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(54) **METHOD AND SYSTEM FOR SHARING AND ACCESSING RESOURCES**

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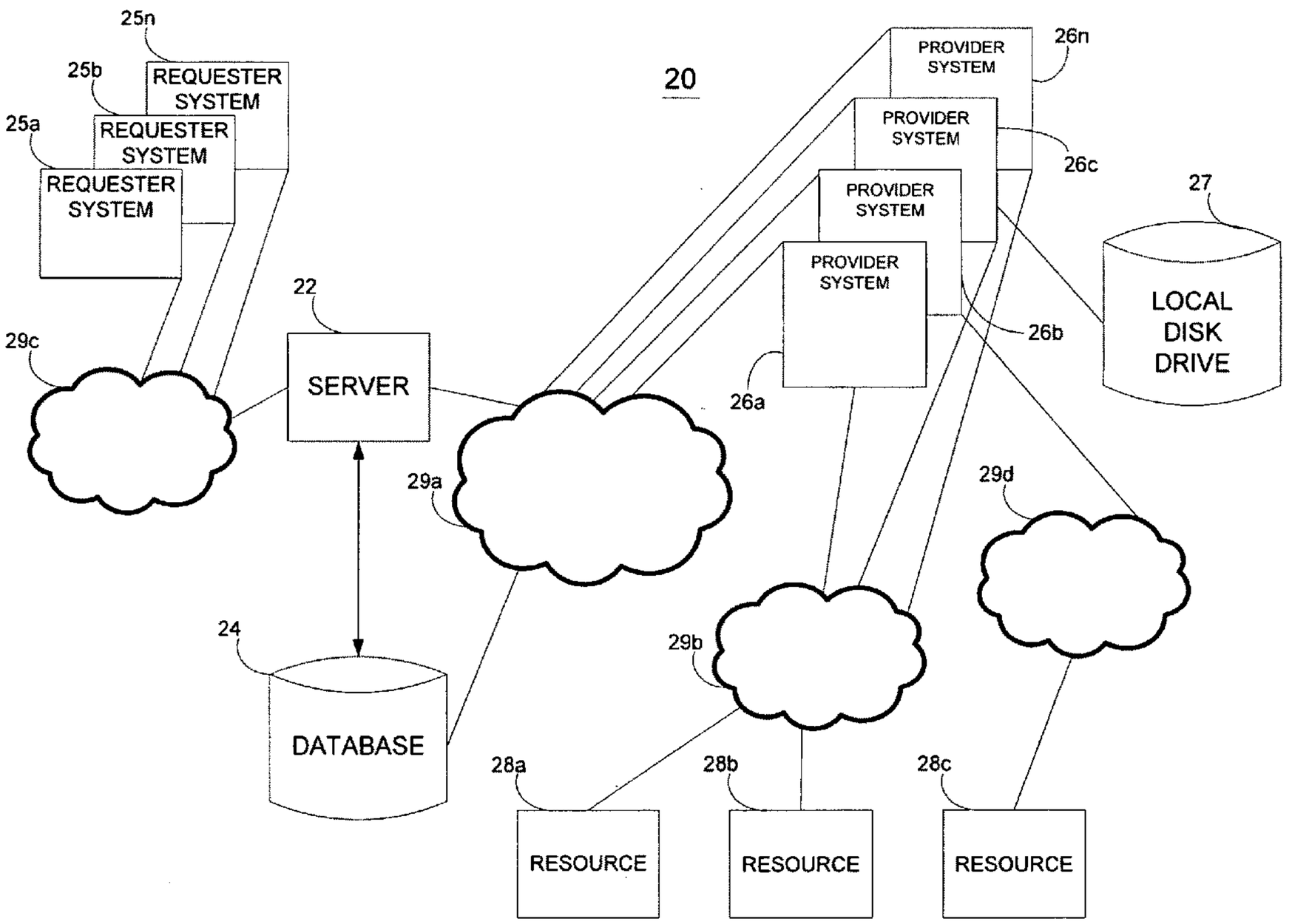
(57) **ABSTRACT**

A method and system for sharing and accessing resources useable to retrieve information is provided. Data of resources used by human providers to retrieve information in response to a query from requesters are maintained in a database for use in relation to subsequent queries. The method and system identifies categories and/or keywords of queries for which the resources were used to retrieve information and indicates the resources to providers and/or requesters as a search resource (s).



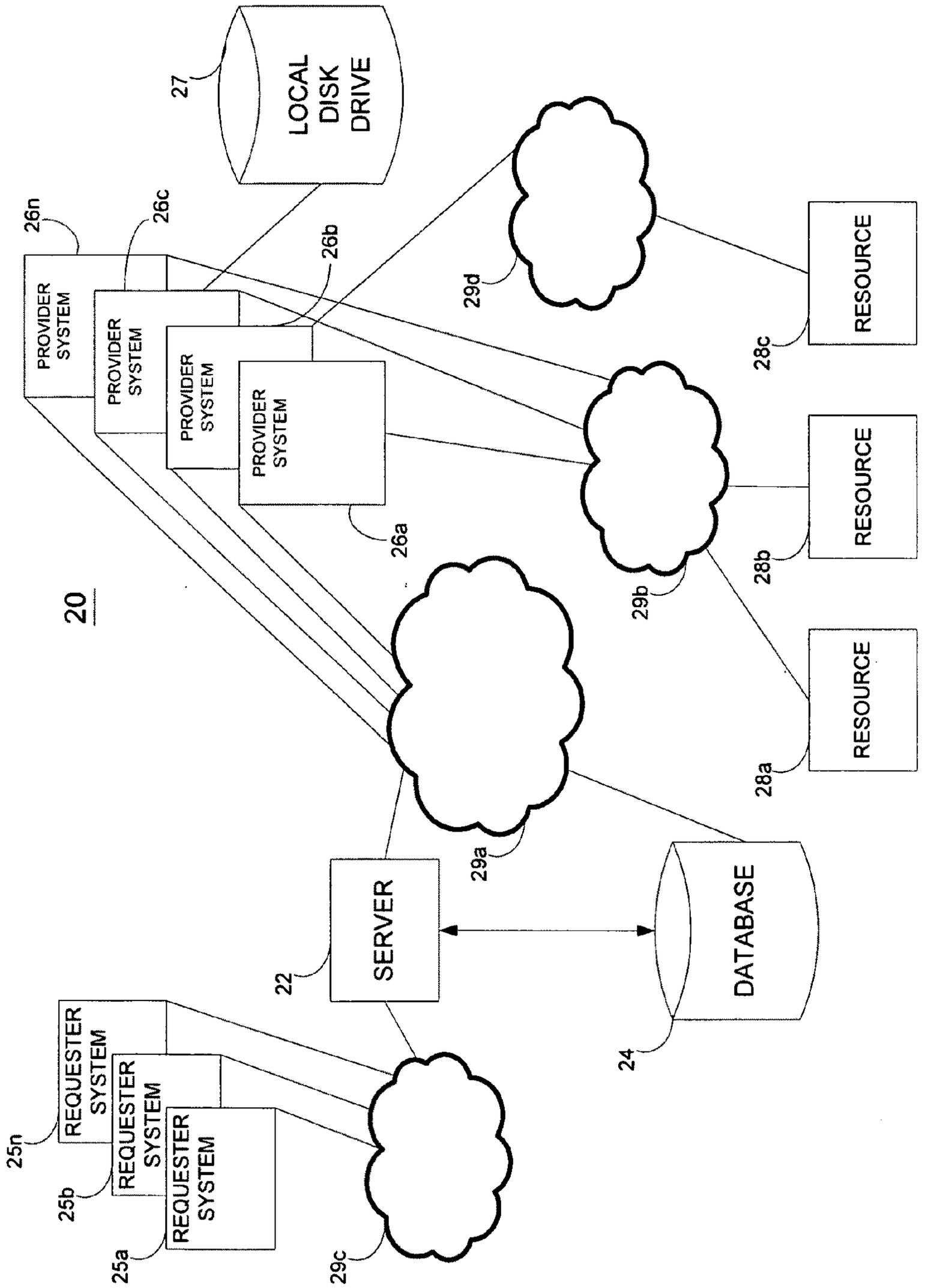

20
LOCAL DISK DRIVE
27
PROVIDER SYSTEM
26n
26c
26b
26a
REQUESTER SYSTEM
25n
25b
25a
SERVER
22
DATABASE
24
RESOURCE
28c
28b
28a
29a
29b
29c
29d

FIG. 1

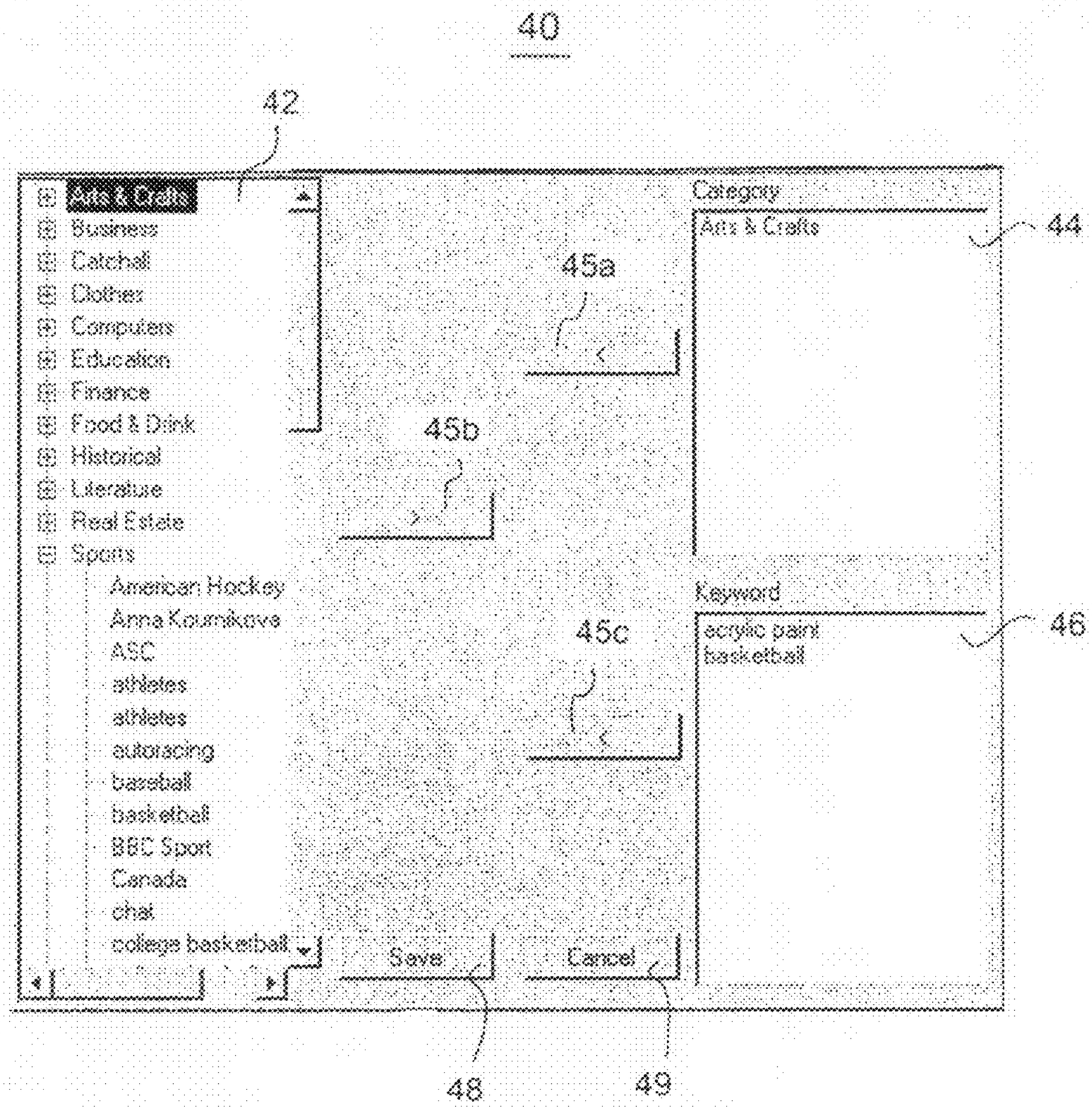

40
42
Arts & Crafts
Business
Catchal
Clothes
Computers
Education
Finance
Food & Drink
Historical
Literature
Real Estate
Sports
American Hockey
Anna Kournikova
ASC
athletes
athletes
autoracing
baseball
basketball
BBC Sport
Canada
chat
college basketball
Category
Arts & Crafts
44
45a
45b
45c
Keyword
acrylic paint
basketball
46
Save
Cancel
48
49

FIG. 2

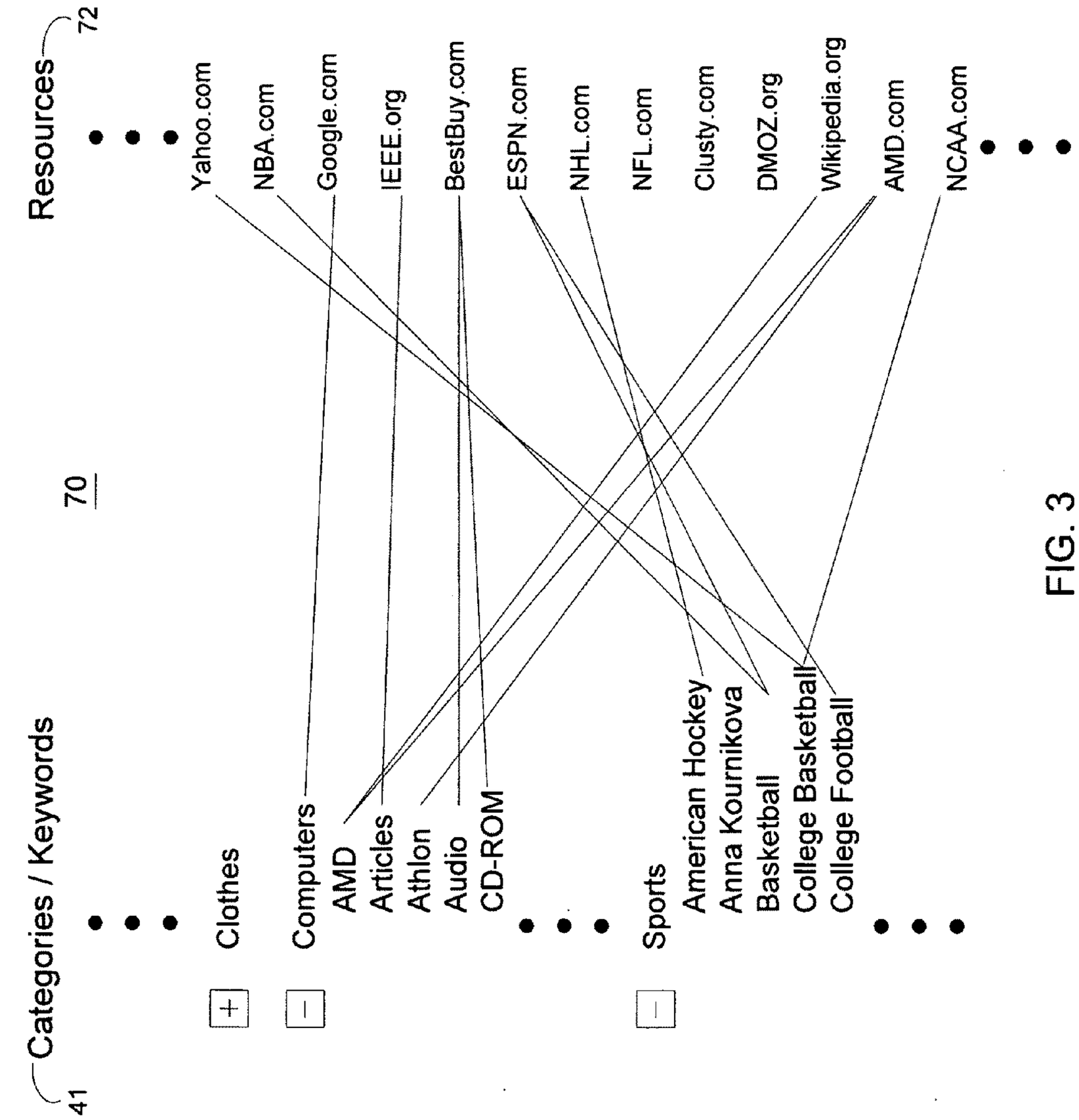

Categories / Keywords
41
70
Resources
72
Clothes
Computers
AMD
Articles
Athlon
Audio
CD-ROM
Sports
American Hockey
Anna Kournikova
Basketball
College Basketball
College Football
Yahoo.com
NBA.com
Google.com
IEEE.org
BestBuy.com
ESPN.com
NHL.com
NFL.com
Clusty.com
DMOZ.org
Wikipedia.org
AMD.com
NCAA.com

FIG. 3

FIG. 3A

200

202 204 206 208 210

Category	Subcategory	Name	Resource Information	Description
Arts	Animation	Animation World Network™	http://www.awn.com/	Provides information resources to the international animation community. Features include searchable database archives, monthly magazine, web animation guide, the Animation Village, discussion forums and other useful resources.
Arts	Animation	The Big Cartoon Database	http://www.bcdb.com/	Cartoon database and animation list. Offers online searchable database of cartoon shorts and animation on the Internet.
Arts	Animation	Anime Nation	http://www.animenation.com/	Anime link database with verified links submitted from fans all over the world.
Arts	Antiques	Alice	http://www.antiqueappeal.com/alinks/pages/	ALICE - Antique Links on the Internet, Come Explore) our directory and search engine of antique and collectible web sites on the Internet.
Arts	Antiques	Antique Mystique	http://www.antiquemystique.com/cgi-bin/search/ilink.cgi	A free submission searchable link directory
Arts	Antiques	SearchEngineGuide's List of Antiques Resources	http://www.searchengineguide.com/links/search.cgi?query=antiques&bool=and&substring=0	List of antiques resources
Papers	Physics	Sample paper	C:/my paper on physics.doc	Paper related to physics

