Title: QUICK SELECTION METHOD AND APPARATUS UTILIZING ALIASES FOR USER-SELECTABLE OPTIONS

Abstract: Embodiments of the invention include a method, apparatus, and/or computer readable medium for providing a graphical user interface control. The method includes assigning at least one alias for at least one of a plurality of choices in a control of a graphical user interface, and receiving at least a partial selection from a user for one of the choices. The method further includes searching for matches between the at least partial selection and one of the choices, or for matches between the at least partial selection and the at least one alias, and, when a match is found, displaying, in the control, the choice corresponding to the at least one alias that matches the partial selection.
TITLE:
QUICK SELECTION METHOD AND APPARATUS UTILIZING ALIASES FOR USER-SELECTABLE OPTIONS

BACKGROUND:

Field:

[0001] Embodiments of the invention relate to an apparatus, method and computer readable storage medium that provide improved selection of items in an interface.

Description of the Related Art:

[0002] User interfaces (UIs) provide a mechanism by which users can interact with a machine, device, or system. A user interface includes physical hardware and software components that together provide a means of inputting information to allow a user to manipulate a system, and provide a means of outputting information to allow the system to indicate the effects of the user's manipulation. A graphical user interface (GUI) is a type of user interface that utilize images and graphics, in addition to text, to facilitate interaction between a user and the system. For example, a GUI may offer graphical icons, windows, and/or buttons to represent information and actions available to the user.

[0003] Examples of systems that may incorporate a graphical user interface include, but are not limited to, computers or
computing systems, telephones, music and media players, gaming systems, navigation systems, appliances, and many other devices and machines. Examples of some typical graphical user interface controls include drop down lists, combo boxes, list boxes, text fields and areas, buttons, icons, scrollbars, etc.

SUMMARY:

[0004] One example embodiment is a method, comprising: assigning at least one alias for at least one choice in a control of a user interface; receiving a user input; searching for matches between the at user input and at least one of the at least one choice and at least one alias; determining that the user input matches at least one alias; and in response to said determining, presenting the at least one choice corresponding to the at least one alias that matches the partial selection.

[0005] Another example embodiment is an apparatus, comprising: at least one processor; and at least one memory including computer program code; wherein the at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus at least to assign at least one alias for at least one choice in a control of a user interface; receive a user input; search for matches between the at user input and at least one of the at least one choice and at least one alias;
determine that the user input matches at least one alias; and in
response to said determining, present the at least one choice
corresponding to the at least one alias that matches the partial
selection.

[0006] In another example embodiment, a computer program
embodied on a computer readable storage medium, the computer
program configured to control a processor to perform a process,
comprising: assigning at least one alias for at least one choice in a
control of a user interface; receiving a user input; searching for
matches between the at user input and at least one of the at least
one choice and at least one alias; determining that the user input
matches at least one alias; and in response to said determining,
presenting the at least one choice corresponding to the at least one
alias that matches the partial selection.

[0007] Another example embodiment is an apparatus comprising
means for assigning at least one alias for at least one choice in a
control of a user interface; means for receiving a user input;
searching for matches between the at user input and at least one of
the at least one choice and at least one alias; means for determining
that the user input matches at least one alias; and means for, in
response to said determining, presenting the at least one choice
corresponding to the at least one alias that matches the partial
selection.
BRIEF DESCRIPTION OF THE DRAWINGS:

[0008] For proper understanding of the invention, reference should be made to the accompanying drawings, wherein:

[0009] Fig. 1 illustrates a block diagram of an apparatus according to one embodiment;

[0010] Fig. 2 illustrates an example graphical user interface control in accordance with one embodiment;

[0011] Fig. 3 illustrates another example graphical user interface control according to an embodiment;

[0012] Fig. 4 illustrates another example graphical user interface control according to an embodiment;

[0013] Fig. 5 illustrates another example graphical user interface control according to an embodiment; and

[0014] Fig. 6 illustrates an exemplary flow diagram of a method according to one embodiment.

DETAILED DESCRIPTION:

[0015] Graphical user interface controls that allow for a selection between a number of items, such as drop down lists, combo boxes, list boxes, and scroll bars, in some examples allow making a selection by typing in the first few characters of an item. When a user starts to type in these characters, the graphical user
interface control will match the first few letters with one of the options in the list or menu. However, this requires that there be an exact match between the characters typed by the user and one of the items in the list or menu. Accordingly, the user needs to know exactly how the items are presented and spelled. This may not always be possible depending on what items the list or menu is directed to. For example, if the list is directed to dates, the user may not know in which format the dates are presented without first scrolling through the graphical user interface control.

