SPECIFICATION

A method and device for playing live videos

FIELD OF THE INVENTION

[0001] The present invention relates to the field of Internet technologies, and in particular, to a method and device for playing live videos.

BACKGROUD OF THE INVENTION

[0002] With the development of Internet technology, webcasting has been widely promoted. In order to increase the interactive experience of live streaming, multiple streamers may perform microphone-linked live stream. That is to say, multiple streamers can stream live videos simultaneously in the same live stream room. The terminals logged in to the live stream room can simultaneously display multiple live stream windows, each of which can play live videos of different streamers. At present, a terminal generally plays a live video of a primary streamer in a first live stream window (the live stream room belongs to the primary streamer). The terminal also plays a live stream video of a secondary streamer in a second live stream window fixed in size (the secondary streamer live streams along with the primary streamer in the live stream room that belongs to the primary streamer), wherein, the size of a first live stream window is larger than that of the second live stream window.

[0003] In the process of implementing the present invention, the inventors have found that the prior art has at least the following problems.

[0004] Based on the above display mode, when the live video of the secondary streamer is more exciting, and when the user wants to watch the live video of the secondary streamer, the user can only watch through the smaller second live stream window, thereby causing poor viewing experience.

SUMMARY OF THE INVENTION

[0005] In order to solve the problem of the prior art, an embodiment of the present invention provides a method and device for playing live videos. The technical solution is as follows:

[0006] In a first aspect, a method for playing live videos is provided, and the method includes the following steps:

[0007] playing a live video of a primary streamer in a first live stream window, and playing a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer; and

[0008] adjusting the size of the second live stream window, and playing the live video of the secondary streamer in the adjusted second live stream window, when a window adjustment instruction corresponding to the second live stream window is received.

[0009] Preferably, the step of adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received includes:

[0010] when a window-enlarging instruction corresponding to the second live stream window is received, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window; or

[0011] when the window-shrinking instruction corresponding to the second live stream window is received, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window.

[0012] Preferably, the step of adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received includes:

[0013] detecting the duration of a touch signal when the touch signal in the second live stream window is detected;

[0014] if the duration reaches the first preset duration threshold and does not reach the second preset duration threshold, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window; or

[0015] if the duration reaches the second preset duration threshold, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window.

[0016] Preferably, the step of adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received includes:

[0017] detecting the duration of a touch signal when the touch signal in the second live stream window is detected;

[0018] displaying an adjustment icon if the duration reaches a first preset duration threshold; and

[0019] adjusting the size of the second live stream window when a triggering instruction of the adjustment icon is received.

[0020] Preferably, the method further includes playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received.

[0021] In this way, the user can switch between the first live stream window and the second live stream window, so that the live video of the secondary streamer can be better viewed, thereby enhancing the viewing experience.

[0022] Optionally, the step of playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received includes:

[0023] detecting the duration of a touch signal when the touch signal in the second live stream window is detected; and

[0024] playing the live video of the secondary streamer in the first live stream window,

and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold.

[0025] Optionally, the step of playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold includes:

[0026] displaying a switching icon if the duration does not reach the first preset duration threshold; and

[0027] playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when the triggering instruction of the switching icon is received.

[0028] Preferably, the method further includes:

[0029] playing the live video of the primary streamer in the first live stream window, and cancelling the display of the second live stream window when the live video of the secondary streamer played in the first live stream window disappears.

[0030] In this way, when the secondary streamer logs out, a terminal can play the live video of the primary streamer in the first live stream window with larger size thus enhancing the viewing experience.

[0031] Optionally, the second live stream window is located in the first live stream window.

[0032] In a second aspect, a device for playing a live video is provided. The device includes:

[0033] a playback module, for playing a live video of a primary streamer in a first live stream window, and playing a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer; and

[0034] an adjustment module, for adjusting the size of the second live stream window, and playing the live video of the secondary streamer in the adjusted second live stream window,

when a window adjustment instruction corresponding to the second live stream window is received.

[0035] Optionally, the adjustment module is used for:

[0036] when a window-enlarging instruction corresponding to the second live stream window is received, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window; or

[0037] when the window-shrinking instruction corresponding to the second live stream window is received, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window.

[0038] Optionally, the adjustment module includes:

[0039] a first detection sub-module, for detecting the duration of a touch signal when the same touch signal in the second live stream window is detected;

[0040] a display sub-module for displaying an adjustment icon if the duration reaches a first preset duration threshold; and

[0041] an adjustment sub-module for adjusting the size of the second live stream window when a triggering instruction of the adjustment icon is received.

