and/or obtain a logon ID after subscribing or registering.

[00118] The user may be able to obtain a trial account, for a period of time during which the user can access the networking environment (with full or limited services) to determine if the user wishes to obtain a full account. In addition, the user may be invited by a registered user, for example, to join a common interest group (e.g., net), and/or to access an object shared on the networking environment, for example. A user with a guest account may have access to limited features and services relative to a full account. A subscription fee may be charged to service subscribers/registrants on a one-time basis, a monthly basis, a yearly basis, a usage basis, and/or other fee structures. In some embodiments, visitors may be charged a fee for temporary access to the features, services, and access to data shared on the networking environment.

[00119] **FIGURE 4B** illustrates an example screenshot 410 of a graphical user interface for information and subscription management of a user net.

[00120] The user interface for managing/updating information and subscription management for a user net is shown in the example screenshot 410 of **FIGURE 4B**. The screen 410 allows the user to access various functions and services related to user net management provided by the networking environment. The screen in the example includes an "About Me" section where the first ("John") and last name ("Doe") of the user that is logged on is shown. The "About Me" section of the screen also includes a list of the user's contacts on the networking environment. In one embodiment, the screen 410 includes a listing of the groups to which the user belongs to (e.g., "Photography", "Knowledge Base", and "Alpha Tester Information").

[00121] In one embodiment, items (e.g., web content, web objects) can be added to the net by sending an email having the items to a predetermined email address. For example, the email can include an attachment of a photograph to be added to the net. In addition, the email can include, but is not limited to, a note, a calendar event, a link, and/or any other web content to be added to the net, uniquely identified by the email address to which the email is sent to. In the example shown, content can be added to the user's (John Doe's) net via sending an email to "john@users.add.com". Therefore, the user ("John Doe") can provide this email to friends, other service subscribers, non service subscribers

such that they can add items to the user's net. In some embodiments, an authentication and validation procedure is performed by the sender to verify whether the user has authorized the email sender to add items to the user net. For example, the user can have a list of valid sender email addresses from which to accept items. In other embodiments, no verification is performed, so long as a valid email recipient address is indicated, or some other suitable condition is met.

[00122] The example user interface 410 for managing/updating information and subscription management for a user net includes a frame 402 that identifies and lists (e.g., in a word cloud) the top types of web content in the user net, in this example, the net managed by John Doe. The top types of web content in this example are indicated to be notes, people, and web pages. The top types of web content can be determined based on the number of items the user has in each category. In some embodiments, the top types of web content can be determined based on the number of views that each category of web content has generated. In addition, the top types of web content can depend on the number of users that have bookmarked, shared, collected, or otherwise shown interest in the items belonging to different categories. Other methods and/or algorithms of determining the top types of web content in a net are contemplated and do not deviate from the novel art of this disclosure.

[00123] In one embodiment, the user interface 410 for managing/updating information and subscription management for the user net includes a frame 404 that depicts (e.g., in a word cloud) the top tags of the net. The tags can be identified from the web content in the net, provided by the creator of the net and/or other users. The other users may or may not be registrants of the web-based networking services. The tags can be keyword tags, semantic tags or semantic links. The tags can be identified from web content through one or more of many methods, some of which are described herein as follows. Keyword tags can be manually added by users that added the web content to the network. For example, the user can highlight the text of the item, via one or more of any known or convenient method to indicate the keywords to be tagged.

[00124] The user can also type the keywords into a keyword field that receives keywords associated with the web content that are to be tagged. In addition to manual tags by users, the web content may have associated with it, metadata that indicates keywords

and/or semantic tags and/or semantic links related to the item. The metadata associated with the web content can be provided by the content provider of the web content or any other entity. In one embodiment, the networking environment performs automatic tagging of keywords and/or semantic tags/links of items added to the platform. The automatic
5 tagging can be performed in addition to or in lieu of manual tagging or through the metadata associated with the item. Tagging functions are further discussed as it relates to the tagging module in the description of **FIGURE 8**.

[00125] Note that one or more icons shown in the example screenshots 400 and 410, and the screenshots illustrated in other figures in this application, can and are
10 expected to be linked to one or more web pages with different screen layouts, depending on the services selected. Additional screens with different screen layouts are contemplated and considered to be in accordance with the techniques and embodiments disclosed herein to provide the general functionality and services related to knowledge networking and collecting market-related data via knowledge networking.

15 [00126] **FIGURE 5** illustrates an example screenshot 500 of a graphical user interface displaying relationships between a user and contacts of the user in the knowledge networking environment, according to one embodiment.

[00127] In the example screenshot 500 of **FIGURE 5**, a web page for the user ("John") to manage and/or to view his contacts is displayed. The user, as shown, has two
20 contacts (e.g., "Tom" and "Anne") designated to have a collegial relationship with the user ("John"). In some embodiments, the user can have different contacts for different nets that the user has created and/or manages. In this example, the list of contacts for the net named ("My Net") is illustrated. Additionally, different relationships between the user and contacts are available, including but not limited to, relatives, immediate family, friends,
25 acquaintances, etc. In one embodiment, the webpage for managing and/or viewing contacts includes a search box where the user can submit text and/or keywords to search for existing users on the user's contact list.

[00128] In addition, the user interface of screenshot 500 can enable the user to invite friends and/or acquaintances to join the networking environment or to connect to
30 existing friends and/or acquaintances on the network. In one embodiment of the present disclosure, the search box accepts email addresses of friends/acquaintances that the user

would like to send an invitation to join the network or existing friends/acquaintances on the network that they would like to add as a contact and connect to. In some embodiments, the search box provides a basis for the user to search for other users outside of the user's contact list, by submitting text that wholly or partially matches the first and/or last names of the other users. In addition, keywords and/or semantic tags can be submitted via the search box to identify other users whose user profile/information contains the queried keywords and/or semantic tags. Once a user not currently in the user's ("John's") contact list is identified via a search query, the user can be added via the "Add Contacts" button. Depending on the preferences of the user being added, a request can be sent to the user, the user can be automatically added to the contact list or the request may be immediately denied.

[00129] **FIGURE 6A** illustrates an example screenshot 600 of a graphical user interface for a user to access and manage various services provided by the networking environment, including connections, items, tags, and/or events, according to one embodiment.

[00130] In example screenshot 600, the user's home page where content hosted by the networking environment is displayed. The home page is, in one embodiment, a collective view of different types of information the user has added to the networking environment. The home page also provides access to popular tags and popular content types identified by the networking environment. For example, the home page for user "John" shows, the nets that John belongs to (e.g., "Nets I Belong To"), the user's friends (e.g., "My Friends"), relatives (e.g., "My Relatives"), colleagues (e.g., "My Co-workers"), contacts (e.g., "My Contacts"), types of web content (e.g., "note", "person", "web page"), latest items (e.g., "Beers worth waiting ...", "Email item"), some popular tags identified from the user's web contents (e.g., "champagne", "red", "tasting", etc.), events, and/or photos. Additional or less categories can be displayed on the home page. In some embodiments, the layout of the homepage is user modifiable. For example, some categories can be removed from the home page or shifted to a different location on the home page.

[00131] Note that the entries and options associated with the category boxes are, in some embodiments, hyperlinks. For example, the text "Photography" under the category

"Nets I belong to", when clicked, opens up a user interface of the net "Photography". Similarly, when the text "Email Item" under the category "Latest Items" is clicked, an interface having the "Email Item" is opened up. In addition to accessing existing content in the networking environment via the home page, the home page can include hyperlinks to allow users to add content. For example, a hyperlink for adding contacts is included at the bottom of the category boxes, "My Friends", "My Relatives", "My Co-workers", and "My Contacts". When the "Add Contact" link is clicked, an interface is displayed for example, to allow the interface to invite friends to join the network and/or to connect to a friend/acquaintance already on the network.

- 10 [00132] In one embodiment, the entries in the "Tags" category box are also hyperlinks. When the hyperlinks in the "Tags" category box (e.g., "champagne") are clicked on, the web contents in the networking environment having the word "champagne" tagged are presented. The web content presented may or may not be content present in the user's net ("My Net"). Depending on the user's setting and privacy settings of other nets, web content in other user nets having the word "champagne" tagged can be displayed as well.

[00133] **FIGURE 6B** illustrates an example screenshot 610 of a graphical user interface displaying third party web content hosted by the networking environment, according to one embodiment.

- 20 [00134] The example screenshot of **FIGURE 6B** illustrates an instance of third party web content hosted by the networking environment displayed on a web page. The web content ("Web Page: Company to build solar thermal plant, raises \$40M") shown in this example is added by the user ("John") to the user net ("My Net"). The instance of the web content includes a URL of the third party hosting the content for a visitor to view the original document. In addition, a description of the web content can also be shown. In some embodiments, the description is specified by the user that added the content. The description can in some instances, be an excerpt or full text of the web content.

- [00135] In one embodiment, tags can be identified (e.g., by the system or by the user) from the text in the description of the web content. The tags may be highlighted in the description and, in addition, listed under the tags section (e.g., "Solar" and "Silicon Valley"). Tags can be added by the user and/or visitors of the user's net that views the web

content by clicking on the hyperlink "Add Tags" displayed on the web page. In addition, comments about the web content can be added by the user and/or other users that have viewed the web content. In some embodiments, a discussion group about the web content can be facilitated through users and visitors posting comments via this web page. Of course, the visitors that are able to view and/or post comments can be moderated by the creator of the net and/or the user that added the web content.

[00136] In one embodiment, web content added to the networking environment can be 'collected' and 'shared' by users that are active in the network. The users may be visitors, trial service subscribers, and/or service subscribers. For example, the user that created the content in "My Net" may wish to share the web content ("Web Page: Company to build solar thermal plant, raises \$40M") with another net focused on alternative energy solutions. The web content creator ("John") can share the content with another net by clicking on the button "Collect and Share" 612. The button 612, in one embodiment, allows the user to share the content with another net and/or another user.

[00137] When the user selects to share the content with another net, a user interface screen such as that shown in the example of **FIGURE 6C** is displayed on the screen. **FIGURE 6C** illustrates an example screenshot 620 of a graphical user interface 622 for sharing the web content shown in **FIGURE 6B** with another net, according to one embodiment. On interface screen 622, the user can select one or more nets the user ("John") wishes to share the web content with. In one embodiment, the user can add a comment with the shared web content. Once the user submits the web content to be shared, depending on the privacy and access rights of the selected net(s), the web content may be automatically added to the destination net, or the web content may be added upon approval by one or more authorized moderators of the net.

[00138] Similarly, when the user selects to share the content with another user, a user interface screen such as that shown in the example of **FIGURE 6D** is displayed on the screen. **FIGURE 6D** illustrates an example screenshot 630 of a graphical user interface 632 for sharing the web content shown in **FIGURE 6B** with another user, according to one embodiment. On interface screen 632, the user can select one or more contacts ("Tom", "Jerry", and "Anne") to share the web content with. In one embodiment, the user can add a comment with the shared web content. Once the user submits the web

content to be shared, depending on the privacy and access rights of the selected recipient(s), the web content may be automatically shared with the recipient, or the web content may be shared upon approval by the recipient. After the user hits the "Share" button, the user interface screens 622 and 632 disappear and the web content is visible on the screen again.

[00139] In some embodiments, sharing of web content with nets and users are initiated by visitors in addition to the creator of the web content in the net. For example, a visitor, Jimmy, of the John's user net ("My Net"), can share the web content added by John on John's user net with other users and other nets. In addition to sharing web content with another user, a visitor of the creator's ("John") net ("My Net") can collect the web content. The visitor can collect web content, such that, for example, the web content ("Web Page: Company to build solar thermal plant, raises \$40M") is added to the visitor's user net.

[00140] In one embodiment, the button 612 "Collect and Share" is utilized by visitors to add the web content of interest to the visitor's own user net. In some embodiments, the original content provider and the creator of the web content on the net where the visitor is viewing the content impose limitation as to the degree of sharing and collecting of items. These limitations can be tracked and enforced by the networking environment.

[00141] **FIGURE 7A** illustrates an example screenshot 700 of a graphical user interface for viewing and managing web content 702, 704, 706 added to the networking environment, according to one embodiment.

[00142] In some instances, the web content added to the network by a user includes promotional content. In the example screenshot 700 of a list of web content added by a user in the networking environment includes an online news article 702, web content promoting scuba/snorkeling fins 704, and web content promoting kid's swim mask 706. In the web page for viewing and managing a user's web content, additional items can be added by clicking on the "Add Item" button. A listing of tags identified from the user's web content may also be displayed on the viewing/managing screen 700. The search field shown on the viewing/managing screen can be used to locate web content in the user's one or more nets based on the query. In some embodiments, the search is based on a semantic search. In some instances, relevant web content added by other users (keyword match

and/or semantic link) can be identified and listed in the search results in response to a query.

