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I, [Su Li], hereby declare:

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CN104077123B

A handwritten signature in black ink, appearing to be "苏丽" (Su Li), written above a horizontal line.

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(54) Title

INTERFACE DISPLAY METHOD AND
DEVICE, TERMINAL AND SERVER

(57) Abstract

The present invention discloses an interface display method and device, a terminal, and a server, and belongs to the technical field of mobile communication. The interface display method comprises: receiving simultaneous use of the same application program by at least two terminals using the same account; distributing the permission of at least one functional interface provided by the application program to every terminal in the at least two terminals, wherein the functional interface distributed to the terminal is different from other functional interfaces distributed to other terminals in the at least two terminals; and respectively sending data corresponding to the functional interfaces to the terminals having the permission of the functional interfaces for displaying. The interface display method solves the problems of large network flow consumption and high complexity of operations of a user in the prior art. The user may check different functional interfaces in different terminals, and frequently switching the interfaces by the user is avoided, thereby reducing the network flow needed to be consumed and the complexity of operations of the user.

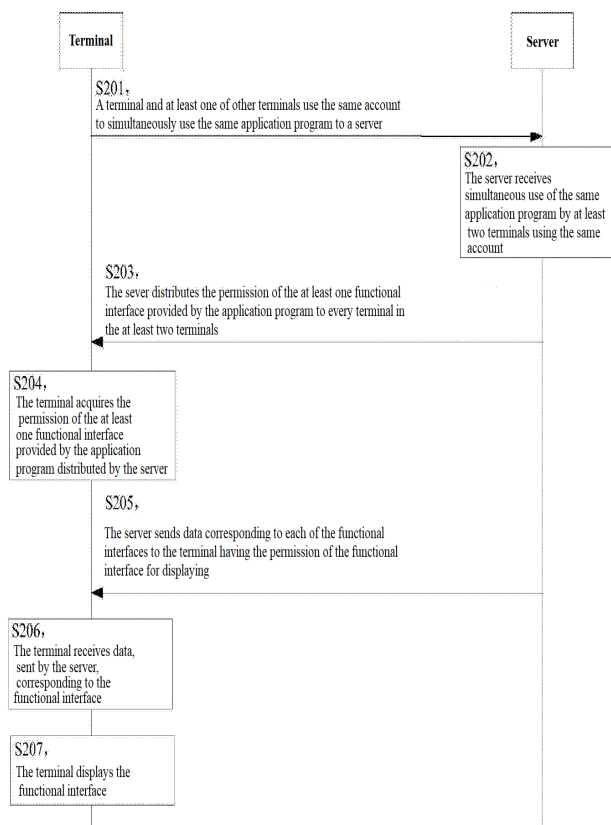


FIG. 2

INTERFACE DISPLAY METHOD AND DEVICE, TERMINAL, AND SERVER**TECHNICAL FIELD**

[0001] The present invention relates to the technical field of mobile communication, particularly to an interface display method and device, a terminal, and a server.

BACKGROUND

[0002] Application programs are a common and important component in terminals such as a mobile phone, a tablet computer, or a desktop computer.

[0003] In actual applications, users may log in to application programs through accounts to further access functional interfaces provided by the application programs. For example, the application program is Weibo, a user may access interfaces such as private message, home page, and game provided by Weibo after logging into a Weibo account. When the user accessing the home page of Weibo wants to send private messages to friends, the user may exit the home page of Weibo first and then enters the private message interface.

[0004] In the process to implement the present invention, it is found by the inventor that there are problems existing in the prior art:

[0005] as the application program may provide multiple functional interfaces, when the user wants to access a certain functional interface, the user switches an operating terminal from the current functional interface to the interface to be accessed. However, in the terminal switching process, the terminal needs to download relevant data from a server, which invisibly increases the network flow. Meanwhile, when the user needs to cross-use different functional interfaces frequently, the user needs to switch the operating terminal back and forth among different functional interfaces, which leads to high complexity of operations of the user.

SUMMARY

[0006] In order to solve the problems of large network flow consumption and high complexity of operations of the user in the prior art, the embodiments of the present invention provide an interface display method and device, a terminal, and a server. The technical solution is as follows:

[0007] in a first aspect, an interface display method is provided, including:

[0008] receiving simultaneous use of the same application program by at least two terminals using the same account;

[0009] distributing the permission of at least one functional interface provided by the

application program to every terminal in the at least two terminals, wherein the functional interface distributed to the terminal is different from other functional interfaces distributed to other terminals in the at least two terminals; and

[0010] sending data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying.

[0011] In a possible implementation mode of the first aspect, the distributing the permission of at least one functional interface provided by the application program to the terminal includes:

[0012] receiving an application request sent by the terminal, where the application request is used for applying for the permission of the at least one functional interface for the terminal; and distributing the permission of the requested functional interface to the terminal according to the application request; or

[0013] receiving application requests sent by the other terminals, where the application requests are used for applying for the permission of the at least one functional interface for the terminal; and distributing the permission of the requested functional interface to the terminal according to the application requests; or

[0014] automatically distributing the permission of the predetermined functional interface to the terminal; or

[0015] automatically distributing the permission of the functional interface, applied for by the terminal most recently, to the terminal; or

[0016] automatically distributing the permission of the functional interface, most frequently used by the terminal previously, to the terminal; or

[0017] when the terminal is a default terminal, distributing the permission of the functional interface that has not been applied for by the other terminals.

[0018] In a second possible implementation mode of the first aspect, before the distributing the permission of the requested functional interface to the terminal according to the application request, the method further includes:

[0019] detecting whether the permission of the functional interface applied for by the application request has been applied for by the other terminals; and

[0020] if a detection result shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, executing the step of distributing the permission of the requested functional interface to the terminal according to the application request.

[0021] In a third possible implementation mode of the first aspect, if the detection result

shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, prompt information is sent to a source terminal of the application request, the prompt information being used for prompting to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or whether to use the terminal is prompted to replace the other terminals to have the permission of the at least one functional interface.

[0022] In a second aspect, an interface display method is provided, including:

[0023] using the same account with at least one of other terminals to simultaneously use the same application program to a server;

[0024] acquiring the permission of at least one functional interface provided by the application program distributed by the server, where the at least one functional interface is different from other functional interfaces distributed by the server to the other terminals;

[0025] receiving data, sent by the server, corresponding to the functional interface, where the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface; and

[0026] displaying the functional interface.

[0027] In a first possible implementation mode of the second aspect, the acquiring the permission of at least one functional interface provided by the application program distributed by the server includes:

[0028] sending an application request to the server, and receiving the permission of the functional interface distributed by the server according to the application request, where the application request is used for applying for the permission of the at least one functional interface for the terminal; or

[0029] receiving the permission of the functional interface distributed by the server according to application requests, where the application requests are requests sent by the other terminals for applying for the permission of the at least one functional interface for the terminal; or

[0030] receiving the permission of the predetermined functional interface automatically distributed by the server; or

[0031] receiving the permission of the functional interface, applied for by the terminal most recently, automatically distributed by the server; or

[0032] receiving the permission of the functional interface, most frequently used by the terminal previously, automatically distributed by the server; or

[0033] when the terminal is a default terminal, receiving the permission of the functional interface, distributed by the server, that has not been applied for by the other terminals.

[0034] In a second possible implementation mode of the second aspect, the method further includes:

[0035] receiving prompt information sent by the server, the prompt information being sent when the server detects that the functional interface applied for by the application request has been applied for by other terminals;

[0036] re-applying the permission of other functional interfaces in the functional interfaces provided by the application program, or deciding whether to replace the other terminals to have the permission of the at least one functional interface.

[0037] In a third possible implementation mode of the second aspect, the sending the application request to the server includes:

[0038] receiving a trigger signal for triggering the application for the permission of the at least one functional interface, and sending the application request to the server after receiving the trigger signal; or

[0039] when the terminal displays one functional interface in the at least one functional interface, automatically send the application request to the server.

[0040] In a fourth possible implementation mode of the second aspect, the displaying the functional interface includes:

[0041] displaying the functional interface after filtering data irrelevant to the functional interface in the functional interface; and/or

[0042] displaying the functional interface amplified at a predetermined ratio.

[0043] In a third aspect, an interface display device is provided, the device including:

[0044] a use receiving module configured to receive simultaneous use of the same application program by at least two terminals using the same account;

[0045] a permission distribution module configured to distribute the permission of at least one functional interface provided by the application program to every terminal in the at least two terminals, wherein the functional interface distributed to the terminal is different from other functional interfaces distributed to other terminals in the at least two terminals; and

[0046] a data sending module configured to send data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying.

[0047] In a first possible implementation mode of the third aspect, the permission distribution module is configured to receive an application request sent by the terminal, where the application request is used for applying for the permission of the at least one functional interface for the terminal; and distribute the permission of the requested functional interface to the terminal

according to the application request; or

[0048] receive application requests sent by the other terminals, where the application requests are used for applying for the permission of the at least one functional interface for the terminal; and distribute the permission of the requested functional interface to the terminal according to the application requests; or

[0049] automatically distribute the permission of the predetermined functional interface to the terminal; or

[0050] automatically distribute the permission of the functional interface, applied for by the terminal most recently, to the terminal; or

[0051] automatically distribute the permission of the functional interface, most frequently used by the terminal previously, to the terminal; or

[0052] when the terminal is a default terminal, distribute the permission of the functional interface that has not been applied for by the other terminals to the terminal.

[0053] In a second possible implementation mode of the third aspect, the permission distribution module is further configured to detect whether the permission of the functional interface applied for by the application request has been applied for by the other terminals; and

[0054] if a detection result shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, execute the step of distributing the permission of the requested functional interface to the terminal according to the application request.

[0055] In a third possible implementation mode of the third aspect, the permission distribution module is further configured to, if the detection result shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, send prompt information to a source terminal of the application request, the prompt information being used for prompting to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or prompt whether to use the terminal to replace the other terminals to have the permission of the at least one functional interface.

[0056] In a fourth aspect, an interface display device is provided, the device including:

[0057] a request sending module configured to use the same account with at least one of other terminals to simultaneously use the same application program to a server;

[0058] a permission acquisition module configured to acquire the permission of at least one functional interface provided by the application program distributed by the server, wherein the at least one functional interface is different from other functional interfaces distributed by the

server to the other terminals;

[0059] a data receiving module configured to receive data, sent by the server, corresponding to the functional interface, where the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface;

[0060] and an interface display module configured to display the functional interface.

[0061] In a first possible implementation mode of the fourth aspect, the request sending module is configured to use the same account with at least one of other terminals to simultaneously use the same application program to a server;

[0062] the permission acquisition module is configured to acquire the permission of at least one functional interface provided by the application program distributed by the server, where the at least one functional interface is different from other functional interfaces distributed by the server to the other terminals;

[0063] the data receiving module is configured to receive data, sent by the server, corresponding to the functional interface, where the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface;

[0064] and the interface display module is configured to display the functional interface.

[0065] In a second possible implementation mode of the fourth aspect, the device further includes:

[0066] an information receiving module configured to receive prompt information sent by the server, the prompt information being sent when the server detects that the functional interface applied for by the application request has been applied for by the other terminals; and

[0067] a permission request module is configured to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or decide whether to replace the other terminals to have the permission of the at least one functional interface.

[0068] In a third possible implementation mode of the fourth aspect, the permission acquisition module is further configured to receive a trigger signal for triggering the application for the permission of the at least one functional interface, and send the application request to the server after receiving the trigger signal; or

[0069] when the terminal displays one functional interface in the at least one functional interface, automatically send the application request to the server.

[0070] In a fourth possible implementation mode of the fourth aspect, the interface display module includes:

[0071] a first display unit and/or a second display unit, where

[0072] the first display unit is configured to display the functional interface after filtering data irrelevant to the functional interface in the functional interface; and

[0073] the second display unit is configured to display the functional interface amplified at a predetermined ratio.

[0074] In a fifth aspect, a server is provided, including the interface display device in the third aspect or in any of possible implementation modes of the third aspect.

[0075] In a sixth aspect, a terminal is provided, including the interface display device in the fourth aspect or in any of possible implementation modes of the fourth aspect.

[0076] The technical solution provided by the embodiments of the present invention has the following beneficial effects:

[0077] by distributing the permissions of different functional interfaces to various terminals that use the same account to use the same application program simultaneously, data corresponding to each of the functional interfaces is distributed to the terminal having the permission of the functional interface, and data corresponding to each of the functional interfaces is not distributed to all terminals that use the application program, which solves the problem of large network flow consumed in the prior art, thereby reducing the occupied network flow when data of different functional interfaces are distributed to the terminals. Meanwhile, as data of each of the functional interfaces is only distributed to the terminal with permission, namely, each of the terminals would only receive data of a part of functional interfaces for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program. Therefore, when a user needs to access a certain functional interface, the user may directly check in the terminal with the permission of the functional interface without performing frequent switching operations, so that the complexity of operations of the user is reduced. Besides, as the server only distributes the data corresponding to each of the functional interfaces to the terminal having the permission, interference to the user as the terminals prompt the user simultaneously is avoided when the server returns the data to the terminals.

BRIEF DESCRIPTION OF THE DRAWINGS

[0078] In order to describe the technical solution of the embodiments of the present invention more clearly, the accompanying drawings required to describe the embodiments will be introduced briefly below. It is apparent that the accompanying drawings described below are merely some embodiments of the present invention, and those of ordinary skill in the art further can obtain other drawings according to those accompanying drawings without making creative efforts.

[0079] FIG. 1 is a schematic structural diagram of an implementation environment involved in the present invention.

[0080] FIG. 2 is a flow diagram of an interface display method provided by the embodiment I of the present invention.

[0081] FIG. 3 is a flow diagram of an interface display method provided by the embodiment II of the present invention.

[0082] FIG. 4A is a flow diagram of an interface display method provided by the embodiment III of the present invention.

[0083] FIG. 4B is another flow diagram of an interface display method provided by the embodiment III of the present invention.

[0084] FIG. 5A is a flow diagram of an interface display method provided by the embodiment IV of the present invention.

[0085] FIG. 5B is a schematic display diagram of a terminal provided by the embodiment IV of the present invention when it sends an application request to other terminals.

[0086] FIG. 6 is a structural block diagram of an interface display device provided by the embodiment V of the present invention.

[0087] FIG. 7 is a structural block diagram of an interface display device provided by the embodiment VI of the present invention.

DETAILED DESCRIPTION

[0088] In order to make objectives, technical solutions, and advantages of the present invention clearer, further description will be made on the present invention below in combination with the accompanying drawings. It is apparent that the described embodiments are merely a part of embodiments of the present invention and are not all the embodiments. On a basis of the embodiments in the present invention, all other embodiments obtained by those of ordinary skill in the art without creative efforts fall into the scope of protection of the present invention.

[0089] For the convenience of understanding, the implementation environment involved in the embodiments of the present invention is described in detail first.

[0090] With improvement of people's living standard, people usually have a plurality of terminals with display screens. For example, a user has a mobile phone, a notebook computer and a desktop computer at the same time. Therefore, in order to satisfy the demands of users using application programs in different terminals, editions corresponding to different platforms have been developed for an increasing number of application programs.

[0091] Based on the above-mentioned functions of the application program, an

implementation environment involved in the embodiments of the present invention is as follows: the user uses the same account simultaneously through two or more than two terminals to use the same application program. The implementation environment may include at least two terminals 110 that use the same account simultaneously to use the same application program simultaneously and a server 120, with reference to FIG. 1 specifically.

[0092] The terminals 110 may be terminals such as mobile phones, tablet computers, e-book readers, notebook computers, and desktop computers. The terminal 110 may be connected to the server 120 through a wired network or a wireless network, so as to achieve purposes that the terminal 110 makes a request to the server 120 to use the application program, and meanwhile, the terminal 110 receives the permission of at least one functional interface provided by the application program distributed by the server 120, and receives data, sent by the server 120, corresponding to the functional interface.

[0093] The server 120 may be respectively connected to the terminals 110 through the wired network or the wireless network, so as to achieve purposes that the server 120 may receive use of the application program by the terminals 110 to distribute the permission of the at least one functional interface provided by the application program to the terminals 110 and send data corresponding to the functional interface to the terminals 110 having the permission of the functional interface.

[0094] Embodiment I

[0095] Referring to FIG. 2, it illustrates a flow diagram of an interface display method provided by the embodiment I. The embodiment is illustrated as the interface display method is used in the implementation environment shown in FIG. 1. The interface display method may include:

[0096] In S201, a terminal and at least one of other terminals use the same account to simultaneously use the same application program to a server;

[0097] in S202, the server receives simultaneous use of the same application program by at least two terminals using the same account;

[0098] in S203, the sever distributes the permission of the at least one functional interface provided by the application program to every terminal in the at least two terminals,

[0099] where the functional interface distributed to the current terminal is different from other functional interfaces distributed to other terminals in the at least two terminals;

[0100] in S204, the terminal acquires the permission of the at least one functional interface provided by the application program distributed by the server,

[0101] where the at least one functional interface is different from other functional

interfaces distributed by the server to the other terminals;

[0102] in S205, the server sends data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying;

[0103] in S206, the terminal receives data, sent by the server, corresponding to the functional interface, where the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface; and

[0104] in S207, the terminal displays the functional interface.

[0105] In conclusion, by distributing the permissions of different functional interfaces to various terminals that use the same account to use the same application program simultaneously to further distribute data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface rather than distributing data corresponding to each of the functional interfaces to all terminal that use the application program, the interface display method provided by the embodiment solves the problem of large network flow consumed in the prior art, thereby reducing the occupied network flow when data of different functional interfaces are distributed to the terminals. Meanwhile, as data of each of the functional interfaces is only distributed to the terminal with permission, namely, each of the terminals would only receive data of a part of functional interfaces for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program. Therefore, when a user needs to access a certain functional interface, the user may directly check in the terminal with the permission of the functional interface without performing frequent switching operations, so that the complexity of operations of the user is reduced. Besides, as the server only distributes the data corresponding to each of the functional interfaces to the terminal having the permission, interference to the user as the terminals prompt the user simultaneously is avoided when the server returns the data to the terminals.

[0106] It should be noted that according to different distribution modes of the permission, the server may automatically distribute the permission of the at least one functional interface provided by the application program to the terminal, or the server distributes the permission of the functional interface to the terminal after the terminal sends the application request for applying for the permission of the at least one functional interface itself to the server, or the server distributes the permission of the functional interface to the terminal after other terminals sharing the same account with the terminal send the application request for applying for the permission of the at least one functional interface for the terminal to the server. Therefore, the above-mentioned three conditions will be respectively described in detail in different embodiments.

[0107] Embodiment II

[0108] Referring to FIG. 3, it illustrates a flow diagram of an interface display method provided by the embodiment II. The embodiment is illustrated as the interface display method is used in the implementation environment shown in FIG. 1. In the embodiment, the step that the server automatically distributes the permission of the at least one functional interface to the terminal is taken as an example. The interface display method includes:

[0109] In S301, the terminal and at least one of other terminals use the same account to simultaneously use the same application program to a server;

[0110] the user may use the account in the terminal to make a request to the server corresponding to the application program to use the application program. In an actual implementation, when the user has multiple terminals, the user may use the same account in at least two terminals to simultaneously make a request to the server to use the same application program. By taking a condition where the application program is Weibo and the user has a mobile phone as an example, a notebook computer and a desktop computer at the same time as an example, the user may respectively use the same Weibo account to log in to Weibo in the tablet computer, the mobile phone and the desktop computer.

[0111] In S302, the server receives simultaneous use of the same application program by at least two terminals using the same account;

[0112] Correspondingly, the server receives simultaneous use of the same application program by at least two terminals using the same account.

[0113] In S303, the sever distributes the permission of the at least one functional interface provided by the application program to every terminal in the at least two terminals;

[0114] When the at least two terminals use the same account to simultaneously make a request to use the same application program, the sever automatically distributes the permission of at least one functional interface provided by the application program to every terminal in the at least two terminals, where the functional interface distributed to the current terminal is different from other functional interfaces distributed to other terminals in the at least two terminals.

[0115] A distribution mode that the sever automatically distributes the permission of at least one functional interface provided by the application program to every terminal in the at least two terminals may include any one of the following modes:

[0116] first, the permission of the predetermined functional interface is automatically distributed to the terminal;

[0117] in a first possible implementation mode, the server automatically distributes the permission of the predetermined functional interface to the terminal. When the at least two terminals simultaneously use the same account to simultaneously use the same application

program, the sever may distribute the permission of at least one functional interface to the terminal by obeying a predetermined distribution rule. The distribution rule may include respectively distributing the permission of the at least one functional interface to each of the terminals according to a time sequence when the terminals sharing the same account make a request to use the application program.

[0118] For example, Weibo may provide functional interfaces such as a home page, private messages and games. When the server receives logging in Weibo by using the same account through the mobile phone, the server may distribute the permission of a home page interface to the notebook computer that has logged in Weibo and distribute the permission of a private message interface to the mobile phone logging in Weibo. Similarly, when the desktop computer uses the same account to log in Weibo, the server may distribute the permission of a game interface to the desktop computer. In the actual implementation, the server may sequence the at least one functional interface provided by the application program according to priority and distribute the functional interface with the highest priority to the terminal making a request to use among the terminals sharing the same account, which is not limited in the embodiment.

[0119] It should be noted that the embodiment only takes a condition of automatically distributing the permission of the at least one functional interface to the terminal according to the above-mentioned distribution rule as an example. In the actual implementation, the server may further automatically distribute the permission of the predetermined functional interface to the terminal according to other distribution rules, which is not limited in the embodiment. For example, the distribution rule may further include distributing the permission of the functional interface suitably displayed and used by the terminal to each of the terminals according to a screen size and an operating mode of each of the terminals.

[0120] Second, the permission of the functional interface, applied for by the terminal most recently, is automatically distributed to the terminal;

[0121] in a second possible implementation mode, the server may further automatically distribute the permission of the functional interface, applied for by the terminal most recently, to the terminal. Specifically, as the terminal may apply for the permission of a certain functional interface, when the terminal releases the permission of the functional interface that has been applied for and the server needs to distribute the permission of the functional interface to the terminal again, the server may acquire the permission of the functional interface, last applied for using, by the terminal, and automatically distribute the permission of the functional interface, applied for by the terminal most recently to the terminal. For example, the user uses the mobile phone to log in Weibo and makes a request to the permission of the private messages. When the

user logs out Weibo in the mobile phone, and uses the mobile phone to log in Weibo again, the server may continuously distribute the permission of the private messages to the mobile phone.

[0122] Third, the permission of the functional interface, most frequently used by the terminal previously, is automatically distributed to the terminal;

[0123] In a third possible implementation mode, the server may further automatically distribute the permission of the functional interface, most frequently used by the terminal previously, to the terminal. Specifically, when the server needs to distribute the permission of the functional interface to the terminal, the server may acquire the permission of the functional interface historically used by the terminal first. If the terminal uses a certain functional interface most frequently, it indicates that the user further wishes to check the functional interface at the terminal, and therefore, the server at the time may distribute the permission of the functional interface, most frequently used by the terminal previously, to the terminal.