[00016] Individual entries in a graphical user interface control could be selected more quickly by starting to type the first few characters of the desired entry. However, in order to make a selection in this manner, the user needs to know in advance the format and spelling of the entry they are looking for. This can be problematic if entries can be presented in multiple formats, presented with different spellings or abbreviations, etc. In such a situation, the user may be forced to look through the entire list to locate their desired entry, which may be tedious and time consuming for longer lists.

[00017] Accordingly, example embodiments provide improved graphical user interface controls that will recognize input provided by the user and match it to the user's desired entry within the
control, even if the user input does not exactly match the text of the entry. A graphical user control, according to at least some embodiments, is any control or element that allows a user to select from among a plurality of choices presented in a list or menu.

[00018] Thus, example embodiments of the invention provide a method, apparatus and computer readable medium that can automatically identify and match a partial user input to one of the choices in a graphical user interface control. In one embodiment, the user is able to make a selection from a control of the graphical user interface, such as a drop down list, by beginning to type the first few characters of an entry in the control or by beginning to type an alias or alternative for an entry in the control. As such, the user does not need to know the exact entry in the list that they intend to select.

[00019] Fig. 1 illustrates an apparatus 10 that may be configured to provide a graphical user interface control, according to one embodiment. In some embodiments, the apparatus 10 is implemented in an electronic device, such as a computing system, telephone, wireless communications device, gaming system, music or media player, personal data assistant (PDA), or any other device with a graphical user interface or display.

[00020] Apparatus 10 may include a communications interface 12, such as a bus or other communications mechanism, for
communicating information between components of apparatus 10. Alternatively, the components of apparatus 10 may communicate directly with each other, without use of communications interface 12.

[00021] Apparatus 10 also includes a processor 22, coupled to communications interface 12, for receiving, managing, and/or processing user input or information, and for executing instructions or operations. Processor 22 may be any type of general or specific purpose processor. In one embodiment, processor 22 may be included within an application specific integrated circuit (ASIC).

[00022] Apparatus 10 further includes a memory 14 for storing information and instructions to be executed by processor 22. Memory 14 can be comprised of any combination of random access memory (RAM), read only memory (ROM), static storage such as a magnetic or optical disk, or any other type of machine or computer readable media. Computer readable media may be any available media that can be accessed by processor 22 and could include volatile or nonvolatile media, removable or non-removable media, and communication media. Communication media may include computer program code or instructions, data structures, program modules or other data, and includes any information delivery media.

[00023] Processor 22 can further be coupled, via
communications interface 12 or directly, to a display 24, such as a thin film transistor (TFT) liquid crystal display (LCD), for displaying information to a user. In some embodiments, display 24 can be a touchscreen display that allows a user to interact directly with what is presented on display 24 by using their finger, hand, stylus, or another passive object. However, in other embodiments, display 24 may be a standard display, such as an LCD, that can be interacted with via a keyboard 26 or cursor control device 28, such as a computer mouse. Any type of display capable of presenting information to the user may be used, according to certain embodiments of the invention.

[00024] Other user interface elements may be used in addition to, or in place of the display 24. For example, in some embodiments information may be presented to the user audibly using a speaker or other audio transducer. Similarly, haptic interface elements such as vibrating elements may be used to convey information to the user using haptic feedback.

[00025] Apparatus 10 can further include a receiver 20 for receiving some input provided, for example, by a user by means of display 24, keyboard 26, and/or cursor control device 28. Receiver 20 can be a separate component of apparatus 10 or, alternatively, receiver 20 can be included as a function of processor 22.

[00026] In one embodiment, memory 14 stores software modules
or applications that provide functionality when executed by processor 22. The modules may include an operating system that provides operating system functionality for apparatus 10. The memory may also store applications, such as text editing or messaging applications, games, web browsers, etc. Apparatus 10 may also store a library that provides a library of aliases or words that match selections within a graphical user interface control.

In certain embodiments, library 18 can be configured to store a mapping between a choice listed in the graphical user interface control and one or more aliases, which may be alternatives or abbreviations that someone may use to refer to the listed choice. In one example, library 18 may be a database system that includes a database server and any type of database, such as a relational or flat file database. In some embodiments, multiple libraries or multiple database systems may be used.

According to some examples, library 18 may be configured to store at least one record for each choice listed in the control, and the record may indicate the choice as listed as well as all aliases for that choice. Therefore, each choice in the graphical user interface control may have a record in the library 18 that will include every alias associated with that choice. Some choices may not have any associated aliases, in which case the record for that
choice will only include the choice as listed in the graphical user interface control.

