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DESCRIPTION CN111092990A

Application sharing method and electronic device

[0001]

Technical Field

[0002]

The present invention relates to the field of communication technology, and in particular to an application sharing method and electronic device.

[0003]

Background Art

[0004]

With the rapid development of computer technology, the functions of electronic devices are becoming more and more abundant, and the demand for sharing functions between different electronic devices is becoming more and more urgent. For example, application sharing is a common sharing demand.

[0005]

Currently, the most common way to share applications between electronic devices is to remotely control them through remote control software. That is, a remote control application can be used to connect two electronic devices, with one device controlling the

desktop of the other device. At this time, the applications on the desktop can be viewed and used, thereby sharing the application in the above-mentioned one device with the other device for use. However, during the above-mentioned sharing process, the device on which the application is shared is controlled by another device and cannot be operated on this device, resulting in poor device utilization.

[0006]

Summary of the invention

[0007]

The embodiment of the present invention provides an application sharing method and an electronic device to solve the problem of poor device utilization during application sharing.

[0008]

In order to solve the above technical problems, the present invention is implemented as follows: In a first aspect, an embodiment of the present invention provides an application sharing method, which is applied to a first electronic device, comprising:

[0009]

receiving a first input;

[0010]

In response to the first input, displaying N second electronic device identifiers in the first display area, where N is a positive integer;

[0011]

receiving a second input;

[0012]

In response to the second input, displaying a running interface of the target application on the virtual screen;

[0013]

Sharing the running interface of the target application to L first target electronic devices;

[0014]

The electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

[0015]

In a second aspect, an embodiment of the present invention provides a first electronic device, including:

[0016]

A first receiving module, configured to receive a first input;

[0017]

A first display module, configured to display N second electronic device identifiers in a first display area in response to the first input, where N is a positive integer;

[0018]

A second receiving module, used for receiving a second input;

[0019]

A second display module, configured to display a running interface of the target application on a virtual screen in response to the second input;

[0020]

A sharing processing module, used for sharing the running interface of the target application to L first target electronic devices;

[0021]

The electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

[0022]

In a third aspect, an embodiment of the present invention provides an electronic device, comprising a processor, a memory, and a computer program stored in the memory and executable on the processor, wherein the computer program implements the steps of the above-mentioned application sharing method when executed by the processor.

[0023]

In a fourth aspect, an embodiment of the present invention provides a computer-readable storage medium having a computer program stored thereon, wherein the computer program implements the steps of the above-mentioned application sharing method when executed by a processor.

[0024]

An embodiment of the present invention receives a first input; in response to the first input, displays N second electronic device identifiers in a first display area, where N is a positive integer; receives a second input; in response to the second input, displays a running interface of a target application in a virtual screen; and shares the running interface of the target application to L first target electronic devices; wherein the electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

In this way, since the running interface of the application is displayed on the virtual screen to realize the sharing of the application, other functions of the first electronic device are not affected during the process of sharing the application, and the user can also operate other applications on the first electronic device, thereby improving the utilization rate of the first electronic device.

At the same time, since N second electronic device identifiers are displayed in the first display area, the user can quickly select one or more second electronic device identifiers to share the application, thereby improving the convenience of application sharing.

[0025]

BRIEF DESCRIPTION OF THE DRAWINGS

[0026]

In order to more clearly illustrate the technical solutions of the embodiments of the present invention, the accompanying drawings required for use in the description of the embodiments of the present invention will be briefly introduced below. Obviously, the accompanying drawings in the following description are only some embodiments of the

present invention. For ordinary technicians in this field, other accompanying drawings can be obtained based on these accompanying drawings without paying creative labor.

[0027]

FIG1 is a flowchart of a method for sharing an application program according to an embodiment of the present invention;

[0028]

FIG2 is a schematic diagram of a first electronic device interface in the application sharing method provided by an embodiment of the present invention;

[0029]

3 is a second schematic diagram of the interface of the first electronic device in the application sharing method provided by an embodiment of the present invention;

[0030]

FIG4 is a third schematic diagram of the interface of the first electronic device in the application sharing method provided by an embodiment of the present invention;

[0031]

5 is a fourth schematic diagram of the first electronic device interface in the application sharing method provided by an embodiment of the present invention;

[0032]

FIG6 is a fifth schematic diagram of an interface of a first electronic device in the application sharing method provided by an embodiment of the present invention;

[0033]

7 is a sixth schematic diagram of the interface of the first electronic device in the application sharing method provided by an embodiment of the present invention;

[0034]

FIG8 is a seventh schematic diagram of the interface of the first electronic device in the application sharing method provided by an embodiment of the present invention;

[0035]

9 is an eighth schematic diagram of an interface of a first electronic device in the application sharing method provided by an embodiment of the present invention;