[0042] Optionally, the device further includes a switching module for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received.

[0043] Optionally, the switching module includes:

[0044] a second detection sub-module for detecting the duration of a touch signal when the same touch signal in the second live stream window is detected; and

[0045] a switch sub-module for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold.

[0046] Optionally, the switch sub-module includes:

[0047] a display unit for displaying a switching icon if the duration does not reach the first preset duration threshold; and

[0048] a switching unit for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when the triggering instruction of the switching icon is received.

[0049] Optionally, the switch sub-module is further used for playing the live video of the primary streamer in the first live stream window, and cancelling the display of the second live stream window when the live video of the secondary streamer played in the first live stream window disappears.

[0050] Optionally, the second live stream window is located in the first live stream window.

[0051] The beneficial effects brought by the technical solutions provided by the embodiments of the present invention include the following things.

[0052] In the embodiments of the present invention, the terminal may play a live video of the primary streamer in the first live stream window, and play a live video of the secondary streamer that performs microphone-linked live stream with the primary streamer in the second live stream window. When the user wants to adjust the size of the second live stream window, he can trigger the terminal so that the same terminal receives a window adjustment instruction corresponding to the second live stream window, and then the terminal may adjust the size (increase or decrease) of the second live stream window. Accordingly, the terminal may adjust the size (increase or decrease) of the second live stream window, and play the live video of the secondary streamer in the adjusted second live stream window. In this way, when the user wants to watch the live video of the secondary streamer, the size of the second live stream window can be increased by operating and triggering the terminal, and then the user can watch the live video through the larger second live stream window, thereby enhancing watching effect.

BRIEF DESCRIPTION OF THE DRAWINGS

[0053] In order to more clearly illustrate the technical solution in the embodiments of the present invention, the drawings used in the description of the embodiments will be briefly described below. It is obvious that the drawings in the following description are only some embodiments of the present invention. For those skilled in the art, other drawings can be obtained according to these drawings without any creative work.

[0054] FIG. 1 is a flowchart of a method for playing live videos according to an embodiment of the present invention;

[0055] FIG. 2 is a schematic diagram of an interface according to an embodiment of the present invention;

[0056] FIG. 3(a) is a schematic diagram of an adjustment window according to an embodiment of the present invention;

[0057] FIG. 3(b) is a schematic diagram of an adjustment window according to an embodiment of the present invention;

[0058] FIG. 4 is a schematic diagram of an interface according to an embodiment of the present invention;

[0059] FIG. 5 is a schematic diagram of an interface according to an embodiment of the present invention;

[0060] FIG. 6 is a schematic structural diagram of a device for playing live videos according to an embodiment of the present invention;

[0061] FIG. 7 is a schematic structural diagram of a device for playing live videos according to an embodiment of the present invention;

[0062] FIG. 8 is a schematic structural diagram of a device for playing live videos according to an embodiment of the present invention;

[0063] FIG. 9 is a schematic structural diagram of a device for playing live videos according to an embodiment of the present invention;

[0064] FIG. 10 is a schematic structural diagram of a device for playing live videos

according to an embodiment of the present invention; and

[0065] FIG. 11 is a schematic structural diagram of a terminal according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0066] In order to achieve the above objectives, technical solutions and advantages of the present invention clear, the embodiments of the present invention will be further described in detail below with reference to the accompanying drawings.

[0067] The embodiments of the invention provide a method for playing live videos, and the execution body of the method is a terminal. The terminal may be a mobile terminal such as a mobile phone or a tablet computer, or may be a fixed terminal such as a personal computer, on which a live streaming application may be installed. The terminal may be configured to have a processor and a display component. The processor may be used for adjusting the size of the live stream window, and the display component may be used for displaying the live stream windows and live streaming videos. The display component may be a screen, and it may be a touch type screen. It is also possible to be configured to have a memory, which can be used to store data required or generated during the processing described below.

[0068] The processing flow shown in FIG. 1 will be described in detail below with reference to specific implementations, and the content may be as follows.

[0069] Step 101, play a live video of a primary streamer in a first live stream window, and play a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer.

[0070] In practice, in order to increase the interactive experience of live streaming, multiple streamers can perform microphone-linked live stream, so that the terminals logged into the live stream room can simultaneously display multiple live stream windows, each of which can play live videos of different streamers. Specifically, the terminal may play the live video of the primary streamer in the first live stream window, and play the live video of the secondary

streamer in the second live stream window. Here, the terminal may be any one of the terminals in the live stream room (that is, the terminal may be the terminal of the primary streamer, or it may be the terminal of the secondary streamer, or it may be the terminal of the viewer in the room). The primary streamer may be the streamer to which the live stream room belongs, and the secondary streamer may be the streamer that performs microphone-linked live stream with the primary streamer. That is, the secondary streamer can simultaneously provide a live stream along with the primary streamer in the live stream room that belongs to the primary streamer. Primary streamer and secondary streamer may perform microphone-linked live stream in their respective live stream room. In addition, the secondary streamer can be any one of the streamers that perform microphone-linked live stream with the primary streamer.