[0124] Fourth, when the terminal is a default terminal, the permission of the functional interface that has not been applied for by the other terminals is distributed to the terminal.

[0125] In a fourth possible implementation mode, when the terminal is the default terminal, the server may further automatically distribute the permission of the functional interface, that has not been applied for by other terminals, to the terminal. Specifically, as the application program may provide at least one functional interface, the server will not probably distribute the permissions of certain functional interfaces to any terminal after distributing the permission of the functional interface to other terminals that use the application program. Therefore, in order to guarantee that the functional interfaces provided by the application program may be displayed in at least one terminal of the terminals that use the application program, when the terminal is the default terminal, the server may distribute the permission of the functional interface that has not been applied for by other terminals to the terminal. The default terminal may be either a terminal that has not initiatively applied for the permission of any functional interface or a terminal pre-marked by the user, which is not limited in the embodiment.

[0126] For example, if the user uses the mobile phone, the notebook computer and the desktop computer to log in to Weibo simultaneously and sets the desktop computer as the default terminal, when the server distributes the permission of the functional interface to the desktop computer, the server may distribute the permission of the functional interface that has not been applied for by the mobile phone and the notebook computer;

[0127] similarly, if the terminal has not initiatively applied for the permission of any functional interface, when the server distributes the permission to the terminal, the server may distribute the permission of the functional interface that has not been applied for by other terminals

to the terminal. In a specific example, if the user makes a request to the permission of the private messages through the mobile phone and the permission of the home page through the notebook computer rather than making a request to the permission of any functional interface through the desktop computer, the server distributes the permissions of all the functional interfaces except the private messages and the home page in the at least one functional interface provided by the application program to the desktop computer.

[0128] It should be noted that when the terminal makes a request to the application program, the terminal will use the account to request login to the server first, namely, the server may receive the login request sent by each of the terminals. In the actual implementation, in order to enable the user to check different functional interfaces on the terminals, the server may automatically distribute the permission of the at least one functional interface to each of the terminals successfully logged in after receiving the login request sent by the terminal, for example, the application interface applied for using after the terminal has logged in last time, the application interface most used historically by the terminal and the like. Of course, in the actual implementation, the server may further distribute the permission of a main interface to each of the terminals first after receiving the login request sent by each of the terminals, namely, the server may distribute the permission of the main interface to the plurality of terminals at the same time, and the permissions of other application interfaces may be only distributed to one terminal at the same time, so that each of the terminals displays the main interface preferably. Then, the server distributes the permission of the at least one functional interface to each of the terminals according to the above-mentioned distribution rule, which is not limited in the embodiment.

[0129] In S304, the terminal receives the permission of the at least one functional interface provided by the application program automatically distributed by the server;

[0130] after the server automatically distributes the permission of the at least one functional interface to the application program, the terminal may correspondingly receive the at least one functional interface provided by the application program automatically distributed by the server. The at least one functional interface is different from other functional interfaces distributed by the server to other terminals, and as the distribution modes that the sever automatically distributes the permission of at least one functional interface to the terminals are different, the receiving modes that the terminal receives the permission of at least one functional interface automatically distributed by the server are different either. In the actual implementation, the receiving mode may include any one of the following modes:

[0131] first, the permission of the predetermined functional interface automatically distributed by the server is received;

[0132] in the first possible implementation mode, when the server automatically distributes the permission of the predetermined functional interface to the terminal, the terminal may correspondingly receive the permission of the predetermined functional interface automatically distributed by the server.

[0133] Second, the permission of the functional interface, applied for by the terminal most recently, automatically distributed by the server is received;

[0134] in the second possible implementation mode, after the server automatically distributes the permission of the functional interface, applied for by the terminal most recently, to the terminal, the server may correspondingly receive the permission of the functional interface, applied for by the terminal most recently, automatically distributed by the server.

[0135] Third, the permission of the server automatically distributed functional interface, most used by the terminal previously is received.

[0136] In the third possible implementation mode, after the server automatically distributes the permission of the functional interface, most frequently used by the terminal previously, the terminal may correspondingly receive the server automatically distributed functional interface, most used by the terminal previously.

[0137] Fourth, when the terminal is the default terminal, the server-distributed permission of the functional interface that has not been applied for by the other terminals is received.

[0138] In the fourth possible implementation mode, when the terminal is the default terminal and the server automatically distributes the permission of the functional interface that has not been applied for by other terminals to the terminal, the terminal may receive the server-distributed permission of the functional interface that has not been applied for by other terminals.

[0139] In S305, the server sends data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying;

[0140] after distributing the permission of the functional interface to each of the terminals, the server may send data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying. For example, if the server distributes the permission of the private messages to the mobile phone, distributes the permission of the home page to the notebook computer, and distributes the permissions of all the other functional interfaces provided by Weibo to the desktop computer, when the server needs to send a private message to the terminal that has logged in to the account, the server may only send the private message to the mobile phone rather than sending the private message to the notebook computer or the desktop computer. As the private message is only sent to the mobile phone having the

permission rather than the notebook computer or the desktop computer, interference to the notebook computer and the desktop computer is avoided when the private message arrives at the notebook computer and the desktop computer. Meanwhile, as the server sends the data to the terminal having the permission of the corresponding functional interface, a condition where a lot of network flows of each of the terminals are consumed when the same information is sent to the plurality of terminals is avoided.

[0141] in S306, the terminal receives data, sent by the server, corresponding to the functional interface;

[0142] after the server sends the data corresponding to the functional interface to the terminal having the permission of the functional interface, the terminal may receive the data, sent by the server, corresponding to the functional interface. The data corresponding to the functional interface is sent by the terminal having the permission of the functional interface.

[0143] In S307, the terminal displays the functional interface.

[0144] After receiving the data, sent by the server, corresponding to the functional interface, the terminal may display the functional interface. For example, if the mobile phone receives the private message sent by the server, the mobile phone may display the private message interface. As the terminal only receives the data of the functional interface for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program, the lot of network flows needed to be consumed by the terminal are reduced; and meanwhile, the terminal would only display the functional interface for which it has the permission rather than displaying all the functional interfaces, so that when the user needs to check a certain appointed functional interface, the user may check directly from the terminal having the permission rather than switching the interfaces at the terminal, which simplifies the operation of the user.

[0145] The step that the terminal displays the functional interface may include at least one of the following modes:

[0146] first, the functional interface is displayed after data irrelevant to the functional interface in the functional interface is filtered;

[0147] in the first possible implementation mode, in order to enable the functional interface displayed by the terminal to only include the user concerned data, when the terminal needs to display the functional interface, the terminal may display the functional interface after data irrelevant to the functional interface in the functional interface is filtered. The data irrelevant to the functional interface may be an advertisement in the functional interface or data for guiding to other functional interfaces. By taking a condition where the data irrelevant to the functional interface is

an advertisement as an example, when the terminal displays the functional interface, in order to avoid interference caused by the advertisement to the user to improve the user experience, the terminal may display the functional interface after the advertisement is filtered.

[0148] Second, the functional interface amplified at a predetermined ratio is displayed.

[0149] In the second possible implementation mode, in order to facilitate check by the user, when the terminal displays the functional interface, the terminal may display the functional interface amplified at a predetermined ratio.

[0150] It should be noted that in order to reduce occupation of terminal resources, the terminal may only start sensors related to the functional interface when displaying the functional interface rather than starting sensors irrelevant to the functional interface. Of course, in the actual implementation, the terminal may further adaptively display the functional interface in other various modes such as playing a sound and deforming the functional interface, which is not described in detail one by one in the embodiment.

[0151] In conclusion, by distributing the permissions of different functional interfaces to various terminals that use the same account to use the same application program simultaneously to further distribute data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface rather than distributing data corresponding to each of the functional interfaces to all terminals that use the application program, the interface display method provided by the embodiment solves the problem of large network flow consumed in the prior art, thereby reducing the occupied network flow when data of different functional interfaces are distributed to the terminals. Meanwhile, as data of each of the functional interfaces is only distributed to the terminal with permission, namely, each of the terminals would only receive data of a part of functional interfaces for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program. Therefore, when a user needs to access a certain functional interface, the user may directly check in the terminal with the permission of the functional interface without performing frequent switching operations, so that the complexity of operations of the user is reduced. Besides, as the server only distributes the data corresponding to every functional interface to the terminal having the permission, interference to the user as the terminals prompt the user simultaneously is avoided when the server returns the data to the terminals.

[0152] The server in the embodiment further reduces the complexity of operations of the user and improves the user experience by automatically distributing the permission of the functional interface to the terminal.

[0153] Besides, in the embodiment, when the functional interface is displayed, a better

effect that the user is facilitated to check the content in the functional interface is achieved by adaptively displaying the functional interface.

[0154] Embodiment III

[0155] Referring to FIG. 4A, it illustrates a flow diagram of an interface display method provided by the embodiment III. The embodiment is illustrated as the interface display method is used in the implementation environment shown in FIG. 1. In the embodiment, the step that the terminal sends the application request to apply for the permission of the at least one functional interface provided by the application program itself and then the server distributes the permission of the functional interface to the terminal is taken as an example. The interface display method may include:

[0156] in S401, the terminal and the at least one of other terminals use the same account to simultaneously use the same application program to a server;

[0157] the user may use the account in the terminal to make a request to the server corresponding to the application program to use the application program. In an actual implementation, when the user has multiple terminals, the user may use the same account in at least two terminals to simultaneously make a request to the server to use the same application program. By taking a condition where the application program is Weibo and the user has a mobile phone as an example, a notebook computer and a desktop computer at the same time as an example, the user may respectively use the same Weibo account to log in to Weibo in the tablet computer, the mobile phone and the desktop computer.

[0158] In S402, the server receives simultaneous use of the same application program by at least two terminals using the same account;

[0159] correspondingly, the server receives simultaneous use of the same application program by at least two terminals using the same account.

[0160] In S403, the terminal sends the application request to the server;

[0161] when the terminal uses the same account with at least one of other terminals to simultaneously use the same application program, the terminal may send the application request to the server. The application request is used for applying for the permission of the at least one functional interface for the terminal.

[0162] For example, if the user uses the mobile phone, the notebook computer and the desktop computer to log in to Weibo simultaneously, in order to display the private message interface on the mobile phone for the convenience of check of the private messages by the user, the user may send the application request that applies for the permission of the private message interface to the server through the mobile phone.

[0163] Specifically, as the terminal may be either triggered by the user manually to send the application request or automatically triggered by the application program through a software to send the application request, the step that the terminal sends the application request to the server may include any one of the following two implementation modes:

[0164] first, a trigger signal for triggering the application for the permission of the at least one functional interface is received, and the application request is sent to the server after the trigger signal is received;

[0165] in a first possible implementation mode, when the terminal and other terminals use the application program simultaneously through the same account, the terminal may receive the trigger signal for triggering the application for the permission of the at least one functional interface, and send the application request to the server after receiving the trigger signal. For example, if the user logs in to Weibo through the mobile phone, when the user wants to display the private message interface in the mobile phone, the user may apply the trigger signal for triggering the application for the permission of the private messages, and after receiving the trigger signal, the mobile phone may send the application request for applying for the permission of the private messages to the server.

[0166] First, when the terminal displays one functional interface in the at least one functional interface, the terminal automatically sends the application request to the server.

[0167] In a second possible implementation mode, when the terminal and other terminals use the application program simultaneously through the same account, and the user operates the terminal, so that the terminal stays on a certain functional interface, the terminal may automatically send the application request to the server. For example, after the user logs in to Weibo through the mobile phone, the user may operate the mobile phone, so that the mobile phone stays on the private message interface, and at the time, the terminal may automatically send the application request to the server. Of course, in the actual implementation, the terminal may further stay in the functional interface for a predetermined time and then send the application request to the server, which is not limited in the embodiment.

[0168] In S404, the server receives the application request sent by the terminal;

[0169] after the terminal sends the application request to the server, the server may correspondingly receive the application request sent by the terminal.

[0170] In S405, the server distributes the permission of the requested functional interface to the terminal according to the application request.

[0171] After receiving the application request sent by the terminal, the server may distribute the permission of the requested functional interface to the terminal according to the

application request. For example, if the server receives the application request for applying for the permission of the private message interface sent by the mobile phone, the server may distribute the permission distributed by the private message interface to the mobile phone.

[0172] It should be noted that a mode that the terminal makes a request to use the application program is as follows: the terminal uses the account to make a request to log in to the server first; after the server receives the login request, the server returns the content of the main interface to each of the terminals; after the terminal displays the content of the main interface, the user operates certainly on the main interface to further guide the terminal to enter each of the functional interfaces, so that when the terminal uses the application program, the server may distribute the permission of the main interface to the plurality of terminals at the same time. After receiving the application request sent by the terminal, the server distributes the permission of the functional interface requested by the application request to the terminal, and the permission of each of the functional interfaces will be only distributed to one terminal at the same time, which is not described in detail in the embodiment.

[0173] In S406, the terminal receives the permission of the requested functional interface distributed by the server according to the application request;

[0174] correspondingly, the terminal may receive the permission of the requested functional interface distributed by the server according to the application request.

[0175] In S407, the server sends data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying;

[0176] after distributing the permission of the functional interface to each of the terminals, the server may send data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying. For example, if the server distributes the permission of the private messages to the mobile phone, distributes the permission of the home page to the notebook computer, and distributes the permissions of all the other functional interfaces provided by Weibo to the desktop computer, when the server needs to send a private message to the terminal that has logged in to the account, the server may only send the private message to the mobile phone rather than sending the private message to the notebook computer or the desktop computer. As the private message is only sent to the mobile phone having the permission rather than the notebook computer or the desktop computer, interference to the notebook computer and the desktop computer is avoided when the private message arrives at the notebook computer and the desktop computer. Meanwhile, as the server sends the data to the terminal having the permission of the corresponding functional interface, a condition where a lot of network flows of each of the terminals are consumed when the same information is sent to the

plurality of terminals is avoided.

[0177] in S408, the terminal receives data, sent by the server, corresponding to the functional interface, where the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface; and

[0178] after the server sends the data corresponding to the functional interface to the terminal having the permission of the functional interface, the terminal may receive the data, sent by the server, corresponding to the functional interface. The data corresponding to the functional interface is sent by the terminal having the permission of the functional interface.

[0179] In S409, the terminal displays the functional interface.

[0180] After the terminal receives the data, sent by the server, corresponding to the functional interface, the terminal may display the functional interface. For example, if the mobile phone receives the private message sent by the server, the mobile phone may display the private message interface. As the terminal only receives the data of the functional interface for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program, the lot of network flows needed to be consumed by the terminal are reduced; and meanwhile, the terminal will only display the functional interface for which it has the permission rather than displaying all the functional interfaces, so that when the user needs to check a certain appointed functional interface, the user may check directly from the terminal having the permission rather than switching the interfaces at the terminal, which simplifies the operation of the user.

[0181] The step that the terminal displays the functional interface may include at least one of the following modes:

[0182] first, the functional interface is displayed after data irrelevant to the functional interface in the functional interface is filtered;

[0183] in the first possible implementation mode, in order to enable the functional interface displayed by the terminal to only include the user concerned data, when the terminal needs to display the functional interface, the terminal may display the functional interface after data irrelevant to the functional interface in the functional interface is filtered. The data irrelevant to the functional interface may be an advertisement in the functional interface or data for guiding to other functional interfaces. By taking a condition where the data irrelevant to the functional interface is an advertisement as an example, when the terminal displays the functional interface, in order to avoid interference caused by the advertisement to the user to improve the user experience, the terminal may display the functional interface after the advertisement is filtered.

[0184] Second, the functional interface amplified at a predetermined ratio is displayed.

[0185] In the second possible implementation mode, in order to facilitate check by the user, when the terminal displays the functional interface, the terminal may display the functional interface amplified at a predetermined ratio.

[0186] It should be noted that in order to reduce occupation of terminal resources, the terminal may only start sensors related to the functional interface when displaying the functional interface rather than starting sensors irrelevant to the functional interface. Of course, in the actual implementation, the terminal may further adaptively display the functional interface in other various modes such as playing a sound and deforming the functional interface, which is not described in detail one by one in the embodiment.

[0187] Besides, as there may be a situation that two terminals simultaneously apply for the permission of the same functional interface during actual implementation, referring to FIG. 4B, in order to avoid repeated sending of information, before distributing the permission of the requested functional interface to the terminal according to the application request, namely, the S405, the server may further execute the following steps:

[0188] S410, whether the permission of the functional interface applied for by the application request has been applied for by other terminals is detected;

[0189] after receiving the application request, the server may detect whether the permission of the functional interface applied for by the application request has been applied for by other terminals. For example, if the server receives the application request for applying for the permission of the private message interface sent by the mobile phone, the server may detect whether the notebook computer or the desktop computer that uses the same account applies for the permission of the private message interface.

[0190] If a detection result shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, the step of distributing the permission of the requested functional interface to the terminal according to the application request is executed.

[0191] If the detection result of the server shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, the server may execute the step of distributing the permission of the requested functional interface to the terminal according to the application request at the time.

[0192] If the detection result shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, prompt information is sent to the source terminal of the application request.

[0193] However, if the detection result of the server shows that the permission of the

functional interface applied for by the application request has been applied for by the other terminals, in order to avoid repeated sending of information, the server may send the prompt information to the terminal. Correspondingly, the terminal receives the prompt information sent by the server, the prompt information being sent when the server detects that the functional interface applied for by the application request has been applied for by other terminals. After receiving the prompt information, the terminal may execute corresponding operations according to the prompt information. Specifically, the terminal may re-apply the permission of other functional interfaces in the functional interfaces provided by the application program, or decide whether to replace the other terminals to have the permission of the at least one functional interface.

[0194] The prompt information is used for prompting to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or prompting whether the terminal is used to replace the other terminals to have the permission of the at least one functional interface.

[0195] In conclusion, by distributing the permissions of different functional interfaces to various terminals that use the same account to use the same application program simultaneously to further distribute data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface rather than distributing data corresponding to each of the functional interfaces to all terminals that use the application program, the interface display method provided by the embodiment solves the problem of large network flow consumed in the prior art, thereby reducing the occupied network flow when data of different functional interfaces are distributed to the terminals. Meanwhile, as data of each of the functional interfaces is only distributed to the terminal with permission, namely, each of the terminals would only receive data of a part of functional interfaces for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program. Therefore, when a user needs to access a certain functional interface, the user may directly check in the terminal with the permission of the functional interface without performing frequent switching operations, so that the complexity of operations of the user is reduced. Besides, as the server only distributes the data corresponding to every functional interface to the terminal having the permission, interference to the user as the terminals prompt the user simultaneously is avoided when the server returns the data to the terminals.

[0196] In the embodiment, the terminal sends the application request for applying for the permission of the at least one functional interface itself to the server, so that the server may distribute the permission to the terminal according to the received application request, thereby achieving a purpose that the terminal may display the interface according to its own using demand.

[0197] Besides, in the embodiment, when the functional interface is displayed, a better effect that the user is facilitated to check the content in the functional interface is achieved by adaptively displaying the functional interface.

[0198] Embodiment IV

[0199] Referring to FIG. 5A, it illustrates a flow diagram of an interface display method provided by the embodiment IV. The embodiment is illustrated as the interface display method is used in the implementation environment shown in FIG. 1. The interface display method takes the step that the server distributes the permission of the functional interface to the terminal according to the application request after receiving the application request as an example. Different from the embodiment III, in the embodiment, other terminals in the at least two terminals send the application request for applying for the permission of the functional interface to the terminal, so that the server then distributes the permission to the terminal according to the received application request. The interface display method may include:

[0200] in S501, the terminal and the at least one of other terminals use the same account to simultaneously use the same application program to a server;

[0201] the user may use the account in the terminal to make a request to the server corresponding to the application program to use the application program. In an actual implementation, when the user has multiple terminals, the user may use the same account in at least two terminals to simultaneously make a request to the server to use the same application program. By taking a condition where the application program is Weibo and the user has a mobile phone as an example, a notebook computer and a desktop computer at the same time as an example, the user may respectively use the same Weibo account to log in to Weibo in the tablet computer, the mobile phone and the desktop computer.

[0202] In S502, the server receives simultaneous use of the same application program by at least two terminals using the same account;

[0203] correspondingly, the server receives simultaneous use of the same application program by at least two terminals using the same account.

[0204] In S503, other terminals send the application request to the server;

[0205] when the terminal and the at least one of other terminals use the same account to simultaneously use the same application program, the terminal may further send the application request to other terminals. Similarly, the other terminals may further send the application request for applying for the permission of the at least one functional interface for the terminal to the server. Specifically, when using at least two terminals to use the same application program through the same account, the user may set one of the terminals as a multifunctional terminal and register

terminal information of the other terminals in the multifunctional terminal, so that the multifunctional terminal is used to send the application request to the other terminals. The application request is used for applying for the permission of the at least one functional interface for the terminal.

[0206] For example, if the user simultaneously uses the same account to log in to Weibo through the mobile phone, the notebook computer and the desktop computer, and the user device mobile phone is the multifunctional terminal, the user may send the application request to the three terminals: the mobile phone, the notebook computer and the desktop computer on the mobile phone, and a specific schematic diagram is shown in FIG. 5B. At the time, with respect to the notebook computer and the desktop computer, the application request for applying for the permission of the functional interface to the notebook computer and the desktop computer is sent out by other terminal mobile phones.

[0207] In S504, the server receives the application request sent by the other terminals;

[0208] after the other terminals send the application request to the server, the server may correspondingly receive the application request sent by the other terminals.

[0209] In S505, the server distributes the permission of the requested functional interface to the terminal according to the application request.

[0210] After receiving the application request sent by the terminal, the server may distribute the permission of the requested functional interface to the terminal according to the application request. For example, if the server receives the application request for applying for the permission of the private message interface sent by the notebook computer, the server may distribute the permission distributed by the private message interface to the notebook computer.

[0211] It should be noted that a mode that the terminal makes a request to use the application program is as follows: the terminal uses the account to make a request to log in to the server first; after the server receives the login request, the server returns the content of the main interface to each of the terminals; after the terminal displays the content of the main interface, the user operates certainly on the main interface to further guide the terminal to enter each of the functional interfaces, so that when the terminal uses the application program, the server may distribute the permission of the main interface to the plurality of terminals at the same time. After receiving the application request sent by the terminal, the server distributes the permission of the functional interface requested by the application request to the terminal, and the permission of each of the functional interfaces will be only distributed to one terminal at the same time, which is not described in detail in the embodiment.

[0212] In S506, the terminal receives the permission of the requested functional interface

distributed by the server according to the application request;

[0213] correspondingly, the terminal may receive the permission of the requested functional interface distributed by the server according to the application request.