[00029] Alternatively, the mapping between listed choices and any aliases may be stored as a text file in memory 14. This may be useful for any controls that do not have a high number of choices, and may also reduce the time required to access library 18 or a database.

[00030] When a user activates the graphical user interface control, for example by passing a cursor over the control or clicking on the control, the user may scroll through the entire list associated with the control or may begin typing their desired selection. If a user begins typing their selection, receiver 20 will receive at least the first character of the user's selection and request that processor 22 access memory 14 or library 18 to search for the choice that might match the character(s) provided by the user. In one embodiment, library 18 is searched for any matches with a choice as listed in the graphical user interface control, and for any matches with any of the aliases that are associated with a choice in the library 18.

[00031] Once a match is found, either among the aliases or listed choices, processor 22 can control display 24 to display the listed choice that matches the user selection or the listed choice corresponding to an alias that matches the user selection. In one
example, if multiple matches are found based on the characters provided by the user, the first matching choice in the list will be displayed. According to some embodiments, library 18 is continuously searched based on additional characters provided by the user until the user stops typing characters or selects a listed choice. If no match is found between the characters provided by the user and any of the choices or associated aliases recorded in library 18, the user may be required to scroll the list in order to select one of the choices. The list may be automatically scrolled to a closest match based on the characters provided by the user, for example to a choice that matches (or whose alias matches) an subset of the provided characters - for example the earliest characters entered by the user. Alternatively, or additionally, an error message or other alert or notification may be provided to the user.

[00032] As illustrated in Fig. 1, some embodiments of the invention are directed to an apparatus 10 for providing a graphical user interface control. The apparatus 10 includes at least one processor 22, and at least one memory 14 including computer program code. The at least one memory 14 and the computer program code are configured, with the at least one processor 22, to cause the apparatus 10 at least to assign at least one alias for at least one choice in a control of a graphical user interface. The at
least one memory 14 and the computer program code are further configured, with the at least one processor 22, to cause the apparatus 10 to receive at least a partial selection from a user, and to search for matches between the partial selection and the at least one alias or for matches between the partial selection and the at least one choice. When a match is found, the at least one memory 14 and the computer program code are further configured, with the at least one processor 22, to cause the apparatus 10 to display, in the control, the choice corresponding to the at least one alias that matches the partial selection.

[00033] In one embodiment, a partial selection includes anywhere from the first letter of a user's selection to the entire word of the user's selection. In some embodiments, the apparatus 10 may be controlled to first search for matches between the user's partial selection and the at least one choice and, if no match is found, then search for matches between the user's partial selection and the at least one alias.

[00034] Fig. 2 illustrates an example graphical user interface control 200 to which embodiments of the invention may be applied. As shown in Fig. 2, graphical user interface control 200 includes a drop down list that lists all countries of the world as choices from which to select. According to certain embodiments of the invention, in addition to scrolling through the list to select a
choice, the user may start typing their desired choice without first viewing the list. Furthermore, the user does not need to know how the countries in the list are presented.

[00035] For example, if the user wanted to select "United Kingdom" as their country of origin, the user could begin typing any portion of "United Kingdom" and graphical user interface control 200 will recognize their selection. Further, as discussed above, apparatus 10 can store a plurality of aliases for "United Kingdom" so that when a user begins typing any of those aliases, graphical user interface control 200 will also recognize the user's choice as "United Kingdom." For instance, apparatus 10 may store synonymous or otherwise related terms such as "UK," "U.K.,” "England,” "Great Britain,” "GB,” or "G.B." as aliases for "United Kingdom.” Additionally, apparatus 10 may map countries, cities, counties, and localities within the United Kingdom to the "United Kingdom” choice in graphical user interface control 200. For example, "England,” "Scotland” and "Wales” may be stored by apparatus 10 as mapping to "United Kingdom.” As a result, when a user begins typing any of "UK,” "U.K.,” "England,” "Great Britain,” "GB,” "G.B.,” "Scotland” or "Wales,” apparatus 10 is able to match any of those aliases with "United Kingdom” by consulting memory 14 or library 18, as discussed above. Such aliases could be similarly determined and stored for any country
and not just those listed in graphical user interface control 200.

