SEARCH INFORMATION PROCESSING METHOD AND APPARATUS

CROSS-REFERENCE TO RELATED APPLICATIONS

The application claims priority to Chinese Patent Application No. 201610794508.2, filed with the Chinese Patent Office on August 31, 2016 and entitled "SEARCH INFORMATION PROCESSING METHOD AND APPARATUS", which is incorporated by reference in its entirety.

TECHNICAL FIELD

The present invention relates to Internet technologies, and in particular, to a search information processing method and apparatus.

BACKGROUND

With the rapid development of Internet technologies, in various aspects of people's daily life, information can be rapidly obtained and services can be implemented conveniently and fast by using networks.

Usually, people can enter keywords in forms of characters or voice by using various search tools of the Internet, and wait for a search result automatically matched by the network. However, regardless of whether a network speed is fast or slow, in a process in which the search result is matched for a user in cloud, the user can only stare at an interface of an electronic device (such as a mobile phone or a computer) and wait. Usually, a ring symbol or a wave symbol is displayed on the interface of the electronic device in a process of loading the search result, so that the user learns that search is being performed. During this period of time, the user can only wait for the search result. Consequently, the experience is not very good.

SUMMARY

The present invention provides a search information processing method and apparatus, to resolve the technical problem in the existing technology that a user cannot obtain any information associated with search content in a process of waiting for a search result.

According to one aspect, the present invention provides a search information processing method, including:

receiving search information entered by a user;

sending the search information to a cloud server to cause the cloud server to perform search processing according to the search information; and

before the cloud server returns a search processing result, pushing display information having content to the user on a display interface.

In this embodiment, display information having content is pushed to a user waiting for a search processing result, so that the user does not need to wait for the search result dully, and the user can obtain the display information in a waiting process, and interact with a search interface, thereby improving perceptibility and user experience.

In an implementation, the display information having content includes at least one of the following:

a picture, audio, a video, an animation, and text.

In an implementation, the pushing display information having content to the user on a display interface includes:

pushing, according to a preset setting by the user on display information, display information satisfying the preset setting to the user; and/or

pushing, according to the search information entered by the user, display information associated with the search information to the user.

In an implementation, the preset setting includes at least one of the following settings: a setting on a display form of the display information, and a setting on information content of the display information.

In this embodiment, display information satisfying personalized requirements is provided to a user through diversified settings on the display information. The user can preset a form, content, and a display sequence of the display information, to enrich the presented display information, and improve user experience.

In an implementation, the pushing, according to a preset setting by the user on display information, display information satisfying the preset setting to the user includes:

obtaining the display information from a preset local storage, and pushing the display information to the user; and/or

receiving, according to a preset setting by the user on content to be pushed by the cloud server, the display information returned by the cloud server, and pushing the display information to the user.

In an implementation, the pushing, according to the search information entered by the user, display information associated with the search information to the user includes:

pushing, according to the search information entered by the user, display information associated with an information type of the search information to the user, and/or display information associated with information content of the search information.

In an implementation, the preset setting by the user on the content to be pushed by the cloud server includes display information subscribed to by the user from the cloud server; and

the subscribed display information includes at least one of the following: weather information, advertisement information, and current news.

In this embodiment, display information is obtained from different places such as a local memory and a cloud server, to provide diversified display information to a user. Information in which the user is interested may be obtained from a resource stored by the user, or information in which the user is interested may be subscribed to from cloud, to fully use a waiting time period in a search process, so that a process of waiting for a search result by the user becomes interesting, thereby improving user experience.

In an implementation, the method further includes:

receiving the search processing result returned by the cloud server; and

stopping pushing the display information, and pushing the search processing result to the user on the display interface.

According to another aspect, the present invention provides a search information processing apparatus. Functions of the apparatus may be implemented by using hardware or may be implemented by using hardware executing corresponding software. The hardware or software includes one or more modules corresponding to the foregoing functions. Specifically, the apparatus includes:

a receiving module, configured to receive search information entered by a user;

a sending module, configured to send the search information to a cloud server to cause the cloud server to perform search processing according to the search information; and

a pushing module, configured to, before the cloud server returns a search processing result, push display information having content to the user on a display interface.