[0036]

10 is a ninth schematic diagram of an interface of a first electronic device in an application sharing method provided in an embodiment of the present invention;

[0037]

11 is a tenth schematic diagram of the interface of the first electronic device in the application sharing method provided by an embodiment of the present invention;

[0038]

12 is a schematic diagram of an eleventh interface of a first electronic device in an application sharing method provided by an embodiment of the present invention;

[0039]

13 is a twelfth schematic diagram of the interface of the first electronic device in the application sharing method provided by an embodiment of the present invention;

[0040]

14 is a thirteenth schematic diagram of the interface of the first electronic device in the application sharing method provided in an embodiment of the present invention;

[0041]

15 is a structural diagram of a first electronic device provided in an embodiment of the present invention;

[0042]

FIG. 16 is a structural diagram of an electronic device provided in an embodiment of the present invention.

[0043]

DETAILED DESCRIPTION

[0044]

The technical solutions in the embodiments of the present invention will be described clearly and completely below in conjunction with the drawings in the embodiments of the present invention. Obviously, the described embodiments are only part of the embodiments of the present invention, rather than all of the embodiments.

Based on the embodiments of the present invention, all other embodiments obtained by ordinary technicians in the field without making any creative work shall fall within the scope of protection of the present invention.

[0045]

Referring to FIG. 1 , FIG. 1 is a flow chart of an application sharing method provided by an embodiment of the present invention. As shown in FIG. 1 , the method includes the following steps:

[0046]

Step 101, receiving a first input;

[0047]

Step 102: In response to the first input, display N second electronic device identifiers in a first display area, where N is a positive integer;

[0048]

Optionally, the second electronic device identifier may include a device name, and further, may include a device icon.

[0049]

It should be understood that, in an optional embodiment, the first input may be a sliding gesture, such as a sliding operation of sliding upward from the bottom of the screen, or a sliding operation of sliding downward from the top of the screen.

In other embodiments, it may also be voice input, or operation instructions input in other forms.

The first input is used to trigger display of a first display area, in which one or more second electronic device identifiers are displayed.

In this embodiment, the above-mentioned N second electronic device identifiers can be understood as electronic device identifiers corresponding to the receiving ends of application sharing, and the user can share the target application to some or all of the second electronic devices corresponding to the N second electronic device identifiers.

[0050]

It should be noted that the method of sharing the application can be set according to actual needs.

For example, in an optional embodiment, the user may share only the application program running in the foreground, and in this case, only N second electronic device identifiers are displayed in the first display area.

Specifically, as shown in Figure 2, when an application is running in the foreground of the first electronic device (in other words, it can be understood that the first electronic device is currently displaying the operating interface of the application), if the user clicks on the border area at the top of the display interface of the application and slides downward, the interface shown in Figure 3 is jumped to display.

When sharing the foreground application, only N second electronic device identifiers are displayed in the first area, so that the user can operate the second electronic device identifier to achieve sharing of the currently running application, which can simplify the user's sharing operation.

[0051]

In another optional embodiment, the user may share preset applications installed on the first electronic device, and the preset applications may be all applications, or one or more applications that are pre-configured to allow application sharing.

At this time, in addition to displaying the N second electronic device identifiers in the first display area, one or more application identifiers may also be displayed in the second display area.

In other words, in this embodiment, after receiving the first input, the method further includes:

[0052]

In response to the first input, M application identifiers are displayed in the second display area, where M is a positive integer, and the application identifier of the target application is included in the M application identifiers.

[0053]

The application identification may include at least one of an application name and an application icon.

Specifically, as shown in Figure 4, when an application is running in the foreground of the first electronic device, if a sliding operation is received from the user from the bottom of the screen to the upper side, the interface shown in Figure 5 will be displayed, and the second electronic device logo and the application logo will be displayed through a pop-up window in Figure 5.

The first display area and the second display area are two different display areas of the pop-up window.

In this embodiment, since the application program identifier and the second electronic device identifier are displayed simultaneously, the user does not need to exit the current application program, thereby improving the flexibility of application program sharing.

[0054]

Step 103, receiving a second input;

[0055]

Step 104, in response to the second input, displaying the running interface of the target application on the virtual screen;

[0056]

Step 105, sharing the running interface of the target application to L first target electronic devices;

[0057]

The electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

[0058]

In this embodiment, the second input may be understood as including a selection operation of selecting L first target electronic devices and a triggering operation of triggering the sharing of the target application to the first target electronic device.

It should be noted that the trigger operation and the selection operation can be the same operation (that is, after completing the selection operation of L first target electronic devices, the first electronic device can be triggered to share the target application to the first target

electronic device without further operation), or can be different operations (that is, after completing the selection operation of L first target electronic devices, further triggering operation is required before the first electronic device can be triggered to share the target application to the first target electronic device).