[00036] Fig. 3 illustrates another example of a graphical user interface control 300 to which embodiments of the invention may be applied. As illustrated in Fig. 3, graphical user interface control 300 includes a drop down list that lists various languages for selection. In this example, each of the languages are written using the language in question even though the remaining user interface is written in English. For instance, "Deutsch" is listed instead of "German" and "Suomi" is listed instead of "Finnish." According to embodiments of the invention, a user of graphical user interface control 300 does not need to know specifically how each language is referred to. Rather, apparatus 10 provides a mapping between the listed language and any alternative names for that language. Thus, in one example, apparatus 10 can store "Suomi" with "Finnish" as one possible alias. Similarly, apparatus 10 can store "Deutsch" with "German" as one possible alias. Such aliases can be stored for any languages listed in graphical user interface control 300, and/or any language that can be referred to in more than one way. As a result, a user of graphical user interface control 300 does not need to know how the languages listed are referred to, how they are spelled, or even the language of the drop down list.

[00037] Fig. 4 illustrates an example of a graphical user interface
control 400, according to another embodiment of the invention. As shown in Fig. 4, graphical user interface control 400 includes a drop down list for selecting among U.S. states of residence. According to one embodiment, a user does not need to scroll through the list or begin typing the entire name of a state to make a selection. Rather, a user can use, for example, the abbreviation for their state of choice and apparatus 10 will map that abbreviation to the appropriate state in the list. For example, if a user wanted to select Alaska as their state of residence, the user can begin typing "Alaska" or can simply type "AK," which apparatus 10 will recognize as the abbreviation for Alaska and, therefore, cause display 24 to display "Alaska" as the user selection. Thus, according to an embodiment, memory 14 can store a library which maps every state to its corresponding abbreviation. A similar library may be provided for all states, counties, cities, townships, and/or localities, anywhere in the world.

[00038] Fig. 5 illustrates an example of a graphical user interface control 500, according to another embodiment of the invention. As illustrated in Fig. 5, graphical user interface control 500 includes a scroll bar for scrolling through a plurality of choices. In this example, the choices illustrated are mobile telephone models. Again, according to one embodiment of the invention, a user need not input the exact text of the choice for graphical user interface
control 500 to properly recognize their desired choice. For instance, if the user wanted to select the first choice in the list, the user can begin typing "8800" or can begin typing "Arte." Apparatus 10 will recognize both "8800" and "Arte" as aliases for the same entry, "8800 Arte," and automatically display that result as the user's choice.

[00039] Embodiments of the invention are not limited to the examples provided above. Certain embodiments of the invention can be applied to any graphical user interface control that allows for a choice between a plurality of selections. Embodiments of the invention are not limited by the subject matter of the selections or by the type of graphical user interface control. Similarly, embodiments of the invention are not limited to graphical user interfaces. Aliasing may be provided for other interface types, for example an audio user interface in which information is communicated to and received from the user using speech.

[00040] Fig. 6 illustrates an exemplary flow diagram of a method for displaying a user selection in graphical user interface control, according to one embodiment. The method includes assigning, at 600, at least one alias for at least one of a plurality of choices provided in a control of a graphical user interface. At 610, the method further includes receiving at least a partial selection for one of the choices from a user. In one embodiment, the partial
selection is at least a portion of a word typed by the user on a keyboard or provided by some other text entry device or application. At 620, the method also includes searching for matches between the at least partial user selection and one of the choices, or for matches between the at least partial user selection and the at least one alias. The method may further include, when a match is found, displaying in the control, at 630, the choice corresponding to the at least one alias that matches the partial selection.

[00041] In some embodiments, the assigning of at least one alias for the choices may include creating a mapping between each of the choices and any corresponding aliases. As an example, the created mapping may be stored in at least one library. Libraries may be created for each graphical user interface control or list. Alternatively, libraries may be created for common types of lists such that the libraries can be used by multiple graphical user interface controls. For instance, in the example of Fig. 3 discussed above, a library may be created for languages. The language library might include a record for each language that lists all possible alternative terms for that language as aliases. As a result, the library could store all known languages and any aliases for each of those languages. Similar libraries may be created for countries, cities, states, or any other items that may be re-used in
multiple controls. Any of these libraries may then be stored in memory to be referred to when required.

[00042] Returning to the exemplary method illustrated in Fig. 6, the searching 620 for matches between the user selection and the choices may include comparing the user selection with the choices and associated aliases stored in the libraries discussed above. Additionally, the method may further include continuously searching at least one library for matches until the user completes their partial selection or the user selects a choice from the control. In the case that multiple matches are found, a first matching choice will be provided.

