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(54) **Title**: METHOD, APPARATUS, AND SYSTEM FOR LOADING WEBPAGE APPLICATION PROGRAM

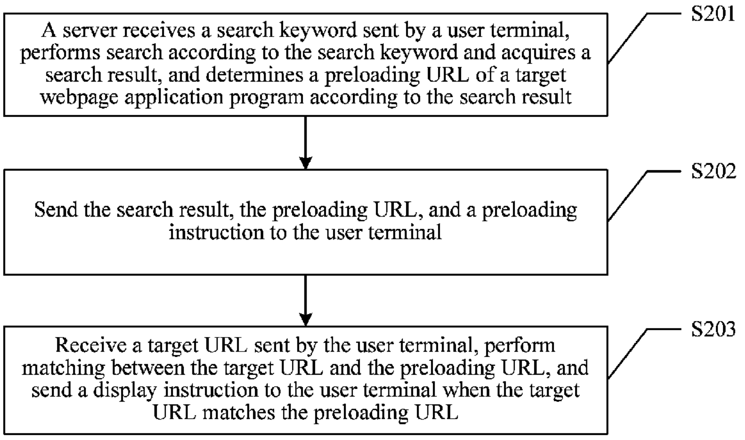
A server receives a search keyword sent by a user terminal, performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result
S201
Send the search result, the preloading URL, and a preloading instruction to the user terminal
S202
Receive a target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL
S203

FIG. 4

(57) **Abstract**: A method for loading a webpage application program includes: receiving, by a server, a search keyword sent by a user terminal, and acquiring a search result according to the search keyword ； determining a preloading URL of a target webpage application program according to the search result ； sending the search result, the preloading URL, and a preloading instruction to the user terminal, so as to instruct the user terminal to acquire a preloading fl of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result ； receiving the target URL sent by the user terminal and performing matching between the target URL and the preloading URL ； and sending a display instruction to the user terminal when the target URL matches the preloading URL.

METHOD, APPARATUS, AND SYSTEM FOR LOADING WEBPAGE APPLICATION PROGRAM

FIELD OF THE TECHNOLOGY

[0001] The present disclosure relates to computer technologies, and in particular, to a method, an apparatus, and a system for loading a webpage application program.

BACKGROUND OF THE DISCLOSURE

[0002] A webpage application program refers to an application program that can be run in a browser; different from a common application program, the webpage application program such as a browser game can be directly opened and run in the browser and does not need to be downloaded and installed. A webpage application program client is a client program such as a browser game box that achieves the objective of opening and running a webpage application program in a client by embedding a browser component in the client. However, in some technical scenarios, when a user needs to open a found target webpage application program in a webpage application program client, a user terminal usually acquires a program file of the target webpage application program and loads the program file only after the user selects the target webpage application program according to a search result. In this way, it takes a long time to open the target webpage application program.

SUMMARY

[0003] In view of the above, the present disclosure provides a method, an apparatus, and a system for loading a webpage application program. The method, apparatus, and system for loading a webpage application program can improve the speed of opening a webpage application program.

[0004] A method for loading a webpage application program provided in an embodiment of the present invention includes: receiving, by a server, a search keyword sent by a user terminal, and performing search according to the search keyword and acquiring a search result; determining a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program; sending the search result, the preloading URL, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result; receiving the target URL sent by the user terminal, and performing matching between the target URL and the preloading URL; and sending a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground.

[0005] Another method for loading a webpage application program provided in an embodiment of the present invention includes: acquiring, by a user terminal, a search keyword, and sending the search keyword to a server, so that the server performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program; receiving the search result, the preloading URL, and a preloading instruction that are sent by the server; acquiring a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; loading the preloading file by using a background preloading rendering component; determining a target URL of the target webpage application program according to the search result, and sending the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL; and receiving the display instruction sent by the server, and displaying the preloading rendering component in the foreground as instructed by the display instruction.

[0006] An apparatus for loading a webpage application program provided in an embodiment of the present invention runs in a server and includes: a search module, a preloading module, and a display module. The search module is configured to receive a search keyword sent by a user terminal, perform search according to the search keyword and acquire a search result, and determine a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program. The preloading module is configured to send the search result and the preloading URL that are obtained by the search module, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result. The display module is configured to receive the target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground.

[0007] Another apparatus for loading a webpage application program provided in an embodiment of the present invention runs in a user terminal and includes: an acquiring module, a preloading module, and a display module. The acquiring module is configured to acquire a search keyword, and send the search keyword to a server, so that the server performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program. The preloading module is configured to receive the search result, the preloading URL, and a preloading instruction that are sent by the server; acquire a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; load the preloading file by using a background preloading rendering component; and determine a target URL of the target webpage application program according to the search result, and send the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL. The display module is configured to receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction.

[0008] A system for loading a webpage application program provided in an embodiment of the present invention includes a server and a user terminal. The server is configured to receive a search keyword sent by the user terminal, perform search according to the search keyword and acquire a search result, and determine a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program; configured to send the search result, the preloading URL, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result; and further configured to receive the target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground. The user terminal is configured to acquire the search keyword, and send the search keyword to the server; configured to receive the search result, the preloading URL, and the preloading instruction that are sent by the server, acquire the preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction, load the preloading file by using the background preloading rendering component, determine the target URL of the target webpage application program according to the search result, and send the target URL to the server; and further configured to receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction.

[0009] In the method, apparatus, and system for loading a webpage application program provided in the embodiments of the present invention, a server performs search according to a search keyword sent by a user terminal and acquires a search result, determines a preloading URL of a target webpage application program according to the search result, instructs the user terminal to preload the target webpage application program in the background according to the preloading URL, and instructs the user terminal to display a preloading rendering component in the foreground when a target URL of the target webpage application program that is sent by the user terminal and determined by a user matches the preloading URL of the target webpage application program that is previously predicted by the server. Because the target webpage application program is preloaded to some extent during the time taken by the user to determine the target webpage application program according to the search result, the target webpage application program can be quickly opened after the target webpage application program is determined, thereby shortening the time for opening the target webpage application program, and improving the efficiency of opening the target webpage application program.

[0010] To make the foregoing and other objectives, features, and advantages of the present disclosure more comprehensible, preferred embodiments are described in detail below with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a schematic structural diagram of a system for loading a webpage application program according to a first embodiment of the present invention;

[0012] FIG. 2 is a structural block diagram of a user terminal;

[0013] FIG. 3 is a structural block diagram of a server;

[0014] FIG. 4 is a flowchart of a method for loading a webpage application program according to a second embodiment of the present invention;

[0015] FIG. 5 is a flowchart of a method for loading a webpage application program according to a third embodiment of the present invention;

[0016] FIG. 6 is a flowchart of a method for loading a webpage application program according to a fourth embodiment of the present invention;

[0017] FIG. 7 is a flowchart of a method for loading a webpage application program according to a fifth embodiment of the present invention;

[0018] FIG. 8 is a flowchart of a method for loading a webpage application program according to a sixth embodiment of the present invention;

[0019] FIG. 9 is a sequence diagram of a method for loading a webpage application program according to a seventh embodiment of the present invention;

[0020] FIG. 10 is a schematic structural diagram of an apparatus for loading a webpage application program according to an eighth embodiment of the present invention;

[0021] FIG. 11 is a schematic diagram of a storage environment of the apparatus in FIG. 10;

[0022] FIG. 12 is a schematic structural diagram of an apparatus for loading a webpage application program according to a ninth embodiment of the present invention;

[0023] FIG. 13 is a schematic structural diagram of an apparatus for loading a webpage application program according to a tenth embodiment of the present invention;

[0024] FIG. 14 is a schematic diagram of a storage environment of the apparatus in FIG. 13; and

[0025] FIG. 15 is a schematic structural diagram of an apparatus for loading a webpage application program according to an eleventh embodiment of the present invention.

DESCRIPTION OF EMBODIMENTS

[0026] To further explain the technical means used in the present disclosure for achieving the intended objectives and the effects thereof, specific implementation manners, structures, features, and effects of the present disclosure are described in detail below with reference to the accompanying drawings and preferred embodiments.

[0027] Referring to FIG. 1 to FIG. 3, FIG. 1 is a schematic structural diagram of a system for loading a webpage application program according to a first embodiment of the present invention. As shown in FIG. 1, the system 10 for loading a webpage application program provided in this embodiment includes a user terminal 100 and a server 200. The user terminal 100 and the server 200 are located in a wired or wireless network, and the user terminal 100 exchanges data with the server 200 through the wired or wireless network.

[0028] The server 200 may be configured to receive a search keyword sent by the user terminal 100, perform search according to the search keyword and acquire a search result, and determine a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program; configured to send the search result, the preloading URL, and a preloading instruction to the user terminal 100, the preloading instruction being used to instruct the user terminal 100 to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result; and further configured to receive the target URL sent by the user terminal 100, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal 100 when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal 100 to display the preloading rendering component in the foreground.

[0029] The user terminal 100 may include a smart phone, a tablet computer, an e-book reader, a Moving Picture Experts Group Audio Layer III (MP3) player, a Moving Picture Experts Group Audio Layer IV (MP4) player, a portable laptop computer, an in-vehicle computer, a desktop computer, a set top box, a smart television, a wearable device, and the like. The user terminal 100 may be configured to acquire the search keyword, and send the search keyword to the server 200; configured to receive the search result, the preloading URL, and the preloading instruction that are sent by the server 200, acquire the preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction, load the preloading file by using the background preloading rendering component, determine the target URL of the target webpage application program according to the search result, and send the target URL to the server 200; and further configured to receive the display instruction sent by the server 200, and display the preloading rendering component in the foreground as instructed by the display instruction.

[0030] FIG. 2 is a structural block diagram of a user terminal. As shown in FIG. 2, the user terminal 100 includes a memory 102, a memory controller 104, one or more processors 106 (only one processor is shown in FIG. 2), a peripheral interface 108, a radio frequency module 110, a positioning module 112, a camera module 114, an audio module 116, a screen 118, and a key module 120. These components communicate with each other through one or more communications buses/signal lines 122.

[0031] It may be understood that the structure shown in FIG. 2 is only for the purpose of illustration, and the user terminal 100 may also include more or fewer components than those shown in FIG. 2, or have a configuration different from that shown in FIG. 2. The components shown in FIG. 2 may be implemented by using hardware, software, or a combination thereof.

[0032] The memory 102 may be configured to store a software program and module, for example, program instructions/modules corresponding to the method, apparatus, and system for loading a webpage application program in the embodiments of the present invention. The processor 106 runs the software program and module stored in the memory 102, to implement various functional applications and data processing, that is, implement the method for loading a webpage application program.

[0033] The memory 102 may include a high speed random access memory, and may also include a non-volatile memory, for example, one or more magnetic storage devices, flash memories or other non-volatile solid-state memories. In some embodiments, the memory 102 may further include memories remotely disposed relative to the processor 106, and these remote memories may be connected to the user terminal 100 through a network. Examples of the network include, but are not limited to, the Internet, an intranet, a local area network, a mobile communications network, or a combination thereof. The processor 106 and other possible components may access the memory 102 under the control of the memory controller 104.

