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(54) Title: PROPERTY MAPPING SYSTEM AND METHOD

(57) **Abstract:** The present invention provides systems and methods for displaying a map conveying data and information related to intellectual properties. The system and method allows for a user to choose criteria for a search, which results are graphically displayed. The system and method also provides for applying filtering to the results based on system parameters, such as access permissions.

PROPERTY MAPPING SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

This Application claims priority under 35 U.S.C. 119 to U.S. Patent Application No. 10/787675, filed February 26, 2004, the complete disclosure of which is hereby incorporated by reference.

1.   Field of the Invention

This invention relates to systems and methods for processing data or information to create visual images and graphical displays that convey the data or information. This invention also relates to systems and methods for processing data or information using an operator interface to control the display of the data or information. In particular, this invention relates to systems and methods for processing data concerning intellectual property (i.e., trademarks) to create geographical maps that interactively convey the data.

2.   Description of the Prior Art

There is an ongoing need for systems and methods of quickly and easily conveying data and information concerning property, especially intellectual property, such as trademarks for example. In particular, there is a need for graphic interfaces that convey intellectual property data in geographical formats, which would certainly enhance a user's ability to manage extensive and diverse IP assets throughout the world.

One type of graphic interface that conveys recorded data in a geographical format is a Geographic Information System. A Geographical Information Systems (GIS)

stores, analyzes, and displays geographic data. The geographic data may be spatial

(e.g., latitude and longitude) or descriptive (e.g., country names). The spatial data is in

a common coordinate system, which is usually latitude and longitude on the earth.

Topology is created in a GIS by defining relationships within the geographic data, such

as relating the name of a country with coordinate points defining the boundaries of the

country.

Previously, GIS's have been used for scientific, educational, commercial, and

military applications. For example, U.S. Patent No. 6,247,019 to Davies describes an

Object-based Geographic Information System (GIS) providing each geographical object

with a complete geometry that can be stored in a buffer to make possible real-time

display of the geographical object as the position of the user changes. For another

example, U.S. Patent No. 6,442,530 to Miller describes a Computer-Based System and

Method for Mapping and Conveying Product Location that provides a location for a

product as a point on a map. Not surprisingly, GIS's are primarily directed to quickly

and clearly conveying data and information concerning geographical location, which

requires detailed spatial data, but only a minimum of descriptive data, especially since

most potential descriptions for a geographic area are unnecessary and undesirable for

quickly and clearly conveying geographical location.

SUMMARY OF THE INVENTION

The present invention may provide an IP GIS for displaying the geographic

location of intellectual properties as a map. The present invention may provide an

interactive method for using such an IP GIS system.

The present invention may provide an IP management system that displays geographical maps based on descriptive data in a database. The geographical maps show spatial and/or descriptive data related to intellectual properties, for example the trademark owner's name and graphially show the location of the trademark owners rights on a map. The descriptive data may be displayed as charts, graphs, and tables concurrently with the geographical maps or separately from the maps. The present invention may also provide an interactive method for using such an IP management system.

In light of the foregoing background, the present invention provides systems and methods for displaying a map conveying data and information related to intellectual properties including trademark information. The system and method allows for a user to choose criteria for a search and the results are graphically displayed. The system and method also provides for applying filtering to the results based on system parameters, such as access permissions.

DESCRIPTION OF THE DRAWINGS

Fig. 1 is a chart of a property mapping system according to the present invention;

Fig. 2 is a flow chart of login, authorization, and initial display for the property mapping system of Fig. 1;

Fig. 3 is a flow chart of a property name search process using the property mapping system of Fig. 1;

Fig. 4 is a flow chart of a search process based on the company of a user of the property mapping system of Fig. 1;

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Fig. 5 is a flow chart of an advanced or category search process for the property

mapping system of Fig. 1;

Fig. 6 is a flow chart showing a search display format process for the property

mapping system of Fig. 1;

Fig. 7 is a flow chart of a user administration process for the property mapping

system of Fig. 1;

Fig. 8 is a flow chart showing a process to edit user information for the property

mapping system of Fig. 1; and

Fig. 9 is an example of a geographic display map showing graphically the

countries in which a trademark is owned.

DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a geographic information system (hereinafter

referred to as "the GIS") for properties in general and, more specifically, intellectual

properties, such as trademarks for example. The GIS is a particularly useful tool for

companies and their representative who manage global property portfolios comprising a

large number of properties and/or conflicts and competitors, as well as other complex

intellectual property information in numerous countries. The properties and/or assets

that are the focus of the GIS of the present invention may be, for example, real property,

personal property, intellectual property, or any property or assets that may be

established permanently and geographically. Thus, the GIS of the present invention is

not used for tracking properties or assets that cannot be meaningfully set in a

permanent geographic position. For example, it is not meaningful to set a permanent

geographic position for temporary inventories, parcels of mail, or shipments of goods. Accordingly, the GIS of the present invention is not used for managing temporary inventories, parcels of mail, or shipments of goods. Nonetheless, the GIS of the present invention is adapted to "track" or account for changes to the properties and/or assets that are the focus of the GIS, such as, for example, changing visual indicia for a geographic area to indicate that the current primary trademark rights in the geographic area is owned by a competitor when the previously primary trademark rights of the concerned company has been sold or expired.

Referring to Fig. 1, in a preferred embodiment, the GIS comprises at least a user interface 10, a server processor 20, and a trademark database 40. For ease of use and administration, the user interface 10 is preferably located remotely from the server processor 20 and the trademark database 40. More preferably, the user interface 10 is a remote client that accesses the server processor 20 and trademark database 40 via the Internet (i.e., via a web browser). Any suitable remote connection may be used, such as basic Internet, a virtual private network, wide area network, or another connection that can be configured for reasonably secure access of the trademark database 40.

The trademark database comprises information associated with each of the trademarks in a portfolio. The information associated with each trademark in the trademark database may include, but is not limited to: trademark name and/or a brief description of the trademark, graphic depiction of the trademark, the country of registration, application number, filing date, registration number, registration date, priority application number(s), priority application date(s), applicable trademark classes,

a brief description of the goods covered in the applicable trademark classes, the current

owner(s), the initial registrant(s) if different from the current owner(s), a case or docket

number, any related trademarks, other countries in which the trademark is registered,

actions currently pending or expected in the future (e.g., a payment of an annual tax),

actual and potential competitors of the current owner(s) and/or initial registrant(s) in the

country of registration or other countries, and actually and/or potentially conflicting

trademarks, such as similar trademarks with earlier priority dates in the country of

registration or other countries,.

The preferred user interface of the GIS is a web-based application. Typical

components of a web-based application are: forms that allow the user to input

information or select certain on-screen data, scripts or program code that interprets

and/or processes the input information and generates and/or retrieves results, and

templates in which the results may be placed before onward transmission to the client

browser by a web server. Any output from the system is rendered in a format

understood by a web-browser, such as Microsoft Internet Explorer or Netscape

Navigator.