[00043] According to certain embodiments, the method described above can be stored as instructions on a computer readable medium and executed by a processor. The computer-readable medium may be a non-transitory medium that can be encoded with information that, when executed in hardware, performs a process corresponding to the process disclosed in Fig. 6, or any other process discussed herein. Examples of non-transitory mediums include a computer-readable medium, a computer distribution medium, a computer-readable storage medium, and a computer program product.

[00044] The computer readable medium mentioned above may be at least partially embodied by a transmission line, a compact disk, digital-video disk, a magnetic tape, a Bernoulli drive, a
magnetic disk, holographic disk or tape, flash memory, magnetoresistive memory, integrated circuits, or any other digital processing apparatus memory device.

[00045] As a result of the described method and apparatus for displaying a user selection in graphical user interface control, users are provided with an improved user interface control that can prevent incorrect selections and make the control faster and easier to use. Users are able to more easily and efficiently locate their choice from the control, thereby resulting time saved and reduced effort on the part of the user. Further, embodiments of the invention can be useful when the user cannot fully understand the list, such as if the list is in a foreign language, because they may still be able to select the appropriate choice using their own language based on the aliasing system provided by certain examples of the invention.

[00046] It should be noted that some of the functional features described in this specification may have been presented as modules, applications, or components in order to more particularly emphasize their implementation independence. For example, a module, application or component may be implemented as a hardware circuit comprising custom VLSI circuits or gate arrays, off-the-shelf semiconductors such as logic chips, transistors, or other discrete components. They may also be implemented in
programmable hardware devices such as field programmable gate arrays, programmable array logic, programmable logic devices or the like.

[00047] Modules, applications, or components may also be partially implemented in software for execution by various types of processors. An identified module of executable code may, for instance, comprise one or more physical or logical blocks of computer instructions which may, for instance, be organized as an object, procedure, or function. Nevertheless, the executables of an identified module, application or component need not be physically located together, but may comprise disparate instructions stored in different locations which, when joined logically together, comprise the module and achieve its stated purpose.

[00048] Indeed, a module of executable code could be a single instruction, or many instructions, and may even be distributed over several different code segments, among different programs, and across several memory devices. Similarly, operational data may be identified and illustrated herein within modules, and may be embodied in any suitable form and organized within any suitable type of data structure. The operational data may be collected as a single data set, or may be distributed over different locations including over different storage devices, and may exist, at least partially, merely as electronic signals on a system or network.
The described features, advantages, and characteristics of example embodiments may be combined in any suitable manner in one or more embodiments. One skilled in the relevant art will recognize that the invention can be practiced without one or more of the specific features or advantages of a particular embodiment. In other instances, additional features and advantages may be recognized in certain embodiments that may not be present in all embodiments of the invention.

Therefore, one having ordinary skill in the art will readily understand that the invention as discussed above may be practiced with steps in a different order, may be practiced with hardware elements in configurations which are different than those which are disclosed, and that embodiments may be combined in any appropriate manner. Accordingly, although the invention has been described based upon these preferred embodiments, it would be apparent to those of skill in the art that certain modifications, variations, and alternative constructions would be apparent, while remaining within the spirit and scope of the invention. In order to determine the metes and bounds of the invention, therefore, reference should be made to the appended claims.
WE CLAIM:

1. A method, comprising:
   - assigning at least one alias for at least one choice in a control of a user interface;
   - receiving a user input;
   - searching for matches between the user input and at least one of the at least one choice and at least one alias;
   - determining that the user input matches at least one alias; and
   - in response to said determining, presenting the at least one choice corresponding to the at least one alias that matches the partial selection.

2. The method according to claim 1, wherein the assigning comprises creating a mapping between at least one of the choices and a corresponding at least one alias.

3. The method according to claim 2, wherein the mapping is stored in at least one library.

4. The method according to claim 3, wherein the searching comprises searching the at least one library.

5. The method according to claim 3, further comprising repeatedly searching the at least one library for matches with the at least partial selection until the at least
partial selection is completed or the user selects one of the choices from the control.

6. The method according to claim 1, wherein the control comprises at least one of drop down lists, combo boxes, list boxes, text fields, and scrollbars.

7. The method according to claim 1, wherein the control forms part of a graphical user interface, and presenting the at least one choice comprises displaying the at least one choice as part of the control.

