

Communication Method and Apparatus

The present application claims priority to Chinese Application No. 201710602336.9, filed on 21 July 2017 and entitled “Communication Method and Apparatus,” which is incorporated herein by reference in its entirety.

Technical Field

One or more embodiments of the present specification relate to the technical field of communications, and particularly to communication methods and apparatuses.

Background

In related technologies, mobile group work platforms have become widely used in work processes of various groups such as enterprises, educational institutions, government agencies, etc., which can not only improve the efficiency of communications between users and reduce communication costs, but can also effectively improve the efficiency of user event processing and the work efficiency.

For example, a mobile group work platform can provide an approval function, so that the user A can use the approval function to initiate an approval event to the user B, and the user B can approve the approval event through the mobile group work platform, thus greatly improving the efficiency of approval.

In a related interface of an approval event, any participant of the approval event may post comment information in the related interface if having any questions or opinions on the

approval event. Other participants may browse the related interface to view the comment information and provide respective responses.

Summary

In view of this, one or more embodiments of the present specification provide communication method and apparatus.

To achieve the above objectives, the one or more embodiments of the present specification provide the following technical solutions.

According to a first aspect of the one or more embodiments of the present specification, a communication method is provided, which includes obtaining comment information for approval events; and sending a communication session message related to the comment information to an associated user of the approval event through a communication session with the associated user.

According to a second aspect of the one or more embodiments of the present specification, a communication method is provided, which includes obtaining a communication session message from a communication session for presentation in a communication session interface corresponding to the communication session; and displaying source information of the communication session message in an associated display area of the communication session message when the communication session message is related to comment information of an approval event, the source information being related to the approval event.

According to a third aspect of the one or more embodiments of the present specification, a communication method is provided, which includes displaying comment

information for an approval event; and switching to a communication session interface with a commenting party corresponding to the comment information in response to detecting a triggering operation for the comment information.

According to a fourth aspect of the one or more embodiments of the present specification, a communication apparatus is provided, which includes a first acquisition unit that obtains comment information for an approval event; and a first sending unit that sends a communication session message related to the comment information to an associated user of the approval event through a communication session with the associated user.

According to a fifth aspect of the one or more embodiments of the present specification, a communication apparatus is provided, which includes a second acquisition unit that obtains a communication session message from a communication session for presentation in a communication session interface corresponding to the communication session; and a second display unit that displays source information of the communication session message in an associated display area of the communication session message when the communication session message is related to comment information of an approval event, the source information being related to the approval event.

According to a sixth aspect of the one or more embodiments of the present specification, a communication apparatus is provided, which includes a fourth display unit that displays comment information for an approval event; and a switching unit that switches to a communication session interface with a commenting party corresponding to the comment information in response to detecting a triggering operation for the comment information.

As can be seen from the above technical solutions, the one or more embodiments of the

present specification allow an automatic synchronization of comment information for an approval event as communication session message(s) by enabling information synchronization between an approval event and a communication session, thus implementing seamless connection and transparent transmission between the approval event and the communication session. This enables users to achieve more efficient communication operations based on communication sessions, and helps to improve the efficiency of communications.

Brief Description of the Drawings

FIG. 1 is a schematic structural diagram of a communication system according to an exemplary embodiment.

FIG. 2 is a flowchart of a communication method according to an exemplary embodiment.

FIG. 3 is a flowchart of another communication method according to an exemplary embodiment.

FIG. 4 is a flowchart of still another communication method according to an exemplary embodiment.

FIG. 5 is a schematic diagram of an approval event processing interface of an approving party according to an exemplary embodiment.

FIGS. 6A-6B are schematic diagrams of a comment information input interface according to an exemplary embodiment.

FIG. 7 is a schematic diagram of another approval event processing interface of an approving according to an exemplary embodiment.

FIG. 8 is a schematic diagram of a communication session interface according to an exemplary embodiment.

FIG. 9A is a schematic diagram of another communication session interface according to an exemplary embodiment.

FIG. 9B is a schematic diagram of another communication session interface according to an exemplary embodiment.

FIG. 10 is a schematic diagram of still another communication session interface according to an exemplary embodiment.

FIG. 11 is a schematic diagram of a communication session interface of a receiving party according to an exemplary embodiment.

FIG. 12 is a schematic diagram of another communication session interface of a receiving party according to an exemplary embodiment.

FIG. 13 is a schematic diagram of an approval event management interface of an initiating party according to an exemplary embodiment.

FIG. 14 is a schematic diagram of still another communication session interface according to an exemplary embodiment.