[0034] The processor 106 runs various software and instructions inside the memory 102, so as to perform various functions of the user terminal 100 and perform data processing.

[0035] The peripheral interface 108 is configured to couple various peripheral devices to a CPU and the memory 102.

[0036] In some embodiments, the memory controller 104, the processor 106, and the peripheral interface 108 may be implemented in a single chip. In some other embodiments, they may be separately implemented by an independent chip.

[0037] The radio frequency module 110 is configured to receive and send an electromagnetic wave, and implement mutual conversion between the electromagnetic wave and an electric signal, so as to communicate with a communications network or another device. The radio frequency module 110 may include various existing circuit elements for performing these functions, such as an antenna, a radio frequency transceiver, a digital signal processor, a cipher/decipher chip, a subscriber identity module (SIM) card, and a memory. The radio frequency module 110 may communicate with various networks such as the Internet, an intranet and a wireless network, or communicate with other devices through a wireless network. The wireless network may include a cellular telephone network, a wireless local area network, or a metropolitan area network. The wireless network may use various communications standards, protocols and technologies, which include, but are not limited to, Global System for Mobile Communications (GSM), Enhanced Data GSM Environment (EDGE), Wideband Code Division Multiple Access (W-CDMA), Code Division Multiple Access (CDMA), Time Division Multiple Access (TDMA), Bluetooth, Wireless Fidelity (WiFi) (for example, US Institute of Electrical and Electronic Engineers IEEE 802.11a, IEEE 802.11b, IEEE802.11g and/or IEEE 802.11n), Voice over Internet Protocol (VoIP), Worldwide Interoperability for Microwave Access (Wi-Max), other protocols for email, instant messaging and short message service, and any other suitable communications protocols, and even may include some protocols that have not been developed.

[0038] The positioning module 112 is configured to acquire a current location of the user terminal 100. Examples of the positioning module 112 include, but are not limited to, a global positioning system (GPS) and a positioning technology based on a wireless local area network or mobile communications network.

[0039] The camera module 114 is configured to capture a picture or video. The captured picture or video may be stored in the memory 102, and may be sent by using the radio frequency module 110.

[0040] The audio module 116 provides an audio interface for a user, and may include one or more microphones, one or more loudspeakers, and an audio circuit. The audio circuit receives audio data from the peripheral interface 108, converts the audio data into electric information, and transmits the electric information to the loudspeaker. The loudspeaker converts the electric information into an acoustic wave audible to the human ear. The audio circuit further receives electric information from the microphone, converts the electric information into audio data, and transmits the audio data to the peripheral interface 108 for further processing. The audio data may be acquired from the memory 102 or by the radio frequency module 110. In addition, the audio data may also be stored in the memory 102 or sent by the radio frequency module 110. In some embodiments, the audio module 116 may further include an earphone jack, for providing an audio interface for an earphone or another device.

[0041] The screen 118 provides an output interface between the user terminal 100 and the user. The screen 118 displays a video output to the user, and content of the video output may include texts, images, videos, or any combination thereof. Some output results correspond to some user interface objects. It may be understood that the screen 118 may further provide an output and input interface between the user terminal 100 and the user. Specifically, the screen 118 not only displays a video output to the user, but also receives an input of the user, such as tapping, sliding, or other gesture operations of the user, so that the user interface object responds to the input of the user. The technology for detecting the input of the user may be a resistive touch detection technology, a capacitive touch detection technology, or any other possible touch detection technologies. Specific examples of a display unit of the screen 118 include, but are not limited to, a liquid crystal display and a light-emitting polymer display.

[0042] The key module 120 also provides an interface for the user to input information to the user terminal 100, and the user may press different keys to enable the user terminal 100 to perform different functions.

[0043] FIG. 3 is a structural block diagram of a server. As shown in FIG. 3, the server 200 includes a memory 201, a processor 202, and a network module 203.

[0044] It may be understood that the structure shown in FIG. 3 is only for the purpose of illustration, and the server 200 may also include more or fewer components than those shown in FIG. 3, or have a configuration different from that shown in FIG. 3. The components shown in FIG. 3 may be implemented by using hardware, software, or a combination thereof. In addition, the server in this embodiment of the present invention may further include multiple servers with different specific functions.

[0045] The memory 201 may be configured to store a software program and module, for example, program instructions/modules corresponding to the method, apparatus, and system for loading a webpage application program in the embodiments of the present invention. The processor 202 runs the software program and module stored in the memory 201, to implement various functional applications and data processing, that is, implement the method for loading a webpage application program in the embodiments of the present invention. The memory 201 may include a high speed random access memory, and may also include a non-volatile memory, for example, one or more magnetic storage devices, flash memories or other non-volatile solid-state memories. In some embodiments, the memory 201 may further include memories remotely disposed relative to the processor 202, and these remote memories may be connected to the server 200 through a network. Further, the software program and module may further include an operating system 221 and a service module 222. The operating system 221 may be, for example, LINUX, UNIX, or WINDOWS; and may include various software components and/or drives for managing system tasks (for example, memory management, storage device control, or power management), and may communicate with various hardware or software components, thereby providing a running environment for other software components. The service module 222 runs on the basis of the operating system 221, listens for a request from a network by using a network service of the operating system 221, implements corresponding data processing according to the request, and returns a processing result to a client. That is, the service module 222 is configured to provide a network service for the client.

[0046] The network module 203 is configured to receive and send network signals. The network signal may include a wireless signal or a wired signal. In an embodiment, the network signal is a wired network signal. In this case, the network module 203 may include elements such as a processor, a random access memory, a converter, and a crystal oscillator.

[0047] Specifically, in this embodiment, a program for managing webpage application programs, for example, a browser game box program that can be used to manage browser games may be preset in a user terminal.

[0048] First, the user terminal 100 may start, according to a start instruction triggered by a user, the program for managing webpage application programs; and generate a preloading rendering component for preloading a target webpage application program, and run the preloading rendering component in the background, that is, the preloading rendering component is set to be invisible to the user.

[0049] Then, the user terminal 100 may acquire, according to a search instruction triggered by the user in the started management program, a search keyword entered into a webpage application program searching box of the management program by the user, and send the search keyword to the server 200. The search keyword may include any one or combination of Chinese characters, letters, and other characters. The search keyword may be used to search for the target webpage application program.

[0050] Subsequently, after receiving the search keyword sent by the user terminal 100, the server 200 may acquire a search result according to the search keyword by using a search engine, determine (predict) a preloading URL of the target webpage application program according to the search result, and then send the obtained search result, the preloading URL, and a preloading instruction to the user terminal. The search result may include names of candidate webpage application programs matching the search keyword and corresponding URLs that are obtained from a page returned by the search engine. Specifically, the server 200 may sort the candidate webpage application programs according to the degrees to which the names of the candidate webpage application programs in the search result match the search keyword. For example, the candidate webpage application programs may be sorted according to the values of the degrees of matching, and candidate webpage application programs corresponding to high degrees of matching come before candidate webpage application programs corresponding to low degrees of matching, that is, the candidate webpage application program whose name includes more search keywords appears earlier in the sequence. Then, the URL of the candidate webpage application program among the candidate webpage application programs that meets a preset condition is determined as the preloading URL of the target webpage application program according to a sorting sequence. For example, the URL of the candidate webpage application program that is the first in the sequence may be determined as the preloading URL of the target webpage application program.

[0051] Next, after receiving the search result, the preloading URL, and the preloading instruction that are sent by the server 200, the user terminal 100 may acquire a preloading file of the target webpage application program from a corresponding server according to the preloading URL as instructed by the preloading instruction sent by the server 200, and load the preloading file by using a background preloading rendering component. At the same time, the user terminal 100 may further display the search result sent by the server 200, determine a target URL of the target webpage application program as instructed by a determining instruction that is triggered by the user in response to the search result, and send the target URL to the server 200.

[0052] Afterward, the server 200 performs matching between the target URL of the target webpage application program that is sent by the user terminal 100 and determined as instructed by the determining instruction triggered by the user and the preloading URL of the target webpage application program that is previously determined (predicted) by the server 200 according to the search result; and sends a display instruction to the user terminal 100 when the target URL matches the preloading URL.

[0053] Finally, the user terminal 100 receives the display instruction sent by the server 200, and displays the background preloading rendering component in the foreground as instructed by the display instruction. In addition, the user terminal 100 may further hide another existing rendering component displayed in the foreground.

[0054] Further, when the target URL determined as instructed by the determining instruction that is triggered by the user does not match the preloading URL previously determined (predicted) by the server 200, the server 200 may further send a loading instruction to the user terminal 100. After receiving the loading instruction sent by the server 200, the user terminal 100 may acquire a program file of the target webpage application program from a corresponding server according to the target URL as instructed by the loading instruction, generate, in the foreground, a rendering component visible to the user, and load the program file of the target webpage application program by using the rendering component. In addition, the user terminal 100 may further instruct the background preloading rendering component to stop preloading the target webpage application program.

[0055] Referring to FIG. 4, FIG. 4 is a flowchart of a method for loading a webpage application program according to a second embodiment of the present invention. As shown in FIG. 4, this embodiment includes the following steps:

[0056] Step S201: A server receives a search keyword sent by a user terminal, performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result.

[0057] In this embodiment, the search keyword may be acquired and sent to the server by the user terminal. A program for managing webpage application programs may run in the user terminal. The user terminal may acquire, according to a search instruction triggered by a user in the management program, the search keyword entered into a webpage application program searching box of the management program by the user. The search keyword may include any one or combination of Chinese characters, letters, and other characters. The search keyword may be used to search for the target webpage application program.

[0058] Specifically, the server receives the search keyword sent by the user terminal, acquires the search result according to the search keyword by using a search engine, and determines the preloading URL of the target webpage application program according to the search result. The search result may include names of candidate webpage application programs matching the search keyword and corresponding URLs that are obtained from a page returned by the search engine. The preloading URL is URLs of one or more candidate webpage application programs that are predicted by the server according to the search result and a preset rule and are most possibly selected by the user from the search result.

[0059] Step S202: Send the search result, the preloading URL, and a preloading instruction to the user terminal.

[0060] In this embodiment, the preloading instruction may be used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result.

[0061] Step S203: Receive a target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL.

[0062] In this embodiment, the target URL may be acquired by the user terminal according to a determining instruction that is triggered by the user in response to the search result. The user terminal may acquire the target URL of the target webpage application program according to the determining instruction, and send the target URL to the server.

[0063] Specifically, the server receives the target URL of the target webpage application program that is sent by the user terminal, and performs matching between the target URL and the previously determined preloading URL of the target webpage application program. When the target URL matches the preloading URL, the server may determine that the preloading file loaded by the user terminal by using the preloading rendering component is consistent with a program file of the target webpage application program, and therefore send the display instruction to the user terminal. The display instruction may be used to instruct the user terminal to display the background preloading rendering component in the foreground. It may be understood that the user terminal receives the display instruction; and if the background preloading rendering component has not completed loading yet at this moment, the display instruction may be further used to instruct the preloading rendering component to continue loading the preloading file.