[0071] Optionally, the second live stream window is located inside the first live stream window, where the second live stream window may be at a preset location in the first live stream window, for example, in a lower right corner position of the first live stream window, as shown in FIG. 2. In addition, the second live stream window may also be located next to the first live stream window.

[0072] Step 102, adjust the size of the second live stream window, and play the live video of the secondary streamer in the adjusted second live stream window, when a window adjustment instruction corresponding to the second live stream window is received.

[0073] In the implementation, the user (viewer, primary streamer or secondary streamer) can adjust the size of the second live stream window according to his or her own needs during the process of watching the live videos of each streamer. Specifically, the user can trigger a terminal so that the same terminal receives a window adjustment instruction corresponding to the second live stream window, and then the terminal can adjust the size of the second live stream window based on the received window adjustment instruction corresponding to the second live stream window, and the live video of the secondary streamer can be played in the adjusted second live stream window. Specifically, the location information of the second live stream window may be pre-stored in the terminal, where the location information may be used to

represent the display location of the second live stream window, and the location information may be coordinate information of the vertex of the second live stream window, and when the terminal receives the window adjustment instruction, the location information of the second live stream window may be changed based on the window adjustment instruction (for example, changing the coordinate information of the vertex), and the second live stream window is displayed based on the changed location information. For example, when a drag instruction corresponding to an edge or a vertex of the second live stream window is received, the terminal may adjust the size of the second live stream window based on the drag instruction.

[0074] Optionally, the window adjustment instruction may be a window-enlarging instruction or a window-shrinking instruction. Correspondingly, the processing of step 102 may be as follows: when the window-enlarging instruction corresponding to the second live stream window is received, the size of the second live stream window is increased, and the live video of the secondary streamer is played in the enlarged second live stream window; or, when the window-shrinking instruction corresponding to the second live stream window is received, the size of the second live stream window is reduced, and the live video of the secondary streamer in the shrunk second live stream window is played.

[0075] In an implementation, the user may trigger the terminal to receive a window-enlarging instruction corresponding to the second live stream window, and then the terminal may increase the size of the second live stream window based on the received window-enlarging instruction corresponding to the second live stream window; the live video of the secondary streamer in the enlarged second live stream window may be played. Specifically, when the terminal receives a drag instruction to drag an edge or a vertex of the second live stream window toward the outside of the window, the terminal may increase the size of the second live stream window based on a drag instruction to drag toward the outside of the window, as shown in Figure 3(a). In addition, the user may further trigger the terminal to receive a window-shrinking instruction corresponding to the second live stream window, and further, the terminal may perform a shrinking process on the size of the second live stream window based on

the received window-shrinking instruction corresponding to the second live stream window, and play the live video of the secondary streamer in the shrunk second live stream window. Specifically, when the terminal receives a drag instruction to drag an edge of the second live stream window or a vertex toward the inside of the window, the terminal may reduce the size of the second live stream window based on the drag instruction to drag toward the inside of the window, as shown in Figure 3(b).

[0076] Optionally, the window adjustment instruction may be the duration of a touch signal in the second live stream window. Correspondingly, the processing of step 102 may be as follows: when the touch signal in the second live stream window is detected, the duration of the touch signal is detected; if the duration reaches the first preset duration threshold and does not reach the second preset duration threshold, the size of the second live stream window is increased, and the live video of the secondary streamer in the second live stream window is played; if the duration reaches the second preset duration threshold, the size of the second live stream window is reduced, and the live video of the secondary streamer is played in the shrunk second live stream window.

[0077] The duration may be a period of time from the detection of the touch signal to the disappearance of the touch signal.

[0078] In the implementation, the terminal may be a terminal with touch screens. When the user wants to adjust the second live stream window, the second live stream window may be pressed. At this time, the terminal will detect the touch signal in the second live stream window. Then, it is possible to detect the duration of the touch signal from the detection until it disappears.

