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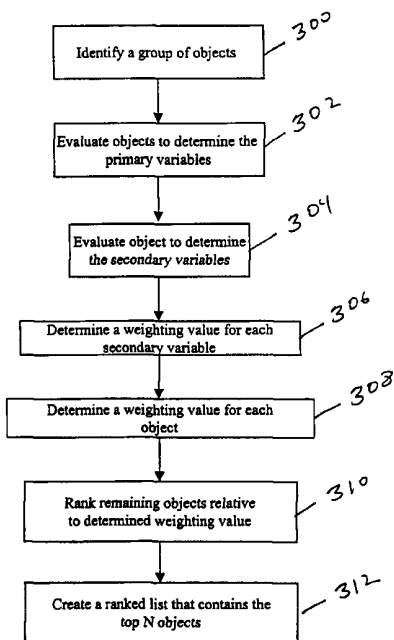
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(54) Title: APPARATUS AND RELATED METHOD OF ORGANIZING INFORMATION



(57) Abstract: The present invention discloses a method, apparatus, and article of manufacture for organizing information. In accordance with a first embodiment of the present invention, a category is received from a computer user. A ranked list of information about the received category is created by using one or more sources that evaluate the received category. The first embodiment of the invention has utility for providing users with relevant documents and for ranking information in a more efficient manner. In accordance with a second embodiment of the present invention, information about network research is received from a computer user. An electronic briefcase is provided, and the electronic briefcase is designed to store the received information. The received information is stored in the provided electronic briefcase. The second embodiment of the invention has utility for storing web resources and for storing documentation about those web resources.

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**APPARATUS AND RELATED METHOD OF  
ORGANIZING INFORMATION**

5           1.       Field of the Invention

This invention relates in general to organizing information, and, in particular to an apparatus and related method of organizing information, using informational sources, such as industry standard sources.

10           2.       Description of Related Art

The prolific use of personal computers, modems, and data connections has stimulated the growth of global computer networks. The Internet is a type of global computer network that offers a vast amount of information to a multitude of diverse computer users. A number of computer industry experts predict that the amount of information available on the Internet will continue to increase rapidly, and that, within the next five years, one sixth of the world's population, or one billion people  
15 will be connected to the Internet.

The Intranet is another type of global computer network. Like the Internet, Intranets are used to share information. The key difference between the Internet and the Intranet is that the Intranet belongs to an organization and it is only accessible by the organization's members.

The World Wide Web (WWW) is the fastest growing part of the Internet. The WWW is a  
20 system of Internet servers that support specifically formatted documents. The WWW documents may contain information such as, data, news, and/or opinions. To access these documents, users typically categorize their desired information by the type of information and the source of the information. The average user, however, is faced with a multitude of alternative sources, and an increasingly shorter time to categorize these options and choose the best sources (e.g., the best web sites). As a result, users may  
25 experience an information overload, which can actually limit the user's ability to retrieve useful information from the Internet.

Search engines, such as Yahoo™, Alta-Vista™, and Excite™ assist users in locating information on the WWW. A search engine is essentially a software program that searches documents for user specified keywords and returns a list of the documents that contain the keywords. Typically,  
30 a search engine works by sending out a web crawler (also referred to as a spider) to fetch as many relevant documents as possible. Another program, called an indexer, then reads these documents and creates an index based on the keywords contained in the documents.

With the increasing amount of information offered by the Internet, many search engines struggle with the task of locating all, or at least a significant percentage, of the relevant documents.  
35 For instance, presently available data reflects that the top search engine returns only about sixteen percent of the relevant documents. Further, such data shows that the fifth most popular search engine returns only about three percent of the relevant documents. However, even if the current search engines

were capable of retrieving all the relevant documents that contain the specified keywords, users could still have trouble reviewing the documents and identifying the most relevant documents. To illustrate, when users request documents containing the keyword "wine," the search engine Alta-Vista may return over 2.5 million documents. Reviewing such a large number of documents can be overwhelming, and  
5 the average person may be incapable of assimilating such a large amount of information.

Another problem with some search engines involves the search engine's inability to rank information. That is, search engines typically do not provide users with a ranked list of the best or most preferable things/items in a particular information category. Many users, who are also consumers, may desire information from industry standard sources about the "best" thing/item.

10 Viewed broadly, the Internet has outgrown many of the top ranked search engines. These search engines generally fail to provide users with the most relevant documents. Consequently, users remain somewhat uninformed about topics that interest them. Thus, there is a definite need for an apparatus and method of organizing retrieved information, providing users with relevant documents, and ranking such retrieved information in a more effective manner.

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#### SUMMARY OF THE INVENTION

To overcome the limitations in the prior art described above, and to overcome other limitations that will become apparent upon reading and understanding the present specification, the present invention discloses a method, apparatus, and article of manufacture for organizing information.

20 In accordance with a first embodiment of the present invention, a category is received from a computer user. A ranked list of information about the received category is created by using one or more sources that evaluate the received category. The first embodiment of the invention has utility for providing users with relevant documents and for ranking information in a more efficient manner.

In accordance with a second embodiment of the present invention, information about network  
25 research is received from a computer user. An electronic briefcase is provided, and the electronic briefcase is designed to store the received information. The received information is stored in the provided electronic briefcase. The second embodiment of the invention has utility for storing web resources and for storing documentation about those web resources.

30

#### BRIEF DESCRIPTION OF THE DRAWINGS

Referring now to the drawings in which like reference numbers represent corresponding parts throughout:

FIG. 1 represents a hardware environment that could be used in accordance with the present invention;

35 FIG. 2 represents a data entry system that could be used in accordance with the present invention;

FIG. 3 is flow chart depicting the steps performed by the ranking system in accordance with the present invention;

FIGs. 4A-4B are block diagrams of sample industry standard sources used in accordance with the present invention;

5 FIG. 5 is a block diagram of sample performance indicators used in accordance with the present invention;

FIG. 6 is a block diagram of sample sub-categories used in accordance with the present invention;

10 FIG. 7 illustrates an individual ranks table and an individual ranks matrix used in accordance with the present invention;

FIG. 8 illustrates an individual ranks table, a placement point table, and a ranked list used in accordance with the present invention; and

FIG. 9 illustrates an electronic briefcase in accordance with the present invention.

## 15 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following description of the preferred embodiment, reference is made to the accompanying drawings which form a part hereof, and which is shown by way of illustration a specific embodiment in which the invention may be practiced. It is to be understood that other embodiments may be utilized as structural changes may be made without departing from the scope of the present  
20 invention.

### Hardware Environment

FIG. 1 is a block diagram that schematically illustrates the hardware environment of the preferred embodiment of the present invention, and more specifically, illustrates a client computer 102  
25 using the Internet 104 to connect to a combination of resources 100. A typical combination of resources 100 (hereinafter referred to as the combination 100) may include: a data entry system 114, one or more data base servers that are collectively referred to as the information store 110, one or more web servers that are collectively referred to as the web server 106, a central user database 112 that contains user specific information and system statistics, a component or transaction server 108, and  
30 an Intranet 116 that connects the resources to each other. The resources are described in the following paragraphs.

A first resource in the combination 100 is the data entry system. The data entry system 114 can be any type of computer, such as a mainframe, minicomputer, personal computer, or computer configuration, such as a timesharing mainframe, local area network, or standalone  
35 personal computer.

FIG. 2 is an exemplary data entry system 114 used to implement preferred embodiments of the invention. The data entry system 114 generally comprises a processor 202, random access memory (RAM) 204, data storage devices 206 (e.g., hard drive, floppy, and/or CD-ROM disc drives, etc.), data communication devices 208 (e.g., modems, network interfaces, etc.), monitor 210 (e.g., CRT, LCD display, etc.), mouse pointing devices 212, and keyboard 214. It is envisioned that, attached to the data entry system 114 may be other devices such as a local area network (LAN) or wide area network (WAN), a video card, bus interface, printers, etc. The data entry system 114 operates under the control of an operating system 216 stored in the memory to present data to the user on the monitor 210 and to accept and process commands from the user via the keyboard 214 and mouse device 212. Those skilled in the art will recognize that any combination of the above components, or any number of different components, peripherals, and other devices, may be used with the data entry system 114.

The present invention is preferably implemented in one or more computer programs or applications (hereinafter referred to as the ranking system), which are depicted as block 118. The ranking system 118 creates a ranked listing of information by using informational sources, such as industry standard sources. The operating system 216 controls the execution of the ranking system 118. Under the control of the operating system 216, the ranking system 118 may be loaded from the data storage device 206, and/or remote devices into the memory 204 of the data entry system 114 for use during actual operations. Generally, the operating system 216 and the ranking system 118 are tangibly embodied in and/or readable from a device, carrier, or media, and/or remote devices coupled to the data entry system 114 via the data communication device 208. Those skilled in the art will recognize that the exemplary hardware environment illustrated in FIG. 2 is not intended to limit the present invention. Indeed those skilled in the art will recognize that other alternative hardware environments may be used without departing from the scope of the present invention.