[0064] In another embodiment, the server may also send the names of the candidate webpage application programs in the search result, the preloading URL, and the preloading instruction to the user terminal. The user terminal may preload the target webpage application program in the background according to the preloading URL as instructed by the preloading instruction, determine a name of the target webpage application program according to the names of the candidate webpage application programs, and send the name of the target webpage application program to the server. The server may perform matching between the name of the target webpage application program that is sent by the user terminal and the name of the candidate webpage application program that corresponds to the preloading URL, and send the display instruction to the user terminal when the two match, so as to instruct the user terminal to display the background preloading rendering component in the foreground.

[0065] Referring to FIG. 5, FIG. 5 is a flowchart of a method for loading a webpage application program according to a third embodiment of the present invention. As shown in FIG. 5, this embodiment includes the following steps:

[0066] Step S301: A server receives a search keyword sent by a user terminal.

[0067] In this embodiment, the search keyword may be acquired and sent to the server by the user terminal. A program for managing webpage application programs may run in the user terminal. The user terminal may acquire, according to a search instruction triggered by a user in the management program, the search keyword entered into a webpage application program searching box of the management program by the user. The search keyword may include any one or combination of Chinese characters, letters, and other characters. The search keyword may be used to search for a target webpage application program.

[0068] Step S302: Acquire a search result according to the search keyword by using a search engine, where the search result includes names of candidate webpage application programs matching the search keyword, and corresponding URLs.

[0069] Specifically, the server acquires, by using a search engine, the search result according to the search keyword sent by the user terminal, and determines a preloading URL of the target webpage application program according to the search result. The search result may include names of candidate webpage application programs matching the search keyword and corresponding URLs that are obtained from a page returned by the search engine.

[0070] Step S303: Sort the candidate webpage application programs according to the degrees to which the names match the search keyword.

[0071] Specifically, the server may sort the candidate webpage application programs according to the degrees to which the names of the candidate webpage application programs in the search result match the search keyword. For example, the candidate webpage application programs may be sorted according to the values of the degrees of matching, and candidate webpage application programs corresponding to high degrees of matching come before candidate webpage application programs corresponding to low degrees of matching, that is, the candidate webpage application program whose name includes more search keywords appears earlier in the sequence.

[0072] Step S304: Determine, as the preloading URL of the target webpage application program according to a sorting sequence, the URL of the candidate webpage application program among the candidate webpage application programs that meets a preset condition.

[0073] Specifically, the server may determine the URL of the candidate webpage application program that is the first in the sequence as the preloading URL of the target webpage application program. Alternatively, to improve prediction accuracy and further improve the efficiency of opening the target webpage application program, the server may also determine, as the preloading URL of the target webpage application program according to network quality or a hardware configuration of the user terminal, URLs of the first n candidate webpage application programs in the sequence, n being a preset number, or a URL of a candidate webpage application program that is among the first n candidate webpage application programs and whose network transmission speed is greater than a preset speed.

[0074] Step S305: Send the search result, the preloading URL, and a preloading instruction to the user terminal.

[0075] In this embodiment, the preloading instruction may be used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result.

[0076] Step S306: Receive the target URL sent by the user terminal, and perform matching between the target URL and the preloading URL.

[0077] In this embodiment, the target URL may be acquired by the user terminal according to a determining instruction that is triggered by the user in response to the search result. The user terminal may acquire the target URL of the target webpage application program according to the determining instruction, and send the target URL to the server.

[0078] Specifically, the server receives the target URL sent by the user terminal, and performs matching between the target URL and the preloading URL to determine whether the preloading file loaded in the background by the user terminal by using the preloading rendering component is consistent with a program file of the target webpage application program.

[0079] Step S307: When the target URL matches the preloading URL, send a display instruction to the user terminal.

[0080] In this embodiment, that the target URL matches the preloading URL means that the preloading file loaded in the background by the user terminal by using the preloading rendering component is the program file of the target webpage application program. Specifically, when the target URL of the target webpage application program matches the preloading URL of the target webpage application program, the server may send the display instruction to the user terminal. The display instruction may be used to instruct the user terminal to display, in the foreground, the preloading rendering component that runs in the background. It may be understood that if the preloading rendering component has not completed loading yet when the user terminal receives the display instruction, the display instruction may be further used to instruct the preloading rendering component to continue loading the preloading file.

[0081] Step S308: When the target URL does not match the preloading URL, the server sends a loading instruction to the user terminal.

[0082] In this embodiment, that the target URL does not match the preloading URL means that the preloading file loaded by the user terminal by using the preloading rendering component is not the program file of the target webpage application program, and the prediction of the server is wrong and needs to be corrected. Specifically, when the target URL of the target webpage application program does not match the preloading URL of the target webpage application program, the server may send the loading instruction to the user terminal. The loading instruction may be used to instruct the user terminal to acquire the program file of the target webpage application program according to the target URL, and load and display the program file.

[0083] Referring to FIG. 6, FIG. 6 is a flowchart of a method for loading a webpage application program according to a fourth embodiment of the present invention. As shown in FIG. 6, this embodiment includes the following steps:

[0084] Step S401: A user terminal acquires a search keyword, and sends the search keyword to a server.

[0085] In this embodiment, a program for managing webpage application programs may run in the user terminal. The user terminal may acquire, according to a search instruction triggered by a user in the management program, the search keyword entered into a webpage application program searching box of the management program by the user. The search keyword may include any one or combination of Chinese characters, letters, and other characters. The search keyword may be used to search for a target webpage application program.

[0086] The user terminal sends the acquired search keyword to the server, so that the server performs search according to the search keyword by using a search engine and acquires a search result, and determines a preloading URL of the target webpage application program according to the search result. The search result may include names of candidate webpage application programs matching the search keyword and corresponding URLs that are obtained from a page returned by the search engine. The server may predict, according to the search result and a preset rule, URLs of one or more candidate webpage application programs that are most possibly selected by the user from the search result, and determine the URLs as the preloading URL of the target webpage application program.

[0087] Step S402: Receive the search result, the preloading URL, and a preloading instruction that are sent by the server; acquire a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; load the preloading file by using a background preloading rendering component; and determine a target URL of the target webpage application program according to the search result, and send the target URL to the server.

[0088] The user terminal may display the search result sent by the server, determine the target URL of the target webpage application program as instructed by a determining instruction that is triggered by the user in response to the search result, and send the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL.

[0089] Step S403: Receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction.

[0090] Specifically, the user terminal receives the display instruction sent by the server, and displays, in the foreground as instructed by the display instruction, the preloading rendering component that runs in the background. It may be understood that if the preloading rendering component has not completed preloading of the target webpage application program, the user terminal may instruct the preloading rendering component to continue loading the preloading file of the target webpage application program. At the same time, the user terminal may hide another existing foreground rendering component, and make the preloading rendering component gain focus, that is, exchange functions of the preloading rendering component and the another foreground rendering component, use the preloading rendering component as a foreground rendering component, and use the rendering component that previously runs in the foreground as a background rendering component.

[0091] Referring to FIG. 7, FIG. 7 is a flowchart of a method for loading a webpage application program according to a fifth embodiment of the present invention. As shown in FIG. 7, this embodiment includes the following steps:

[0092] Step S501: A user terminal starts, according to a start instruction triggered by a user, a program for managing webpage application programs.

[0093] In this embodiment, a program for managing webpage application programs, for example, a browser game box program that can be used to manage browser games may be preset in the user terminal. The user terminal may start, according to the start instruction triggered by the user, the preset program for managing webpage application programs.

[0094] Step S502: Generate a preloading rendering component, and run the preloading rendering component in the background.

[0095] The user terminal may generate one or more preloading rendering components in advance when starting the preset program for managing webpage application programs, and run the one or more preloading rendering components in the background, that is, the preloading rendering component is invisible to the user. The preloading rendering component may be used to preload a target webpage application program.

[0096] Step S503: Acquire a search keyword, and send the search keyword to a server.

[0097] In this embodiment, the user terminal may acquire, according to a search instruction triggered by the user in the started program for managing webpage application programs, the search keyword entered into a webpage application program searching box of the management program by the user. The search keyword may include any one or combination of Chinese characters, letters, and other characters. The search keyword may be used to search for the target webpage application program.

[0098] The user terminal sends the acquired search keyword to the server, so that the server performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result.

[0099] Step S504: Receive the search result, the preloading URL, and a preloading instruction that are sent by the server; acquire a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; and load the preloading file by using the background preloading rendering component.

[0100] Step S505: Display the search result.

[0101] In this embodiment, the search result may include names of candidate webpage application programs matching the search keyword, and corresponding URLs.

[0102] Step S506: Receive a determining instruction that is triggered by the user in response to the search result, acquire the URL of the candidate webpage application program to which the determining instruction points, and determine the URL as a target URL of the target webpage application program.

[0103] In this embodiment, the determining instruction may be triggered by the user on a display interface of the search result by using a mouse or a keyboard. The user terminal may receive a determining instruction triggered by the user on the display interface of the search result, acquire the URL of the candidate webpage application program to which the determining instruction points, that is, the URL of the candidate webpage application program selected by the user from the search result, and determine the URL as the target URL of the target webpage application program.

[0104] Step S507: Send the target URL to the server.

[0105] The user terminal sends the determined target URL of the target webpage application program to the server, so that the server performs matching between the target URL of the target webpage application program and the previously predicted preloading URL of the target webpage application program, and sends a display instruction to the user terminal when the target URL matches the preloading URL.

[0106] Step S508: Receive an indication instruction sent by the server.

[0107] Step S509: When the indication instruction is a display instruction, display the preloading rendering component in the foreground as instructed by the display instruction.

[0108] The server sends the display instruction to the user terminal when the target URL of the target webpage application program matches the preloading URL of the target webpage application program, and that the target URL matches the preloading URL means that the preloading file of the target webpage application program that is preloaded by the user terminal is a program file of the target webpage application program. Therefore, when the indication instruction received by the user terminal is the display instruction, the user terminal may determine that what is preloaded by the background preloading rendering component is actually the target webpage application program selected by the user, and the user terminal may display, in the foreground as instructed by the display instruction, the preloading rendering component that runs in the background.

[0109] It may be understood that if the preloading rendering component has not completed preloading of the target webpage application program, the user terminal may instruct the preloading rendering component to continue loading the preloading file of the target webpage application program. At the same time, the user terminal may hide another existing foreground rendering component, that is, exchange functions of the background preloading rendering component and the another foreground rendering component, use the preloading rendering component as a foreground rendering component and make it visible, and use the another rendering component that previously runs in the foreground as a background rendering component and make it invisible.

[0110] When there are multiple background preloading rendering components, the user terminal may display, in the foreground, the preloading rendering component that corresponds to the display instruction, and may stop all other preloading rendering components from preloading the target webpage application program.

[0111] Step S510: When the indication instruction is a loading instruction, acquire the program file of the target webpage application program according to the target URL as instructed by the loading instruction, and load and display the program file.

[0112] The server sends the load instruction to the user terminal when the target URL of the target webpage application program does not match the preloading URL of the target webpage application program, and that the target URL does not match the preloading URL means that the preloading file of the target webpage application program that is preloaded by the user terminal is not the program file of the target webpage application program. Therefore, when the indication instruction received by the user terminal is the loading instruction, the user terminal may determine that what is preloaded by the background preloading rendering component is not the target webpage application program selected by the user, and the user terminal may acquire the program file of the target webpage application program from a corresponding server according to the target URL of the target webpage application program as instructed by the loading instruction, generate, in the foreground, a rendering component visible to the user, and load the program file of the target webpage application program by using the rendering component. In addition, the user terminal may further instruct the background preloading rendering component to stop preloading the target webpage application program.