[0214] In S507, the server sends data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying;

[0215] after distributing the permission of the functional interface to each of the terminals, the server may send data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying. For example, if the server distributes the permission of the private messages to the mobile phone, distributes the permission of the home page to the notebook computer, and distributes the permissions of all the other functional interfaces provided by Weibo to the desktop computer, when the server needs to send a private message to the terminal that has logged in to the account, the server may only send the private message to the mobile phone rather than sending the private message to the notebook computer or the desktop computer. As the private message is only sent to the mobile phone having the permission rather than the notebook computer or the desktop computer, interference to the notebook computer and the desktop computer is avoided when the private message arrives at the notebook computer and the desktop computer. Meanwhile, as the server sends the data to the terminal having the permission of the corresponding functional interface, a condition where a lot of network flows of each of the terminals are consumed when the same information is sent to the plurality of terminals is avoided.

[0216] In S508, the terminal receives data, sent by the server, corresponding to the functional interface;

[0217] after the server sends the data corresponding to the functional interface to the terminal having the permission of the functional interface, the terminal may receive the data, sent by the server, corresponding to the functional interface. The data corresponding to the functional interface is sent by the terminal having the permission of the functional interface.

[0218] In S509, the terminal displays the functional interface.

[0219] After receiving the data, sent by the server, corresponding to the functional interface, the terminal may display the functional interface. For example, if the mobile phone receives the private message sent by the server, the mobile phone may display the private message interface. As the terminal only receives the data of the functional interface for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program, the lot of network flows needed to be consumed by the terminal are reduced; and meanwhile, the terminal would only display the functional interface for which it has the permission

rather than displaying all the functional interfaces, so that when the user needs to check a certain appointed functional interface, the user may check directly from the terminal having the permission rather than switching the interfaces at the terminal, which simplifies the operation of the user.

[0220] The step that the terminal displays the functional interface may include at least one of the following modes:

[0221] first, the functional interface is displayed after data irrelevant to the functional interface in the functional interface is filtered;

[0222] in the first possible implementation mode, in order to enable the functional interface displayed by the terminal to only include the user concerned data, when the terminal needs to display the functional interface, the terminal may display the functional interface after data irrelevant to the functional interface in the functional interface is filtered. The data irrelevant to the functional interface may be an advertisement in the functional interface or data for guiding to other functional interfaces. By taking a condition where the data irrelevant to the functional interface is an advertisement as an example, when the terminal displays the functional interface, in order to avoid interference caused by the advertisement to the user to improve the user experience, the terminal may display the functional interface after the advertisement is filtered.

[0223] Second, the functional interface amplified at a predetermined ratio is displayed.

[0224] In the second possible implementation mode, in order to facilitate check by the user, when the terminal displays the functional interface, the terminal may display the functional interface amplified at a predetermined ratio.

[0225] It should be noted that in order to reduce occupation of terminal resources, the terminal may only start sensors related to the functional interface when displaying the functional interface rather than starting sensors irrelevant to the functional interface. Of course, in the actual implementation, the terminal may further adaptively display the functional interface in other various modes such as playing a sound and deforming the functional interface, which is not described in detail one by one in the embodiment.

[0226] Besides, similar to the embodiment III, as there may be a situation that two terminals simultaneously apply for the permission of the same functional interface during actual implementation, in order to avoid repeated sending of information, before distributing the permission of the requested functional interface to the terminal according to the application request, namely, the S505, the server may further execute the following steps:

[0227] S510, whether the permission of the functional interface applied for by the application request has been applied for by other terminals is detected;

[0228] after receiving the application request, the server may detect whether the permission of the functional interface applied for by the application request has been applied for by other terminals. For example, if the server receives the application request for applying for the permission of the private message interface sent by the mobile phone, the server may detect whether the notebook computer or the desktop computer that uses the same account applies for the permission of the private message interface.

[0229] If a detection result shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, the step of distributing the permission of the requested functional interface to the terminal according to the application request is executed.

[0230] If the detection result of the server shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, the server may execute the step of distributing the permission of the requested functional interface to the terminal according to the application request at the time.

[0231] If the detection result shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, prompt information is sent to the source terminal of the application request.

[0232] However, if the detection result of the server shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, in order to avoid repeated sending of information, the server may send the prompt information to the other terminals that send the application request. Correspondingly, the other terminals that send the application request receives the prompt information sent by the server, the prompt information being sent when the server detects that the functional interface applied for by the application request has been applied for by other terminals. After receiving the prompt information, the other terminals that send the application request may execute corresponding operations according to the prompt information. Specifically, the other terminals that send the application request may send the application request for re-applying the permission of other functional interfaces in the functional interfaces provided by the application program, or decide whether the terminal is used to replace the other terminals to have the permission of the at least one functional interface.

[0233] The prompt information is used for prompting to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or prompting whether the terminal is used to replace the other terminals to have the permission of the at least one functional interface.

[0234] In conclusion, by distributing the permissions of different functional interfaces to various terminals that use the same account to use the same application program simultaneously to further distribute data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface rather than distributing data corresponding to each of the functional interfaces to all terminals that use the application program, the interface display method provided by the embodiment solves the problem of large network flow consumed in the prior art, thereby reducing the occupied network flow when data of different functional interfaces are distributed to the terminals. Meanwhile, as data of each of the functional interfaces is only distributed to the terminal with permission, namely, each of the terminals would only receive data of a part of functional interfaces for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program. Therefore, when a user needs to access a certain functional interface, the user may directly check in the terminal with the permission of the functional interface without performing frequent switching operations, so that the complexity of operations of the user is reduced. Besides, as the server only distributes the data corresponding to every functional interface to the terminal having the permission, interference to the user as the terminals prompt the user simultaneously is avoided when the server returns the data to the terminals.

[0235] In the embodiment, the other terminals send the application request for applying for the permission of the at least one functional interface itself to the server, so that the server may distribute the permission to the terminal according to the received application request, thereby achieving a purpose that the terminal may display the interface according to its own using demand.

[0236] Besides, in the embodiment, when the functional interface is displayed, a better effect that the user is facilitated to check the content in the functional interface is achieved by adaptively displaying the functional interface.

[0237] It should be noted that the above-mentioned embodiment only takes a condition where the main interface does not participate distribution as an example. During actual implementation, the server may further distribute the permission of the main interface to a certain terminal according to the above-mentioned distribution rule, but the other terminals cannot acquire data corresponding to the main interface when the other terminals use the same account to make a request to the application program again as the permission of the main interface has been distributed to the certain terminal, namely, the main interface cannot be displayed. Therefore, at the time, the other terminals will display the functional interface having the permission last time, a certain appointed functional interface, the most used functional interface previously or the function interface that has not been applied for by other terminals in the functional interfaces provided by

the application program, which is not limited in the embodiment. At the same time, during actual implementation, the server may also just distribute the permission of the main interface to an appointed terminal in the terminals, and thus, only the appointed terminal can display the main interface and other terminals has no right to display the main interface, so that an effect of controlling the display permission of the main interface is achieved.

[0238] Embodiment V

[0239] Referring to FIG. 6, it illustrates a structural block diagram of an interface display device provided by the embodiment V of the present invention. The interface display device may become all or part of the server through a software, a hardware or a combination thereof. The display device may include a use receiving module 610, a permission distribution module 620 and a data sending module 630,

[0240] where the use receiving module 610 is configured to receive simultaneous use of the same application program by at least two terminals using the same account;

[0241] the permission distribution module 620 is configured to distribute the permission of at least one functional interface provided by the application program to every terminal in the at least two terminals, wherein the functional interface distributed to the terminal is different from other functional interfaces distributed to other terminals in the at least two terminals; and

[0242] the data sending module 630 is configured to respectively send data corresponding to the functional interfaces to the terminals having the permission of the functional interfaces for displaying.

[0243] In a first possible implementation mode of the embodiment,

[0244] the permission distribution module is further configured to receive application requests sent by the other terminals, where the application requests are used for applying for the permission of the at least one functional interface for the terminal; and distributing the permission of the requested functional interface to the terminal according to the application request; or

[0245] receive application requests sent by the other terminals, where the application requests are used for applying for the permission of the at least one functional interface for the terminal; and distribute the permission of the requested functional interface to the terminal according to the application requests; or

[0246] automatically distribute the permission of the predetermined functional interface to the terminal; or

[0247] automatically distribute the permission of the functional interface, applied for by the terminal most recently to the terminal; or

[0248] automatically distribute the permission of the functional interface, most frequently

used by the terminal previously, to the terminal; or

[0249] when the terminal is a default terminal, distribute the permission of the functional interface that has not been applied for by the other terminals to the terminal.

[0250] In a second possible implementation mode of the embodiment, the permission distribution module is further configured to detect whether the permission of the functional interface applied for by the application request has been applied for by the other terminals; and

[0251] if a detection result shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, execute the step of distributing the permission of the requested functional interface to the terminal according to the application request.

[0252] In a third possible implementation mode of the embodiment, the permission distribution module is further configured to, if the detection result shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, send prompt information to a source terminal of the application request, the prompt information being used for prompting to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or prompt whether to use the terminal to replace the other terminals to have the permission of the at least one functional interface.

[0253] In conclusion, by distributing the permissions of different functional interfaces to various terminals that use the same account to use the same application program simultaneously to further distribute data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface rather than distributing data corresponding to each of the functional interfaces to all terminals that use the application program, the interface display device provided by the embodiment solves the problem of large network flow consumed in the prior art, thereby reducing the occupied network flow when data of different functional interfaces are distributed to the terminals. Meanwhile, as data of each of the functional interfaces is only distributed to the terminal with permission, namely, each of the terminals would only receive data of a part of functional interfaces for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program. Therefore, when a user needs to access a certain functional interface, the user may directly check in the terminal with the permission of the functional interface without performing frequent switching operations, so that the complexity of operations of the user is reduced. Besides, as the server only distributes the data corresponding to every functional interface to the terminal having the permission, interference to the user as the terminals prompt the user simultaneously is avoided when the server returns the data

to the terminals.

[0254] Embodiment VI

[0255] Referring to FIG. 7, it illustrates a structural block diagram of an interface display device provided by the embodiment VI of the present invention. The interface display device may become all or part of the server through a software, a hardware or a combination thereof. The display device may include a request sending module 710, a permission acquisition module 720, a data receiving module 730 and an interface display module 740,

[0256] where a request sending module 710 is configured to use the same account with at least one of other terminals to simultaneously use the same application program to a server;

[0257] the permission acquisition module 720 is configured to acquire the permission of at least one functional interface provided by the application program distributed by the server, where the at least one functional interface is different from other functional interfaces distributed by the server to the other terminals;

[0258] the data receiving module 730 is configured to receive data, sent by the server, corresponding to the functional interface, where the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface; and

[0259] an interface display module 740 is configured to display the functional interface.

[0260] In a first possible implementation mode of the embodiment, the permission acquisition module is configured to send an application request to the server, and receive the permission of the functional interface distributed by the server according to the application request, where the application request is used for applying for the permission of the at least one functional interface for the terminal; or

[0261] receive the permission of the functional interface distributed by the server according to application requests, where the application requests are requests sent by the other terminals for applying for the permission of the at least one functional interface for the terminal; or

[0262] receive the permission of the predetermined functional interface automatically distributed by the server; or

[0263] receive the permission of the functional interface, applied for by the terminal most recently, automatically distributed by the server; or

[0264] receive the permission of the functional interface, most frequently used by the terminal previously, automatically distributed by the server; or

[0265] when the terminal is a default terminal, receive the permission of the functional interface, distributed by the server, that has not been applied for by the other terminals.

[0266] In a second possible implementation mode of the embodiment, the device further

includes:

[0267] an information receiving module configured to receive prompt information sent by the server, the prompt information being sent when the server detects that the functional interface applied for by the application request has been applied for by the other terminals; and

[0268] a permission request module configured to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or decide whether to replace the other terminals to have the permission of the at least one functional interface.

[0269] In a third possible implementation mode of the embodiment, the permission acquisition module is further configured to receive a trigger signal for triggering the application for the permission of the at least one functional interface, and send the application request to the server after receiving the trigger signal; or

[0270] when the terminal displays one functional interface in the at least one functional interface, automatically send the application request to the server.

[0271] In a fourth possible implementation mode of the embodiment, the interface display module includes:

[0272] a first display unit and/or a second display unit, where

[0273] the first display unit is configured to display the functional interface after filtering data irrelevant to the functional interface in the functional interface; and

[0274] the second display unit is configured to display the functional interface amplified at a predetermined ratio.

[0275] In conclusion, by distributing the permissions of different functional interfaces to various terminals that use the same account to use the same application program simultaneously to further distribute data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface rather than distributing data corresponding to each of the functional interfaces to all terminals that use the application program, the interface display device provided by the embodiment solves the problem of large network flow consumed in the prior art, thereby reducing the occupied network flow when data of different functional interfaces are distributed to the terminals. Meanwhile, as data of each of the functional interfaces is only distributed to the terminal with permission, namely, each of the terminals would only receive data of a part of functional interfaces for which it has the permission rather than receiving the data of all the functional interfaces provided by the application program. Therefore, when a user needs to access a certain functional interface, the user may directly check in the terminal with the permission of the functional interface without performing frequent switching operations, so that

the complexity of operations of the user is reduced. Besides, as the server only distributes the data corresponding to every functional interface to the terminal having the permission, interference to the user as the terminals prompt the user simultaneously is avoided when the server returns the data to the terminals.

[0276] It should be noted that when the interface display device provided by the above-mentioned embodiments displays the interface, division of the functional modules is illustrated only. In actual applications, the above-mentioned functions may be distributed to different functional modules to complete as needed, namely, the internal structure of the device is divided into different functional modules, so as to complete the above described all or part of functions. Besides, the method embodiments of the interface display device and the interface display method provided by the above-mentioned embodiments belong to the same concept, and the specific implementation processes thereof are seen in detail in the method embodiments, which is not described in detail herein.

[0277] The sequence numbers of the embodiments of the present invention are adopted not to represent superiority-inferiority of the embodiments but only for description.

[0278] Those of ordinary skill in the art may understand that all or part of steps of the embodiments may be completed via the hardware or via the program instructing related hardware. The program may be stored in a computer readable storage medium. The abovementioned storage medium may be a read-only memory, a disk or an optical disk and the like.

[0279] The above mentioned is merely the preferred embodiment of the present disclosure and is not used to limit the present disclosure. Any modification, equivalent replacement, improvement, etc. made within the spirit and principle of the present disclosure shall be regarded as within the protection scope of the present disclosure.

1. An interface display method, the method comprising:

receiving simultaneous use of the same application program by at least two terminals using the same account;

distributing the permission of at least one functional interface provided by the application program to every terminal in the at least two terminals, wherein the functional interface distributed to the terminal is different from other functional interfaces distributed to other terminals in the at least two terminals; and

sending data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying; wherein

the distributing the permission of at least one functional interface provided by the application program to the terminal comprises:

receiving an application request sent by the terminal, wherein the application request is used for applying for the permission of the at least one functional interface for the terminal; and distributing the permission of the requested functional interface to the terminal according to the application request; or

receiving application requests sent by the other terminals, wherein the application requests are used for applying for the permission of the at least one functional interface for the terminal; and distributing the permission of the requested functional interface to the terminal according to the application requests; or

automatically distributing the permission of the predetermined functional interface to the terminal; or

automatically distributing the permission of the functional interface, applied for by the terminal most recently to the terminal; or

automatically distributing the permission of the functional interface, most frequently used by the terminal previously, to the terminal; or

when the terminal is a default terminal, distributing the permission of the functional interface that has not been applied for by the other terminals to the terminal.

2. The method according to claim 1, wherein before the distributing the permission of the requested functional interface to the terminal according to the application request, the method further comprises:

detecting whether the permission of the functional interface applied for by the application request has been applied for by the other terminals; and

if a detection result shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, executing the step of

distributing the permission of the requested functional interface to the terminal according to the application request.

3. The method according to claim 2, wherein

if the detection result shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, sending prompt information to a source terminal of the application request, the prompt information being used for prompting to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or prompting whether to use the terminal to replace the other terminals to have the permission of the at least one functional interface.

4. An interface display method used in a terminal, the method comprising:

using the same account with at least one of other terminals to simultaneously use the same application program to a server;

acquiring the permission of at least one functional interface provided by the application program distributed by the server, wherein the at least one functional interface is different from other functional interfaces distributed by the server to the other terminals;

receiving data, sent by the server, corresponding to the functional interface, wherein the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface; and

displaying the functional interface; wherein

the acquiring the permission of at least one functional interface provided by the application program distributed by the server comprises:

sending an application request to the server, and receiving the permission of the functional interface distributed by the server according to the application request, wherein the application request is used for applying for the permission of the at least one functional interface for the terminal; or

receiving the permission of the functional interface distributed by the server according to application requests, wherein the application requests are requests sent by the other terminals for applying for the permission of the at least one functional interface for the terminal; or

receiving the permission of the predetermined functional interface automatically distributed by the server; or

receiving the permission of the functional interface, applied for by the terminal most recently, automatically distributed by the server; or

receiving the permission of the functional interface, most frequently used by the terminal previously, automatically distributed by the server; or

when the terminal is a default terminal, receiving the permission, distributed by the server, of the functional interface that has not been applied for by the other terminals.

5. The method according to claim 4, the method further comprising:

receiving prompt information sent by the server, the prompt information being sent when the server detects that the functional interface applied for by the application request has been applied for by the other terminals;

re-applying the permission of other functional interfaces in the functional interfaces provided by the application program, or deciding whether to replace the other terminals to have the permission of the at least one functional interface.

6. The method according to claim 4, wherein the sending an application request to the server comprises:

receiving a trigger signal for triggering the application for the permission of the at least one functional interface, and sending the application request to the server after receiving the trigger signal; or

when the terminal displays one functional interface in the at least one functional interface, automatically sending the application request to the server.

7. The method according to any one of claims 4-6, wherein the displaying the functional interface comprises:

displaying the functional interface after filtering data irrelevant to the functional interface in the functional interface; and/or

displaying the functional interface amplified at a predetermined ratio.

8. An interface display device, the device comprising:

a use receiving module configured to receive simultaneous use of the same application program by at least two terminals using the same account;

a permission distribution module configured to distribute the permission of at least one functional interface provided by the application program to every terminal in the at least two terminals, wherein the functional interface distributed to the terminal is different from other functional interfaces distributed to other terminals in the at least two terminals; and

a data sending module configured to send data corresponding to each of the functional interfaces to the terminal having the permission of the functional interface for displaying; wherein the permission distribution module is configured to:

receive an application request sent by the terminal, wherein the application request is used for applying for the permission of the at least one functional interface for the terminal; and distribute the permission of the requested functional interface to the terminal according to the application

request; or

receive application requests sent by the other terminals, wherein the application requests are used for applying for the permission of the at least one functional interface for the terminal; and distributing the permission of the requested functional interface to the terminal according to the application requests; or

automatically distribute the permission of the predetermined functional interface to the terminal; or

automatically distribute the permission of the functional interface, applied for by the terminal most recently, to the terminal; or

automatically distribute the permission of the functional interface, most frequently used by the terminal previously, to the terminal; or

when the terminal is a default terminal, distribute the permission of the functional interface that has not been applied for by the other terminals to the terminal.

9. The device according to claim 8, wherein

the permission distribution module is further configured to detect whether the permission of the functional interface applied for by the application request has been applied for by the other terminals; and

if a detection result shows that the permission of the functional interface applied for by the application request has not been applied for by the other terminals, execute the step of distributing the permission of the requested functional interface to the terminal according to the application request.

10. The device according to claim 9, wherein

the permission distribution module is further configured to, if the detection result shows that the permission of the functional interface applied for by the application request has been applied for by the other terminals, send prompt information to a source terminal of the application request, the prompt information being used for prompting to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or prompting whether to use the terminal to replace the other terminals to have the permission of the at least one functional interface.

11. An interface display device, the device comprising:

a request sending module configured to use the same account with at least one of other terminals to simultaneously use the same application program to a server;

a permission acquisition module configured to acquire the permission of at least one functional interface provided by the application program distributed by the server, wherein the at

least one functional interface is different from other functional interfaces distributed by the server to the other terminals;

a data receiving module configured to receive data, sent by the server, corresponding to the functional interface, wherein the data corresponding to the functional interface is sent by the server to the terminal having the permission of the functional interface; and

an interface display module configured to display the functional interface; wherein

the permission acquisition module is configured to:

send an application request to the server, and receive the permission of the functional interface distributed by the server according to the application request, wherein the application request is used for applying for the permission of the at least one functional interface for the terminal; or

receive the permission of the functional interface distributed by the server according to application requests, wherein the application requests are requests sent by the other terminals for applying for the permission of the at least one functional interface for the terminal; or

receive the permission of the predetermined functional interface automatically distributed by the server; or

receive the permission of the functional interface, applied for by the terminal most recently, automatically distributed by the server; or

receive the permission of the functional interface, most frequently used by the terminal previously, automatically distributed by the server; or

when the terminal is a default terminal, receive the permission of the functional interface, distributed by the server, that has not been applied for by the other terminals.

12. The device according to claim 11, the device further comprising:

an information receiving module configured to receive prompt information sent by the server, the prompt information being sent when the server detects that the functional interface applied for by the application request has been applied for by the other terminals; and

a permission request module configured to re-apply for the permission of other functional interfaces in the functional interfaces provided by the application program, or decide whether to replace the other terminals to have the permission of the at least one functional interface.

13. The device according to claim 11, wherein

the permission acquisition module is further configured to receive a trigger signal for triggering the application for the permission of the at least one functional interface, and send the application request to the server after receiving the trigger signal; or

when the terminal displays one functional interface in the at least one functional interface,

automatically send the application request to the server.