[00143] In one embodiment, the promotional content (e.g., content 704, 706) can be collected by other users, shared with nets and/or other users in a manner similar to that illustrated in **FIGURES 6C-D**. Promotional content can be bookmarked as well, although not explicitly shown in the figures. Since the sharing and distribution of web content, in particular, promotional content occurs in the networking environment, the system has the ability to track the access and distribution by users in the network, and in some embodiments, collect data related to the access and distribution of the web content among one or more users. In addition to identifying and collecting access and distribution data of promotional content, the networking platform can further identify information to determine performance metrics of the promotional content.

[00144] For example, indications of performance include, but is not limited to, clicks on the link to view a web site of the third-party content provider, a purchase that results from a user that adds the promotional content to the networking environment, any transaction that results from a user adding the promotional content, transactions resulting from a user sharing the content with other users, number of views of the content via the networking environment and/or via the third-party content provider's website, identified interest in a second promotional content based on its relation to a first promotional content, etc.

[00145] Oftentimes, the access and distribution data collected can be valuable market information for the promoters. Thus, entities may wish to sponsor promotional content. The sponsoring entity can be the original host of the promotional content and/or a third-party with vested interest in the promotional content. The sponsorship can be applied to individual instances of web content, or applied to a set of web content (e.g., Dell Computers may wish to sponsor all web content having promotional material that promotes items sold by or made by Dell Computers). Similarly, Microsoft may wish to sponsor web content having promotional material that promotes laptops and desktops made by Dell, in addition to sponsoring web content having promotional content for Microsoft products, since Microsoft may believe that sales of computers typically lead to purchase of the Windows operating system by the same customer. The concept of

sponsoring promotional content to further advance a vested interest in the promoted material, further applies to but is not limited to, promotion of services, ideas, concepts, religion, events, in addition to products.

[00146] In one embodiment, the one or more sponsors of web content having
5 promotional content elect to pay to receive market data collected by the networking environment deemed valuable. Different fee structures are provided to tailor to the needs of different types of businesses and different types of market needs, for example. The sponsorship fee can enable a sponsor of web content, to access raw data collected related to access and distribution of the web content. Further, the sponsorship fee may allow the
10 sponsor to access statistical data compiled from the raw data. The sponsor may also purchase information related to the performance of the promotional content, as identified by, for example, but not limited to, user interest level in the promotional content, actions (clicks, views, purchases, sales, etc.) generated in response to viewing the promotional content. The performance metrics can be qualitative or quantitative. The sponsor may pay
15 an extra fee for quantitative data, another extra fee for further analysis of the data, such as, but not limited to, statistical analysis.

[00147] In one embodiment, sponsors pay for obtaining relational information between the user interest level/performance metrics of the promotional content and user information. Obtaining user information provides market information about the types of
20 attributes, qualities in an individual that are likely to indicate interest in the promotional content. Sponsors can utilize this information to identify a set of users towards which to target promotional content. Sponsors can further utilize this data to determine variations of the promotional content that may be of interest to other groups of users. In some embodiments, sponsors can pay for placement on a search result page when a relevant
25 query is made. Sponsors can also pay to have the promotional content presented to have a likelihood of interest in the promotional material. Both the push and pull advertising models can be used. The pull model may cost the sponsor more. In addition, sponsors can pay for being semantically linked to related and/or similar products.

[00148] **FIGURE 7B** illustrates an example screenshot 710 of an applet 712 for
30 adding web content to the networking environment from the original web page 714 hosting the web content, according to one embodiment.

[00149] One embodiment of a process of adding web content to the networking environment is to click the "Add Item" button on one or more user interfaces of the networking environment, such as that shown in **FIGURE 7A**. Another example of a method for adding web content to the networking environment occurs on the original web page hosting the web content. As shown, in order to add the web content shown in screenshot 710 to the networking environment, the applet 712 can be initiated on the original web page 714. The applet 712 is, in one embodiment, initiated via a java script having a link that can be bookmarked. Thus, by clicking on the bookmark while browsing the original web page hosting the web content to be added to the networking environment, content can be added without having to logon to the networking environment.

[00150] The applet 712 allows the user to identify the type of item being added, the net to be added to, and enter descriptive information (e.g., title, summary, tags, and/or comments) regarding the web content. In some embodiments, the title, summary, and tags are automatically determined by the applet; however, the user can make modifications if so desired. The tags identified by the user and/or the applet can be keyword based and or semantically based.

[00151] **FIGURE 8** depicts a block diagram illustrating components of a system for collecting market-related data through the web-based networking environment, according to one embodiment.

[00152] In the example of **FIGURE 8**, the host server 800 is one embodiment of the system. The system includes a tracking module 802, a user module 804, an item management module 806 having a promotional content module, a market data module 808 having a statistics module, a fee module 810, and/or a tagging module 812. Additional or less modules can be included without deviating from the novel art of this disclosure. In addition, each module in the example of **FIGURE 8** can include any number and combination of sub-modules, and systems, implemented with any combination of hardware and/or software modules.

[00153] The host server 800, although illustrated as comprised of distributed components (physically distributed and/or functionally distributed), could be implemented as a collective element. In some embodiments, some or all of the modules, and/or the functions represented by each of the modules can be combined in any convenient or

known manner. Furthermore, the functions represented by the modules can be implemented individually or in any combination thereof, partially or wholly, in hardware, software, or a combination of hardware and software.

[00154] The tracking module 802 can be any combination of software agents and/or hardware modules able to track user activity related to web content added to the networking environment (e.g., knowledge networking environment). For example, the tracking module 802 records the instances when web content added to the networking environment is viewed, who viewed the web content, and the time and date the content is viewed. The data can be stored in the system for a predetermined amount of time, as suitable. The tracking module may also record the instances when the web content is bookmarked, collected, shared with another user and/or net, and who bookmarks, collects, and/or shares the content. The recipient and the net receiving the web content can also be recorded. In some instances, the tracking module also records different users add the same content to the networking environment, since identical web content added by different users can be an indication of interest.

[00155] In one embodiment, the tracking module 802 determines when a user views a third-party web page in response to viewing web content in the networking environment. The tracking module can also record when additional actions (e.g., purchase, sale, lease, rent, bid, ask a questions, post a comment, send a message, send an email, etc.) occur in response to viewing web content, in particular, web content having promotional content. In most instances, the identities of the parties involved in the action are recorded. In some embodiments, the tracking module 802 collects numerical data regarding content access/distribution and performs elementary statistical analysis on the data collected. In some embodiments, elementary statistical analysis and/or additional data analysis methods are performed in the market data module 808.

[00156] For example, the tracking module 802 can record the number and percentage of visitors that collected the web content, visitors that collected the web content then shared the web content, visitors who made a purchase based on the web content. The tracking module 802 may also record the average number of subsequent shares per user that has viewed the web content, the average number of visits to the web content before collecting it. In one embodiment, the tracking module 802 determines when

a user collects web content, the average number of repeat visits to web content per user prior to collecting the web content. The total number of users that the web content has spread to can be determined by the tracking module 802. In addition, the velocity and/or the acceleration of the spread of the web content can be determined and recorded.

- 5 **[00157]** In one embodiment, the tracking module 802 determines the total volume of collections, shares, bookmarks, shares, purchases for web content over a predetermined amount of time. For example, the daily volume of the total number of users that collected an advertisement for the iPhone can be determined and stored. In one embodiment, the tracking module 802 can determine which users are the top spreaders of the web content.
- 10 In some embodiments, the tracking module 802 distinguishes between a visitor who is not a subscriber and a visitor who is a subscriber and records the subscription status of a user who accessed and/or distributed web content.

- [00158]** The user module 804 can be any combination of software agents and/or hardware modules able to identify user metadata from a set of user information. The user information can be supplied by the user and/or identified by the networking environment.
- 15 For example, the user information can include basic profile information submitted by the user during registration, such as a first and last name, birth date, location, etc. In addition, the user may have the option of submitting additional information including but is not limited to, nationality, religion, ethnicity, interests, hobbies, occupation, education, etc. as
- 20 described in detail in **FIGURE 3A**. User information can also be identified based on user activity on the networking environment.

- [00159]** For example, general interest can be identified from common topics or themes in the content added by a user to the networking environment. Similarly, general interest can be determined based on commonalities between the user and the user's
- 25 contacts and/or connections on the networking environment. In one embodiment, user information can be deduced from visits to other users' nets and views of content provided by other users. Additionally, web content collected and/or bookmarked by the user provides additional information about the user. The type of the web content (e.g., a web page, an email, a photograph, etc.) in addition to the intellectual content of the web content
- 30 (e.g., the subject matter of an online news paper article) can both be utilized to obtain user information.

[00160] In some embodiments, the user module 804 communicates or otherwise shares information with the tracking module 802 such that access/distribution data can be associated with user data about the users involved in the access and distribution of web content. For example, demographic, geographic, and/or psychographic analysis can be performed on the data collected in relation to access and distribution of web content, in particular, promotional content. Alternatively, the data identified and stored by the tracking module 802 and the user module 804 can be stored in a common data depository (e.g., on the tracking module, on the user modules, or external to the tracking and user modules) such that data recorded by the tracking and user modules can be retrieved independently or in conjunction, as necessary.

[00161] The item management module 806 can be any combination of software agents and/or hardware modules able to track any activity or the lack of, related to web content that has been added to the networking environment. The item management module 806 can manage web content added to the networking environment and delete web content in response to receiving a request from a user with rights to delete the web content.

[00162] In one embodiment, the item management module 806 identifies a number of rules associated with privacy and/or access rights of the web content. For example, a user can specify a set of relational attributes when adding web content to the networking environment. Relational attributes can include, for example, who can see the content, the users that can see the content, or a particular group of users that can see the content. In some embodiments, a set of users with a predetermined relationship (e.g., family) of the user can view the content. In addition, relational attributes can further include who can edit the content, share the content, collect the content, and/or bookmark the content. Similar to content viewing rights, edit, commenting, asking a question, sharing, collecting, bookmarking rights can be specified by default, on an individual basis, on a relationship basis, or on a group basis (e.g., only users who are subscribers can edit the content).

[00163] In one embodiment, the item management module 806 identifies the preferences of a content provider associated with accessibility of the web content when the content provider is a third-party host of the web content. The preferences can be determined from metadata associated with the web content. For example, the third-party host may not permit edits/modifications to be made to the web content. In addition, the

third-party host may limit the number of shares that can be made on the networking environment. Thus, in one embodiment, the item management module 806 determines a set of rules governing accessibility of the web content based on the relational attributes specifiable by the user who adds the web content and the preferences of the third-party host of the web content, when applicable. When users share and distribute web content in the networking environment, the item management module 806 enforces the set of rules. In one embodiment, the item management module 806 includes a promotional content module.

[00164] The market data module 808 can be any combination of software agents and/or hardware modules able to collect, compile, and/or analyze data that is generally market related. In some embodiments, the market data module 808 can obtain data from one or more of the tracking module 802, user module 804, and/or the item management module 806. Further, the market data module 808 can dynamically interact with a plurality of modules in the system (e.g., host server 800) to obtain data needed for analysis to determine market data related to promotional content distributed in the networking environment, or to provide market data for promotional material to be distributed in the networking environment. For example, if the market data module 808 determines that more data points in time are necessary, the market data module 808 can place a request to increase the frequency at which data is obtained, to the tracking module 802. Thus, data collection and analyses procedures can be performed interactively, for example, on an as needed basis. In other embodiments, data is collected by the tracking and/or user modules, with predetermined settings.

[00165] In one embodiment, the market data module 808 records the number and percentage of users that accessed the web content, who reported owning the promoted material versus the number and percentage of users interested in purchasing the promoted material. The market data module 808 can record the users, the number and/or percentage of users who opted in to receive news and/or offers related to the promotional material in the particular web content. In one embodiment, the market data module 808 records the related tags, topics of interest, web sites, people, companies, places, events, media content, and/or product preference, brand affinity of users who collected, shared, opted in, and/or purchased the promoted material.