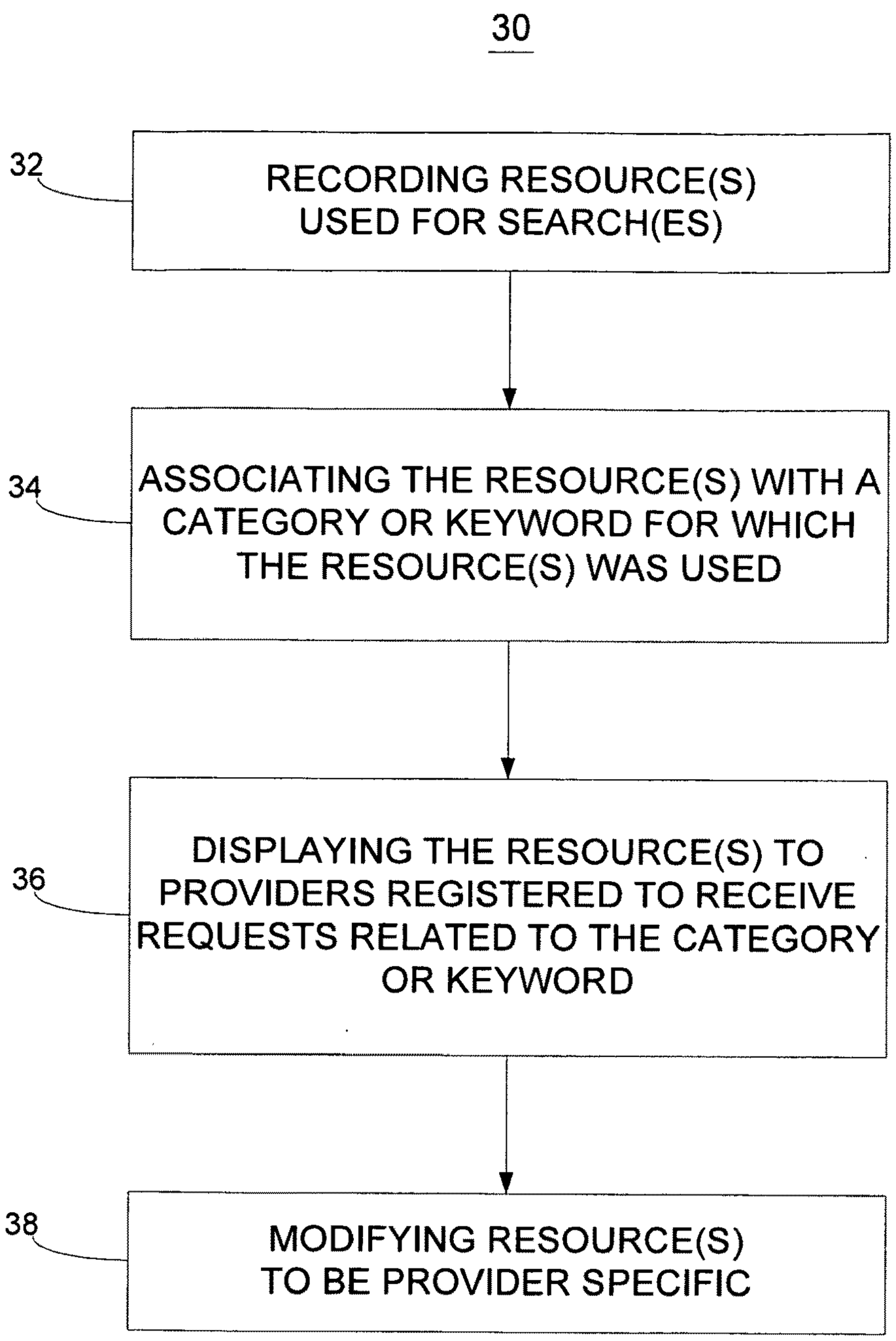

30
32
RECORDING RESOURCE(S) USED FOR SEARCH(ES)
34
ASSOCIATING THE RESOURCE(S) WITH A CATEGORY OR KEYWORD FOR WHICH THE RESOURCE(S) WAS USED
36
DISPLAYING THE RESOURCE(S) TO PROVIDERS REGISTERED TO RECEIVE REQUESTS RELATED TO THE CATEGORY OR KEYWORD
38
MODIFYING RESOURCE(S) TO BE PROVIDER SPECIFIC

FIG. 4

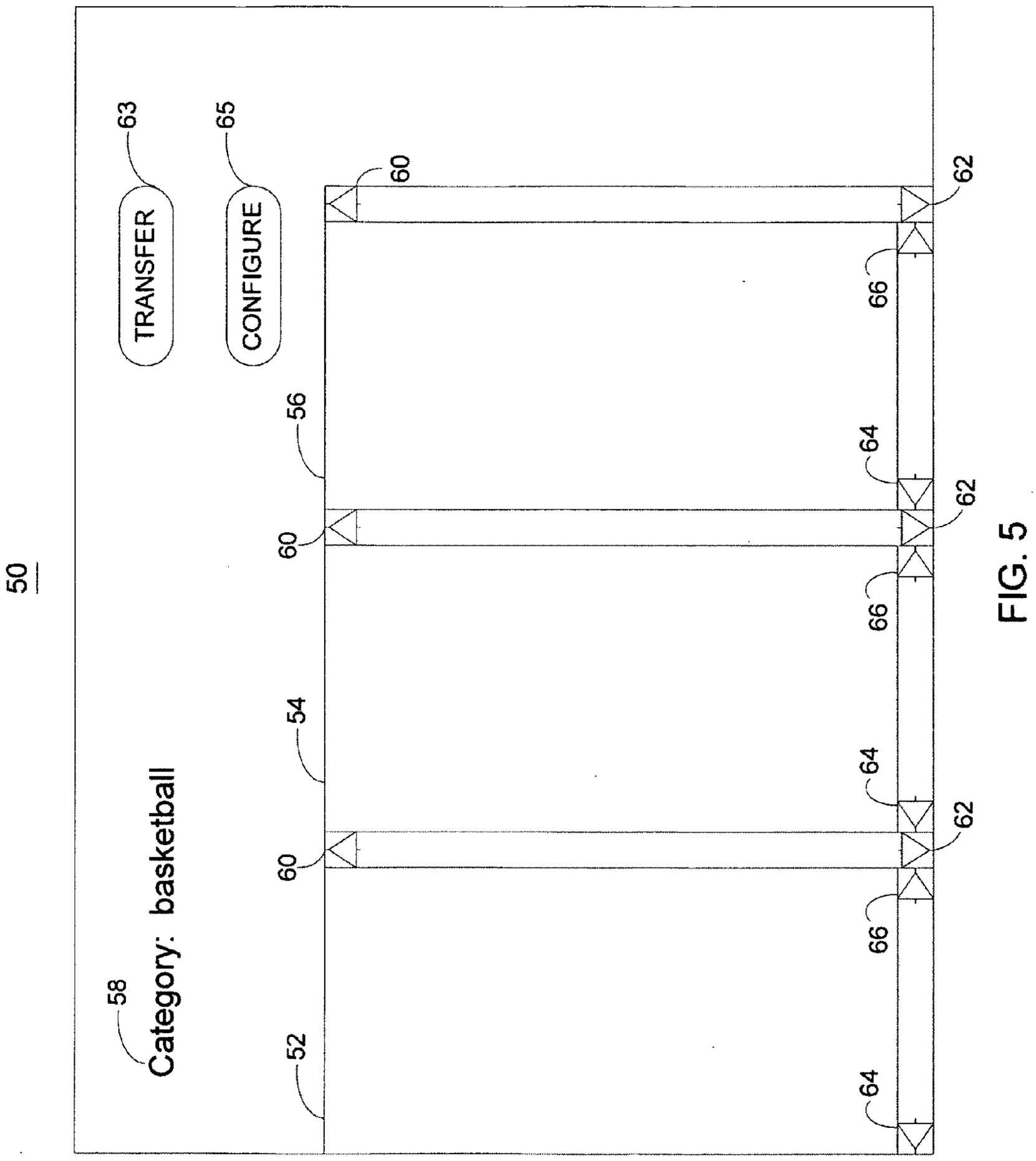

50
58
Category: basketball
52
54
56
60
62
63
64
65
66
TRANSFER
CONFIGURE

FIG. 5

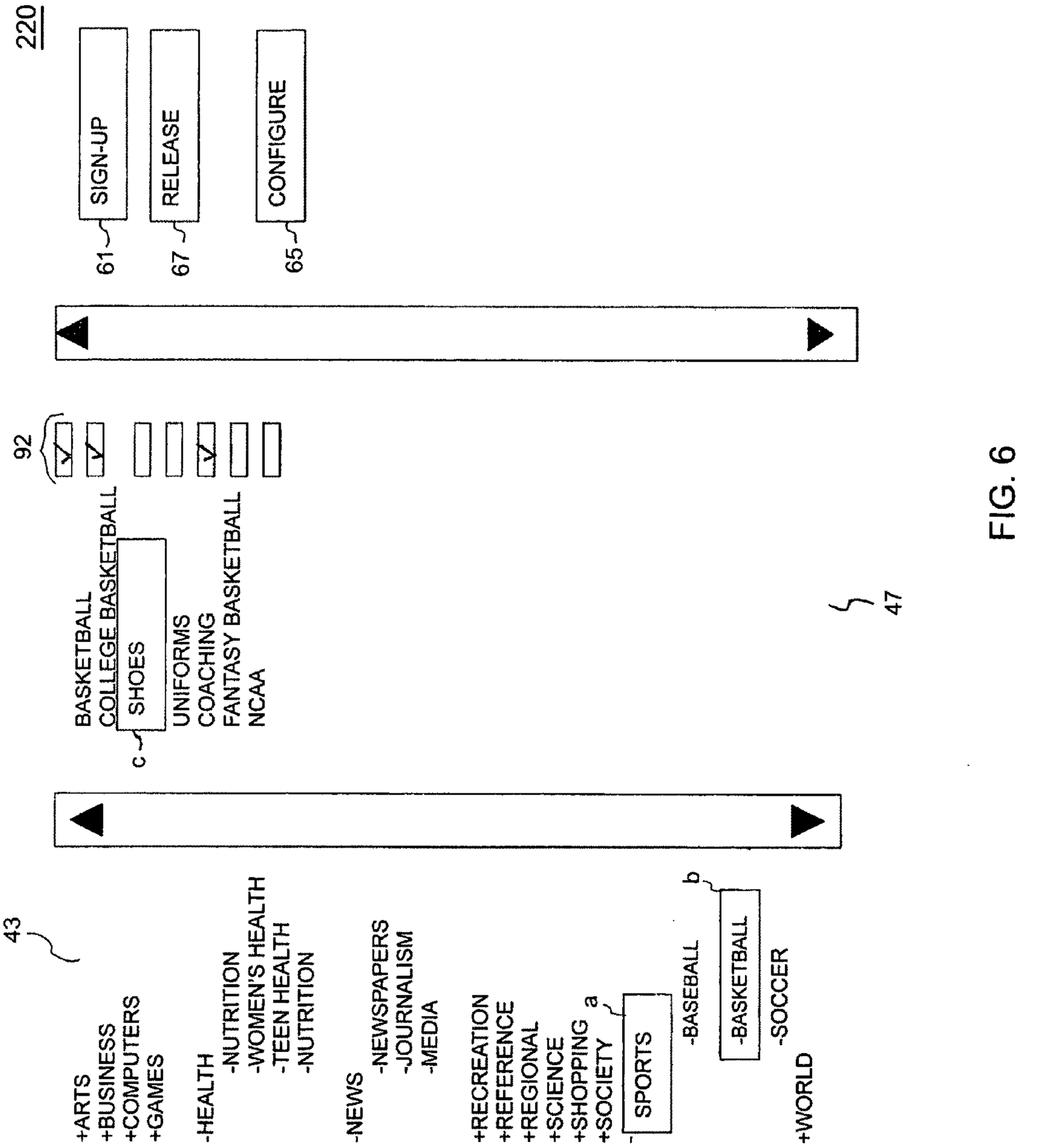

220
SIGN-UP
RELEASE
CONFIGURE
61
67
65
92
BASKETBALL
COLLEGE BASKETBALL
SHOES
UNIFORMS
COACHING
FANTASY BASKETBALL
NCAA
c
47
43
+ARTS
+BUSINESS
+COMPUTERS
+GAMES
-HEALTH
-NUTRITION
-WOMEN'S HEALTH
-TEEN HEALTH
-NUTRITION
-NEWS
-NEWSPAPERS
-JOURNALISM
-MEDIA
+RECREATION
+REFERENCE
+REGIONAL
+SCIENCE
+SHOPPING
+SOCIETY
a
-SPORTS
-BASEBALL
b
-BASKETBALL
-SOCCER
+WORLD

FIG. 6

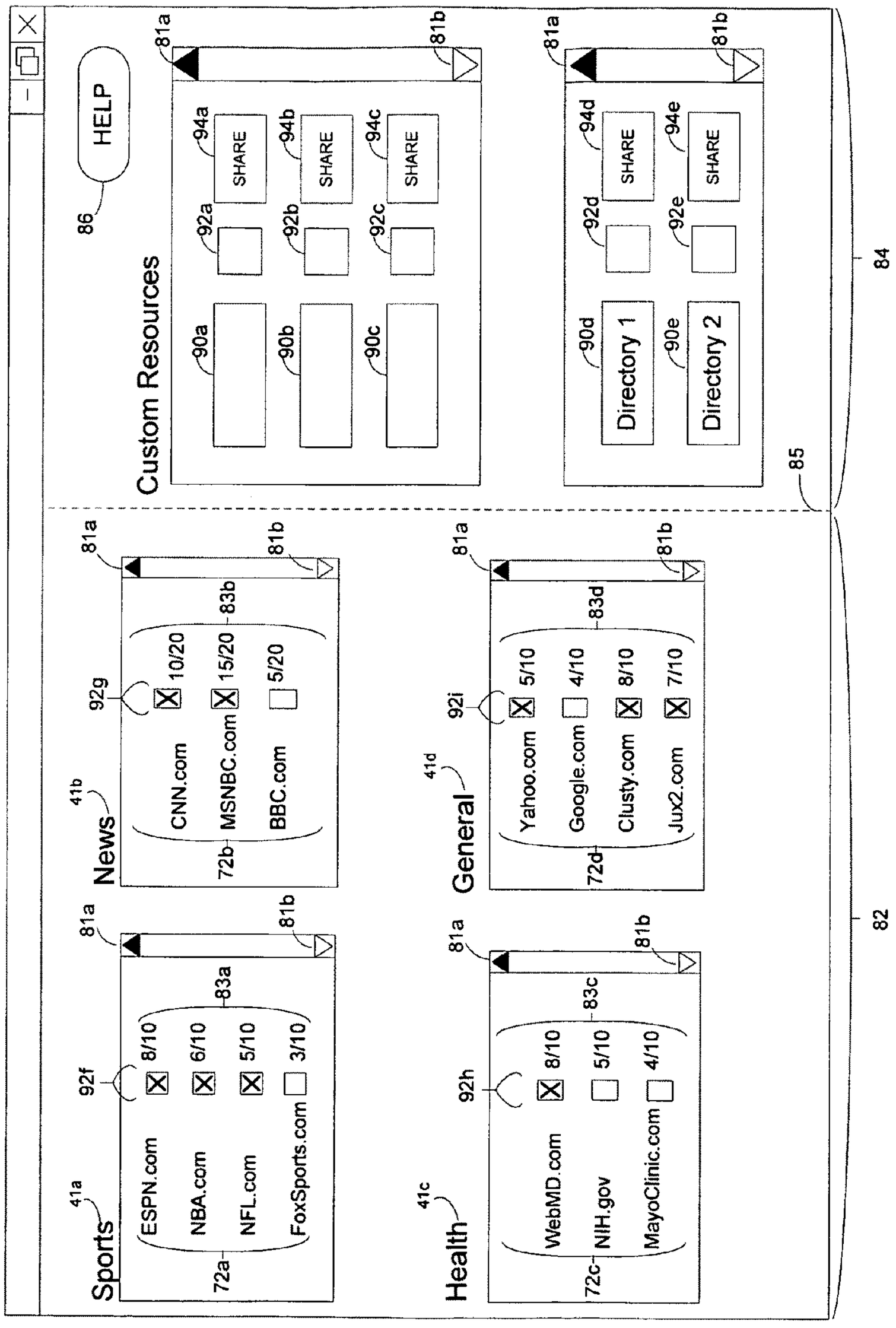

80
HELP
86
81a
81b
94a
SHARE
94b
SHARE
94c
SHARE
92a
92b
92c
94d
SHARE
94e
SHARE
92d
92e
84
Custom Resources
90a
90b
90c
90d
Directory 1
90e
Directory 2
85
News
41b
92g
CNN.com
10/20
MSNBC.com
15/20
BBC.com
5/20
72b
83b
General
41d
92i
Yahoo.com
5/10
Google.com
4/10
Clusty.com
8/10
Jux2.com
7/10
72d
83d
Sports
41a
92f
ESPN.com
8/10
NBA.com
6/10
NFL.com
5/10
FoxSports.com
3/10
72a
83a
Health
41c
92h
WebMD.com
8/10
NIH.gov
5/10
MayoClinic.com
4/10
72c
83c
82

FIG. 7

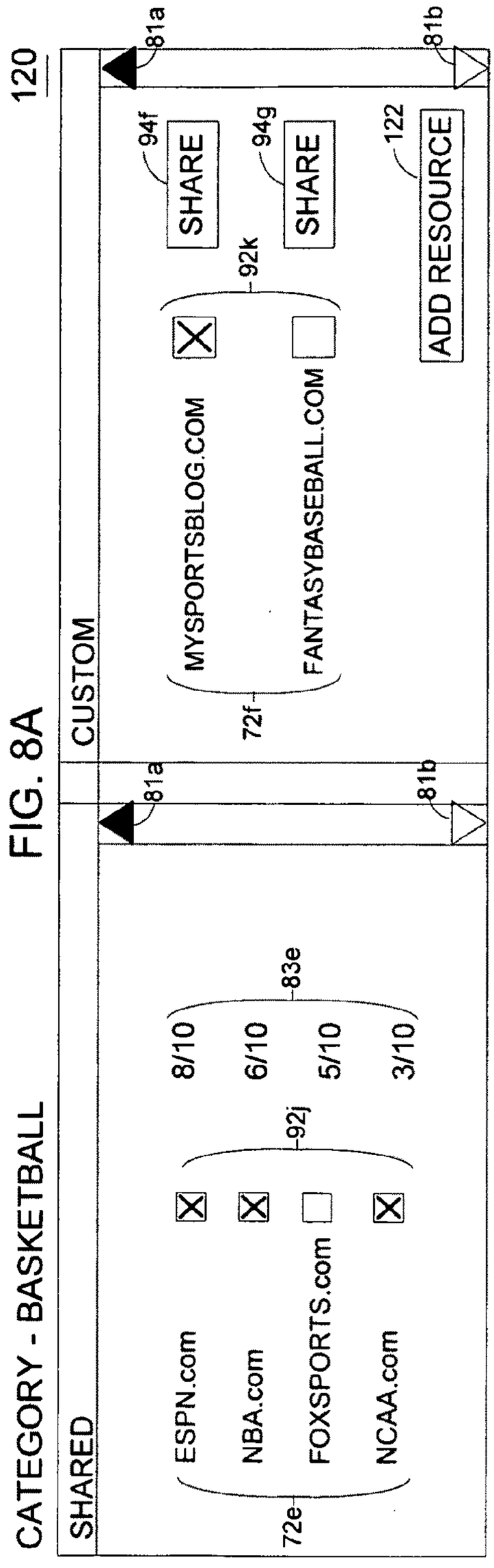

120
81a
81b
94f
SHARE
94g
SHARE
122
ADD RESOURCE
92k
X
CUSTOM
MYSPORTSBLOG.COM
FANTASYBASEBALL.COM
72f
83e
2/10
2/10
2/10
2/10
CATEGORY - BASKETBALL
SHARED
ESPN.com
NBA.com
FOXSPORTS.com
NCAA.com
72e
92j
8/10
6/10
5/10
3/10