FIG. 15 is a schematic structural diagram of an electronic device according to an exemplary embodiment.

FIG. 16 is a block diagram of a communication apparatus according to an exemplary embodiment.

FIG. 17 is a block diagram of another communication apparatus according to an exemplary embodiment.

FIG. 18 is a block diagram of still another communication apparatus according to an exemplary embodiment.

Detailed Description

Exemplary embodiments will be described in detail herein, and examples thereof are illustrated in the accompanying figures. When the accompanying figures are described hereinafter, same numerals in different accompanying figures refer to the same or similar elements unless indicated otherwise. Implementations described in the following exemplary embodiments do not represent all the embodiments that are consistent with the one or more embodiments of the present specification, but rather are merely examples of apparatuses and methods that are consistent with aspects of the one or more embodiments of the present specification as detailed in the appended claims.

FIG. 1 is a schematic structural diagram of a communication system according to an exemplary embodiment. As shown in FIG. 1, the system may include a server 11, a network 12, and a plurality of electronic devices, such as an electronic device 13, an electronic device 14, etc.

The server 11 may be a physical server including a separate host. Alternatively, the server 11 may be a virtual server hosted by a host cluster. Alternatively, the server 11 may be a cloud server. During a process of operation, the server 11 can run a server-side program of a certain application to implement associated functions of the application. For example, when the server 11 runs a program of a mobile group work platform, a server end of the mobile group work platform can be implemented.

In the present embodiment, the mobile group work platform can not only realize

communication functions, but can also be used as an integrated function platform for a number of other functions, for example, processing of internal events of groups such as approval events (e.g., day leaves, office item applications, financial and other approval events), attendance events, task events, log events, and processing of external events of the groups, such as ordering, purchasing, etc. The one or more embodiments of the present specification have no limitations thereon.

More specifically, the mobile group work platform can be included in an instant messaging application in the related technologies, such as an enterprise instant messaging (EIM) application, e.g., Skype For Business®, Microsoft Teams®, Yammer®, Workplace®, Slack®, Enterprise WeChat®, Fixaoke®, Enterprise Fetion®, Enterprise Yixin®, etc. Apparently, an instant messaging function is only one of the communication functions supported by the mobile group work platform, and the mobile group work platform can implement functions more than those described above, which are not exhaustively described herein.

The electronic device 13 and the electronic device 14, etc., are electronic devices used by different users respectively to satisfy identities and roles of different users in communication processes. For example, when the user A is an initiating party of an approval event, the electronic device 13 can be used to initiate the approval event. When the user B is an approving party of the approval event, the approval event can be received and processed by the electronic device 14. The electronic device 13, the electronic device 14, and electronic devices used by other users may include a plurality of different types. For example, types of electronic devices may include a mobile phone, a personal computer (PC), a tablet device, and a notebook computer, a PDA (Personal Digital Assistant), a wearable device (such as smart glasses, a smart

watch, etc.), etc. The one or more embodiments of the present specification do not have any limitations thereon. During operation, the electronic device can run a client-side program of a certain application to implement associated service functions of the application. For example, when the electronic device runs a program of the mobile group work platform, a client end of the mobile group work platform can be implemented. It should be noted that application programs of the client end of the mobile group work platform can be pre-installed on the electronic device 13 and the electronic device 14, so that the client end can be started and run on the electronic device 13 and the electronic device 14. Apparently, when an online “client end” such as HTML5 technology is employed, the client end can be obtained and run without installing corresponding application programs on the electronic device 13 or the electronic device 14.

The network 12 through which the electronic device 13 and the electronic device 14 conduct interactions with the server 11 may include various types of wired or wireless networks. In an embodiment, the network 12 may include a Public Switched Telephone Network (PSTN) and the Internet. Furthermore, the electronic device 13 and the electronic device 14 can also conduct communications and interactions through the network 12, such as establishing a single-chat communication session between the electronic device 13 and the electronic device 14. Alternatively, a plurality of electronic devices can participate in a same group chat communication session, so that any user can send a communication message to all other users in the group chat communication session through his/her own electronic device.

The communication solutions of the present specification will be described in detail hereinafter with reference to the embodiments.

FIG. 2 is a flowchart of a communication method according to an exemplary embodiment. As shown in FIG. 2, the method may include the following steps.

Step 202: Obtain comment information for an approval event.

Step 204: Send a communication session message related to the comment information to associated user(s) of the approval event through a communication session with the associated user(s).