[00166] In one embodiment, the market data module 808 includes a statistics module. The statistics module performs statistical analysis on data collected such as computing the mean, standard deviation, performing Gaussian analysis, performing principle component analysis, determining regression, correlation, performing the chi-square test, etc. In one embodiment, the market data module 808 performs additional data analysis methods which may be embodied in part or in whole, in the market data module 808 and/or the statistics module, by way of example but not limitation, curve fitting, data mining, de-noising, encoding, decoding, etc.

[00167] The fee module 810 can be any combination of software agents and/or hardware modules able to provide an offer of different levels of services to sponsors and assessing fees based on the adopted level of services. The fee module 810 can further obtain and store sponsor information. A sponsor can pay a fee to sponsor web content. For example, sponsored web content can be displayed in the sponsored results section of the web page when a relevant query (e.g., keyword match and/or semantic match) is made. Sponsored web content can also be highlighted such that it is visually distinguishable in a list of search results. In one embodiment, the fee module 810 assesses the sponsor a fee to obtain raw access/distribution data of the web content, such as the data obtained by the tracking module 802. In addition, a fee can be assessed by the fee module 810 to provide data indicating performance metrics of the promotional content to the sponsor.

[00168] Performance metrics can be determined by a number of actions generated by users in response to viewing the promotional content. For example, transactions (e.g., purchase, sale, lease, rent, bid, etc.) that occurred, the speed at which the promotional content is shared and/or collected, visits to web sites of third-party hosts of the promotional content, can be indicators of performances of the promotional content. In some embodiments, the performance metrics are quantified by the fee module 810. The sponsor can access the quantified performance metrics with an additional fee. In addition, the fee module 810 can communicate with the market data module 808 to obtain or compute results related to the statistical attributes of the quantified performance metrics, which can be provided to the sponsor, with an additional fee.

[00169] In one embodiment, the sponsor can pay to obtain a detailed viral report about the web content. For example, the fee module 810 can further communicate with the

user module 804 to determine, in addition to data related to propagation of promotional content, data about users whom the promotional content is being shared with or sent to. The fee module 810 can also communicate with the market data module 808 to obtain market-related data specific to the business needs of a particular sponsor and/or specific to the services/products/ideas that a sponsor wishes to promote. The amount of information available to different businesses may vary. In some embodiments, a sponsor can view a sample report or a portion of a real report prior to signing up to receive a particular type of report. Reports can be generated by the system (e.g., one or more of the tracking module, user module and/or the market data module) and/or data can be exported by the sponsor for analysis.

[00170] In one embodiment, keywords and/or semantic tags are identified in the web content or promotional content added to the networking environment. The keywords and/or semantic tags can be identified by the tagging module 812 and/or manually by one or more users. Regardless of how the tags are identified, in one embodiment, semantic placement and/or keyword placement in a list of search results can be purchased. For example, a sponsor may purchase specific keywords for which the sponsored promotional content will be listed when the keywords are queried. Additional fees can be assessed for positioning the sponsored material higher up in the list.

[00171] Furthermore, a sponsor can purchase semantic tags and/or specific semantic links for which the sponsored material is to be listed when a query related to the semantic tag/link is made. For example, a placement on the search results page can occur for Kodak film when a query for a camera is made. Similarly, a placement for Microsoft Office can occur when a search for a laptop computer is made. Thus, in addition to placements being made based on exact keyword matches, placements can also be made based on an identified intellectual content and related content to a query. The fee module 810 can identify related promotional material between various web content with promotional content. The fee module 810 can offer these services to a sponsor at a fee.

[00172] In one embodiment, promotional content can be presented to a user based on the identified tags (e.g., top 20 tags) associated with a user. The tags associated with a user can be identified from, for example, but not limited to, the web content that the user has added, from the user's nets, web content that the user has viewed on the networking

environment, and/or tags that the user has added, etc. In one embodiment, the fee module 810 assesses a fee from a sponsor to present promotional content to users based on the tags associated with the user. In one embodiment, the fee module 810 assesses a fee to present survey questions when the promotional content is accessed. An additional fee may be assessed to view the results of the survey questions.

[00173] In one embodiment, a pay-per-view option is available for web content for which sponsors pay an additional fee. In addition, the fee module 810 can associate a "Buy It" button with the promotional content when the sponsor is assessed the fee. The "Buy It" button can direct the user to a page to facilitate ease of payment. For example, the "Buy It" button, when clicked, can add the item to the user's shopping cart and directs the user to a web page to enter payment information. If the user's payment information is already on record, the page may populate fields and/or allow the user to immediately authorize payment to complete the transaction.

[00174] In one embodiment, the fee module 810 enables a sponsor to create a campaign for a set of related promotional material. For example, the sponsor can create an advertisement to jointly promote a set of products, services, and/or ideas. In some embodiments, the fee module 810 creates the joint campaign for the sponsor at an additional fee. In one embodiment, the fee module 810 provides customized format and layout (e.g., different colors, icons, pictures, etc.) for the promotional content to tailor to different audiences, based on one or more of profile information, user metadata, popular tags, etc. In addition, the sponsor can pay an additional fee to automatically apply different sets of personalized formatting to promotional content to target different users (e.g., users of different age group, different gender, different favorite colors, etc.). Further, premium features can be added to sponsored promotional content, such as, flash media, audio, music, video, java script, reminders, etc.

[00175] In one embodiment, tiered placements of web content can be provided based on an identified social distance between one or more of the users that provided the plurality of web content and the user that placed a relevant query. The relevant query to can be based on a semantic match and/or a keyword match with the plurality of web content. However, the order of the listing of the search results can be determined based on the relationship between the user that placed the query and the user that added the web

content appearing in the search results. For example, a result with the keyword match "Kodak camera" posted by a friend of the searcher may be positioned higher in the results list compared with another result with the same keyword match but posted by a friend of a friend. Similar guidelines may apply to other types of relationships, such as immediate
5 family, relatives, in-law relatives, blood relatives, colleagues, acquaintances, friends, etc.

[00176] In one embodiment, fee module 810 offers to distribute sponsored promotional content to users that belong to an interest group. For example, to users who are members of a particular net, to users that belong to a mailing list, to users with identified interests pertinent to that of the sponsored material (e.g., tags, user profile,
10 contacts, keywords, etc.) to users that belong to a discussion group, to members that have commented on particular products/services/ideas. In addition, the fee module 810 can receive requests for services not already offered.

[00177] The tagging module 812 can be any combination of software agents and/or hardware modules able to identify one or more of keywords, tags, meta-tags, semantic tags
15 from user metadata, user behavior on the networking environment, and/or metadata of web content. Semantic tags can be identified based on one or more of many methods. In one embodiment, tags are identified in content via natural language processing (NLP). The natural language processing method can detect nouns, proper nouns, verbs, subject, predicate, object and/or other parts of speech as well as grammatical expressions such as
20 phrases and other constructions. For example, proper nouns can be turned into tags. When the tags are clicked, a query can be made to locate other web content and/or items with that tag, and/or with any text that matches that tag.

[00178] In one embodiment, tags are identified via entity extraction, by, for example, combining NLP and ontologies of concept and rules. The combination of NLP
25 and ontologies can detect classes of concepts in intellectual content and semantically classify the concepts as, one or more of but not limited to, people, companies, places, addresses, phone numbers, general concepts, or finer classifications of the above (e.g., products, events, schools, celebrities, presidential candidates, etc.).

[00179] In one embodiment, tags are identified via a Bayesian classification process
30 thus enabling identification of one or more subject matter/concepts the web content and/or an item encompasses. In some instances, the subject matter can be identified even when

the subject matter is not explicitly mentioned in the web content. For example an article describing process and procedure through which the Declaration of Independence was drafted can be identified as being related to "politics" and "history" and tagged as such, even though neither the words "politics" nor "history" were necessarily explicitly stated in the article. In one embodiment, subject matter can be identified based on Bayesian statistical techniques and performing machine learning to analyze a knowledge (information) database with a predetermined structure (e.g., including for example, encyclopedias, dictionaries, thesaurus, such as, but is not limited to, the Wikipedia, encyclopedia.com, Britannica.com, MSN Encarta, dictionary.com, thesaurus.com, techweb.com, etc.).

[00180] For example, the Wikipedia contains approximately 300,000 declared subject categories, which are specially named pages in Wikipedia. Other pages in the Wikipedia that represent the content or articles of Wikipedia are linked to the subject category pages for the subjects they are relevant to. In one embodiment, classified articles in Wikipedia having a particular subject matter (e.g., "history") in the Wikipedia are utilized as "training inputs" for the Bayesian classification process. Machine learning can then be performed on the classified articles of the knowledge (information) database to determine a set of statistical classification rules for identifying content that is an indication of the particular subject matter (e.g., "history"). The amount of "training inputs" can be adjusted, in one embodiment, as suitable to the application.

[00181] When a suitable amount of "training data" is provided for a particular subject matter (e.g., "history"), an estimated probability that an object having text is about the subject matter (e.g., "history") can be provided via the Bayesian classification process. In most instances, the accuracy and precision of estimated probability that a set of content is about the particular subject matter, increases with the quantity of "training data" provided during the machine learning process. The same procedure can be applied to additional subject matter and/or concepts.

[00182] In one embodiment, the classification process is performed in a hierarchical manner, since, for example, the structure of the original database for which a statistical model is built is also hierarchical. For example, a set of content can initially be analyzed to determine if it is about a particular subject matter ("history"). Then, the content can be

analyzed to determine if it is about a child-subject matter ("history of America") of the subject matter ("history"). If the content is about the "history of America", then the content can further be analyzed to determine if subject matter further relates to a child-subject matter (e.g., "Declaration of Independence") of the "history of America", and so on and so forth to further narrow and precisely identify one or more subject matter.

[00183] In one embodiment, tags are identified via comparing textual data in the network platform (e.g., text that occurs in emails, notes, added web content, photographs, user profile, user metadata, etc.) to text that occurs in other content on the networking environment. For example, if an article includes one or more references to "Super Solar", and additional content on the network is identified to have one or more references to "Super Solar", then the term "Super Solar" can be an identified tag. When the term "Super Solar" is again detected in other content, the term "Super Solar" can be tagged in the other content. Thus, in one embodiment, significant phrases can be determined via detecting presence of the phrases in one or more contents (e.g., items, objects, web content, notes, photographs, emails, etc.) in the networking environment. In some instances, for example, even when the phrases are not identifiable by NLP, entity extraction, Bayesian classification and/or explicit links,

[00184] In one embodiment, tags are identified via determining and analyzing distribution of nouns and phrases that occur in the content in the networking environment over time and user metadata. For example, nouns and phrases that are frequently used may be identified as tags when they are mentioned. In some embodiments, additional filters may be necessary to screen out noise expressions to further hone in on the nouns and phrases representative of topics rather than common expressions or words

[00185] The host server 800 represents any one or a portion of the functions described for the modules. More or less functions can be included, in whole or in part, without deviating from the novel art of the disclosure.

[00186] **FIGURE 9** depicts a table 900 illustrating an example set of options and features for promotional content placement in the knowledge networking environment, according to one embodiment.

[00187] Membership fees can be associated with some sponsorships of promotional

content to be distributed via the networking environment. A sponsor can be any person, institution, group, political party, religious group, interest group, corporation, business, educational institution, etc., wishing to promote services, products, and/or ideas through promotional content distributed in the networking environment. Special features provided
5 by the networking environment that associated with increasing the efficaciousness of the distribution and likelihood of acceptance of the promoted material can accordingly be offered to the sponsors. In some embodiments, some of these special features cost an additional fee in addition to a membership fee. The sponsor, can, in some instances, bundle purchase a set of features for a discounted price. The sponsor can also sign up for a
10 trial period to receive one or more of the special features to determine the efficacy and suitability for the sponsor's particular trade and type of business.

[00188] In some instances, the sponsor may have premium membership status, for example, having been a member for a predetermined amount of time, and some of the special features can be available to the sponsor at a discounted price or complimentary, for
15 a certain amount of time. Some of the special features are shown in table 900 of the example **FIGURE 9**. The features 902 - 936 explicitly shown in the table are for illustrative purposes only. Additional features are contemplated in association with increasing the efficaciousness of promotional content distribution and do not deviate from the novel art of the disclosure. In particular, features related to increasing efficaciousness
20 and likelihood of acceptance of promotional material, in a web-based online-networking environment, where user preferences, habits, topics of interest, inclinations, hobbies, and activities are accessible by the networking environment. Some of the special features are described below.