[0079] After the duration is obtained, the threshold may be compared with the first preset duration threshold and the second duration threshold. The second preset duration threshold may be greater than the first preset duration threshold, and if the duration reaches the first preset duration threshold but fails to reach the second preset duration threshold, the size of the second live stream window may be increased based on the preset enlarging ratio, and then the live video of the secondary streamer is played in the enlarged second live stream window. If the duration

reaches the second preset duration threshold, the size of the second live stream window may be reduced based on the preset shrinking ratio, and the live video of the secondary streamer is played in the shrunk second live stream window.

[0080] Optionally, the window adjustment instruction may be a triggering instruction for triggering an adjustment icon. Correspondingly, the processing of step 102 may be as follows: when the touch signal in the second live stream window is detected, detect the duration of the touch signal; if the duration reaches the first preset duration threshold, the adjustment icon is displayed; when the trigger instruction of the adjustment icon is received, the size of the second live stream window is adjusted.

[0081] In the implementation, the terminal may be a touch screen terminal. When the user wants to adjust the second live stream window, press the second live stream window. At this time, the terminal detects the touch signal in the second live stream window. Then, it is possible to detect the duration of the touch signal from its detection to its disappearance. After obtaining the duration, the threshold may be compared with the first preset duration threshold. If the duration reaches the first preset duration threshold, the terminal may set the second live stream window to an editable state, and may also display an adjustment icon， as shown in FIG. 4 and the adjustment icon can be used by the user to adjust the second live stream window. The user can operate the displayed adjustment icon as needed (for example, drag the adjustment icon toward the outside of the window, or drag the adjustment icon toward the inside of the window), and accordingly, the terminal will receive a triggering instruction for the adjustment icon. The size of the second live stream window can be adjusted. In addition, when the triggering instruction for detecting the adjustment icon disappears, the terminal may stop the adjustment of the size of the second live stream window, and when the disappearance time of the triggering instruction reaches the preset duration threshold, the display of the adjustment icon is cancelled. In addition, when the terminal adjusts the second live stream window, the terminal can always maintain the aspect ratio adjustment of the second live stream window.

[0082] Optionally, the user may also switch between the first live stream window and the

second live stream window. Correspondingly, the process may be as follows: when a window switching instruction is received, play the live video of the secondary streamer in the first live stream window, and play the live video of the primary streamer in the second live stream window.

[0083] In the implementation, when the user wants to switch between the live stream window corresponding to the primary streamer and the live stream window corresponding to the secondary streamer, the terminal may also be triggered to receive the window switching instruction through the corresponding operation, and then the terminal may play the live video of the secondary streamer in the first live stream window and play the live video of the primary streamer in the second live stream window.

[0084] Optionally, the window switching instruction may be the duration of the touch signal in the second live stream window. Correspondingly, the processing may be as follows: when the touch signal in the second live stream window is detected, detect the duration of the touch signal. If the duration does not reach the first preset duration threshold, the live video of the secondary streamer is played in the first live stream window, and the live video of the primary streamer is played in the second live stream window.

[0085] In the implementation, the terminal may be a touch screen terminal. When the user wants to adjust the second live stream window, the second live stream window may be pressed. At this time, the terminal detects the touch signal in the second live stream window. Then, the duration of the touch signal from its detection to its disappearance can be detected. After the duration is obtained, the threshold may be compared with the first preset duration threshold. If the duration does not reach the first preset duration threshold (in this case, the user clicks on the second live stream window), the terminal can play the live video of the secondary streamer in the first live stream window, and play the live video of the primary streamer in the second live stream window.

[0086] Optionally, when the duration does not reach the first preset duration threshold, the terminal may display a switching icon. Correspondingly, the processing may be as follows: if the duration does not reach the first preset duration threshold, the switching icon is displayed.

When a triggering instruction for triggering the switching icon is received, play the live video of the secondary streamer in the first live stream window, and play the live video of the primary streamer in the second live stream window.

[0087] In an implementation, if the duration of the touch signal does not reach the first preset duration threshold, the terminal may display a switching icon, as shown in FIG. 5, where the switching icon may be a switching image or a switching option. When the user wants to switch the windows, he can click on the switching icon. At this time, the terminal receives the trigger instruction for triggering the switching icon, and then the terminal can play the live video of the secondary streamer in the first live stream window, and play the live video of the primary streamer in the second live stream window.

[0088] Optionally, when the live video of the secondary streamer played in the first live stream window disappears, the terminal may play the live video of the primary streamer in the first live stream window, and correspondingly, the process may be as follows: when the live video of the secondary streamer played in the first live stream window disappears, the live video of the primary streamer is played in the first live stream window, and the display of the second live stream window is cancelled.