FIG. 8A

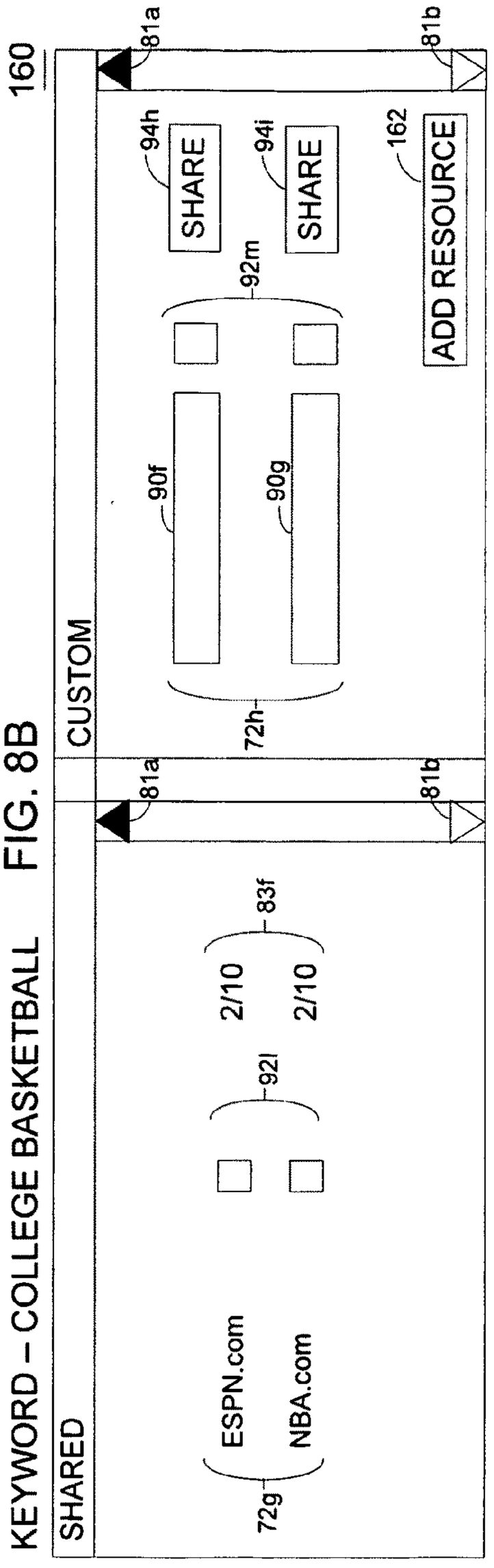

160
81a
81b
94h
SHARE
94i
SHARE
162
ADD RESOURCE
92m
CUSTOM
90f
90g
72h
81a
81b
83f
2/10
2/10
KEYWORD – COLLEGE BASKETBALL
SHARED
ESPN.com
NBA.com
72g
92l
48a
SAVE
49a
CANCEL

FIG. 8B

FIG. 9A

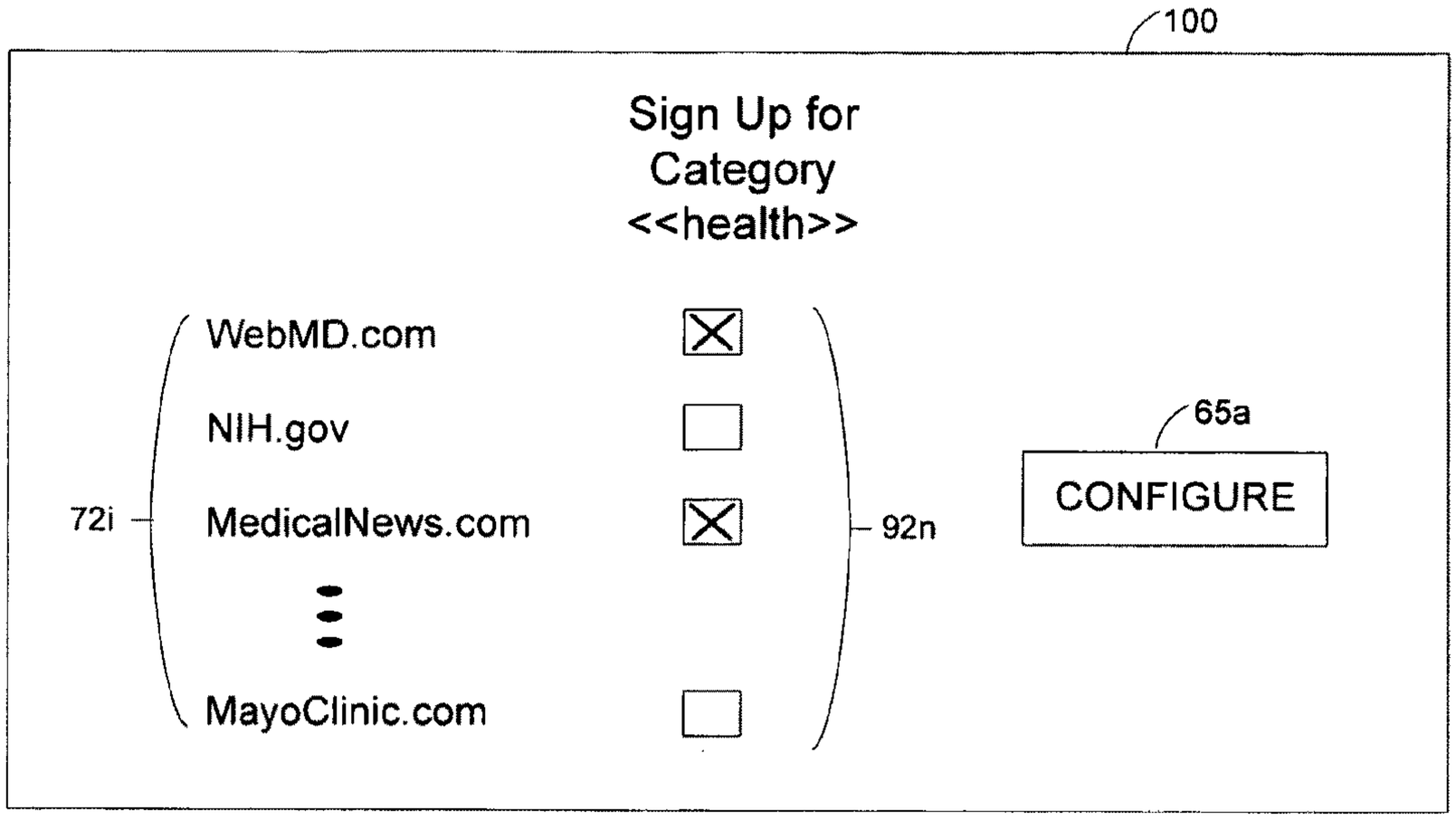
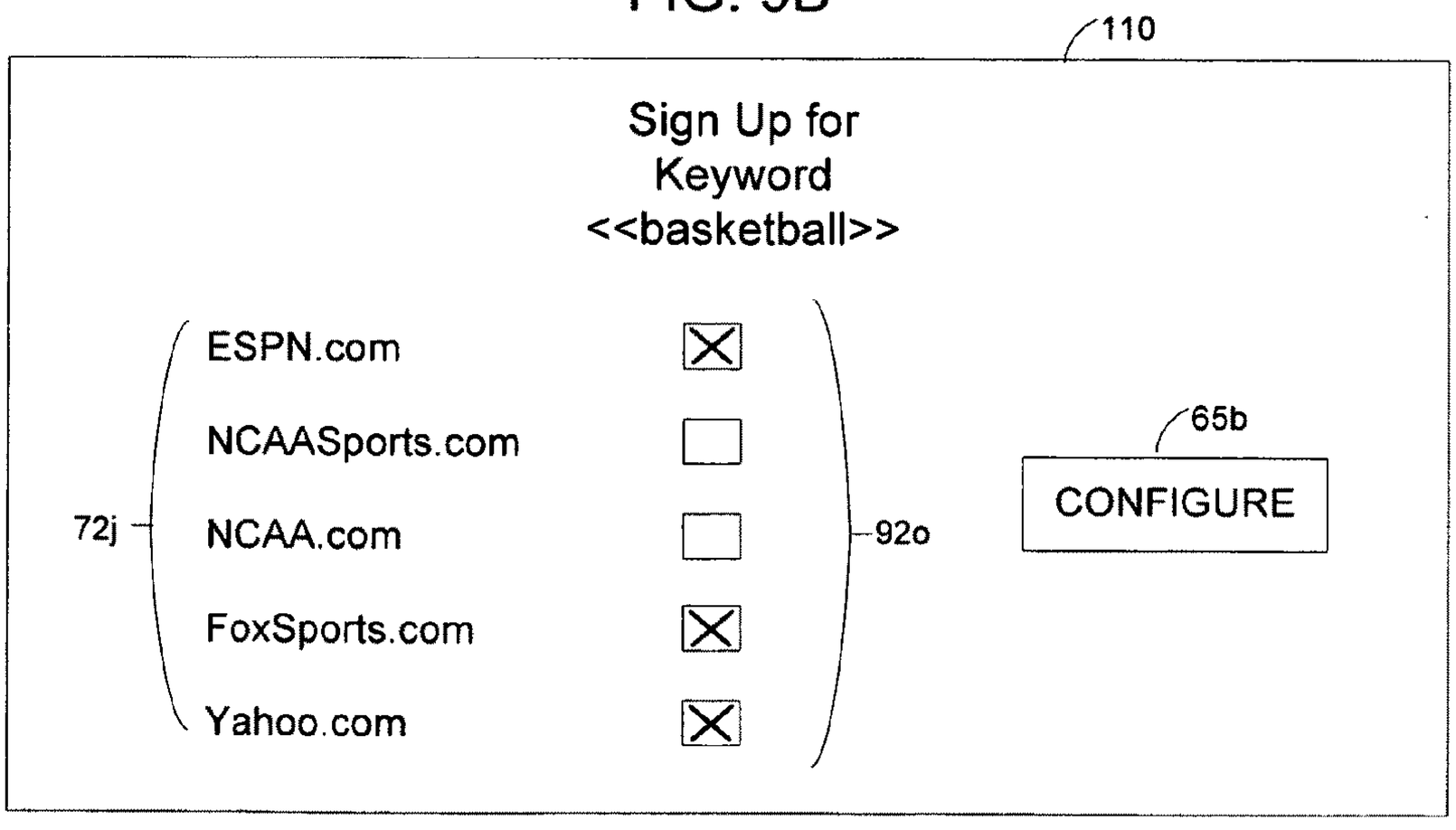

100
Sign Up for
Category
<<health>>
WebMD.com
NIH.gov
MedicalNews.com
MayoClinic.com
72i
92n
65a
CONFIGURE

FIG. 9B


110
Sign Up for
Keyword
<<basketball>>
ESPN.com
NCAASports.com
NCAA.com
FoxSports.com
Yahoo.com
72j
92o
65b
CONFIGURE

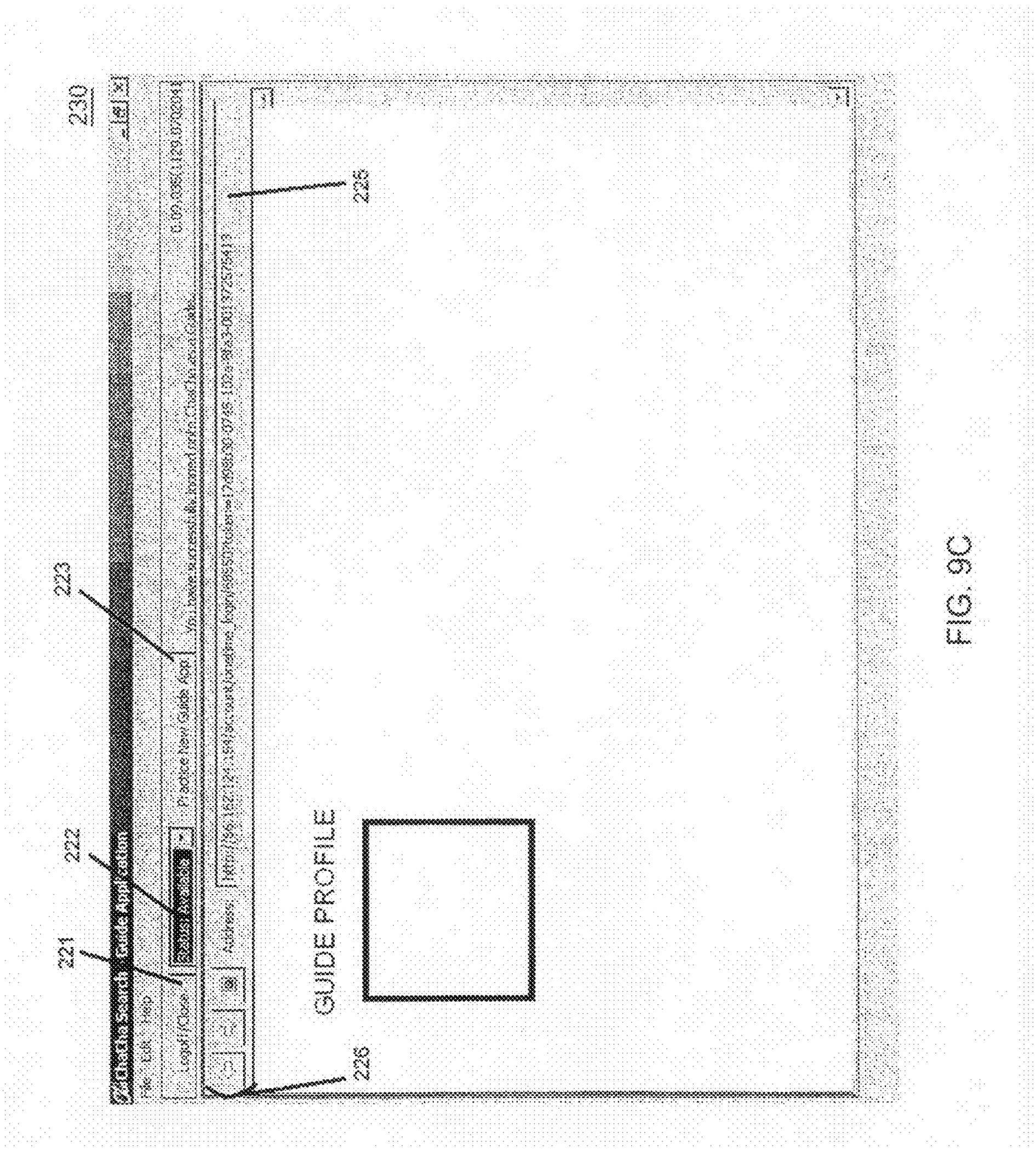


FIG. 9C

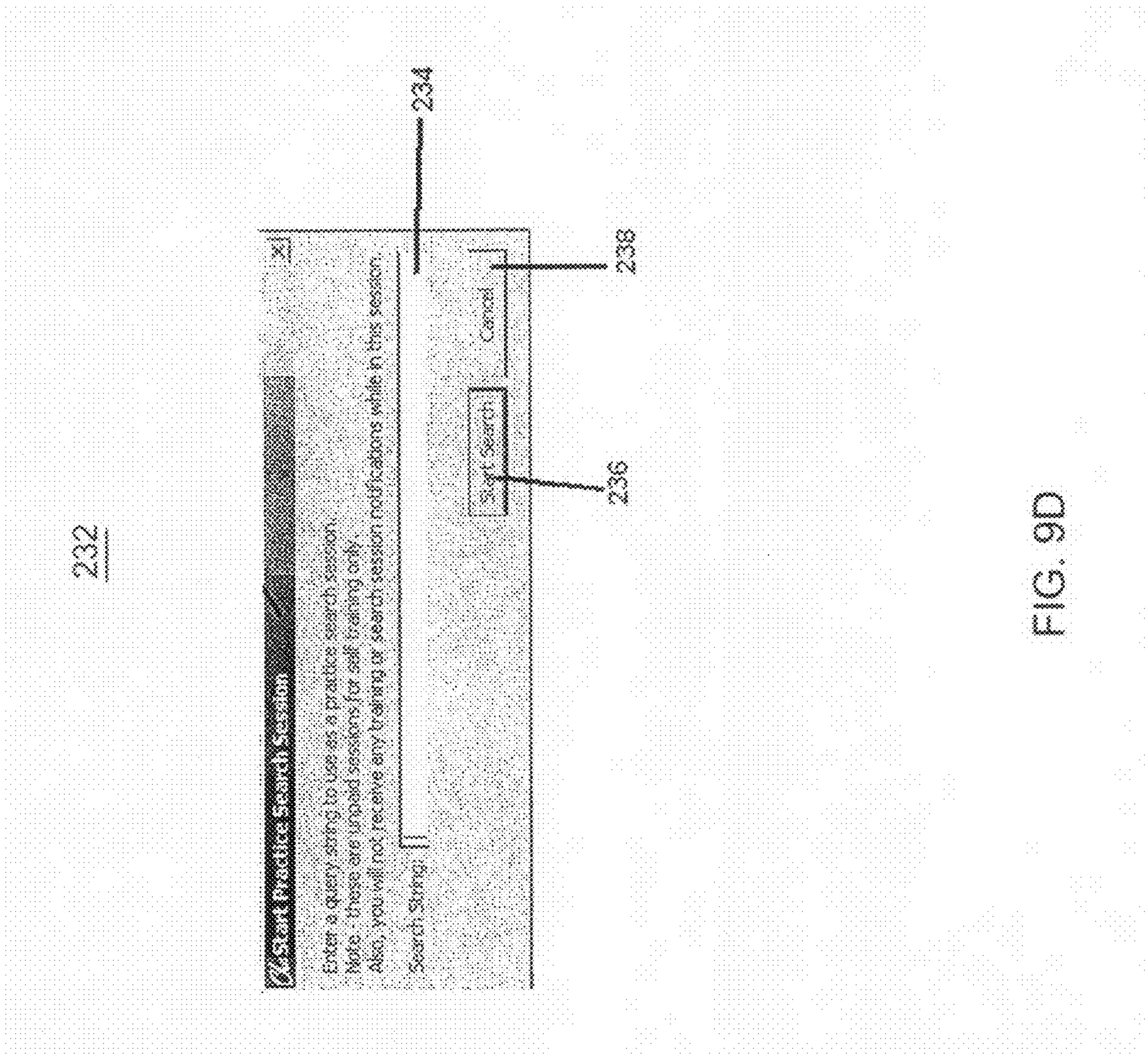

232
234
238
236
Practice Search Session
Enter query below to begin search session.
Help
Ask your own question
Search topics
Cancel
Start Search