[00189] In one embodiment, promotional content is placed based on keyword match
25 to search terms. The relevant keywords in the promotional content can be specified by one or more of, but is not limited to, the networking environment, the sponsor, the user that added the content to the networking environment, etc. Additionally, the sponsor can bid to have keywords be associated with a particular promotional content such that the promotional content will appear in search results related to additional keywords than those
30 originally tagged and/or identified by the system. In one embodiment, promotional content is placed based on semantic links to search terms. Since the promotional content can be tagged, semantically via one or more of the many processes and analysis methods

described in **FIGURE 8**, the promotional content can be semantically linked to a search term. Similarly, a sponsor can pay for additional words to be associated with the promotional content.

[00190] The order of the listed results can also be bid on by sponsors. In one
5 embodiment, promotional content is placed based on keyword match to subscriber information/data. Subscriber information (e.g., user information) can be identified via user metadata, submitted by a user, and/or determined user activities and habits on the networking environment. In one embodiment, promotional content is placed based on keyword matches to relevant products/services for which a search was performed. In one
10 embodiment, promotional content is placed based on semantic links to relevant products/services for which a search was performed. In some embodiments, fees are assessed from the sponsor for collection of user information specific to the promotional content. In one embodiment, fees are assessed to enable sharing of promotional content among subscribers. In one embodiment, fees are assessed to enable tracking sharing of
15 promotional content among subscribers. In one embodiment, fees are assessed to compensate subscribers for referrals, actions, and/or sales generated.

[00191] In one embodiment, fees are assessed for push-model based targeted advertising. For example, a set of users can be identified as a set of users towards whom the promotional content is to be targeted. The set of users can be identified based on the
20 metadata (e.g., identified tags, keywords, etc.) of the promotional content and the user metadata of the users (e.g., subscribers or visitors). In one embodiment, web content is presented to a user in a tiered fashion, for example, in response to a relevant query by the user and/or an identified set of users having a likelihood of interest in the web content based on user metadata. In the push-model based targeted advertising, the user may not
25 make an explicit search, however, the promotional content is provided when the system determines that the user may be interested in the promoted content, based on for example, the content of an article that the user is browsing.

[00192] In one embodiment, fees are assessed for push-model based contextual advertising. In contextual advertising, in addition to utilizing user information, historical
30 information related to relationships between performance metrics of similar promotional material and the user metadata is utilized. For example, if men between the ages of 45-50

were determined to be the main market for red polo shirts, then promotional content for polo shirts in general can be targeted towards men between the ages of 45-50.

[00193] In one embodiment, fees are assessed for customizing promotional content based on subscriber information/data. For example, promotional content may be presented to young girls with pink balloons and flowers in the background while promotional content may be presented to young boys with toy cars and Legos in the background.

[00194] In one embodiment, fees are assessed for determining statistical data on collection of promotional content and/or providing the statistical data to the sponsor. In addition, fees can be assessed for determining statistical data on distribution/sharing of promotional content and/or providing the statistical data to the sponsor. In one embodiment, fees are assessed for determining statistical data on subscribers and/or providing the statistical data to the sponsor. Similarly, fees may be assessed for determining statistical data on action generated from the promotional content and/or providing the statistical data to the sponsor.

[00195] **FIGURE 10** depicts a flow diagram illustrating a process of hosting web content on the knowledge networking environment at the request of a service subscriber, according to one embodiment.

[00196] In process 1002, a request from a service subscriber to host web content provided by a content provider is received. The request can be received via an upload request placed by the service subscriber through an upload interface of the networking environment. For example, an item (e.g., web content) can be added by clicking the 'Add Item' button of the "Items" of a user net shown in the screenshots of **FIGURES 4-7**. Lists of basic item types that can be added, in most instances, are displayed on the "Items" page when a request to add an item is received. A few examples of the item types include notes, photography, emails, web pages, contacts, etc. When an item of the "note" type is received, for example, an editable form for adding a new note is to be filled out. Once a completed form is submitted, the content can be analyzed and tagged. The analysis can be based on keyword matching. In one embodiment, semantic tags can be identified based on one or more of many methods, as described in detail in the description of the tagging module in **FIGURE 8**.

[00197] In one embodiment, a request to host web content is received via a command initiated from the web page hosting the web content. For example, a java script link can be bookmarked and initiated when a user wishes to add content to the networking environment. When the JavaScript is initiated, an applet appears on the host web page
5 originally hosting the content. The applet allows the user to enter basic information about the web content. For example, as shown in the screenshot of **FIGURE 7B**, the type of the item can be specified, a thumbnail image of the web content can be selected from a set of pre-selected images. The net to which the content can be added is selected in the "Add to" field, for example. In some embodiments, the user has the option of adding the content to a
10 friend or contact's net.

[00198] In process 1004, the metadata of the web content is identified. The metadata includes information about the web content. The metadata can be machine-readable and/or human-readable, including structural/control metadata that describes the structure of data such as tables, columns, and/or indexes. For example, relational database
15 metadata include tables indicating the names, sizes, and number of rows of the tables in a database. Relational database metadata may further include tables of columns in the database, what tables the columns are used in, and the types of data stored in the columns. Metadata such as, file system metadata, data warehouse metadata, file system metadata, image metadata, program metadata, can be identified. Metadata can also include guide
20 metadata, for example, to assist humans in identifying specific items such as a set of keywords.

[00199] In some embodiments, an item of the metadata is described by metadata. For example, metadata of the web content can include but is not limited to, data about the size of the content, date/time the content was created and/or modified, the author/origin of
25 the content, privacy/access attributes of the content, type of objects in the content, and/or a title of the content. Thus, in process 1006, preferences of the content provider associated with accessibility of the web content are identified. For example, the content provider can specify different access attributes related to whom and/or under what circumstances may edit the web content. The content provider can also specify what aspects of the content can
30 be deleted, edited, and/or otherwise modified. In some embodiments, the metadata of the web content indicates the extent to which the web content can be shared. For example, if the content can be bookmarked, collected, shared, and with whom the item is to be shared

and to what extent.

[00200] In addition, digital library metadata of the web content can include descriptive information about the intellectual content of the web content, including semantic metadata. Thus, in one embodiment, the applet through which web content can be added to the networking environment without leaving the original web site hosting the web content, determines a suitable title for the web content based on its identified contents. In some instances, the user can specify the title for which the web content is to be given on the networking environment via the applet. The applet can also identify a suitable summary for the web content based on its identified content. Alternatively, the summary can be user specifiable. As shown in the example screenshot of FIGURE 7B, the applet can identify tags associated with the web content. Tags and comments can also be specified by users on the applet to be made available on the networking environment.

[00201] In process 1008, the service subscriber is inquired. The service subscriber can be presented with a set of questions when the service subscriber requests to add web content to the networking environment. The questions asked can be a default set of questions presented to every service subscriber who wishes to add content. The questions asked is, in some embodiments, specific to the type of item added, and/or specific to the intellectual content of the item added. In some embodiments, a sponsor of the item can specify a set of questions to be presented to the subscribers that add the item to the networking environment. Thus, in process 1010, the relational attributes of the service subscriber associated with the web content are identified, for example, based on the responses to the inquiries made to the subscribers.

[00202] The relational attributes of the service subscriber include privacy and access settings of the web content. For example, the service subscriber can indicate for web content added to the networking environment, whether the web content is visible to other users or not. In addition to visibility, the subscriber can indicate whether other users can collect, bookmark, share, and/or edit the web content. The subscriber can assign privacy attributes on an individual basis, and/or on a group basis. For example, the subscriber can allow the contacts who are friends of the subscriber full access while allowing contacts who are colleagues, partial access. The subscriber can also assign different privacy settings and access rights to users who are subscribers versus visitors.

The subscriber may have a default set of privacy settings and/or access rights for all items added unless otherwise noted.

[00203] In process 1012, the web content is shared and distributed based on user requests while enforcing the rules governing accessibility of the web content. In addition to privacy rules of the user that added the web content, the accessibility rules specified by the content provider are also enforced. Actions constituting sharing and/or distribution of the web content include but are not limited to collecting, sending, sharing, adding to a net, bookmarking, viewing, writing a comment regarding the web content, asking a question regarding the web content, and/or participating in a discussion about the web content, etc. In process 1014, the access and distribution of the web content are tracked. The access and distribution is identified when one or more of the above actions and/or other actions indicating user interest in the web content are detected. In process 1016, quantitative data related to the access and distribution of the web content is determined and recorded. In process 1018, fees are assessed from the content provider. In some embodiments, the content provider is a sponsor (direct or third-party) who wishes to promote the material in the web content, utilizing one or more of the special features offered by the networking environment, such as those described in **FIGURES 8-9**.

[00204] **FIGURE 11** depicts a flow diagram illustrating a process of providing performance metrics of the promotional content to the content provider, according to one embodiment.

[00205] In process 1102, fees are assessed from the content provider for hosting the web content. The web content, in example, includes promotional material that the content provider wishes to promote via the networking environment. For example, to receive one or more of the special features offered by the networking environment associated with increasing the efficacy of the promotion and likelihood of user acceptance. In process 1104, the content provider is provided with tiered marketing services based on an adopted fee structure. Examples of the tiered marketing services include those illustrated in table 900 of **FIGURE 9** and the corresponding description.

[00206] In process 1106, the performance metrics of the promotional content are determined. The performance metrics can additionally be quantified and the statistical attributes of the performance metrics can be determined. In addition, one or more

relationships between the plurality of performance metrics of the promotional content and the user metadata of the plurality of users can be identified to determine the performance of specific promotional material within different user groups. In process 1108, the performance metrics are provided to the content provider, based on the adopted fee structure. The quantified data and the statistical attributes may be provided as well.

[00207] **FIGURE 12** depicts a flow diagram illustrating a process of providing targeted placement of promotional content, according to one embodiment.

[00208] In process 1202, the relationship between the performance metrics of the promotional content and user metadata of service subscribers is determined. In process 1204, target service subscribers based on the metadata of the web content and/or the user metadata of the service subscribers are identified. In one embodiment, the set of users can be identified based on the metadata of the promotional content and/or the user metadata of the plurality of users. In process 1206, fees are assessed from the content provider for hosting the web content. In process 1208, tiered placement of web content is provided based on the adopted fee structure and the identified service subscribers having a likelihood of interest for the web content. In one embodiment, the tiered placements of the web content is to be presented to a user in response to a relevant query by the user and/or an identified set of users having a likelihood of interest in the web content based on the user metadata of the plurality of users

[00209] **FIGURE 13** depicts a flow diagram illustrating a process of providing targeted placement of promotional content based on semantic matching, according to one embodiment.

[00210] In process 1302, a request from a service subscriber to host web content is received. In process 1304, the topical information related to the web content is determined based on the semantic metadata and one or more sets of ontologies. In one embodiment, semantic items and semantic tags based on the semantic metadata of the web content are identified. In addition, relevant subject matter to the web content is identified via Bayesian classification based on the semantic metadata. Similarly, the tag identification methods and processes discussed in correspondence with **FIGURE 8** can be utilized as well. In process 1306, additional web-based objects related to the web are identified. For example, a set of related concepts to the web content through entity detection and ontological

classification based on the semantic data and one or more sets of ontologies. In one embodiment, the web-based objects are identifiable based on the detection of related intellectual content through semantics and/or an identification of related intellectual content through keyword matches.

5 [00211] In process 1308, the identified semantic metadata of the user metadata are compared with the semantic metadata of the web content. In process 1310, target service subscribers are identified based on the semantic metadata of the web content and/or the user metadata of the service subscribers. In process 1312, target service subscribers having the likelihood of interest in the web content are identified based on the metadata of the
10 web content and/or the user metadata of the service subscribers. In process 1314, the web-based objects are provided to one or more service subscribers having a likelihood of interest in the web content.

[00212] Although embodiments have been described with reference to specific example embodiments, it will be evident that the various modification and changes can be
15 made to these embodiments. Accordingly, the specification and drawings are to be regarded in an illustrative sense rather than in a restrictive sense. The foregoing specification provides a description with reference to specific exemplary embodiments. It will be evident that various modifications may be made thereto without departing from the broader spirit and scope as set forth in the following claims. The specification and
20 drawings are, accordingly, to be regarded in an illustrative sense rather than a restrictive sense.