[0089] In the implementation, in the process of microphone-linked live stream with the primary streamer, the secondary streamer may end the microphone-linked live stream (for example, when the secondary streamer stops live streaming). At this time, the terminal detects the disappearance of the live video of the secondary streamer played in the first live stream window, and then the terminal can play the live video of the primary streamer in the first live stream window, and cancel the display of the second live stream window. Or, when the terminal detects that the secondary streamer stops streaming, the terminal can play the live video of the primary streamer in the first live stream window, and cancel the display of the second live stream window. In addition, the terminal may also play the live video of the primary streamer in the first live stream window when the live video of the secondary streamer has not been detected within the preset duration since the disappearance of the live video of the secondary streamer. In other

words, when the live video of the secondary streamer is not detected within the preset duration after detecting that the live video of the primary streamer disappears, the live video of the primary streamer is played in the first live stream window, and the display of the second live stream window is cancelled.

[0090] In addition, the terminal can simultaneously support the above-mentioned specific processes of window adjustment and window switching.

[0091] In embodiments of the invention, the terminal is able to play a live video of a primary streamer in a first live stream window, and play a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer. When the user wants to adjust the size of the second live stream window, a window adjustment instruction corresponding to the second live stream window may be received by the terminal by triggering the same terminal, and then the terminal may adjust the size (increase or decrease) of the second live stream window. The live video of the secondary streamer may be played in the adjusted second live stream window. In this way, when the user wants to watch the live video of the secondary streamer, the size of the second live stream window can be increased by triggering the terminal, and then the user can watch the live video through the larger second live stream window, thereby enhancing the viewing experience.

[0092] Based on the same technical concept, the embodiments of the present invention further provide a device for playing live videos. As shown in FIG. 6, the device includes:

[0093] a playback module 610, for playing a live video of a primary streamer in a first live stream window, and playing a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer; and

[0094] an adjustment module 620, for adjusting the size of the second live stream window, and playing the live video of the secondary streamer in the adjusted second live stream window, when a window adjustment instruction corresponding to the second live stream window

is received.

[0095] Optionally, the adjustment module 620 is used for:

[0096] when a window-enlarging instruction corresponding to the second live stream window is received, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window; or

[0097] when the window-shrinking instruction corresponding to the second live stream window is received, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window.

[0098] Optionally, as shown in FIG. 7, the adjustment module 620 includes:

[0099] a first detection sub-module 6201, for detecting the duration of a touch signal when the touch signal in the second live stream window is detected;

[00100] a display sub-module 6020 for displaying an adjustment icon if the duration reaches a first preset duration threshold; and

[00101] an adjustment sub-module 6203 for adjusting the size of the second live stream window when a triggering instruction of the adjustment icon is received.

[00102] Optionally, as shown in FIG. 8, the device further includes a switching module 630 for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received.

[00103] Optionally, as shown in FIG. 9, the switching module 630 includes:

[00104] a second detection sub-module 6301 for detecting the duration of a touch signal when the same touch signal in the second live stream window is detected; and

[00105] a switch sub-module 6302 for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold.

[00106] Optionally, as shown in FIG. 10, the switch sub-module 6302 includes:

[00107] a display unit 63021 for displaying a switching icon if the duration does not reach

the first preset duration threshold; and

[00108] a switching unit 63022 for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when the triggering instruction of the switching icon is received.

[00109] Optionally, the switch sub-module 630 is used for playing the live video of the primary streamer in the first live stream window, and cancelling the display of the second live stream window when the live video of the secondary streamer played in the first live stream window disappears.

[00110] Optionally, the second live stream window is located in the first live stream window.

[00111] In embodiments of the invention, the terminal is able to play a live video of a primary streamer in a first live stream window, and to play a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer. When the user wants to adjust the size of the second live stream window, a window adjustment instruction corresponding to the second live stream window may be received by the terminal by triggering the same terminal, and then the terminal may adjust the size (increase or decrease) of the second live stream window. The live video of the secondary streamer may be played in the adjusted second live stream window. In this way, when the user wants to watch the live video of the secondary streamer, the size of the second live stream window can be increased by triggering the terminal, and then the user can watch the live video through the larger second live stream window, thereby enhancing the viewing experience.

[00112] It should be noted that, when the live stream videos are played by the device for playing the live video is only illustrated by above functional modules. In actual applications, the functions may be realized by different functional modules as needed. The internal structure of the terminal is divided into different functional modules in order to complete all or part of the functions described above. In addition, the device for playing the live videos provided by the

foregoing embodiments is of the same concept as the method for playing the live videos. The specific implementation process is described in the method embodiment, and details are not described herein.

