group chat window to view and send messages. If a member wants to chat privately with a plurality of individuals and teams, the member may need to increase the number of private chat windows, which hinders quick and efficient communication with people.

SUMMARY

[0003a] The invention is defined in the independent claims. Some optional features of the invention are defined in the dependent claims.

[0004] One example of a system for private chat within a group chat is performed by a server. During operation, the system receives, at the server from a computing device, a first message that includes a first private chat identifier, private chat counterpart information, and private chat content data. The server may determine a private chat counterpart client based on the first private chat identifier and the private chat counterpart information. The private chat counterpart client and the computing device are both participating in the group chat. The server may then generate a private chat message based on the first message including the private chat content data. The server may then send the private chat message to the private chat counterpart client without sending the private chat message to all members participating in the group chat.

[0005] In a variation, the private chat message includes a second private chat identifier which allows the private chat counterpart client to determine that the private chat message is privately sent to the private chat counterpart client without being sent to other group members participating in the group chat.

[0006] In a variation, the system may determine that the first private chat identifier is a selection identifier, and determine that a client corresponding to the private chat counterpart information is a private chat counterpart client.

[0007] In a variation, the system may determine that the first private chat identifier is an exclusion identifier. The system may then remove a client corresponding to the private chat counterpart information from a client list, and determine that the remaining clients of the client list are private chat counterpart clients.

[0008] In a variation, the system may receive a second message from the computing device. The second message includes a private chat counterpart exclusion identifier, private chat counterpart exclusion information, and second private chat content data. The system may then remove a client corresponding to the private chat counterpart exclusion information from a client list based on the private chat counterpart exclusion identifier and private chat counterpart exclusion information, in which the

remaining clients on the client list are private chat counterpart clients. The system may then generate a private chat message based on the second message that includes the second private chat content data. The system may then send the private chat message only to the private chat counterpart clients.

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[0009] In a variation, the system may receive input information sent from a publishing client. The input information includes a first directed identifier, directed counterpart information and publishing content information. The system may then determine a directed counterpart client based on the first directed identifier and the directed counterpart information. The system may generate a directed message based on the input information, and send the directed message only to the directed counterpart client.

[0010] Another example provides a system for private chat within a group chat. During operation the system receives input information from a user on the computer. The computer is a client computing device. The system then generates a first message based on the input information. The first information includes a first private chat identifier, private chat counterpart information, and private chat content data. The first message allows a server to determine a client that is a private chat counterpart based on the first private chat identifier and private chat counterpart information, generate a private chat message based on the first message, and send the private chat message only to the client that is the private chat counterpart. The system then sends the first message to the server, and receives a message sent by the server and displays the message.

[0011] In a variation, the system receives, from the server, a message that includes a group chat message and a private chat message, in which the private chat message includes a second private chat identifier. The system may then determine, based on the second private chat identifier, that one of the two messages is a private chat message. The system may then display the group chat message and private chat message differently.

[0012] In a variation, the system adds a private chat message reply area to a private chat message display box depicted on a display area of the client computing device. The system then receives a user's private chat message reply through the private chat message reply area. In response to receiving the user's private chat message reply, the system may automatically add to the user's private chat message reply the first private chat identifier and the private chat counterpart information.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The accompanying drawings described herein are used for further understanding the present application and constitute a part of the present application, and the schematic embodiments of the present application and the descriptions thereof are used for interpreting the present application, rather than improperly limiting the present application. In which:

[0014] FIG. 1 presents a diagram illustrating an exemplary computing system for

providing private chat within a group chat, in accordance with an embodiment disclosed herein.

[0015] FIG. 2 presents a flowchart illustrating an exemplary process for a client to provide private chat within a group chat, in accordance with an embodiment disclosed herein.

[0016] FIG. 3 presents a flowchart illustrating another exemplary process for a client to provide private chat within a group chat, in accordance with an embodiment disclosed herein.