[0113] Referring to FIG. 8, FIG. 8 is a flowchart of a method for loading a webpage application program according to a sixth embodiment of the present invention. As shown in FIG. 8, this embodiment includes the following steps:

[0114] Step S601: A user terminal acquires a search keyword, and sends the search keyword to a server.

[0115] In this embodiment, a program for managing webpage application programs may run in the user terminal. The user terminal may acquire, according to a search instruction triggered by a user in the management program, the search keyword entered into a webpage application program searching box of the management program by the user, and send the search keyword to the server. The search keyword may include any one or combination of Chinese characters, letters, and other characters. The search keyword may be used to search for a target webpage application program.

[0116] Step S602: The server performs search according to the search keyword, and acquires a search result; determines a preloading URL of a target webpage application program according to the search result; and sends the search result, the preloading URL, and a preloading instruction to the user terminal.

[0117] Specifically, the server receives the search keyword sent by the user terminal, acquires the search result according to the search keyword by using a search engine, determines the preloading URL of the target webpage application program according to the search result, and then sends the search result, the preloading URL, and the preloading instruction to the user terminal. The search result may include names of candidate webpage application programs matching the search keyword and corresponding URLs that are obtained from a page returned by the search engine. The preloading URL is URLs of one or more candidate webpage application programs that are predicted by the server according to the search result and a preset rule and are most possibly selected by the user from the search result. The preloading instruction may be used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result.

[0118] Step S603: The user terminal acquires the preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; loads the preloading file by using the background preloading rendering component; and determines the target URL of the target webpage application program according to the search result, and sends the target URL to the server.

[0119] Specifically, the user terminal may acquire the preloading file of the target webpage application program from a corresponding server according to the preloading URL as instructed by the preloading instruction sent by the server, and load the preloading file by using the background preloading rendering component. At the same time, the user terminal may further display the search result sent by the server, determine the target URL of the target webpage application program as instructed by a determining instruction that is triggered by the user in response to the search result, and send the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL.

[0120] Step S604: The server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL.

[0121] Specifically, the server receives the target URL of the target webpage application program that is sent by the user terminal, and performs matching between the target URL and the previously determined preloading URL of the target webpage application program. When the target URL matches the preloading URL, the server may determine that the preloading file loaded by the user terminal by using the preloading rendering component is consistent with a program file of the target webpage application program, and therefore send the display instruction to the user terminal. The display instruction may be used to instruct the user terminal to display the background preloading rendering component in the foreground. It may be understood that if the preloading rendering component has not completed loading yet when the user terminal receives the display instruction, the display instruction may be further used to instruct the preloading rendering component to continue loading the preloading file.

[0122] In another embodiment, the server may also send the names of the candidate webpage application programs in the search result, the preloading URL, and the preloading instruction to the user terminal. The user terminal may preload the target webpage application program in the background according to the preloading URL as instructed by the preloading instruction, determine the name of the target webpage application program according to the names of the candidate webpage application programs, and send the name of the target webpage application program to the server. The server may perform matching between the name of the target webpage application program that is sent by the user terminal and the name of the candidate webpage application program that corresponds to the preloading URL, and send the display instruction to the user terminal when the two match, so as to instruct the user terminal to display the background preloading rendering component in the foreground.

[0123] Step S605: The user terminal displays the preloading rendering component in the foreground as instructed by the display instruction.

[0124] Specifically, the user terminal receives the display instruction sent by the server, and displays, in the foreground as instructed by the display instruction, the preloading rendering component that runs in the background. It may be understood that if the preloading rendering component has not completed preloading of the target webpage application program, the user terminal may instruct the preloading rendering component to continue loading the preloading file of the target webpage application program. At the same time, the user terminal may hide another existing foreground rendering component, and make the preloading rendering component gain focus, that is, exchange functions of the preloading rendering component and the another foreground rendering component, use the preloading rendering component as a foreground rendering component, and use the rendering component that previously runs in the foreground as a background rendering component.

[0125] Referring to FIG. 9, FIG. 9 is a sequence diagram of a method for loading a webpage application program according to a seventh embodiment of the present invention. As shown in FIG. 9, this embodiment includes the following steps:

[0126] Step S701: A user terminal starts, according to a start instruction triggered by a user, a program for managing webpage application programs; and generates a preloading rendering component, and runs the preloading rendering component in the background.

[0127] Step S702: The user terminal acquires a search keyword.

[0128] Step S703: The user terminal sends the search keyword to a server.

[0129] Step S704: The server acquires a search result according to the search keyword by using a search engine, where the search result includes names of candidate webpage application programs matching the search keyword, and corresponding URLs; sorts the candidate webpage application programs according to the degrees to which the names match the search keyword; and determines, as a preloading URL of a target webpage application program according to a sorting sequence, the URL of the candidate webpage application program among the candidate webpage application programs that meets a preset condition.

[0130] Step S705: The server sends the search result, the preloading URL, and a preloading instruction to the user terminal.

[0131] Step S706: The user terminal acquires a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; loads the preloading file by using the background preloading rendering component; and displays the search result, receives a determining instruction that is triggered by the user in response to the search result, acquires the URL of the candidate webpage application program to which the determining instruction points, and determines the URL as a target URL of the target webpage application program.

[0132] Step S707: The user terminal sends the target URL to the server.

[0133] Step S708: The server performs matching between the target URL and the preloading URL.

[0134] Step S709: When the target URL matches the preloading URL, the server sends a display instruction to the user terminal.

[0135] Step S710: The user terminal displays the preloading rendering component in the foreground as instructed by the display instruction.

[0136] Step S711: When the target URL does not match the preloading URL, the server sends a loading instruction to the user terminal.

[0137] Step S712: The user terminal acquires a program file of the target webpage application program according to the target URL as instructed by the loading instruction, and loads and displays the program file.

[0138] For details of step S701 to step S712, reference may be made to the content of the second embodiment to the sixth embodiment, and the details are not described herein again.

[0139] FIG. 10 is a schematic structural diagram of an apparatus for loading a webpage application program according to an eighth embodiment of the present invention. The apparatus for loading a webpage application program provided in this embodiment may run in the server 200 shown in FIG. 1, and is configured to implement the method for loading a webpage application program in the foregoing embodiments. As shown in FIG. 10, the apparatus 20 for loading a webpage application program includes: a search module 21, a preloading module 22, and a display module 23.

[0140] The search module 21 is configured to receive a search keyword sent by a user terminal, perform search according to the search keyword and acquire a search result, and determine a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program.

[0141] The preloading module 22 is configured to send the search result and the preloading URL that are obtained by the search module 21, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result.

[0142] The display module 23 is configured to receive the target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground.

[0143] The foregoing modules may be implemented by software code, and in this case, the foregoing modules may be stored in a memory 201, as shown in FIG. 11. The foregoing modules may also be implemented by hardware such as an integrated circuit chip.

[0144] For specific processes in which the functional modules of the apparatus 20 for loading a webpage application program in this embodiment implement their functions, refer to the specific content described in the embodiments shown in FIG. 1 to FIG. 9, and the details are not described herein again.

[0145] FIG. 12 is a schematic structural diagram of an apparatus for loading a webpage application program according to a ninth embodiment of the present invention. The apparatus for loading a webpage application program provided in this embodiment may run in the server 200 shown in FIG. 1, and is configured to implement the method for loading a webpage application program in the foregoing embodiments. As shown in FIG. 12, the apparatus 30 for loading a webpage application program includes: a search module 31, a preloading module 32, a display module 33, and a loading module 34.

[0146] The search module 31 is configured to receive a search keyword sent by a user terminal, perform search according to the search keyword and acquire a search result, and determine a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program.

[0147] The preloading module 32 is configured to send the search result and the preloading URL that are obtained by the search module 31, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result.

[0148] The display module 33 is configured to receive the target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground.

[0149] The loading module 34 is configured to send a loading instruction to the user terminal when the target URL does not match the preloading URL, the loading instruction being used to instruct the user terminal to acquire a program file of the target webpage application program according to the target URL, and load and display the program file.

[0150] Preferably, the search module 31 includes: a search unit 311, a sorting unit 312, and a determining unit 313. The search unit 311 is configured to acquire the search result according to the search keyword by using a search engine, where the search result includes names of candidate webpage application programs matching the search keyword, and corresponding URLs. The sorting unit 312 is configured to sort, according to the degrees to which the names match the search keyword, the candidate webpage application programs obtained by the search unit 311. The determining unit 313 is configured to determine, as the preloading URL of the target webpage application program according to a sorting sequence obtained by the sorting unit 312, the URL of the candidate webpage application program among the candidate webpage application programs that meets a preset condition.

[0151] For specific processes in which the functional modules of the apparatus 30 for loading a webpage application program in this embodiment implement their functions, refer to the specific content described in the embodiments shown in FIG. 1 to FIG. 9, and the details are not described herein again.

[0152] FIG. 13 is a schematic structural diagram of an apparatus for loading a webpage application program according to a tenth embodiment of the present invention. The apparatus for loading a webpage application program provided in this embodiment may run in the user terminal 100 shown in FIG. 1, and is configured to implement the method for loading a webpage application program in the foregoing embodiments. As shown in FIG. 13, the apparatus 40 for loading a webpage application program includes: an acquiring module 41, a preloading module 42, and a display module 43.

[0153] The acquiring module 41 is configured to acquire a search keyword, and send the search keyword to a server, so that the server performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program.

[0154] The preloading module 42 is configured to receive the search result, the preloading URL, and a preloading instruction that are sent by the server; acquire a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; load the preloading file by using a background preloading rendering component; and determine a target URL of the target webpage application program according to the search result, and send the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL.

[0155] The display module 43 is configured to receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction.

[0156] The foregoing modules may be implemented by software code, and in this case, the foregoing modules may be stored in a memory 102, as shown in FIG. 14. The foregoing modules may also be implemented by hardware such as an integrated circuit chip.

[0157] For specific processes in which the functional modules of the apparatus 40 for loading a webpage application program in this embodiment implement their functions, refer to the specific content described in the embodiments shown in FIG. 1 to FIG. 9, and the details are not described herein again.

[0158] FIG. 15 is a schematic structural diagram of an apparatus for loading a webpage application program according to an eleventh embodiment of the present invention. The apparatus for loading a webpage application program provided in this embodiment may run in the user terminal 100 shown in FIG. 1, and is configured to implement the method for loading a webpage application program in the foregoing embodiments. As shown in FIG. 15, the apparatus 50 for loading a webpage application program includes: an acquiring module 51, a preloading module 52, a display module 53, a loading module 54, and a start module 55.

[0159] The acquiring module 51 is configured to acquire a search keyword, and send the search keyword to a server, so that the server performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program.

[0160] The preloading module 52 is configured to receive the search result, the preloading URL, and a preloading instruction that are sent by the server; acquire a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; load the preloading file by using a background preloading rendering component; and determine a target URL of the target webpage application program according to the search result, and send the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL.