In the present invention, search information entered by a user is received, and the search information is sent to a cloud server to cause the cloud server to perform search processing according to the search information. Before the cloud server returns a search processing result, display information having content is pushed to the user on a display interface. In this way, the user does not need to wait for the search result dully. The user can obtain display content in a waiting process, and the waiting process is not that dull, thereby improving user experience.

BRIEF DESCRIPTION OF THE DRAWINGS

To describe the technical solutions in the embodiments of the present invention or in the existing technology more clearly, the following briefly describes the accompanying drawings required for describing the embodiments or the existing technology. Apparently, the accompanying drawings in the following description show some embodiments of the present invention, and persons of ordinary skill in the art may still derive other drawings from these accompanying drawings without creative efforts.

FIG. 1 is a schematic flowchart of a search information processing method according to an embodiment of the present invention;

FIG. 2 is a schematic flowchart of a search information processing method according to an embodiment of the present invention;

FIG. 3 is a schematic diagram of a search waiting interface in the embodiment shown in FIG. 2;

FIG. 4 is a schematic diagram of a search waiting interface in the embodiment shown in FIG. 2;

FIG. 5 is a schematic diagram of a search waiting interface in the embodiment shown in FIG. 2;

FIG. 6 is a schematic structural diagram of a search information processing apparatus according to an embodiment of the present invention; and

FIG. 7 is a schematic structural diagram of a search information processing apparatus according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Exemplary embodiments are described in detail herein, and examples thereof are shown in the accompanying drawings. When the following description is involved with the accompanying drawings, unless otherwise noted, same numbers in different accompanying drawings refer to the same elements or similar elements. Implementation manners described in the following exemplary embodiments do not represent all implementations consistent with the present invention. On the contrary, the implementations are merely examples of an apparatus and a method that are consistent with some aspects of the present invention described in detail in claims.

The terms used in the embodiments of the present invention are merely for the purpose of illustrating specific embodiments, and are not intended to limit the present invention. The

terms "a", "said" and "the" of singular forms used in the embodiments and the appended claims of the present invention are also intended to include plural forms, unless otherwise specified in the context clearly.

The term "and/or" used in this specification describes only an association relationship for describing associated objects and represents that three relationships may exist. For example, A and/or B may represent the following three cases: Only A exists, both A and B exist, and only B exists. In addition, the character "/" in this specification generally indicates an "or" relationship between the associated objects.

It should be understood that although the embodiments of the present invention may describe XXXs by using terms such as first, second, and third, the XXXs should not be limited to these terms. These terms are merely used to distinguish the XXXs from each another. For example, a first XXX may be referred to as a second XXX, and similarly, the second XXX may be referred to as the first XXX without departing from a scope of the embodiments of the present invention.

Depending on the context, for example, words "if" or "as if" used herein may be explained as "while ..." or "when ..." or "in response to determining" or "in response to detection". Similarly, depending on the context, phrases "if determining" or "if detecting (a stated condition or event)" may be explained as "when determining" or "in response to determining" or "when detecting (the stated condition or event)" or "in response to detection (the stated condition or event)".

It should be further noted that the terms "include", "contain", and any variants thereof are intended to cover a non-exclusive inclusion. Therefore, a merchandise or a system that includes a series of elements not only includes such elements, but also includes other elements not specified expressly, or but also includes inherent elements of the merchandise or the system. Unless otherwise specified, an element limited by "include a/an..." does not exclude other same elements existing in the merchandise or the system that includes the element.

FIG. 1 is a schematic flowchart of a search information processing method according to an embodiment of the present invention. This embodiment may be performed by a search information processing apparatus. The apparatus may be implemented by using hardware, or may be implemented by using hardware executing corresponding software. The apparatus may be implemented in any terminal device having a processor and a display apparatus and/or audio play. The terminal device may be, for example, a mobile terminal. The mobile terminal includes a tablet computer, a mobile phone, or the like.

The following uses an example in which the mobile terminal is a mobile phone and the search information processing apparatus is disposed in the mobile phone in a form of hardware or hardware executing corresponding software, to describe specific implementations of the search information processing method in the present invention in detail. As shown in FIG. 1, the procedure includes:

Step 101. Receive search information entered by a user.

Implementation of this process may be specifically performed by using a search application set by the user on a mobile phone terminal, or operating a mobile phone terminal by the user to log in to a search engine of the Internet, so as to start a program for searching the search information. The search information entered by the user may be in a text form, a voice form, a picture form, or the like. A type of the search information is not limited in the present invention.