In an embodiment, the communication method of the embodiment that is shown in FIG. 2 can be applied in an electronic device, such as the electronic device 13, the electronic device 14, etc., as shown in FIG. 1. As such, any participant of the approval event can input comment information using a corresponding electronic device, and the electronic device can transmit a communication session message related to the comment information to associated user(s).

In an embodiment, the communication method of the embodiment that is shown in FIG. 2 can be applied in a server, such as the server 11 as shown in FIG. 1. The server 11 may receive comment information inputted by any participant of an approval event and send a communication session message related to the comment information to associated user(s).

In an embodiment, the embodiment shown in FIG. 2 can be included in a mobile group work platform. The mobile group work platform supports an approval function and a communication function. In this way, the user A can initiate an approval event to the user B through the mobile group work platform, to allow the user B to process the approval event through the mobile group work platform. Furthermore, the user B may send a communication session message related to comment information for the approval event to the user A through

a communication session between the user A and the user B carried by the mobile group work platform, when the comment information is sent.

In an embodiment, the communication session may include a communication session between a sender of the comment information and the associated user(s). In other embodiments, the communication session may also include other communication sessions related to the associated user(s). For example, the mobile group work platform may maintain a virtual customer service, and the communication session may be established between the virtual customer service and the associated user(s).

The communication session refers to a session established between various communication parties. The session is used for implementing communication functions between the communication parties. For example, the sender of the comment information and the associated user(s) as described above belong to corresponding communication parties of the communication session. The session can be implemented based on any communication protocol in the related technologies, such as a UDP (User Datagram Protocol) protocol, a TCP (Transmission Control Protocol) protocol, or other types of communication protocols. The one or more embodiments of the present specification do not have any limitations thereon.

In an embodiment, the associated user(s) may include at least one of: an initiating party of the approval event, and an approving party of the approval event. In other embodiments, other users associated with the approval event may also be included. For example, a supervisor of the approval event (e.g., supervising whether a processing period of the approval event fulfills requirements, etc.), a reviewing party (e.g., reviewing a processing result of the approval event, etc.), etc., can be treated as the associated user(s) here.

In an embodiment, sending prompt information for the communication session message may be displayed in a communication session interface corresponding to the communication session. As such, a sender of comment information may send a communication session message through the communication session interface by performing a user triggering operation on the sending prompt information upon confirming a desire of sending the communication session message. When a sender of comment information may avoid performing the above user triggering operation for the sending prompt information if he/she does not want to send a communication session message, thus preventing the communication session message from being sent through the communication session interface.

In an embodiment, when the communication session message is displayed in the communication session interface corresponding to the communication session, source information of the communication session message may be displayed in an associated display area of the communication session message. This can differentiate the communication session message from other communication session messages in the communication session interface on the one hand, and can help a user to quickly know an information source of the communication session message on the other hand, i.e., an association relationship between the communication session message and the approval event.

In an embodiment, in response to detecting a user triggering operation for the source information, a jump from the communication session interface to a related interface of the approval event may be performed, thereby implementing a quick jump between the communication session interface and the related interface of the approval event, and helping to improve the operating efficiency of the user.

FIG. 3 is a flowchart of another communication method according to an exemplary embodiment. As shown in FIG. 3, the method may include the following steps.

Step 302: Obtain a communication session message from a communication session for presentation in a communication session interface corresponding to the communication session.

Step 304: Display source information of the communication session message in an associated display area of the communication session message when the communication session message is related to comment information of an approval event, the source information being related to the approval event.

In an embodiment, the embodiment shown in FIG. 3 can be included in a mobile group work platform. The mobile group work platform supports an approval function and a communication function. In this way, the user A can initiate an approval event to the user B through the mobile group work platform, to allow the user B to process the approval event through the mobile group work platform. Furthermore, the user B may send a communication session message related to comment information for the approval event to the user A through a communication session between the user A and the user B carried by the mobile group work platform, when the comment information is sent.

In an embodiment, displaying the source information of the communication session message in the associated display area of the communication session message can allow the communication session message to be distinguished from other communication session messages in the communication session interface on the one hand, and can help a user to quickly understand an information source of the communication session message on the other

hand, i.e., a relationship between the communication session message and the approval event.

In an embodiment, in response to detecting a user triggering operation for the source information, a jump from the communication session interface to a related interface of the approval event may be performed, thereby implementing a quick jump between the communication session interface and the related interface of the approval event, and thus helping to improve the user's operating efficiency.