[0161] The display module 53 is configured to receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction.

[0162] The loading module 54 is configured to receive a loading instruction sent by the server, acquire a program file of the target webpage application program according to the target URL as instructed by the loading instruction, and load and display the program file.

[0163] The start module 55 is configured to start, according to a start instruction triggered by a user, a program for managing webpage application programs; and generate the preloading rendering component, and run the preloading rendering component in the background.

[0164] Preferably, the search result includes names of candidate webpage application programs matching the search keyword, and corresponding URLs, and the preloading module 52 includes a display unit 521 and a determining unit 522. The display unit 521 is configured to display the search result; and the determining unit 522 is configured to receive a determining instruction triggered by a user in response to the search result displayed by the display unit 521, acquire the URL of the candidate webpage application program to which the determining instruction points, and determine the URL as the target URL of the target webpage application program.

[0165] For specific processes in which the functional modules of the apparatus 50 for loading a webpage application program in this embodiment implement their functions, refer to the specific content described in the embodiments shown in FIG. 1 to FIG. 9, and the details are not described herein again.

[0166] It should be noted that the embodiments in this specification are all described in a progressive manner. Description of each of the embodiments focuses on differences from other embodiments, and reference may be made to each other for the same or similar parts among respective embodiments. The apparatus embodiments are substantially similar to the method embodiments and therefore are only briefly described, and reference may be made to the method embodiments for the associated part.

[0167] The relational terms herein such as first and second are used only to differentiate an entity or operation from another entity or operation, and do not require or imply any actual relationship or sequence between these entities or operations. Moreover, the terms "include", "comprise", and any variants thereof are intended to cover a non-exclusive inclusion. Therefore, in the context of a process, method, object, or device that includes a series of elements, the process, method, object, or device not only includes such elements, but also includes other elements not specified expressly, or may include inherent elements of the process, method, object, or device. Unless otherwise specified, an element limited by "include a/an..." does not exclude other same elements existing in the process, the method, the article, or the device that includes the element.

[0168] A person of ordinary skill in the art may understand that all or some of the steps of the foregoing embodiments may be implemented by using hardware, or may be implemented by a program instructing relevant hardware. The program may be stored in a computer-readable storage medium. The storage medium may be a read-only memory, a magnetic disk, an optical disc, or the like.

[0169] The above descriptions are merely preferred embodiments of the present invention, and are not intended to limit the present disclosure in any form. Although the present disclosure has been disclosed above through the preferred embodiments, the embodiments are not intended to limit the present disclosure. A person skilled in the art can make some equivalent variations, alterations or modifications to the above-disclosed technical content without departing from the scope of the technical solutions of the present disclosure to obtain equivalent embodiments. Any simple alteration, equivalent change or modification made to the above embodiments according to the technical essence of the present disclosure without departing from the content of the technical solutions of the present disclosure shall fall within the scope of the technical solutions of the present disclosure.

CLAIMS

What is claimed is:

1. A method for loading a webpage application program, comprising:

receiving, by a server, a search keyword sent by a user terminal, and performing search according to the search keyword and acquiring a search result;

determining a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program;

sending the search result, the preloading URL, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result;

receiving the target URL sent by the user terminal, and performing matching between the target URL and the preloading URL; and

sending a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground.

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

sending, by the server, a loading instruction to the user terminal when the target URL does not match the preloading URL, the loading instruction being used to instruct the user terminal to acquire a program file of the target webpage application program according to the target URL, load the program file and display the program file on a screen of the user terminal.

3. The method according to claim 1, wherein the performing search according to the search keyword and acquiring a search result comprises:

acquiring the search result according to the search keyword by using a search engine, wherein the search result comprises names of candidate webpage application programs matching the search keyword, and corresponding URLs.

4. The method according to claim 3, wherein the determining a preloading URL of a target webpage application program according to the search result comprises:

sorting the candidate webpage application programs according to the degrees to which the names match the search keyword; and

determining, as the preloading URL of the target webpage application program according to a sorting sequence, the URL of the candidate webpage application program among the candidate webpage application programs that meets a preset condition.

5. A method for loading a webpage application program, comprising:

acquiring, by a user terminal, a search keyword, and sending the search keyword to a server, so that the server performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program;

receiving the search result, the preloading URL, and a preloading instruction that are sent by the server;

acquiring a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction;

loading the preloading file by using a background preloading rendering component;

determining a target URL of the target webpage application program according to the search result, and sending the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL; and

receiving the display instruction sent by the server, and displaying the preloading rendering component in the foreground as instructed by the display instruction.

6. The method according to claim 5, further comprising:

receiving a loading instruction sent by the server, acquiring a program file of the target webpage application program according to the target URL as instructed by the loading instruction, and loading and displaying the program file.

7. The method according to claim 5, wherein the search result comprises names of candidate webpage application programs matching the search keyword, and corresponding URLs; and

the step of determining a target URL of the target webpage application program according to the search result comprises:

displaying the search result; and

receiving a determining instruction triggered by a user in response to the search result, acquiring a URL of a candidate webpage application program to which the determining instruction points, and determining the URL as the target URL of the target webpage application program.

8. The method according to claim 5, wherein before the step of acquiring, by a user terminal, a search keyword, the method further comprises:

starting, by the user terminal according to a start instruction triggered by a user, a program for managing webpage application programs; and

generating the preloading rendering component, and running the preloading rendering component in the background.

9. An apparatus for loading a webpage application program, running in a server, and comprising:

a search module, configured to receive a search keyword sent by a user terminal, perform search according to the search keyword and acquire a search result, and determine a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program;

a preloading module, configured to send the search result and the preloading URL that are obtained by the search module, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result; and

a display module, configured to receive the target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground.

10. The apparatus according to claim 9, further comprising:

a loading module, configured to send a loading instruction to the user terminal when the target URL does not match the preloading URL, the loading instruction being used to instruct the user terminal to acquire a program file of the target webpage application program according to the target

URL, and load and display the program file.

11. The apparatus according to claim 9, wherein the search module comprises:

a search unit, configured to acquire the search result according to the search keyword by using a search engine, wherein the search result comprises names of candidate webpage application programs matching the search keyword, and corresponding URLs;

a sorting unit, configured to sort, according to the degrees to which the names match the search keyword, the candidate webpage application programs obtained by the search unit; and

a determining unit, configured to determine, as the preloading URL of the target webpage application program according to a sorting sequence obtained by the sorting unit, the URL of the candidate webpage application program among the candidate webpage application programs that meets a preset condition.

12. An apparatus for loading a webpage application program, running in a user terminal, and comprising:

an acquiring module, configured to acquire a search keyword, and send the search keyword to a server, so that the server performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program;

a preloading module, configured to receive the search result, the preloading URL, and a preloading instruction that are sent by the server; acquire a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; load the preloading file by using a background preloading rendering component; and determine a target URL of the target webpage application program according to the search result, and send the target URL to the server, so that the server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL; and

a display module, configured to receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction.

13. The apparatus according to claim 12, further comprising:

a loading module, configured to receive a loading instruction sent by the server, acquire a program file of the target webpage application program according to the target URL as instructed by the loading instruction, and load and display the program file.

14. The apparatus according to claim 12, wherein the search result comprises names of candidate webpage application programs matching the search keyword, and corresponding URLs, and the preloading module comprises:

a display unit, configured to display the search result; and

a determining unit, configured to receive a determining instruction triggered by a user in response to the search result displayed by the display unit, acquire the URL of the candidate webpage application program to which the determining instruction points, and determine the URL as the target URL of the target webpage application program.

15. The apparatus according to claim 12, further comprising:

a start module, configured to start, according to a start instruction triggered by a user, a program for managing webpage application programs; and generate the preloading rendering component, and run the preloading rendering component in the background.

16. A system for loading a webpage application program, comprising a server and a user terminal;

the server being configured to receive a search keyword sent by the user terminal, perform search according to the search keyword and acquire a search result, and determine a preloading URL of a target webpage application program according to the search result, the search keyword being used to search for the target webpage application program; configured to send the search result, the preloading URL, and a preloading instruction to the user terminal, the preloading instruction being used to instruct the user terminal to acquire a preloading file of the target webpage application program according to the preloading URL, load the preloading file by using a background preloading rendering component, and determine a target URL of the target webpage application program according to the search result; and further configured to receive the target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL, the display instruction being used to instruct the user terminal to display the preloading rendering component in the foreground; and

the user terminal being configured to acquire the search keyword, and send the search keyword to the server; configured to receive the search result, the preloading URL, and the preloading instruction that are sent by the server, acquire the preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction, load the preloading file by using the background preloading rendering component, determine the target URL of the target webpage application program according to the search result, and send the target URL to the server; and further configured to receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction.