[0017] FIG. 4 presents a flowchart illustrating another exemplary process for a server to provide private chat within a group chat, in accordance with an embodiment disclosed herein

[0018] FIG. 5 presents a flowchart illustrating another exemplary process for a client to provide private chat within a group chat, in accordance with an embodiment disclosed herein.

[0019] FIG. 6 presents a flowchart illustrating an exemplary process for a server to provide private chat within a group chat, in accordance with an embodiment disclosed herein.

[0020] FIG. 7 presents a flowchart illustrating an exemplary process of directed message delivery for publishing clients, in accordance with an embodiment disclosed herein.

[0021] FIG. 8 presents a flowchart illustrating an exemplary process of directed message delivery method for a server, in accordance with an embodiment disclosed herein.

[0022] FIG. 9 presents a block diagram illustrating an exemplary client in a computing system for providing private chat within a group chat, in accordance with an embodiment disclosed herein.

[0023] FIG. 10 presents a block diagram illustrating an exemplary server in a computing system for providing private chat within a group chat, in accordance with an embodiment disclosed herein.

DETAILED DESCRIPTION OF EMBODIMENTS

[0024] Embodiments disclosed herein may solve the problem of inefficient private and group chat by allowing a user to easily and efficiently perform private chat within a group chat. A user can direct a private message to another person within the group chat. The user can also exclude one or more members when sending a message within the group chat. Multiple fans may also follow a user, and the user may publish messages to specific fans or exclude certain fans from receiving published messages.

Group Chat Mode

[0025] In group chat mode (e.g., "many to many" mode), a user creates a group and adds group members using a client mobile device, and then the client sends a group creation request to the server. The server generates and registers a group account, and may generate a list of client members for this group account (e.g., usually as client socket list). The server may send messages to clients that are members of the group account. The display on the client mobile device may include an input area (e.g., input box) and a display area. The user may enter a message (e.g., input information) in the input area. For example, the user may enter a message in the input box using a keyboard or mouse. The client may then generate a message based on the input information and a protocol for message transmission and processing between the client and the server, and then send the message to the server. When the server receives the message, the server may parse the message, in order to obtain the input information, identify the client that sent the message, and determine the group account to which the client belongs.

[0026] The server may examine the message (e.g., input information) to determine whether the input information is legal and valid (e.g., whether the input information includes a virus, or whether it is a phishing attempt or contains advertising links, etc.). If the input information is legal and valid, the system may generate a group chat message based on the input information and a protocol for message transmission and processing between the client and the server, and then send the group chat message to all clients in a client list of the group account. After receiving the group chat message, a client may parse the input information from the group chat message and display the input information on the display area of the client. In this manner all members of the group can see the messages from all members and participate in the group chat. The disclosure below describes a system that allows a user to conveniently and efficiently chat privately with another user within the group chat.

Exemplary Computing System For Providing Private Chat Within Group Chat

[0027] FIG. 1 presents a diagram illustrating an exemplary computing system 100 for

providing private chat within a group chat, in accordance with an embodiment disclosed herein. As illustrated in FIG. 1, a user 102 may be operating a computing device 104 that includes installed modules for providing private chat within a group chat. The computing device may be a mobile device such as a mobile phone, a tablet, or a laptop, a desktop computer, or any other type of computing device. The modules may include, for example, a receiving module, a message generator module, a sending module, a display module, and a reply module.

[0028] The receiving module may receive an input message from the user. The message generator module may generate a first message that includes a first private chat identifier, private chat counterpart information, and private chat content data. The sending module may send the first message to a server 106. Server 106 may use the first private chat identifier and private chat counterpart information to determine a private chat counterpart client. Server 106 may generate a private chat message based on the first message and send the private chat message only to the private chat counterpart client.

[0029] The display module may display a message received from server 106 in a display area. The message may include a group chat message and a private chat message. The private chat message may include a second private chat identifier. The client may determine that the message received is a private chat message based on the second private chat identifier, and display the group chat message and private chat message in different ways.