FIG. 9D

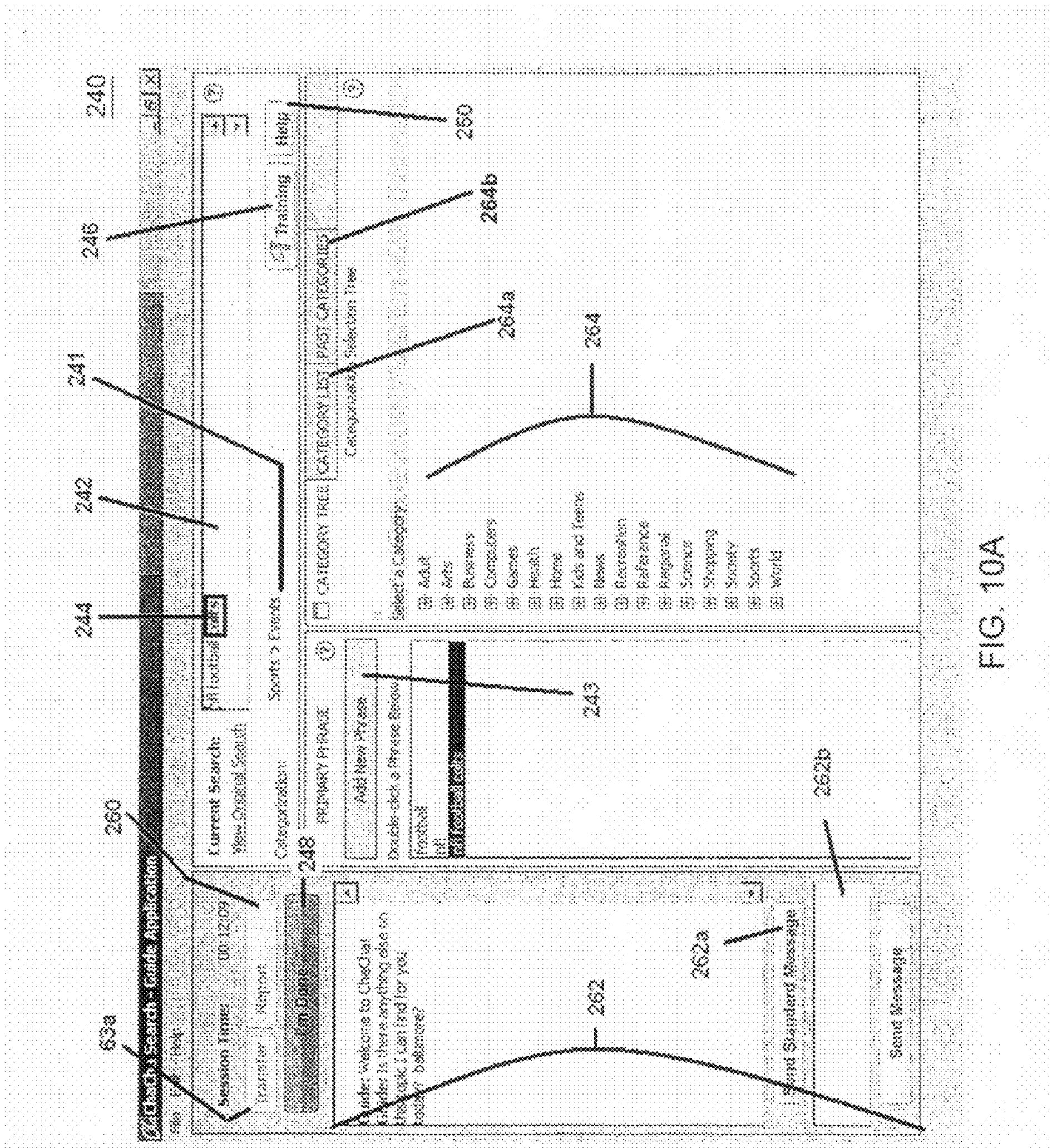

240
241
242
244
246
248
250
260
262
262a
262b
264
264a
264b
266
268
270
272
274
276
278
280
282
284
286
288
290
292
294
296
298
299
Current Search:
New Original Search
Categorization
Search Within
Search Results
Add New Phrase
Double-click a phrase above
Remove
Edit
Select a Category
Categorization Selection Tree
Select a Category
Add Phrase
Remove
Edit
Search Within
Search Results
Add New Phrase
Double-click a phrase above
Remove
Edit
Select a Category
Categorization Selection Tree
Select a Category
Add Phrase
Remove
Edit
Search Within
Search Results
Add New Phrase
Double-click a phrase above
Remove
Edit
Select a Category
Categorization Selection Tree
Select a Category
Add Phrase
Remove
Edit
Search Within
Search Results

FIG. 10A

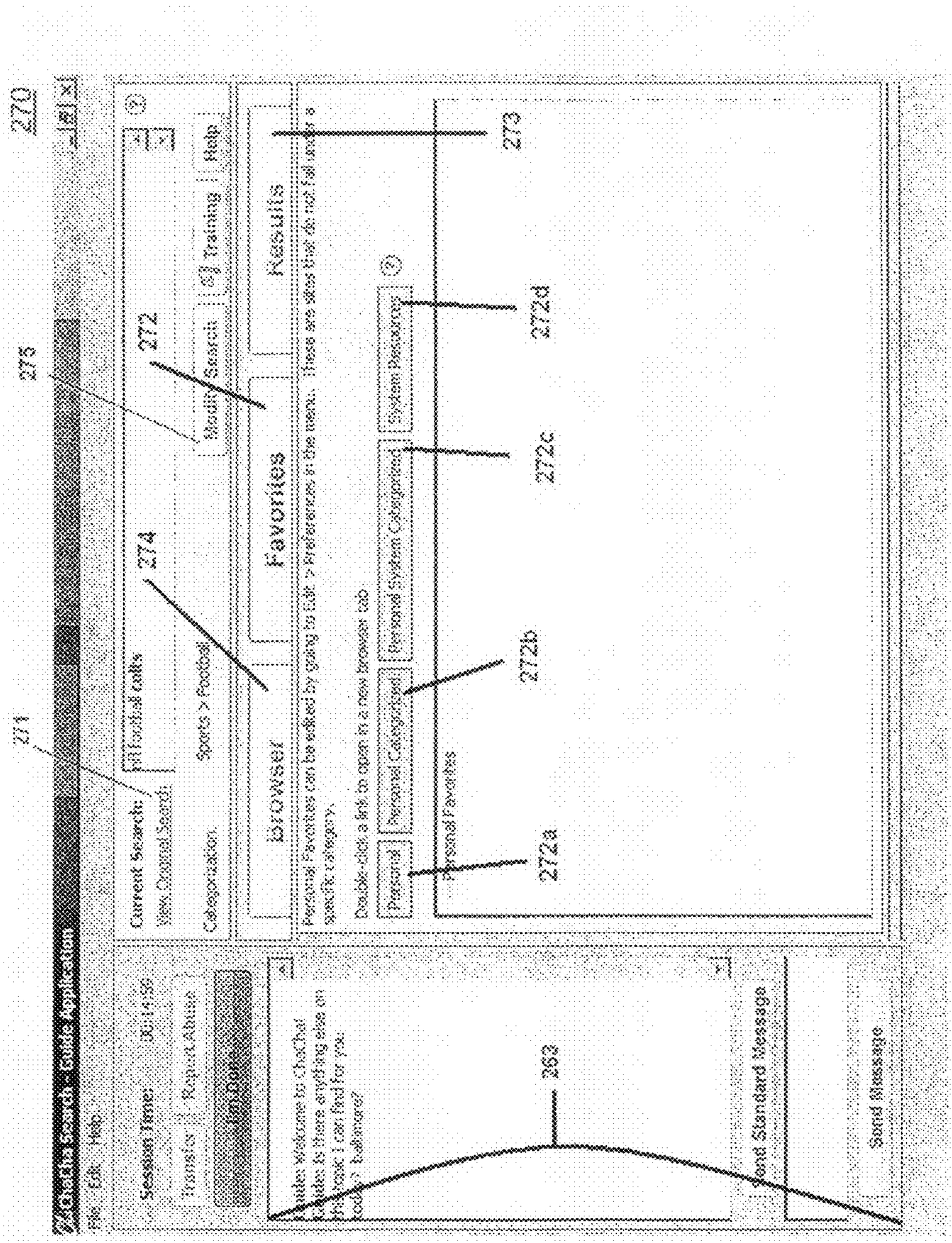

270
271
272
272a
272b
272c
272d
273
274
275
292
Favorites
Results
Search
Browser
Personal Favorites
Personal Catalog
Shared System Catalog
System Reserved
Current Search:
Categorization:
Sports > Football
Modify
Training
Search Message Sources
Search Message

FIG. 10B

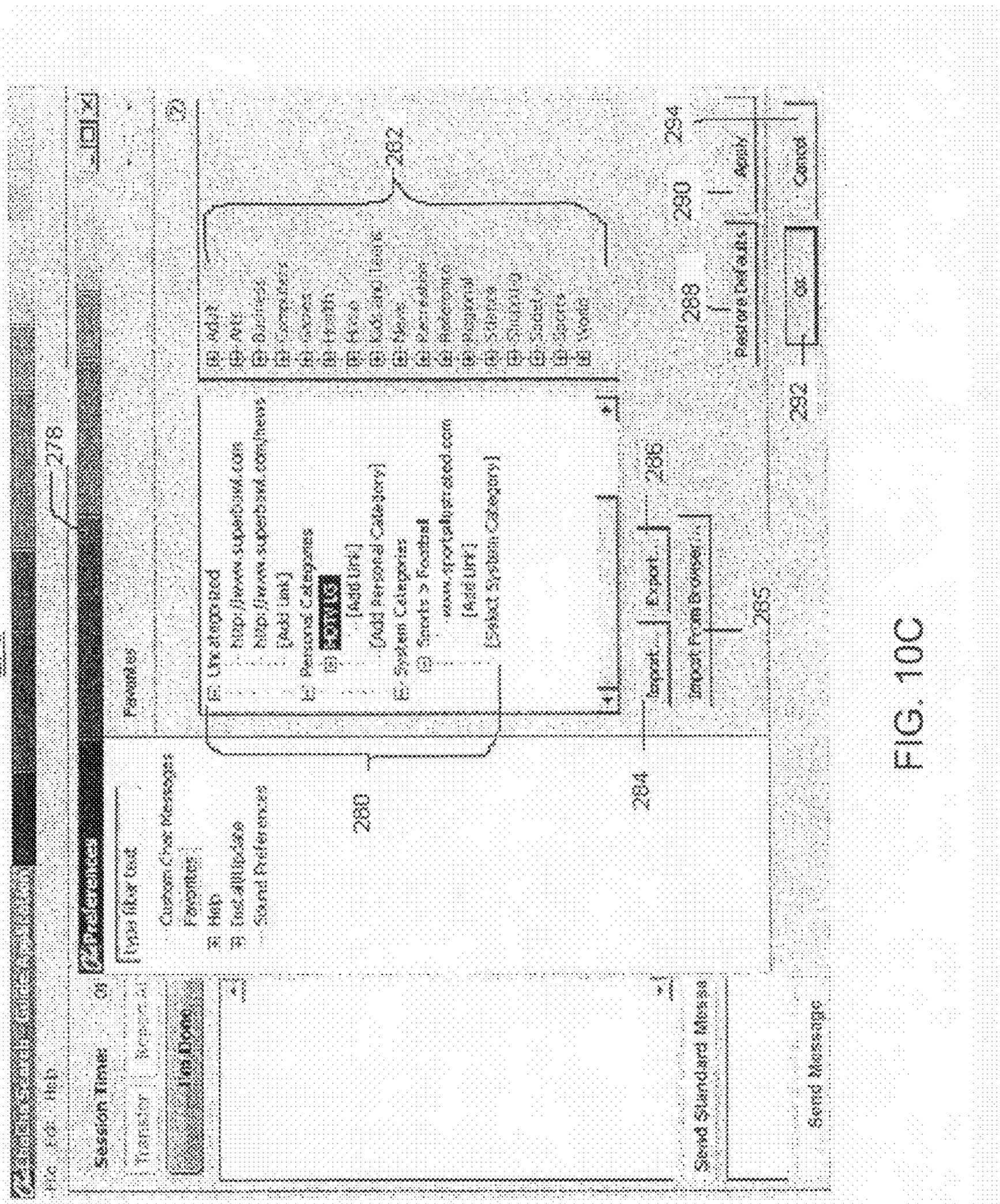

276
278
282
284
286
288
290
292
294
Preview
Cancel
Apply
Help
Add Attachment
Send Reference
Send Standard Mail
Send Message

FIG. 10C

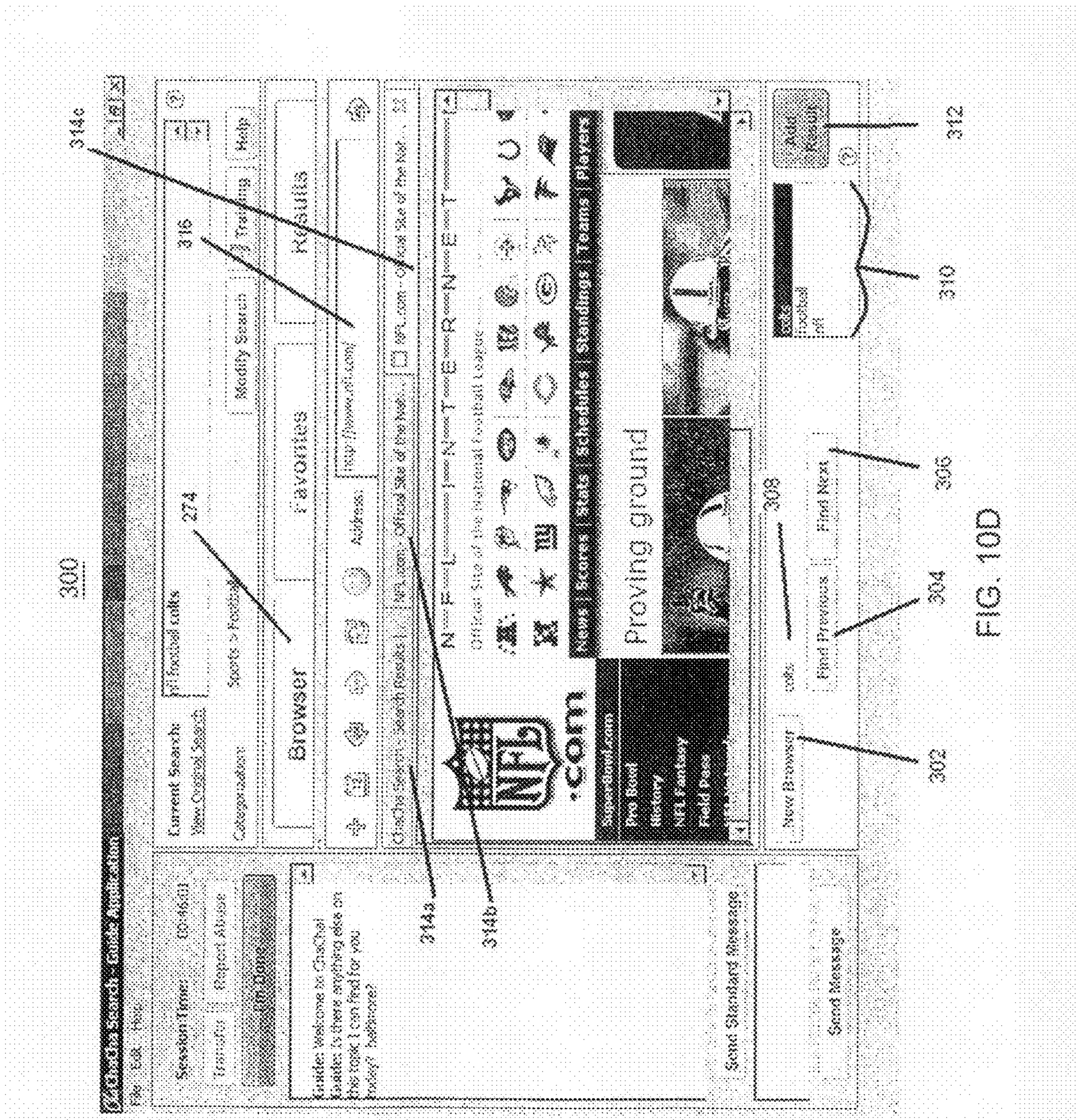

300
302
304
306
308
310
312
314a
314b
314c
316
274
Browser
Favorites
Proving ground
Send Standard Message
Send Message