In an embodiment, the communication session message may include at least one of: a received message, or a sent message. When the communication session message is a received message, the embodiment shown in FIG. 3 is applied in a receiving device of the communication session message (i.e., an electronic device used by a receiving user). When the communication session message is a sent message, the embodiment shown in FIG. 3 is applied in a sending device of the communication session message (i.e., an electronic device used by a sending user).

In an embodiment, when the local user is an approving of the approval event, approval options for the approval event may be displayed in an associated display area of the communication session message. The approval options are used for implementing approval operations for the approval event, and helping the local user to quickly implement an approval operation for the approval event in a communication process, without switching to the related interface of the approval event, thus helping to simplify the approval operation and improve the approval efficiency.

FIG. 4 is a flow chart of still another communication method according to an exemplary embodiment. As shown in FIG. 4, the method may include the following steps.

Step 402: Display comment information for an approval event.

Step 404: Switch to a communication session interface with a commenting party corresponding to the comment information in response to detecting a triggering operation for the comment information.

In an embodiment, the embodiment shown in FIG. 4 can be included in a mobile group work platform. The mobile group work platform supports an approval function and a communication function. In this way, the user A can initiate an approval event to the user B through the mobile group work platform, to allow the user B to process the approval event through the mobile group work platform. The user A and the user B can send comment information for the approval event. When the user A or the user B performs a triggering operation on a certain piece of comment information, switching to a communication session interface with a commenting party corresponding to the comment information can be quickly performed, thus facilitating communication with the commenting party.

In an embodiment, in response to detecting a triggering operation for the comment information, a jump from a related interface of the approval event to the communication session interface corresponding to the commenting party is performed, thereby implementing a quick jump between the related interface of the approval event and the communication session interface, and thus helping to improve the user's operating efficiency.

In an embodiment, sending prompt information for the comment information may be displayed in the communication session interface. As such, the local user may implement a user triggering operation on the sending prompt information, and send a communication session message related to the comment information through the communication session interface, to

express the subject content of a subsequent communication to a peer communication party, thereby facilitating the efficiency of communications.

In order to facilitate understanding, the technical solutions of the one or more embodiments of the present specification will be described using an enterprise instant messaging application “Enterprise WeChat” as an example. The mobile phone 131 and the mobile phone 141 are assumed to have enterprise WeChat client ends running therein, and the server 11 is assumed to have an enterprise WeChat server running therein. The enterprise WeChat client ends on the mobile phone 131 and the mobile phone 141 are logged with registered accounts of different users respectively. For example, the mobile phone 131 is logged with a registered account of the user A, so that the mobile phone 131 is configured as the enterprise WeChat client end 1 corresponding to the user A. The mobile phone 141 is logged with a registered account of the user B, so that the mobile phone 141 is configured as the enterprise WeChat client end 2 corresponding to the user B.

FIG. 5 is a schematic diagram of an approval event processing interface of an approving party according to an exemplary embodiment. The user A is assumed to create and initiate an approval event through the enterprise WeChat client end 1, and the user B is an approving party of the approval event. The user B can view information about the approval event in an approval event processing interface 500 on the enterprise WeChat client end 2 as shown in FIG. 5.

In an embodiment, the approval event processing interface 500 may include source information 501 as shown in FIG. 5, such as an initiating party as the user A, and an initiation time as “07.18 11:20”, etc.

In an embodiment, the approval event processing interface 500 may include approval content 502 as shown in FIG. 5. The approval content 502 may include one or more content items such as “department”, “application type”, “reason for application”, and “amount of applications”, etc., that are filled in by the user A who acts as the initiating party, to allow the user B (who acts as the approving party) for view, thereby determining a way of processing of the approval event.

In an embodiment, the approval event processing interface 500 may include comment dynamics 503 as shown in FIG. 5 for displaying comment information sent by participant(s) of the approval event. Since no comment information exists yet, “nothing” can be shown in FIG. 5.

In an embodiment, the approval event processing interface 500 may include processing options 504 as shown in FIG. 5. The processing options 504 can include a consent option 504A, a rejection option 504B, to allow the user B to confirm whether to approve or reject the approval event. The processing options 504 may include a comment option 504C to allow the user B to initiate a comment for the approval event.

FIGS. 6A-6B are schematic diagrams of a comment information input interface according to an exemplary embodiment. In response to detecting a triggering operation of the user B for the comment option 504C, a transfer to a comment information input interface 600 as shown in FIGS. 6A-6B can be performed. As shown in FIGS. 6A-6B, the user B can input comment information 601 in the comment information input interface 600 through a manner of keyboard input. Apparently, in other embodiments, the user B may also adopt other input methods, such as voice input for automatically converting into a text or directly using voice, etc. In other embodiments, the comment information may include various forms. In addition to text or voice,

“picture” or “attachment” (such as a document, etc.) as shown in FIGS. 6A-6B, etc., may be used. Alternatively, one or more of the various forms as described above may be used at the same time. The one or more embodiments of the present specification do not have any limitations thereon.