Step 102. Send the search information to a cloud server to cause the cloud server to perform search processing according to the search information.

Step 103. Before the cloud server returns a search processing result, push display information having content to the user on a display interface.

In this step, the display information pushed to the user may be information in any data format, for example, audio display information, video display information, text display information, picture (such as an icon) display information, or animation display information. These formats of display information includes content, unlike the existing technology, in which only a dull ring symbol or wave symbol is presented.

In this embodiment, search information entered by a user is received, and the search information is sent to a cloud server to cause the cloud server to perform search processing according to the search information. Before the cloud server returns a search processing result, display information having content is pushed to the user on a display interface. In this way, the user does not need to wait for the search result dully, thereby improving user experience.

The following describes the process of the search information processing method in the present invention in detail by using detailed embodiments. The following embodiments may be combined to each other. A same concept or process, or similar concepts or processes are not described in detail again in some embodiments.

FIG. 2 is a schematic flowchart of a search information processing method according to an embodiment of the present invention. In this embodiment, the search information processing method is described in detail by using a specific embodiment. The method

includes:

Step 201. Receive search information entered by a user.

Step 202. Send the search information to a cloud server to cause the cloud server to perform search processing according to the search information.

Step 203. Before the cloud server returns a search processing result, according to a preset setting by the user on display information, push display information satisfying the preset setting to the user; and/or push display information associated with the search information to the user according to the search information entered by the user.

Specifically, the preset setting includes at least one of the following settings: a setting on a display form of the display information, and a setting on information content of the display information. For example, the user may select a display form of the display information on a terminal, for example, any one of display forms of a video, audio, an icon, and an animation, or a combination thereof. The display form may further include a setting on display duration of the display information, for example, 20 seconds of video display, or 30 seconds of picture display. It should be noted that if a terminal receives the returned search result before the preset display duration is reached, display information that has not been completely displayed may be automatically stopped or may be stopped after a feedback instruction from the user is received. The feedback instruction from the user is, for example, that the terminal pops up prompt information to the user, to query the user whether to stop displaying the current display information and display the search result instead. If the user selects "Yes", the terminal immediately stops displaying the display information, and pushes the search result to the user; or if the user selects "No", the terminal presents the search result after display of the current display information that has not been completely displayed is completed. The display form may further include a setting on an order of displaying the display information. For example, the user sets a priority of video display information to be higher than that of picture display information, a priority of English word display information to be higher than that of current news display information, and the like. In addition, the user may further set specific content of the display information, for example, video content, songs, photos in an album, English words, and current news expected to watch during a search waiting period.

The preset setting may be a setting preset by the user on content in a local storage of the terminal, so that the display information is obtained from the preset local storage, and the preset display information is pushed to the user. For example, the user presets songs in a local music favorite list as display information, sets a photo in a photo folder of a local album as display information, or so on. The preset setting may alternatively be a presetting by the user

on a resource in the cloud server, so that the cloud server returns, according to the preset setting, the display information preset by the user to the terminal, and the terminal presents the display information to the user. Content to be pushed by the cloud server that is preset by the user may include display information subscribed to by the user from the cloud server, for example, at least one of the following: weather information, advertisement information, current news, and the like. The preset setting may alternatively be a combination of the foregoing sources. That is, according to different display information preset by the user, some display information may be obtained locally, and other display information may be obtained from cloud. The display information having content is not constant; otherwise, it is very difficult to release boring feelings of the user during waiting.

In an example, knowledge that needs to be learned by the user may be displayed in a search waiting process. For example, English words are used as the display information having content for display in the search waiting process. When performing a setting, the user may set words for display. Then, background software can randomly select a word for display. Certainly, randomly selecting a word is one manner. Alternatively, display may be automatically performed according to a study schedule.