FIG. 10D

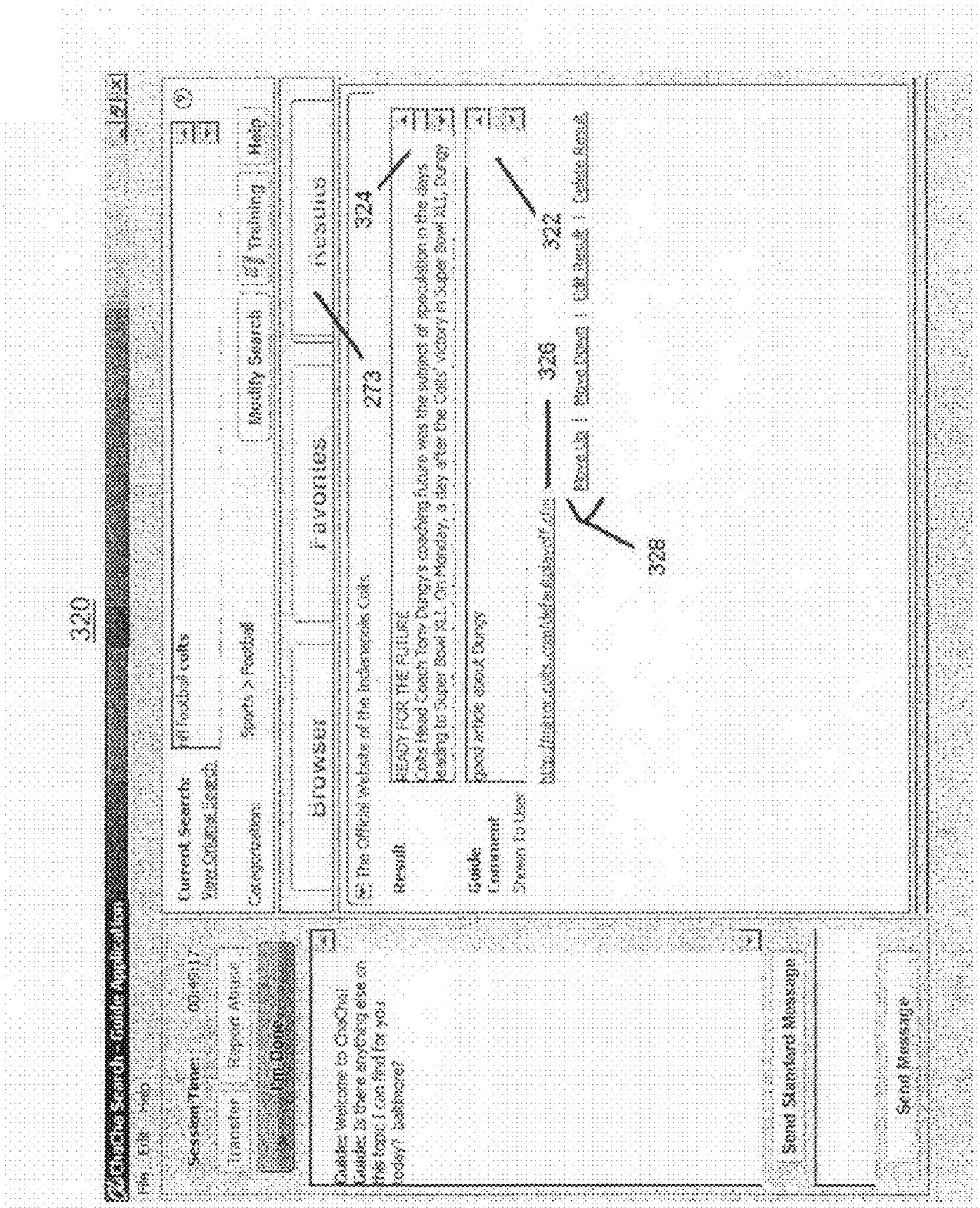

320
Favorites
Browser
273
322
324
326
328
Send Standard Message
Send Message

FIG. 10E

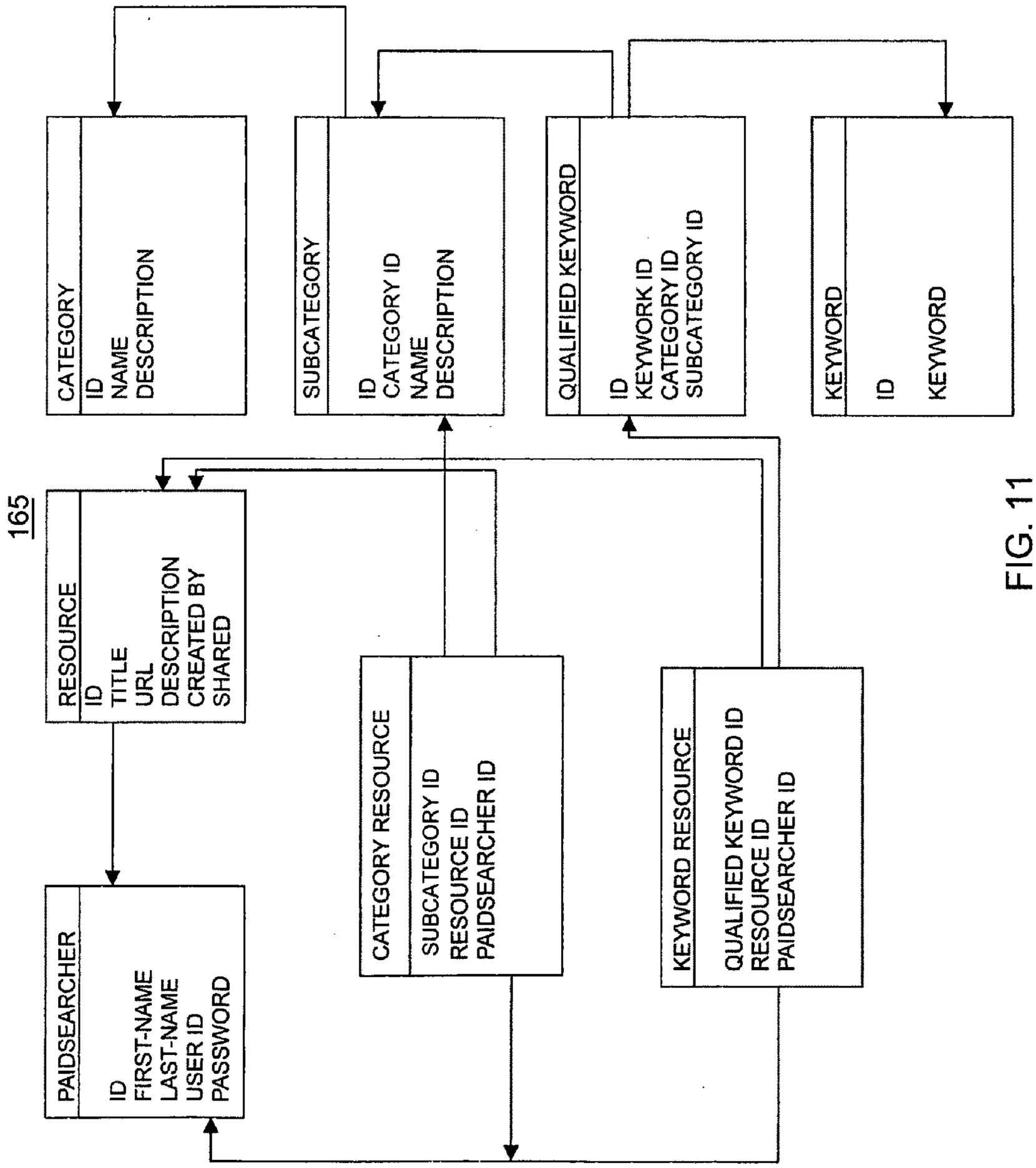

165
CATEGORY
ID
NAME
DESCRIPTION
SUBCATEGORY
ID
CATEGORY ID
NAME
DESCRIPTION
QUALIFIED KEYWORD
ID
KEYWORK ID
CATEGORY ID
SUBCATEGORY ID
KEYWORD
ID
KEYWORD
RESOURCE
ID
TITLE
URL
DESCRIPTION
CREATED BY
SHARED
CATEGORY RESOURCE
SUBCATEGORY ID
RESOURCE ID
PAIDSEARCHER ID
KEYWORD RESOURCE
QUALIFIED KEYWORD ID
RESOURCE ID
PAIDSEARCHER ID
PAIDSEARCHER
ID
FIRST-NAME
LAST-NAME
USER ID
PASSWORD

FIG. 11

```
< QUERY >

        < ORIGINAL >
                Original query text as submitted by user/requester
        < /ORIGINAL >

        < PARSED >
                Query broken down into individual keywords without stop word(s)
        < /PARSED >

        < KEYWORDS >

                < KEYWORD >
                        < KEYWORD CATEGORY = "___"  SubCategory = "___"  Value = "___" >
                                < RESOURCES >
                                        < RESOURCE TITLE = "___" >
                                                URI
                                        < /RESOURCE TITLE >
                                                •
                                                •
                                                •
                                        < RESOURCE TITLE = "___" >
                                                URI
                                        < /RESOURCE TITLE>
                                < /RESOURCES >
                        < /KEYWORD CATEGORY >
                < /KEYWORD >
                        •
                        •
                        •
                < KEYWORD >
                        < KEYWORD CATEGORY = "___"  SubCategory = "___"  Value = "___" >
                                •
                                •
                                •
                        < /KEYWORD CATEGORY >
                < /KEYWORD >

        < /KEYWORDS >

< /QUERY >
```

FIG. 12

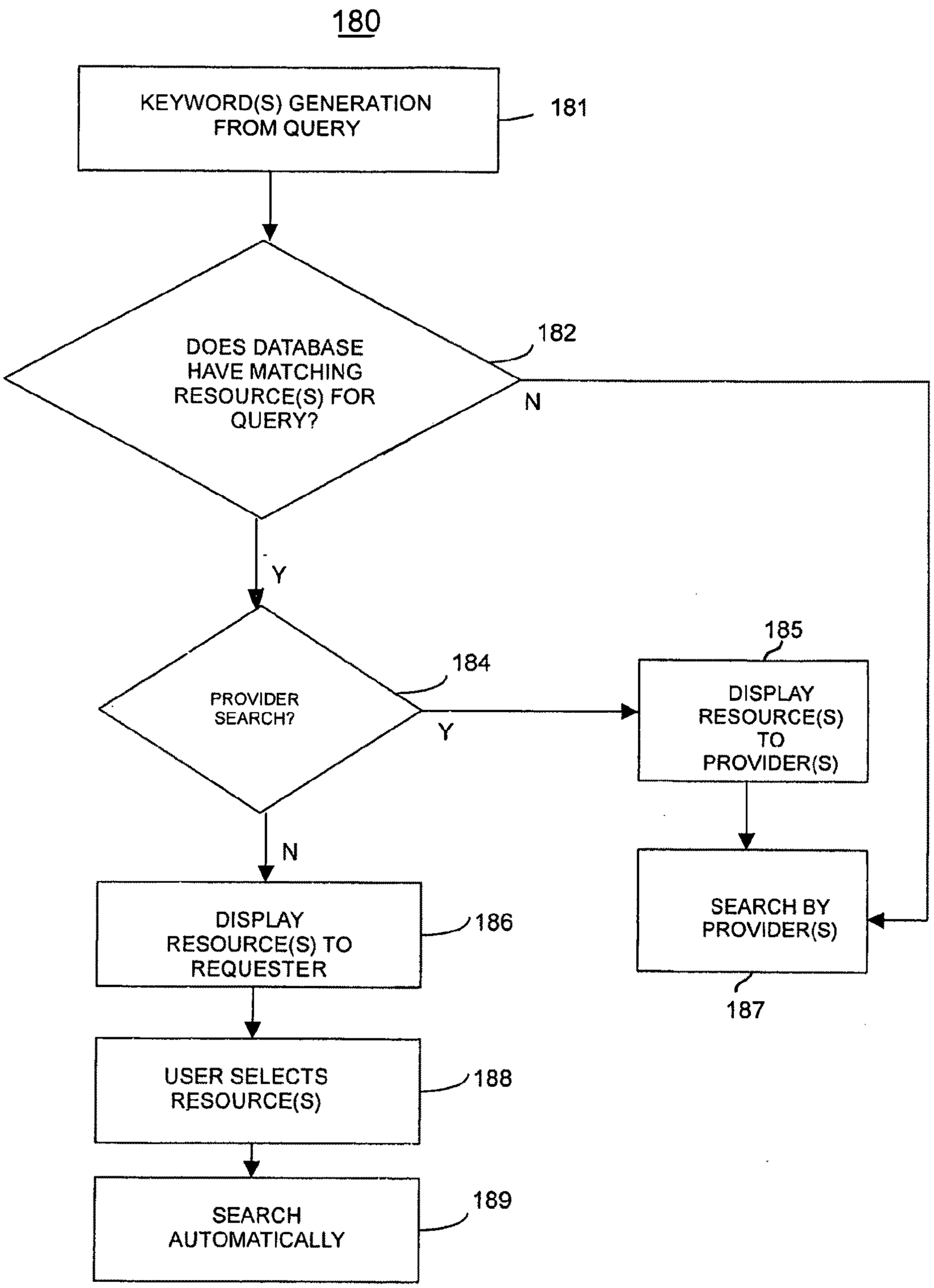

180
KEYWORD(S) GENERATION FROM QUERY
181
DOES DATABASE HAVE MATCHING RESOURCE(S) FOR QUERY?
182
N
Y
PROVIDER SEARCH?
184
Y
185
DISPLAY RESOURCE(S) TO PROVIDER(S)
N
SEARCH BY PROVIDER(S)
187
DISPLAY RESOURCE(S) TO REQUESTER
186
USER SELECTS RESOURCE(S)
188
SEARCH AUTOMATICALLY
189

FIG. 13

METHOD AND SYSTEM FOR SHARING AND ACCESSING RESOURCES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is related to and claims the benefit of U.S. Application Ser. No. 60/807,426, filed Jul. 14, 2006, inventor Scott A. Jones, et al., titled METHOD AND SYSTEM FOR SHARING AND ACCESSING RESOURCES, and U.S. application Ser. No. 11/774,852, filed Jul. 9, 2007, inventor Scott A. Jones, et al., titled METHOD AND SYSTEM FOR SHARING AND ACCESSING RESOURCES in the United States Patent and Trademark Office, the disclosures of which are incorporated herein by reference.

BACKGROUND

[0002] 1. Field

[0003] The present invention is directed to use of resources for searches and, more particularly, to associating a resource with at least one category or keyword and making the resource available for subsequent searches associated with the category or keyword.

[0004] 2. Description of the Related Art

[0005] Although the increasing amount of information that has become available over the Internet has led to the development of various resources such as search engines, Internet directories, etc. that may be utilized to obtain information, locating desired information requires knowledge of resource (s) capable of returning relevant results in response to a search. Aside from the complexity of formulating a search query or keyword for retrieving information using a particular resource, a user must have knowledge of and locate the particular resource to utilize the resource for the search. However, current search environments do not provide users with information about resources best suited for returning information pertaining to a particular subject matter, category or keyword desired by the users.

[0006] Even after a user locates resources that may be suited for a search related to a category or keyword(s), the user must remember which resource(s) produced relevant results for the category or keyword(s) to subsequently refer to the resource(s). Without the user independently providing the resources, other users must independently determine suitability of a resource(s) and locate the resource(s) for a search. Specifically, known methods for sharing of resource(s) among users are at most ad hoc, i.e., e-mails between friends and colleagues which may contain "favorites" or "bookmarks", or a list of links for further research on a website and ordinarily each user independently determines the value of resource(s) for returning results pertaining to a given subject matter.

[0007] Locating resources for searches is even more difficult for users of portable devices such as cellular phones because multiple searches may be required to determine which resources are capable of returning desired information, requiring the users to repeatedly interact with and view contents resulting from the searches. Cellular phone users are sometimes frustrated by the limited display capability and awkward input methods of cellular phones, which further complicates searches when using a cellular phone and other similar devices.

[0008] Although various types of resources are available for locating information via the Internet, there is a need for a method and system for efficiently sharing and accessing resources among users.

SUMMARY

[0009] A system and method are disclosed for sharing resource(s) across a network including identifying a resource utilized for a search in association with a keyword contained in the search (sometimes referred to as a search query) and distributing the resource to providers registered to accept searches related to the keyword. The keyword, which may be comprised of multiple words, may represent the entire search query. Given that a keyword may represent the entire search query, references to keyword in the text below would also apply to a search (or a search query).

[0010] The method and system include determining whether a keyword associated with a query has corresponding resource(s) and identifying that search resource to a requester and/or provider.

[0011] The system may include a requester device submitting a query, a provider device receiving the query for a search and a database for storing at least one resource associated with retrieving information pertaining to content of the query.

[0012] The method includes recording prior usage of resources in association with a keyword or category, displaying the resource(s) as available resources to providers correlated with the keyword or category and enabling each of the providers to selectively use the resources.

[0013] These together with other aspects and advantages which will be subsequently apparent, reside in the details of construction and operation as more fully hereinafter described and claimed, reference being made to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. **1** is a block diagram of a system for sharing and accessing resources.

[0015] FIG. **2** illustrates an interface for selecting a category or keyword.

[0016] FIG. **3** is a relationship diagram illustrating correlation between categories and resources.

[0017] FIG. **3**A is a relationship diagram illustrating correlation between categories, subcategories, keywords and resources.

[0018] FIG. **4** is a flowchart for displaying resource(s) in association with a category or keyword.

[0019] FIG. **5** illustrates an interface for displaying resources associated with a category.

[0020] FIG. **6** illustrates a Graphical User Interface (GUI) for selecting categories and/or subcategories.

[0021] FIG. **7** illustrates an interface for displaying public and private resources.

[0022] FIGS. **8**A and **8**B illustrate interfaces for configuring resources and associating them with a category and/or keyword.

[0023] FIGS. **9**A and **9**B illustrate interfaces for providing resources associated with corresponding categories.

[0024] FIG. **9**C illustrates an interface for executing search and resource related operations.

[0025] FIG. **9**D illustrates an interface for triggering a search.

[0026] FIGS. **10**A through **10**E illustrate phases of a Graphical User Interface (GUI) for managing and sharing resource(s) associated with at least one category and keyword (s) and/or phrase(s).

[0027] FIG. **11** is a relationship diagram illustrating management of resources.

[0028] FIG. **12** illustrates an example message structure of a query.

[0029] FIG. **13** illustrates a flowchart for providing resource(s) based on association with keywords.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0030] Reference will now be made in detail to the present embodiments discussed herein, examples of which are illustrated in the accompanying drawings, wherein like reference numerals refer to the like elements throughout. The embodiments are described below to explain the disclosed system and method by referring to the figures. It will nevertheless be understood that no limitation of the scope is thereby intended, such alterations and further modifications in the illustrated device, and such further applications of the principles as illustrated therein being contemplated are understood as would normally occur to one skilled in the art to which the embodiments relate.

[0031] A method and system for sharing and accessing resources for searches is disclosed. A resource is a system, an application program, a search tool or any other source from which a provider may obtain information. That resource may be accessible using the Internet, public and private databases including results of previous searches, data accumulated based on a knowledge base accessible to the provider, etc., including text, image, multimedia, or any other electronic information. A provider or searcher (PaidSearcher™) is a human searcher who has registered to accept search requests and may be a professional, an amateur and/or volunteer searcher. A requester (InfoSeeker™) is a user submitting a search request seeking information for the user or on behalf of another person, organization or other entity. A request may be a fully-formed question, or other sentence, keyword(s) or a search phrase, asking for information.

[0032] An exemplary system **20** for sharing and accessing resources is illustrated in FIG. **1**. As shown in FIG. **1**, the system **20** includes server **22** with access to database **24** which may be part of the server **22** or a separate database server connected thereto. The data in the database **24** may be stored in any conventional manner, including in a Network Attached Storage (NAS), a Storage Area Network (SAN), etc. using any conventional or proprietary database software including, MySQL®, Oracle®, SQL® Server, Sybase®, Progress®, DB2®, etc. Hardware platforms such as Windows Server® 2003, LINUX® (Red Hat®, SUSE®, Debian®, CentOS), UNIX® (Solaris™, HPUX, AIX®, SCO®), etc., may be used for the database **24** and/or the server **22**. The system **20** may be similar to the system discussed in U.S. patent application Ser. No. 11/336,928, filed Jan. 23, 2006, by Scott A. Jones, entitled, "A Scalable Search System Using Human Searchers," and incorporated herein by reference.

[0033] The server **22** receives search requests submitted to the system **20**, delivers results returned by provider systems **26** to requesters using requester systems **25** and manages resources **28** utilized by the provider systems **26** with respect to searches. For example, the server **22** manages search requests received by the system **20**, including results submitted in response to the requests and resource(s) used for obtaining results associated with categories, subcategories or keywords in the requests. An exemplary relationship diagram depicting entities involved with managing resources in the system **20** is explained in detail below with respect to FIG. **11**.

[0034] The server **22** communicates with database **24** that maintains records of the resources utilized by the provider systems **26** in performing searches associated with a category or keyword(s) and usage information of the resources, provider(s) who conducted the searches, default resource(s) to be used when a provider is unavailable to accept requests pertaining to a particular category or keyword, etc. The database **24** includes information about category, subcategory or keyword(s) associated with requests and resources used for responding to the requests including categories and keywords defined by the system **20** or that may be determined from requests submitted by users. How resources, categories and keywords are maintained by the system **20** is explained in detail below with respect to FIGS. **2** and **3**.