The ranking system 118 works in conjunction with the data entry software 218 to create a ranked listing of information; namely, the data entry software 218 controls data entry and the ranking system 118 organizes and ranks the entered data. Using the data entry software 218, raw data is directly entered into the information store 110 by a system administrator (or a data entry operator). Raw data can also be imported into the information store 110 from another source or gathered by a data crawler and then stored in the information store 110. The data entry software 218 uses the raw data to create records in the information store 110. These records contain information about managing diagrams, photos, text, and pointers. The pointers are simply memory addresses of other records that are contained within the information store 110. These records also contain information about managing web page formatting.

The data entry software 218 operates under the control of the operating system 216. The data entry software 218 has user interface components and business logic components. These components interact with the information store 110 to enable system administrators to add, edit, delete and manage

records. The user interface component enables system administrators to directly enter data into the information store 110. The system administrator can generate and input the data, import data from another source, and/or manage an automated data retrieval system, such as a web crawler. Once the data is entered, the user interface calls the business logic components and passes the entered data to  
5 the business logic components.

The business logic components may operate under the control of the operating system  
216. Alternatively, the business logic components could operate under the control of a distributed computer's operating system (not shown) or under the control of the component or transaction server 108's operating system (not shown). The business logic components enforce  
10 business rules that take discrete chunks of data (generally entered using the data entry software 218) and process these chunks of data into an appropriate record. Specifically, the business logic adds structure formatting, use and page layout information to the data chunks. The record is then saved to the information store 110. The record is subsequently used by the ranking system 118 to generate a ranked listing of information.

15 A second resource in the combination 100 is the information store 110. The information store 110 is the collective term used to describe the system databases that comprise the system database software components and the display software components. The information store provides data integrity and the fast retrieval of site records. A site record is a record of data that is processed by the web server 106 and the display software components (not shown) to produce a virtual web page in  
20 response to a request by the client computer 102. The site record may contain information generated by the ranking system 118 at the data entry system 114. The site record may also contain information that a system administrator generated and input into the data entry system 114 or that a system administrator retrieved from other sources.

The information store 110 has a data management system. The data management system  
25 (DMS) is a software system that is used to manage data in the individual database servers that comprise the information store 110. In most cases, the DMS will be a relational database management system (RDBMS), but other types of database management systems can be used. The DMS works in conjunction with the system database software components to ensure the reliable storage and the fast retrieval of site records.

30 A third resource in the combination 100 is the web server 106. The web server 106 manages requests for services from the client computer 102. A service may be a request for a web page, email, or any other process that is offered by the web server 106. At any instant, there may be one web server 106 or multiple web servers, which are collectively referred to as a web server farm, handling requests. Specially designed web server software components and display software components are initiated by  
35 the web server to respond to requests from the client computer 102.

In response to a request from the client computer 102, the web server software components operate under the control of the web servers's 106 operating system. The components may be distributed across the Intranet 116 or operated under the control of the component or transaction servers' 108 operating system. These components may initiate site record retrieval, start system processes or other processes. In some cases, such as when the client computer 102 requests a virtual web page, the web server software components retrieve site records from the information store 110 and process the retrieved site records. Processing may involve sorting and indexing the retrieved site records. The web server software components then pass the processed information to the display software components that use this information to construct the virtual page.

10 The display software components seldom directly access the site records. Rather, they access the site records via the web server software components. To illustrate, the display software components take processed data from the web server software components (not shown) and apply additional processing based on existing web page templates and business logic to construct virtual web pages. The additional processing primarily takes the form of web specific formatting of data (HTML, 15 DHTML, XML and/or Java code and others). These virtual web pages are then sent to client computer 102 by the web server 106.

A fourth resource in the combination 100 is the central user database (CUD) 112. The CUD 112 is used to store user specific information, such as a user identification number. The CUD 112 is further used to store security information and as a means of logging user activity. With respect to security, the CUD 112 sets security tokens for each user in the system to regulate site access. A security token is a small package of data that contains an identification code. A user first enters a password and then the token displays an identification code that can be used to gain access to the CUD 112. Those skilled in the art will recognize that other alternative security measures may be used without departing from the scope of the present invention.

25 To provide security for email, classified advertisements, community pages, and other user-based services, the CUD 112 tracks user activity. The CUD 112 additionally provides demographic and user activity information. The user activity information contains data concerning advertising and focus group viability.

The CUD 112 is additionally a key component for many services, such as membership registration, site personalization, user services, and advertising. Concerning membership registration, 30 the CUD 112 provides security and billing information. Additionally, for site personalization, the CUD 112 stores user preference information, and provides a means of linking the user preference information to a user's requests for web pages.

A fifth resource in the combination 100 is the Intranet 116. The web server 106, the component or transaction server 108, the information store 110, the CUD 112, and the data entry system 114 are 35 bidirectionally coupled with each other via the Intranet 118. The Intranet can be constructed from any

reliable LAN (Local Area Network).

In summary, the client computer 102 gains access to the combination 100 by connecting to the web server 106 via the Internet 104. The Internet 104 connects the client computer 102 to the web server 106, and the web server 106 provides the client computer 102 with the ranked lists that were  
5 generated by the ranking system 118. The ranking system 118 generates ranked lists at the data entry system 114. A system administrator then stores the ranked lists in the information store 110. When the client computer 102 requests a ranked list, the web server 106 retrieves the ranked list from the information store 110. Next, the web server 106 returns the ranked list to the client computer 102. Indeed, those skilled in the art will recognize that other alternative combinations may be used without  
10 departing from the scope of the present invention. For instance, the ranking system 118 could reside on the web server 106 or on the component or transaction server 108.

In one embodiment of the present invention, to access the web server 106, the client computer 102 must have a common browser that interfaces with the web server 106. Common browsers include Netscape Navigator™ or Microsoft Internet Explorer™. Those skilled in the art will recognize  
15 that other alternative browsers may be used without departing from the scope of the present invention. The web server 106 uses the software display components to sense the browser type and adjust itself accordingly.

#### Generating a Ranked List of Information

20 The disclosed embodiment of the present invention provides a ranking system 118 for generating ranked lists of information using informational sources, such as industry standard sources. Industry standard sources are sources that are widely considered credible within a given industry. An industry standard source can be a company, a research institution, governmental agency, an individual, a published book or magazine or a web site. Indeed, those  
25 skilled in the art will recognize that other sources that evaluate people, places or things may be used without departing from the scope of the present invention. Some industry standard sources quantitatively or qualitatively rank people, places or things according to a suitable criteria. Other industry standard sources make recommendations about people, places or things according to appropriate guidelines.

30 To this end, the present invention includes three advantageous features. The first feature is directed to searching, retrieving and organizing information retrieved from industry standard sources. The second feature is directed to actually using the retrieved information to generate ranked lists. These ranked lists provide Internet users with the relevant information about a user-selected category. A user-selected category is a broad category of people, places or things. The third feature is directed  
35 to storing web resources in an electronic briefcase.



Information Retrieved from Industry Standard Sources

When searching and retrieving information from industry standard sources, the ranking system 118 can use a web crawler. Alternatively, the ranking system 118 can receive the raw data (e.g., search results) from a system administrator. The ranking system 118 organizes the retrieved information by identifying primary variables (PV) and secondary variables (SV). Prior to discussing using the retrieved information to generate ranked lists, an advantageous technique for generating PVs and SVs will be discussed. Indeed, those skilled in the art will recognize that other techniques can be used to generate PVs and SVs without departing from the scope of the present invention.

The PVs and SVs relate to the manner in which each industry standard source evaluates a user-selected category. More specifically, a PV is a variable that all of the industry standard sources use to evaluate a category. Alternatively, a PV could be a variable that a selected percentage of industry standard sources use to evaluate a category. PVs typically reflect and track the public's interest. To illustrate, for the user-selected category travel destinations, industry standard sources may uniformly evaluate lodging options because they have determined that most people are interested in lodging options.

Like PVs, SVs are used to evaluate the user-selected category. The difference between PVs and SVs is that PVs appear in all of the industry standard sources and SVs appear in a smaller number of industry standard sources. Therefore, the number of times that a SV appears in a group of industry standard sources is always less than the number of times that a PV appears in the same group of industry standard sources. By way of example, the user-selected category travel destinations, the typical SV may be nightlife because the industry standard sources have determined that only some people are interested in nightlife.