[0030] The reply module may add a private chat message reply area to a private chat message display box of a display area. The reply module may receive a private chat message reply entered by the user through the private chat message reply area. The reply module may also automatically add a first private chat identifier and private chat counterpart information to the private chat message reply before sending the private chat message reply to server 106.

[0031] User 102 may be participating in the group chat with other users, such as users 108-112. Each of the users may also have a respective mobile computing device 114-118. Each user uses a respective computing device to participate in the group chat.

[0032] Server 106 may be hosting the group chat and communicating with the client computing devices over a network 120. Server 106 may include a storage 122 for storing chat messages and code for the modules. Server 106 may also have installed modules such as a receiving module, a private chat client determining module, a private chat message generating module, a directed client counterpart module, a directed message generating module, and a sending module.

[0033] The receiving module may receive a first message from a client such as computing device 104. The first message may include a first private chat identifier, private chat counterpart information, and private chat content data, when the receiving module is included in

[0040] FIG. 2 presents a flowchart illustrating an exemplary process for a client to provide private chat within a group chat, in accordance with an embodiment disclosed herein. The client (e.g., mobile device) may initially receive input information from an input area on the mobile device (operation 202). The mobile device may then generate a first message based on the input information (operation 204). The first message may include a first private chat identifier, private chat counterpart information, and private chat content data. This information allows a server to determine a private chat counterpart client using the first private chat identifier and private chat counterpart information, generate a private chat message based on the first message, and send the private chat message only to the mobile device of the private chat counterpart client.

[0041] The mobile device may send the first message to the server (operation 206). The mobile device may subsequently receive and display a message sent from the server (operation 208).

[0042] The system may predetermine the first private chat identifier and the protocol for message transmission and processing between the client and server. The protocol includes the format of the first message and the private chat message. In addition, the system may determine the input format in the input area. The system may also predetermine the characters that the user initially enters in order to initiate the private chat within a group chat. For example, the first private chat identifier may be a “+” or “-” identifier. That is, the user enters “+” or “-” as the first character in the input area to initiate private chat mode in group chat. The message entered by the user will then be a private chat message.

[0043] After entering the first private chat identifier, the user can enter private chat counterpart information, such as an account number or name of the private chat counterpart. There can be one or more private chat counterparts. If there are multiple private chat counterparts, the account number or name of the private chat counterparts are separated by pre-defined characters (e.g., such as comma). Subsequently, the user can enter the information to be sent to the private chat counterpart, e.g., the private chat message. The private chat message and the account number or name of the private chat counterpart can also be separated by pre-defined characters (e.g., such as space). For example, if the user enters "+John Smith, James, Mary Hello!" in the input area, the client will receive the character string "+John Smith, James, Mary Hello!". This character string conforms to the predetermined format of the first message in an exemplary embodiment.

[0044] The first character the user enters is the first private chat identifier. The user enters the first private chat identifier before entering private chat counterpart information, and the user can use commas to separate the names (also in character string form) of multiple private chat

counterparts. The user enters the private chat message after the private chat counterpart information, and a character string of chat content is separated from the name of the private chat counterpart by a space. The client sends the character string to the server. Note that the above embodiment is only one example, and embodiments are not limited to the described format of the first private chat identifier and the described format of the first message. The first private chat identifier can have other formats and the first message can have different formats in different embodiments.

[0045] After receiving the first message from the client, the server may parse the first message based on a predetermined protocol for message transmission and processing. The server may extract the first private chat identifier and private chat counterpart information. For example, the server may extract one of "+" or "-" (e.g., the first private chat identifier) by parsing the first character of the first message and the name of each private chat counterpart. That is, the system can extract "John Smith", "James" and "Mary" by parsing the character string before the space and after the first private chat identifier of the first message, with commas separating the names. The system can extract the private chat content "Hello" by parsing the character string after the space.