As shown in FIGS. 6A-6B, the comment information input interface 600 may include a synchronization option 602. In the embodiment as shown in FIG. 6A, when the user B triggers a “send” option without selecting the synchronization option 602, the comment information 601 can be sent, and displayed as the comment information in the comment dynamics 503 of an approval event processing interface 500 as shown in FIG. 7, to allow viewing by various participants of the approval event.

In the embodiment shown in FIG. 6B, when the user B triggers the “send” option with the synchronization option 602 being selected, in addition to being displayed as the comment information in the comment dynamic 503 of the approval event processing interface 500 shown in FIG. 7, the comment information 601 may also be processed as a communication session message 801 as shown in FIG. 8, and sent to a communication peer end through a communication session interface 800.

FIG. 8 is a schematic diagram of a communication session interface of an exemplary embodiment. In an embodiment, since the user B is the approving party of the approval event, the synchronization option 602 as described above is configured for the user A who acts as the initiating party. Therefore, the communication session interface 800 as shown in FIG. 8 corresponds to a communication session between the user B and the user A, such that the communication session message 801 can be sent to the user A through the communication

session interface 800. Therefore, on the one hand, the user A and the user B can realize a more convenient and quick communication through the communication session interface 800. On the other hand, the communication content can be prevented from being viewed by other participants of the approval event, thus ensuring the security and privacy of information. In addition, in some embodiments, the communication session interface 800 may also display a reading status of the communication session message 801 by the user A who acts as the receiving party. For example, information of a reading status 802 as shown in FIG. 8 is “read”, thereby helping the user B to quickly determine if the user A has read the communication session message 801.

FIG. 9A is a schematic diagram of another communication session interface according to an exemplary embodiment. As shown in FIG. 9A, a communication session message 901A corresponding to the comment information 601 may be displayed in a session box 901 in a communication session interface 900. The session box 901 may further include source information 901B of the communication session message 901A. The source information 901B may remind the user B that the communication session message 901A is originated from a comment of “A’s fund approval”, so that the user B can expand around the approval event during a process of subsequent communications with the user A, thus improving the efficiency of communications.

FIG. 9B is a schematic diagram of another communication session interface according to an exemplary embodiment. As shown in FIG. 9B, based on the embodiment shown in FIG. 9A, the session box 901 may further include a processing option 901C for the above-mentioned approval event, to enable the user B to communicate with the user A through the

communication session interface 900, and quickly process the approval event, without switching to a corresponding approval event processing interface.

FIG. 10 is a schematic diagram of still another communication session interface according to an exemplary embodiment. As shown in FIG. 10, a communication session interface 1000 may display a prompt window 1001. The prompt window 1001 may include sending prompt information for the communication session message 801 or the communication session message 901A. For example, the sending prompt information may include source reminder information 1001A reminding that an information source of the communication session message 801 or the communication session message 901A is a comment of "A's fund approval", comment content 1001B, and a send/trigger option 1001C. When the user B wants to implement a sending operation, the send/trigger option 1001C may be triggered, so that a communication session message related to the comment content 1001B can be sent based on the communication session interface 1000, and displayed as the communication session message 801 or communication session message 901A as described above, etc.

FIG. 11 is a schematic diagram of a communication session interface of a receiving party according to an exemplary embodiment. As shown in FIG. 11, the communication session message 801 or the communication session message 901A may be received by the user A from the user B, and displayed in the communication session interface 1100 as shown in FIG. 11. A displaying manner thereof can be referenced to the communication session message 801 or the communication session message 901A, etc. For example, in the embodiment shown in FIG. 11, a communication session message 1101A corresponding to the comment information 601 may

be displayed in a session box 1101, as similar to the embodiment shown in FIG. 9A above. The session box 1101 may also include source information 1101B of the communication session message 1101A. The source information 1101B may remind the user A that the communication session message 1101A is originated from the comment of “A’s fund approval”, so that the user A may expand around the approval event when communicating with the user B in a subsequent process, to improve the efficiency of communications.