The ranking system 118 generates PVs by identifying a group of industry standard sources. For each industry standard source, the ranking system 118 then identifies the variables used to evaluate a user-selected category, and assigns a weighting value to each variable. The weighting values for the variables are related to the number of times in which each variable appears in the group of industry standard sources. For each variable, the ranking system 118 gives one point to the variable when the variable appears in one of the industry standard sources. The one point represents that the variable occurred one time within the group of industry standard sources. The ranking system 118 then sums the points. For instance, suppose the group of industry standard sources contains 50 industry standard sources. If the summed points equals 50, then the variable acceleration appears in all 50 industry standard sources, and the variable acceleration is the PV. The remaining variables-- with summed points less than 50 -- are the SVs. For example, if torque is a variable that appears in 49 industry standard sources for automobiles, the weighting value for torque would be 49. Hence, torque is a SV with a weighting value of 49 and acceleration is a PV with a weighting value of 50. It is noted that, since all the sources contain the PV, the PV weighting value can be reset to 0, and the sources can be

organized relative to the SVs. Those skilled in the art will recognize that alternative techniques for determining a weighting value of the PV and SV, such as statistical techniques, can be used with exceeding the scope of the present invention.

The ranking system 118 generates PVs and SVs for industry standard sources, sub-categories, and performance indicators. Exemplary user-selected categories for automobiles are: sports car, luxury car, sport utility vehicle, and mini van. A performance indicator provides information about a particular type of performance. For an automobile, exemplary performance indicators are acceleration, cost, torque, safety, and braking. Performance indicators are also variables used to evaluate a user-selected category.

FIG. 3 is a flowchart that illustrates the steps performed by the ranking system 118 (shown in FIG. 1) to generate PVs and SVs. The ranking system 118 first identifies a group of objects, such as industry standard sources, sub-categories or performance indicators, as represented by block 300.

Next, the ranking system 118 evaluates the objects to determine the PVs, as represented by block 302. Evaluating the objects involves identifying each variable that an object uses to evaluate a user-selected category. For the category automobile, such variables may include acceleration, torque, and braking. The ranking system sums the number of times in which each variable (e.g., acceleration, torque, and braking) appears in the group of identified objects (e.g., Car and Driver, Edmund's Automobile Buyers Guide, etc.). The total sum is the weighting value of the variable. The variable that appears in all of the objects has the largest weighting value, and is the PV. Once the PV is identified, its weighting value is re-set to 0 to simplify the subsequent SV calculations.

More than one PV variable may appear in all of the objects. Alternatively, when no variables appear in all of the objects, then no PVs exist.

Once the ranking system 118 has determined whether any PVs exist, then the SVs are evaluated as represented by block 304. Block 306 represents the ranking system 118 assigning a weighting value to each SV. The weighting value for the SV is related to the number of times in which the SV appears in the group of identified objects. For each SV, the ranking system 118 gives one point to the SV when the SV appears in one of the identified objects. The one point represents that the SV occurred one time within the group of identified objects. The ranking system 118 then sums the number of times in which each SV (e.g., acceleration, torque, and braking) occurs in the group of identified objects (e.g., Car and Driver, Edmund's Automobile Buyers Guide). For instance, if torque is a SV that appears in 30 objects, then the weight of torque would be 30.

Block 308 represents the ranking system 118 assigning a weighting value to each object. To determine the weighting value for each object, the ranking system sums the weighting value of each SV contained in the object. For example, suppose that Car and Driver contains the following SVs with the associated weighting values: acceleration, with a weighting value of 4; torque with a weighting value of 10; and safety with a weighting value of 2. The sum of the weighting values is 16. Hence, Car

and Driver has a weighting value of 16. The ranking system 118 then ranks the objects relative to the weighting value of each object, as represented in block 310. The ranking system then creates a ranked list that contains the top N objects, where N represents a number of selected rankings, as represented by block 312.

5 FIGs. 4 through 6 illustrate examples of PVs and SVs that were produced by performing the steps illustrated by the flow chart (see FIG. 3). In particular, FIGs. 4A, 4B, and 5 represent applying the steps performed by the ranking system 118 to an industry standard source and FIG.6 represents applying the steps performed by the ranking system 118 to a sub-category.

In Fig. 4A, the identified objects are SOURCE A 400, SOURCE B 402, SOURCE C 404, and  
10 SOURCE D 406 (see blocks 300, FIG. 3). The PV and SV calculation table 408 displays the number of times in which each variable appears in the group of identified source (see blocks 302, FIG. 3) Specifically, the PV and SV calculation table 408 has two columns. PV-Column one 410 represents the variables. PV-column two 412 represents the number of times in which each variable occurs in the group of identified sources. The PV and SV calculation table 408 shows that the variable cost occurs  
15 in all of the sources. Therefore, the variable cost is the PV. The remaining variables do not occur in all of the sources. Therefore, the remaining variables are SVs.

The SVs are shown in the Source weight table 416. The Source weight table 416 displays the weighting value of each variable (see blocks 306, shown in FIG. 3). In particular, the Source weight table 416 has four columns: SV-column one 418 contains the SVs and the remaining SV-columns  
20 420, 422, 424, and 426, contain the weighting value of each SV. For example, the variable torque is a SV. Torque only occurs in SOURCE A 400. Therefore, torque has a weighting value of 1, as shown in SV-column 420.

The total row 428 contains the weighting value of each source (see block 310, Fig. 3). Source A has a weighting value of 4, Source B has a weighting value of 8, and both Source C and Source D  
25 have a weighting value of 6. The sources are ranked relative to the weighting values, as represented by the ranked list 430 (see block 312, Fig. 3).

The variables (or performance indicators) can also be ranked. In FIG. 4B, a ranking of the variables relative to the weight of the SVs is generated by using the PV and SV calculation table 408. In particular, the PV and SV calculation table 408 shows that the variable cost occurs in all of the  
30 sources. Therefore, the variable cost is the PV. The remaining variables are SVs because they do not occur in all the sources. The weighting values of the SVs are proportional to the number of times in which the SVs appears in the sources. the PV and SV calculation table 408 shows that the variable safety occurs in three sources, therefore it has a weighting value of three. The ranked list 432 ranks the SVs relative to their weighting values.

35 In FIG. 5, no variable occurs in all of the industry standard sources. Therefore, no PVs exist and all of the variables are SVs. The SVs are shown in the SV table 508. The SV table 508 displays

the weighting value of each variable (see blocks 306, shown in FIG. 3). For example, the variable acceleration is a SV. Acceleration occurs in SOURCE A 500, SOURCE B 502, and SOURCE C 504. Therefore, acceleration has a weighting value of 3, as shown in SV table 508.

The total row 510 contains the weighting value of each source (see block 310, Fig. 3). Source A has a weighting value of 7, Source B has a weighting value of 5, and Source C has a weighting value of 3 and Source D have a weighting value of 1. The sources are ranked relative to the weighting values, as represented by the ranked list 512 (see block 312, Fig. 3).

In FIG. 6, the identified objects are the following sub-categories: Sports Car 600, Sport Utility Vehicle 602, Luxury Car 604, and Truck 606 (see blocks 300 - 302, FIG. 3). Sports Car 600 contains the sources, Source A, Source B, and Source C. Sport Utility Vehicle 602 contains the sources, Source A and Source B. Luxury Car 604 contains the Source A and Truck contains Source C.

In FIG. 6, no source evaluates all of the sub-categories. Therefore, no PVs exist and all of the sources are SVs. The SVs are shown in the SV table 608. The SV table 608 displays the weighting value of each source (see blocks 306, shown in FIG. 3). For example, source A is a SV. Source A evaluates the sports car 600, the sport utility vehicle 602, the luxury car 604, and the truck 606. Therefore, Source A has a weighting value of 3, as shown in SV table 608.

The total row 610 contains the weighting value of each sub-category (see block 310, Fig. 3). The sports car has a weighting value of 7, both the sport utility vehicle and the luxury car have a weighting value of 5, and the truck has a weighting value of 2. The sub-categories are ranked relative to the weighting values, as represented by the ranked list 612. (see block 312, Fig. 3).

The ranked list for sources, sub-categories, and performance indicators provide organized partitions of the retrieved information. The ranking system 118 uses these organized partitions to generate a "Top N" ranked lists, where N represents a selected number of objects.

## 25 Ranking the Retrieved Information

When industry standard sources used ranked lists to evaluate items, the ranking system 118 combines multiple industry standard lists into single lists. The multiple lists could have any number of rank placements and one list could contain a larger number of rank placements than another list. Alternatively, when industry standard sources use recommendations to evaluate items, the ranking system 118 first converts the recommendations into ranked lists, without altering the substance of the recommendation. For example, suppose a recommendation contains a natural language description that compares item A and item B. Suppose further that the recommendation states that item A performs better than item B. In this scenario, the ranking system 118 will create a ranked listing with item A ranked higher than item B.