[0046] When the server receives the first message from the client, the server may determine the group account to which the client belongs, based on the information associated with the client (e.g., such as client socket information). The system may then determine the private chat counterpart client based on the first private chat identifier and the private chat counterpart information, and generate a private chat message based on the first message. The server may generate the private chat message based on the private chat content data of the first message, or the private chat counterpart information and private chat content data of the first message. The server sends the private chat message only to the private chat counterpart client. Receiving the first message and sending the private chat message only to the private chat counterpart client is described in greater detail below.

[0047] The client sending the first message (e.g., the client initiating a private chat) and the private chat counterpart client may receive the private chat message from the server, while the other clients that are also members in the group chat will not receive the message. All clients in the group can receive group chat messages. The client can display the received group message and private chat message in the display area.

[0048] If the server generates the private chat message based on the private chat counterpart information and private chat content data, a client receiving the private chat message can display the private chat message and the private chat counterpart information simultaneously, such as the name or identification of a private chat counterpart. That is, the client can display the

private chat message while displaying information regarding the members participating in the private chat, e.g., the members being invited to participate in the private chat by the user who initiates the private chat. The client may also display the private chat message without private chat counterpart information and with only private chat content data.

[0049] If the server generates the private chat message based on the private chat content data, the client may display only the private chat content data. Whether the client displays private chat counterpart information can be determined by group privilege, user privilege or user requirements considered at the client development stage. For example, a group may be a secret group and a user can be responsible for assigning tasks to several members in the group via private chat, but the members must not know of the other members participating in the tasks. In this scenario, a client may display only private chat content data after receiving the private chat message, and the server may also generate the private chat message only based on private chat content data. Note that the client may also automatically display the sources of group chat messages and private chat messages.

Exemplary Process For Client Providing Private Chat Within Group Chat

[0050] FIG. 3 presents a flowchart illustrating another exemplary process for a client to provide private chat within a group chat, in accordance with an embodiment disclosed herein. During operation, the system (e.g., a client mobile device) may receive input information from an input area (operation 302).

[0051] The client may then generate a first message based on the input information (operation 304). The first message may include a first private chat identifier, private chat counterpart information, and private chat content data. A server may determine a private chat counterpart client based on the first private chat identifier and the private chat counterpart information. The server may then generate a private chat message based on the first message, and send the private chat message only to the private chat counterpart client.

[0052] The client may then send the first message to the server (operation 306). The client may receive a message sent by the server and display the message in the display area (operation 308). The message sent by the server may include a group chat message and a private chat message, and the private chat message may include a second private chat identifier. The client may determine that the received message includes a private chat message based on the second private chat identifier, and display the group chat message and private chat message separately.

[0053] The client may add a private chat message reply area in the private chat message display box of the display area, and receive a private chat reply inputted by the user in the private

private chat content after the first private chat identifier and private chat counterpart information or after the private chat reply indicator.

[0064] If the client inserts the first private chat identifier and private chat counterpart information in the input area, the input information received by the client from the input area already includes the automatically added first private chat identifier and private chat counterpart information. If the client inserts the private chat reply indicator in the input area, the client may automatically add the first private chat identifier and private chat counterpart information to the input information after receiving the input information (e.g., private chat content) from the input area.

[0065] Thus, the user is only required to perform a simple operation to reply to the private chat message. For example, the user need only click on the reply button for the private chat message and then enter the reply content. The user is not required to enter the first private chat identifier and private chat counterpart information every time, especially when many members participate in a private chat. As a result, this scheme helps to significantly improve the efficiency of the user's private chat and user experience.

[0066] The private chat counterpart information may include the information of all members participating in a private chat (e.g., including the private chat initiating party). The client may display the message sent by the user. The client may automatically add private chat counterpart information in operation 310. That is, the client adds the information of all members participating in a private chat. The server may send the group chat message or private chat message to the client after receiving the group chat message or private chat message sent by the client. The server may also send the message that the client sends for a reply to a private chat back to the client, and the client may display the message.