The GIS uses Java Server Pages and Java Servlet technology in order to

provide the program code, hosted within a Tomcat Server. Forms and Output

Templates are combined into a single data file by using XSL (i.e., an XML Style sheet).

Communication with the databases through Microsoft ODBC connections is

accomplished through use of a custom "proxy" that delivers results based on XML.

For generation of graphical maps, HDTMS uses Scalable Vector Graphics

(SVG), which is an XML-based format, and currently populates a number of template

versions of the base files using JavaScript within the client browser. The Final Map is

rendered using Adobes SVG plug-in, freely available, and linked in such a way that it

appears to render the image within the browser frame. Alternatively, the GIS may

employ a more sophisticated level of programmatic access to the individual object

elements, such as countries and regions on the maps. For example, if a greater level of

access is desired, Batik.

For generation of printable textual report, the GIS of the present invention uses

FOP, which is an open-source framework that allows the combination of XSL Templates

and XML data into a PDF format, read using an Adobe plug-in.

All screens displayed in HDTMS are based on an XSL style sheet template. It is

both preprocessed and post-processed by a custom written script (or program) written

using Java Server Pages or Java Servlet format. The basic similarity of these two

technologies is that the code structure conforms to the Java Programming Language

and is either pre-compiled before deployment in the application or compiled to the Java

byte-code standard by the web server host.

Source code to each of these scripts is supplied in pre-compiled form to the

customer along with the application and can be printed. Post-compiled form is a binary

object file that complies with the Java byte-code standard, but could have a different

software pattern depending on the Java language compiler.

All data, except that entered by users in order to refine search criteria and add

users, is stored in a database. It is transferred there using external programs drawing

the information from another source system.

Alternatively, any known and/or suitable web-based application may be used in the GIS of the present invention. For example, the GIS of the present invention can employ forms, scripts, and templates similar to those of common web-based search engines, which will be familiar to a user of the GIS of the present invention. The GIS of the present invention using forms, scripts, and templates similar to those of common web-based search engines, such as Yahoo and Google, with preferably include an single box for the user to enter simple text from which multiple results will be generated in an order weighted by the administrator of the system and/or by an algorithm that weights the results according to previous user input.

Referring to the drawings, the following is a description of a preferred method for using the GIS.

Referring to Fig. 2, there is a flow chart showing login, authorization, and initial display for the GIS. Upon access to the GIS, a prospective user of the GIS is presented with a login page 100 that prompts the prospective user to enter a user-name and password, or other security code(s). An authorization process 101 subsequently accesses a User Database 105, which contains the names and passwords of all authorized users. Authorization process 101 compares the user-name and password entered by the prospective user against the User Database 105. Preferably, there is no direct access to the database by the user and, in the production version; all data transmission between client and server is encrypted to ensure integrity. If the authorization process 101 cannot match the user-name and password entered by the prospective user to any authorized user in the User Database 105, the prospective user

cannot proceed past the login page 100. If the user-name and password entered by the prospective user matches an authorized user in the User Database 105, the authorization process 101 recognizes the prospective user as an authorized user and allows the authorized user to proceed to the menu system page 103. Optionally, after the user is authorized by the authorization process 101, one or more notices and/or disclaimers 102 may be displayed by the GIS. For example, the notices and/or disclaimers 102 may be a legal disclaimer or notices containing current information for the user (e.g., the pendency of a system update).

The menu system page 103, displays a menu that offers the user several different search tools, such as a Trademark Name Search Tool 106, Company Search Tool 107, and Advanced or Categories Search Tool 108. In addition, if the user is a system administrator, the menu system page will display a menu that offers several different administration tools 109, which are discussed in more detail hereinafter. The menu systems page also offers the user a logout 110 that logs the user out of the GIS.

Referring to Fig. 3, there is a flow chart showing a search using the Trademark Name Search Tool 106. Upon selecting the Trademark Name Search Tool 106, the GIS obtains from a trademark database 200 all trademark name data 210 that the user is authorized to view. Then, the GIS uses the trademark name data 210 to present the user with a trademark name display 211. As a default, the trademark name display 211 shows all trademark names that were obtained from the trademark database 200.

The user is prompted by the GIS to manually input a user selection 212, which selection is one trademark name from the trademark name display 211. Upon receiving the user selection 212, the GIS invokes a criteria building process 213 that builds the

search criterion(s) used to search the trademark database 200 for further information on

the selected trademark name. For the Trademark Name Search Tool 106, the only

search criterion is the user-selected trademark name. As discussed in more detail in

reference to the Search Display Formatting Tool 500 (see Fig. 5), the search criterion(s)

are processed to get data from the trademark database, which data is displayed to the

user in geographical or text format.

Referring to Fig. 4, there is a flow chart showing a search using the Company

Name Search Tool 107. Upon selecting the Company Name Search Tool 107, the GIS

obtains from a trademark database 200 all company name data 310 that the user is

authorized to view. The user in the Company Name Search Tool 107 may be presented

with a display from which to select one or more companies. Since the GIS is preferably

configured as a system remotely accessible by the representatives of client companies,

the representatives of a particular client company that accesses the GIS will be

authorized to view only that data in the trademark database 200 that concerns

trademarks owned by the particular client company.

The GIS invokes a criteria building process 312 that builds the search criterion(s)

used to search the trademark database 200 for further information on the company. For

the Company Name Search Tool 107, the only search criterion is the company name.

As discussed in more detail in reference to the Search Display Formatting Tool 500 (see

Fig. 5), the search criterion(s) are processed to get data from the trademark database,

which data is displayed to the user in geographical or text format.

Referring to Fig. 5, there is shown a flowchart of the Advanced or Category

Search Tool 108. An advanced search steers the user to a set of screens that allows

the user to select categories of information from the trademark database. In addition to trademark name and company (owner), categories that may be selected in an advanced search include, but are not limited to, client name (different from owner name), agents or attorneys, countries or regions, and status. Users select each category as desired to form a search "criteria".

Upon selecting the Category Search Tool 108, the GIS obtains category data 410 from the trademark database 200. Then, the GIS uses the category data 410 to present the user with a category data display 411. As default, the GIS obtains trademark name data and displays all the trademark names contained in trademark database 200.

The user is prompted by the GIS to make a search criterion selection 412 from the category data display 411. Upon receiving the search criterion selection 412 from the user, the GIS invokes a search criteria building process 413 that builds the search criterion(s) used to search the trademark database 200. Once built, the GIS will show the search criteria in a display 414 for review by the user. The user has the option of selecting multiple criterions from a given category data display. When the user has finished selecting the criterions from a given category data display, the user may review criterions from other categories by making a new category selection 415. If the user makes a new category selection 415, the GIS obtains category data and displays it to the user, who selects one or more criterion that are built into the search criteria. When the user has decided not to select another category, the search criteria are processed. As discussed in more detail in reference to the Search Display Formatting Tool 500 (see Fig. 5), the search criterion(s) are processed to get data from the trademark database, which data is displayed to the user in geographical or text format.