35 To illustrate the ranking system 118 combining multiple lists, suppose that three sources evaluate automobiles, as shown in Table 1. Specifically, Source A ranks the Porsche Boxster in first

place, while Source B and Source C rank the Porsche Boxster in third and second place, respectively.

TABLE 1

5

ACCELERATION

<u>Source A</u>	<u>Source B</u>	<u>Source C</u>
1. Porsche Boxster	1. Corvette	1. Corvette
2. Dodge Stealth	2. Mercedes 500 SL	2. Porsche Boxster
10 3. Mercedes 500 SL	3. Porsche Boxster	3. Lexus
4. Corvette	4. Ferrari	4. Miata

The ranking system 118 uses a weighted point system to combine these three lists shown in Table 1 into a single list, with a uniform ranking for the Porsche Boxster and a uniform ranking for the remaining items (e.g., Corvette, Lexus, etc.). First the ranking system 118 assigns rank placement points to each rank in the industry standard lists. The placement points are assigned using the greatest point value for first place and decreasing the value by one increment as the rank decreases. For example, if there are six ranks that range from first place to sixth place: first place has a placement point of six; second place has a placement point of five; third place has a placement point of four; fourth place has a placement point of three; fifth place has a placement point of two; and sixth place has a placement point one. Representative ranks and their associated rank placement points are shown below in Table 2.

TABLE 2

<u>Rank</u>	<u>Rank Placement Points</u>
25 1 <sup>st</sup>	6
2 <sup>nd</sup>	5
3 <sup>rd</sup>	4
4 <sup>th</sup>	3
5 <sup>th</sup>	2
30 6 <sup>th</sup>	1

Next, the ranking system 118 creates a rank matrix for automobile acceleration by using the rank placement points shown in Table 2. FIG. 7 shows an individual ranks table 700 and an individual ranks matrix 702. The individual ranks table 700 displays the rank of each sub-category (e.g., Porsche Boxster, Mercedes 500 SL, etc.) contained in each source (e.g., Source A, Source B, etc.). For Source B 706 and Source C 708, the Corvette is in first place. However, for Source A, the Corvette is in fourth place.

The ranking system 118 creates the individual ranks matrix 702 using the individual ranks table 700 and the placement points shown in Table 2. Each column in the individual ranks matrix 702 represents a different item and each row in the individual ranks matrix 702 represents the rank placement, such as first place and second place. The inside 710 of the individual ranks matrix 702 contains values that represent the number of times in which each item has a particular rank placement. For example, the number 2 (located in the first row under Corvette) represents that the Corvette was ranked in first place twice. The number 1 (located in the sixth row under Miata) represents that Miata was ranked in sixth place once.

The ranking system 118 generates a ranked list by multiplying the rank matrix 700 by the placement points shown in Table 2. FIG. 8 shows the rank matrix 700, a placement point table 800, and a result row 802. The ranking system 118 uses the result row 802 to generate ranked lists 804. The results are as follows: the Porsche Boxster has a result of 15; the Dodge Stealth has a result of 10; Mercedes 500 SL has a result of 9; the Corvette has a result of 15; the Lexus has a result of 6; and the Miata has a result of 3. Consequently, the ranked list 804 ranks both the Corvette and the Porsche Boxster in first place.

This ranking system 118 creates an accurate and non-biased ranked list 804 because it takes into account the fact that the items (e.g., Corvette, Mercedes, etc.) may appear on multiple lists. If an item appears on multiple lists, then the industry standard consensus is that the particular item is the best. Hence, the items appearing on multiple lists accumulate more points. Accordingly, the ranked list 804, may be referred to as a "Top 10" list or a "Top N" list, where N represents the number of selected items.

#### Electronic briefcase

An electronic briefcase can be used in conjunction with the ranking system 118. The electronic briefcase stores web resources (e.g., files, links, URLs, e-mails, etc) and documentation about those web resources. Additionally, the electronic briefcase can store e-commerce information, such as names, addresses, credit card numbers, etc. The documentation may include information about the reasons for visiting a particular web site. The electronic briefcase can be stored on a local hard drive and/or it can be e-mailed.

FIG. 9 shows a block diagram of an electronic briefcase 900. It has a date column 902 for storing a date, a URL column 904 for storing a global address of a particular web site, and a notes

column 904. The notes column provides a space for a user to enter notes about a particular web site.

The notes may include a user's reason for visiting a particular web site.

The electronic briefcase will also store information about planned network searching.

Although the invention has been described in detail with reference only to the presently  
5 preferred method, apparatus, and article of manufacture, those of ordinary skill in the art will appreciate  
that various modifications can be made without departing from the invention. Accordingly, the  
invention is defined only by the following claims.

CLAIMS

1. A method of organizing information, said method comprising:  
receiving a category from a user; and  
creating a ranked list of information about the received category using one or more sources that evaluate the received category.
2. The method of claim 1, wherein creating a ranked list further comprises:  
identifying the sources that evaluate the received category;  
determining the manner in which each identified source organizes and evaluates information about the received category; and  
ranking the information about the received category based on the determination.
3. The method of claim 2, wherein each identified source has one or more secondary variables, wherein each secondary variable relates to the manner in which the information about the received category is organized and evaluated, and wherein determining the manner further comprises:  
retrieving each secondary variable from each identified source;  
for each secondary variable, assigning a second weighting value; and  
summing all of the second weighting values.
4. The method of claim 3, wherein creating a ranked list further comprises ranking the requested information relative to the summed second weighting value.
5. The method of claim 2, wherein each identified source has one or more primary variables and one or more secondary variables, wherein each primary variable and each secondary variable relates to the manner in which the information about the received category is organized and evaluated, and wherein determining the manner further comprises:  
retrieving each primary variable and each secondary variable from each identified source;  
for each primary variable, assigning a first weighting value;  
summing all of the first weighting values;  
for each secondary variable, assigning a second weighting value; and  
summing all of the second weighting values.



6. The method of claim 5, wherein creating a ranked list further comprises ranking the requested information relative to the summed first weighting value and the summed second weighting value.

7. The method of claim 2, wherein each of the sources contains an industry standard ranked list, and wherein creating a ranked list further comprises:

combining at least two of the industry standard ranked lists into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the second ranking of the item.

8. The method of claim 7, wherein the single ranked list contains an ordering of the items and the ordering is based on whether the items appear on at least two of the industry standard ranked lists.

9. The method of claim 2, wherein each of the sources contains a recommendation, and wherein creating a ranked list further comprises:

for each source, converting the recommendation into an industry standard ranked list; and  
combining at least two of the industry standard ranked lists into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the second ranking of the item.

10. A method of organizing information, the method comprising the steps of:  
receiving information about research from a computer user;  
providing an electronic briefcase, wherein the electronic briefcase is designed to store the received information; and  
storing the received information in the provided electronic briefcase.

11. The method of claim 10, wherein the electronic briefcase comprises a section for storing a date of an research, a section for storing a global address of a web site, and a section for storing documentation about the research.

12. An apparatus for organizing information, comprising:  
a computer; and

one or more computer programs, performed by the computer, for receiving a category from a user, and creating a ranked list of information about the received category using one or more sources that evaluate the received category.

13. The apparatus of claim 12, wherein the one or more computer programs for creating a ranked list further comprise one or more computer programs, performed by the computer, for identifying the sources that evaluate the received category, determining the manner in which each identified source organizes and evaluates information about the received category, and ranking the information about the received category based on the determination.

14. The apparatus of claim 13, wherein each identified source has one or more secondary variables, wherein each secondary variable relates to the manner in which the information about the received category is organized, and wherein the one or more computer programs for determining the manner further comprises:

one or more computer programs, performed by the computer, for retrieving each secondary variable from each identified source, for each secondary variable, assigning a second weighting value, and summing all of the second weighting values.

15. The apparatus of claim 14, wherein one or more computer programs for creating a ranked list further comprise one or more computer programs, performed by the computer, for ranking the requested information relative to the summed second weighting value.

16. The apparatus of claim 13, wherein each identified source has one or more primary variables and one or more secondary variables, wherein each primary variable and each secondary variable relates to the manner in which the information about the received category is organized, and wherein the one or more computer programs for determining further comprise:

one or more computer programs, performed by the computer, for retrieving each primary variable and each secondary variable from each identified source, for each primary variable, assigning a first weighting value, summing all of the first weighting value, for each secondary variable, assigning a second weighting value, and summing all of the second weighting values.

17. The apparatus of claim 16, wherein the one or more computer programs for creating a ranked list further comprises one or more computer programs, performed by the computer, for ranking the requested information relative to the summed first weighting value and the summed second weighting value.