[0035] The provider systems **26** including provider systems **26***a* through **26***n* are connected with the server **22** and the database **24** via network **29***a* and with resources **28** via networks **29***b* and **29***d*. The provider systems **26** may connect with the resources **28** using the same network or different networks. For example, as illustrated in FIG. **1**, provider system **26***b* may connect to resource **28***c* via network **29***d* and provider systems **26***a*, **26***c* and **26***n* may connect to resources **28***a* and **28***b* via network **29***b*. Networks **29***a*, **29***b*, **29***c*, **29***d* may be a global public network of networks (the Internet) or consist in whole or in part of one or more private networks. For example, resource **28***c* might be accessible to only certain providers via a private network on a college campus. Providers use the provider systems **26** to execute searches submitted to the system **20** by requesters (or InfoSeekers™). The provider systems **26** may be any text- or speech-based systems such as a desktop or laptop computer system, a handheld device, a cellular telephone, a specialized terminal, or any source that allows a provider to conduct a search using one or more of the resources **28**.

[0036] Although provider systems **26** in FIG. **1** are shown to access the resources **28** via networks **29***b* and **29***d*, the present invention does not limit providers to resources accessible only via these networks. As shown in FIG. **1**, provider system **26***c* may use information stored in local disk drive **27**. For example, a provider may use a private database accessible only to the provider such as a database of information previously gathered by the provider, results from previous requests, or from databases that require payment for access or information available to the provider in non-electronic form, such as a book on the provider's bookshelf, knowledge base of the provider, etc.

[0037] A resource may be made accessible to a provider via information such as a URI (Uniform Resource Identifier). A provider may share a resource(s) using URI information. The URI information may be a "bookmark" or "favorite", commonly used in an internet browser application, such as FireFox®, Safari™, Microsoft® Internet Explorer, etc. URI information may be a resource for conducting a search.

[0038] The requester systems **25** are connected to the server **22** via network **29***c*. Similar to the provider systems **26**, the requester systems **25** may be any text- or speech-based device using which a request may be submitted to the server **22**. For example, a requester (i.e., InfoSeeker™) may use requester system **25***a* to request information about the closing time of a

particular restaurant in Indiana using keyword(s), a search phrase, 'passive' data such as GPS, area code, etc. Although the requester systems **25** are shown to connect to the server **22** via the network **29***c* in FIG. **1**, the present invention is not limited to any particular type or number of networks for submitting requests to the server **22** via the requester systems **25**.

[0039] An exemplary embodiment of a graphical user interface (GUI) **40** used by a provider for selecting a category and/or keyword(s) to be associated with the provider is illustrated in FIG. **2**. When a provider registers with the system **20** (FIG. **1**), the provider may identify a category, subcategory or keyword(s) with which the provider is associated. Currently, the system **20** (FIG. **1**) contains 16 categories, approximately 400 subcategories and 1.5 million keywords that are expected to grow based on use of the system **20**. Further, information in the database **24** pertaining to categories, subcategories, keywords, etc., may be licensed from an external source such as Trellian®, located in Australia. As shown in FIG. **2**, the GUI **40** includes categories and keywords frame **42** displaying a list of available categories and keywords maintained by the system **20** (FIG. **1**), a category frame **44** identifying each selected category and a keyword frame **46** indicating each selected keyword. The categories and keywords currently associated with the provider are indicated in category frame **44** and the keyword frame **46**, respectively. For example, in FIG. **2**, the category pertaining to "Arts & Crafts" and the keywords "acrylic paint" and "basketball" are currently selected to be associated with the provider.

[0040] A provider may modify category or keyword(s) associated with the provider by selecting a category and/or keyword(s) from the categories and keywords frame **42** and selecting button **45***b* which respectively adds the selected category and/or keyword(s) to the category frame **44** and the keyword frame **46**. Similarly, the provider may remove or de-select a category or keyword(s) associated with the provider by selecting the category from the category frame **44** and/or the keyword from the keyword frame **46** and using button **45***a* to de-select the category and button **45***c* to de-select the keyword(s). While selection and de-selection of a category or keyword(s) is described using buttons **45**, the present invention is not limited to any particular interface for enabling a provider to select or de-select a category or keyword with which the provider is associated. For example, a provider may select or de-select a category and/or keyword(s) by clicking thereon and dragging and dropping the category or the keyword(s) between the categories and keywords frame **42**, the category frame **44** and/or the keyword frame **46**. Some categories, subcategories, or keywords might be restricted in the system **20** (FIG. **1**) so that they may not be able to be selected at a particular time and statistical information may be displayed with the categories, subcategories, or keywords as described in U.S. patent application Ser. No. 11/336,928. Some categories, subcategories, or keywords may also be associated with a provider by the system, which may be related to geographic data (GPS, zip code), or other attributes of the provider.

[0041] As shown in FIG. **2**, the GUI **40** includes a save button **48** for storing a current modification to a category and/or keyword associated with a provider including selection and/or de-selection of the category and/or keyword and a cancel button **49** for canceling the current modification. For example, a category selected in response to a current operation of the provider may be stored in the database **24** (FIG. **1**) in association with the provider when the save button **48** is selected and cancelled when the cancel button **49** is selected.

[0042] FIG. **3** is a simplified example of a relationship **70** illustrating correlations between categories/keyword(s) **41** maintained in the database **24** of system **20** (FIG. **1**) and resources **72** associated with searches for those categories/keywords **41** (described in FIG. **11** in detail). For example, for search request(s) related to the keyword "AMD", Wikipedia.org and AMD.com are identified as resources associated with the keyword "AMD." As another example, Yahoo.com and NCAA.com were used as resources for search request(s) associated with the keyword "College Basketball."

[0043] Preferably, the disclosed method and system extract content of a search request and determine how influential a keyword is within the search request string to associate the search request with one or more categories/keyword(s) **41** and resources **72**. Determination of influence of keyword(s) is explained in detail below with respect to FIG. **12**. Although a particular keyword may cause the system **20** (FIG. **1**) to select a provider who is associated with that particular keyword, the system **20** may present resource(s) to that provider that are tied to one or more of the keywords (or categories or subcategories) in the query phrase. In other words, resources may be gathered from the resource lists associated with multiple keywords (categories and/or subcategories).

[0044] FIG. **3**A is a simplified example of a relationship table **200** illustrating correlations between categories **202**, subcategory **204** and resources **208** maintained in the database **24** of system **20** (FIG. **1**). As shown in FIG. **3**A, the relationship table **200** may include name **206**, description **210** and resource information **208** of the resources correlated with each category **202** and subcategory **204**. For example, the web site of Animation World Network™ is identified as a resource for request(s) related to the category "Arts", specifically the subcategory "Animation."

[0045] An exemplary process **30** for presenting resource(s) to providers is illustrated in FIG. **4**. As shown in FIG. **4**, process **30** begins by recording resource(s) used for search(es) **32**. When a search is executed using one or more resources associated with a category or keyword(s), the resource(s) are recorded. For example, when ESPN.com®, NBA.com and Yahoo.com are used for a search to locate information in response to a request associated with the keyword "basketball", ESPN.com®, NBA.com and Yahoo.com are stored as resources associated with the keyword "basketball."

[0046] Recording resource(s) used for search(es) **32** includes storing information with respect to the resources such as Uniform Resource Identifiers (URIs), Uniform Resource Locators (URLs), other links, sequences of operations or web pages for accessing the resources including paths to the resources, an index to a particular location of a resource within a web page, possibly a username/password for access, etc. Information of the recorded resource(s) may include text, images, links, HTML, Internet directories, macro commands for accessing resources, etc. For example, an access process for a resource(s) may be programmed such that subsequent access to the resource is automatically executed.

[0047] After recording the resource(s) **32**, process **30** continues by associating **34** the resource(s) with a category or keyword(s) based on usage. Using the example of FIG. **3**, ESPN.com®, NBA.com and NCAA.com may be associated with the category "sports", the keyword "basketball" and/or other relevant categories or keywords including but not lim-

ited to "professional basketball", "athletes", etc. That is, a correlation is created in database **24** of system **20** (FIG. **1**) between the resources and the keyword as visually depicted in FIG. **3** (see also FIG. **11**). Furthermore, specific pages at these websites might be used, such as "soccernet.espn.go.com" where a search for "Michael" might return only an advertisement related to Michael Vick, whereas the same search on the ESPN® home page might provide easy access to news related to Michael Vick.

[0048] Subsequent to associating **34** the resources with a category or keyword(s), process **30** continues by displaying the resource(s) **36** to providers registered to receive requests related to the category or keyword(s). As described above, each provider registered with the system **20** (FIG. **1**) may identify at least one category or keyword, with which the provider is associated for search requests. Further, the category or keyword(s) selected by a provider may be updated or modified by a provider as needed, for example, as a provider's experience develops, area(s) of interest change, etc. The system **20** (FIG. **1**) may offer new keywords, categories, or subcategories, for example, when providers gain access to resources, demonstrate greater expertise, or otherwise improve, or the system **20** may preferentially restrict providers from signing up for new keywords, categories or subcategories. In addition, a provider may be associated with multiple categories or keywords and receive requests associated with any of the categories or keywords.

[0049] Displaying resource(s) to providers includes identifying provider(s) registered to accept searches which are associated with one or more category or keyword indicated in the categories and keyword(s) frame **42** (FIG. **2**). For example, a provider registered to accept requests pertaining to the keyword "basketball" will be presented with resource (s) associated with the keyword "basketball" while resource (s) associated with the category "arts & crafts" will be displayed to a provider registered to accept requests pertaining to the category "arts & crafts."

[0050] After displaying the resource(s) **36** to providers process **30** continues modifying resource(s) **38** in accordance with input from the providers, change in use of the resource(s) or any other factor affecting association of the resource(s) with a particular category or keyword(s). For example, when a provider does not find a resource useful, or changes the resource's association with a particular category or keyword, or modifies the path of a resource to direct the provider to a particular index within the resource, etc., the resource(s) may be modified, customized, etc. to be specific to the provider.

[0051] FIG. **5** illustrates a GUI **50** for selecting resources associated with a category. As shown in FIG. **5**, for category **58** directed to "basketball", resource windows **52**, **54** and **56** are configured to display contents obtained from resources associated with that category. For example, the resource windows **52**, **54** and **56** may display contents obtained from ESPN.com®, NBA.com and NCAA.com that are associated with the category "basketball." Although three resource windows are indicated in FIG. **5**, the GUI **50** may include any number of resource windows in which the contents of resources are displayed. The resource windows **52**, **54** and **56** may display information including text, images, links, videos, etc., using HTML, XML, XHTML, cascading style sheets, Java Script, etc., or other data available over the Internet and/or from a local network which can be accessed by the system **20**.

[0052] In a preferred embodiment, a predetermined number of resources are displayed to a provider using GUI **50** during initial login to the system **20** (FIG. **1**). For example, the six most commonly used resources associated with a category or keyword(s) for which a provider is registering may be pre-selected based on usage of resources by other providers associated with the category or keyword(s) for presentation to a provider. The present invention is not limited to any particular criteria for determining which resources to present to a newly registered provider. For example, a newly registered provider associated with the category "basketball" may be presented with a predetermined number of resources associated with categories or keywords of registered providers who have fulfilled requests associated with the category "basketball" or the keyword "NBA" or with resources identified by the administrator(s) of the system **20** (FIG. **1**), or by any combination of these. Further, resource(s) may be defined for a category or keyword for which no provider has registered by administrator(s) of the system **20** which may be superceded by usage of the resource(s) over time, modified by providers given special authorization such as highly successful veteran providers, etc. Some providers may also be restricted from adding resources until they demonstrate proficiency, skill, seniority, etc.

[0053] The resource windows **52**, **54** and **56** are each provided with elements **60**, **62**, **64** and **66** for viewing and navigating contents displayed therein. More specifically, elements **60** and **62** enable scrolling up and down within each resource window **52**, **54** and **56** and elements **64** and **66** enable scrolling from one side of each resource window **52**, **54** and **56** to the other. The elements **60**, **62**, **64** and **66** may be similar to typical graphical user interfaces of application programs that provide navigational capabilities on a page of information.

[0054] The GUI **50** may include a transfer button **63** enabling a provider to pass a request to another provider if a provider does not feel qualified to conduct a search in response to a request and preferably includes a configure button **65** to allow a provider to view and modify resource(s) as explained in detail below with respect to FIG. **7**. For example, a transfer operation discussed in U.S. patent application Ser. No. 11/336,928 may be used to transfer a request to a suitable provider.

[0055] If a provider does not feel qualified to fulfill a request that was assigned to the provider, the provider may transfer a request to another provider via the transfer button **63** to preferably get the requester better results expeditiously. The provider may also be compensated in some way for choosing to transfer a request to another provider. In some cases, the compensation for the original provider may be dependent upon the success of the next provider. However, if the request is transferred more than a preset number of times (e.g. 3 times), then the server **22** (FIG. **1**) may return a "default" answer of at least one of the top resources associated with the keyword(s) of the query string. This ensures, for example that the requester is receiving no worse results than those of at least one of the top search resources.

[0056] When a provider selects to "transfer" a request to another provider, the request may be sent back to the server **22** (FIG. **1**) to select another provider based on keywords, etc. The provider may also transfer a request to another provider by selecting keyword(s) that seems most likely to have providers associated with it that will be able to fulfill the request. In other words, a human can determine what seems to be the

most relevant keyword in the request. Further, the provider can clarify the request by adding or modifying the category or keyword(s) associated with the request for the next provider. As part of the transfer, some or all of the "instant message" or "chat" interaction between the requester and the first provider (as described in the interface below) may be transferred to the subsequent provider so that there is history and context that does not need to be repeated between the requester and the new provider.

[0057] The transfer capability illustrated with FIG. **5** may be used to give keywords their ranking, and influence the selection of provider(s) during initial routing of a request to an appropriate provider(s). For example, if an initial provider (associated with an initial keyword) identifies additional or different keyword(s) to associate with this request, the weighting of the initial keyword may decrease and the weighting of the new keyword(s) may increase.

[0058] FIG. **6** illustrates a GUI **220** providing a tree-view and/or outline view for selection of categories, subcategories and keywords maintained in the system **20** (FIG. **1**). As shown in FIG. **6**, the GUI displays hierarchical information of categories and subcategories **43** identifying keywords **47** associated with a specific category and subcategory that are maintained by the database **24** (FIG. **1**). For example, a provider may be presented with category(ies) and/or subcategories with which the provider was associated during registration or that contain keyword(s) with which the provider can choose to be associated. As indicated by the boxes denoted a, b, c, for example, the provider may choose "sports" as a category, "basketball" as a subcategory from the categories/subcategories **43** and "shoes" as a keyword **47**. Upon selection of a keyword, a provider may add the keyword to be associated with the provider using sign-up button **61**, remove the keyword from being associated with the provider using release button **67**, or configure resource(s) associated with the keyword with which the provider has been associated using configure button **65**. Configuration of resource(s) is explained in detail below with respect to FIGS. **7**, **8**A, **8**B, **9**A and **9**B.

[0059] FIG. **7** illustrates an exemplary GUI **80** for viewing and/or configuring resources. As illustrated in FIG. **7**, the GUI **80**, by which the provider may modify resource(s) associated with category(ies), subcategory(ies), or keyword(s), includes a public workspace **82** displaying resource(s) available to any provider(s) that have registered for accepting searches associated with the categories, subcategories and/or keywords and a private workspace **84** identifying custom resources available to a specific provider or provider network as described in U.S. application Ser. No. 11/647,309, filed Dec. 29, 2006, inventor Scott A. Jones, et al., titled INSTANT MESSAGE NOTIFICATION OF SERVICE PROVIDERS, which is incorporated herein by reference. For example, the public workspace **82** may be created by selecting a provider in the database **24** (FIG. **1**), following the links to associated keyword(s) of that provider, and/or from the keyword(s), identifying corresponding resource(s). While the public workspace **82** shows multiple categories/subcategories/keyword(s) **41** and associated resources **72**, the present invention is not limited to any particular interface for presenting the categories/subcategories/keyword(s) **41** and associated resource(s) **72**. For example, as denoted by dotted line **85** in the configure screen **80**, a provider may be presented with a screen that identifies custom resource(s) **90** specific to a particular category, subcategory or keyword associated with the provider and other categories, subcategories or keywords and/or resources accessible to any provider(s) may be displayed in another screen.

[0060] Alternatively, the public workspace **82** may also include resource(s) used for requests associated with categories, subcategories and/or keywords for which a provider has not registered. For example, a selected number of resources from each category, subcategory and/or keyword may be presented to a provider as secondary resources while resources of a category, subcategory and/or keyword associated with the provider are presented as primary resources. In addition, particular resources, for example, those most used by providers associated with a category, subcategory and keyword may be presented to a requester when a provider is unavailable for requests associated with that category, subcategory or keyword. Accordingly, resources for a particular request associated with non-primary keywords (i.e. keywords that were not associated with the provider chosen to accept a request) may be presented to all providers and/or the requester.

[0061] In addition, providers may selectively share resources. For example, certain resources may be shared with a set of providers associated with a keyword while other resources are shared with a set of providers registered in association with a different keyword. As such, a provider may choose to share some resources that reveal privileged information (e.g. this disclosure) with registered providers associated with a keyword (e.g., "patents"), while sharing a different set of resources (e.g., the ChaCha® Newsletter) with providers associated with the keyword "any provider." Further, the system **20** (FIG. **1**) may make a determination of functionality of resource(s) presented for use by the providers. For example, the system **20** may periodically check functionality of resources by determining whether the resources have successfully been used for recent searches and confirming usability of resources which have not been used over a period of time.

[0062] The configure screen **80** includes a help button **86** providing assistance in configuring resource(s) in the private workspace **84**. Although help is triggered via the help button **86**, the present invention is not limited to any particular interface for providing assistance. For example, the help may be offered by selecting an option in a drop-down menu, dragging a question mark to an area on the screen, sending an e-mail to another provider or the system administrator(s), etc. The configure screen **80** may also provide a description of resources **72***a*, **72***b*, **72***c*, **72***d*. For example, if a provider wants to know about a particular resource, the provider may "cursor over" the resource to view a description pertaining to the resource. However, the configure screen **80** is not limited to any particular way of presenting information of a resource, for example, a pop-up window displaying description information of the resource may be provided when a provider selects the name of the resource, etc.

[0063] The public workspace **82** includes resources **72***a*, **72***b*, **72***c*, **72***d* that are presented to any associated providers including resources which have been previously identified, for example, during initial registration by other providers, based on actual usage of the resources by other providers, by providers adding resources using the configure button **65** (FIGS. **5** and **6**), by providers using resources spontaneously during a real-time (or non real-time) search on behalf of a requester, etc. The configure screen **80** provides the resources **72***a*, **72***b*, **72***c*, **72***d* as recommended (public resources).