As discussed above, each search tool 106, 107, and 108 is designed to create search criterion(s). The search criterion from the Trademark Name Search Tool 106 is a user-selected trademark name. The search criterion from the Company Name Search Tool 107 is a company name that is either user-selected or pre-authorized. Alternatively, multiple company names may be used as search criteria in the Company Name Search Tool 107. The search criterions from the Category Search tool 108 are selected by the user from various categories of data.

Referring to Fig. 6, there is shown a flowchart for displaying the results of a search. In general, once the GIS has built the search criterion(s), the user is asked to select the type of report they wish to display. After the user selects the type of report they wish to display, the search criterions are processed by the GIS to obtain the search results from the Trademark Database 200, which search results are displayed in the user-selected format.

As shown in Fig. 6, the Search Display Process 115 will be invoked after the search criteria are built (see Fig. 2, ref. no. 213, Fig. 3, ref. no. 312, and Fig. 4). A display 510 presents the user with the various report formats that the GIS can produce. Preferably, the various report formats include a geographical information format and a traditional chart format. After user selection 511, wherein the user chooses the desired report format, a search process 512 uses the search criterions to search the trademark database 200. The search process 512 returns search result data 513. The search result data 513 are displayed to the user in the user-selected report format. The GIS may present the search results as a map display 514 or as a text display 515. Each of

the various report displays of the GIS preferably contains links to further refine the selection and/or display an alternate type of report display.

The primary component of the geographical report format or map display 514 is a map projection of the earth showing the boundaries of all the countries thereof. Other relevant political or geographical boundaries or country-groups may be displayed, such as the European Union or PCT member states. Registrations and applications that match the search criterions are not directly reported in the map display 514. Instead the map display 514 highlights or otherwise indicates the countries in which registrations and application matching the search criterions are issued or pending. Preferably, for ease of use, the names of the countries highlighted or otherwise indicated in the map display 514 are shown with a reference line connecting each country name to the correct part of the map projection. When two or more search criterions from a single category have been selected by the user, the map display 514 preferably distinguishes between the search criterions, for example, by color. For example, if the user desires to search for trademarks for two or more companies, the map display 514 may show countries having trademarks from the first of the two companies in red, while the countries having trademarks from the second of the two companies is shown in green. The names of the countries may also be shown in the applicable company color. If each company has a trademark in a given country, that country may be highlighted with stripes of red and green, or in some other distinguishable appearance.

Referring to Fig. 7, there is illustrated a flowchart for user administration tool 108. If the user is a system manager, upon selection of the User Administration Tool 108, the GIS accesses the user database 105 and obtains a user list 610 that is presented to the

13

system manager as a list 611. The system manager may choose 613 to edit, add, or

delete user data in the user database 105. If the system manager makes the decision

614 to add a user, the GIS prompts the system manager to input 615 data regarding the

user to be added, such as user-name and password. The data for the newly added

user is stored in the user database 105. If the system manager makes the decision 616

to delete a user, the user to be deleted is selected by the system manager and the GIS

processes 617 the removal of all data regarding the deleted user from the user

database 105. The method for editing user information is described in reference to Fig.

7.

Referring to Fig. 8, there is illustrated a flowchart for editing user information. If

the system manager makes the decision 710 to edit user information contained in the

user database 105, the user to be edited is selected by the system manager and the

GIS accesses the user database 105 and obtains detailed user data 711 that is

presented to the system manager as a detailed user display 712. The system manager

inputs 713 new data and/or replaces old data regarding the user, and the edited user

data is stored 715 in the user database 105 after the system manager is prompted 714

by the GIS to confirm the edited user data is to be saved.

Referring to Figure 9 an example of a geographic display map is shown in this

case showing graphically the countries in which a trademark is owned. The dark areas

show the countries wherein the trademarks are registered. Each area can be blown up.

For example, a map of Africa can be displayed or any other area. Trademark maps

and/or text reports can be based on and generated from a variety of searchable criteria

or combinations thereof. For example, trademark name, Owner's name, attorney or

client name, country of registration, agent's name, status, or type of mark. The present

invention also includes the capability to sort and determine a senior or priority mark from

a group a marks inputted public domain raw trademark data, for example from the

United States Patent and Trademark Office or from a docketing program.

Although the best mode and/or preferred embodiment of the present invention

has been described by way of illustration and examples, the description is not to be

construed as limiting the invention. Various modifications may occur to those skilled in

the art without departing from the true spirit and scope of the invention as defined

herein.

WE CLAIM:

1.   An intellectual property geographical information system for displaying the
geographic location of intellectual properties comprising:

        a user interface;

        a processor;

        a database comprising intellectual property data; and

        a display device adapted to display the geographical maps produced at the
request of the user by the processor from the intellectual property data.

2.   An interactive method for using an intellectual property geographical information

        system comprising: displaying by a display device a geographical map of

        intellectual properties, the geographical map of intellectual properties being

        produced at the request of a user by a processor accessing a database of

        intellectual property data.

3.   A system for managing trademarks:

        a database containing trademark data;

        a report generation application which inputs the trademark data and which

outputs a report wherein the report displays a selected criteria graphically by country on

a map;

        a trademark priority determination application which determines the most senior

trademark by priority date inputted and which can display the most senior mark on the

map as one of the selected criteria.