14. The device according to any one of claims 11-13, wherein the interface display module comprises:

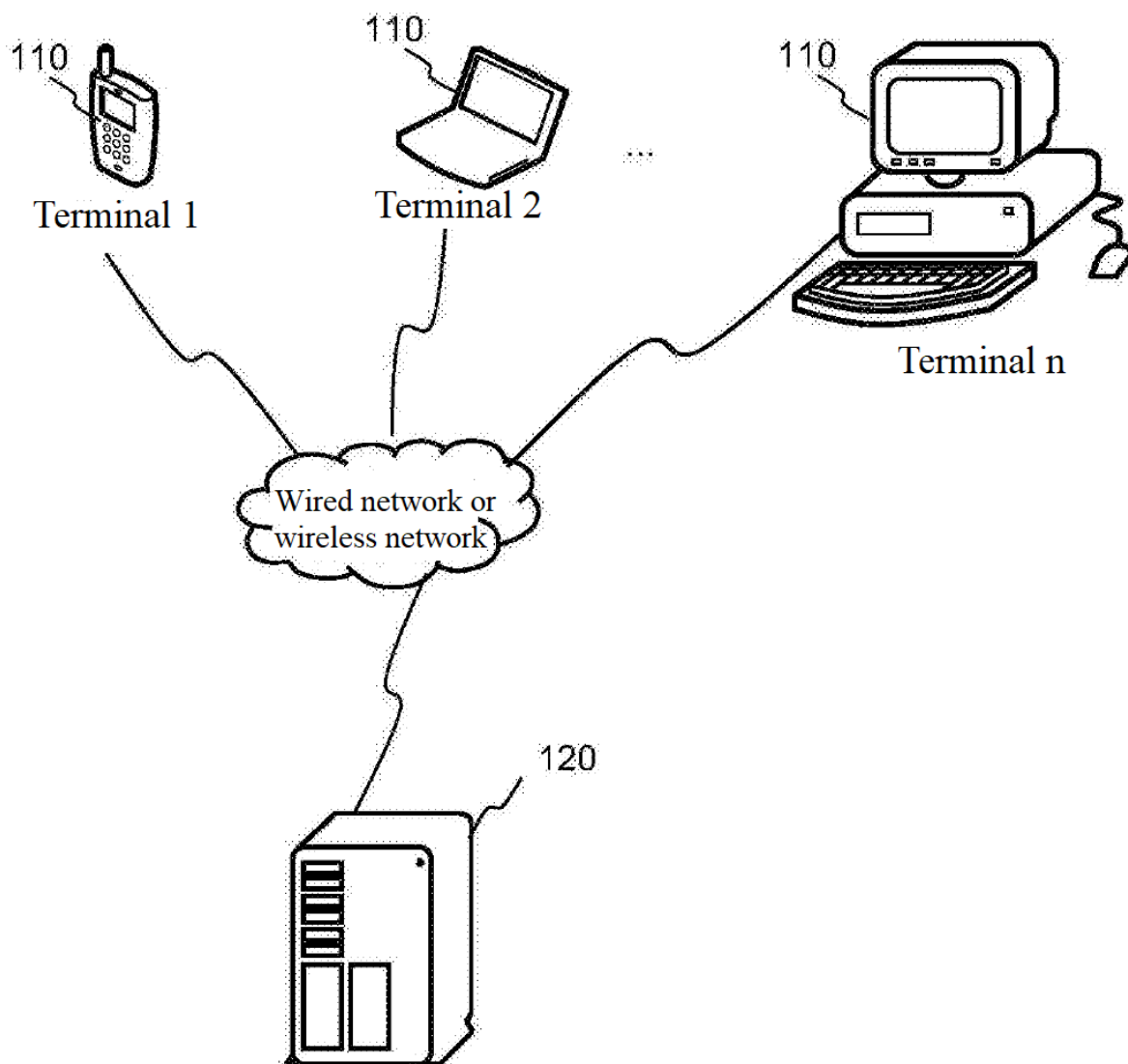
a first display unit and/or a second display unit, wherein

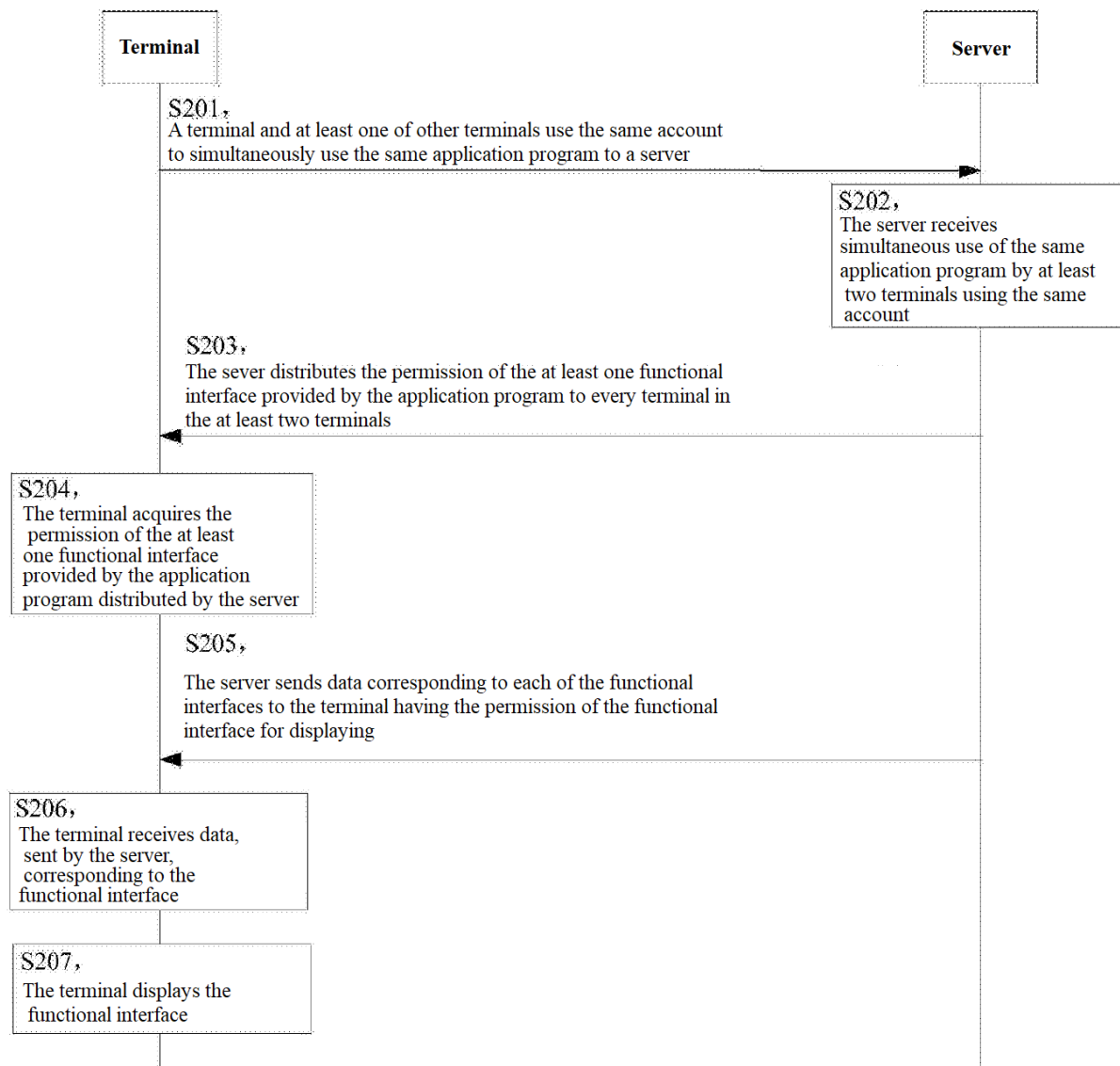
the first display unit is configured to display the functional interface after filtering data irrelevant to the functional interface in the functional interface; and

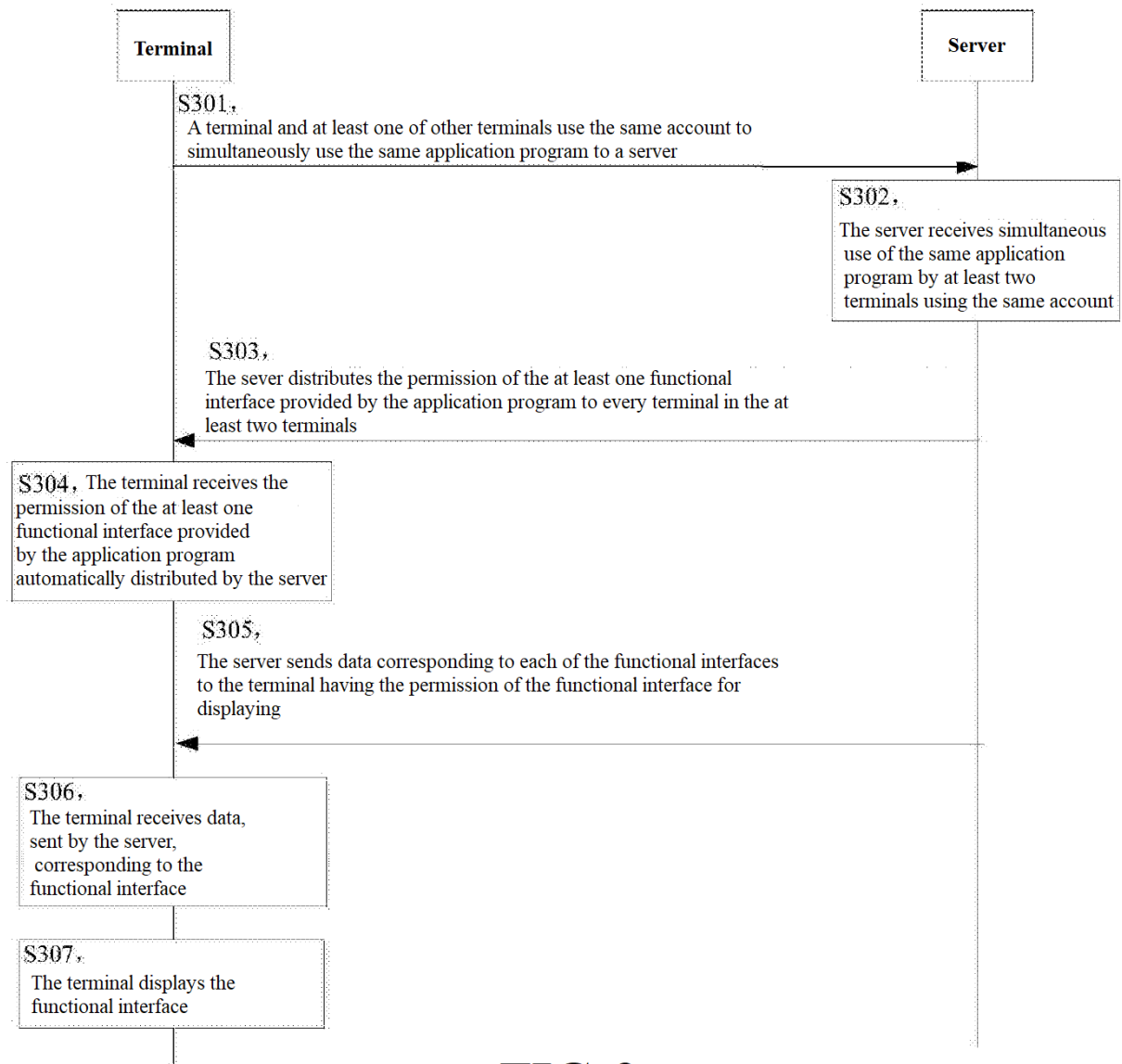
the second display unit is configured to display the functional interface amplified at a predetermined ratio.

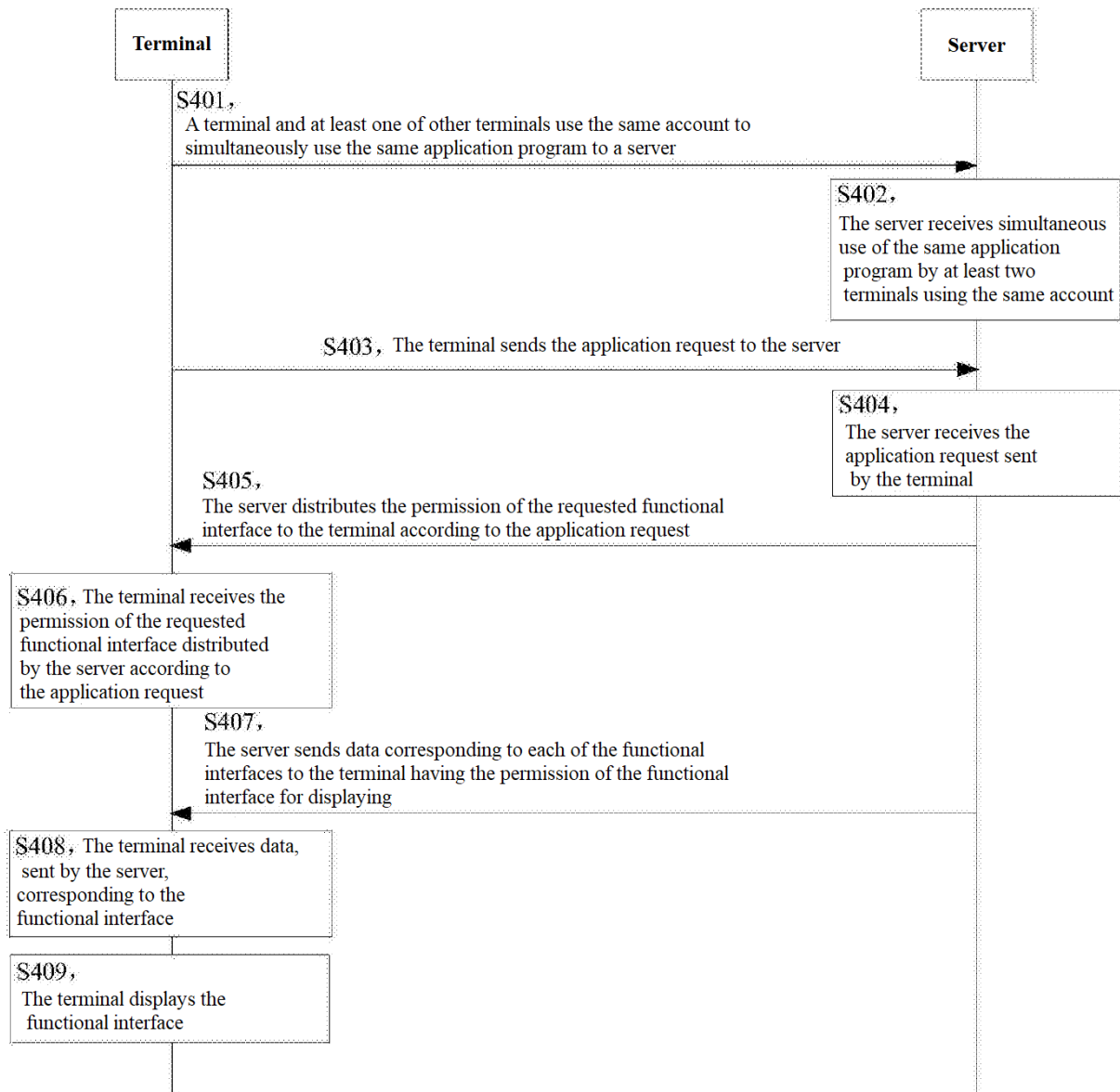
15. A server, comprising the interface display device according to any one of claims 8-10.

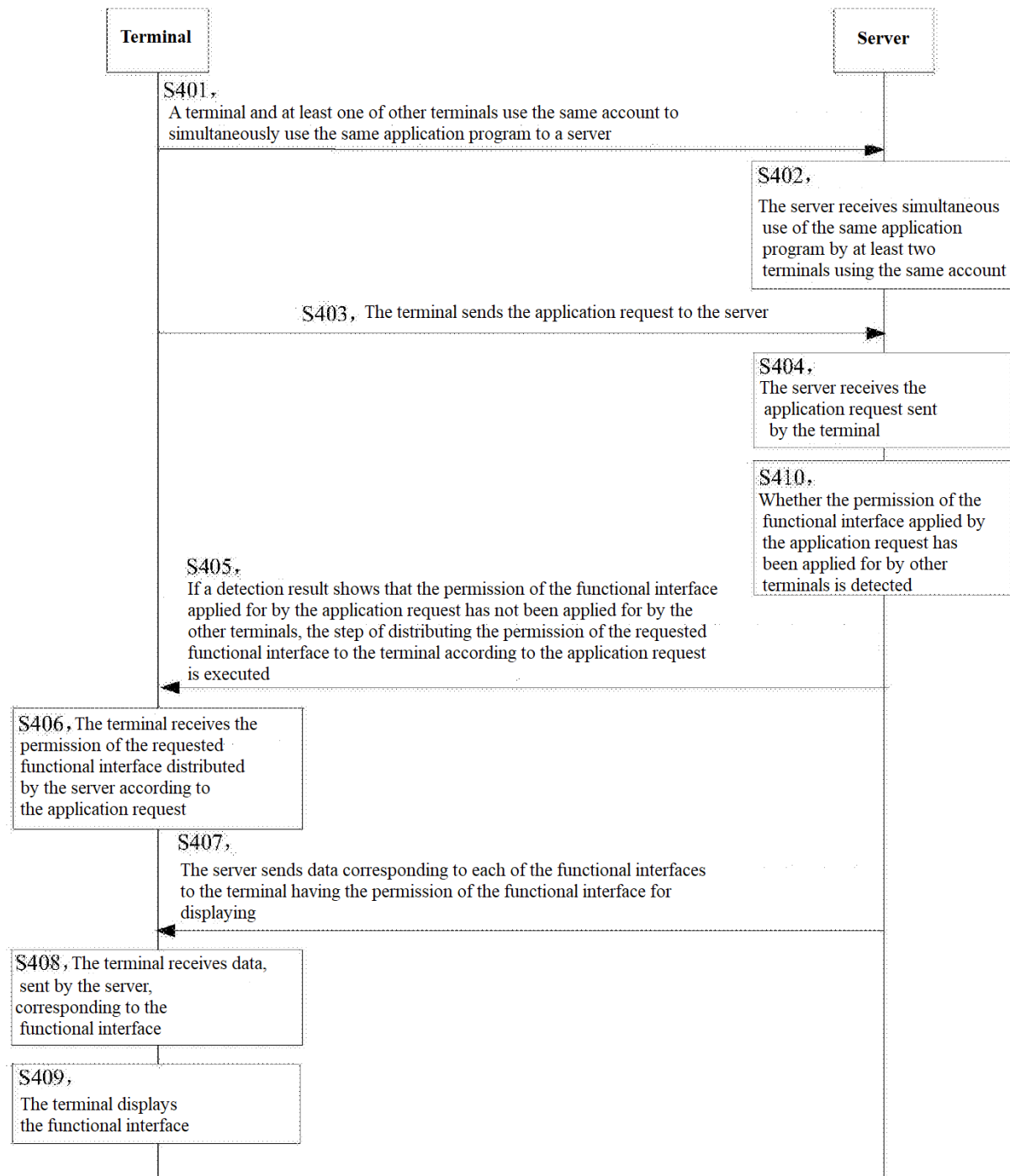
16. A terminal, comprising the interface display device according to any one of claims 11-14.

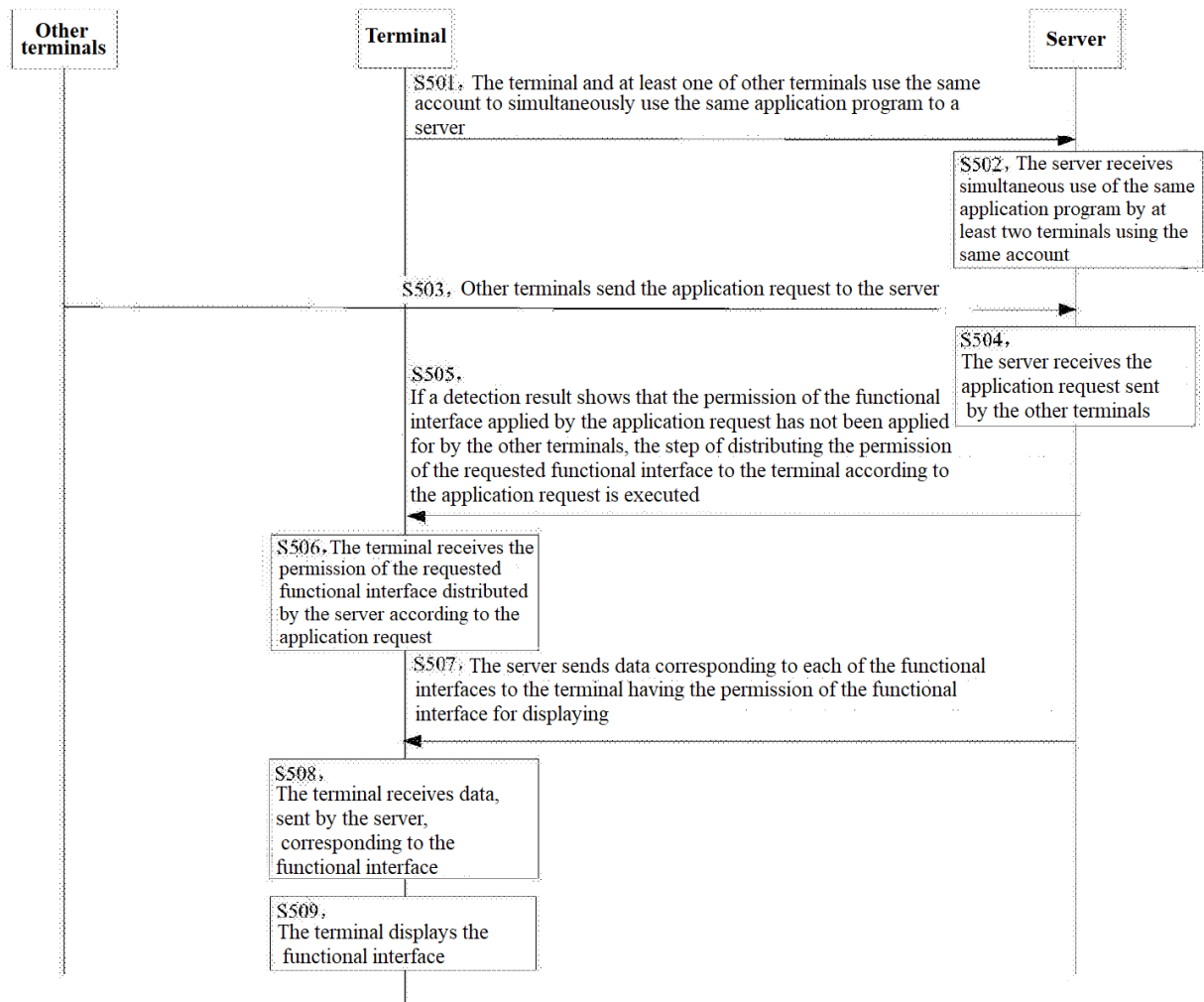
**FIG. 1**

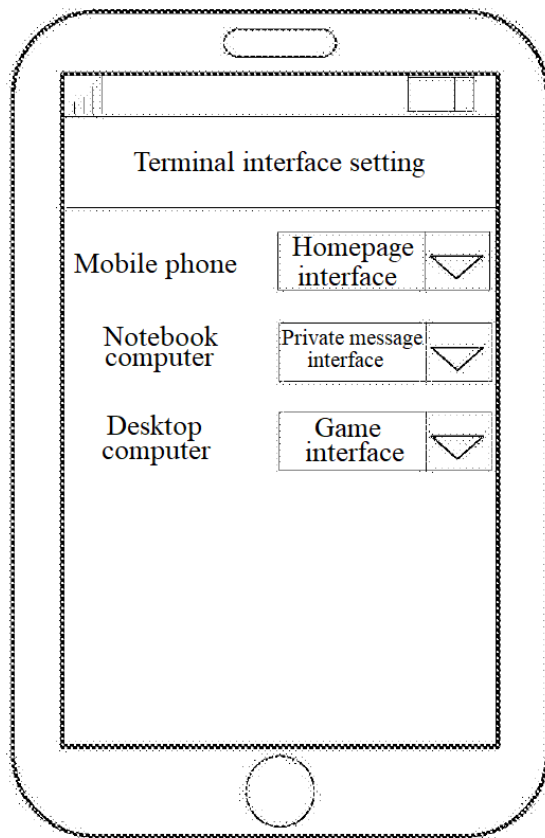
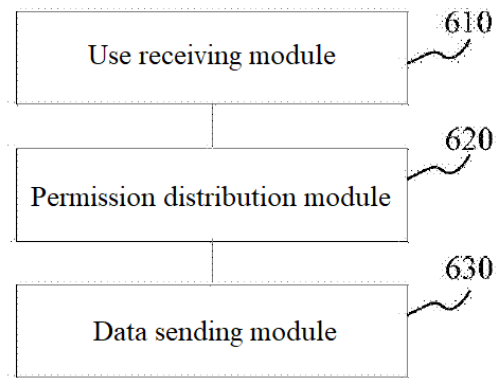
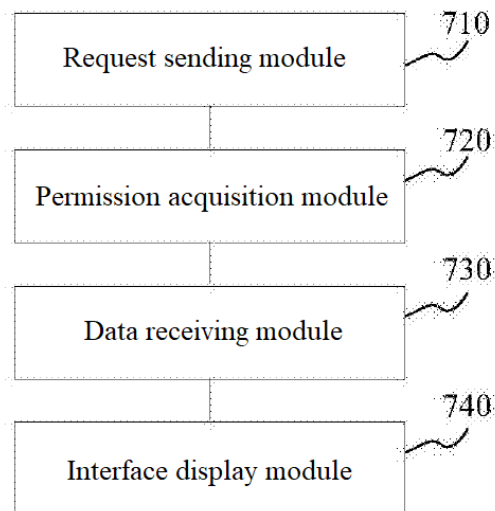
**FIG. 2**