In addition to a preset manner for obtaining the display information, information associated with an information type of the search information may be pushed to the user according to the search information entered by the user, to serve as the display information, and/or display information associated with information content of the search information may be pushed to the user. That is, according to search content, the user is enabled to know that a search server has received a search requirement of the user in a process of waiting for the search result and is performing searching at its best according to the requirement. Display content associated with the search information is fed back to the user during waiting, so that the user has perception, thereby increasing interaction and interactivity, and improving user experience. The display information associated with the information type of the search information means that the display information is obtained according to a type of information searched by the user. If the user searches for a song, the display information may be audio information. If the user searches for picture information, the display information may be picture information, and so on. The display information associated with the information content of the search information may be specifically obtained according to the search information entered by the user. A classification of the search information is determined, and then the display information associated with the classification is obtained according to the classification. The determining a classification of the search information may specifically

include: analyzing semanteme of the search information, extracting subject content of the search information, and determining the classification of the search information according to the subject content. For example, the search information entered by the user is "clinic". The server determines, according to "clinic", that the classification of the search information is "medical", and obtains display information related to medical services, for example, medical icons or hospital names. For another example, if the search information entered by the user is "a movie theater around a place", semanteme of the search information is analyzed, keywords "place" and "movie theater" are obtained, then subject content "movie theater" is extracted according to the keywords, and display information related to movie theaters is obtained, for example, related information such as posters and movie names of current hot movies, or movie theater names.

Step 204. Receive the search processing result returned by the cloud server.

Step 205. Stop pushing the display information, and push the search processing result to the user on the display interface.

In this embodiment, a type, a display form, content, and the like of display information are preset, enriching display effects of the display information. In addition, the display information is obtained from different places such as a local memory and a cloud server, to provide the display information satisfying a personalized requirement to a user; so that the user not only can obtain information in which the user is interested from a locally stored resource, but also can subscribe to information in which the user is interested from cloud. Therefore, a waiting time in a search process is fully used, so that the process of waiting for a search result becomes interesting, thereby improving user experience.

Implementation of the foregoing step is described in detail by using specific application scenarios.

As shown in FIG. 3, a user activates a search button, and enters "I want to pay fees". A cloud server pushes display information related to "fee payment" to the user. An example in which the display information is picture-type information is used. Various patterns (pay water fees, electricity fees, gas fees, cable TV fees, fixed-line broadband fees, and property fees) shown in FIG. 3 are displayed in a process in which the user waits for a search result, to enable the user to know that the server has correctly received a search request of the user and is searching for related content.

As shown in FIG. 4, a user activates a search button, and enters "I want to order takeout". A cloud server matches the keyword "takeout", and patterns related to takeout (chicken, ducks, fish, and meat, or logos related to takeout shops and the like) are dynamically

presented during search loading, thereby achieving a visible search process for the user.

As shown in FIG. 5, a user activates a search button, and enters search information "registration for stomachache". The keywords "registration for stomachache" are matched. An example in which display information is text information is used. Names of hospitals treating stomachache are pushed to the user as associated display information, so that before the user obtains a complete search result, the user can view brief information about the hospitals.

In addition, in the foregoing scenario examples, pushing of the display information may be visualized, may be heard in a form of audio, or may be a combination of the two pushing manners. FIG. 6 is a schematic structural diagram of a search information processing apparatus according to an embodiment of the present invention. As shown in FIG. 6, functions of the apparatus may be implemented by using hardware or may be implemented by using hardware executing corresponding software. The hardware or software includes one or more modules corresponding to the foregoing functions. The apparatus includes:

a receiving module 1, configured to receive search information entered by a user;

a sending module 2, configured to send the search information to a cloud server to cause the cloud server to perform search processing according to the search information; and

a pushing module 3, configured to: before the cloud server returns a search processing result, push display information having content to the user on a display interface.

The apparatus provided in this embodiment may be configured to perform the foregoing method embodiment. Their implementation principles and technical effects are similar. Details are not described herein again.

FIG. 7 is a schematic structural diagram of a search information processing apparatus according to an embodiment of the present invention. This embodiment, in addition to the embodiment in FIG. 6, further includes:

The display information may include at least one of the following:

a picture, audio, a video, an animation, and text.

Optionally, the pushing module 3 includes:

a first pushing submodule 31, configured to push, according to a preset setting by the user on display information, display information satisfying the preset setting to the user; and/or

a second pushing submodule 32, configured to push, according to the search information entered by the user, display information associated with the search information to the user.

Optionally, the preset setting includes at least one of the following settings: a setting on a

display form of the display information, and a setting on information content of the display information.