Exemplary Process For Server Providing Private Chat Within Group Chat

[0067] FIG. 4 presents a flowchart illustrating another exemplary process for a server to provide private chat within a group chat, in accordance with an embodiment disclosed herein. During operation, the server may receive a first message sent by the client, and the first message may include a first private chat identifier, private chat counterpart information, and private chat content data. The server may parse the first message to obtain the first private chat identifier, private chat counterpart information and private chat content data.

[0068] The server may then identify the private chat counterpart client based on the first private chat identifier and private chat counterpart information, and generate a private chat message based on the first message (operation 404).

[0069] The server may then send the private chat message to the private chat counterpart

[0076] FIG. 5 presents a flowchart illustrating another exemplary process for a client to provide private chat within a group chat, in accordance with an embodiment disclosed herein. During operation, a client may receive input information from an input area (operation 502). The client may generate a first message based on the input information. The first message includes a private chat counterpart exclusion identifier, private chat counterpart exclusion data, and private chat content data. The information in the first message allows a server to determine a private chat counterpart client based on the private chat counterpart exclusion identifier and private chat counterpart exclusion data. The server may generate a private chat message based on the first message, and send the private chat message only to the private chat counterpart client.

[0077] The client may send the first message to the server (operation 506). The client may then receive and display the message sent by the server (operation 508).

[0078] The system may predetermine the private chat counterpart exclusion identifier and protocol for the transmission and processing of messages between client and server. The protocol includes the format of the first message and the format of the private chat message. The private chat counterpart exclusion identifier indicates that the first message entered by the client is a private message and that the group members corresponding to the private chat counterpart exclusion data are those that the client does not intend to conduct private chat with. In addition, the system may predetermine the format for entering a message in the input area for the first time by the client initiating the private chat when conducting a private chat. For example, when the system uses "-" as the private chat counterpart exclusion identifier in the first position of input information, once the first character entered by the client in the input area is "-", that will initiate private chat mode in group chat. The client needs to enter private chat counterpart exclusion data after the private chat counterpart exclusion identifier, such as the account number or name of the private chat counterpart being excluded. One or more private chat counterparts can be excluded. Then the user can enter the information that is intended to be sent to the private chat counterpart, e.g., private chat content data. The private chat counterpart exclusion identifier may also be in other formats, and the first message can also be in other formats.

[0079] After receiving the first message sent by the client, based on a predetermined protocol for message transmission and processing, the server parses the first message and obtains the private chat counterpart exclusion identifier, private chat counterpart exclusion data, and private chat content data. The server may determine, based on the private chat counterpart exclusion identifier, that the client sent the first message under a private chat mode. The server may then remove from a clients list the clients corresponding to the private chat counterpart exclusion data. The remaining clients are private chat counterpart clients, and the server

on a reply button or reply link. When receiving a private chat message reply from the user in the private chat message reply area, the client may automatically add the private chat counterpart exclusion identifier and the private chat counterpart exclusion data to the input data (e.g., private chat message reply). The user need only perform a simple reply operation and then enter the reply content, thus eliminating the need to enter the private chat counterpart identifier and private chat counterpart information every time.

Exemplary Process for Server Providing Private Chat Within Group Chat

[0084] FIG. 6 presents a flowchart illustrating an exemplary process for a server to provide private chat within a group chat, in accordance with an embodiment disclosed herein. During operation, the server receives a first message sent by a client (operation 602). The first message includes a private chat counterpart exclusion identifier, private chat counterpart exclusion data, and private chat content data.

[0085] The server then removes the clients corresponding to the private chat counterpart exclusion data from a client list based on the private chat counterpart exclusion identifier and private chat counterpart exclusion data (operation 604). The remaining clients are private chat counterpart clients and the server generates a private chat message based on the private chat content data. The server then sends the private chat message to the private chat counterpart clients only (operation 606).