**FIG. 3**

**FIG. 4A**

**FIG. 4B**

**FIG. 5A**

**FIG. 5B****FIG. 6****FIG. 7**



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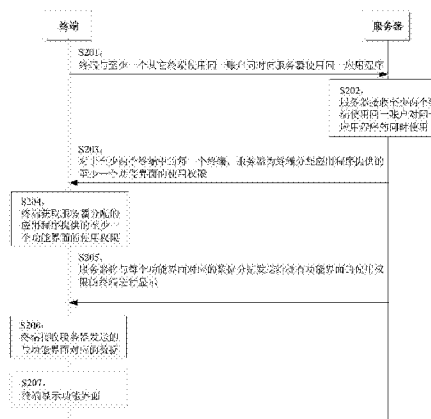
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界面显示方法、装置、终端和服务端

(57) 摘要

本发明公开了一种界面显示方法、装置、终端和服务端,属于移动通信技术领域。所述界面显示方法包括:接收至少两个终端使用同一账户对同一应用程序的同时使用;对于至少两个终端中的每一个终端,为终端分配应用程序提供的至少一个功能界面的使用权限,分配给终端的功能界面与分配给至少两个终端中的其它终端的其它功能界面不同;将与每个功能面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示;解决了现有技术中耗用网络流量大以及用户操作复杂度高的问题;达到了用户可以在不同终端中查看不同的功能界面,避免了用户频繁在各个界面中的切换,降低了需要耗用的网络流量并且降低了用户的操作复杂度。



1. 一种界面显示方法,其特征在于,所述方法包括:

接收至少两个终端使用同一账户对同一应用程序的同时使用;

对于所述至少两个终端中的每一个终端,为所述终端分配所述应用程序提供的至少一个功能界面的使用权限,分配给所述终端的功能界面与分配给所述至少两个终端中的其它终端的其它功能界面不同;

将与每个所述功能界面对应的数据分别发送给拥有所述功能界面的使用权限的终端进行显示;

所述为所述终端分配所述应用程序提供的至少一个功能界面的使用权限,包括:

接收所述终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

接收所述其它终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

自动为所述终端分配预设的所述功能界面的使用权限;或者,

自动为所述终端分配所述终端最近一次申请的所述功能界面的使用权限;或者,

自动为所述终端分配所述终端之前使用最多的所述功能界面的使用权限;或者,

在所述终端为默认终端时,为所述终端分配没有被所述其它终端申请使用的所述功能界面的使用权限。

2. 根据权利要求1所述的方法,其特征在于,所述根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限之前,所述方法还包括:

检测所述申请请求申请的所述功能界面的使用权限是否已经被所述其它终端申请;

若检测结果为没有被所述其它终端申请,则执行所述根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限的步骤。

3. 根据权利要求2所述的方法,其特征在于,

若检测结果为已经被所述其它终端申请,则发送提示信息至所述申请请求的来源终端,所述提示信息用于提示重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,提示是否使用所述终端代替所述其它终端来拥有所述至少一个功能界面的使用权限。

4. 一种界面显示方法,其特征在于,用于终端中,所述方法包括:

与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;

获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,所述至少一个功能界面与所述服务器分配给所述其它终端的其它功能界面不同;

接收所述服务器发送的与所述功能界面对应的数据,所述与所述功能界面对应的数据是所述服务器向拥有所述功能界面的使用权限的终端发送的;

显示所述功能界面;

所述获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,包括:

发送申请请求至所述服务器,接收所述服务器根据所述申请请求分配的所述功能界面

的使用权限,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;或者,
接收所述服务器根据申请请求分配的所述功能界面的使用权限,所述申请请求为所述其它终端发送的用于为所述终端申请所述至少一个功能界面的使用权限的请求;或者,
接收所述服务器自动分配的预设的所述功能界面的使用权限;或者,
接收所述服务器自动分配的所述终端最近一次申请的所述功能界面的使用权限;或者,
接收所述服务器自动分配的所述终端之前使用次数最多的所述功能界面的使用权限;或者,
在所述终端为默认终端时,接收所述服务器分配的没有被所述其它终端申请使用的所述功能界面的使用权限。

5. 根据权利要求4所述的方法,其特征在于,所述方法还包括:

接收所述服务器发送的提示信息,所述提示信息为所述服务器在检测到所述申请请求申请的所述功能界面已经被所述其它终端申请时发送的;

重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,决定是否代替所述其它终端来拥有所述至少一个功能界面的使用权限。

6. 根据权利要求4所述的方法,其特征在于,所述发送申请请求至所述服务器,包括:

接收用于触发申请所述至少一个功能界面的使用权限的触发信号,在接收到所述触发信号之后,发送所述申请请求至所述服务器;或者,

当所述终端显示所述至少一个功能界面中的一个功能界面时,自动发送所述申请请求至所述服务器。

7. 根据权利要求4至6任一所述的方法,其特征在于,所述显示所述功能界面,包括:

显示过滤所述功能界面中的与所述功能界面无关的数据后的所述功能界面;和/或,
显示放大预定比例之后的所述功能界面。

8. 一种界面显示装置,其特征在于,所述装置包括:

使用接收模块,用于接收至少两个终端使用同一账户对同一应用程序的同时使用;

权限分配模块,用于对于所述至少两个终端中的每一个终端,为所述终端分配所述应用程序提供的至少一个功能界面的使用权限,分配给所述终端的功能界面与分配给所述至少两个终端中的其它终端的其它功能界面不同;

数据发送模块,用于将与每个所述功能界面对应的数据分别发送给拥有所述功能界面的使用权限的终端进行显示;

所述权限分配模块,用于:

接收所述终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

接收所述其它终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

自动为所述终端分配预设的所述功能界面的使用权限;或者,

自动为所述终端分配所述终端最近一次申请的所述功能界面的使用权限;或者,

自动为所述终端分配所述终端之前使用最多的所述功能界面的使用权限;或者,
在所述终端为默认终端时,为所述终端分配没有被所述其它终端申请使用的所述功能界面的使用权限。

9. 根据权利要求8所述的装置,其特征在于,

所述权限分配模块,还用于检测所述申请请求申请的所述功能界面的使用权限是否已经被所述其它终端申请;

若检测结果为没有被所述其它终端申请,则执行所述根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限的步骤。

10. 根据权利要求9所述的装置,其特征在于,

所述权限分配模块,还用于若检测结果为已经被所述其它终端申请,则发送提示信息至所述申请请求的来源终端,所述提示信息用于提示重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,提示是否使用所述终端代替所述其它终端来拥有所述至少一个功能界面的使用权限。

11. 一种界面显示装置,其特征在于,所述装置包括:

请求发送模块,用于与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;

权限获取模块,用于获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,所述至少一个功能界面与所述服务器分配给所述其它终端的其它功能界面不同;

数据接收模块,用于接收所述服务器发送的与所述功能界面对应的数据,所述与所述功能界面对应的数据是所述服务器向拥有所述功能界面的使用权限的终端发送的;

界面显示模块,用于显示所述功能界面;

所述权限获取模块,用于:

发送申请请求至所述服务器,接收所述服务器根据所述申请请求分配的所述功能界面的使用权限,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;或者,

接收所述服务器根据申请请求分配的所述功能界面的使用权限,所述申请请求为所述其它终端发送的用于为所述终端申请所述至少一个功能界面的使用权限的请求;或者,

接收所述服务器自动分配的预设的所述功能界面的使用权限;或者,

接收所述服务器自动分配的所述终端最近一次申请的所述功能界面的使用权限;或者,

接收所述服务器自动分配的所述终端之前使用次数最多的所述功能界面的使用权限;或者,

在所述终端为默认终端时,接收所述服务器分配的没有被所述其它终端申请使用的所述功能界面的使用权限。

12. 根据权利要求11所述的装置,其特征在于,所述装置还包括:

信息接收模块,用于接收所述服务器发送的提示信息,所述提示信息为所述服务器在检测到所述申请请求申请的所述功能界面已经被所述其它终端申请时发送的;

权限请求模块,用于重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,决定是否代替所述其它终端来拥有所述至少一个功能界面的使用权限。

13. 根据权利要求11所述的装置,其特征在于,

所述权限获取模块,还用于接收用于触发申请所述至少一个功能界面的使用权限的触发信号,在接收到所述触发信号之后,发送所述申请请求至所述服务器;或者,

当所述终端显示所述至少一个功能界面中的一个功能界面时,自动发送所述申请请求至所述服务器。

14. 根据权利要求11至13任一所述的装置,其特征在于,所述界面显示模块,包括:

第一显示单元和/或第二显示单元;

所述第一显示单元,用于显示过滤所述功能界面中的与所述功能界面无关的数据后的所述功能界面;

所述第二显示单元,用于显示放大预定比例之后的所述功能界面。

15. 一种服务器,其特征在于,其包括权利要求8至10任一所述的界面显示装置。

16. 一种终端,其特征在于,其包括权利要求11至14任一所述的界面显示装置。

界面显示方法、装置、终端和服务服务器

技术领域

[0001] 本发明涉及移动通信技术领域,特别涉及一种界面显示方法、装置、终端和服务服务器。

背景技术

[0002] 应用程序是诸如手机、平板电脑或者台式电脑之类的终端中常见且重要的组成部分。

[0003] 在实际应用中,用户可以通过账户登陆应用程序进而访问应用程序提供的各个功能界面。比如,以应用程序是微博为例,用户可以登录微博账户之后访问微博提供的私信、首页、游戏等界面;并且,当用户访问微博主页时想要给好友发私信,则用户可以先退出微博主页然后再选择进入私信界面。

[0004] 在实现本发明的过程中,发明人发现现有技术至少存在如下问题:

[0005] 由于应用程序可以提供多个功能界面,当用户想要访问某一功能界面时,用户将操作终端从当前功能界面切换至需要访问的界面,然而在终端切换过程中,终端需要从服务器中下载相关数据,所以这就无形中增大了网络流量;同时,在用户需要在频繁地交叉使用不同的功能界面时,用户需要操作终端在不同的功能界面之间来回切换,所以用户的操作复杂度也较高。

发明内容

[0006] 为了解决现有技术中耗用网络流量大以及用户操作复杂度高的问题,本发明实施例提供了一种界面显示方法、装置、终端和服务服务器。所述技术方案如下:

[0007] 第一方面,提供了一种界面显示方法,所述方法包括:

[0008] 接收至少两个终端使用同一账户对同一应用程序的同时使用;

[0009] 对于所述至少两个终端中的每一个终端,为所述终端分配所述应用程序提供的至少一个功能界面的使用权限,分配给所述终端的功能界面与分配给所述至少两个终端中的其它终端的其它功能界面不同;

[0010] 将与每个所述功能界面对应的数据分别发送给拥有所述功能界面的使用权限的终端进行显示。

[0011] 在第一方面的第一种可能的实现方式中,所述为所述终端分配所述应用程序提供的至少一个功能界面的使用权限,包括:

[0012] 接收所述终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

[0013] 接收所述其它终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

- [0014] 自动为所述终端分配预设的所述功能界面的使用权限;或者,
- [0015] 自动为所述终端分配所述终端最近一次申请的所述功能界面的使用权限;或者,
- [0016] 自动为所述终端分配所述终端之前使用最多的所述功能界面的使用权限;或者,
- [0017] 在所述终端为默认终端时,为所述终端分配没有被所述其它终端申请使用的所述功能界面的使用权限。
- [0018] 在第一方面的第二种可能的实现方式中,所述根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限之前,所述方法还包括:
- [0019] 检测所述申请请求申请的所述功能界面的使用权限是否已经被所述其它终端申请;
- [0020] 若检测结果为没有被所述其它终端申请,则执行所述根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限的步骤。
- [0021] 在第一方面的第三种可能的实现方式中,若检测结果为已经被所述其它终端申请,则发送提示信息至所述申请请求的来源终端,所述提示信息用于提示重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,提示是否使用所述终端代替所述其它终端来拥有所述至少一个功能界面的使用权限。
- [0022] 第二方面,提供了一种界面显示方法,所述方法包括:
- [0023] 与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;
- [0024] 获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,所述至少一个功能界面与所述服务器分配给所述其它终端的其它功能界面不同;
- [0025] 接收所述服务器发送的与所述功能界面对应的数据,所述与所述功能界面对应的数据是所述服务器向拥有所述功能界面的使用权限的终端发送的;
- [0026] 显示所述功能界面。
- [0027] 在第二方面的第一种可能的实现方式中,所述获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,包括:
- [0028] 发送申请请求至所述服务器,接收所述服务器根据所述申请请求分配的所述功能界面的使用权限,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;或者,
- [0029] 接收所述服务器根据申请请求分配的所述功能界面的使用权限,所述申请请求为所述其它终端发送的用于为所述终端申请所述至少一个功能界面的使用权限的请求;或者,
- [0030] 接收所述服务器自动分配的预设的所述功能界面的使用权限;或者,
- [0031] 接收所述服务器自动分配的所述终端最近一次申请的所述功能界面的使用权限;或者,
- [0032] 接收所述服务器自动分配的所述终端之前使用次数最多的所述功能界面的使用权限;或者,
- [0033] 在所述终端为默认终端时,接收所述服务器分配的没有被所述其它终端申请使用的所述功能界面的使用权限。
- [0034] 在第二方面的第二种可能的实现方式中,所述方法还包括:
- [0035] 接收所述服务器发送的提示信息,所述提示信息为所述服务器在检测到所述申请

请求申请的所述功能界面已经被所述其它终端申请时发送的；

[0036] 重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限，或者，决定是否代替所述其它终端来拥有所述至少一个功能界面的使用权限。

[0037] 在第二方面的第三种可能的实现方式中，所述发送申请请求至所述服务器，包括：

[0038] 接收用于触发申请所述至少一个功能界面的使用权限的触发信号，在接收到所述触发信号之后，发送所述申请请求至所述服务器；或者，

[0039] 当所述终端显示所述至少一个功能界面中的一个功能界面时，自动发送所述申请请求至所述服务器。

[0040] 在第二方面的第四种可能的实现方式中，所述显示所述功能界面，包括：

[0041] 显示过滤所述功能界面中的与所述功能界面无关的数据后的所述功能界面；和/或，

[0042] 显示放大预定比例之后的所述功能界面。

[0043] 第三方面，提供了一种界面显示装置，所述装置包括：

[0044] 使用接收模块，用于接收至少两个终端使用同一账户对同一应用程序的同时使用；

[0045] 权限分配模块，用于对于所述至少两个终端中的每一个终端，为所述终端分配所述应用程序提供的至少一个功能界面的使用权限，分配给所述终端的功能界面与分配给所述至少两个终端中的其它终端的其它功能界面不同；

[0046] 数据发送模块，用于将与每个所述功能界面对应的数据分别发送给拥有所述功能界面的使用权限的终端进行显示。

[0047] 在第三方面的第一种可能的实现方式中，所述权限分配模块，用于接收所述终端发送的申请请求，所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限；根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限；或者，

[0048] 接收所述其它终端发送的申请请求，所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限；根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限；或者，

[0049] 自动为所述终端分配预设的所述功能界面的使用权限；或者，

[0050] 自动为所述终端分配所述终端最近一次申请的所述功能界面的使用权限；或者，

[0051] 自动为所述终端分配所述终端之前使用最多的所述功能界面的使用权限；或者，

[0052] 在所述终端为默认终端时，为所述终端分配没有被所述其它终端申请使用的所述功能界面的使用权限。

[0053] 在第三方面的第二种可能的实现方式中，所述权限分配模块，还用于检测所述申请请求申请的所述功能界面的使用权限是否已经被所述其它终端申请；

[0054] 若检测结果为没有被所述其它终端申请，则执行所述根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限的步骤。

[0055] 在第三方面的第三种可能的实现方式中，所述权限分配模块，还用于若检测结果为已经被所述其它终端申请，则发送提示信息至所述申请请求的来源终端，所述提示信息用于提示重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限，或者，提示是否使用所述终端代替所述其它终端来拥有所述至少一个功能界面的使用权限。

- [0056] 第四方面,提供了一种界面显示装置,所述装置包括:
- [0057] 请求发送模块,用于与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;
- [0058] 权限获取模块,用于获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,所述至少一个功能界面与所述服务器分配给所述其它终端的其它功能界面不同;
- [0059] 数据接收模块,用于接收所述服务器发送的与所述功能界面对应的数据,所述与所述功能界面对应的数据是所述服务器向拥有所述功能界面的使用权限的终端发送的;
- [0060] 界面显示模块,用于显示所述功能界面。
- [0061] 在第四方面的第一种可能的实现方式中,请求发送模块,用于与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;
- [0062] 权限获取模块,用于获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,所述至少一个功能界面与所述服务器分配给所述其它终端的其它功能界面不同;
- [0063] 数据接收模块,用于接收所述服务器发送的与所述功能界面对应的数据,所述与所述功能界面对应的数据是所述服务器向拥有所述功能界面的使用权限的终端发送的;
- [0064] 界面显示模块,用于显示所述功能界面。
- [0065] 在第四方面的第二种可能的实现方式中,所述装置还包括:
- [0066] 信息接收模块,用于接收所述服务器发送的提示信息,所述提示信息为所述服务器在检测到所述申请请求申请的所述功能界面已经被所述其它终端申请时发送的;
- [0067] 权限请求模块,用于重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,决定是否代替所述其它终端来拥有所述至少一个功能界面的使用权限。
- [0068] 在第四方面的第三种可能的实现方式中,所述权限获取模块,还用于接收用于触发申请所述至少一个功能界面的使用权限的触发信号,在接收到所述触发信号之后,发送所述申请请求至所述服务器;或者,
- [0069] 当所述终端显示所述至少一个功能界面中的一个功能界面时,自动发送所述申请请求至所述服务器。
- [0070] 在第四方面的第四种可能的实现方式中,所述界面显示模块,包括:
- [0071] 第一显示单元和/或第二显示单元;
- [0072] 所述第一显示单元,用于显示过滤所述功能界面中的与所述功能界面无关的数据后的所述功能界面;
- [0073] 所述第二显示单元,用于显示放大预定比例之后的所述功能界面。
- [0074] 第五方面,提供了一种服务器,其包括第三方面或者第三方面的各种可能的实现方式中任一所述的界面显示装置。
- [0075] 第六方面,提供了一种终端,其包括第四方面以及第四方面的各种可能的实现方式中任一所述的界面显示装置。
- [0076] 本发明实施例提供的技术方案的有益效果是:
- [0077] 通过为使用同一账户对同一应用程序同时使用的各个终端分配不同功能界面的

使用权限,进而只分配每个功能界面对应的数据至拥有该功能界面的使用权限的终端,而不分配每个功能界面对应的数据至使用应用程序的所有终端;解决了现有技术中耗用网络流量大的问题,降低了在分配不同功能界面的数据至终端时占用的网络流量;同时,由于只分配每个功能界面的数据至具有使用权限的终端,也即每个终端只会接收到自身具有使用权限的一部分功能界面的数据,而不会接收到应用程序提供的所有功能界面的数据,所以这就使得当用户需要访问某一功能界面时,用户可以在具有该功能界面的使用权限的终端中直接查看,而不用进行频繁的切换操作,降低了用户的操作复杂度。此外,由于服务器只分配每个功能界面对应的数据至具有使用权限的终端,所以这就避免了服务器返回数据至各个终端时,各个终端同时对用户进行提醒时对用户带来的干扰。

附图说明

[0078] 为了更清楚地说明本发明实施例中的技术方案,下面将对实施例描述中所需要使用的附图作简单地介绍,显而易见地,下面描述中的附图仅仅是本发明的一些实施例,对于本领域普通技术人员来讲,在不付出创造性劳动的前提下,还可以根据这些附图获得其他的附图。

[0079] 图1是本发明所涉及的一种实施环境的结构示意图;

[0080] 图2是本发明实施例一提供的界面显示方法的方法流程图;

[0081] 图3是本发明实施例二提供的界面显示方法的方法流程图;

[0082] 图4A是本发明实施例三提供的界面显示方法的方法流程图;

[0083] 图4B是本发明实施例三提供的界面显示方法的另一方法流程图;

[0084] 图5A是本发明实施例四提供的界面显示方法的方法流程图;

[0085] 图5B是本发明实施例四提供的终端为其它终端发送申请请求时的显示示意图;

[0086] 图6是本发明实施例五提供的界面显示装置的结构方框图;

[0087] 图7是本发明实施例六提供的界面显示装置的结构方框图。

具体实施方式

[0088] 为了使本发明的目的、技术方案和优点更加清楚,下面将结合附图对本发明作进一步地详细描述,显然,所描述的实施例仅仅是本发明一部份实施例,而不是全部的实施例。基于本发明中的实施例,本领域普通技术人员在没有做出创造性劳动前提下所获得的所有其它实施例,都属于本发明保护的范围。

[0089] 为了便于理解,首先对本发明实施例中涉及的实施环境进行详细描述。

[0090] 随着人们生活水平的提高,人们手中通常会有多个带有显示屏的终端,比如,同时拥有一台手机、一台笔记本电脑和一台台式电脑,所以为了满足用户在不同终端中使用应用程序的需求,越来越多的应用程序都开发了对应不同平台的版本。

[0091] 基于应用程序的上述功能,本发明实施例所涉及的一种实施环境是:用户通过两个或者两个以上的终端同时使用同一账户来使用同一应用程序,该实施环境可以包括至少两个同时使用同一账户对同一应用程序进行同时使用的终端110和服务器120,具体请参看图1;