18. The apparatus of claim 13, wherein each of the sources contain an industry standard ranked list, and wherein the one or more computer programs for creating a ranked list further comprise one or more computer programs, performed by the computer, for combining at least two of the industry standard ranked list into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the second ranking of the item.

19. The apparatus of claim 18, wherein the single ranked list contains an ordering of the items and the ordering is based on whether the items appear on at least two of the industry standard ranked lists.

20. The apparatus of claim 13, wherein each of the sources contain a recommendation, and wherein the one or more computer programs for creating a ranked list further comprise:

one or more computer programs, performed by the computer, for converting the recommendation into an industry standard ranked list, and combining at least two of the industry standard ranked list into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the second ranking of the item.

21. An apparatus for organizing information, comprising:

a computer; and

one or more computer programs, performed by the computer, for receiving information about network research from a computer user, providing an electronic briefcase, wherein the electronic briefcase is designed to store the received information, and storing the received information in the provided electronic briefcase.

22. The apparatus of claim 21, wherein the electronic briefcase comprises a section for storing a date of the network research, a section for storing a global address of a web site,

and a section for storing documentation about the network research.

23. An article of manufacture comprising a computer program carrier readable by a computer and embodying one or more instructions executable by the computer to perform the method steps of organizing information, said method comprising:

- receiving a category from a user; and
- 5 creating a ranked list of information about the received category using one or more sources that evaluate the received category.

24. The article of manufacture of claim 23, wherein creating a ranked list comprises: identifying the sources that evaluate the received category; determining the manner in which each identified source organizes and evaluates information about the received category; and

ranking the information about the received category based on the determination.

25. The article of manufacture of claim 24, wherein each identified source has one or more secondary variables, wherein each secondary variable relates to the manner in which the information about the received category is organized and evaluated, and wherein determining the manner further comprises:

- retrieving each secondary variable from each identified source;
- for each secondary variable, assigning a second weighting value; and
- summing all of the second weighting values.

26. The article of manufacture of claim 25, wherein creating a ranked list further comprises ranking the requested information relative to the summed second weighting value.

27. The article of manufacture of claim 24, wherein each identified source has one or more primary variables and one or more secondary variables, wherein each primary variable and each secondary variable relates to the manner in which the information about the received category is organized and evaluated, and wherein determining the manner further comprises:

- retrieving each primary variable and each secondary variable from each identified source;
- for each primary variable, assigning a first weighting value;
- summing all of the first weighting values;

for each secondary variable, assigning a second weighting value; and summing all of the second weighting values.

28. The article of manufacture of claim 27, wherein creating a ranked list further comprises ranking the requested information relative to the summed first weighting value and the summed second weighting value.

29. The article of manufacture of claim 24, wherein each of the sources contains an industry standard ranked list, and wherein creating a ranked list further comprises:

combining at least two of the industry standard ranked lists into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the second ranking of the item.

30. The article of manufacture of claim 29, wherein the single ranked list contains an ordering of the items and the ordering is based on whether the items appear on at least two of the industry standard ranked lists.

31. The article of manufacture of claim 29, wherein each of the sources contains a recommendation, and wherein creating a ranked list further comprises:

for each source, converting the recommendation into an industry standard ranked list; and combining at least two of the industry standard ranked lists into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the second ranking of the item.

32. An article of manufacture for organizing information, comprising a computer program carrier readable by a computer and embodying one or more instructions executable by the computer to perform the method steps of organizing information, said method comprising the steps of:

receiving information about network research from a computer user;  
providing an electronic briefcase, wherein the electronic briefcase is designed to store the received information; and  
storing the received information in the provided electronic briefcase.

33. The article of manufacture of claim 32, wherein the electronic briefcase comprises a section for storing a date of the network research, a section for storing a global address of a web site, and a section for storing documentation about the network research.

34. An apparatus for organizing information, comprising:  
a computer; and  
one or more computer programs, performed by the computer, the one or more computer programs being configured for receiving a category from a user, and creating a ranked list of  
5 information about the received category using one or more sources that evaluate the received category.

35. The apparatus of claim 34, wherein the one or more computer programs for creating a ranked list further comprise one or more computer programs, performed by the computer, the one or more computer programs being configured for identifying the sources that evaluate the received category, determining the manner in which each identified source organizes and evaluates information about the received category, and ranking the information about the received category based on the determination.

36. The apparatus of claim 35, wherein each identified source has one or more secondary variables, wherein each secondary variable relates to the manner in which the information about the received category is organized, and wherein the one or more computer programs for determining the manner further comprises:

one or more computer programs, performed by the computer, the one or more computer programs being configured for retrieving each secondary variable from each identified source, for each secondary variable, assigning a second weighting value, and summing all of the second weighting values.

37. The apparatus of claim 36, wherein one or more computer programs for creating a ranked list further comprise one or more computer programs, performed by the computer, the one or more computer programs being configured for ranking the requested information relative to the summed second weighting value.

38. The apparatus of claim 35, wherein each identified source has one or more primary

variables and one or more secondary variables, wherein each primary variable and each secondary variable relates to the manner in which the information about the received category is organized, and wherein the one or more computer programs for determining further comprise:

one or more computer programs, performed by the computer, the one or more computer programs being configured for retrieving each primary variable and each secondary variable from each identified source, for each primary variable, assigning a first weighting value, summing all of the first weighting value, for each secondary variable, assigning a second weighting value, and summing all of the second weighting values.

39. The apparatus of claim 38, wherein the one or more computer programs for creating a ranked list further comprise one or more computer programs, performed by the computer, the one or more computer programs being configured for ranking the requested information relative to the summed first weighting value and the summed second weighting value.

40. The apparatus of claim 35, wherein each of the sources contain an industry standard ranked list, and wherein the one or more computer programs for creating a ranked list further comprise one or more computer programs, performed by the computer, the one or more computer programs being configured for combining at least two of the industry standard ranked list into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the second ranking of the item.

41. The apparatus of claim 40, wherein the single ranked list contains an ordering of the items and the ordering is based on whether the items appear on at least two of the industry standard ranked lists.

42. The apparatus of claim 35, wherein each of the sources contain a recommendation, and wherein the one or more computer programs for creating a ranked list further comprise:

one or more computer programs, performed by the computer, the one or more computer programs being configured for converting the recommendation into an industry standard ranked list, and combining at least two of the industry standard ranked list into a single ranked list, wherein one industry standard ranked list provides a first ranking of at least one item and the other industry standard ranked list provides a second ranking of the item, the first ranking of the item being different from the

second ranking of the item.

43. An apparatus for organizing information, comprising:  
a computer; and

one or more computer programs, performed by the computer, the one or more computer programs being configured for receiving information about network research from a computer user, providing an electronic briefcase, wherein the electronic briefcase is designed to store the received information, and storing the received information in the provided electronic briefcase.

44. The apparatus of claim 43, wherein the electronic briefcase comprises a section for storing a date of the network research, a section for storing a global address of a web site, and a section for storing documentation about the network research.