Specifically, the second input may be a sliding input, a clicking input, or a voice input. For different application scenarios, the corresponding input methods may be different.

[0059]

The following will take the example of electronic device 1 sharing an application to electronic device 2 to describe in detail the specific implementation of the first electronic device sharing a target application to L first target electronic devices:

[0060]

When the electronic device 1 shares an application with the second electronic device 2, the electronic device 1 can be understood as a transmitter of the application sharing, and the electronic device 2 can be understood as a receiver of the application sharing.

Electronic device 1 can run the target application and display the target application's running interface on the virtual screen; when electronic device 1 and electronic device 2 are connected, the target application's running interface displayed on the virtual screen is shared with electronic device 2.

[0061]

It should be understood that electronic device 1 sharing the running interface of the target application displayed on the virtual screen with electronic device 2 can be understood as: electronic device 1 records the virtual screen and the audio in the virtual screen to obtain target data, and shares the target data with electronic device 2, wherein the target data includes the display image sequence and audio sequence of the virtual screen.

[0062]

Furthermore, electronic device 2 can display the received running interface, and upon receiving the user's operation based on the displayed running interface, send corresponding operation instructions to electronic device 1 to control the target application to perform the operation corresponding to the operation instruction, thereby realizing the sharing of applications between electronic device 1 and electronic device 2.

[0063]

An embodiment of the present invention receives a first input; in response to the first input, displays N second electronic device identifiers in a first display area, where N is a positive integer; receives a second input; in response to the second input, displays a running interface of a target application in a virtual screen; and shares the running interface of the target application to L first target electronic devices; wherein the electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

In this way, since the running interface of the application is displayed on the virtual screen to realize the sharing of the application, other functions of the first electronic device are not affected during the process of sharing the application, and the user can also operate other applications on the first electronic device, thereby improving the utilization rate of the first electronic device.

At the same time, since N second electronic device identifiers are displayed in the first display area, the user can quickly select one or more second electronic device identifiers to share the application, thereby improving the convenience of application sharing.

[0064]

In an optional embodiment, when the first display area and the second display area are displayed simultaneously, the receiving the second input includes:

[0065]

A drag operation for an application identifier corresponding to the target application is received, and an end position of the drag operation corresponds to a display position of the electronic device identifier of the first target electronic device.

[0066]

The dragging operation may be understood as a triggering operation for triggering the first electronic device to share the target application to the first target electronic device.

Specifically, the above-mentioned dragging operation can be understood as a sliding operation. Specifically, as shown in Figures 6 and 7, the user can first touch the target application logo, and then slide toward the second electronic device logo corresponding to the first target electronic device that needs to be shared. The end point of the sliding can be associated with the display position corresponding to the second electronic device logo.

[0067]

It should be understood that during the sliding or dragging process, the application identifier of the target application can move along with the current touch position of the sliding operation, and then move to the display position corresponding to the second electronic device identifier 1 (for example, the overlapping area between the application identifier of the target application that follows the movement and the second electronic device identifier 1 is greater than a preset value), and terminate the sliding operation (for example, stop touching or stay for a time greater than a preset value), at which time the first electronic device can be triggered to share the target application to the first target electronic device.

[0068]

Optionally, the application identifier of the target application follows the movement of the current touch position of the sliding operation, which can be understood as: controlling the application identifier of the target application displayed in the second display area to follow the movement of the touch position; or, retaining the application identifier of the target application displayed in the second display area, and copying the application identifier of the target application to follow the movement of the touch position.

[0069]

Furthermore, in order to avoid misoperation, in the embodiment of the present invention, when the dragging operation ends, a prompt box may pop up for the user to select. Specifically, as shown in Figures 6 and 7, when application A (i.e., the target application) is shared to the electronic device corresponding to user 5 (the electronic device identifier of the first target electronic device), an application sharing confirmation prompt box (i.e., sharing confirmation prompt box) is output: whether "application A" needs to be shared (i.e., shared screen projection) to "user 5", and confirmation and cancel operation controls are provided in the application sharing prompt box.

When the user clicks OK, "Application A" will be shared with "User 5", and the user can make a second input again, or end the application sharing operation and return to the interface before receiving the first input; when the user clicks Cancel, the user can make the second input again, or end the application sharing operation and return to the interface before receiving the first input.

[0070]

It should be noted that a drag operation can share the target application to a first target electronic device, as shown in Figures 6 and 7. At this time, the selection operation and

trigger operation of the first target electronic device can be understood as the same operation, and the electronic device corresponding to the second electronic device identifier 1 is the first target electronic device.

When sharing to multiple first target electronic devices is required, multiple drag operations can be performed.