Although resources **72***a*, **72***b*, **72***c*, **72***d* may be displayed to all providers associated with the displayed categories/keywords **41***a*, **41***b*, **41***c*, **41***d*, respectively, preferably, a provider is able to selectively use any of the resources **72***a*, **72***b*, **72***c*, **72***d*. For example, a provider may choose to de-select one or more of the resources **72***a*, **72***b*, **72***c*, **72***d* that have marks indicating selection for current use in boxes **92***f*, **92***g*, **92***h*, **92***i* and/or select other(s) by placing a mark next to resources indicated as being unselected by the absence of a mark in corresponding boxes **92***f*, **92***g*, **92***h*, **92***i*.

[0064] The private workspace **84** indicates custom resources specific to a provider and may include elements such as icons, checkboxes, URL input field(s), etc., to allow the provider to have a unique individual control over resources to be used. The private workspace **84** includes input fields **90***a*, **90***b*, **90***c*, **90***d*, **90***e* for entering new resources such as URLs of web sites, Internet directories such as Zeal®, DMOZ, personal knowledge base(s), etc. to be added as resources by a provider, and share buttons **94** for specifying resources a provider wishes to share with other providers registered in the system **20** (FIG. **1**). For example, if a provider finds that Mamma.com® returns relevant results for requests associated with the category "health", the provider may identify the URL in the field **90***a* and select share **94***a* to make it a shared resource for the category "health" in the public workspace **82**, which may cause it to be made accessible via the public workspace **82**.

[0065] As shown in FIG. **7**, the resources **72***a*, **72***b*, **72***c*, **72***d* and the input fields **90***a*, **90***b*, **90***c*, **90***d*, **90***e* may be provided in a scrollable manner where elements **81***a* and **81***b* enable scrolling up and down a list of resources. The elements **81***a* (shaded triangle) and **81***b* (unshaded triangle) may be used to indicate that there are other available resources viewable by scrolling and indicate that all shared resources of a category are currently displayed, respectively.

[0066] When a provider identifies a resource to be shared with other providers, the provider may be able to input information pertaining to the resource such as a URL, a resource path, associated category or keyword(s), title, or any other information describing the resource to be shared. The provider may share information about any resource including information pertaining to an application, a search tool or any other information relevant to use of the resource. For example, a provider may specify a page from a web site in the input field **90***a* in association with a category or keyword and select the share button **94***a* to make the page available to other registered providers associated with the category or keyword. In such a situation, an entry is made into the database **24** of the system **20** (FIG. **1**) associating the category or keyword to an entry added to the database **24** for the resource, the page address in this case. The share functionality presented via the configure screen **80**, however, is not limited to sharing of a particular type of resource information. For example, a program code identifying a series or sequence of operations or string of characters required for locating a resource may be specified in the input fields **90** and shared among other providers.

[0067] The configure screen **80** may indicate rank of usage **83** of resources, for example, based on a ratio of the number of registered providers associated with a category or keyword (s) who have selected a particular resource for requests associated with the category/keyword(s) compared to the total number of registered providers associated with the category or keyword(s). In the example illustrated in FIG. **7**, 8 of the 10 providers registered for the category "sports" use ESPN.com® for searches, while 5 of the 10 providers use NFL.com. However, the ranking of resources in the present invention is not limited to any particular criteria or threshold and any other factor pertinent to efficient and accurate searches may be considered in ranking resource(s). For example, if 50% of the providers that are registered for the category "basketball" use ESPN.com® as a resource for conducting searches and 20% use Yahoo.com, corresponding percentages may be indicated as rank of usage **83**.

[0068] In addition, as the number of resources used by providers increases, only the highest-ranking resources may be displayed in the public workspace **82**. Using the same example discussed above, since Yahoo.com is used by 20% and ESPN.com® by 50% of providers registered for the category "basketball", Yahoo.com may not be presented as a resource in the public workspace **82**. Further, resources in the public workspace **82** that are utilized by less than 50% of the providers associated with a category or keyword may be indicated with a different characteristic, for example, may be grayed out while those used by more than 50% are not, although the checkboxes **92** would remain active permitting selection of lower ranked resources.

[0069] The resources **72***a*, **72***b*, **72***c*, **72***d* may also be ranked by tracking resources used to return search results to requesters by providers using the server **22** (FIG. **1**) and ranking the resources most heavily used to return results higher than those that are used for searching, but not for supplying results. This, for example, may provide better ranking of resources because the ranking is tied to results returned to the requesters as opposed to popularity among providers.

[0070] FIGS. **8**A and **8**B illustrate configure screen **120** and **160** pertaining to the category "basketball" and the keyword "college basketball", respectively. For example, when a provider selects the category "basketball" and selects the configure button **65** shown in FIG. **6**, the configure screen **120** is presented to the provider to enable configuration of resource (s) associated with the category "basketball." Using the same example, if the provider had selected the keyword "college basketball" from the listed keywords **47** (FIG. **6**) and selected configure button **65**, configure screen **160** pertaining to the keyword "college basketball" is presented to the provider.

[0071] As shown in FIG. **8**A, the configure screen **120** includes a list of resources **72***e* that are shared among providers associated with the category "basketball" and a list of resources **72***f* that are particular (or customized) to a provider. The configure screen **160** in FIG. **8**B illustrates shared resources **72***g* with respect to the keyword "college basketball" and provides input fields **90***f* and **90***g* for enabling input of new custom resources **72***h* such as URLs of web sites, Internet directories, etc., to be added as resources by a provider. Similar to the configure screen **80** shown in FIG. **7**, the configure screens **120** and **160** include checkboxes **92***j*, **92***k*, **92***l*, **92***m* indicating selection or de-selection of resources **72***e*, **72***f*, **72***g*, **72***h* and input fields **90***f* and **90***g* for current use and share buttons **94***f*, **94***g*, **94***h*, **94***i* allowing a provider to share particular resource(s) with other providers registered in the system **20** (FIG. **1**).

[0072] The configure screens **120** and **160** may include usage indicators **83***e* and **83***f* to provide information pertaining to use of resources **72***e* and **72***g* by providers associated with the category "basketball" and the keyword "college basketball", respectively. As mentioned above with respect to FIG. **7**, the usage indicators **83***e* and **83***f* may indicate use of

the resources, for example, based on selection of a corresponding resource for use by providers registered for a particular category, subcategory and/or keyword. When a provider has completed configuring resource(s), the provider may use a save button **48***a* to store a selected configuration or may cancel the selected configuration using a cancel button **49***a*. Accordingly, providers can manage associated resources at the category, subcategory and/or keyword level.

[0073] When a provider is fulfilling a query request (in a session with an InfoSeeker™), the provider is not limited to any particular resource configured as discussed above with respect to FIGS. **8**A and **8**B. For example, a provider may use other resources on an ad-hoc basis without being restricted to any resource to retrieve information in response to a query from a requester. As illustrated in FIGS. **8**A and **8**B, the system **20** (FIG. **1**) enables a provider to dynamically add a resource to the custom resource list associated with the category "basketball" and the keywords "college basketball" by selecting add resource buttons **122** and **162**, respectively. The add resource buttons **122** and **162** may be implemented within a browser component of a provider application program enabling the system **20** (FIG. **1**) such that each defined resource associated with a query may be launched in individual embedded browser panes within the application program used by a provider as illustrated in FIG. **5**. The provider may also launch ad-hoc browser requests in embedded browser panes as described in U.S. application Ser. No. 11/647,286, filed Dec. 29, 2006 inventor Scott A. Jones, et al., titled AUTOMATED TOOL FOR HUMAN ASSISTED MINING AND CAPTURING OF PRECISE RESULTS, which is incorporated herein by reference.

[0074] Exemplary sign-up windows preferably displayed when registering to accept requests associated with different categories or keywords are illustrated in FIGS. **9**A and **9**B. As shown in FIG. **9**A, a sign-up window **100** displays resources **72***i* associated with the category "health" which are displayed to a provider upon registering with the system **20** (FIG. **1**). Similarly, a sign-up window **110** displays resources **72***j* associated with the keyword "basketball" which are provided upon registration to the system **20** (FIG. **1**). For example, the sign-up window **100** displays WebMD.com and MedicalNews.com as resources defined and activated for the category "health" to a provider who has just registered while the sign-up window **110** lists ESPN.com®, FoxSports.com® and Yahoo.com as resources defined and activated for the keyword "basketball." Further, as indicated by the marks in checkboxes **92***n*, WebMD.com and MedicalNews.com are currently activated for use for the category "health" and ESPN.com®, FoxSports.com® and Yahoo.com are currently activated for the keyword "basketball" as denoted by marks in checkboxes **92***o*.

[0075] Resources displayed in sign-up windows **100** and **110** display resources as defined by, for example, use by more than half of the registered providers associated with a category or keyword, based on selection by a provider, etc. However, a provider may modify the resources presented in sign-up windows **100** and **110** according to the provider's need. For example, a newly registered provider associated with the category "health" may select NIH.gov and de-select MedicalNews.com as resources prior to selecting the configure button **65***a*.

[0076] The determination of what resources are presented to a new provider may depend, for example, on usage among existing providers who have signed up for that particular category/keyword(s). For example, if 5 of 10 providers for the keyword "basketball" have activated NCAA.com for use, NCAA.com will be provided as a resource associated with the keyword "basketball" in public workspace **82** (FIG. **7**). In addition, for existing providers, change in usage of resources may be indicated. For example, if only 3 of 10 providers associated with the category "sports" were using FoxSports.com® when a provider registered to the system **20** (FIG. **1**) but now 9 of 10 of the providers use FoxSports.com®, an indicator may be located next to where FoxSports.com® appears in the public workspace **82** (FIG. **7**), and may be presented in a screen provided to providers who have not selected it.

[0077] FIG. **9**C illustrates an interface **230** for executing search and resource related operations in at least one embodiment. When a provider registers with the system **20** (FIG. **1**), the provider may be presented with interface **230** for executing a search and/or configuring resource(s). As shown in FIG. **9**C, information associated with a provider may be displayed when the provider accesses the system **20** (FIG. **1**). For example, the information may be a profile of the provider and may include a list of one or more categories for which the provider has registered, personal attributes, skills and interests, recently conducted searches, level of the provider (i.e., apprentice, pro, and master), or any other provider-specific data.

[0078] The interface **230** may also display data pertaining to products and/or services recommended by the provider, advertisements, news, promotions, data of other providers ("buddy network") associated with the particular provider, etc. For example, the provider may choose to include other providers on a "buddy" list or within a network of friends, with which the provider may share information, exchange messages, etc. Although specific examples of the information displayed via the interface **230** are discussed, the disclosed interface is not limited to presenting any particular information and may include an audio file, an image, multimedia data, text, a link, etc.

[0079] The interface **230** may include a logoff/close button **221** for ending a session, a status indicator menu **222** for indicating a provider's (guide's) availability, a practice button **223** enabling a provider to use the interface **230** for training purposes, and an address **225** generated by the system **20** (FIG. **1**) verifying the provider. The address **225** may indicate an identifier (i.e., unique ID) of the provider and the associated logon session, and/or a one-time use token. When a provider indicates unavailability using the status indicator menu **222**, search and training related notifications may not be directed to the provider while such notifications may be provided when the status of the provider is indicated as available. The interface **230** may be provided with navigation tools **226** enabling the provider to navigate through information displayed, which may be similar to typical graphical user interfaces of application programs (e.g., browsers) that provide navigational capabilities. The provider or guide is able to navigate forward and backward as information is presented using the interface **230**.

[0080] The practice button **223** enables provider(s) to use the search tool portion of the interface **230** when there is no pending request from a requester (i.e., InfoSeeker™). A provider may be able to practice performing a search, posting results or accumulating links, etc., without the time pressure associated with serving a customer. In addition, in a situation where a number of requesters is less than a number of avail-

able providers, selected provider(s) may be directed to a training task, such as a supervised interactive search with a human trainer as described in U.S. Ser. No. 60/820,181, titled METHOD, SYSTEM, AND COMPUTER READABLE STORAGE FOR PODCASTING AND VIDEO TRAINING IN AN INFORMATION SEARCH SYSTEM, inventor Scott A. Jones, et. Al., filed Jul. 24, 2006, which is incorporated herein by reference. For example, the system **20** (FIG. **1**) may determine activities of the provider(s) (available or unavailable) at any given time and direct certain provider(s) (i.e., inexperienced, newly registered for a keyword, etc.) to a training session during an idle time.

[0081] When the practice button **223** is selected, window **232** illustrated in FIG. **9**D may be displayed. As shown in FIG. **9**D, the window **232** includes a search query entry field **234** for entering one or more keywords to be used as a target phrase for conducting a search, a start search button **236** for triggering a search session and a cancel button **238** for ending the practice search session. For example, the provider may input "NFL football Colts", "NFL", "football", "Colts" or any variation of keyword(s) or phrase(s) to act as the starting query of a search. While the interface **232** is described using exemplary graphical user interfaces for executing operations, components of the interface **232** are not limited to any particular graphical user interfaces.

[0082] FIG. **10**A illustrates interface **240** for managing resources associated with a keyword and/or phrase and a given category/subcategory combination, which is referred to as a Qualified Key Word (QKW). As shown in FIG. **10**A, the interface **240** includes a field **242** displaying a request (partial or whole) submitted to the system **20** (FIG. **1**) by a requester. For example, a provider (or guide) may select to highlight a portion of a search string from a requester that the provider believes is pertinent, or the search string in its entirety, in the field **242** for conducting a search. The provider may specify the object of the search by modifying keyword(s) in the field **242**. Alternatively, the system **20** (FIG. **1**) may identify the dominant keyword in the search string in the field **242** based on previous keyword(s) and/or phrase(s) for which the provider has registered.

[0083] The interface **240** may include an indicator **244** identifying a primary keyword or phrase for the search, a training flag **246** indicating whether the interface **240** is currently being used for human assisted training purposes (i.e., new providers) as described above, and/or a help button **250** for requesting application assistance. A phrase or keyword in a request may be identified as "primary" based on previous use of the phrase or keyword as a primary subject of search (es), indication by the system **20** (FIG. **1**), uniqueness or generality of the phrase or keyword, selection by administrator of the system **20**, etc. Using the example request in the field **242**, the keyword "colts" or "football" may be highlighted as a primary keyword. As another example, the phrase "heater working car" may develop as a primary phrase based on usage of the phrase in association with previous searches.

[0084] The interface **240** may include a transfer button **63***a* enabling the provider to pass a request to another provider who may be better suited to handle the request and a report button **260** allowing a provider to send report(s) to the system **20** (FIG. **1**). For example, provider(s) may send various types of reports to administrators of the system **20** (FIG. **1**) including but not limited to fraudulent requests from requesters, misuse of the system **20**, unusable resource(s), etc.

[0085] As shown in FIG. **10**A, the request displayed in the field **242** is currently categorized under the category "sports" and the subcategory "events", as shown by the categorization indicator **241**. In a preferred embodiment, when a request that has never been categorized is received via the system **20** (FIG. **1**), the provider may be requested to establish categorization in relation to the request prior to proceeding with a search. The interface **240** enables the provider to establish categorization for a particular request including for any keyword(s) and/or phrase(s) contained in the request. Any of the keywords or combination thereof contained in the request "NFL football Colts" shown in the field **242** may be selected by the provider as a primary object for a search and may be categorized. For example, the provider may highlight the keyword "Colts", select a pop-up option to set the keyword as a primary object for a search, and categorize the keyword with the category "news" and the subcategory "breaking news." While FIG. **10**A illustrates interface **240** using particular categories and subcategories, a request is not limited to being associated with any particular categories and/or subcategory taxonomy.

[0086] The provider may also add a new phrase to the current search using an add new phrase button **243**. Using the example of the request directed to "NFL football Colts", the provider may add the word "Indianapolis" to the search query, set the keyword "Indianapolis Colts" as primary object of the search and categorize the keyword in the category "Sports" and the subcategory "football."

[0087] The interface **240** may include a list **264** displaying a category tree to assist a provider in establishing a category and/or subcategory for keyword(s) and/or phrase(s). The interface **240** may also include category list **264***a* and past categories list **264***b* to provide an alternate way of viewing and selecting categories to assist the provider in finding a desired category. The category list **264***a* may be presented such that when the provider begins typing characters of a category name, a list of categories matching the characters including respective subcategories may be displayed. On the other hand, the past categories list **264***b* may display a list of categories used previously in association with the selected primary keyword or phrase. To assign a category to a request (or a keyword contained in the request), a provider may double-click on or otherwise select any of the categories listed or displayed under the category tree **264**, the category list **264***a* and the past categories list **264***b*.

[0088] The interface **240** may also include a communication interface **262**, enabling a provider to communicate with a requester submitting a request. The communication interface **262** may include a standard message option **262***a* for selecting an automated and/or pre-stored message to be sent to the requester and an input field **262***b* enabling the provider to type a message. The provider may also modify the standard or automated message(s). For example, the provider may select a predetermined message previously prepared (by the provider or made available by the system **20** (FIG. **1**) as a default), add text relevant to a current search, and send the message to the requester.

[0089] When a provider completes a search session, the provider may indicate completion using the "I'm Done" button **248**. Subsequent to sending results to the requester, the provider may verify that the requester is satisfied with the results of the search and may indicate completion of the search session via the "I'm Done" button **248**, or if the provider is unable to find what the requester is looking for or determines that a guide with more specific knowledge of the

new category/subcategory is needed, etc. the provider may transfer the request to another provider using the transfer button **63***a*. While the interface **240** is described using exemplary graphical user interfaces for executing operations, components of the interface **240** are not limited to any particular graphical user interfaces.

[0090] FIG. **10**B illustrates interface **270** for managing resources. When the provider completes categorization and selection of the primary keyword/phrase of a query using the interface **240** (FIG. **10**A), the interface **270**, providing a browser tab **274**, a favorites tab **272** and a results tab **273** may be presented. The favorites tab **272** enables the provider to manage resource(s) associated with the categorized keyword or phrase. In a preferred embodiment, when the provider has established a target categorization (category and subcategory) with respect to one or more keyword(s) or phrase(s) of a request, the interface **240** (FIG. **10**A) may automatically indicate completion. Further, the interface **270** may be disabled until the request is indicated as being properly categorized as determined by the system **20** (FIG. **1**). The browser tab **274** and the results tab **273** are explained in detail below with respect to FIGS. **10**D and **10**E, respectively.

[0091] As shown in FIG. **10**B, the interface **270** activated by the favorites tab **272** includes selectable option buttons for displaying and using personal **272***a*, personal categorized **272***b*, personal system categorized **272***c* and system resources **272***d*. Selecting the personal **272***a* button enables the provider to manage resource(s) which may not necessarily fall under a specific category or which may be generalized search resources, such as Google®, Yahoo!®, or DMOZ. The personal categorized **272***b* option may be used to manage resource(s) that may fall under a provider-defined category. For example, a provider may store resource(s) that may be used for general subject matter which he or she may not want associated with a particular category under the personal **272***a* option and may store a more specific search resource such as a personal database, a directory database that has restricted access, or a searchable resource which does not align with a system-defined category under the personal categorized **272***b* resources option based on a category defined by the provider.