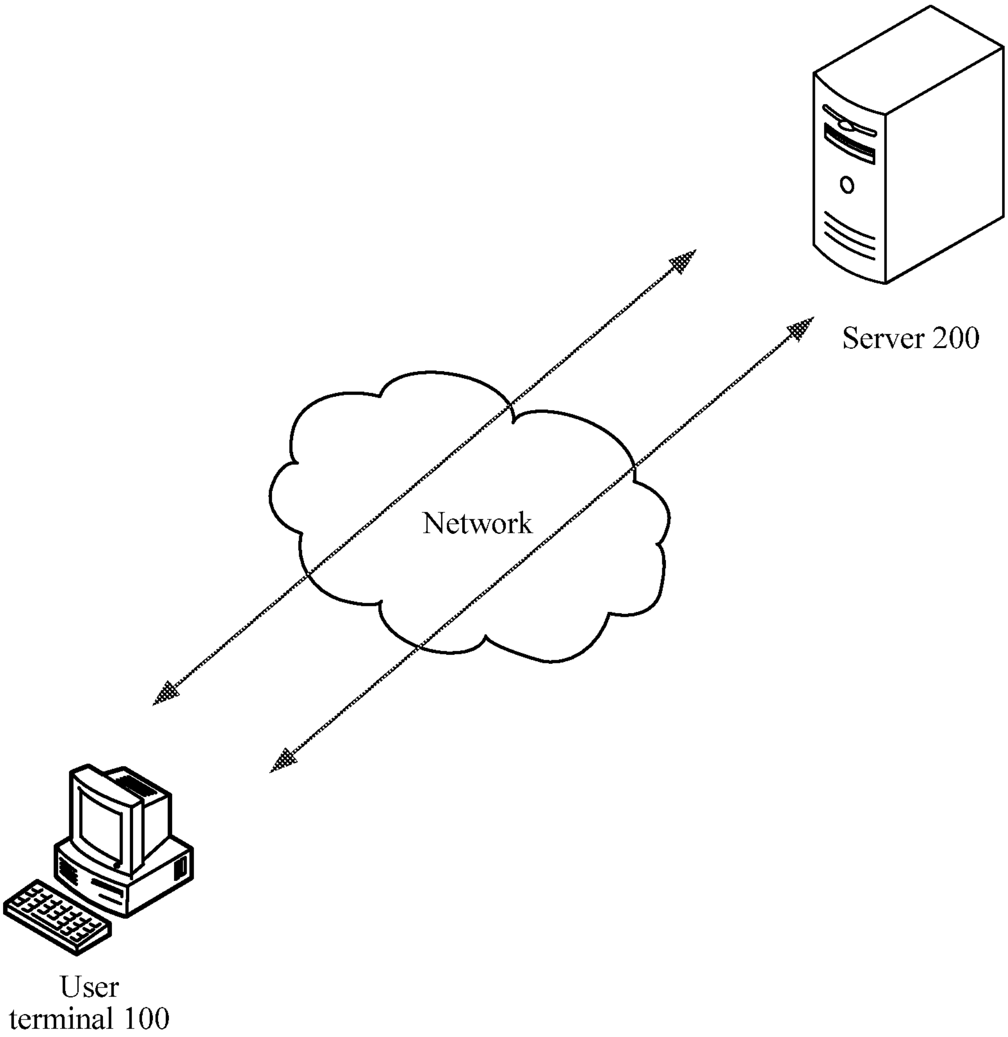

FIG. 1

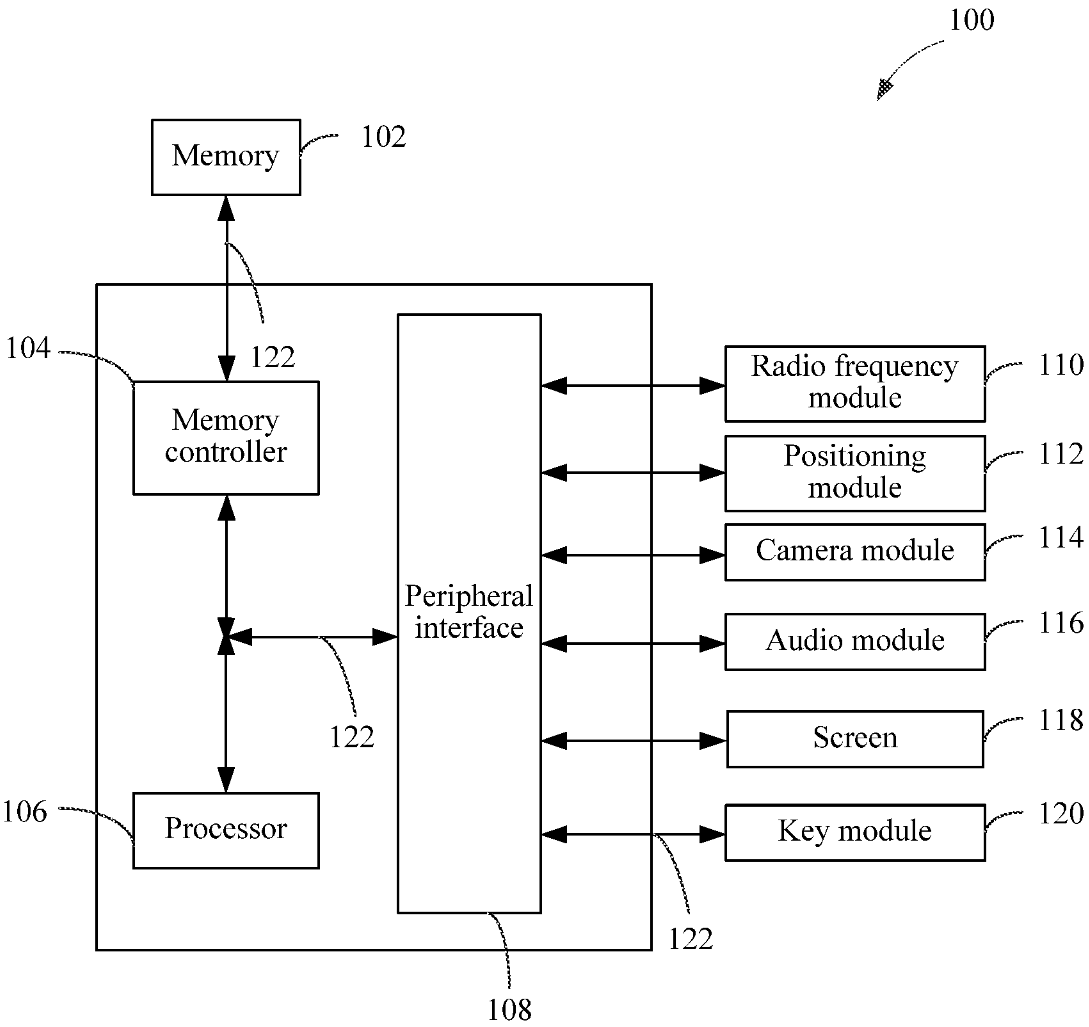
100
Memory
102
122
104
Memory controller
Peripheral interface
122
106
Processor
108
122
Radio frequency module
110
Positioning module
112
Camera module
114
Audio module
116
Screen
118
Key module
120

FIG. 2

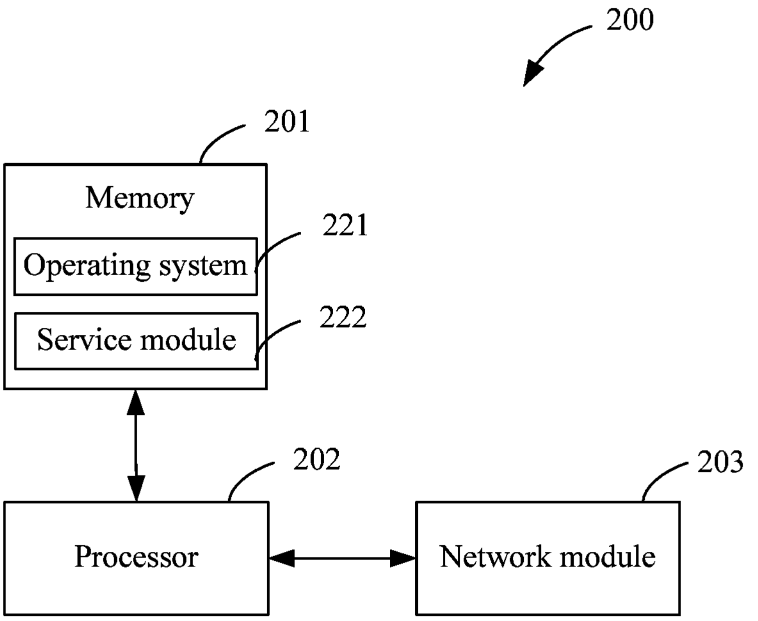
200
201
Memory
221
Operating system
222
Service module
202
Processor
203
Network module

FIG. 3

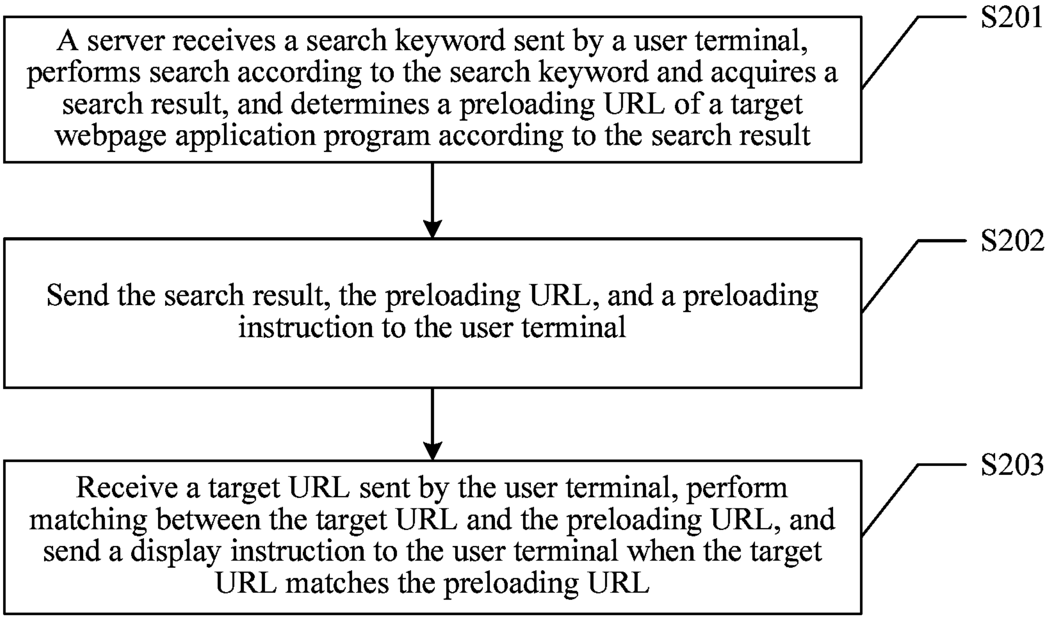
A server receives a search keyword sent by a user terminal, performs search according to the search keyword and acquires a search result, and determines a preloading URL of a target webpage application program according to the search result
S201
Send the search result, the preloading URL, and a preloading instruction to the user terminal
S202
Receive a target URL sent by the user terminal, perform matching between the target URL and the preloading URL, and send a display instruction to the user terminal when the target URL matches the preloading URL
S203

FIG. 4

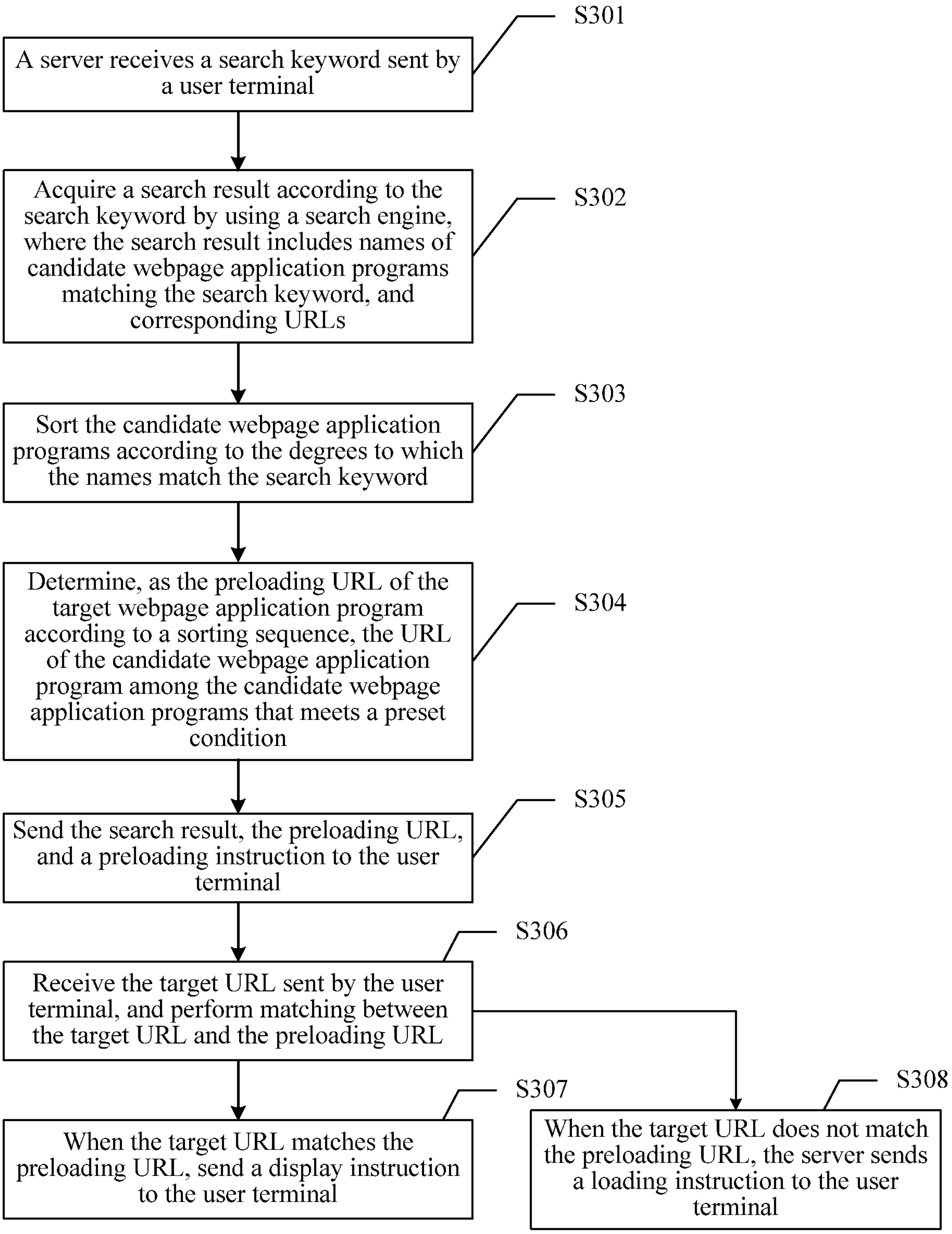
S301
A server receives a search keyword sent by a user terminal
S302
Acquire a search result according to the search keyword by using a search engine, where the search result includes names of candidate webpage application programs matching the search keyword, and corresponding URLs
S303
Sort the candidate webpage application programs according to the degrees to which the names match the search keyword
S304
Determine, as the preloading URL of the target webpage application program according to a sorting sequence, the URL of the candidate webpage application program among the candidate webpage application programs that meets a preset condition
S305
Send the search result, the preloading URL, and a preloading instruction to the user terminal
S306
Receive the target URL sent by the user terminal, and perform matching between the target URL and the preloading URL
S307
When the target URL matches the preloading URL, send a display instruction to the user terminal
S308
When the target URL does not match the preloading URL, the server sends a loading instruction to the user terminal