Furthermore, in order to improve the convenience of operation, as shown in Figure 7, you can first select L first target electronic devices, and then trigger the first electronic device to share the target application to the L first target electronic devices through the above-mentioned drag operation. At this time, the selection operation and trigger operation of the first target electronic device can be understood as different operations, and the above-mentioned second electronic device identifier 1 is the selected L first target electronic devices.

In other words, in the embodiment of the present invention, the receiving of the second input includes:

[0071]

receiving a first sliding operation within the first display area;

[0072]

The L first target electronic devices are electronic devices corresponding to the L second electronic device identifiers that the sliding track corresponding to the first sliding operation passes through.

[0073]

In an embodiment of the present invention, in the display state of Figure 5, the user can perform a first sliding operation in the first display area. The sliding trajectory corresponding to the first sliding operation is shown in Figure 8. At this time, the electronic devices corresponding to the five second electronic device identifiers (user 1, user 2, user 3, user 4 and user 5) passed by the sliding trajectory can be determined as 5 first target electronic device identifiers.

Then, by dragging the application identifier of the target application to be shared to a second device identifier (user 1, user 2, user 3, user 4 or user 5), the target application can be triggered to be shared with the electronic devices corresponding to user 1, user 2, user 3, user 4 and user 5.

Since in the embodiment of the present invention, the same application can be shared with multiple electronic devices at the same time, the convenience of the application sharing operation is further improved.

[0074]

Further, in another embodiment, if only the first display area is displayed based on the first input, at this time, the selection operation and the triggering operation of the first target electronic device are the same operation.

As shown in FIG. 9 , in one embodiment, the target application can be shared to a first target electronic device through a click operation.

[0075]

As shown in FIG. 10 , in another embodiment, the target application may also be shared to multiple first target electronic devices at one time through a sliding operation.

In other words, in the embodiment of the present invention, the receiving of the second input includes:

[0076]

receiving a first sliding operation within the first display area;

[0077]

The L first target electronic devices are electronic devices corresponding to the L second electronic device identifiers that the sliding track corresponding to the first sliding operation passes through.

[0078]

Furthermore, in order to avoid misoperation, in an embodiment of the present invention, after selecting the first target electronic device, a corresponding application sharing confirmation prompt box can be output for the user to confirm the sharing. For the specific implementation process, please refer to the description of Figures 6 and 7, which will not be repeated here.

[0079]

Furthermore, after the application is shared, the application sharing of some or all electronic devices may be terminated.

In the embodiment of the present invention, in the above step 105, the method further includes:

[0080]

receiving a third input;

[0081]

In response to the third input, K third electronic device identifiers are displayed in the third display area, where K is a positive integer, and the K third electronic device identifiers are included in the electronic device identifiers corresponding to the L first target electronic devices;

[0082]

receiving a fourth input for the third display area;

[0083]

In response to the fourth input, cancel sharing the running interface of the target application to the M second target electronic devices;

[0084]

The electronic device identifiers corresponding to the M second target electronic devices are included in the K third electronic device identifiers.

[0085]

In an optional embodiment, the third input may be a preset sliding gesture, for example, a sliding operation of sliding upward from the bottom of the screen.

Specifically, when the first input and the third input are both sliding operations from the bottom of the screen upward, the first input and the third input can be distinguished according to parameters such as different sliding speeds or different sliding distances, and no further limitation is made here.

In other embodiments, it may also be voice input, or operation instructions input in other forms.

In this embodiment, the third input may be used to trigger display of the third display area and the second display area, as specifically shown in FIG. 11 .

[0086]

In another optional embodiment, the third input may be a one-click operation. For example, the third input may be performed after receiving the first input.

Specifically, as shown in Figure 4, operation options are provided on the operation interface, and the operation options include two options: not shared and shared. The not shared option is used to control the display of an unshared second electronic device identifier in the first display area (which can be understood as the electronic device identifier corresponding to the electronic device that has not shared an application with the first electronic device), and the shared option is used to control the display of a shared third electronic device identifier in the third display area (which can be understood as the electronic device identifier corresponding to the first target electronic device that is sharing an application with the first electronic device).

Based on what is shown in FIG. 4, the third input may be an input operation of clicking on a shared operation option. After the third input is performed, an interface as shown in FIG. 11 may be displayed.

[0087]

Optionally, the first display area and the third display area may be understood as the same display area, or may be understood as different display areas, and the display positions are the same.

[0088]

It should be noted that, in an optional implementation, the above-mentioned fourth input can be understood as including a first operation for selecting the electronic device identification of M second target electronic devices, and a second operation for triggering the cancellation of application sharing. For example, as shown in Figure 11, an operation control for stopping application sharing can be set in the third display area, and the above-mentioned second operation is the operation of clicking the operation control.