Optionally, the first pushing submodule 31 includes:

an obtaining pushing submodule 311, configured to obtain the display information from a preset local storage, and push the display information to the user; and/or

a receiving pushing submodule 312, configured to receive, according to a preset setting by the user on content to be pushed by the cloud server, the display information returned by the cloud server, and push the display information to the user.

Optionally, the second pushing submodule 32 includes:

an association information pushing submodule 321, configured to push, according to the search information entered by the user, display information associated with an information type of the search information to the user, and/or display information associated with information content of the search information.

Optionally, the preset setting by the user on the content to be pushed by the cloud server includes display information subscribed to by the user from the cloud server; and

the subscribed display information includes at least one of the following: weather information, advertisement information, and current news.

Optionally, the receiving module 1 is further configured to receive the search processing result returned by the cloud server; and

the pushing module 3 is further configured to stop pushing the display information and push the search processing result to the user on the display interface.

The apparatus provided in this embodiment may be configured to perform the foregoing method embodiments. Their implementation principles and technical effects are similar. Details are not described herein again.

Finally, it should be noted that the foregoing embodiments are merely intended for describing the technical solutions of the present invention, but not for limiting the present invention. Although the present invention is described in detail with reference to the foregoing embodiments, persons of ordinary skill in the art should understand that they may still make modifications to the technical solutions described in the foregoing embodiments or make equivalent replacements to some or all technical features thereof, without departing from the scope of the technical solutions of the embodiments of the present invention.

CLAIMS

1. A search information processing method, comprising:

receiving a setting by a user on information content of display information for displaying on a display interface between a first time of sending a search request to a cloud server and a second time of receiving a search result from the cloud server for the search request;

receiving subscribed display information corresponding to the setting on information content;

receiving search information entered by the user;

sending the search information to the cloud server to cause the cloud server to perform search processing according to the search information;

before the cloud server returns a search processing result corresponding to the search information, displaying the subscribed display information having content to the user on the ~~a~~ display interface;

before the entire content of the subscribed display information is completely displayed, receiving the search processing result from the cloud server;

in response to receiving the search processing result, displaying a pop-up prompt on the display interface, wherein the pop-up prompt queries the user whether to stop displaying the subscribed display information and start to display the search processing result;

in response to a user selection to not stop displaying the subscribed display information, continuing display the subscribed display information until the entire content is displayed and then displaying the search processing result; and

in response to a user selection to stop displaying the subscribed display information, immediately stopping displaying the subscribed display information and starting to display the search processing result.

2. The method according to claim 1, wherein the display information comprises at least one of the following:

a picture, audio, a video, an animation, and text.

3. The method according to claim 1, further comprising:

obtaining the subscribed display information from a preset local storage, and displaying the subscribed display information to the user.

4. The method according to claim 1, wherein the subscribed display information comprises at least one of the following: weather information, and current news.

5. A search information processing apparatus, comprising:

a receiving module, configured to receive a setting by a user on information content of display information for displaying on a display interface between a first time of sending a search request to a cloud server and a second time of receiving a search result from the cloud server for the search request, receive subscribed display information corresponding to the setting on information content, and receive search information entered by the user;

a sending module, configured to send the search information to the cloud server to cause the cloud server to perform search processing according to the search information; and

a pushing module, configured to, before the cloud server returns a search processing result, corresponding to the search information, display the subscribed information having content to the user on the ~~a~~ display interface, wherein before the entire content of the subscribed display information is completely displayed, the receiving module receives the search processing result from the cloud server, in response to receiving the search processing result, the pushing modules displays a pop-up prompt on the display interface, wherein the pop-up prompt queries the user whether to stop displaying the subscribed display information and start to display the search processing result, in response to a user selection to not stop displaying the subscribed display information, the pushing module continues display the subscribed display information until the entire content is displayed and then displays the search processing result, and in response to a user selection to stop displaying the subscribed display information, the push module immediately stops displaying the subscribed display information and starts to display the search processing result.

6. The apparatus according to claim 5, wherein the display information comprises at least one of the following:

a picture, audio, a video, an animation, and text.

7. The apparatus according to claim 5, wherein the pushing module comprises:

an obtaining pushing submodule, configured to obtain the subscribed display information from a preset local storage, and display the subscribed display information to the user.

8. The apparatus according to claim 5, wherein the subscribed display information comprises at least one of the following: weather information and current news.