4. The system of claim 3 wherein the criteria is selected from the group consisting of: trademark name, Owner's name, attorney name, client name, country of registration, agent's name, status, or type of mark.
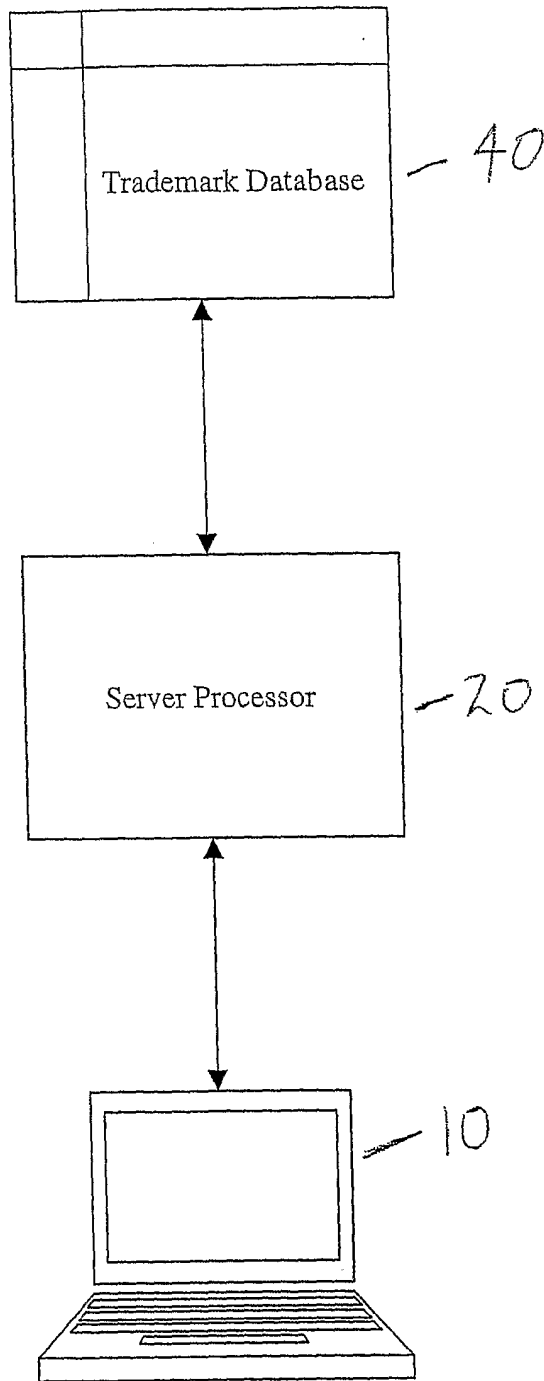
Trademark Database — 40