CLAIMS

What is claimed is:

1. A method of tracking web content provided by a plurality of users, comprising:
 - hosting web content in response to receiving a request from a user of the plurality of users;
 - identifying a set of relational attributes of the user associated with the web content;
 - enforcing a set of rules that govern accessibility of the web content, the set of rules to be determined based on the set of relational attributes;
 - tracking access and distribution of the web content by one or more of the plurality of users; and
 - collecting data related to the access and distribution of the web content among the one or more of the plurality of users.
2. The method of claim 1, further comprising identifying a set of preferences of a content provider associated with accessibility of the web content, wherein the content provider is a third-party host of the web content.
3. The method of claim 1, further comprising identifying user metadata of user information of the plurality of users, wherein the set of rules is further determined by one or more of the set of preferences of the content provider and the user metadata.
4. The method of claim 1, further comprising identifying metadata of the web content.
5. The method of claim 4, wherein the metadata of the web content is identifiable via meta-tags provided by the user.

6. The method of claim 5, wherein the metadata of the web content comprises information associated with one or more of a type, property, intellectual content, a set of keywords, a set of tags, and access rights of the web content.
7. The method of claim 6, wherein the metadata of the web content to provide data associated with multimedia composition of the web content, wherein the multimedia composition comprises one or more of textual, graphics, video, interactive, and animation content.
8. The method of claim 1, further comprising making a pre-determined set of inquiries to the user to determine the set of relational attributes.
9. The method of claim 8, further comprising making a set of inquiries to the user to identify the set of relational attributes, wherein the set of inquiries are specifiable by the content provider.
10. The method of claim 1, wherein the web content comprises promotional content, wherein the promotional content comprises one or more of an advertisement, a sales promotion, a notice, a product placement, a publication, a sponsorship, an announcement, a broadcast, a commercial, and an endorsement.
11. The method of claim 2, further comprising assessing fees from the content provider for hosting the web content provided by the content provider.
12. The method of claim 11, further comprising providing tiered service levels based on an adopted fee structure of the content provider.
13. The method of claim 11, further comprising determining a plurality of performance metrics of the promotional content and providing one or more sets of the plurality of the performance metrics to the content provider based on the adopted fee structure.

14. The method of claim 13, further comprising determining quantified performance metrics and the statistical attributes of the quantified performance metrics.
15. The method of claim 13, further comprising identifying one or more relationships between the plurality of performance metrics of the promotional content and the user metadata of the plurality of users.
16. The method of claim 15, further comprising identifying a set of users to whom the promotional content is to be targeted towards, the set of users to be identified based on one or more of the metadata of the web content comprising the promotional content and the user metadata of the plurality of users.
17. The method of claim 16, further comprising providing tiered placements of the web content based on the adopted fee structure of the content provider, wherein the tiered placements of the web content to be presented to a user in response to one or more of a relevant query by the user and an identified set of users having a likelihood of interest in the web content based on the user metadata of the plurality of users.
18. The method of claim 1, wherein one or more of the metadata of the web content and the user metadata of the plurality of users comprise semantic metadata.
19. The method of claim 18, further comprising identifying one or more of semantic items and semantic tags based on the semantic metadata of the web content and determining topical information related to the web content based on the semantic metadata.
20. The method of claim 19, further comprising further identifying relevant subject matter to the web content via Bayesian classification based on the semantic metadata.

21. The method of claim 19, further comprising identifying a set of related concepts to the web content through entity detection and ontological classification based on the semantic data and one or more sets of ontologies.
22. The method of claim 19, further comprising identifying web-based objects related to the web content and providing the web-based objects to one or more users having a reasonable likelihood of interest in the web content.
23. The method of claim 22, wherein the web-based objects are identifiable based on one or more of the detection of related intellectual content through semantics and an identification of related intellectual content through keyword matches.
24. The method of claim 22, further comprising identifying one or more users having the reasonable likelihood of interest in the web content by comparing the identified semantic metadata of the user metadata and the semantic metadata of the web content.
25. The method of claim 18, further comprising providing tiered placements of a plurality of web content based on an identified social distance between one or more of the users that provided the plurality of web content and the user that placed a relevant query, the relevant query to trigger one or more of a semantic match and a keyword match with the plurality of web content.