[0092] 终端110可以是诸如手机、平板电脑、电子书阅读器、笔记本电脑和台式电脑之类

的终端。终端110可以通过有线网络或者无线网络与服务器120连接,从而实现终端110向服务器120请求使用应用程序,并且同时实现终端110接收服务器120分配的对应用程序提供的至少一个功能界面的使用权限,以及接收服务器120发送的与功能界面对应的数据目的。

[0093] 服务器120可以通过有线网络或者无线网络分别与终端110连接,从而实现服务器120可以接收终端110的对应用程序的使用,为终端110分配应用程序提供的至少一个功能界面的使用权限,并发送与功能界面对应的数据至拥有功能界面的使用权限的终端110的目的。

[0094] 实施例一

[0095] 请参考图2,其示出了本发明实施例一提供的界面显示方法的方法流程图,本实施例以该界面显示方法用于图1所示的实施环境中来举例说明,该界面显示方法可以包括:

[0096] 步骤201,终端与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;

[0097] 步骤202,服务器接收至少两个终端使用同一账户对同一应用程序的同时使用;

[0098] 步骤203,对于至少两个终端中的每一个终端,服务器为终端分配应用程序提供的至少一个功能界面的使用权限;

[0099] 其中,分配给当前终端的功能界面与分配给至少两个终端中的其它终端的其它功能界面不同。

[0100] 步骤204,终端获取服务器分配的应用程序提供的至少一个功能界面的使用权限;

[0101] 其中,至少一个功能界面与服务器分配给其它终端的其它功能界面不同;

[0102] 步骤205,服务器将与每个功能界面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示;

[0103] 步骤206,终端接收服务器发送的与功能界面对应的数据,与功能界面对应的数据是服务器向拥有功能界面的使用权限的终端发送的;

[0104] 步骤207,终端显示功能界面。

[0105] 综上所述,本实施例提供的界面显示方法,通过为使用同一账户对同一应用程序同时使用的各个终端分配不同功能界面的使用权限,进而只分配每个功能界面对应的数据至拥有该功能界面的使用权限的终端,而不分配每个功能界面对应的数据至使用应用程序的所有终端;解决了现有技术中耗用网络流量大的问题,降低了在分配不同功能界面的数据至终端时占用的网络流量;同时,由于只分配每个功能界面的数据至具有使用权限的终端,也即每个终端只会接收到自身具有使用权限的一部分功能界面的数据,而不会接收到应用程序提供的所有功能界面的数据,所以这就使得当用户需要访问某一功能界面时,用户可以在具有该功能界面的使用权限的终端中直接查看,而不用进行频繁的切换操作,降低了用户的操作复杂度。此外,由于服务器只分配每个功能界面对应的数据至具有使用权限的终端,所以这就避免了服务器返回数据至各个终端时,各个终端同时对用户进行提醒时对用户带来的干扰。

[0106] 需要说明的是,根据使用权限的分配方式的不同,服务器可以自动为终端分配应用程序提供的至少一个功能界面的使用权限;也可以是终端发送用于为自身申请至少一个功能界面的使用权限的申请请求至服务器之后,服务器为终端分配功能界面的使用权限;还可以是与终端共用同一账户的其它终端发送用于为终端申请至少一个功能界面的使用

权限的申请请求至服务器之后,服务器为终端分配功能界面的使用权限,所以以下将在不同实施例中分别对上述三种情况进行详细描述。

[0107] 实施例二

[0108] 请参考图3,其示出了本发明实施例二提供的界面显示方法的方法流程图,本实施例以该界面显示方法用于图1所示的实施环境中来举例说明,并且本实施例以服务器自动为终端分配至少一个功能界面的使用权限为例,该界面显示方法包括:

[0109] 步骤301,终端与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;

[0110] 用户可以在终端中使用账户向应用程序对应的服务器请求使用应用程序。在实际实现时,当用户拥有多台终端时,用户可以在至少两个终端中使用同一账户同时向服务器请求使用同一应用程序。以应用程序是微博并且用户同时拥有一台手机、一台笔记本电脑和一台台式电脑为例,用户可以分别使用同一微博账户在平板电脑、手机和台式电脑中登陆微博。

[0111] 步骤302,服务器接收至少两个终端使用同一账户对同一应用程序的同时使用;

[0112] 相应的,服务器可以接收至少两个终端使用同一账户对同一应用程序的同时使用。

[0113] 步骤303,对于至少两个终端中的每一个终端,服务器自动为终端分配应用程序提供的至少一个功能界面的使用权限;

[0114] 当存在至少两个终端使用同一账户同时请求使用同一应用程序时,对于至少两个终端中的每一个终端,服务器可以自动为终端分配应用程序提供的至少一个功能界面的使用权限。其中,分配给当前终端的功能界面与分配给至少两个终端中的其它终端的其它功能界面不同。

[0115] 其中,服务器自动为终端分配应用程序提供的至少一个功能界面的使用权限的分配方式可以包括如下方式中的任一种:

[0116] 第一,自动为终端分配预设的功能界面的使用权限;

[0117] 在第一种可能的实现方式中,服务器可以自动为终端分配预设的功能界面的使用权限。当存在至少两个终端同时使用同一账户使用同一应用程序时,服务器可以遵守预设的分配规则为终端分配至少一个功能界面的使用权限。其中,分配规则可以包括按照共用同一账户的各个终端请求使用应用程序的时间顺序分别为每个终端分配至少一个功能界面的使用权限。

[0118] 比如,微博可以提供首页、私信和游戏等功能界面,当服务器接收到通过手机使用同一账户登录微博时,服务器可以为已经登录微博的笔记本电脑分配首页界面的使用权限;为登录微博的手机分配私信界面的使用权限;类似的,当通过台式电脑使用同一账户登录微博时,服务器可以为台式电脑分配游戏界面的使用权限;在实际实现时,服务器可以为应用程序提供的至少一个功能界面按照优先级进行排序,并为共用同一账户的各个终端中先请求使用的终端分配优先级最高的功能界面,本实施例对此并不做限定。

[0119] 需要说明的是,本实施例只是以按照上述分配规则自动分配至少一个功能界面的使用权限至终端为例,在实际实现时,服务器还可以按照其他分配规则自动分配预设的功能界面的使用权限给终端,本实施例对此并不做限定。比如,分配规则还可以包括按照每个

终端的屏幕大小和操作方式为每个终端分配适合该终端显示和使用的功能界面的使用权限。

[0120] 第二,自动为终端分配终端最近一次申请的功能界面的使用权限;

[0121] 在第二种可能的实现方式中,服务器还可以自动为终端分配终端最近一次申请的功能界面的使用权限。具体的,由于终端可以申请某一功能界面的使用权限,所以当终端释放已经申请的功能界面的使用权限,并且服务器再次需要为终端分配功能界面的使用权限时,服务器可以获取终端上一次申请使用的功能界面的使用权限,然后自动为终端分配终端上一次申请的功能界面的使用权限。比如,用户使用手机登陆微博,并且请求私信的使用权限,则当用户在手机中退出微博的登陆,并且再次使用手机登陆微博时,服务器即可为手机继续分配私信的使用权限。

[0122] 第三,自动为终端分配终端之前使用最多的功能界面的使用权限;

[0123] 在第三种可能的实现方式中,服务器还可以自动为终端分配终端之前使用次数最多的功能界面的使用权限。具体的,当服务器需要为终端分配功能界面的使用权限时,服务器可以先获取终端历史使用的功能界面的使用权限,如果终端使用某一功能界面的次数最多,则说明用户更加希望在终端上查看该功能界面,所以此时服务器可以为终端分配终端之前使用次数最多的功能界面的使用权限。

[0124] 第四,在终端为默认终端时,为终端分配没有被其它终端申请使用的功能界面的使用权限。

[0125] 在第四种可能的实现方式中,当终端是默认终端时,服务器还可以为终端分配没有被其它终端申请使用的功能界面的使用权限。具体的,由于应用程序可以提供至少一个功能界面,服务器为使用应用程序的其它终端分配功能界面的使用权限之后,很可能会存在某几个功能界面的使用权限没有分配给任何终端,所以为了保证应用程序提供的各个功能界面都可以在使用应用程序的各个终端中的至少一个终端中进行显示,当终端是默认终端时,服务器可以为终端分配没有被其它终端申请使用的功能界面的使用权限。其中,默认终端可以是没有主动申请任何功能界面的使用权限的终端,还可以是用户预先标记的终端,本实施例对此并不做限定。

[0126] 比如,用户使用手机、笔记本电脑和台式电脑同时登陆微博,并且用户设定台式电脑为默认终端,则在服务器为台式电脑分配功能界面的使用权限时,服务器就可以为台式电脑分配没有被手机和笔记本电脑申请使用的功能界面的使用权限;

[0127] 类似的,如果终端没有主动申请任何功能界面的使用权限,则在服务器为该终端分配权限时,服务器就可以为该终端分配没有被其它终端申请的功能界面的使用权限,在一个具体的例子中,用户通过手机请求私信的使用权限,通过笔记本电脑请求首页的使用权限,而并没有使用台式电脑请求任何功能界面的使用权限,则服务器就可以为台式电脑分配应用程序提供的至少一个功能界面中除私信和首页之外的所有功能界面的使用权限。

[0128] 需要说明的是,在终端请求使用应用程序时,终端将先使用账户向服务器请求登录,也即服务器可以接收到各个终端发送的登录请求,所以在实际实现时,为了使得用户可以在各个终端上查看不同的功能界面,服务器在接收到各个终端发送的登录请求之后,服务器可以为每个登录成功的终端自动分配至少一个功能界面的使用权限,比如该终端上一次登录后申请使用的应用界面,该终端历史使用最多的应用界面等;当然,在实际实现时,

服务器在接收到各个终端发送的登录请求之后,服务器还可以先分配主界面的使用权限至各个终端,也即,服务器将主界面的使用权限在同一时间可以分配给多个终端,而其他应用界面的使用权限在同一时间只可以分配给一个终端,以便各个终端先显示主界面;然后服务器再根据上述分配规则为每个终端分配至少一个功能界面的使用权限,本实施例对此并不做限定。

[0129] 步骤304,终端接收服务器自动分配的应用程序提供的至少一个功能界面的使用权限;

[0130] 在服务器为终端自动分配应用程序提供的至少一个功能界面的使用权限之后,终端可以相应的接收服务器自动分配的应用程序提供的至少一个功能界面。其中,至少一个功能界面与服务器分配给其它终端的其它功能界面不同;并且由于服务器自动为终端分配至少一个功能界面的使用权限的分配方式有所不同,所以终端接收到的服务器自动分配的至少一个功能界面的使用权限的接收方式也有所不同,在实际实现时,可以包括如下方式中的任一种:

[0131] 第一,接收服务器自动分配的预设的功能界面的使用权限;

[0132] 在第一种可能的实现方式何总,当服务器为终端自动分配预设的功能界面的使用权限时,终端可以相应的接收到服务器自动分配的预设的功能界面的使用权限。

[0133] 第二,接收服务器自动分配的终端最近一次申请的功能界面的使用权限;

[0134] 在第二种可能的实现方式中,当服务器自动分配终端最近一次申请的功能界面的使用权限给终端之后,终端可以相应的接收服务器自动分配的终端最近一次申请的功能界面的使用权限。

[0135] 第三,接收服务器自动分配的终端之前使用次数最多的功能界面的使用权限;

[0136] 在第三种可能的实现方式中,当服务器自动分配终端之前使用次数最多的功能界面的使用权限之后,终端可以相应的接收服务器自动分配的终端之前使用次数最多的功能界面的使用权限。

[0137] 第四,在终端为默认终端时,接收服务器分配的没有被其它终端申请使用的功能界面的使用权限。

[0138] 在第四种可能的实现方式中,当终端是默认终端,并且服务器为终端自动分配没有被其它终端申请使用的功能界面的使用权限时,终端可以接收服务器分配的没有被其他终端申请使用的功能界面的使用权限。

[0139] 步骤305,服务器将与每个功能界面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示;

[0140] 在服务器为每个终端分配功能界面的使用权限之后,服务器就可以将与每个功能界面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示。比如,服务器为手机分配私信的使用权限、为笔记本电脑分配首页的使用权限,而为台式电脑分配微博提供的其它所有功能界面的使用权限,则当服务器需要发送一条私信给登陆账户的终端时,服务器就可以只发送私信至手机,而不发送私信至笔记本电脑或者台式电脑,而由于私信只发送至具有使用权限的手机而不发送至笔记本电脑或者台式电脑,避免了当私信到达笔记本电脑和台式电脑时,给两者带来的干扰;同时,由于服务器发送数据至拥有对对应功能界面的使用权限的终端,所以这就避免了发送同一条信息至多个终端时,耗用的各个终端的大

量的网络流量。

[0141] 步骤306,终端接收服务器发送的与功能界面对应的数据;

[0142] 在服务器发送与功能界面对应的数据至拥有功能界面的使用权限的终端之后,终端就可以接收到服务器发送的与功能界面对应的数据。其中,与功能界面对应的数据是服务器向拥有功能界面的使用权限的终端发送的。

[0143] 步骤307,终端显示功能界面。

[0144] 在终端接收到服务器发送的与功能界面对应的数据之后,终端就可以显示功能界面。比如,手机接收到服务器发送的私信,则手机就可以显示私信界面。由于终端只接收拥有使用权限的功能界面的数据,而并不接收应用程序提供的所有功能界面的数据,所以这就减少了终端需要耗用的大量网络流量;同时,终端只会显示拥有权限的功能界面,而并不会显示所有功能界面,所以这就使得当用户需要查看某一指定功能界面时,用户就可以直接从具有使用权限的终端中进行查看,而并不需要在终端进行界面的切换,简便了用户的操作。

[0145] 其中,终端显示功能界面的步骤可以包括如下方式中的至少一种:

[0146] 第一,显示过滤功能界面中的与功能界面无关的数据后的功能界面;

[0147] 在第一种可能的实现方式中,为了使得终端显示的功能界面中只包括用户关心的数据,当终端需要显示功能界面时,终端可以显示过滤功能界面中与功能界面无关的数据后的功能界面。其中,与功能界面无关的数据可以是功能界面中的广告或者用于引导至其他功能界面的数据。以与功能界面无关的数据为广告为例,在终端显示功能界面时,为了避免广告给用户带来的干扰,从而提高用户体验,终端可以显示过滤广告之后的功能界面。

[0148] 第二,显示放大预定比例之后的功能界面。

[0149] 在第二种可能的实现方式中,为了方便用户的查看,在终端显示功能界面时,终端可以显示放大预定比例之后的功能界面。

[0150] 需要说明的是,为了减少终端资源的占用,终端可以在显示功能界面时,终端可以只启动与功能界面相关的传感器,而并不启动与功能界面无关的传感器,当然,在实际实现时,终端还可以通过其他方式比如播放声音、功能界面的变形等等其它各种方式对功能界面进行适配显示,本实施例在此就不再一一赘述。

[0151] 综上所述,本实施例提供的界面显示方法,通过为使用同一账户对同一应用程序同时使用的各个终端分配不同功能界面的使用权限,进而只分配每个功能界面对应的数据至拥有该功能界面的使用权限的终端,而不分配每个功能界面对应的数据至使用应用程序的所有终端;解决了现有技术中耗用网络流量大的问题,降低了在分配不同功能界面的数据至终端时占用的网络流量;同时,由于只分配每个功能界面的数据至具有使用权限的终端,也即每个终端只会接收到自身具有使用权限的一部分功能界面的数据,而不会接收到应用程序提供的所有功能界面的数据,所以这就使得当用户需要访问某一功能界面时,用户可以在具有该功能界面的使用权限的终端中直接查看,而不用进行频繁的切换操作,降低了用户的操作复杂度。此外,由于服务器只分配每个功能界面对应的数据至具有使用权限的终端,所以这就避免了服务器返回数据至各个终端时,各个终端同时对用户进行提醒时对用户带来的干扰。

[0152] 本实施例服务器通过自动分配功能界面的使用权限给终端,进一步降低了用户的

操作复杂度,提高了用户体验。

[0153] 此外,本实施例在显示功能界面时,通过对功能界面进行适配显示,达到了更好的方便用户查看功能界面中的内容的效果。

[0154] 实施例三

[0155] 请参考图4A,其示出了本发明实施例三提供的界面显示方法的方法流程图,本实施例以该界面显示方法用于图1所示的实施环境中来举例说明,并且本实施例以终端先发送为自身申请对应用程序提供的至少一个功能界面的使用权限的申请请求,然后服务器根据申请请求为终端分配功能界面的使用权限为例,该界面显示方法可以包括:

[0156] 步骤401,终端与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;

[0157] 用户可以在终端中使用账户向应用程序对应的服务器请求使用应用程序。在实际实现时,当用户拥有多台终端时,用户可以在至少两个终端中使用同一账户同时向服务器请求使用同一应用程序。以应用程序是微博并且用户同时拥有一台手机、一台笔记本电脑和一台台式电脑为例,用户可以分别使用同一微博账户在平板电脑、手机和台式电脑中登陆微博。

[0158] 步骤402,服务器接收至少两个终端使用同一账户对同一应用程序的同时使用;

[0159] 相应的,服务器可以接收至少两个终端使用同一账户对同一应用程序的同时使用。

[0160] 步骤403,终端发送申请请求至服务器;

[0161] 当终端与至少一个其它终端同时通过同一账户使用同一应用程序时,终端就可以发送申请请求至服务器。其中,申请请求用于为终端申请至少一个功能界面的使用权限。

[0162] 比如,用户使用手机、笔记本电脑和台式电脑同时登陆微博,则为了在手机上只显示私信界面,从而方便用户查看私信,用户可以使通过手机发送申请私信界面的使用权限的申请请求至服务器。

[0163] 具体的,由于终端可以由用户手动触发进而发送申请请求,也可以是应用程序通过软件自动触发发送申请请求,所以终端发送申请请求至服务器的步骤可以包括如下两种实现方式中的任一种:

[0164] 第一,接收用于触发申请至少一个功能界面的使用权限的触发信号,在接收到触发信号之后,发送申请请求至服务器;

[0165] 在第一种可能的实现方式中,当终端与至其它终端同时通过同一账户使用应用程序时,终端可以接收用于触发申请至少一个功能界面的使用权限的触发信号,并在接收到触发信号之后,发送申请请求至服务器。比如,用户通过手机登陆微博,则当用户想要在手机中只显示私信界面时,用户就可以施加用于触发申请私信的使用权限的触发信号,在手机接收到触发信号之后,手机可以向服务器发送用于申请私信的使用权限的申请请求。

[0166] 第一,当终端显示至少一个功能界面中的一个功能界面时,自动发送申请请求至服务器。

[0167] 在第二种可能的实现方式中,当终端与至其它终端同时通过同一账户使用应用程序,并且用户操作终端使得终端停留在某一功能界面时,终端就可以自动发送申请请求至服务器。比如,用户通过手机登陆微博之后,用户可以操作手机使得手机停留在私信的界

面,则此时,终端就可以自动发送申请请求至服务器。当然在实际实现时,终端还可以在功能界面中停留预定时间之后,再发送申请请求至服务器,本实施例对此并不做限定。

[0168] 步骤404,服务器接收终端发送的申请请求;

[0169] 在终端发送申请请求至服务器之后,服务器可以相应的接收到终端发送的申请请求。

[0170] 步骤405,服务器根据申请请求为终端分配被请求的功能界面的使用权限;

[0171] 在服务器接收到终端发送的申请请求之后,服务器可以根据申请请求为终端分配被请求的功能界面的使用权限。比如,服务器接收到手机发送的用于申请私信界面的使用权限的申请请求,则服务器就可以为手机分配私信界面分配的使用权限。

[0172] 需要说明的是,目前终端请求使用应用程序的一种方式,是终端先使用账户向服务器请求登陆,服务器接收到登陆请求之后,返回主界面的内容至各个终端,在终端显示主界面的内容之后,用户在主界面上进行一定操作进而引导终端进入各个功能界面,所以在终端使用应用程序时,服务器可以将主界面的使用权限在同一时间分配至多个终端,。在服务器接收到终端发送的申请请求之后,服务器为终端分配申请请求所请求的功能界面的使用权限,而每个功能界面的使用权限在同一时间只会分配给一个终端,本实施例在此不再赘述。

[0173] 步骤406,终端接收服务器根据申请请求分配的功能界面的使用权限;

[0174] 相应的,终端可以接收服务器根据申请请求分配的功能界面的使用权限。

[0175] 步骤407,服务器将与每个功能界面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示;

[0176] 在服务器为每个终端分配功能界面的使用权限之后,服务器就可以将与每个功能界面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示。比如,服务器为手机分配私信的使用权限、为笔记本电脑分配首页的使用权限,而为台式电脑分配微博提供的其它所有功能界面的使用权限,则当服务器需要发送一条私信给登陆账户的终端时,服务器就可以只发送私信至手机,而不发送私信至笔记本电脑或者台式电脑,而由于私信只发送至具有使用权限的手机而不发送至笔记本电脑或者台式电脑,避免了当私信到达笔记本电脑和台式电脑时,给两者带来的干扰;同时,由于服务器发送数据至拥有对应功能界面的使用权限的终端,所以这就避免了发送同一条信息至多个终端时,耗用的各个终端的大量的网络流量。

[0177] 步骤408,终端接收服务器发送的与功能界面对应的数据,与功能界面对应的数据是服务器向拥有功能界面的使用权限的终端发送的;

[0178] 在服务器发送与功能界面对应的数据至拥有功能界面的使用权限的终端之后,终端就可以接收到服务器发送的与功能界面对应的数据。其中,与功能界面对应的数据是服务器向拥有功能界面的使用权限的终端发送的。

[0179] 步骤409,终端显示功能界面。

[0180] 在终端接收到服务器发送的与功能界面对应的数据之后,终端就可以显示功能界面。比如,手机接收到服务器发送的私信,则手机就可以显示私信界面。由于终端只接收拥有使用权限的功能界面的数据,而并不接收应用程序提供的所有功能界面的数据,所以这就减少了终端需要耗用的大量网络流量;同时。终端只会显示拥有权限的功能界面,而并不

会显示所有功能界面,所以这就使得当用户需要查看某一指定功能界面时,用户就可以直接从具有使用权限的终端中进行查看,而并不需要在终端进行界面的切换,简便了用户的操作。

[0181] 其中,终端显示功能界面的步骤可以包括如下方式中的至少一种:

[0182] 第一,显示过滤功能界面中的与功能界面无关的数据后的功能界面;

[0183] 在第一种可能的实现方式中,为了使得终端显示的功能界面中只包括用户关心的数据,当终端需要显示功能界面时,终端可以显示过滤功能界面中与功能界面无关的数据后的功能界面。其中,与功能界面无关的数据可以是功能界面中的广告或者用于引导至其他功能界面的数据。以与功能界面无关的数据为广告为例,在终端显示功能界面时,为了避免广告给用户带来的干扰,从而提高用户体验,终端可以显示过滤广告之后的功能界面。