FIG. 5

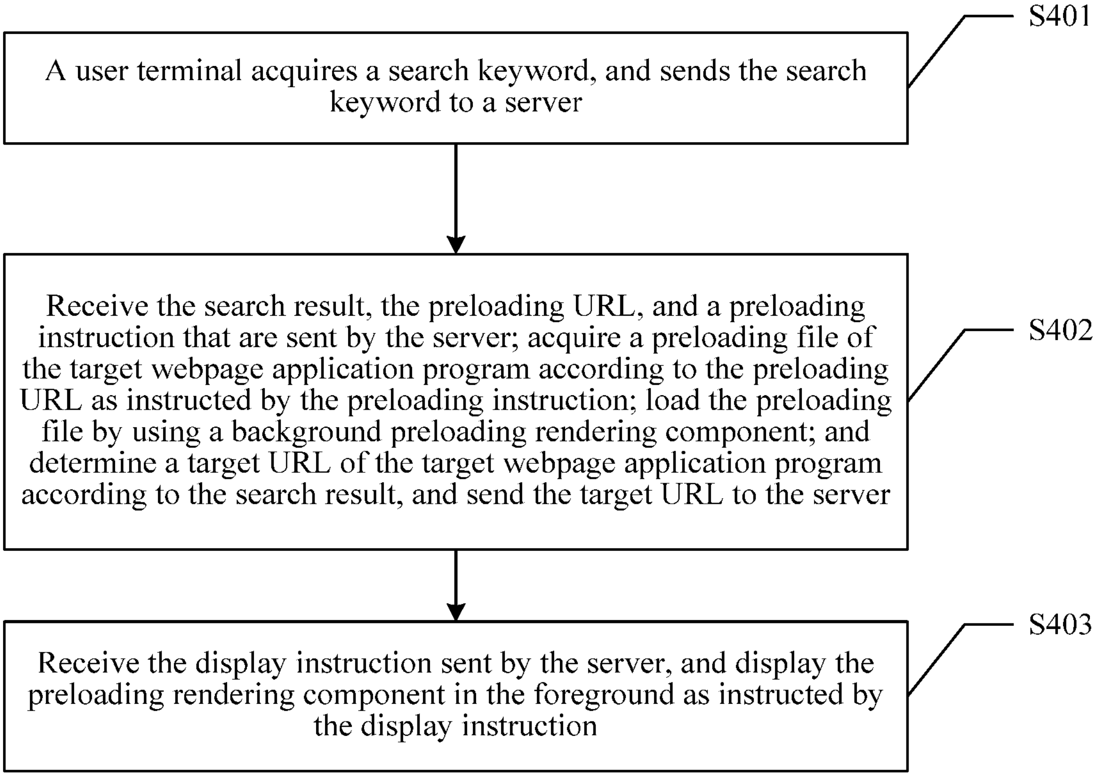
S401
A user terminal acquires a search keyword, and sends the search keyword to a server
S402
Receive the search result, the preloading URL, and a preloading instruction that are sent by the server; acquire a preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; load the preloading file by using a background preloading rendering component; and determine a target URL of the target webpage application program according to the search result, and send the target URL to the server
S403
Receive the display instruction sent by the server, and display the preloading rendering component in the foreground as instructed by the display instruction

FIG. 6

FIG. 7

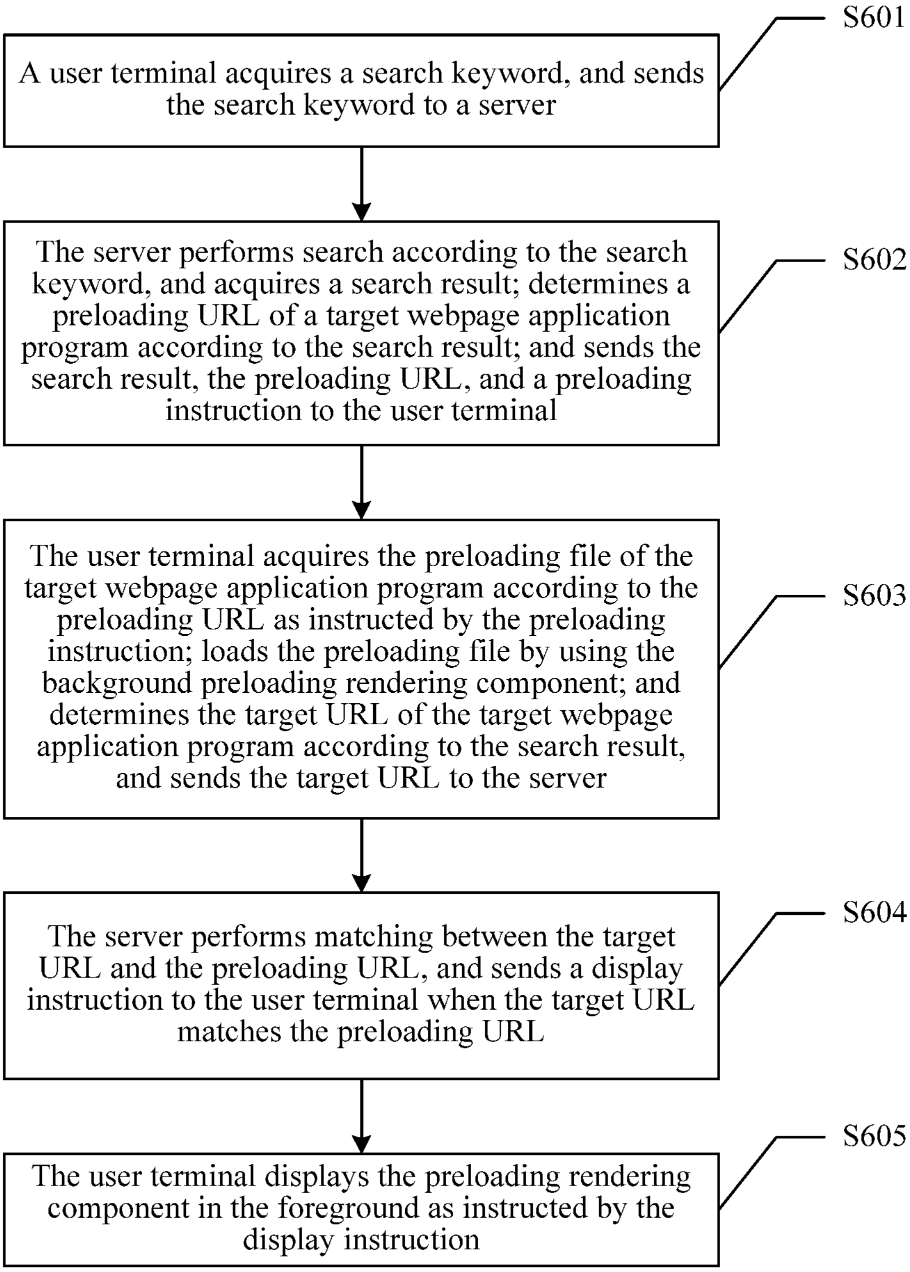
S601
A user terminal acquires a search keyword, and sends the search keyword to a server
S602
The server performs search according to the search keyword, and acquires a search result; determines a preloading URL of a target webpage application program according to the search result; and sends the search result, the preloading URL, and a preloading instruction to the user terminal
S603
The user terminal acquires the preloading file of the target webpage application program according to the preloading URL as instructed by the preloading instruction; loads the preloading file by using the background preloading rendering component; and determines the target URL of the target webpage application program according to the search result, and sends the target URL to the server
S604
The server performs matching between the target URL and the preloading URL, and sends a display instruction to the user terminal when the target URL matches the preloading URL
S605
The user terminal displays the preloading rendering component in the foreground as instructed by the display instruction