[0086] When the server parses the message sent by the client according to the predetermined protocol for the transmission and processing of message, if there is no private chat counterpart exclusion identifier, then the server determines that the message sent by the client is a message sent under group chat mode. If the server obtains the private chat counterpart exclusion identifier through parsing of the message sent by the client, then the server determines that the message sent by the client is a message sent under private chat mode.

[0087] After the server receives the first message from the client, the server determines which group account the client belongs to based on information regarding the client. The server then removes the clients corresponding to the private chat counterpart exclusion data from the client list of the group account. The remaining clients are private chat counterpart clients, and the server sends a private chat message to the private chat counterpart clients.

[0088] The server may generate a private chat message based on the first message. The server can generate the message from only the private chat content data in the first message, or from both the private chat counterpart information and the private chat content data in the first message. If the server generates the private message based on both private chat counterpart information and private chat content data, the client may display both the private chat message

client corresponding to the followed account. After receiving the fan change information and follow change information, the publishing client may update the follow number, number of fans, follow account information and/or fan account information displayed on the publishing client. When a user wants to view his/her own fan list on the publishing client, he/she may send to the publishing server a request for review of the fan list. The publishing server may, based on the fan list review request, return to the publishing client all or part of fan account list information (e.g., in case of large number of fans, publishing server may return list information in batches). The publishing client may then receive and display the fan account list information.

[0093] When a user publishes a message, he/she enters the message in the input box of the publishing client. After receiving the input information, the publishing client sends the input information to the publishing server. The publishing server forwards the input information to all publishing clients in the fan client list corresponding to the publishing client, so that all fans of the user including other viewers can see the message published by the user through their own publishing clients. In this scenario, the user's published message is public information.

[0094] However, sometimes the user does not want his/her message to be seen by all fans and other viewers, but to be seen by only a certain fan or a number of fans. In this scenario, the message is directed information. Presently, directed information may be limited to information directed at good friends (e.g., accounts following each other are good friends). That is, the message can only be seen by users mutually following each other (e.g., friend circles in Weibo and WeChat).

[0095] The publishing client may provide options when sending messages such as public information, limited to mutual follow (e.g., mutual follow), and viewable and non-viewable. When a user selects the option of limited to mutual follow, the publishing client sends the message entered in the input box by the user to the publishing server. After the publishing server receives the input information in the message, the publishing server sends the input information to all publishing clients corresponding to a mutual follow account list. The server may determine the mutual follow account list from the fan account list and the follow account list of the publishing client (e.g., the common portions of fan account list and follow account list). Since directed information is limited to sending to all mutual follow accounts, the user cannot direct the input information to specific accounts, regardless whether the accounts are mutual follow accounts.

Exemplary Process Of Directed Message Delivery For Publishing Clients

[0096] FIG. 7 presents a flowchart illustrating an exemplary process of directed message delivery for publishing clients, in accordance with an embodiment disclosed herein.

may receive the directed information sent by the publishing server, while other clients may not receive such information. The publishing server may send information that includes public information and directed information. The directed information may include the second directed identifier. A client may determine based on the second directed identifier that the received information is directed information, and display the public information and directed information separately. This makes it convenient for users to determine which is public information and which is directed information.

[00102] The publishing client may receive directed information and parse the directed information according to predetermined rules. For example, the client may parse the first character of the directed information. If the client determines that the directed information includes the second directed identifier, the client may determine that the received information is directed information. If the client determines that the directed information does not include the second directed identifier, the client may determine that the received information is public information. The publishing client may then separately display the public information and directed information. For example, the publishing client may add a distinguishing symbol such as “directed” in the directed information display box. The publishing server may send message source information to the client that indicates which publishing client the input information corresponding to the message comes from. The publishing client may automatically display information regarding the source of the directed information and the source of the public information.