[0092] Resource(s) which the provider may want to associate with the system **20** (FIG. **1**) defined category(ies) and/or subcategory(ies) may be stored and accessed using the personal system categorized **272***c* option. Resource(s) accessed using the personal system categorized option may be resources with restricted access, which may be used by a provider for queries associated with a system defined category, subcategory and/or keyword. Resource(s) associated with a system defined category of a search may be automatically presented and accessed using the system resources **272***d* option. For example, NFL.com may be presented under the system resources **272***d* option when the request "NFL football Colts" is categorized under the category>subcategory "Sports>Football." In a preferred embodiment, resource(s) under the system resources **272***d* option may be assigned based on system parameters such as resources most used by the provider community, as defined by an administrator of the system **20** (FIG. **1**), based on an agreement with a source of the resource (i.e., contract with provider of a resource), etc. In addition, resource(s) under the system resources **272***d* option may be shared among providers registered to do searches pertaining to a keyword or phrase with which the resource(s) are associated. Resource(s) using the personal system categorized **272***c* option may be presented to the provider when a search request is associated with a category by the system or by the provider.

[0093] A provider may upload information regarding resource(s) which the provider has added as a favorite using the provider's browser (on any particular keyword and/or category) and may share the resource(s) manually or automatically, among other providers registered with the system **20** (FIG. **1**). Accordingly, the system **20** (FIG. **1**) allows provider(s) to obtain, record and share information about any of the diverse resources that providers use or discover. Sharing of resource(s) may be accomplished in a number of ways. In a preferred embodiment, when a personal favorite resource is utilized by a provider to return a result, the resource may be added to and displayed when the system resources **272***d* option is selected by any provider(s) associated with a keyword and/or category of a request triggering the result. Further, the system resources **272***d* option may display recommended favorite resources to providers. For example, resources most often used by other providers for searches associated with a category, system selected resources based on keywords of the request, system-sponsored resources associated with a keyword, or category, etc., may be displayed to provider(s) as recommended favorites.

[0094] Similar to the interface **240** in FIG. **10**A, the interface **270** may include a communication interface **263** for communicating with the requester submitting the request. Further, at any point during categorization of a keyword or phrase or conducting a search, the provider may select the view original search **271** option to change the search query string back to the initial search string submitted to the system **20** (FIG. **1**).

[0095] The interface **270** may also include a modify search button **275** for enabling a provider to revise the query or change categorization, if needed. For example, during interaction with the provider using the communication interface **263**, the requester may indicate interest in articles about a specific player of the Colts, at which point the provider may modify the request "NFL football Colts" to "NFL football Peyton Manning" using the modify search button **275**. Likewise an initial query "bass" might be categorized under "Recreation>Outdoors", but during interaction, the provider or guide could discover that the user was interested in the bass guitar, and so needed to categorize the search under "Arts>Music"" in order to obtain appropriate search resources. While the interface **270** is described using exemplary graphical user interfaces for executing operations, components of the interface **270** are not limited to any particular graphical user interfaces.

[0096] Resource(s) displayed and accessed using the favorites tab **272** may be edited using interface **276** shown in FIG. **10**C. For example, to modify resource(s), the provider may choose preferences from the edit menu option provided via the interface **270**. As shown in FIG. **10**C, the interface **276** may include a preferences window **278** providing a pick list **280** for managing resource(s) as favorites. Using pick list **280**, the provider may edit resources including adding/deleting a resource (i.e., web page, Internet directory, etc.), editing URL or description, etc., to be used under uncategorized, personal categories and/or system categories. Resource(s) may be added under uncategorized without having to specify a category. These could be general use search sites (i.e., Google®, Jux2, Yahoo!®, Hakia®, etc.), while resource(s)

stored under personal categories and system categories may be associated with one or more categories.

[0097] As mentioned above, the uncategorized favorites may include resource(s) that the provider wants to use without specifying any category. The personal categories item from the pick list **280** enables the provider to create categories (for example, related to the provider's keywords) for favorite web pages or other resources that the provider may want to store and/or use during a search session directed to a more specific topic, which is not already categorized in the search system **20**. The system categories option enables the provider to store resource(s) under categories already defined by the system **20**. The resources can be utilized by the provider for search(es) on keyword(s) which are determined to fall within those system category/subcategory classifications by the search system, or due to active selection by the provider, as described above.

[0098] A provider may define a personal category, and/or add resource(s) under the defined personal category by typing a URL or using the import **284** button to use lists of URLs, etc., from applications such as a browser and associate the resource(s) with the provider-defined category. For example, a provider may define "Sony HDTV" as a personal category which may be more specific than the categories defined by the system **20** (FIG. **1**) and associate a specific URL (e.g. http://www.learningcenter.sony.us/assets/hpd/hdtv/) with the category. Similarly, a provider may specify a category labeled "NFL football Vietnam" and associate a web page written in Vietnamese which contains NFL® football information with the category. As such, the personal categories may be independent of categories defined by the system **20** (FIG. **1**).

[0099] Personal resources associated with system defined categories may be defined by using the pick list **280** and selecting a system category and/or subcategory from a list **282** and associating resource(s) with the system category and/or subcategory. For example, a provider may select the category "Sports" and the subcategory "Football" and add "sportsillustrated.com" as a personal resource under this system category, by importing the resource info from a file, by directly entering that data, by importing data from a browser, etc.

[0100] The interface **276** enables a provider to create, store, organize, categorize, add, delete, share and/or work with favorite resources, thereby allowing the provider to build a collection of resources and use the resources to provide targeted, relevant results to a requester as quickly as possible. A provider may also use the import button **284** to add resources into his favorites, for example, from a personal hard drive, etc. Resource(s) information may also be stored locally by selecting the export button **286** to export resource information For example, a file containing an exported resource may subsequently be imported to be associated with another category or to restore favorites in a situation where a provider may need to re-install an application used to access the system **20** (FIG. **1**). Providers might also share resource information by sending files containing resource data via email, file transfer protocol (ftp) or any other suitable transmission method.

[0101] The interface **276** may also include an import from browser button **285** for importing resource information stored by a browser and/or a restore defaults button **288** for restoring default favorite resource(s). The apply button **290** allows the provider to accept a set of changes to resource data and associations as selected by the provider. When the provider has completed modifications to the resource(s), the provider may indicate task completion using the OK button **292**, or may close the preferences window **278** without making changes using the Cancel button **294**. For ease of explanation, the interface **276** is explained using graphical user interfaces, however, the disclosed system and method are not limited to any particular type of user interface for interacting with the system **20** (FIG. **1**).

[0102] Accordingly, once a provider has selected a category for a keyword or phrase of the request, the interface **270** (FIG. **10**B) provides respective resource(s) that the provider may have customized to assist in searches. The provider may use the buttons **272***a*, **272***b*, **272***c* and/or **272***d* to select any of the resource(s) stored under the selectable options personal **272***a*, personal categorized **272***b*, personal system categorized **272***c* and system resources **272***d* and trigger a search using corresponding resource(s) via interface **270** shown in FIG. **10**B. The provider may view and interact with the selected search resources by selecting the browser tab **274** from the interface **270**. For example, a commonly used general resource(s) may be selected to be used for a search using the personal resources option **272***a*, and a more specific resource might be used for the same search using the personal system categorized resources option **272***c*. The results of the search from those resources could then be displayed in the tabs **314***a*, **314***b*, and/or **314***c* in the Browser tab **274** of the interface **300** as illustrated in FIG. **10**D.

[0103] As shown in FIG. **10**D, the browser window **274** may include a new browser button **302**, a find previous button **304**, a find next button **306** and an add result button **312**. The new browser button **302** enables the provider to launch a new blank tab in the browser and enter a search resource URL in the address window **316**. For example, as illustrated in FIG. **10**D, the browser window includes tabbed browser windows **314***a*, **314***b*, **314***c* displaying contents from the ChaCha® search engine, NFL.com, etc. The multiple windows may be maximized/restored or minimized with standard interactions by a provider.

[0104] The browser window **274** may display content of a resource and indicate (i.e., highlight) a primary keyword/phrase in the content of the resource. Using the find next button **306** and the find previous buttons **304**, a provider may search through the content for the indicated keyword/phrase. To find the next occurrence of a primary keyword **308** (in this case, the keyword "Colts") that is categorized and used in the search, the provider may select the find next button **306**. Similarly, to find the previous occurrence, the provider may use the find previous button **304**. The provider may switch between different keyword(s) or phrases to be used as the object of the search by selecting any of the keywords or phrases listed in the keyword pick list **310**.

[0105] When a provider wants to add content as a result to be displayed to an InfoSeeker™ as a response to a request, the provider selects the content in the resource to be added and selects the add result button **312** to transfer the data to the Results window. For example, a provider may select a sample text from a web page by dragging a mouse or double-clicking and press the add result button **312** to send the web page with the highlighted text to the requester. A result selected to be added by the provider may be displayed using interface **320** illustrated in FIG. **10**E. As shown in FIG. **10**E, interface **320** includes the tabbed results window **273** having a result **324** selected by the provider in response to the request, a URL **326** of the result and a provider or guide comment **322** to be displayed to the requester with the results. For example, the

provider may insert a personal description of a link to be provided as a result and send the comment to the requester.

[0106] The provider may manage results using the results window **273**. A provider may change the order in which the results are presented to the requester, to delete, or edit the results using selectable options **328**. For example, a provider may list what he considers to be the most relevant result first and the other result(s) following the same ranking. In a preferred embodiment, the results **273** are instantly displayed to the requester as they are added using the add results button **312** (FIG. **10**D) by the provider. Alternately, the provider may accumulate and edit results before sending them as a group to the requester.

[0107] FIG. **11** illustrates a resource entity relationship **165**. As shown in FIG. **11**, primary data structures are provided for provider (or PaidSearcher™), the resource, the category resource and the keyword resource. The primary data structures include relationships pointing to other data types including category, subcategory, qualified keyword and keyword. For example, each provider is associated with a paid searcher data structure maintaining data related to ID, first and last name, user ID, password, etc., and each resource is associated with a resource data structure pertaining to ID, title, URL, description, creator (created by), shared, etc.

[0108] FIG. **12** illustrates a structure of a query used in the system **20** (FIG. **1**). As shown in FIG. **12**, an original query text submitted by a requester is parsed to identify individual keyword(s) in the query including corresponding category, subcategory and keyword(s). A rank may be assigned to a keyword based on influence of the keyword against other keywords in a query based on, for example, use of the keyword for retrieving information by providers, overall frequency of usage by providers and/or requesters, frequency of occurrence in web documents, search queries from other search engines, etc. The "Value" attribute of the "Keyword" element in the XML message may contain an actual keyword/phrase ("nike"). Also, for presentation, the matching end-tags (those identified with the "</" string) should be at the same tab-level as the begin-tag (the matching tag without the "</" prefix). Additionally, all tags/elements listed between the begin-tag and end-tag should be indented one tab-stop.

[0109] Identifying keyword(s) in a query text may include disregarding commonly used words ("stop words") such as "the", "a", "of", etc., that appear in the query submitted by a requester. The identified keyword(s) of a query are matched with resource(s) associated with the keyword(s). For example, the query "Nike basketball shoes" may be identified as containing the keywords "Nike" and "shoes" qualified by the category "basketball" which may be associated with use of Nike.com, Yahoo.com and NBA.com as resources, respectively.

[0110] The query structure illustrated in FIG. **12** may be, for example, an XML message providing a breakdown of a user submitted query including associated resource(s). The resource(s) corresponding to category, subcategory and keyword contained in a given query may be ordered by influence. For example, a resource associated with a particular keyword contained in a query may be ranked higher than a resource associated with a category that has multiple subcategories and/or keywords associated therewith. However, the present invention is not limited to any particular order of presenting resource(s). For example, resources may be ordered according to each keyword in a query based on usage preference of associated providers.

[0111] The query structure shown in FIG. **12** may be presented to both a provider (PaidSearcher™) and a requester (Infoseeker™). The structure may be presented to a provider as an XML message in response to the provider's acceptance of a request to provide resource(s) that are used by the specific provider. On the other hand, an XML message may be presented to a requester when the requester submits a query without provider assistance to present the requester with resource(s) recommended by provider(s) associated with a keyword(s) and/or category of a query.

[0112] FIG. **13** illustrates process **180** for providing resource(s) associated with keyword(s). As shown in FIG. **13**, process **180** begins by keyword generation **181** from a query. As discussed above, a query may entail a fully-formed question/sentence, keyword(s) or a search phrase, etc. A keyword may be generated from a query based on, for example, a weighting attached to each keyword as indicated in the database **24** (FIG. **1**), usage of the keyword over time with respect to queries or to retrieve results in response thereto, or any other factor that may affect determination of relevancy of a keyword in the context of a query for developing relevant results. For example, if "basketball player Austin Croshere" is submitted as a query, the keyword "Austin Croshere" may be ranked higher than the keyword "basketball player" because "Austin Croshere" is more specific.

[0113] After keyword generation **181** from the query, process **180** moves to determining **182** whether the database has matching resource(s) for the query. For example, for the query "basketball player Austin Croshere", assuming keyword "Austin Croshere" is generated **181**, resource(s) such as NBA.com, ESPN.com®, etc., may be determined to match **182** the query. When it is determined that there are no matching resource(s) for the query, the query is submitted for search by provider(s) **187**.

[0114] On the other hand, upon determining that there are matching resource(s) for the query, process **180** continues to determining whether the search is a provider search **184**. When it is determined that the query is submitted for a provider search, the resource(s) are displayed to the provider(s) **185** and the search by provider(s) **187** is initiated. For example, a requester may be inexperienced in the subject matter of the query, unable to locate relevant information, under a time constraint, etc., and may request a provider search to get assistance from one or more providers for conducting a search in response to the query.

[0115] When it is determined that the query submitted by a requester does not request a provider search, the resource(s) are displayed to the requester **186**. For example, a requester may be an experienced searcher, may have a desire to review results from resource(s) for locating information of a particular subject matter, or may want to conduct a search without provider assistance due to the nature of the query, or for any other reason. In such a situation, the resource(s) are displayed to a requester **186** without requiring submission of the query to provider(s) for a provider search.

[0116] Subsequent to displaying resources to the requester **186**, process **180** allows the user to select resource(s) **188** and search automatically **189**. For example, the resources such as NBA.com, ESPN.com®, etc., may be displayed as resources matching the keywords "Austin Croshere" while resources such as WebMD.com, NIH.com, etc., may be determined to match a query directed to the category "health." Accordingly, the requester is enabled to select any of the displayed resource (s) for conducting the search automatically.

[0117] Information about resource(s) used by providers to return information to requester(s) such as search engines, Internet directories, etc., or any other source of information that can be electronically searched are maintained in a database **24** (FIG. **1**). The resources are associated with at least one category, subcategory and/or keyword and are made accessible for retrieving information in response to a query related to the category, subcategory and/or keyword.

[0118] This allows a resource(s) utilized in search(es) associated with a category or keyword to be provided to assist subsequent search(es) associated with the category or keyword, for example, for assisting newly registered providers, for enabling sharing of resource(s) among providers, etc. Accordingly, the disclosed method and system enable collaborative filtering of resources used for searches and provides efficient and effective use of resources for returning accurate results.

[0119] While the system and method have been disclosed as associating resource(s) utilized in search(es) with a category or keyword, the same method may be used to associate a resource(s) and a search(es) with other types of metadata without loss of generality. For example, a search resource(s) and a search(es) may be associated with a tag(s). The use of tagging is well known in the current published art, and has been popularized by sites such as Flickr™, Gmail™, and Wikipedia®. A tag(s) may be associated with a resource(s) and/or a query(ies) in any suitable manner.

[0120] For example, a tag(s) may be associated with a resource by the publisher of the resource. As another example, a tag(s) may be associated with a resource and/or query by guide(s) (or provider(s)). A tag may be associated with a resource and/or query by concurrence of a group of one or more humans in a different example. Likewise, a tag(s) may be associated with a resource(s) and/or query(ies) by incorporation of an external database.

[0121] While the system and method have been disclosed as utilizing a specific number of classification levels, the same method which incorporates any number of classification levels. For example, a 2 level taxonomy (category, keyword), or a 4 level taxonomy (category, subcategory, sub-sub category, keyword) may be used in other embodiments.

[0122] The many features and advantages of the claimed invention are apparent from the detailed specification and, thus, it is intended by the appended claims to cover all such features and advantages of the claimed invention that fall within the true spirit and scope of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation illustrated and described for the disclosed embodiments, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the claimed invention. It will further be understood that the phrase "at least one of A, B and C" may be used herein as an alternative expression that means "one or more of A, B and C."

What is claimed is:

1. A method of sharing a resource across a network, comprising:

identifying a resource utilized for a search in association with a keyword contained in the search; and

distributing the resource to providers registered to accept searches related to the keyword.

2. The method according to claim **1**, wherein the distributed resource is provided to retrieve information responsive to a subsequent search related to the keyword.

3. The method according to claim **1**, wherein the resource is associated with a category and/or subcategory of the keyword.

4. The method according to claim **1**, wherein the providers execute the searches on behalf of and in response to a query from requesters.

5. The method according to claim **1**, wherein the resource is a search engine or an Internet directory.

6. The method according to claim **1**, wherein the resource is a private database made accessible to the providers.

7. The method according to claim **6**, wherein the private database includes information independently compiled by one or more of the providers.

8. The method according to claim **1**, wherein the resource is set as a default resource for a subsequent search to request information in relation to the keyword.

9. The method according to claim **8**, wherein the resource is set as the default resource when the providers registered to accept searches related to the keyword are unavailable.

10. The method according to claim **1**, further comprising:

enabling at least one of the providers to associate a new resource with the keyword upon authorization; and

presenting the new resource to the providers accepting searches related to the keyword.

11. The method according to claim **1**, further comprising:

ranking the resource against other resources used for searches in association with the keyword; and

distributing each resource to the providers in accordance with the ranking.

12. The method according to claim **11**, wherein the ranking is based on frequency of use of the resource by the providers for searches related to the keyword.

13. The method according to claim **11**, wherein the providers select from the resources to execute the search.

14. The method according to claim **1**, wherein said keyword is an entire content of the search.

15. The method according to claim **1**, comprising:

associating a keyword or phrase of a request with a category indicated by a provider registered to accept search requests; and

enabling the provider to select a resource to be associated with the category and making the resource available for conducting a search in response to the request.

16. The method according to claim **15**, comprising:

determining whether a keyword associated with a query has a corresponding search resource; and

indicating the search resource to a user.

17. A system, comprising:

a requester device submitting a query;

a provider device receiving the query for a search; and

a database for storing at least one resource previously used for retrieving information pertaining to content of the query.

18. A method of accessing resources, comprising

recording prior usage of resources in association with a keyword or category;

displaying the resources as public resources to providers associated with the keyword or category; and

enabling each of the providers to selectively use the resources.

19. The method according to claim **20**, wherein the said search resource is indicated to a provider.

20. The method according to claim **18**, comprising:

displaying recorded resources to each provider associated with the keyword or category, where said displaying including indicating resources shared among the providers and ranked usage data of resource(s) based on percentage of the providers using the resources.

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