FIG. 12 is a schematic diagram of another communication session interface of a receiving party according to an exemplary embodiment. In the above embodiment, the communication session interface is a communication session between the user A and the user B. In some embodiments, a communication session message corresponding to the comment information 601 may also be sent through other communication sessions. For example, as shown in FIG. 12, a communication session interface 1200 may correspond to a communication session between the user A and a virtual service of “system push” maintained by the enterprise WeChat server. A corresponding communication session message may be separately sent through this “system push”, to reduce the probability that the user A misses the communication session message, and ensure that the user A can view, reply or perform other processing in time. In the communication session interface 1200, a communication session message 1201A corresponding to the comment information 601 may be displayed in a session box 1201, as similar to the embodiment shown in FIG. 9A above. The session box 1201 may also include source information 1201B of the communication session message 1201A. The source information 1201B may remind the user A that the communication session message 1201A is originated from a comment of “A’s fund approval”. In other embodiments, the communication

session message 1201A may also adopt other display forms, e.g., a form that is similar to the embodiment shown in FIG. 8. The one or more embodiments of the present specification have no limitations thereon.

FIG. 13 is a schematic diagram of an approval event management interface of an initiating party according to an exemplary embodiment. As shown in FIG. 13, the user A who acts as an initiating party may view comment dynamics 1301 sent by each participant of an approval event in an approval event management interface 1300, such as comment information 1302 sent by the user B, etc. When the user A performs a user triggering operation on the comment information 1302, for example, the user A performs clicking, long pressing or double pressing on the comment information 1302, the enterprise WeChat client end 1 may jump to the communication session interface 1400 as shown in FIG. 14. The communication session interface 1400 corresponds to a communication session between the user A and the user B (i.e., a sending user of the comment information 1302), thereby greatly simplifying the complexity of operations of the user A between the approval event management interface 1300 and the communication session interface 1400, and helping to improve the communication efficiency.

In the communication session interface 1400 as shown in FIG. 14, reference may be made to the embodiment shown in FIG. 8 or FIG. 9A, i.e., the communication session message related to the comment information 1302 is directly sent through the communication session interface 1400. Alternatively, similar to the embodiment shown in FIG. 10, a prompt window 1401 may be displayed in the communication session interface 1400. The prompt window 1401 may include sending prompt information. For example, the sending prompt

information may include source reminding information 1401A to remind the user A that an information source of a communication session message to be sent is “A’s fund approval”, comment content 1401B, and a send/trigger option 1401C. When the user A wants to implement a sending operation, the send/trigger option 1401C can be triggered, such that a communication session message associated with the comment content 1401B can be sent based on the communication session interface 1400.

As shown in FIG. 13, in the comment dynamics 1301 of the approval event management interface 1300, user information of a sending party corresponding to each piece of comment information may be displayed. For example, for the comment information 1302 sent by the user B, a profile photo 1303 of the user B may be shown, etc., to enable a quick jump to a contact information interface of the user B in response to detecting a user triggering operation on the profile photo 1303 is detected, thus facilitating the user A to view contact information of the user B.

FIG. 15 is a schematic structural diagram of an electronic device according to an exemplary embodiment. Referring to FIG. 15, at a hardware level, the electronic device includes a processor 1502, an internal bus 1504, a network interface 1506, a memory 1508, and a non-volatile storage device 1510, and apparently may also include hardware needed by other services. The processor 1502 reads a corresponding computer program from the non-volatile storage device 1510 into the memory 1508, and then operates to form a communication apparatus at a logical level. Apparently, other than software implementations, the one or more embodiments of the present specification do not exclude other manners of implementations, such as a logic device or a combination of software and hardware, etc. In other words, an

execution body of the following flow of processing is not limited to various logical units, and may also be a hardware or logic device.

Referring to FIG. 16, in software implementations, the communication apparatus may include a first acquisition unit 1601 that obtains comment information for an approval event; and a first sending unit 1602 that sends a communication session message related to the comment information to an associated user of the approval event through a communication session with the associated user.

Optionally, the communication session includes a communication session between a sending party of the comment information and the associated user.

Optionally, the associated user includes at least one of: an initiating party of the approval event, or an approving party of the approval event.

Optionally, the first sending unit 1602 is specifically configured to:

display sending prompt information for the communication session message in a communication session interface corresponding to the communication session; and

send the communication session message through the communication session interface in response to detecting a user triggering operation for the sending prompt information.

Optionally, the apparatus also includes:

a first display unit 1603 that displays source information of the communication session message in an associated display area of the communication session message when the communication session message is displayed on a communication session interface corresponding to the communication session.

Optionally, the apparatus also includes:

a first jump unit 1604 that jumps from the communication session interface to a related interface of the approval event in response to detecting a user triggering operation for the source information.