Server Processor — 20

— 10

FIG. 1

Hall Dickler Trademark
Mapping Project

**Login, Authorization and
Initial Display**

Login Page *100*

Authorized? *101*

No

DB *105*

Yes

Disclaimer/
Notices *102*

FIG. 2

Page 1
Connector

Menu System *103*

Exit *110*

106 Page 2

107 Page 3
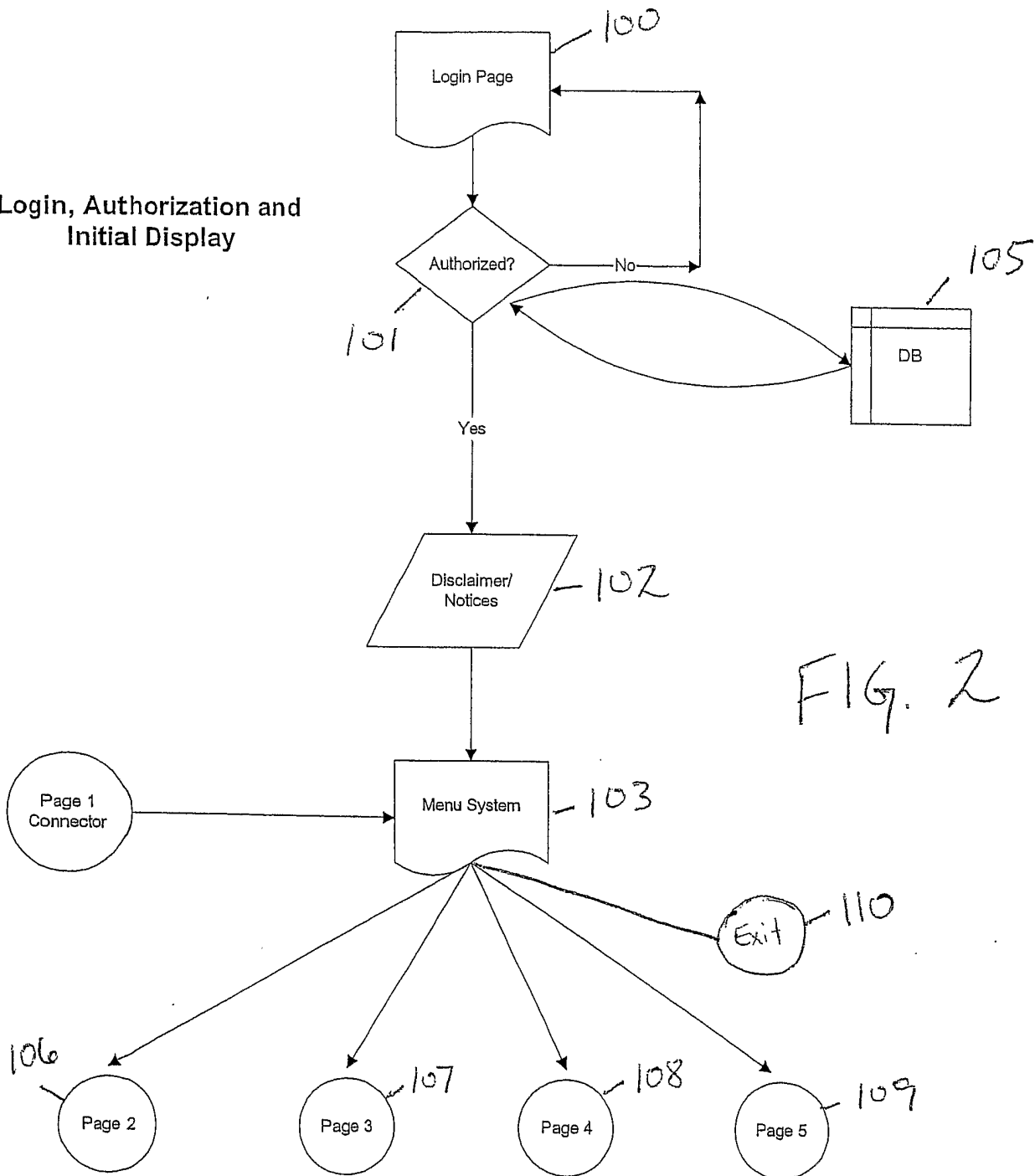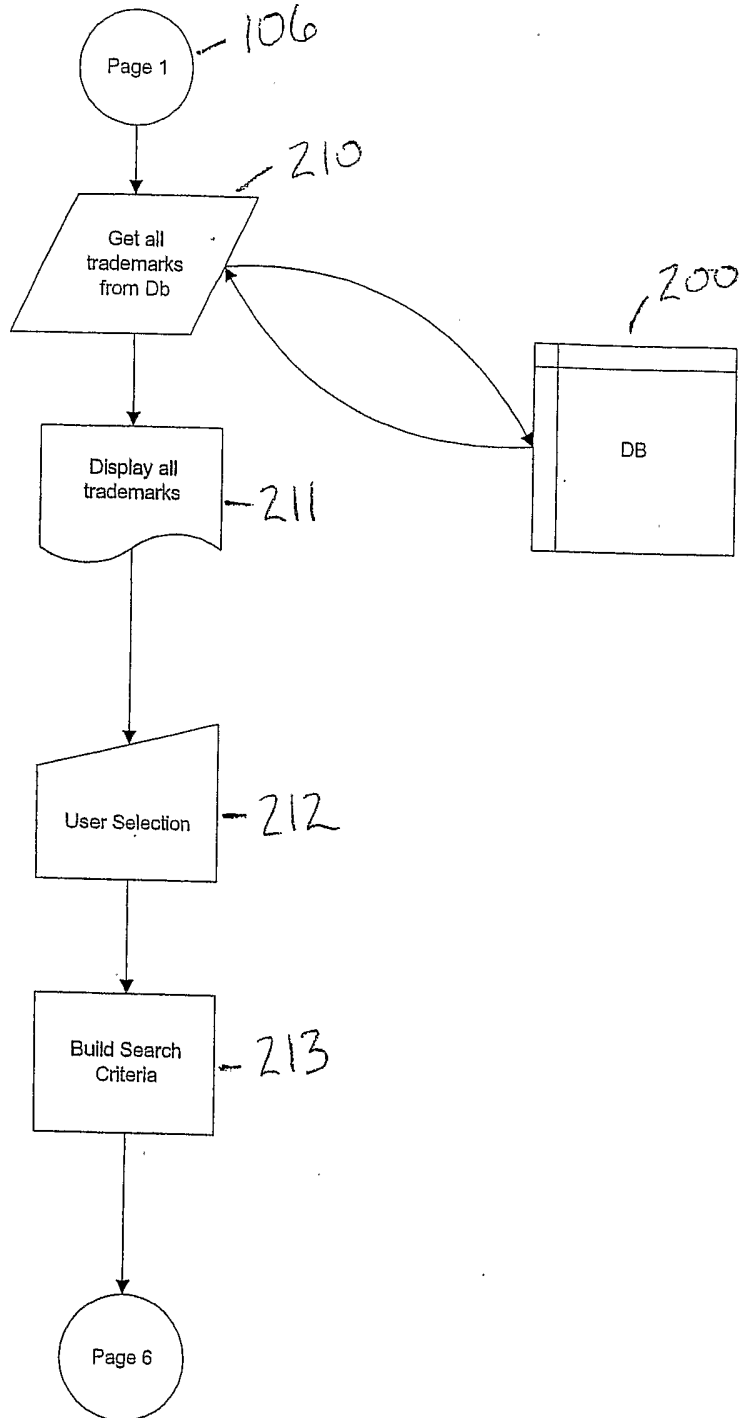
108 Page 4

109 Page 5

*Links provided to show seperate processes that flow to
and from main menu system*