Exemplary Process Of Directed Message Delivery For Server

[00103] FIG. 8 presents a flowchart illustrating an exemplary process of directed message delivery for a server, in accordance with an embodiment disclosed herein. During operation, the system may receive input information sent from a publishing client (operation 802). The input information may include a first directed identifier, directed counterpart information, and publishing content information. Next, the system may determine the directed counterpart publishing client based on the first directed identifier and directed counterpart information (operation 804). The system may then generate directed information based on the input information (operation 806). The system may send the directed message to the directed counterpart publishing client only (operation 808). Note that the system can also generate and send directed messages to multiple publishing clients based on the directed counterpart information.

[00104] If the publishing server does not obtain the first directed identifier when parsing the input information sent by the publishing client, the server may determine that

identifier in the directed information. Note that the second directed identifier can also be the same as the first directed identifier.

[00107] Embodiments disclosed herein include a method for directed information publishing. A user has the flexibility to choose a directed counterpart. The user need only enter the first directed identifier and directed counterpart information in an input box to publish directed information. In comparison with the mode which allows only friends who follow each other to publish directed information, this mode is much more convenient.

Exemplary Client

[00108] FIG. 9 presents a block diagram illustrating an exemplary client in a computing system for providing private chat within a group chat, in accordance with an embodiment disclosed herein. Client 900 includes a processor 910, a memory 920, and a storage device 930. Storage 930 typically stores instructions that can be loaded into memory 920 and executed by processor 910 to perform the methods described above. In one embodiment, the instructions in storage 930 can implement a receiving module 942, a message generator module 944, a sending module 946, a display module 948, and a reply module 950, which can communicate with each other through various means.

[00109] In some embodiments, modules 942-950 can be partially or entirely implemented in hardware and can be part of processor 910. Further, in some embodiments, the client may not include a separate processor and memory. Instead, in addition to performing their specific tasks, modules 942-950, either separately or in concert, may be part of special-purpose computation engines.

[00110] Storage 930 stores programs to be executed by processor 910. Specifically, storage 930 stores a program that implements a client (e.g., application) for private chat within a group chat. During operation, the application program can be loaded from storage 930 into memory 920 and executed by processor 910. As a result, client 900 can perform the functions described above. Client 900 further includes a display 970, and can be coupled via one or more network interfaces to a network 982.

[00111] Receiving module 942 may receive an input message from the user.

[00112] Message generator module 944 may generate a first message that includes a first private chat identifier, private chat counterpart information, and private chat content data. The first message allows a server to use the first private chat identifier and private chat counterpart information to determine a private chat counterpart client. The server may generate a private chat message based on the first message and send the private chat message only to the private chat counterpart client.

private chat content data. In some embodiments, receiving module 1042 may also receive a first directed identifier, directed counterpart information, and publishing content information as input information from the client.

[00120] Private chat client determining module 1044 may determine a private chat counterpart client based on the first private chat identifier and private chat counterpart information. Private chat message generating module 1046 may generate a private chat message based on the private chat content data. Directed client counterpart module 1048 may determine a directed counterpart publishing client based on the first directed identifier and directed counterpart information. Directed message generating module 1050 may generate a directed message based on the input information received from the client. Sending module 1052 may send the private chat message only to the private chat counterpart client, and may send messages that are not private to every member of a group. In some embodiments, sending module 1052 may send the directed message only to the directed counterpart publishing client, and may send messages that are not directed to every fan following a publishing client.

[00121] Embodiments disclosed herein may be implemented on various universal or dedicated computer system environments or configurations. For example, such computer systems may include personal computers, server computers, handheld or portable devices, tablet-type devices, multiprocessor systems, microprocessor-based systems, set-top boxes, programmable electronic consumption devices, network PCs, minicomputers, mainframe computers, distributed computing environments including any of the above systems or devices, and the like.