Referring to FIG. 17, in software implementations, the communication apparatus may include:

a second acquisition unit 1701 that obtains a communication session message from a communication session for presentation in a communication session interface corresponding to the communication session; and

a second display unit 1702 that displays source information of the communication session message in an associated display area of the communication session message when the communication session message is related to comment information of an approval event, the source information being related to the approval event.

Optionally, the apparatus also includes:

a second jump unit 1703 that jumps to a related interface of the approval event from the communication session interface in response to detecting a user triggering operation for the source information.

Optionally, the communication session message includes at least one of: a received message, or a sent message.

Optionally, the apparatus also includes:

a third display unit 1704 that displays an approval option for the approval event in an associated display area of the communication session message when a local user is an approving party of the approval event, the approval option being used for implementing an

approval operation for the approval event.

Referring to FIG. 18, in software implementations, the communication apparatus may include:

a fourth display unit 1801 that displays comment information for an approval event; and

a switching unit 1802 that switches to a communication session interface with a commenting party corresponding to the comment information in response to detecting a triggering operation for the comment information.

Optionally, the apparatus also includes:

a prompting unit 1803 that displays sending prompt information for the comment information in the communication session interface; and

a second sending unit 1804 that sends a communication session message related to the comment information through the communication session interface in response to detecting a user triggering operation for the sending prompt information.

The systems, apparatus, modules or units illustrated in the above embodiments may be implemented by a computer chip or an entity, or implemented by a product having certain functions. A typical device of implementation is a computer. A specific form of the computer may be a personal computer, a laptop computer, a cellular phone, a camera phone, a smart phone, a personal digital assistant, a media player, a navigation device, an email transceiver, a game control, a tablet computer, a wearable device, or any combination of a number of devices in these devices.

In a typical configuration, a computer includes one or more processors (CPUs), an input/output interface, a network interface, and memory.

The memory may include a form of computer readable media such as a volatile memory, a random access memory (RAM) and/or a non-volatile memory, for example, a read-only memory (ROM) or a flash RAM. The memory 516 is an example of a computer readable media.

The computer readable media may include a volatile or non-volatile type, a removable or non-removable media, which may achieve storage of information using any method or technology. The information may include a computer readable instruction, a data structure, a program module or other data. Examples of computer storage media include, but not limited to, phase-change memory (PRAM), static random access memory (SRAM), dynamic random access memory (DRAM), other types of random-access memory (RAM), read-only memory (ROM), electronically erasable programmable read-only memory (EEPROM), quick flash memory or other internal storage technology, compact disk read-only memory (CD-ROM), digital versatile disc (DVD) or other optical storage, magnetic cassette tape, magnetic disk storage or other magnetic storage devices, or any other non-transmission media, which may be used to store information that may be accessed by a computing device. As defined herein, the computer readable media does not include transitory media, such as modulated data signals and carrier waves.

It also needs to be noted that terms “including” or “containing” or any other variations are intended to encompass a non-exclusive inclusion, such that a process, method, article, or device including a series of elements not only includes these elements, but also includes other elements that are not explicitly listed, or includes elements that are inherent to such process, method, article, or device. Without any further limitation, an element defined by a phrase “including a ...” does not exclude the presence of additional equivalent elements in a process,

method, article, or device including such element.

Specific embodiments of the present specification have been described above. Other embodiments fall within the scope of the appended claims. In some cases, actions or steps recited in the claims can be performed in an order different from the orders in the embodiments, and still achieve the desired results. In addition, processes depicted in the figures are not required to be in a particular order or in a sequential order as shown, in order to achieve the desired results. In some embodiments, multitasking and parallel processing are also possible or may be advantageous.

Terms used in the one or more embodiments of the present specification are merely for the purpose of describing particular embodiments, and are not intended to limit the one or more embodiments. Singular forms “a”, “said”, and “the” are intended to include a plural form, unless other meanings are clearly express in the context. It should also be understood that a term “and/or” used herein refers to and encompasses any and all possible combinations of one or more of associated items that are listed.

It should be understood that, although terms “first”, “second”, and “third”, etc. may be used to describe various types of information in the one or more embodiments of the present specification, these pieces of information should not be limited to these terms. These terms are only used for distinguishing the same type of information from each other. For example, first information may also be referred to as second information without departing from the scope of the one or more embodiments of the present disclosure. Similarly, the second information may also be referred to as the first information. Depending on the context, a term “if” used herein may be interpreted as “when” or “at the time when” or “in response to a determination”.