[00113] FIG. 11 is a schematic structural diagram of a terminal according to an embodiment of the present invention. The terminal may be used to implement a method for playing live video provided in the foregoing embodiment.

[00114] Specifically， the terminal 1100 may include an RF (Radio Frequency) circuit 110, a memory 120 including one or more computer readable storage medias, an input unit 130, a display unit 140, a sensor 150, an audio circuit 160, and a WiFi (wireless fidelity, wireless) module 170, a processor 180 having one or more processing cores, and a power supply 190 and the like. It will be understood by those skilled in the art that the terminal structure shown in FIG. 11 does not constitute a limitation of the terminal, and may include more or less components than those illustrated, or combine some components, or different component arrangements.

[00115] Here, the RF circuit 110 can be used for transmitting and receiving information, or receiving and transmitting signals during a call. Specifically, after the downlink information of the base station is received, the downlink information is processed by one or more processors 180. In addition, the data related to the uplink is sent to the base station. Generally, the RF circuit 110 includes, but is not limited to, an antenna, at least one amplifier, a tuner, one or more oscillators, a Subscriber Identity Module (SIM) card, a transceiver, a coupler, an LNA (Low Noise Amplifier), a duplexer, etc. In addition, the RF circuitry 110 can also communicate with the network and other devices via wireless communication. The wireless communication may use any communication standard or protocol, including but not limited to GSM (Global System of Mobile communication), GPRS (General Packet Radio Service), CDMA (Code Division Multiple Access, Code Division Multiple Access), WCDMA (Wideband Code Division Multiple Access), LTE (Long Term Evolution), e-mail, SMS (Short Messaging Service), etc.

[00116] The memory 120 can be used to store software program and modules, and the processor 180 executes various functional applications and data processing by running software

programs and modules stored in the memory 120. The memory 120 may mainly include a storage program area and a storage data area, wherein the storage program area may store an operating system, an application required for at least one function (such as a sound playing function, an image playing function, etc.), and the like; the storage data area may be stored according to the data created by the use of the terminal 1100 (such as audio data, phone book, etc.) and the like. Moreover, memory 120 can include high speed random access memory, and can also include non-volatile memory, such as at least one magnetic disk storage device, flash memory device, or other volatile solid state storage device. Accordingly, memory 120 may also include a memory controller to provide access to the memory 120 by the processor 180 and the input unit 130.

[00117] The input unit 130 can be configured to receive the input numeric or character information and to generate keyboard, mouse, joystick, optical or trackball signal inputs related to user settings and function controls. In particular, the input unit 130 can include a touch-sensitive surface 131 as well as other input devices 132. The touch-sensitive surface 131, also referred to as a touch display or track-pad, can collect touch operations on or near it (for example the user may use a finger, stylus, any suitable object or accessory on the touch-sensitive surface 131 to form some operations) and drive corresponding connecting device according to a preset program. Alternatively, the touch-sensitive surface 131 can include a touch detection device and a touch controller. The touch detection device detects the touch orientation of the user, and detects a 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, converts the touch information into contact coordinates, and sends the touch information to the processor 180, and it can also receive commands from the processor 180 and execute the same commands. In addition, the touch-sensitive surface 131 can be implemented in various types such as resistive, capacitive, infrared, and surface acoustic waves. In addition to the touch-sensitive surface 131, the input unit 130 can also include other input devices 132. Specifically, other input devices 132 may include, but are not limited to, one or more of a physical

keyboard, function keys (such as volume control buttons, switch buttons, etc.), trackballs, mice, joysticks, and the like.

[00118] The display unit 140 can be used to display information entered by the user or information provided to the user and various graphical user interfaces of the terminal 1100, which can be composed of graphics, text, icons, video, and any combination thereof. The display unit 140 may include a display panel 141. Alternatively, the display panel 141 may be configured in the form of an LCD (Liquid Crystal Display), an OLED (Organic Light-Emitting Diode), or the like. Further, the touch-sensitive surface 131 may cover the display panel 141, and when the touch-sensitive surface 131 detects a touch operation thereon or nearby, it is transmitted to the processor 180 to determine the type of the touch event, and then the processor 180 provides a corresponding visual output on the display panel 141 according to the type of the touch event. Although in FIG. 11, touch-sensitive surface 131 and display panel 141 are implemented as two separate components to implement input and input functions, in some embodiments, the touch-sensitive surface 131 can be integrated with the display panel 141 for realizing input and output function.