Hall Dickler Trademark
     Mapping Project

Simple Trademark
     Search

Page 1 — 106

Get all
trademarks
from Db — 210

Display all
trademarks — 211

User Selection — 212

Build Search
Criteria — 213

Page 6

DB — 200

FIG. 3

Hall Dickler Trademark
Mapping Project

Search Based On
Users Company

2 — 107

— 310

Obtain user company information from DB

DB — 200

Build search criteria — 312

FIG. 4

Page 6

Fig. 5

Invoke
Category
Search
Tool ⟋108

Obtain Category Data
from TM Database ⟋410

TM Database ⟋200

Display
Category Data ⟋411

Yes

Select
another
Category? ⟋415

No

User Selects
criterion
from
category? ⟋412

No

Page 6
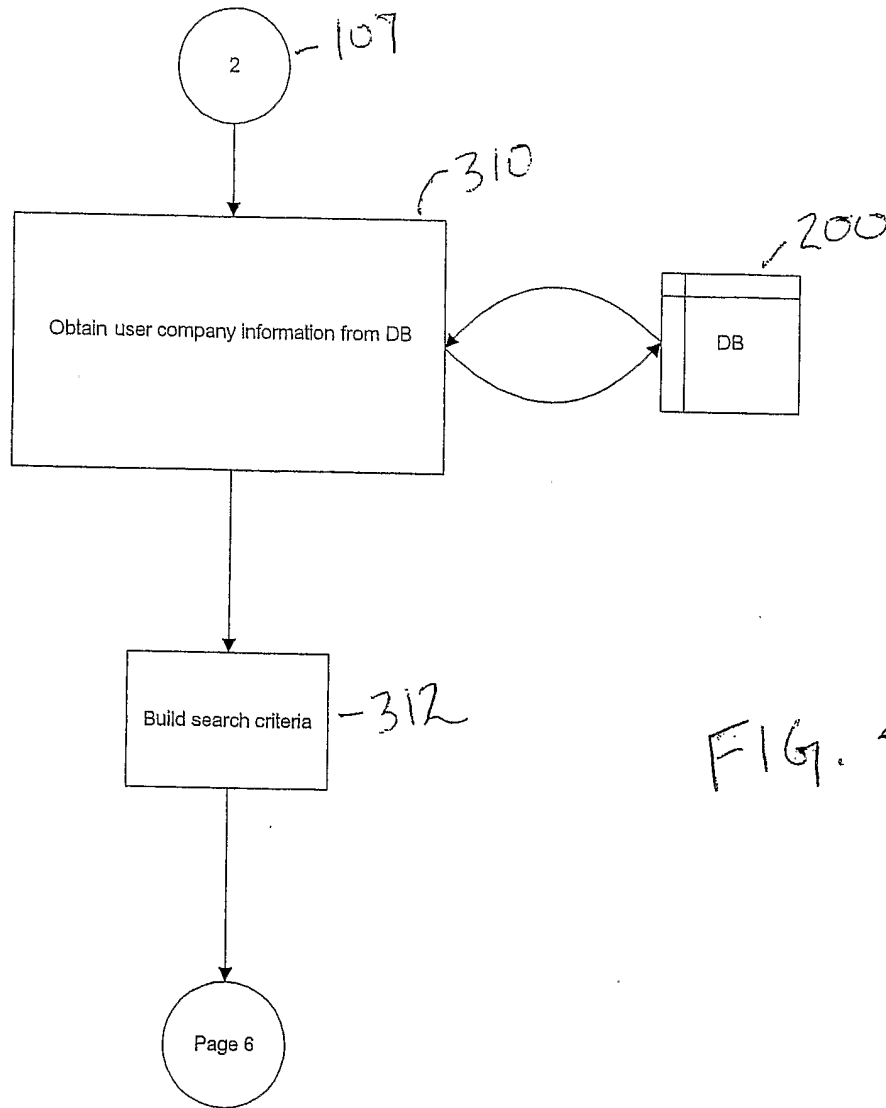
Yes

Build Search Criteria ⟋413

Display
Search
Criteria ⟋414
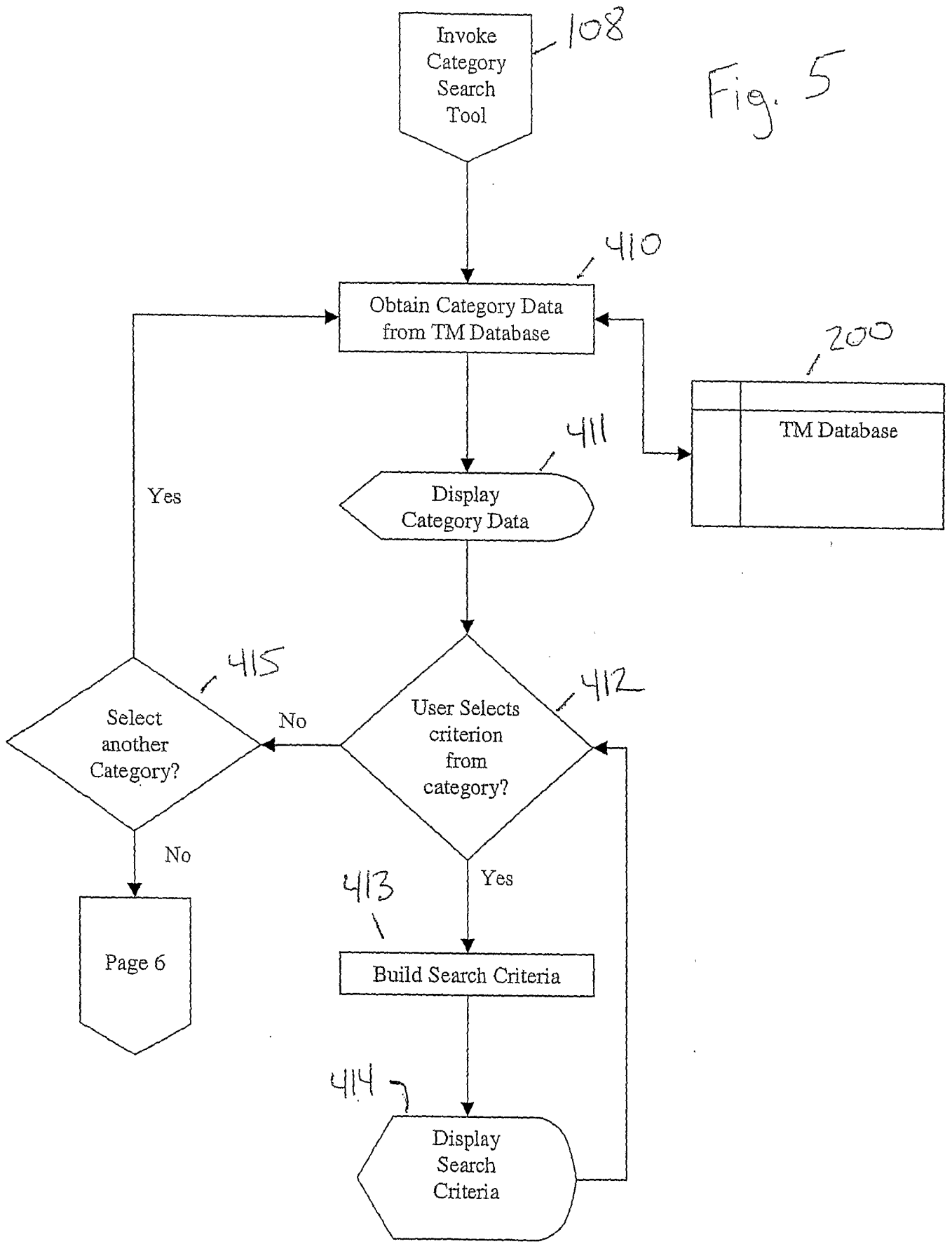
Hall Dickler Trademark
    Mapping Project

Search Display Format

FIG. 6

Page 2, 3, 4,5 — 115

Display Report
Options — 510

Choose Display
Format — 511

Process Search
Criteria — 512

513

Get DB Data

200

DB

514

Show Map Display

515

Show Text Display

User
Chooses
Alternate
Display Or
Exit
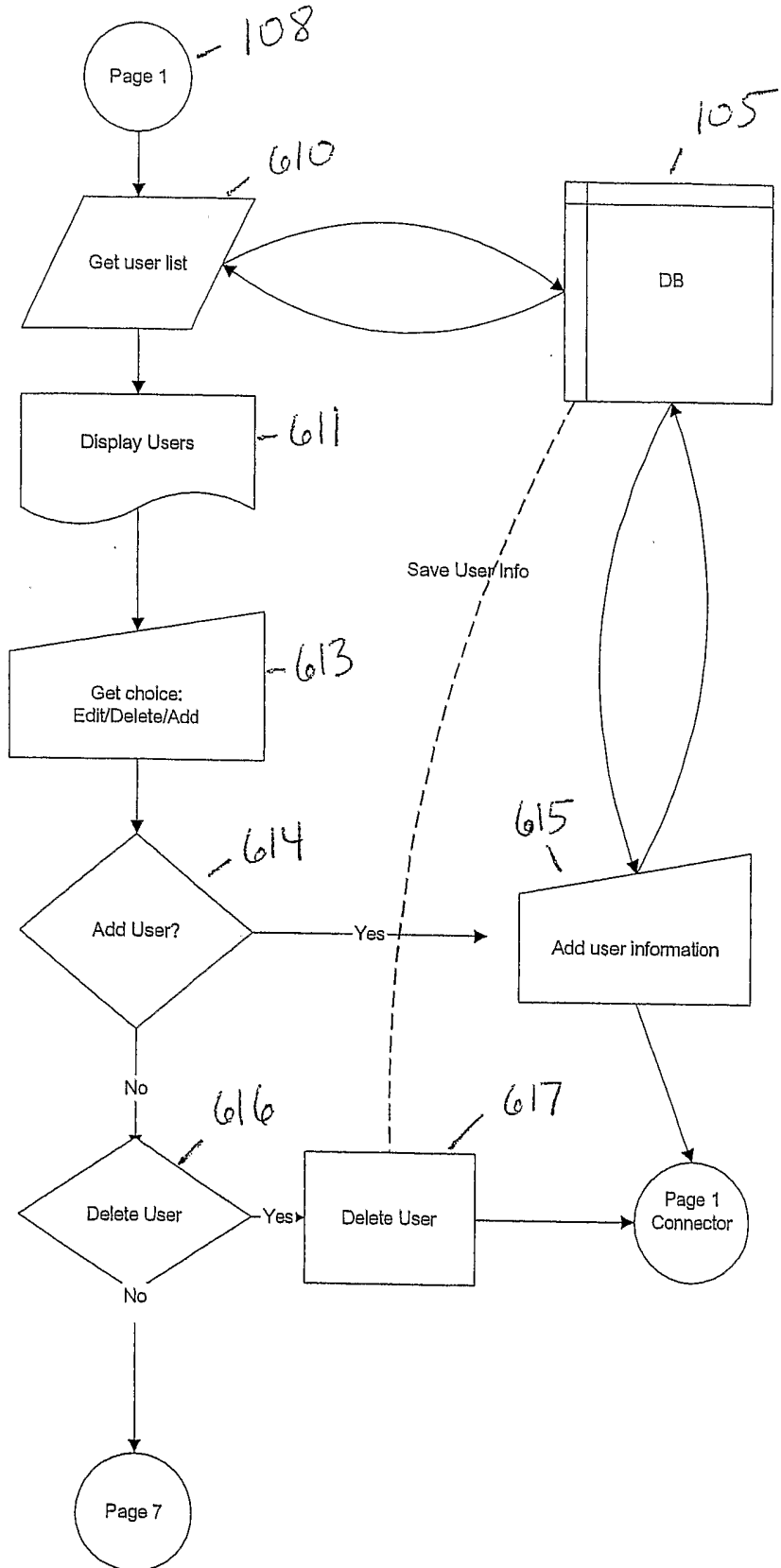
User Chooses
Alternate
Display Or
Exit