8. An apparatus, comprising:

   at least one processor; and
   
at least one memory including computer program code;
   
wherein the at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus at least to assign at least one alias for at least one choice in a control of a user interface;

   receive a user input;
   
search for matches between the at user input and at least one of the at least one choice and at least one alias;

   determine that the user input matches at least one alias; and

   in response to said determining, present the at least one choice corresponding to the at least one alias that matches the partial selection.
9. The apparatus according to claim 8, wherein the at least one memory and the computer program code are further configured, with the at least one processor, to cause the apparatus to create a mapping between at least one of the choices and a corresponding at least one alias.

10. The apparatus according to claim 9, wherein the at least one memory and the computer program code are further configured, with the at least one processor, to cause the apparatus to store the mapping in at least one library.

11. The apparatus according to claim 10, wherein the at least one memory and the computer program code are further configured, with the at least one processor, to cause the apparatus to search the at least one library for matches between the at least partial selection and one of the choices, or for matches between the at least partial selection and the at least one alias.

12. The apparatus according to claim 10, wherein the at least one memory and the computer program code are further configured, with the at least one processor, to cause the apparatus to repeatedly search the at least one library for matches with the at least partial selection until the at least partial selection is completed or the user selects one of the choices from the control.

13. The apparatus according to claim 8, wherein the control comprises at least
one of drop down lists, combo boxes, list boxes, text fields, and scrollbars.

14. The apparatus according to claim 8, wherein the control forms part of a graphical user interface, and presenting the at least one choice comprises displaying the at least one choice as part of the control.

15. A computer program embodied on a computer readable storage medium, the computer program configured to control a processor to perform a process, comprising:

   assigning at least one alias for at least one choice in a control of a user interface;

   receiving a user input;

   searching for matches between the at user input and at least one of the at least one choice and at least one alias;

   determining that the user input matches at least one alias; and

   in response to said determining, presenting the at least one choice corresponding to the at least one alias that matches the partial selection.

16. The computer program according to claim 15, wherein the assigning comprises creating a mapping between at least one of the choices and a corresponding at least one alias.
17. The computer program according to claim 16, wherein the mapping is stored in at least one library.

18. The computer program according to claim 17, wherein the searching comprises searching the at least one library.

19. The computer program according to claim 17, further comprising repeatedly searching the at least one library for matches with the at least partial selection until the at least partial selection is completed or the user selects one of the choices from the control.

20. The computer program according to claim 15, wherein the control comprises at least one of drop down lists, combo boxes, list boxes, text fields, and scrollbars.

21. The computer program according to claim 15 wherein the control forms part of a graphical user interface, and presenting the at least one choice comprises displaying the at least one choice as part of the control.
These details are used if you forget your password.

**Country**

- United States
- South Korea
- Spain
- Sri Lanka
- Suriname
- Swaziland
- Sweden
- Switzerland
- São Tomé and Príncipe
- Taiwan
- Tajikistan
- Tanzania
- Thailand
- Togo
- Trinidad and Tobago
- Tunisia
- Turkey
- Turkmenistan
- Turks and Caicos Islands
- Uganda
- Ukraine
- United Arab Emirates
- **United Kingdom**
- United States
- Uruguay
- Uzbekistan
- Venezuela
- Vietnam
- Yemen
- Zambia
- Zimbabwe
Please select a language module.

2. Create your Nokia Account

These details are used when signing in.

User name

Password

Re-type Password

Contact information
Assigning alias for choices of a GUI control

Receiving selection from a user

Searching for matches between user selection and aliases

Displaying the matching choice

Fig. 6
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: see extra sheet

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)

IPC: G06F

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

SE,DK,FI,NO classes as above

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

EPO-INTERNAL, WPI DATA, PAJ, INSPEC, COMPDX

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tr>
<td>X</td>
<td>US 20090089316 Al (KOGAN ET AL), 2 April 2009</td>
<td>1-21</td>
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<tr>
<td></td>
<td>(02.04.2009), figures 1,4,8, claims 1-2, abstract, paragraphs (0016),(0019),(0028),(0043)</td>
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<tr>
<td>X</td>
<td>CN 101365012 ASHENZHEN HUAWEI COMM TECH CO, 2009-02-11; (abstract) Retrieved from: EPUDOC database, whole document</td>
<td>1-21</td>
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Further documents are listed in the continuation of Box C. See patent family annex.

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  "A" document defining the general state of the art which is not considered to be of particular relevance
  "E" earlier application or patent but published on or after the international filing date
  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
  "O" document referring to an oral disclosure, use, exhibition or other means
  "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

**Date of the actual completion of the international search**

10 February 2011

**Date of mailing of the international search report**

18-02-2011

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US 2009008316 A1 02/04/2009 NONE

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