FIG. 8

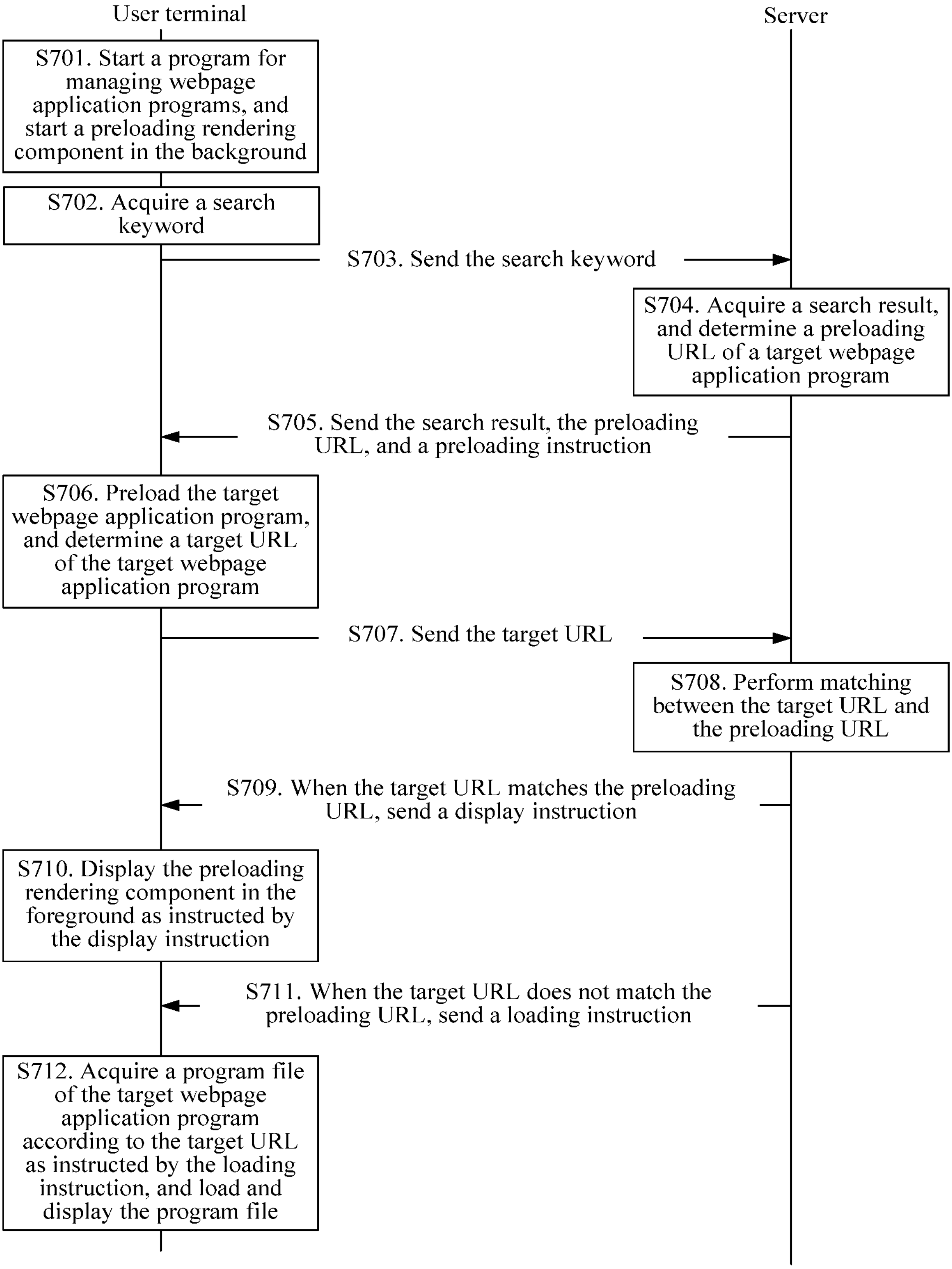
User terminal
Server
S701. Start a program for managing webpage application programs, and start a preloading rendering component in the background
S702. Acquire a search keyword
S703. Send the search keyword
S704. Acquire a search result, and determine a preloading URL of a target webpage application program
S705. Send the search result, the preloading URL, and a preloading instruction
S706. Preload the target webpage application program, and determine a target URL of the target webpage application program
S707. Send the target URL
S708. Perform matching between the target URL and the preloading URL
S709. When the target URL matches the preloading URL, send a display instruction
S710. Display the preloading rendering component in the foreground as instructed by the display instruction
S711. When the target URL does not match the preloading URL, send a loading instruction
S712. Acquire a program file of the target webpage application program according to the target URL as instructed by the loading instruction, and load and display the program file

FIG. 9

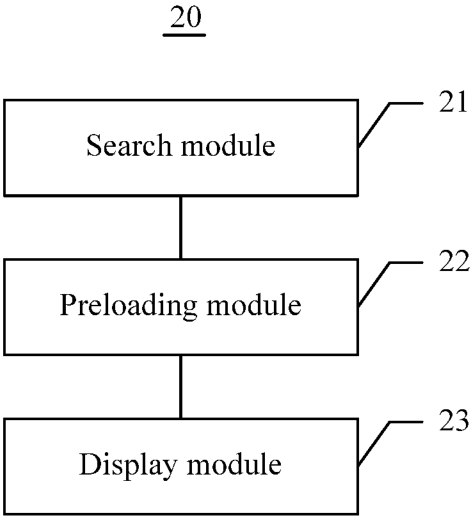
20
Search module
21
Preloading module
22
Display module
23

FIG. 10

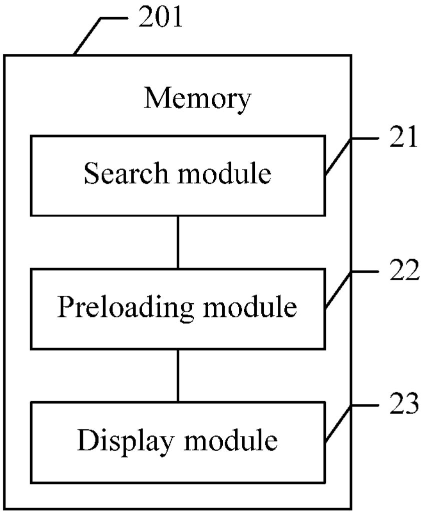
201
Memory
Search module
21
Preloading module
22
Display module
23

FIG. 11

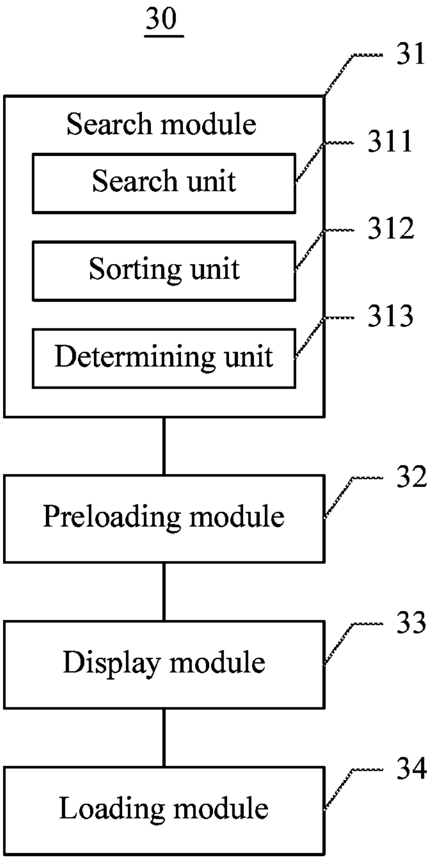
30
31
Search module
Search unit
311
Sorting unit
312
Determining unit
313
Preloading module
32
Display module
33
Loading module
34

FIG. 12

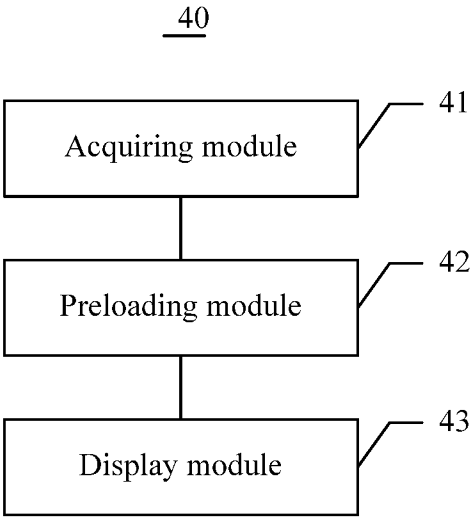
40
Acquiring module
41
Preloading module
42
Display module
43

FIG. 13

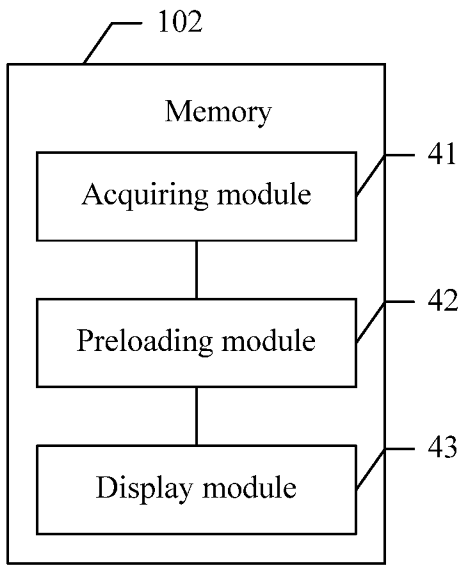
102
Memory
Acquiring module
41
Preloading module
42
Display module
43

FIG. 14

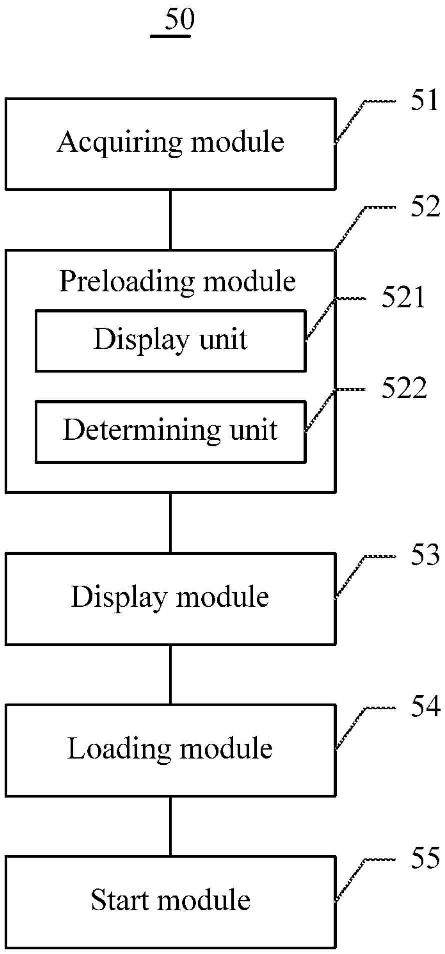
50
Acquiring module
51
52
Preloading module
521
Display unit
522
Determining unit
Display module
53
Loading module
54
Start module
55

FIG. 15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2015/078194

A. CLASSIFICATION OF SUBJECT MATTER

G06F 17/30(2006.01)i

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)

G06F

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)

CNABS;DWPI;CNKI: webpage, game, application, search, terminal, URL, render

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 103617253 A (BEIJING BAIDU NETCOM SCI & TEC) 05 March 2014 (2014-03-05) the whole document	1-16
A	US 7747749 B1 (GOOGLE INC) 29 June 2010 (2010-06-29) the whole document	1-16
A	EP 2705438 A2 (GOOGLE INC) 12 March 2014 (2014-03-12) the whole document	1-16

□ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

* Special categories of cited documents:

"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 **07 July 2015**	Date of mailing of the international search report **31 July 2015**
Name and mailing address of the ISA/CN **STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA** **6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088, China** Facsimile No. **(86-10)62019451**	Authorized officer **ZHANG,Yiliang** Telephone No. **(86-10)62089422**

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2015/078194

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 103617253 A	05 March 2014	None	
US 7747749 B1	29 June 2010	None	
EP 2705438 A2	12 March 2014	WO 2012151485 A2	08 November 2012
		KR 20140038432 A	28 March 2014
		US 2012284597 A1	08 November 2012
		CN 103635896 A	12 March 2014
		US 8732569 B2	20 May 2014
		WO 2012151485 A3	17 January 2013
		EP 2705438 A4	29 October 2014