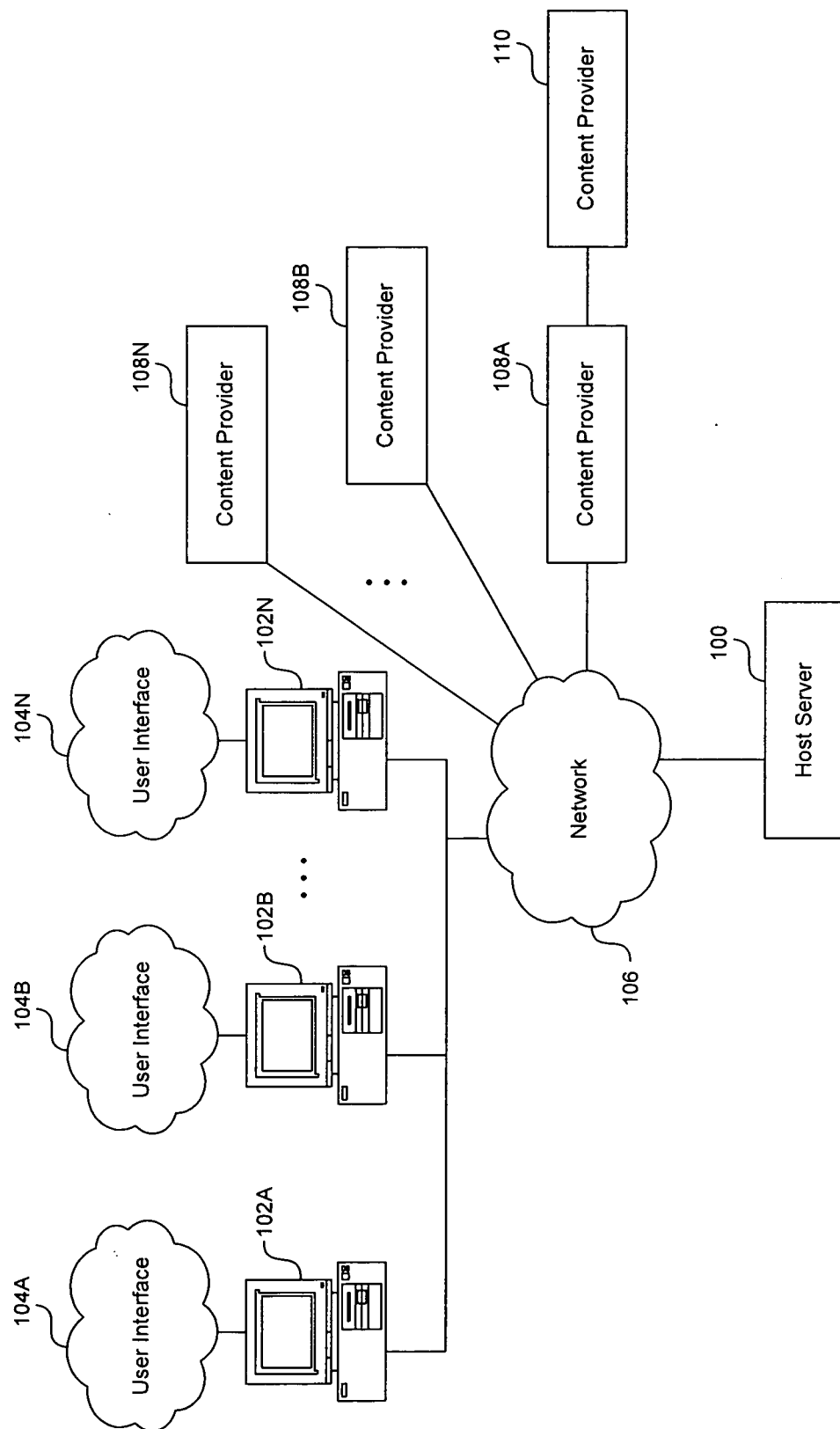


FIGURE 1

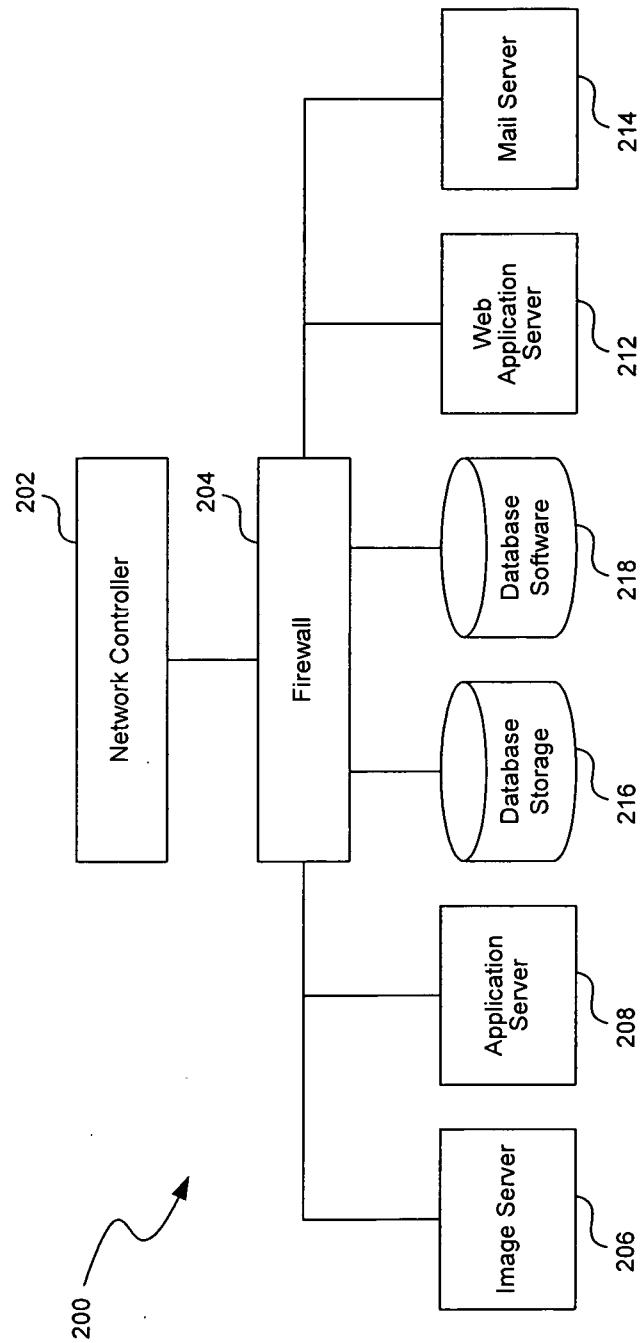
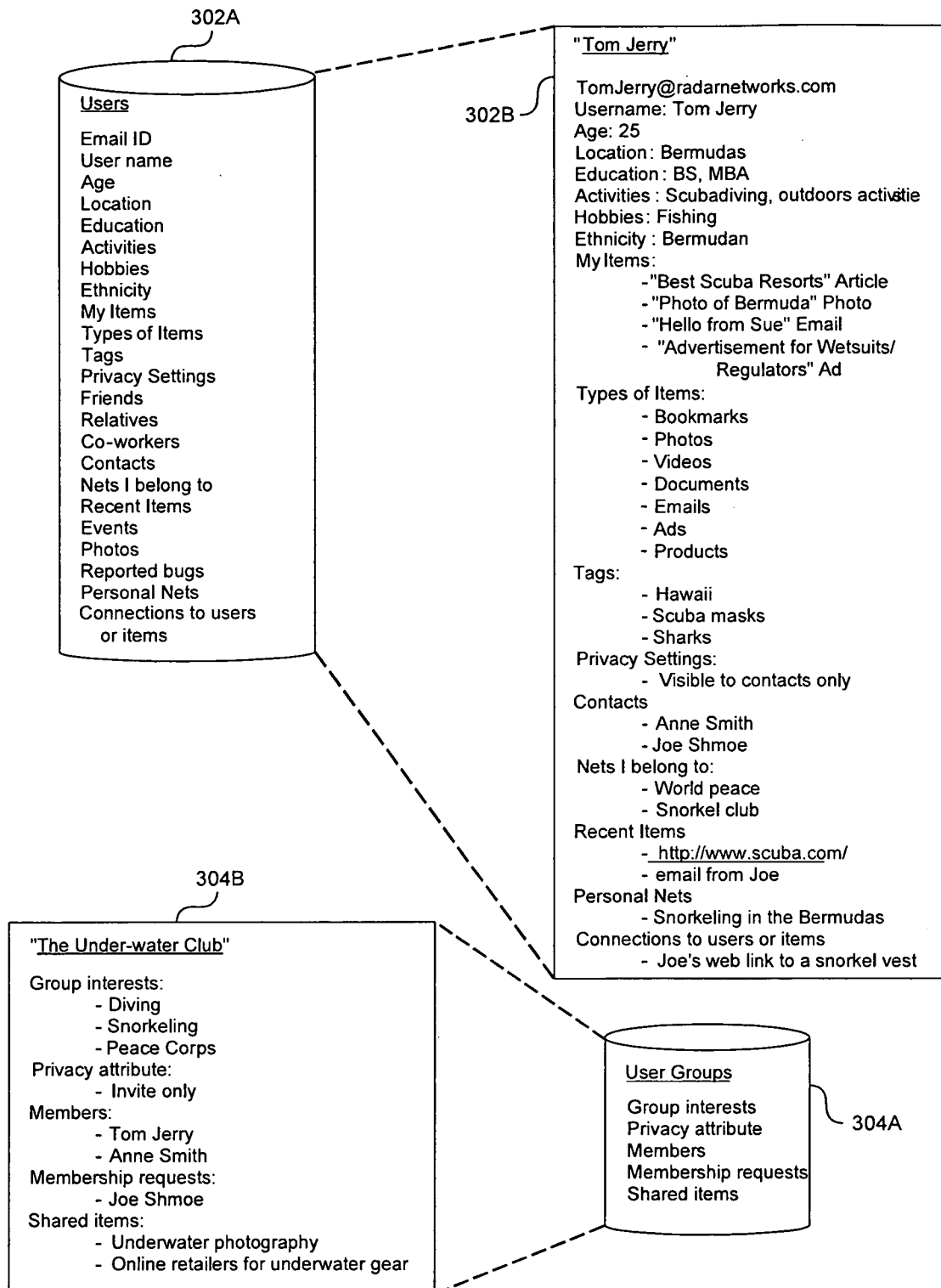
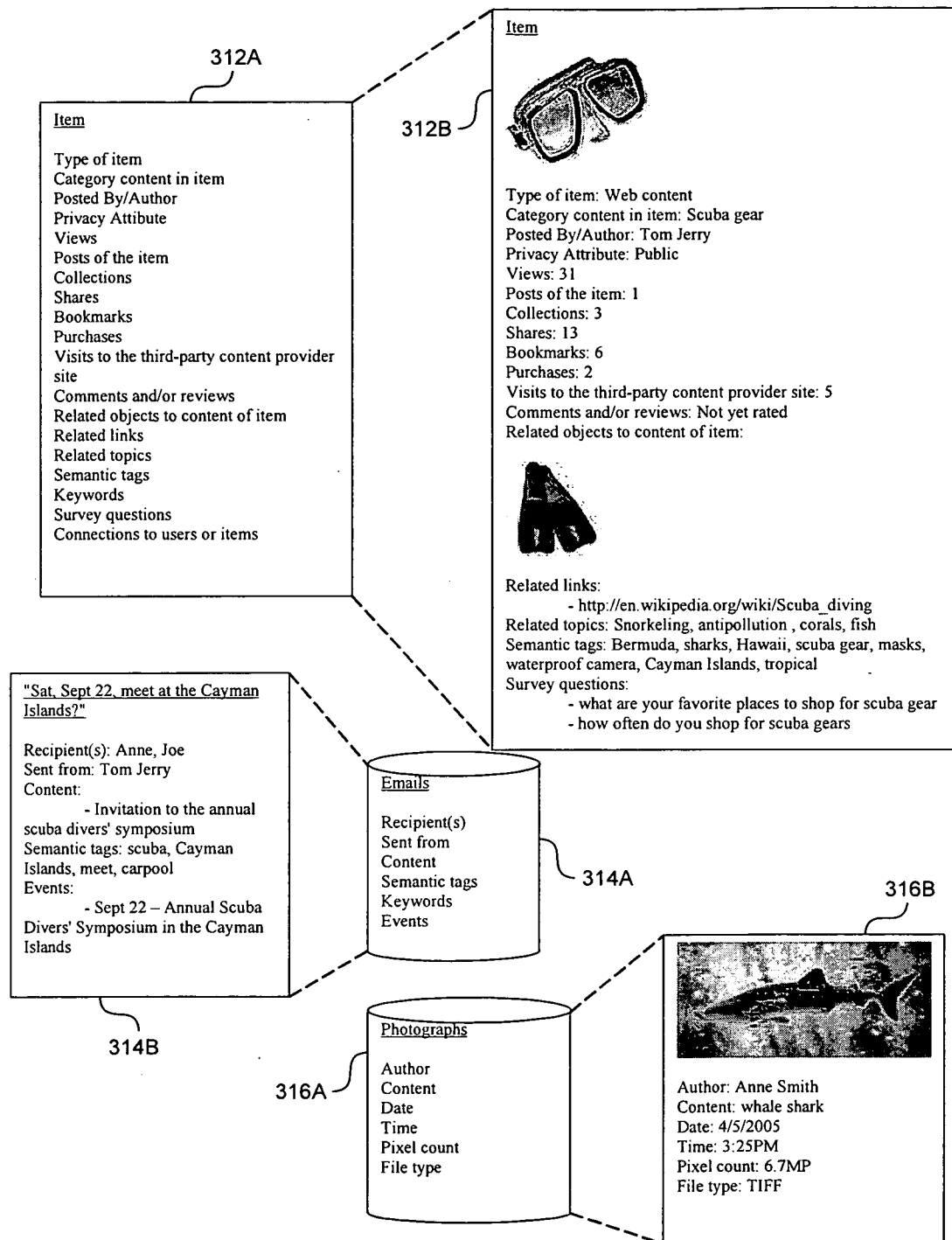
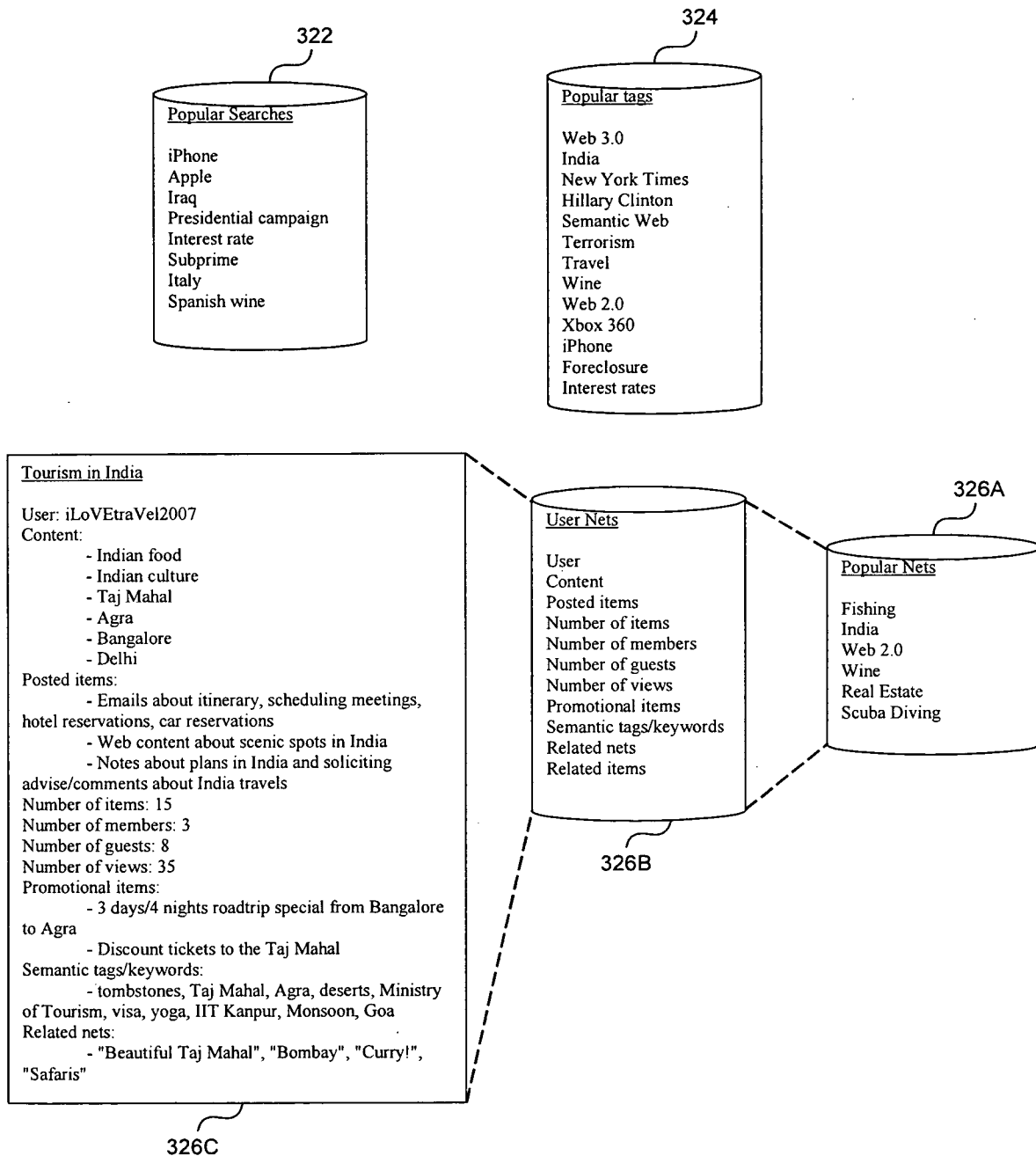
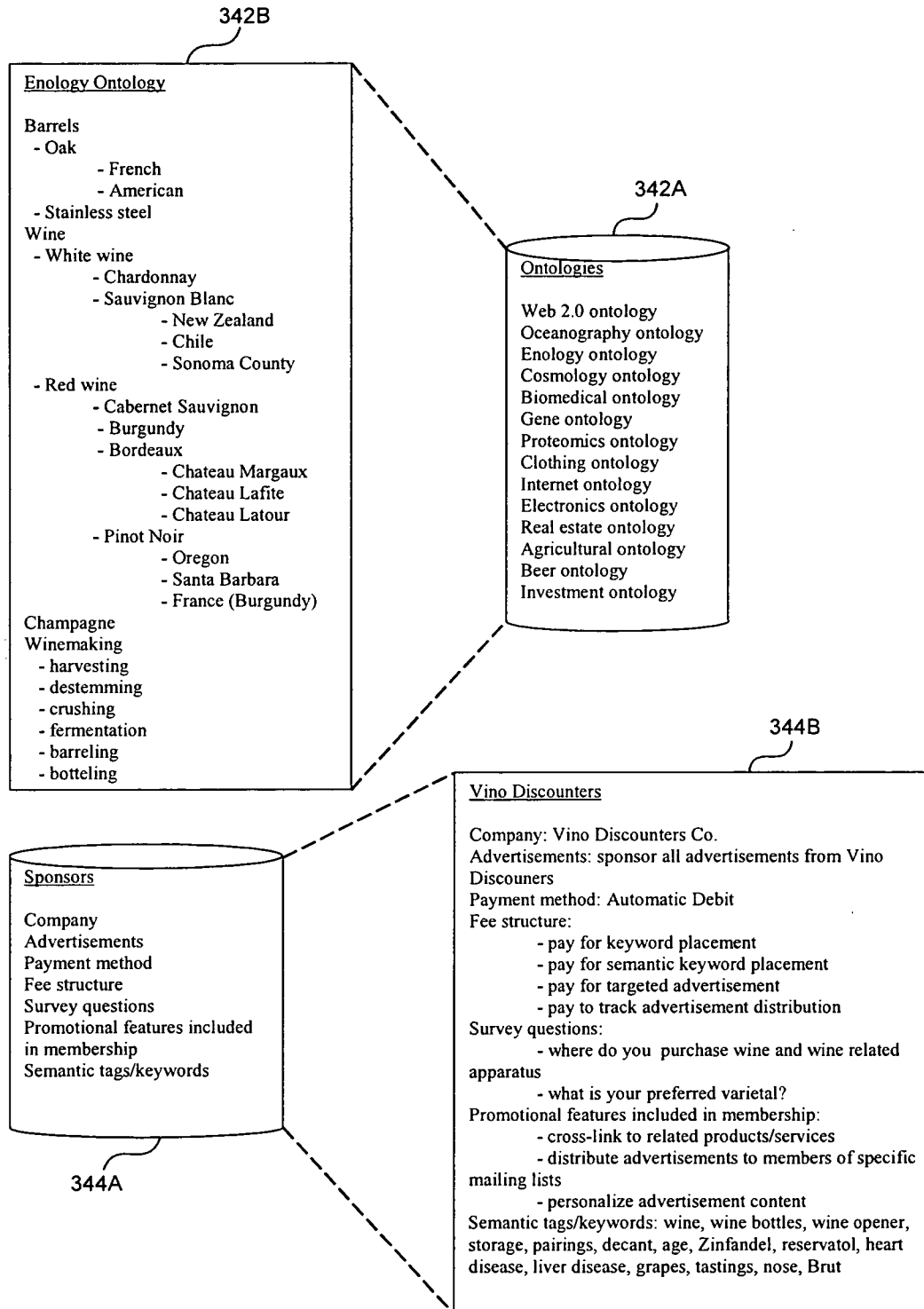