In other embodiments, it can also be understood as including only the first operation, that is, after selecting the third electronic device identifier, directly triggering the stop application sharing operation.

[0089]

Optionally, the input method for the first operation of selecting the third electronic device identifier can be set according to actual needs, for example, it can be selected by clicking or by sliding.

In other words, the receiving of the fourth input to the third display area may include any one of the following:

[0090]

receiving a click operation on the K third device identifiers, wherein the electronic device corresponding to the third device identifier corresponding to the click operation is the second target electronic device;

[0091]

A second sliding operation on the first display area is received, and an electronic device corresponding to a third electronic device identifier through which a sliding track corresponding to the second sliding operation passes is the second target electronic device.

[0092]

The above-mentioned receiving click operations for the K third electronic device identifiers can be understood as canceling the application sharing operation of one electronic device at a time. When it is necessary to cancel the application sharing operation of multiple electronic devices, the fourth input can be performed multiple times.

The receiving of the second sliding operation on the third display area may be understood as canceling the application sharing operation on at least two electronic devices at one time.

[0093]

It should be noted that in order to prevent misoperation, a corresponding prompt box can also be output when the cancellation of application sharing is triggered. In the prompt box, the identifier of the third electronic device for which application sharing needs to be stopped is prompted, and confirmation and cancel operation options are provided. When the user chooses confirmation, the operation of stopping application sharing is executed; when canceling is selected, the identifier of the third electronic device for which application sharing needs to be stopped can be reselected.

[0094]

Furthermore, after selecting M third electronic device identifiers, the selected third electronic device identifiers may be marked and displayed to remind the user that the second target electronic device for which application sharing needs to be canceled is currently selected. For example, the user can select three third electronic device identifiers (user 1, user 2, and user 3) through a second sliding operation (the sliding track is shown in FIG12), and check

the selected three third electronic device identifiers (in other embodiments, they can also be marked by enlarging or reducing or highlighting the color, etc.), as shown in FIG13 . When the user clicks the operation control to stop application sharing, a corresponding prompt box pops up, as shown in FIG. 14 . After the user selects the OK option, the application sharing function for user 1 , user 2 , and user 3 will be stopped.

[0095]

It should be noted that the above-mentioned second electronic device identification may specifically include at least one of the electronic device identification corresponding to the requesting application sharing list, the electronic device identification corresponding to the near-field discovered electronic device list, and the electronic device identification corresponding to the application sharing friend list.

[0096]

Referring to FIG. 15 , FIG. 15 is a structural diagram of a first electronic device provided by an embodiment of the present invention. As shown in FIG. 15 , the first electronic device 1500 includes:

[0097]

A first receiving module 1501, configured to receive a first input;

[0098]

A first display module 1502, configured to display N second electronic device identifiers in a first display area in response to the first input, where N is a positive integer;

[0099]

The second receiving module 1503 is used to receive a second input;

[0100]

A second display module 1504, configured to display a running interface of a target application on a virtual screen in response to the second input;

[0101]

A sharing processing module 1505 is used to share the running interface of the target application to L first target electronic devices;

[0102]

The electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

[0103]

Optionally, the target application is an application running in the foreground.

[0104]

Optionally, the first display module 1502 is further used to: in response to the first input, display M application identifiers in the second display area, where M is a positive integer, and the application identifier of the target application is included in the M application identifiers.

[0105]

Optionally, the second receiving module 1503 includes:

[0106]

The first receiving unit is used to receive a drag operation on the application identifier corresponding to the target application, and the end position of the drag operation corresponds to the display position of the electronic device identifier of the first target electronic device.

[0107]

Optionally, the second receiving module 1503 includes:

[0108]

A second receiving unit, configured to receive a first sliding operation within the first display area;

[0109]

The L first target electronic devices are electronic devices corresponding to the L second electronic device identifiers that the sliding track corresponding to the first sliding operation passes through.

[0110]

Optionally, the first receiving module 1501 is further configured to receive a third input;

[0111]

The first display module 1502 is further configured to display K third electronic device identifiers in a third display area in response to the third input, where K is a positive integer and the K third electronic device identifiers are included in the electronic device identifiers corresponding to the L first target electronic devices;

[0112]

The second receiving module 1503 is further configured to receive a fourth input directed to the third display area;

[0113]

The sharing processing module 1505 is further configured to cancel sharing of the target application program's running interface to the M second target electronic devices in response to the fourth input;

[0114]

The electronic device identifiers corresponding to the M second target electronic devices are included in the K third electronic device identifiers.

[0115]

The first electronic device provided in the embodiment of the present invention can implement various processes implemented by the first electronic device in the method embodiments of Figures 1 to 14, and will not be described again here to avoid repetition.

[0116]

FIG. 16 is a schematic diagram of the hardware structure of an electronic device implementing various embodiments of the present invention.