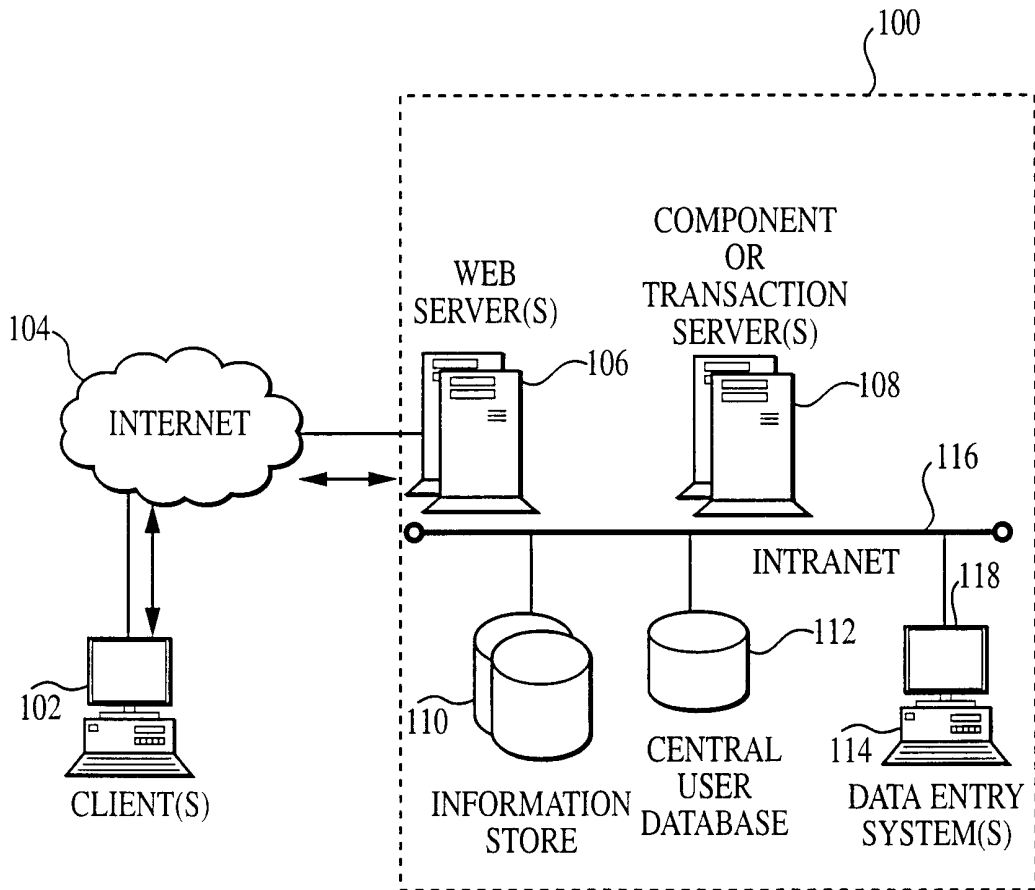


FIG. 1

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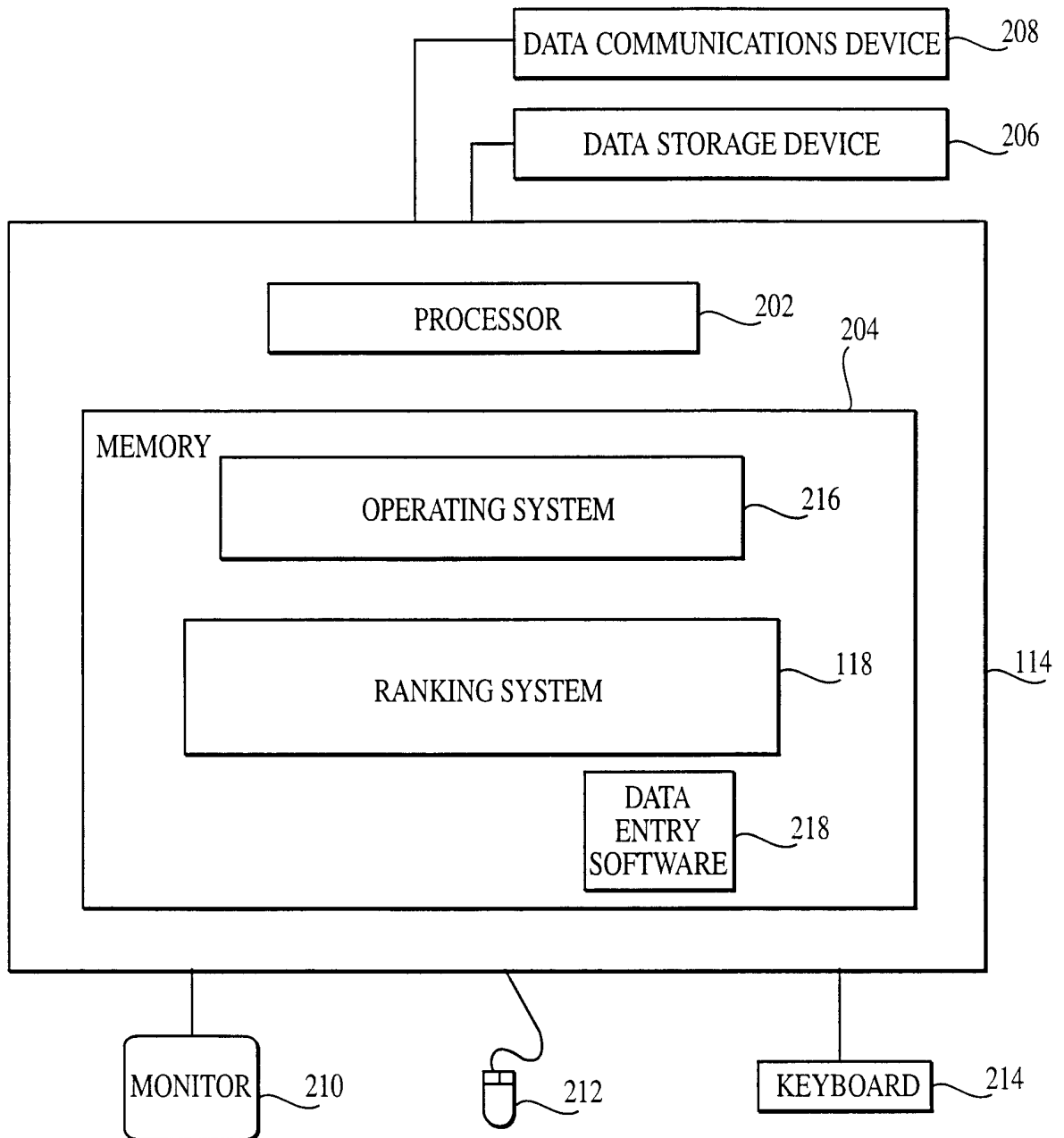


FIG. 2

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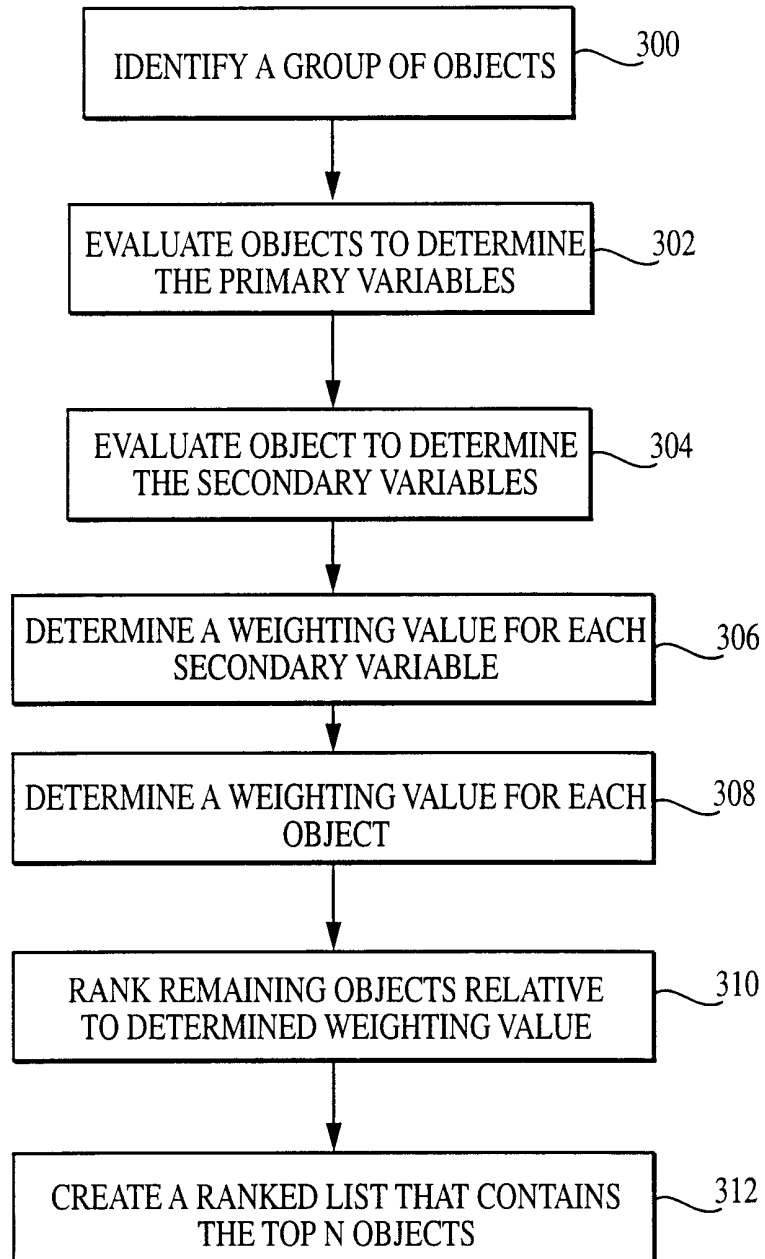