FIGURE 2

**FIGURE 3A**

**FIGURE 3B**

**FIGURE 3C**

**FIGURE 3D**

Sign In

User Name or Email:
TomJerry@radametworks.com

Password:

☐ Remember Me

400

FIGURE 4A

410

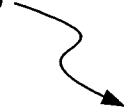
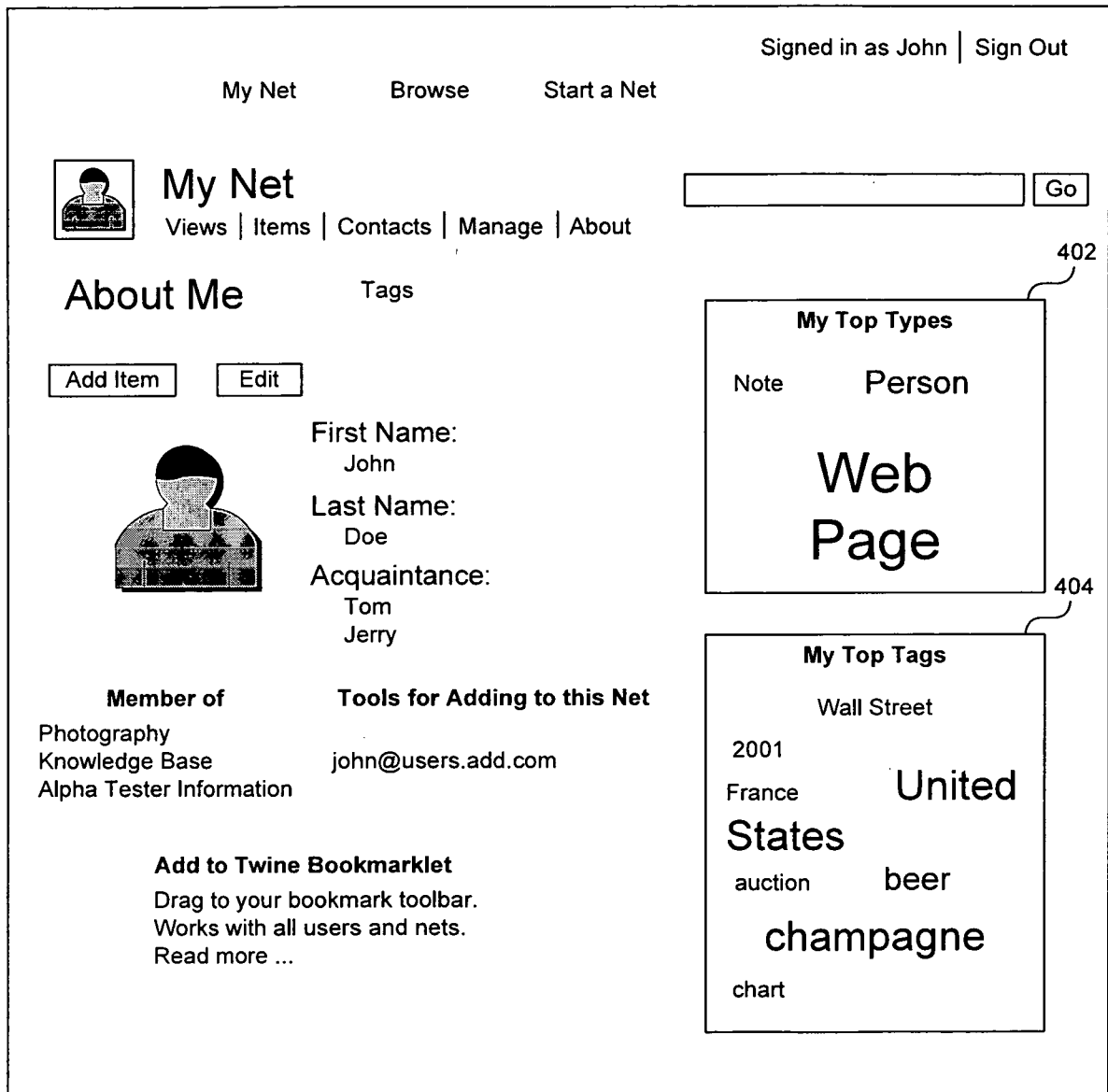



FIGURE 4B

Signed in as John | Sign Out

My NetBrowseStart a Net



My Net
Views | Items | Contacts | Manage | About

My Contacts

Add ContactsTrack

Search

Text

Search

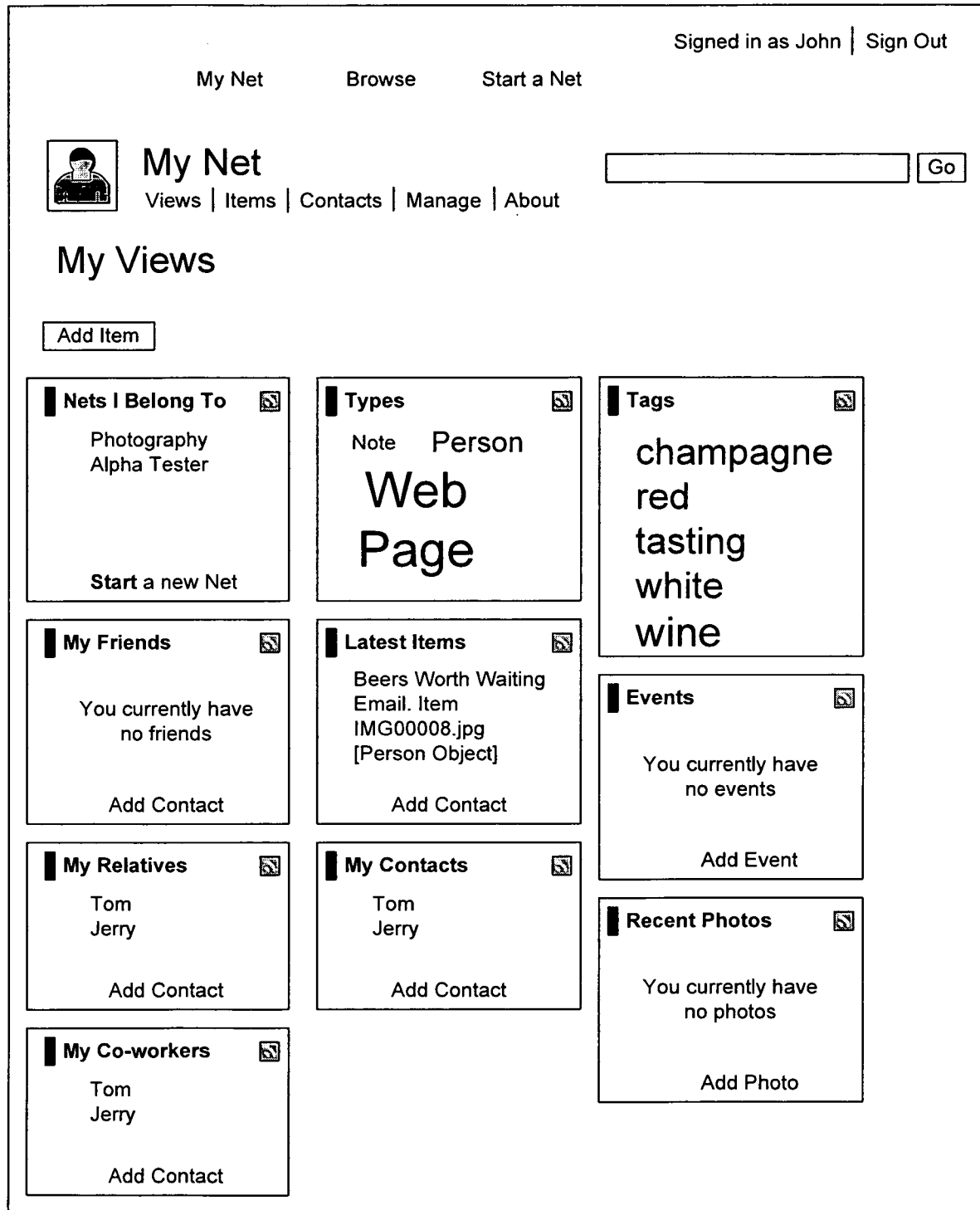
Sep 03, 2007

Tom - Colleague

Anne - Colleague

500

FIGURE 5



600

FIGURE 6A

Signed in as John | Sign Out

My Net Browse Start a Net

 **My Net**
Views | Items | Contacts | Manage | About

Web Page:
VentureBeat
Company to
build solar
thermal
plant, raises
\$40M

Created In
My Net

Tags
By Twine
Solar [x]
Silicon Valley [x]

by Members
Add Tags

612

Address: <http://venturebeat.com/2007/09/09/aims-to-be-biggest-solar-thermal-plant-raises-40m/>



Description:
An ambitious Silicon Valley company
wanting to build a solar thermal electric
power plant double the largest ever built, ...

Add a Comment

610

FIGURE 6B

Signed in as John | Sign Out

My NetBrowseStart a Net



My Net

Views | Items | Contacts | Manage | About

Share this item with another net.

Like this item? Here's your chance to show others what you have found.

Select one or more nets to share with. Attach a message to your share.

Photography
Radar Networks Knowledge Base
Twine Alpha Tester Infomration

More Address: <http://venturebeat.com/2007/09/09/aims-to-be-biggest-solar-thermal-plant-raises-40m/>



Description:
An ambitious Silicon Valley company
wanting to build a solar thermal electric
power plant double the largest ever built, ...

Add a Comment

620

FIG. 6C

12/21

Signed in as John | Sign Out

My Net Browse Start a Net

 **My Net**
Views | Items | Contacts | Manage | About

632

Share this item with a contact.

Like this item? Here's your chance to show others what you have found.

Select one or more contacts to share with. Attach a message to your share.

Tom
Jerry
Anne

More Address: <http://venturebeat.com/2007/09/09/aims-to-be-biggest-solar-thermal-plant-raises-40m/>



Description:
An ambitious Silicon Valley company
wanting to build a solar thermal electric
power plant double the largest ever built, ...

Add a Comment

630

FIG. 6D

Signed in as John | [Sign Out](#)

[My Net](#) [Browse](#) [Start a Net](#)



My Net

[Views](#) | [Items](#) | [Contacts](#) | [Manage](#) | [About](#)

My Items

Add Item
Track

Search

Text

Tags

scuba
fins
mask
New York Times
dining
more ...

Type

702

Sep 02, 2007

Beers Worth Waiting For – The Pour – Dining & Wine – New York Times Blog

Web Page added by **Me** to **My Net** on Sep 02, 2007



Chief wine critic for The Times, discusses the pleasure, culture and business of wine, beer and spirits.



Scuba or Snorkel Fins – TUSA Compact Travel-Exercise-Fitness Open Heel Fins – Swim Fins

Code: **RF-10**

Price: **\$24.99**

Review Rating: ☆☆



Kids Swim Mask – Our Best Kids Dive Mask, Dacor Sport II

Code: **496133KIDS**

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FIGURE 7A

14/21

As part of its preparatory research the team studied the Guggenheim's archives, including photographs taken during construction; written documentation of the building process; correspondence between Wright and the contractor; and original architectural and shop drawings.

The building was then stripped of as many as 11 layers of paint, and experts conducted a 17-month survey of thousands of cracks of varying magnitude in the façade. Using impact-echo technology, in which sound waves are sent into the concrete and the rebound is measured, the engineers located voids within the walls.

To map the geometry of the museum and determine its load-bearing capacity, the engineers relied on laser measuring, a fairly tricky matter given the building's spiral and its sloping walls. "We think it's the largest laser model ever constructed," Mr. Silman said. "It took up the whole memory on the computer."

They also submitted their findings to two peer review panels of experts in architectural restoration, materials conservation, structural engineering as well as an environmental envelope specialist.

"We all believe, when we finish, this building will be better than new," said Marc H. Steglitz, the museum's chief operating officer. "And we'll get another 50 years out of it."