[0117]

The electronic device 1600 includes but is not limited to: a radio frequency unit 1601, a network module 1602, an audio output unit 1603, an input unit 1604, a sensor 1605, a display unit 1606, a user input unit 1607, an interface unit 1608, a memory 1609, a processor 1610, and a power supply 1611 and other components.

Those skilled in the art will appreciate that the electronic device structure shown in FIG. 16 does not constitute a limitation on the electronic device, and the electronic device may include more or fewer components than shown in the figure, or a combination of certain components, or a different arrangement of components.

In the embodiment of the present invention, the electronic device includes but is not limited to a mobile phone, a tablet computer, a laptop computer, a PDA, a vehicle-mounted terminal, a wearable device, and a pedometer.

[0118]

Wherein, the user input unit 1607 is used to receive a first input;

[0119]

Processor 1610, configured to display N second electronic device identifiers in a first display area in response to the first input, where N is a positive integer;

[0120]

The user input unit 1607 is further used to receive a second input;

[0121]

The processor 1610 is further configured to display, in response to the second input, a running interface of the target application on the virtual screen; and share the running interface of the target application to L first target electronic devices;

[0122]

The electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

[0123]

It should be understood that in this embodiment, the above-mentioned processor 1610 and user input unit 1607 can implement various processes implemented by the first electronic device in the method embodiments of Figures 1 to 14, and to avoid repetition, they are not repeated here.

[0124]

It should be understood that in the embodiment of the present invention, the radio frequency unit 1601 can be used for receiving and sending signals during information transmission or calls. Specifically, after receiving the downlink data from the base station, it is sent to the processor 1610 for processing; in addition, the uplink data is sent to the base station.

Typically, the radio frequency unit 1601 includes but is not limited to an antenna, at least one amplifier, a transceiver, a coupler, a low noise amplifier, a duplexer, and the like.

In addition, the radio frequency unit 1601 can also communicate with the network and other devices through a wireless communication system.

[0125]

The electronic device provides users with wireless broadband Internet access through the network module 1602, such as helping users to send and receive emails, browse web pages, and access streaming media.

[0126]

The audio output unit 1603 may convert audio data received by the RF unit 1601 or the network module 1602 or stored in the memory 1609 into an audio signal and output it as sound.

Moreover, the audio output unit 1603 can also provide audio output related to a specific function performed by the electronic device 1600 (eg, a call signal reception sound, a message reception sound, etc.).

The audio output unit 1603 includes a speaker, a buzzer, a receiver, and the like.

[0127]

The input unit 1604 is used to receive audio or video signals.

The input unit 1604 may include a graphics processing unit (GPU) 16041 and a microphone 16042. The graphics processor 16041 processes image data of a still picture or a video obtained by an image capture device (such as a camera) in a video capture mode or an image capture mode.

The processed image frames may be displayed on the display unit 1606 .

The image frame processed by the graphics processor 16041 may be stored in the memory 1609 (or other storage medium) or transmitted via the radio frequency unit 1601 or the network module 1602 .

Microphone 16042 can receive sound and can process such sound into audio data.

The processed audio data may be converted into a format that can be transmitted to a mobile communication base station via the radio frequency unit 1601 in the case of a telephone call mode.

[0128]

The electronic device 1600 also includes at least one sensor 1605, such as a light sensor, a motion sensor, and other sensors.

Specifically, the light sensor includes an ambient light sensor and a proximity sensor, wherein the ambient light sensor can adjust the brightness of the display panel 16061 according to the brightness of the ambient light, and the proximity sensor can turn off the display panel 16061 and/or the backlight when the electronic device 1600 is moved to the ear.

As a type of motion sensor, the accelerometer sensor can detect the magnitude of acceleration in all directions (generally three axes), and can detect the magnitude and direction of gravity when stationary. It can be used to identify the posture of electronic devices (such as horizontal and vertical screen switching, related games, magnetometer posture calibration), vibration recognition related functions (such as pedometer, tapping), etc.; sensor 1605 can also include fingerprint sensors, pressure sensors, iris sensors, molecular sensors, gyroscopes, barometers, hygrometers, thermometers, infrared sensors, etc., which will not be repeated here.

[0129]

The display unit 1606 is used to display information input by the user or information provided to the user.

The display unit 1606 may include a display panel 16061 , and the display panel 16061 may be configured in the form of a liquid crystal display (LCD), an organic light-emitting diode (OLED), or the like.

[0130]

The user input unit 1607 may be used to receive input digital or character information, and to generate key signal input related to user settings and function control of the electronic device.

Specifically, the user input unit 1607 includes a touch panel 16071 and other input devices 16072 .

The touch panel 16071, also known as a touch screen, can collect user touch operations on or near it (such as operations performed by the user using a finger, a stylus, or any other suitable object or accessory on or near the touch panel 16071).