[0184] 第二,显示放大预定比例之后的功能界面。

[0185] 在第二种可能的实现方式中,为了方便用户的查看,在终端显示功能界面时,终端可以显示放大预定比例之后的功能界面。

[0186] 需要说明的是,为了减少终端资源的占用,终端可以在显示功能界面时,终端可以只启动与功能界面相关的传感器,而并不启动与功能界面无关的传感器,当然,在实际实现时,终端还可以通过其他方式比如播放声音、功能界面的变形等等其它各种方式对功能界面进行适配显示,本实施例在此就不再一一赘述。

[0187] 另外,由于在实际实现时可能会存在两个终端同时申请同一个功能界面的使用权限,所以请参看图4B,为了避免信息的重复发送,在服务器根据申请请求为终端分配被请求的功能界面的使用权限也即在步骤405之前,服务器还可以执行如下步骤:

[0188] 步骤410,检测申请请求申请的功能界面的使用权限是否已经被其它终端申请;

[0189] 在服务器接收到申请请求之后,服务器可以检测申请请求申请的功能界面的使用权限是否已经被其它终端申请。比如,服务器接收到手机发送的申请私信界面的使用权限的申请请求,则服务器可以检测使用同一账户的笔记本电脑或者台式电脑是否申请私信界面的使用权限。

[0190] 若检测结果为没有被其它终端申请,则执行根据申请请求为终端分配被请求的功能界面的使用权限的步骤。

[0191] 如果服务器的检测结果为没有被其它终端申请,则此时服务器可以根据申请请求为终端分配被请求的功能界面的使用权限的步骤。

[0192] 若检测结果为已经被其它终端申请,则发送提示信息至申请请求的来源终端。

[0193] 而如果服务器的检测结果为已经被其它终端申请,则此时为了避免信息的重复发送,服务器可以发送提示信息至终端;相应的,终端接收服务器发送的提示信息,提示信息为服务器在检测到申请请求申请的功能界面已经被其它终端申请时发送的;在终端接收到提示信息之后,终端可以根据提示信息执行相应操作。具体的,终端可以重新申请应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,决定是否代替其它终端来拥有至少一个功能界面的使用权限。

[0194] 其中,提示信息用于提示重新申请应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,提示是否使用终端代替其它终端来拥有至少一个功能界面的使用权限。

[0195] 综上所述,本实施例提供的界面显示方法,通过为使用同一账户对同一应用程序同时使用的各个终端分配不同功能界面的使用权限,进而只分配每个功能界面对应的数据至拥有该功能界面的使用权限的终端,而不分配每个功能界面对应的数据至使用应用程序的所有终端;解决了现有技术中耗用网络流量大的问题,降低了在分配不同功能界面的数据至终端时占用的网络流量;同时,由于只分配每个功能界面的数据至具有使用权限的终端,也即每个终端只会接收到自身具有使用权限的一部分功能界面的数据,而不会接收到应用程序提供的所有功能界面的数据,所以这就使得当用户需要访问某一功能界面时,用户可以在具有该功能界面的使用权限的终端中直接查看,而不用进行频繁的切换操作,降低了用户的操作复杂度。此外,由于服务器只分配每个功能界面对应的数据至具有使用权限的终端,所以这就避免了服务器返回数据至各个终端时,各个终端同时对用户进行提醒时对用户带来的干扰。

[0196] 本实施例中,终端发送用于为自身申请对至少一个功能界面的使用权限的申请请求至服务器,从而服务器可以根据接收到的申请请求为终端分配使用权限,达到了终端可以根据自身的使用需求进行界面显示的目的。

[0197] 此外,本实施例在显示功能界面时,通过对功能界面进行适配显示,达到了更好的方便用户查看功能界面中的内容的效果。

[0198] 实施例四

[0199] 请参考图5A,其示出了本发明实施例四提供的界面显示方法的方法流程图,本实施例以该界面显示方法用于图1所示的实施环境中来举例说明,该界面显示方法也是以服务器在接收到申请请求之后,根据申请请求为终端分配对功能界面的使用权限为例,只是与实施例三不同的是,本实施例由至少两个终端中的其它终端来发送用于为终端申请对功能界面的使用权限的申请请求,进而服务器再根据接收到的申请请求为终端分配使用权限,该界面显示方法可以包括:

[0200] 步骤501,终端与至少一个其它终端使用同一账户同时向服务器使用同一应用程序;

[0201] 用户可以在终端中使用账户向应用程序对应的服务器请求使用应用程序。在实际实现时,当用户拥有多台终端时,用户可以在至少两个终端中使用同一账户同时向服务器请求使用同一应用程序。以应用程序是微博并且用户同时拥有一台手机、一台笔记本电脑和一台台式电脑为例,用户可以分别使用同一微博账户在平板电脑、手机和台式电脑中登陆微博。

[0202] 步骤502,服务器接收至少两个终端使用同一账户对同一应用程序的同时使用;

[0203] 相应的,服务器可以接收至少两个终端使用同一账户对同一应用程序的同时使用。

[0204] 步骤503,其它终端发送申请请求至服务器;

[0205] 当终端与至少一个其它终端同时通过同一账户使用同一应用程序时,终端还可以为其它终端发送申请请求,类似的,其它终端也可以发送用于为终端申请至少一个功能界面的使用权限的申请请求至服务器。具体的,当用户使用至少两个终端通过同一账户使用同一应用程序时,用户可以设定其中一个终端为多功能终端,并在多功能终端中登记其它终端的终端信息,从而使用多功能终端为其它终端发送申请请求。其中,申请请求用于为终

端申请至少一个功能界面的使用权限。

[0206] 比如,用户通过手机、笔记本电脑和台式电脑同时使用同一账户登录微博,并且用户设备手机为多功能终端,则用户可以在手机上同时为手机、笔记本电脑和台式电脑三个终端发送申请请求,具体示意图请参看图5B,此时,对于笔记本电脑和台式电脑来说,用于为笔记本电脑或者台式电脑申请功能界面的使用权限的申请请求就是由其它终端手机发出的。

[0207] 步骤504,服务器接收其它终端发送的申请请求;

[0208] 在其它终端发送申请请求至服务器之后,服务器就可以相应的接收其它终端发送的申请请求。

[0209] 步骤505,服务器根据申请请求为终端分配被请求的功能界面的使用权限;

[0210] 在服务器接收到其它终端发送的申请请求之后,服务器可以根据申请请求为终端分配被请求的功能界面的使用权限。比如,服务器接收到手机发送的用于为笔记本电脑申请私信界面的使用权限的申请请求,则服务器就可以为笔记本电脑分配私信界面分配的使用权限。

[0211] 需要说明的是,目前终端请求使用应用程序的一种方式,是终端先使用账户向服务器请求登陆,服务器接收到登陆请求之后,返回主界面的内容至各个终端,在终端显示主界面的内容之后,用户在主界面上进行一定操作进而引导终端进入各个功能界面,所以在终端使用应用程序时,服务器可以将主界面的使用权限在同一时间分配至多个终端,。在服务器接收到终端发送的申请请求之后,服务器为终端分配申请请求所请求的功能界面的使用权限,而每个功能界面的使用权限在同一时间只会分配给一个终端,本实施例在此不再赘述。

[0212] 步骤506,终端接收服务器根据申请请求分配的功能界面的使用权限;

[0213] 相应的,终端可以接收服务器根据申请请求分配的功能界面的使用权限。

[0214] 步骤507,服务器将与每个功能界面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示;

[0215] 在服务器为每个终端分配功能界面的使用权限之后,服务器就可以将与每个功能界面对应的数据分别发送给拥有功能界面的使用权限的终端进行显示。比如,服务器为手机分配私信的使用权限、为笔记本电脑分配首页的使用权限,而为台式电脑分配微博提供的其它所有功能界面的使用权限,则当服务器需要发送一条私信给登陆账户的终端时,服务器就可以只发送私信至手机,而不发送私信至笔记本电脑或者台式电脑,而由于私信只发送至具有使用权限的手机而不发送至笔记本电脑或者台式电脑,避免了当私信到达笔记本电脑和台式电脑时,给两者带来的干扰;同时,由于服务器发送数据至拥有对应功能界面的使用权限的终端,所以这就避免了发送同一条信息至多个终端时,耗用的各个终端的大量的网络流量。

[0216] 步骤508,终端接收服务器发送的与功能界面对应的数据;

[0217] 在服务器发送与功能界面对应的数据至拥有功能界面的使用权限的终端之后,终端就可以接收到服务器发送的与功能界面对应的数据。其中,与功能界面对应的数据是服务器向拥有功能界面的使用权限的终端发送的。

[0218] 步骤509,终端显示功能界面。

[0219] 在终端接收到服务器发送的与功能界面对应的数据之后,终端就可以显示功能界面。比如,手机接收到服务器发送的私信,则手机就可以显示私信界面。由于终端只接收拥有使用权限的功能界面的数据,而并不接收应用程序提供的所有功能界面的数据,所以这就减少了终端需要耗用的大量网络流量;同时,终端只会显示拥有权限的功能界面,而并不会显示所有功能界面,所以这就使得当用户需要查看某一指定功能界面时,用户就可以直接从具有使用权限的终端中进行查看,而并不需要在终端进行界面的切换,简便了用户的操作。

[0220] 其中,终端显示功能界面的步骤可以包括如下方式中的至少一种:

[0221] 第一,显示过滤功能界面中的与功能界面无关的数据后的功能界面;

[0222] 在第一种可能的实现方式中,为了使得终端显示的功能界面中只包括用户关心的数据,当终端需要显示功能界面时,终端可以显示过滤功能界面中与功能界面无关的数据后的功能界面。其中,与功能界面无关的数据可以是功能界面中的广告或者用于引导至其他功能界面的数据。以与功能界面无关的数据为广告为例,在终端显示功能界面时,为了避免广告给用户带来的干扰,从而提高用户体验,终端可以显示过滤广告之后的功能界面。

[0223] 第二,显示放大预定比例之后的功能界面。

[0224] 在第二种可能的实现方式中,为了方便用户的查看,在终端显示功能界面时,终端可以显示放大预定比例之后的功能界面。

[0225] 需要说明的是,为了减少终端资源的占用,终端可以在显示功能界面时,终端可以只启动与功能界面相关的传感器,而并不启动与功能界面无关的传感器,当然,在实际实现时,终端还可以通过其他方式比如播放声音、功能界面的变形等等其它各种方式对功能界面进行适配显示,本实施例在此就不再一一赘述。

[0226] 另外,与实施例三类似的是,由于在实际实现时可能会存在两个终端同时申请同一个功能界面的使用权限,为了避免信息的重复发送,在服务器根据申请请求为终端分配被请求的功能界面的使用权限也即在步骤505之前,服务器还可以执行如下步骤:

[0227] 步骤510,检测申请请求申请的功能界面的使用权限是否已经被其它终端申请;

[0228] 在服务器接收到申请请求之后,服务器可以检测申请请求申请的功能界面的使用权限是否已经被其它终端申请。比如,服务器接收到手机发送的申请私信界面的使用权限的申请请求,则服务器可以检测使用同一账户的笔记本电脑或者台式电脑是否申请私信界面的使用权限。

[0229] 若检测结果为没有被其它终端申请,则执行根据申请请求为终端分配被请求的功能界面的使用权限的步骤。

[0230] 如果服务器的检测结果为没有被其它终端申请,则此时服务器可以根据申请请求为终端分配被请求的功能界面的使用权限的步骤。

[0231] 若检测结果为已经被其它终端申请,则发送提示信息至申请请求的来源终端。

[0232] 而如果服务器的检测结果为已经被其它终端申请,则此时为了避免信息的重复发送,服务器可以发送提示信息至发送申请请求的其它终端;相应的,发送申请请求的其它终端接收服务器发送的提示信息,提示信息为服务器在检测到申请请求申请的功能界面已经被其它终端申请时发送的;在发送申请请求的其它终端接收到提示信息之后,发送申请请求的其它终端可以根据提示信息执行相应操作。具体的,发送申请请求的其它终端可以发

送重新申请应用程序提供的各个功能界面中的其它功能界面的使用权限的申请请求,或者,决定是否使用终端代替其它终端来拥有至少一个功能界面的使用权限。

[0233] 其中,提示信息用于提示重新申请应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,提示是否使用终端代替其它终端来拥有至少一个功能界面的使用权限。

[0234] 综上所述,本实施例提供的界面显示方法,通过为使用同一账户对同一应用程序同时使用的各个终端分配不同功能界面的使用权限,进而只分配每个功能界面对应的数据至拥有该功能界面的使用权限的终端,而不分配每个功能界面对应的数据至使用应用程序的所有终端;解决了现有技术中耗用网络流量大的问题,降低了在分配不同功能界面的数据至终端时占用的网络流量;同时,由于只分配每个功能界面的数据至具有使用权限的终端,也即每个终端只会接收到自身具有使用权限的一部分功能界面的数据,而不会接收到应用程序提供的所有功能界面的数据,所以这就使得当用户需要访问某一功能界面时,用户可以在具有该功能界面的使用权限的终端中直接查看,而不用进行频繁的切换操作,降低了用户的操作复杂度。此外,由于服务器只分配每个功能界面对应的数据至具有使用权限的终端,所以这就避免了服务器返回数据至各个终端时,各个终端同时对用户进行提醒时对用户带来的干扰。

[0235] 本实施例中,可以由其它终端发送用于为自身申请对至少一个功能界面的使用权限的申请请求至服务器,从而使得服务器可以根据接收到的申请请求为终端分配使用权限,达到了终端可以根据自身的使用需求进行界面显示的目的。

[0236] 此外,本实施例在显示功能界面时,通过对功能界面进行适配显示,达到了更好的方便用户查看功能界面中的内容的效果。

[0237] 需要说明的是,上述实施例只是以主界面不参与分配为例,在实际实现时,服务器还可以按照上述分配规则分配主界面的使用权限至某一终端,只是之后其它终端再使用同一账户请求使用应用程序时,由于主界面的使用权限已经被分配给某一终端,所以其它终端将不能获取到主界面对应的数据,也即不能显示主界面,所以此时其它终端将显示上次拥有使用权限的功能界面、某一指定的功能界面、之前使用次数最多的功能界面或者应用程序提供的各个功能界面中没有被其它终端申请使用的功能界面,对此本实施例并不做限定。同时,在实际实现时,服务器还可以只分配主界面的使用权限至各个终端中的指定终端,这样,只有指定终端才能显示主界面,其它终端无权显示主界面,进而达到了对主界面的显示权限进行控制的效果。

[0238] 实施例五

[0239] 请参考图6,其示出了本发明实施例五提供的界面显示装置的结构方框图,该界面显示装置可以通过软件、硬件或者两者的组合实现成为服务器中的全部或者部分,该界面显示装置可以包括:使用接收模块610、权限分配模块620和数据发送模块630;

[0240] 使用接收模块610,用于接收至少两个终端使用同一账户对同一应用程序的同时使用;

[0241] 权限分配模块620,用于对于所述至少两个终端中的每一个终端,为所述终端分配所述应用程序提供的至少一个功能界面的使用权限,分配给所述终端的功能界面与分配给所述至少两个终端中的其它终端的其它功能界面不同;

[0242] 数据发送模块630,用于将与每个所述功能界面对应的数据分别发送给拥有所述功能界面的使用权限的终端进行显示。

[0243] 在本实施例的第一种可能的实现方式中,

[0244] 所述权限分配模块,还用于接收所述终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

[0245] 接收所述其它终端发送的申请请求,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限;根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限;或者,

[0246] 自动为所述终端分配预设的所述功能界面的使用权限;或者,

[0247] 自动为所述终端分配所述终端最近一次申请的所述功能界面的使用权限;或者,

[0248] 自动为所述终端分配所述终端之前使用最多的所述功能界面的使用权限;或者,

[0249] 在所述终端为默认终端时,为所述终端分配没有被所述其它终端申请使用的所述功能界面的使用权限。

[0250] 在本实施例的第二种可能的实现方式中,所述权限分配模块,还用于检测所述申请请求申请的所述功能界面的使用权限是否已经被所述其它终端申请;

[0251] 若检测结果为没有被所述其它终端申请,则执行所述根据所述申请请求为所述终端分配被请求的所述功能界面的使用权限的步骤。

[0252] 在本实施例的第三种可能的实现方式中,所述权限分配模块,还用于若检测结果为已经被所述其它终端申请,则发送提示信息至所述申请请求的来源终端,所述提示信息用于提示重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,提示是否使用所述终端代替所述其它终端来拥有所述至少一个功能界面的使用权限。

[0253] 综上所述,本实施例提供的界面显示装置,通过为使用同一账户对同一应用程序同时使用的各个终端分配不同功能界面的使用权限,进而只分配每个功能界面对应的数据至拥有该功能界面的使用权限的终端,而不分配每个功能界面对应的数据至使用应用程序的所有终端;解决了现有技术中耗用网络流量大的问题,降低了在分配不同功能界面的数据至终端时占用的网络流量;同时,由于只分配每个功能界面的数据至具有使用权限的终端,也即每个终端只会接收到自身具有使用权限的一部分功能界面的数据,而不会接收到应用程序提供的所有功能界面的数据,所以这就使得当用户需要访问某一功能界面时,用户可以在具有该功能界面的使用权限的终端中直接查看,而不用进行频繁的切换操作,降低了用户的操作复杂度。此外,由于服务器只分配每个功能界面对应的数据至具有使用权限的终端,所以这就避免了服务器返回数据至各个终端时,各个终端同时对用户进行提醒时对用户带来的干扰。

[0254] 实施例六

[0255] 请参考图7,其示出了本发明实施例六提供的界面显示装置的结构方框图,该界面显示装置可以通过软件、硬件或者两者的组合实现成为终端中的全部或者部分,该界面显示装置可以包括:请求发送模块710、权限获取模块720、数据接收模块730和界面显示模块740;

[0256] 请求发送模块710,用于与至少一个其它终端使用同一账户同时向服务器使用同

一应用程序；

[0257] 权限获取模块720,用于获取所述服务器分配的所述应用程序提供的至少一个功能界面的使用权限,所述至少一个功能界面与所述服务器分配给所述其它终端的其它功能界面不同；

[0258] 数据接收模块730,用于接收所述服务器发送的与所述功能界面对应的数据,所述与所述功能界面对应的数据是所述服务器向拥有所述功能界面的使用权限的终端发送的；

[0259] 界面显示模块740,用于显示所述功能界面。

[0260] 在本实施例的第一种可能的实现方式中,所述权限获取模块,用于发送申请请求至所述服务器,接收所述服务器根据所述申请请求分配的所述功能界面的使用权限,所述申请请求用于为所述终端申请所述至少一个功能界面的使用权限；或者,

[0261] 接收所述服务器根据申请请求分配的所述功能界面的使用权限,所述申请请求为所述其它终端发送的用于为所述终端申请所述至少一个功能界面的使用权限的请求；或者,

[0262] 接收所述服务器自动分配的预设的所述功能界面的使用权限；或者,

[0263] 接收所述服务器自动分配的所述终端最近一次申请的所述功能界面的使用权限；或者,

[0264] 接收所述服务器自动分配的所述终端之前使用次数最多的所述功能界面的使用权限；或者,

[0265] 在所述终端为默认终端时,接收所述服务器分配的没有被所述其它终端申请使用的所述功能界面的使用权限。

[0266] 在本实施例的第二种可能的实现方式中,所述装置还包括:

[0267] 信息接收模块,用于接收所述服务器发送的提示信息,所述提示信息为所述服务器在检测到所述申请请求申请的所述功能界面已经被所述其它终端申请时发送的；

[0268] 权限请求模块,用于重新申请所述应用程序提供的各个功能界面中的其它功能界面的使用权限,或者,决定是否代替所述其它终端来拥有所述至少一个功能界面的使用权限。

[0269] 在本实施例的第三种可能的实现方式中,所述权限获取模块,还用于接收用于触发申请所述至少一个功能界面的使用权限的触发信号,在接收到所述触发信号之后,发送所述申请请求至所述服务器；或者,

[0270] 当所述终端显示所述至少一个功能界面中的一个功能界面时,自动发送所述申请请求至所述服务器。

[0271] 在本实施例的第四种可能的实现方式中,所述界面显示模块,包括:

[0272] 第一显示单元和/或第二显示单元；

[0273] 所述第一显示单元,用于显示过滤所述功能界面中的与所述功能界面无关的数据后的所述功能界面；

[0274] 所述第二显示单元,用于显示放大预定比例之后的所述功能界面。

[0275] 综上所述,本实施例提供的界面显示装置,通过为使用同一账户对同一应用程序同时使用的各个终端分配不同功能界面的使用权限,进而只分配每个功能界面对应的数据至拥有该功能界面的使用权限的终端,而不分配每个功能界面对应的数据至使用应用程序

的所有终端;解决了现有技术中耗用网络流量大的问题,降低了在分配不同功能界面的数据至终端时占用的网络流量;同时,由于只分配每个功能界面的数据至具有使用权限的终端,也即每个终端只会接收到自身具有使用权限的一部分功能界面的数据,而不会接收到应用程序提供的所有功能界面的数据,所以这就使得当用户需要访问某一功能界面时,用户可以在具有该功能界面的使用权限的终端中直接查看,而不用进行频繁的切换操作,降低了用户的操作复杂度。此外,由于服务器只分配每个功能界面对应的数据至具有使用权限的终端,所以这就避免了服务器返回数据至各个终端时,各个终端同时对用户进行提醒时对用户带来的干扰。

[0276] 需要说明的是:上述实施例提供的界面显示装置在进行界面显示时,仅以上述各功能模块的划分进行举例说明,实际应用中,可以根据需要而将上述功能分配由不同的功能模块完成,即将设备的内部结构划分成不同的功能模块,以完成以上描述的全部或者部分功能。另外,上述实施例提供的界面显示装置与界面显示方法的方法实施例属于同一构思,其具体实现过程详见方法实施例,这里不再赘述。

[0277] 上述本发明实施例序号仅仅为了描述,不代表实施例的优劣。

[0278] 本领域普通技术人员可以理解实现上述实施例的全部或部分步骤可以通过硬件来完成,也可以通过程序来指令相关的硬件完成,所述的程序可以存储于一种计算机可读存储介质中,上述提到的存储介质可以是只读存储器,磁盘或光盘等。