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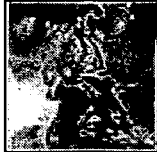


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FIGURE 7B

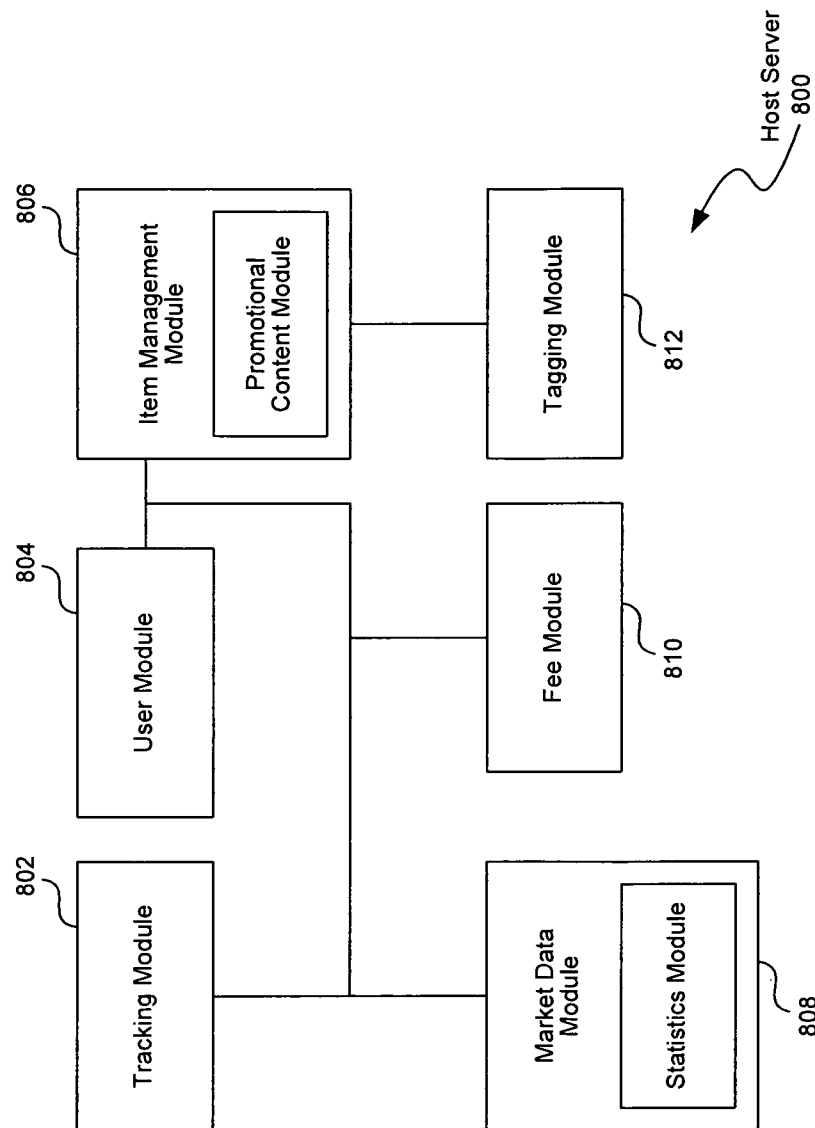
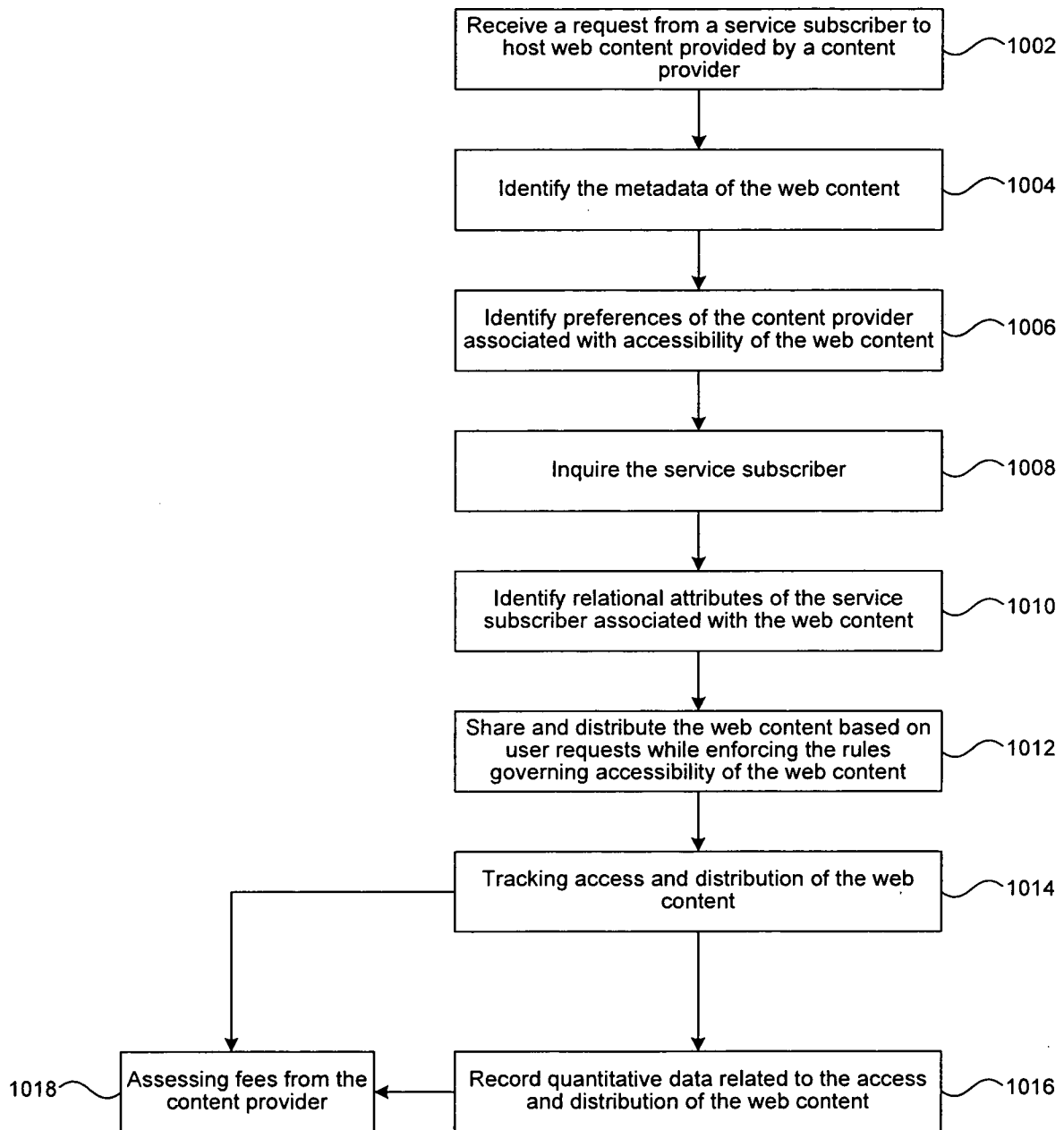


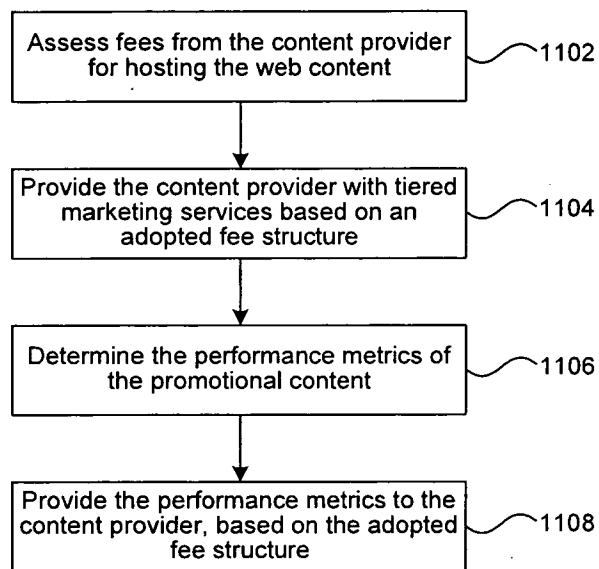
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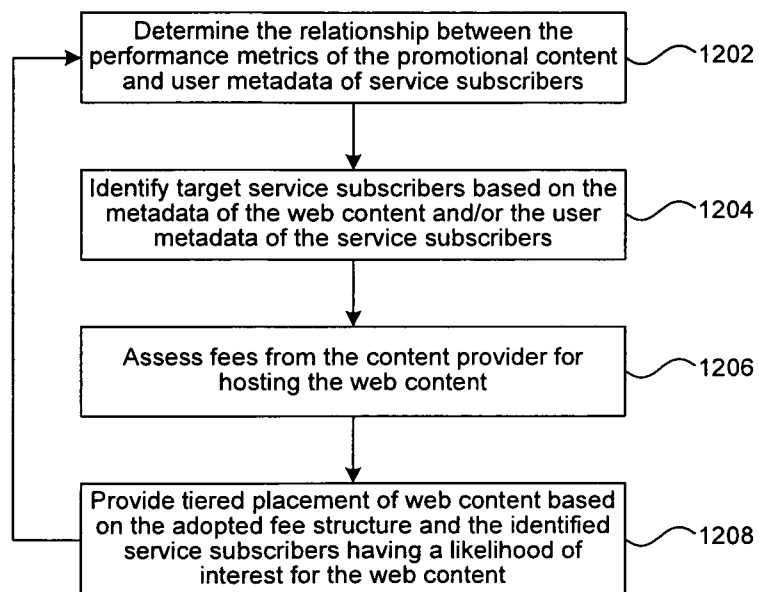
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Placement based on semantic links to subscriber information/data	908
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Customized promotional content based on subscriber information/data	924
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Compensate subscribers for referrals, actions, and/or sales generated	928
Statistical data on collection of promotional content	930
Statistical data on distribution/sharing of promotional content	932
Statistical data on action generated from the promotional content	934
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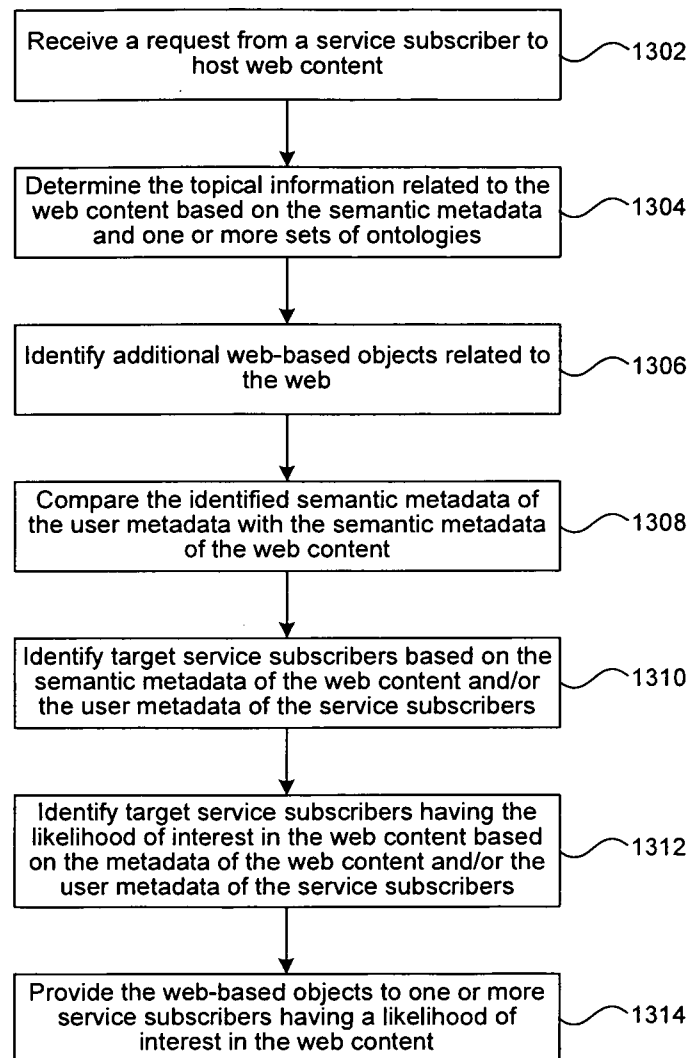
900 

FIGURE 9

**FIGURE 10**

**FIGURE 11**

**FIGURE 12**

**FIGURE 13**