Page 1
Connector
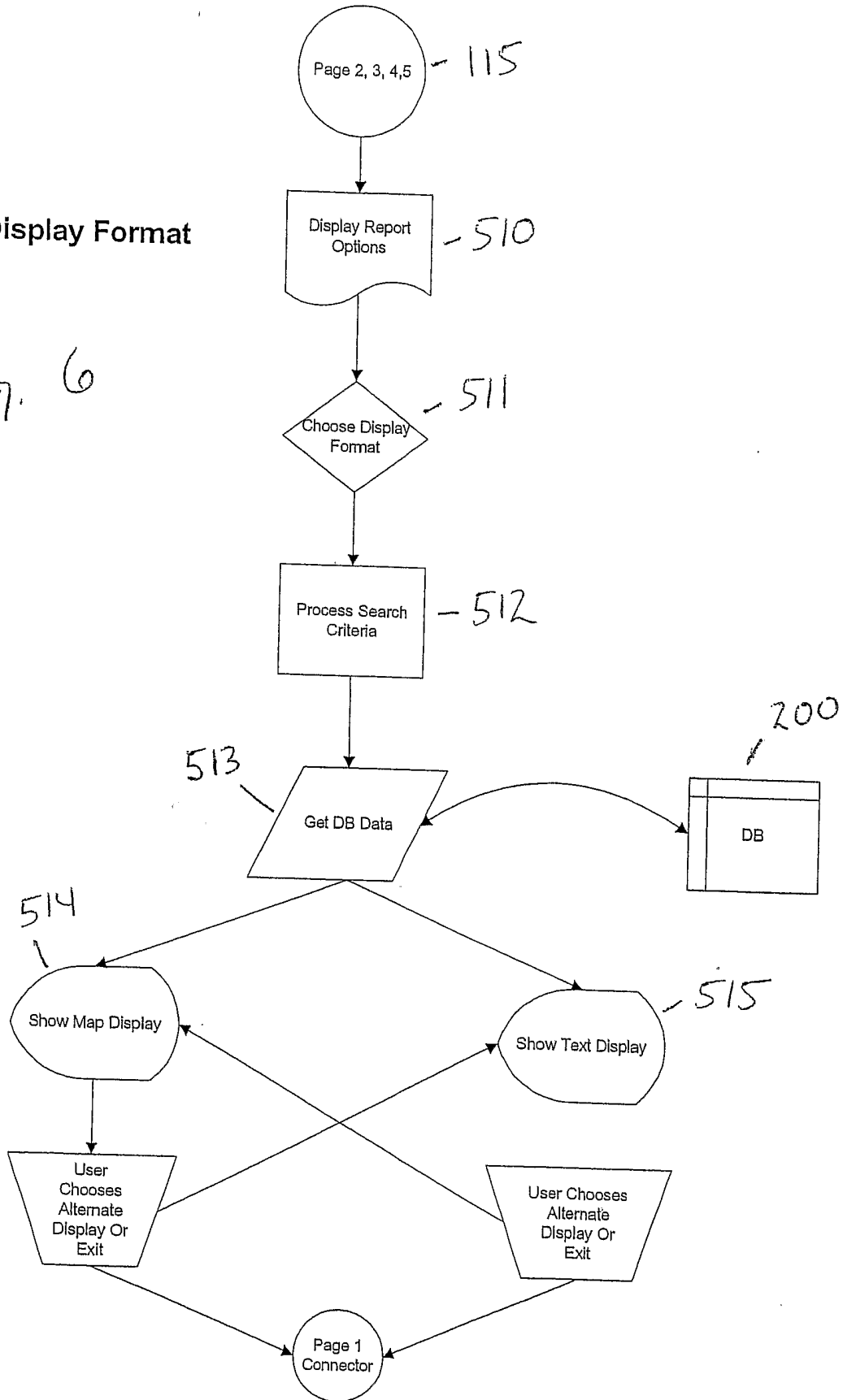
Hall Dickler Trademark
    Mapping Project