[0279] 以上所述仅为本发明的较佳实施例,并不用以限制本发明,凡在本发明的精神和原则之内,所作的任何修改、等同替换、改进等,均应包含在本发明的保护范围之内。

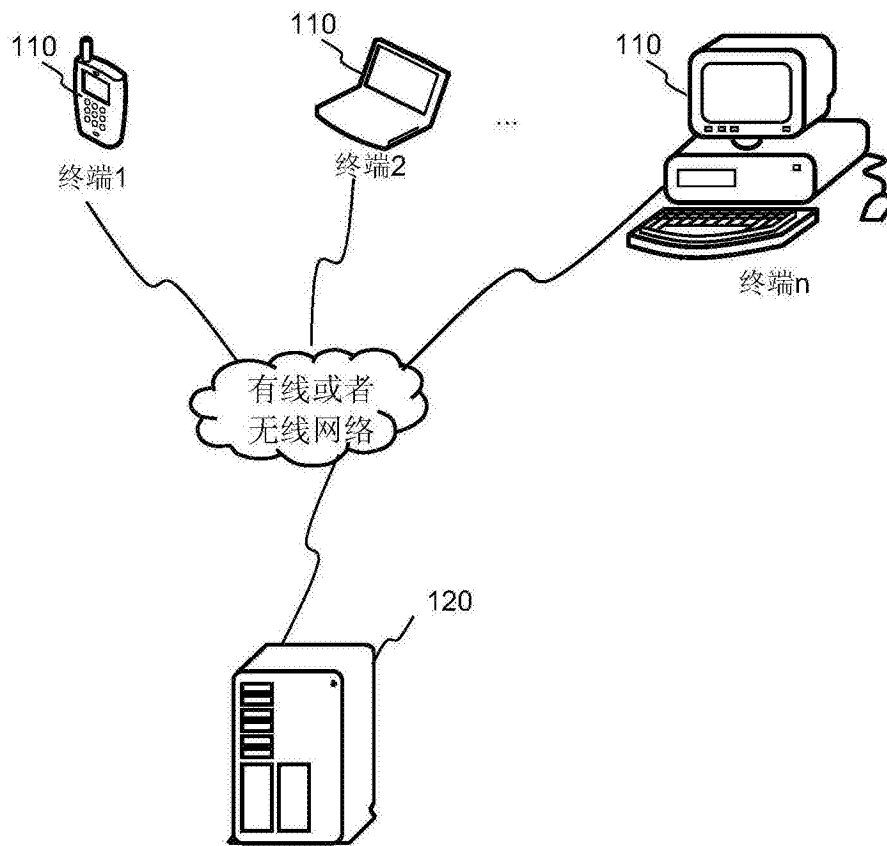


图1

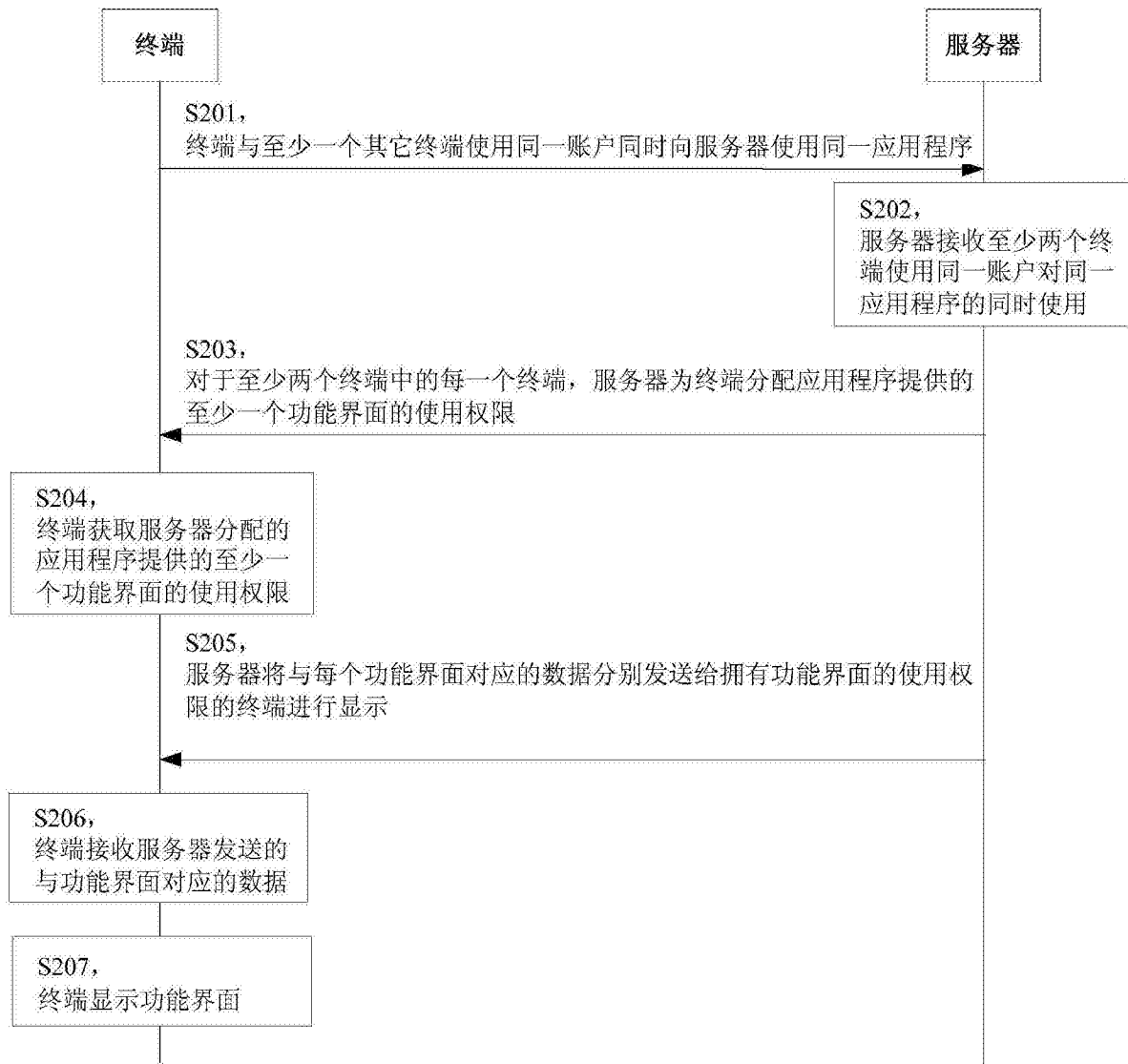


图2

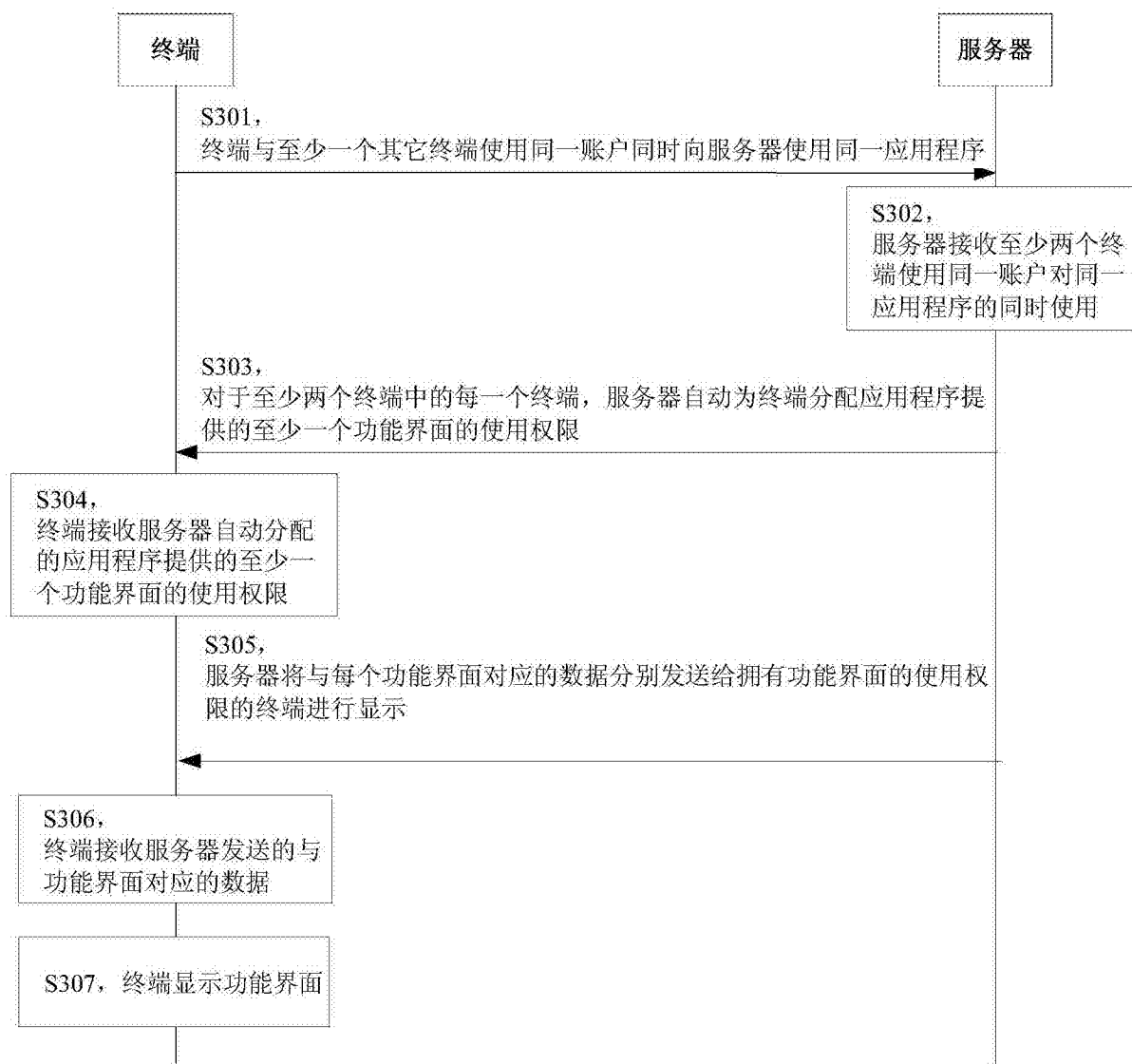


图3

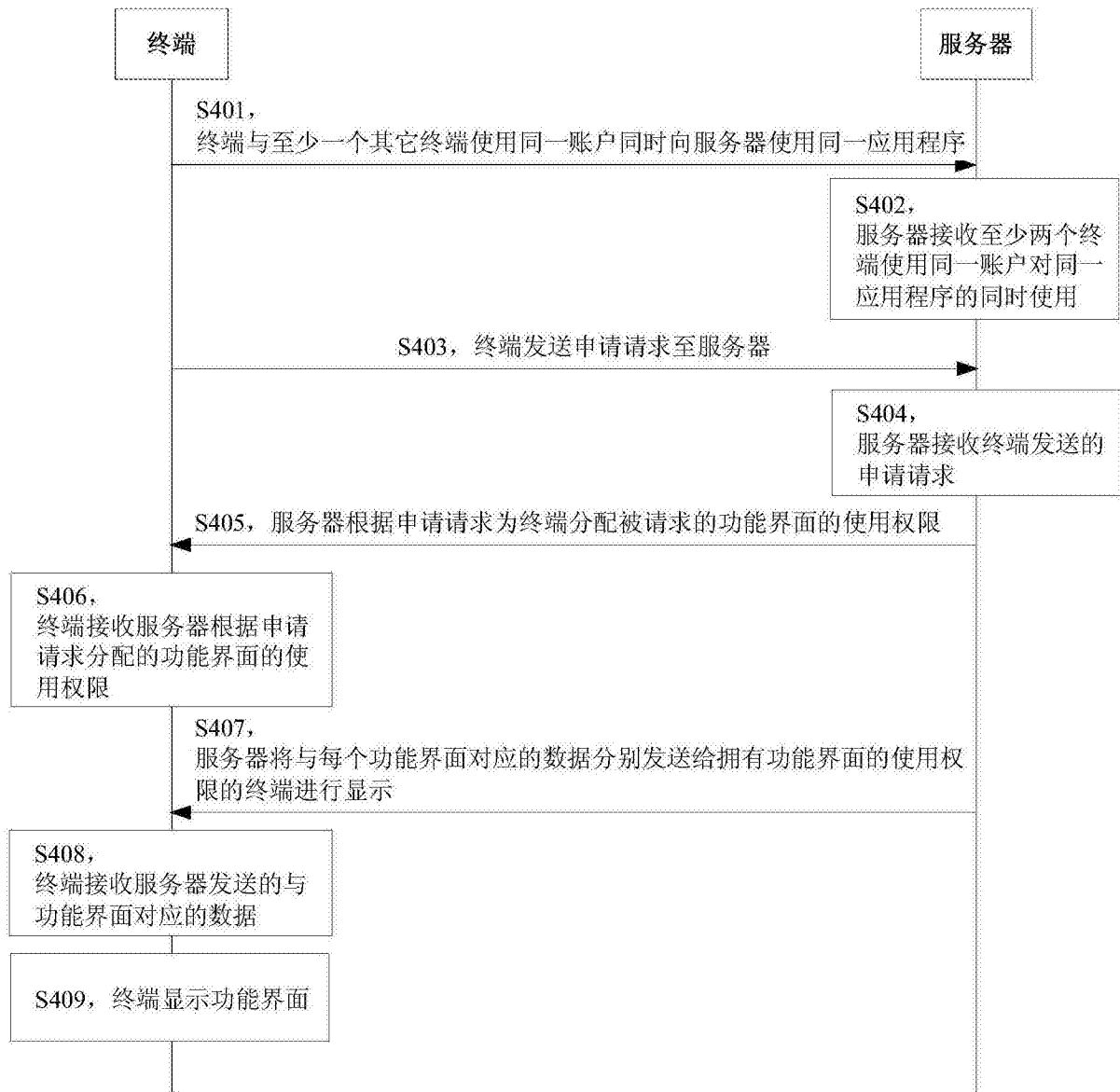


图4A

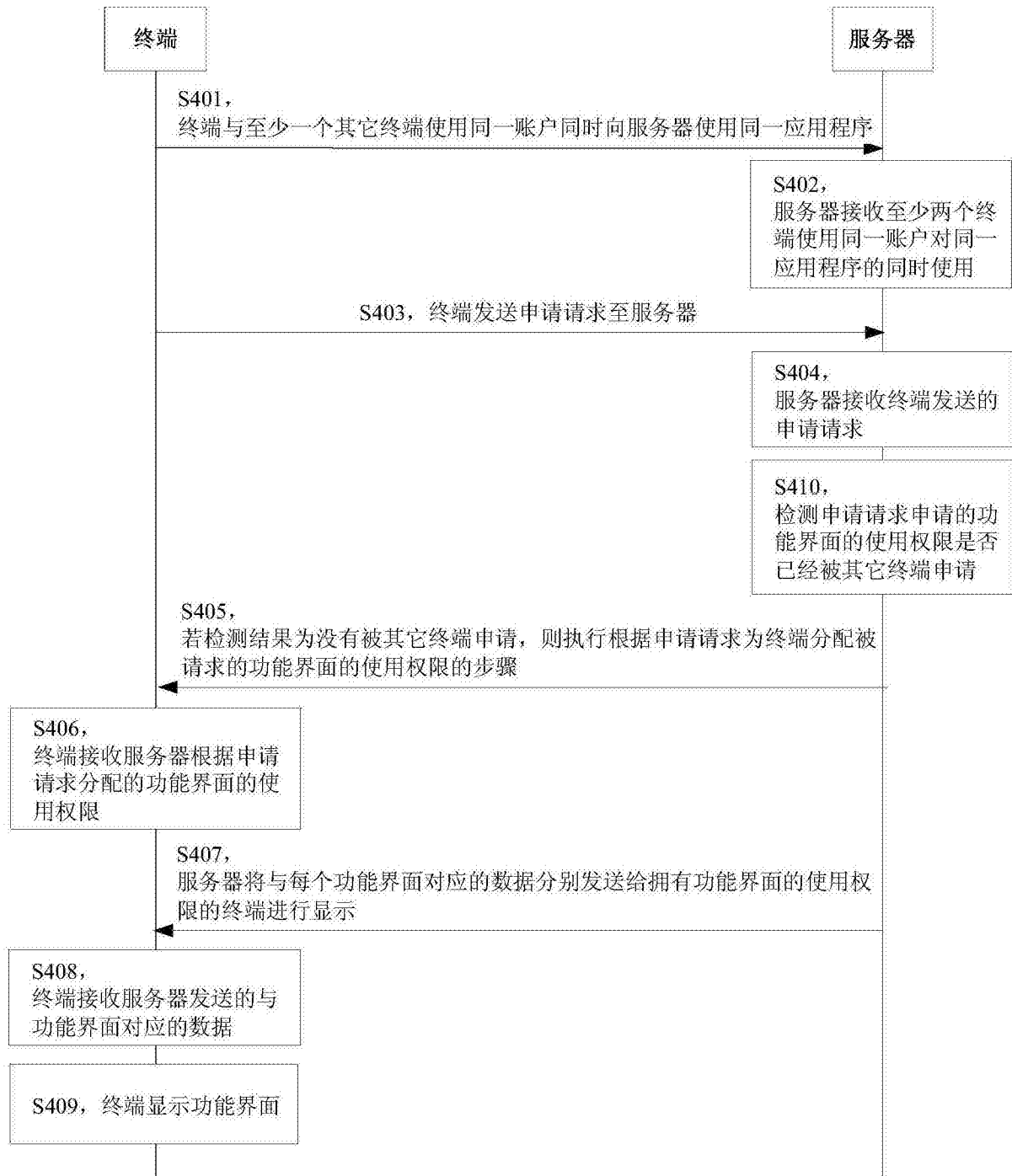


图4B

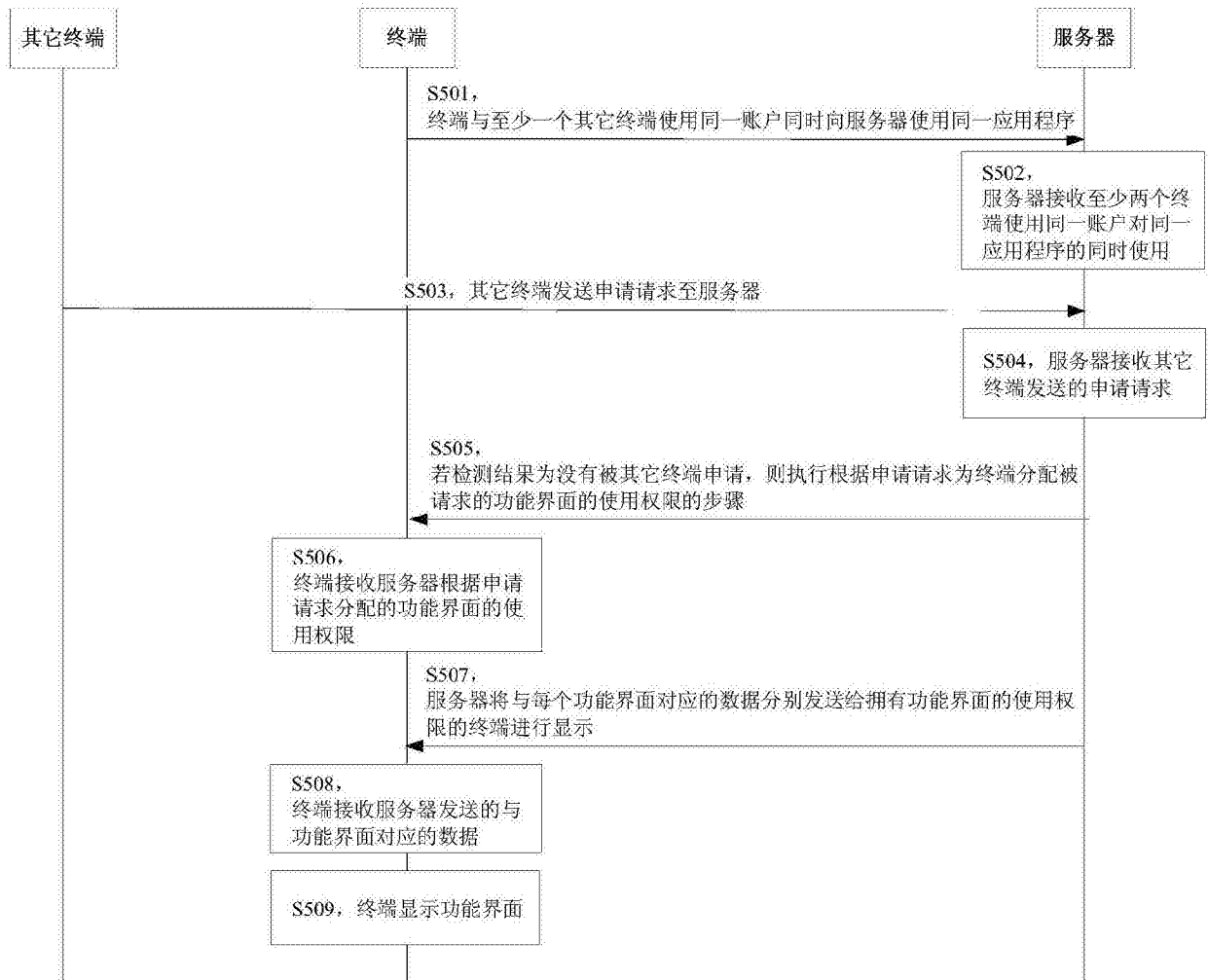


图5A

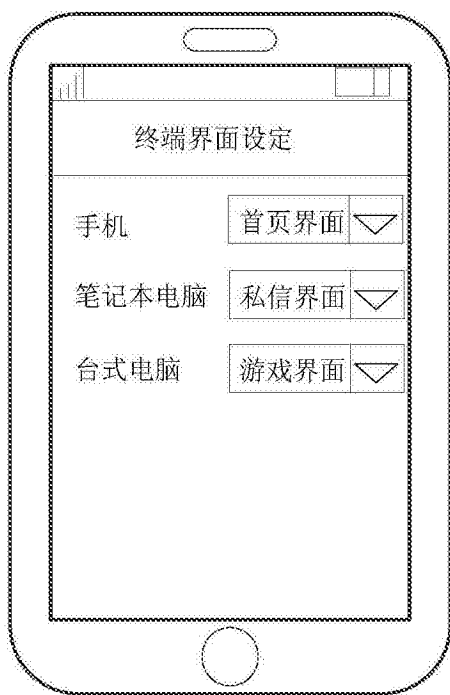


图5B

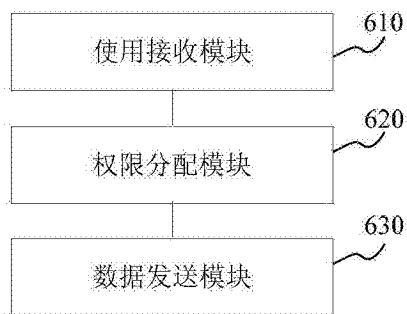


图6

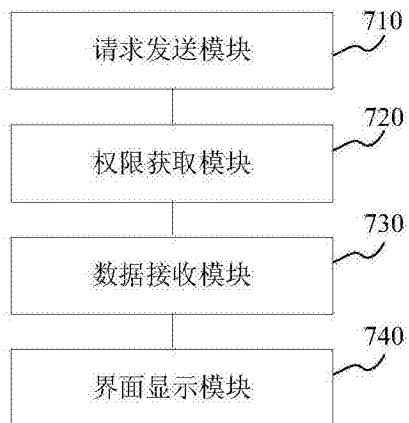


图7