The touch panel 16071 may include two parts: a touch detection device and a touch controller.

Among them, the touch detection device detects the user's touch direction, detects the signal brought by the touch operation, and transmits the signal to the touch controller; the touch controller receives the touch information from the touch detection device, and converts it into contact point coordinates, and then sends it to the processor 1610, receives the command sent by the processor 1610 and executes it.

In addition, the touch panel 16071 can be implemented using various types such as resistive, capacitive, infrared, and surface acoustic wave.

In addition to the touch panel 16071, the user input unit 1607 may further include other input devices 16072.

Specifically, other input devices 16072 may include but are not limited to a physical keyboard, function keys (such as volume control keys, switch keys, etc.), a trackball, a mouse, and a joystick, which will not be elaborated here.

[0131]

Furthermore, the touch panel 16071 may be overlaid on the display panel 16061. When the touch panel 16071 detects a touch operation on or near it, it is transmitted to the processor 1610 to determine the type of touch event. Subsequently, the processor 1610 provides corresponding visual output on the display panel 16061 according to the type of touch event. Although in FIG. 16, the touch panel 16071 and the display panel 16061 are two independent components to implement the input and output functions of the electronic device, in some embodiments, the touch panel 16071 and the display panel 16061 may be integrated to implement the input and output functions of the electronic device, which is not specifically limited here.

[0132]

The interface unit 1608 is an interface for connecting an external device to the electronic device 1600.

For example, the external device may include a wired or wireless headset port, an external power supply (or battery charger) port, a wired or wireless data port, a memory card port, a port for connecting a device with an identification module, an audio input/output (I/O) port, a video I/O port, a headphone port, and the like.

The interface unit 1608 may be used to receive input (eg, data information, power, etc.) from an external device and transmit the received input to one or more elements within the electronic device 1600 or may be used to transmit data between the electronic device 1600 and an external device.

[0133]

The memory 1609 may be used to store software programs and various data.

The memory 1609 may mainly include a program storage area and a data storage area, wherein the program storage area may store an operating system, an application required for at least one function (such as a sound playback function, an image playback function, etc.), etc.; the data storage area may store data created according to the use of the mobile phone (such as audio data, a phone book, etc.), etc.

In addition, the memory 1609 may include a high-speed random access memory and may also include a non-volatile memory, such as at least one disk storage device, a flash memory device, or other volatile solid-state storage devices.

[0134]

Processor 1610 is the control center of the electronic device. It uses various interfaces and lines to connect various parts of the entire electronic device. It performs various functions of the electronic device and processes data by running or executing software programs and/or modules stored in memory 1609 and calling data stored in memory 1609, thereby monitoring the electronic device as a whole.

Processor 1610 may include one or more processing units; preferably, processor 1610 may integrate an application processor and a modem processor, wherein the application processor mainly processes an operating system, a user interface, and application programs, etc., and the modem processor mainly processes wireless communications.

It is understandable that the above-mentioned modem processor may not be integrated into the processor 1610.

[0135]

The electronic device 1600 may also include a power supply 1611 (such as a battery) for supplying power to each component. Preferably, the power supply 1611 may be logically connected to the processor 1610 via a power management system, thereby implementing functions such as managing charging, discharging, and power consumption management through the power management system.

[0136]

In addition, the electronic device 1600 includes some functional modules not shown, which will not be described in detail here.

[0137]

Preferably, an embodiment of the present invention further provides an electronic device, comprising a processor 1610, a memory 1609, and a computer program stored in the memory 1609 and executable on the processor 1610. When the computer program is executed by the processor 1610, each process of the above-mentioned application sharing method embodiment is implemented, and the same technical effect can be achieved. To avoid repetition, it will not be described here.

[0138]

An embodiment of the present invention also provides a computer-readable storage medium, on which a computer program is stored. When the computer program is executed by a processor, the various processes of the above-mentioned application sharing method embodiment are implemented and the same technical effect can be achieved. To avoid repetition, it will not be repeated here.

The computer-readable storage medium may be a read-only memory (ROM), a random access memory (RAM), a magnetic disk or an optical disk.

[0139]

It should be noted that, in this article, the terms "comprises", "includes" or any other variations thereof are intended to cover non-exclusive inclusion, so that a process, method, article or apparatus that includes a series of elements includes not only those elements, but also other elements not explicitly listed, or also includes elements inherent to such process, method, article or apparatus.

Without more constraints, an element defined by the phrase "comprising a..." does not exclude the existence of other identical elements in the process, method, article or apparatus comprising the element.

[0140]

Through the description of the above implementation methods, those skilled in the art can clearly understand that the above embodiment methods can be implemented by means of software plus a necessary general hardware platform, and of course by hardware, but in many cases the former is a better implementation method.