[00119] Terminal 1100 can also include at least one type of sensor 150, such as a light sensor, motion sensor, and other sensors. Specifically, the light sensor may include an ambient light sensor and a proximity sensor, wherein the ambient light sensor may adjust the brightness of the display panel 141 according to the brightness of the ambient light, and the proximity sensor may turn off the display panel 141 and/or backlight when the terminal 1100 moves to the ear. As a kind of motion sensor, a gravity acceleration sensor can detect the magnitude of acceleration in all directions (usually three axes). When it is stationary, it can detect the magnitude and direction of gravity. It can be used to identify the gesture of the mobile phone (such as horizontal and vertical screen switching, related game, magnetometer attitude calibration), vibration recognition related functions (such as pedometer, tapping), etc.; and the terminal 1100 may also include other sensors such as gyroscope, barometer, hygrometer, thermometer, infrared sensor and the like.

[00120] The audio circuit 160, the speaker 161, and the microphone 162 can provide an audio interface between the user and the terminal 1100. The audio circuit 160 can transmit the converted electrical data of the received audio data to the speaker 161 for conversion to the sound signal output by the speaker 161; on the other hand, the microphone 162 converts the collected sound signal into an electrical signal by the audio circuit 160. After receiving, it is converted into audio data, and then processed by the audio data output processor 180, transmitted to the terminal, for example, via the RF circuit 110, or outputted to the memory 120 for further processing. The audio circuit 160 may also include an earbud jack to provide communication of the peripheral earphones with the terminal 1100.

[00121] WiFi is a short-range wireless transmission technology, and the terminal 1100 can help users to send and receive emails, browse web pages, and access streaming media through a WiFi module 170, which provides wireless broadband Internet access for users. Although FIG. 11 shows the WiFi module 170, it can be understood that it does not belong to the essential configuration of the terminal 1100, and may be omitted as needed within the scope of the essence of the invention.

[00122] The processor 180 is a control center of the terminal 1100 that connects various portions of the entire cellphone with various interfaces and lines, by running or executing software programs and/or modules stored in the memory 120, and recalling data stored in the memory 120, The various functions and processing data of the terminal 1100 are performed to perform overall monitoring of the cellphone. Optionally, the processor 180 may include one or more processing cores; preferably, the processor 180 may integrate an application processor and a modem processor, where the application processor mainly processes an operating system, a user interface, an application, and the like. The modem processor primarily handles wireless communications. It can be understood that the above modem processor may not be integrated into the processor 180.

[00123] The terminal 1100 also includes a power supply 190 (such as a battery) for powering various components. Preferably, the power supply can be logically coupled to the

processor 180 through a power management system to manage functions such as charging, discharging, and power management through the power management system. The power supply 190 may also include any one or more of a DC or AC power source, a recharging system, a power failure detection circuit, a power converter or inverter, a power status indicator, and the like.

[00124] Although not shown, the terminal 1100 may further include a camera, a Bluetooth module, and the like. Specifically, in this embodiment, the display unit of the terminal 1100 is a touch screen display, and the terminal 1100 further includes a memory, and one or more programs, wherein one or more programs are stored in the memory and configured such that one or more processors are able to execute one or more programs including instructions for performing the following operations:

[00125] playing a live video of a primary streamer in a first live stream window, and playing a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer; and

[00126] adjusting the size of the second live stream window, and playing the live video of the secondary streamer in the adjusted second live stream window, when a window adjustment instruction corresponding to the second live stream window is received.

[00127] Preferably, the step of adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received includes:

[00128] when a window-enlarging instruction corresponding to the second live stream window is received, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window; or

[00129] when the window-shrinking instruction corresponding to the second live stream window is received, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window.

[00130] Preferably, the step of adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received includes:

[00131] detecting the duration of a touch signal when the touch signal in the second live stream window is detected;

[00132] if the duration reaches the first preset duration threshold and does not reach the second preset duration threshold, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window; or

[00133] if the duration reaches the second preset duration threshold, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window.

[00134] Preferably, the step of adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received includes:

[00135] detecting the duration of a touch signal when the touch signal in the second live stream window is detected;

[00136] displaying an adjustment icon if the duration reaches a first preset duration threshold; and

[00137] adjusting the size of the second live stream window when a triggering instruction of the adjustment icon is received.

[00138] Preferably, the method further includes playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received.

[00139] Optionally, the step of playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received includes:

[00140] detecting the duration of a touch signal when the touch signal in the second live

stream window is detected; and

[00141] playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold.

[00142] Optionally, the step of playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold includes:

[00143] displaying a switching icon if the duration does not reach the first preset duration threshold; and

[00144] playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when the triggering instruction of the switching icon is received.