The above descriptions are only preferred embodiments of the one or more embodiments of the present specification, and are not intended to limit the one or more embodiments of the present specification. Any modifications, equivalent replacements, improvements, etc., that are within the spirit and principles of the one or more embodiments of the present specification, are intended to be included within the scope of the protection of the one or more embodiments of the present specification.

Claims

1. A communication method comprising:

obtaining comment information for approval events; and

sending a communication session message related to the comment information to an associated user of the approval event through a communication session with the associated user.

2. The method of claim 1, wherein the communication session comprises a communication session between a sending party of the comment information and the associated user.

3. The method of claim 1, wherein the associated user comprises at least one of: an initiating party of the approval event, or an approving party of the approval event.

4. The method of claim 1, wherein sending the communication session message related to the comment information to the associated user of the approval event through the communication session with the associated user comprises:

displaying sending prompt information for the communication session message in a communication session interface corresponding to the communication session; and

sending the communication session message through the communication session interface in response to detecting a user triggering operation for the sending prompt information.

5. The method of claim 1, further comprising displaying source information of the communication session message in an associated display area of the communication session message when the communication session message is displayed on a communication session interface corresponding to the communication session.

6. The method of claim 5, further comprising jumping from the communication session interface to a related interface of the approval event in response to detecting a user triggering operation for the source information.

7. A communication method comprising:
obtaining a communication session message from a communication session for presentation in a communication session interface corresponding to the communication session; and

displaying source information of the communication session message in an associated display area of the communication session message when the communication session message is related to comment information of an approval event, the source information being related to the approval event.

8. The method of claim 7, further comprising jumping to a related interface of the approval event from the communication session interface in response to detecting a user triggering operation for the source information.

9. The method of claim 7, wherein the communication session message comprises at least one of: a received message, or a sent message.

10. The method of claim 7, further comprising displaying an approval option for the approval event in an associated display area of the communication session message when a local user is an approving party of the approval event, the approval option being used for implementing an approval operation for the approval event.

11. A communication method comprising:
displaying comment information for an approval event; and
switching to a communication session interface with a commenting party corresponding to the comment information in response to detecting a triggering operation for the comment information.

12. The method of claim 11, further comprising:
displaying sending prompt information for the comment information in the communication session interface; and
sending a communication session message related to the comment information through the communication session interface in response to detecting a user triggering operation for the sending prompt information.

13. A communication apparatus comprising:

a first acquisition unit that obtains comment information for an approval event; and

a first sending unit that sends a communication session message related to the comment information to an associated user of the approval event through a communication session with the associated user.

14. The apparatus of claim 13, wherein the communication session comprises a communication session between a sending party of the comment information and the associated user.

15. The apparatus of claim 13, wherein the associated user comprises at least one of: an initiating party of the approval event, or an approving party of the approval event.

16. The apparatus of claim 13, wherein the first sending unit is specifically configured to:

display sending prompt information for the communication session message in a communication session interface corresponding to the communication session; and

send the communication session message through the communication session interface in response to detecting a user triggering operation for the sending prompt information.

17. The apparatus of claim 13, further comprising a first display unit that displays source information of the communication session message in an associated display area of the

communication session message when the communication session message is displayed on a communication session interface corresponding to the communication session.

18. The apparatus of claim 17, further comprising a first jump unit that jumps from the communication session interface to a related interface of the approval event in response to detecting a user triggering operation for the source information.

19. A communication apparatus comprising:

a second acquisition unit that obtains a communication session message from a communication session for presentation in a communication session interface corresponding to the communication session; and

a second display unit that displays source information of the communication session message in an associated display area of the communication session message when the communication session message is related to comment information of an approval event, the source information being related to the approval event.

20. The apparatus of claim 19, further comprising a second jump unit that jumps to a related interface of the approval event from the communication session interface in response to detecting a user triggering operation for the source information.

21. The apparatus of claim 19, wherein the communication session message comprises at least one of: a received message, or a sent message.

22. The apparatus of claim 19, further comprising a third display unit that displays an approval option for the approval event in an associated display area of the communication session message when a local user is an approving party of the approval event, the approval option being used for implementing an approval operation for the approval event.

23. A communication apparatus comprising:
a fourth display unit that displays comment information for an approval event; and
a switching unit that switches to a communication session interface with a commenting party corresponding to the comment information in response to detecting a triggering operation for the comment information.

24. The apparatus of claim 23, further comprising:
a prompting unit that displays sending prompt information for the comment information in the communication session interface; and
a second sending unit that sends a communication session message related to the comment information through the communication session interface in response to detecting a user triggering operation for the sending prompt information.