FIG. 3

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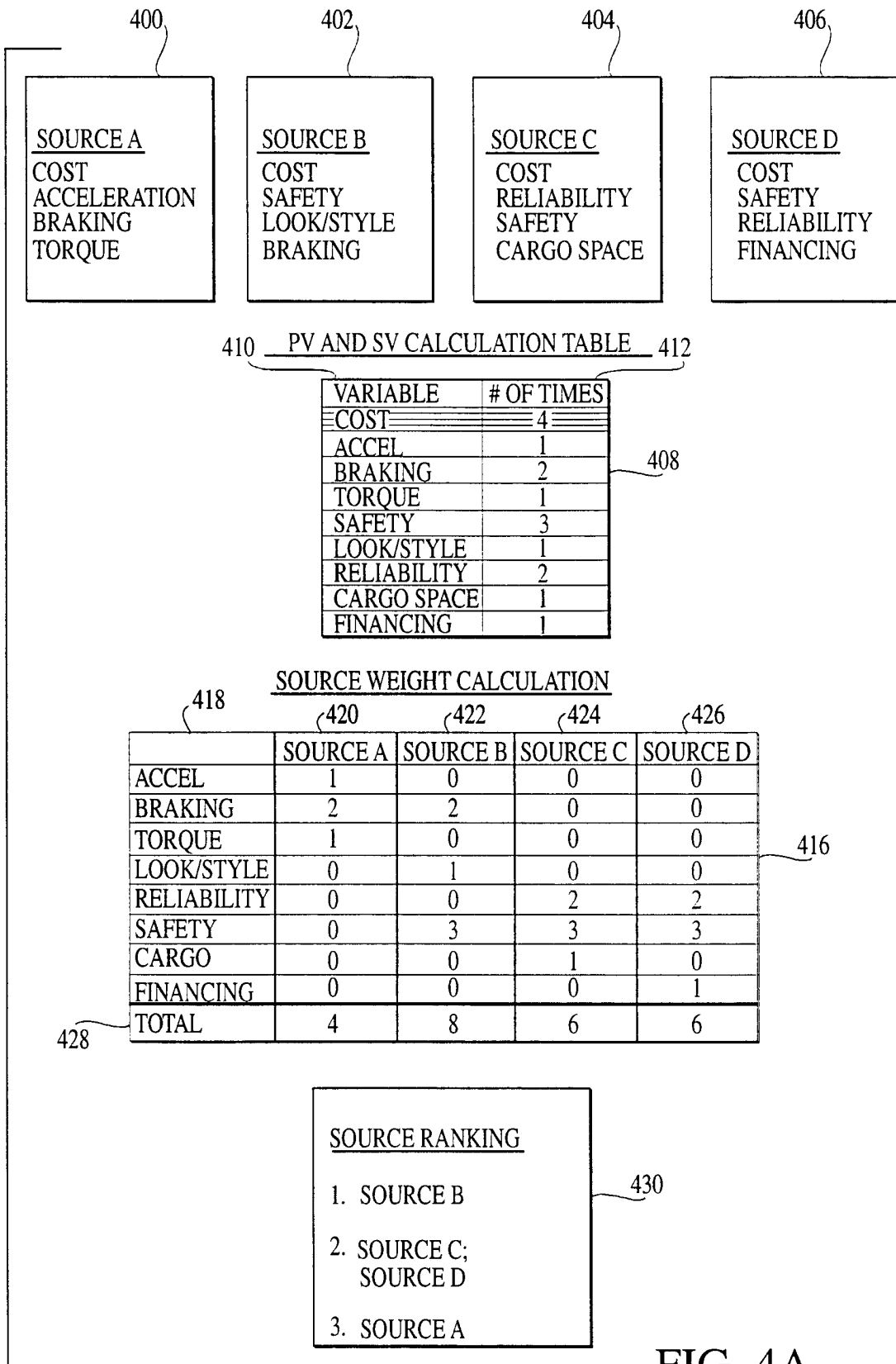
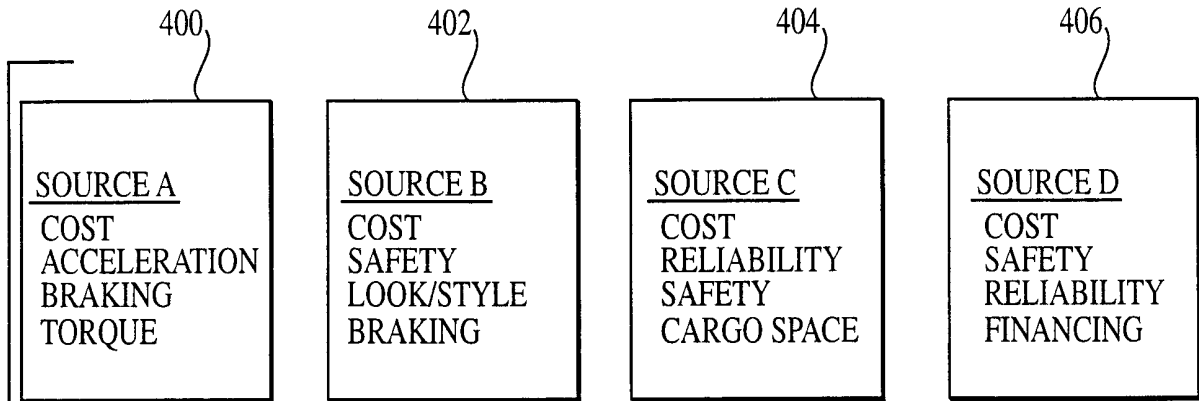


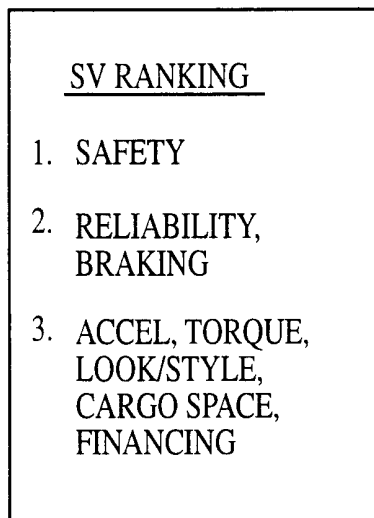
FIG. 4A



410 PV AND SV CALCULATION TABLE 412

VARIABLE	# OF TIMES
COST	4
ACCEL	1
BRAKING	2
TORQUE	1
SAFETY	3
LOOK/STYLE	1
RELIABILITY	2
CARGO SPACE	1
FINANCING	1

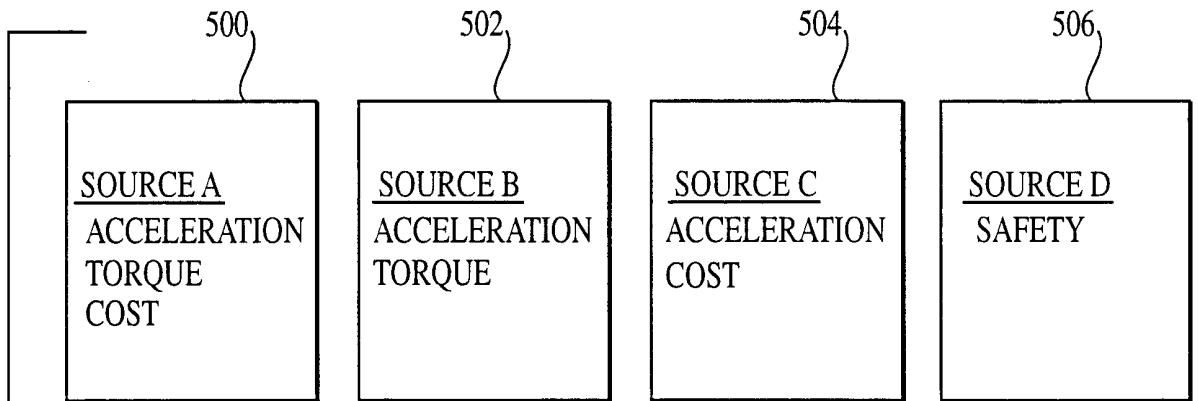
408



432

FIG. 4B

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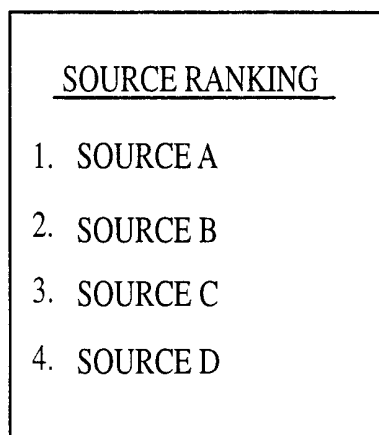