User Administration

FIG. 7

Hall Dickler Trademark
Mapping Project

Edit User Information

FIG. 8

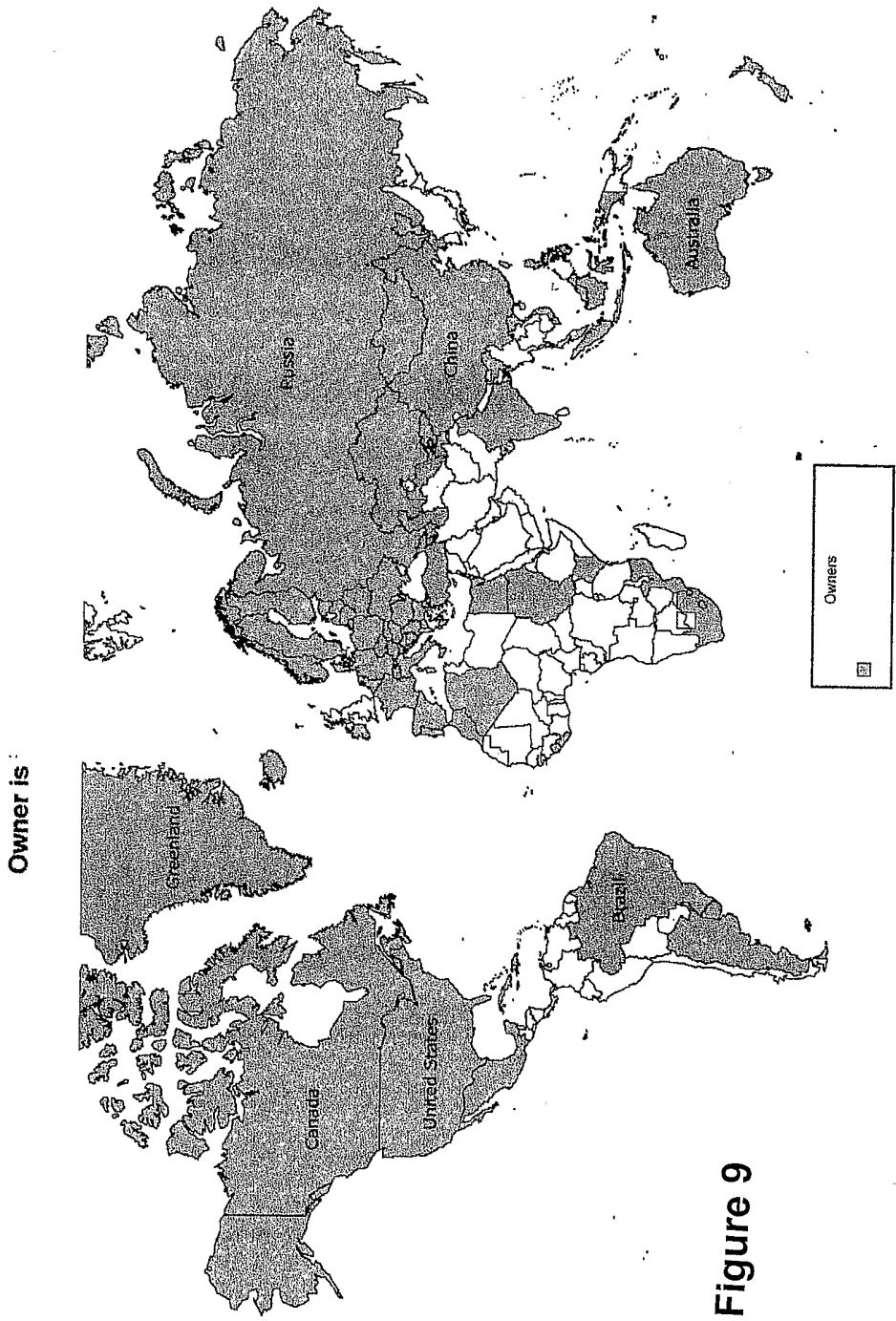Page 5 — 108

Choose Edit User Details — 710

Get User Info from Database — 711

Display User Details — 712

Edit User Details — 713

DB — 105

Save Details? — 714 ——Yes——> Transform user entry and save — 715

No

Page 1 Connector
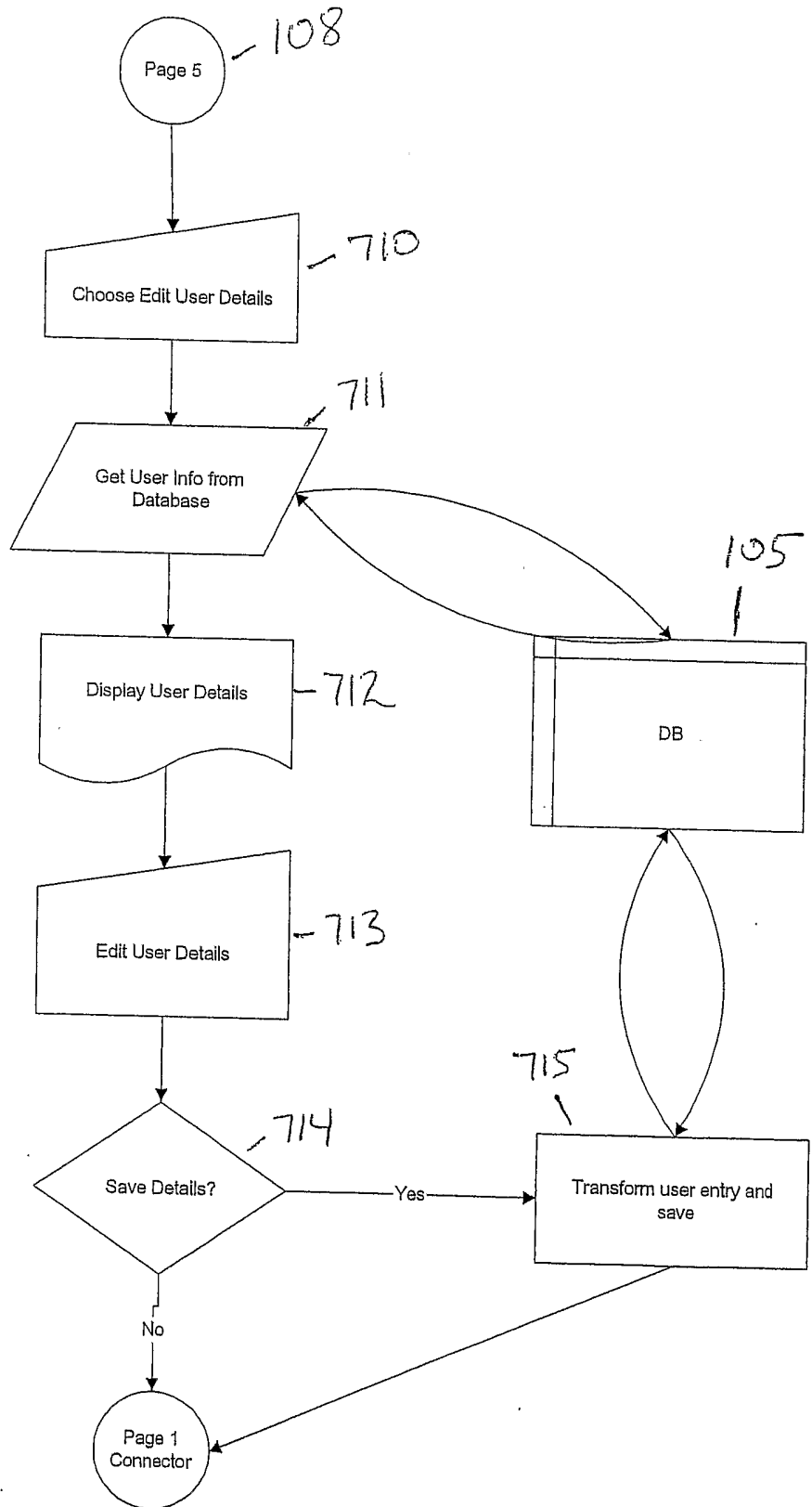
Figure 9

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/30

US CL : 707/3, 10, 101; 705/7, 10; 345/440, 968

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 707/3, 10, 101; 705/7, 10; 345/440, 968

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

ACM, CiteSeers

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2002/0116120 A1 (RUIZ et al) 22 August 2002 (22.08.2002), paragraphs [0010], [0018], [0039] and Figs. 1A-1B.	1-2 ----- 3-4
Y	US 2003/0171949 A1 (DEGNAN et al) 11 September 2003 (11.09.2003), Figs. 16-18.	3-4

☒ Further documents are listed in the continuation of Box C.   ☐ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
23 September 2004 (23.09.2004)	**13 OCT 2004**
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer John E Breene Telephone No. (703)746-7240

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