Based on this understanding, the technical solution of the present invention can essentially or contribute to the prior art in the form of a software product. The computer software product is stored in a storage medium (such as ROM/RAM, disk, or CD), and includes a number of instructions for enabling a terminal (which can be a mobile phone, computer, server, air conditioner, or network device, etc.) to execute the methods described in the various embodiments of the present invention.

[0141]

The embodiments of the present invention are described above in conjunction with the accompanying drawings, but the present invention is not limited to the above-mentioned specific implementation methods. The above-mentioned specific implementation methods are merely illustrative and not restrictive. Under the enlightenment of the present invention, ordinary technicians in this field can also make many forms without departing from the scope of protection of the present invention and the claims, all of which are within the protection of the present invention.

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CLAIMS CN111092990A

1.

An application sharing method, applied to a first electronic device, is characterized by comprising:

receiving a first input;

In response to the first input, displaying N second electronic device identifiers in the first display area, where N is a positive integer;

receiving a second input;

In response to the second input, displaying a running interface of the target application on the virtual screen;

Sharing the running interface of the target application to L first target electronic devices;

The electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

2.

The method according to claim 1 is characterized in that the target application is an application running in the foreground.

3.

The method according to claim 1, characterized in that after receiving the first input, the method further comprises:

In response to the first input, M application identifiers are displayed in the second display area, where M is a positive integer, and the application identifier of the target application is included in the M application identifiers.

4.

The method according to claim 3, wherein receiving the second input comprises:
A drag operation for an application identifier corresponding to the target application is received, and an end position of the drag operation corresponds to a display position of the electronic device identifier of the first target electronic device.

5.

The method according to claim 1, wherein receiving a second input comprises:
receiving a first sliding operation within the first display area;
The L first target electronic devices are electronic devices corresponding to the L second electronic device identifiers that the sliding track corresponding to the first sliding operation passes through.

6.

The method according to claim 1, characterized in that after sharing the running interface of the target application to L first target electronic devices, the method further comprises:
receiving a third input;
In response to the third input, K third electronic device identifiers are displayed in the third display area, where K is a positive integer, and the K third electronic device identifiers are included in the electronic device identifiers corresponding to the L first target electronic devices;
receiving a fourth input for the third display area;
In response to the fourth input, cancel sharing the running interface of the target application to the M second target electronic devices;
The electronic device identifiers corresponding to the M second target electronic devices are included in the K third electronic device identifiers.

7.

A first electronic device, comprising:
A first receiving module, configured to receive a first input;
A first display module, configured to display N second electronic device identifiers in a first display area in response to the first input, where N is a positive integer;

A second receiving module, used for receiving a second input;
A second display module, configured to display a running interface of the target application on a virtual screen in response to the second input;
A sharing processing module, used for sharing the running interface of the target application to L first target electronic devices;
The electronic device identifiers corresponding to the L first target electronic devices are included in the N second electronic device identifiers.

8.

The first electronic device according to claim 7 is characterized in that the target application is an application running in the foreground.

9.

The first electronic device according to claim 7 is characterized in that the first display module is also used to: in response to the first input, display M application identifiers in the second display area, M is a positive integer, and the application identifier of the target application is included in the M application identifiers.

10.

The first electronic device according to claim 9, wherein the second receiving module comprises:

The first receiving unit is used to receive a drag operation on the application identifier corresponding to the target application, and the end position of the drag operation corresponds to the display position of the electronic device identifier of the first target electronic device.

11.

The first electronic device according to claim 7, wherein the second receiving module comprises:

A second receiving unit, configured to receive a first sliding operation within the first display area;

The L first target electronic devices are electronic devices corresponding to the L second electronic device identifiers that the sliding track corresponding to the first sliding operation passes through.

12.

The first electronic device according to claim 7, characterized in that the first receiving module is further used to receive a third input;

The first display module is further configured to display K third electronic device identifiers in a third display area in response to the third input, where K is a positive integer and the K third electronic device identifiers are included in the electronic device identifiers corresponding to the L first target electronic devices;

The second receiving module is further used to receive a fourth input directed to the third display area;

The sharing processing module is further configured to cancel sharing of the running interface of the target application to the M second target electronic devices in response to the fourth input;

The electronic device identifiers corresponding to the M second target electronic devices are included in the K third electronic device identifiers.

13.

An electronic device, characterized in that it includes a processor, a memory, and a computer program stored in the memory and executable on the processor, wherein when the computer program is executed by the processor, the steps of the application sharing method as described in any one of claims 1 to 6 are implemented.

14.

A computer-readable storage medium having a computer program stored thereon, characterized in that when the computer program is executed by a processor, the steps of the application sharing method described in any one of claims 1 to 6 are implemented.