SECONDARY VARIABLE TABLE

	SOURCE A	SOURCE B	SOURCE C	SOURCE D
ACCEL	3	3	3	
TORQUE	2	2		
COST	2		2	
SAFETY				1
TOTAL	7	5	3	1

510

508



512

FIG. 5

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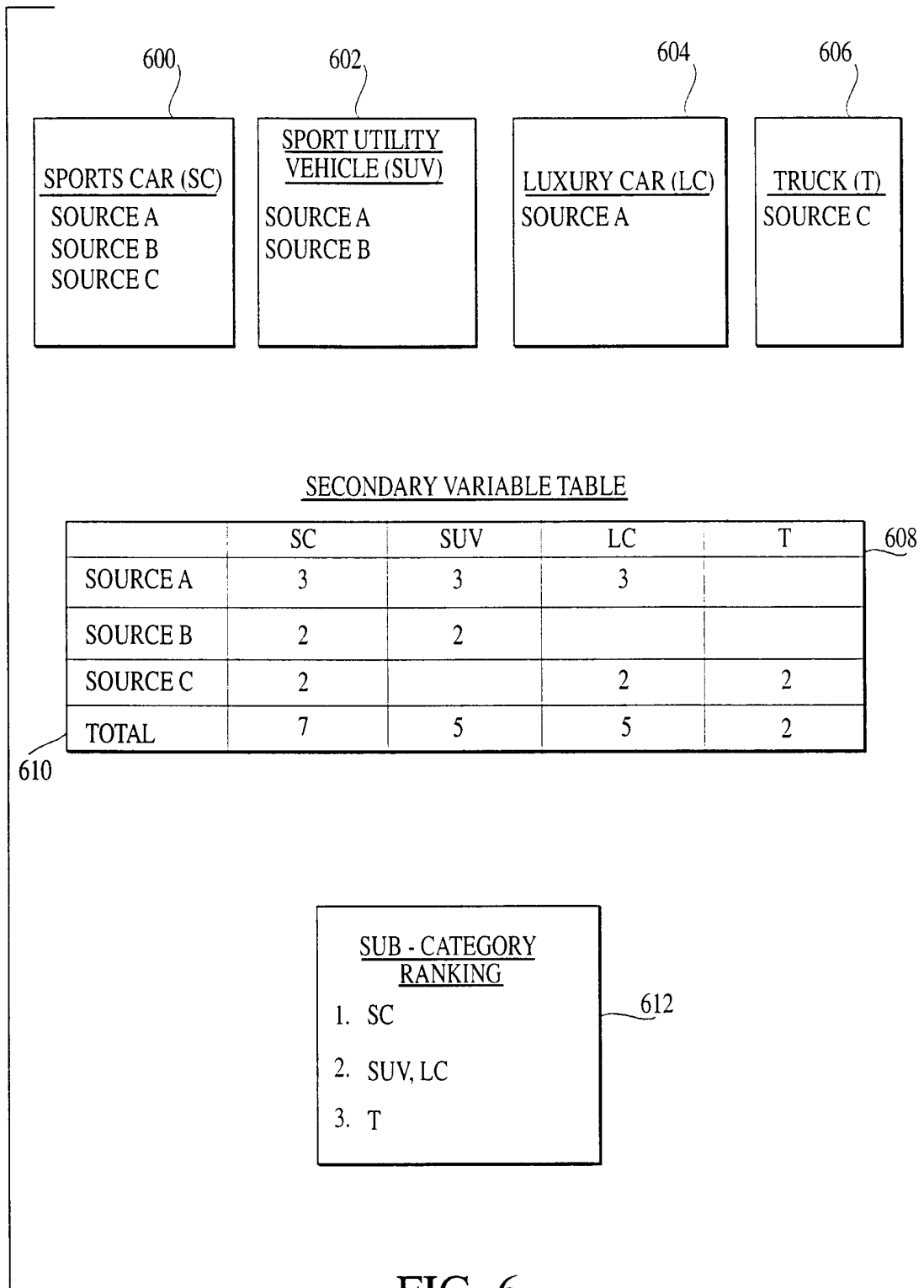


FIG. 6

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INDIVIDUAL RANKS TABLE 700

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	SOURCE A <span style="float: left;">704</span>	SOURCE B <span style="float: left;">706</span>	SOURCE C <span style="float: right;">708</span>
1ST	PORSCHE BOXSTER	CORVETTE	CORVETTE
2ND	DODGE STEALTH	MERCEDES500 SL	PORSCHE BOXSTER
3RD	MERCEDES500 SL	PORSCHE BOXSTER	LEXUS
4TH	CORVETTE		MIATA
5TH	LEXUS		
6TH	MIATA		

INDIVIDUAL RANKS MATRIX 702

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RANK	PORSCHE BOXSTER	DODGE STEALTH	MERCEDES500 SL	CORVETTE	LEXUS	MIATA
1ST	1	0	0	2	0	0
2ND	1	2	1	0	0	0
3RD	1	0	1	0	1	0
4TH	0	0	0	1	0	0
5TH	0	0	0	0	1	1
6TH	0	0	0	0	0	1

710

FIG. 7



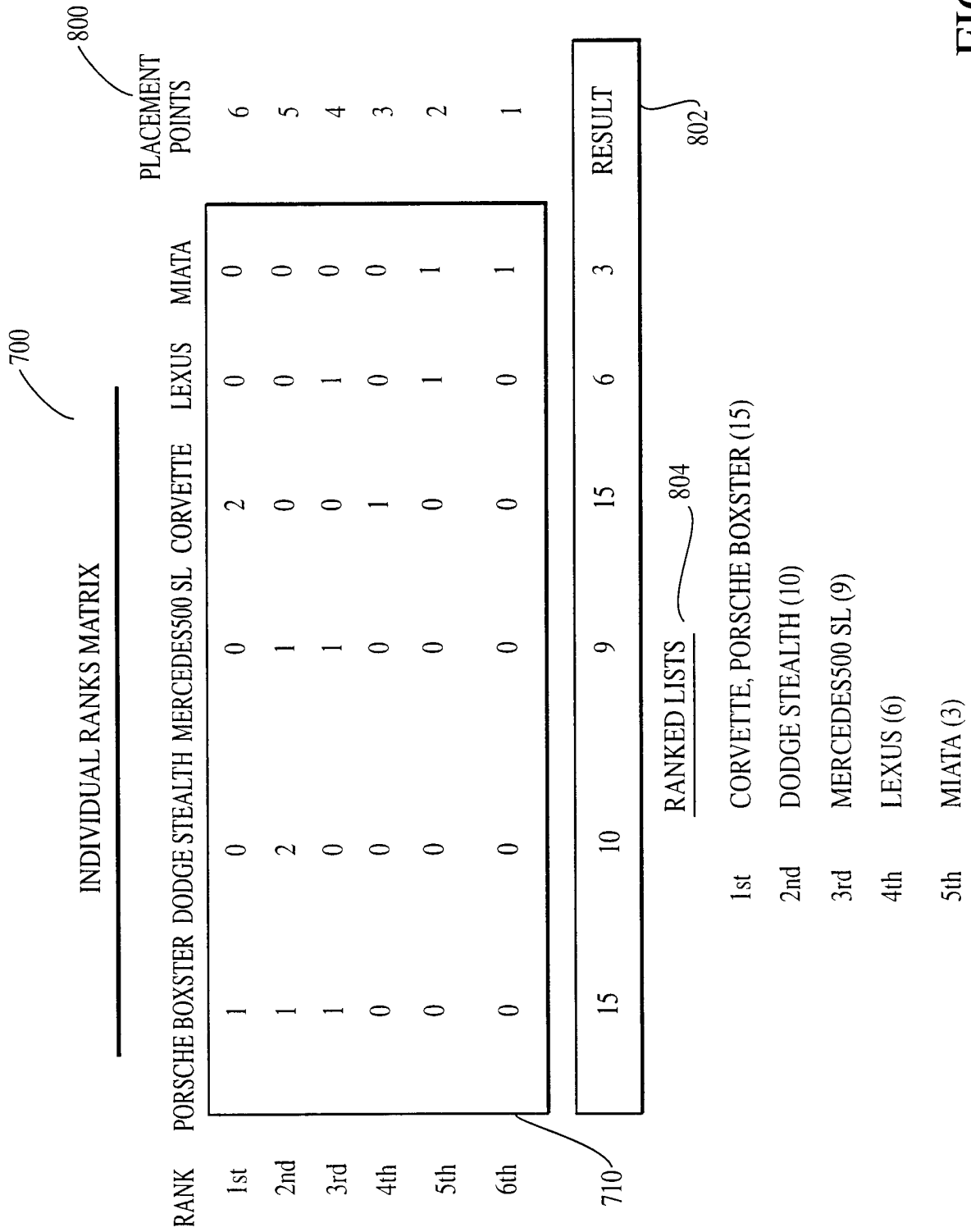


FIG. 8

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A table with three columns: DATE, URL, and COMMENTS. The first row contains the values 2/2/99, WWW.CARANDDRIVER.COM, and NEEDED MORE INFORMATION ABOUT THE CORVETTE. The second row is empty. Callout 900 points to the table, 902 points to the DATE column, 904 points to the URL column, and 906 points to the COMMENTS column.

DATE	URL	COMMENTS
2/2/99	WWW.CARANDDRIVER.COM	NEEDED MORE INFORMATION ABOUT THE CORVETTE

FIG. 9