[00145] Preferably, the method further includes playing the live video of the primary streamer in the first live stream window, and cancelling the display of the second live stream window when the live video of the secondary streamer played in the first live stream window disappears.

[00146] Optionally, the second live stream window is located in the first live stream window.

[00147] In embodiments of the invention, the terminal is able to play a live video of a primary streamer in a first live stream window, and play a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer. When the user wants to adjust the size of the second live stream window, a window adjustment instruction corresponding to the second live stream window may be received by the terminal by triggering the same terminal, and then the terminal may adjust the size (increase or decrease) of the second live stream window. The live video of the secondary streamer may be played in the adjusted second live stream window. In this way, when the user wants to watch the live video of the secondary streamer, the size of

the second live stream window can be increased by triggering the terminal, and then the user can watch the live video through the larger second live stream window, thereby enhancing the viewing experience.

[00148] A person skilled in the art may understand that all or part of the steps of implementing the above embodiments may be completed by hardware, or may be instructed by a program to execute related hardware, and the program may be stored in a computer readable storage medium. The storage medium mentioned above may be a read only memory, a magnetic disk or an optical disk, etc.

[00149] The above are only the preferred embodiments of the present invention, and are not intended to limit the present invention. Any modifications, equivalents, improvements, etc., which are within the spirit and scope of the present invention, should be included in the protection of the present invention.

CLAIMS

1. A method for playing live video, comprising the following steps:

playing a live video of a primary streamer in a first live stream window, and playing a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer; and

adjusting the size of the second live stream window, and playing the live video of the secondary streamer in the adjusted second live stream window, when a window adjustment instruction corresponding to the second live stream window is received;

wherein the step of adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received comprises:

detecting a duration of a touch signal when the touch signal in the second live stream window is detected, the duration being a period of time from detection of the touch signal to disappearance of the touch signal, whereby:

if the duration reaches a first preset duration threshold and does not reach a second preset duration threshold, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window;

if the duration reaches the second preset duration threshold, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window;

wherein adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received is performed as follows:

pre-storing location information of the second live stream window, the location information being used to represent coordinate information of a vertex of the second live stream window;

when the window adjustment instruction is received, changing the location information of the second live stream window based on the window adjustment instruction; and

displaying the second live stream window based on the changed location information.

2. The method as recited in claim 1, further comprises:

playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received.

3. The method as recited in claim 2, wherein the step of playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received comprises:

detecting a duration of a touch signal when the touch signal in the second live stream window is detected; and

playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold.

4. The method as recited in claim 3, wherein the step of playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold comprises:

displaying a switching icon if the duration does not reach the first preset duration threshold; and

playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a triggering instruction of the switching icon is received.

5. A device for playing live videos, comprising:

a playback module, for playing a live video of a primary streamer in a first live stream window, and playing a live video of a secondary streamer in a second live stream window, wherein the secondary streamer is a streamer that performs microphone-linked live stream with the primary streamer; and

an adjustment module, for adjusting the size of the second live stream window, and playing the live video of the secondary streamer in the adjusted second live stream window, when a window adjustment instruction corresponding to the second live stream window is received;

wherein the adjustment module is configured to do the following steps:

detecting a duration of a touch signal when the touch signal in the second live stream window is detected, the duration being a period of time from detection of the touch signal to disappearance of the touch signal, whereby:

if the duration reaches a first preset duration threshold and does not reach a second preset duration threshold, increasing the size of the second live stream window, and playing the live video of the secondary streamer in the enlarged second live stream window; and

if the duration reaches the second preset duration threshold, reducing the size of the second live stream window, and playing the live video of the secondary streamer in the shrunk second live stream window;

wherein adjusting the size of the second live stream window when a window adjustment instruction corresponding to the second live stream window is received is performed as follows:

pre-storing location information of the second live stream window, the location information being used to represent coordinate information of a vertex of the second live stream window;

when the window adjustment instruction is received, changing the location information of the second live stream window based on the window adjustment instruction; and

displaying the second live stream window based on the changed location information.

6. The device as recited in claim 5, further comprising a switching module, for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a window switching instruction is received.

7. The device as recited in claim 6, wherein the switching module comprises:

a detection sub-module for detecting a duration of a touch signal when the touch signal in the second live stream window is detected; and

a switch sub-module for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window if the duration is shorter than the first preset duration threshold.

8. The device as recited in claim 7, wherein the switch sub-module comprises:

a display unit for displaying a switching icon if the duration does not reach the first preset duration threshold; and

a switching unit for playing the live video of the secondary streamer in the first live stream window, and playing the live video of the primary streamer in the second live stream window when a triggering instruction of the switching icon is received.