[00122] Embodiments disclosed herein may be described within the general context of computer-executable instructions executed by a computer, such as a program module. Generally, the program module includes a routine, a program, an object, an assembly, a data structure and the like for implementing particular tasks or achieving particular abstract data types. Embodiments disclosed herein may also be implemented in distributed computing environments, in which tasks are performed by remote processing devices connected via a communication network. In the distributed computing environments, program modules may be located in local and remote computer storage media that may include a storage device.

[00123] The data structures and computer instructions described in this detailed description are typically stored on a computer-readable storage medium, which may be any device or medium that can store code and/or data for use by a computer system. The computer-readable storage medium includes, but is not limited to, volatile memory, non-volatile memory, magnetic and optical storage devices such as disk drives, magnetic tape, CDs (compact discs), DVDs (digital versatile discs or digital video discs), or other media capable of storing computer-

What Is Claimed Is:

1. A computer-implemented method for private chat within a group chat performed by a server, comprising:

receiving, by the server from a user of a computing device, a first message that includes a first private chat identifier, private chat counterpart information, and first private chat content data;

determining a private chat counterpart client based on the first private chat identifier and the private chat counterpart information, wherein the private chat counterpart client and the computing device are both participating in the group chat;

generating a first private chat message based on the first message including the first private chat content data;

sending the first private chat message to the private chat counterpart client without sending the first private chat message to all members participating in the group chat;

receiving, by the server from the user of the computing device, a second message that includes a private chat counterpart exclusion identifier, private chat counterpart exclusion information, and second private chat content data;

removing from a client list a client corresponding to the private chat counterpart exclusion information based on the private chat counterpart exclusion identifier and the private chat counterpart exclusion information, wherein the client list includes all members of the group chat or one or more private chat counterpart clients associated with the previously sent first private chat message;

generating a second private chat message based on the second message including the second private chat content data; and

sending the second private chat message to remaining clients on the client list.

2. The method of claim 1, wherein the first private chat message includes a second private chat identifier which allows the private chat counterpart client to determine that the first private chat message is privately sent to the private chat counterpart client without being sent to other group members participating in the group chat.

3. The method of claim 1, further comprising:

determining that the first private chat identifier is a selection identifier; and

determining that a client corresponding to the private chat counterpart information is the private chat counterpart client.

4. The method of claim 1, further comprising:

determining that the first private chat identifier is an exclusion identifier;

removing from the client list a client corresponding to the private chat counterpart information; and

determining that the remaining clients on the client list are private chat counterpart clients.

5. The method of claim 1, further comprising:

receiving input information sent from a publishing client, wherein the input information includes a first directed identifier, directed counterpart information and publishing content information;

determining a directed counterpart client based on the first directed identifier and the directed counterpart information;

generating a directed message based on the input information; and

sending the directed message only to the directed counterpart client.

6. A computing system comprising:

one or more processors;

a memory; and

a computer-readable medium coupled to the one or more processors storing instructions stored that, when executed by the one or more processors, cause the computing system to perform a method for private chat within a group chat performed by a server, the method comprising:

receiving, by the server from a user of a computing device, a first message that includes a first private chat identifier, private chat counterpart information, and first private chat content data;

determining a private chat counterpart client based on the first private chat identifier and the private chat counterpart information, wherein the private chat counterpart client and the computing device are both participating in the group chat;

generating a first private chat message based on the first message including the first private chat content data;

sending the first private chat message to the private chat counterpart client without sending the first private chat message to all members participating in the group chat;

receiving, by the server from the user of the computing device, a second message that includes a private chat counterpart exclusion identifier, private chat counterpart exclusion

information, and second private chat content data;

removing from a client list a client corresponding to the private chat counterpart exclusion information based on the private chat counterpart exclusion identifier and the private chat counterpart exclusion information, wherein the client list includes all members of the group chat or one or more private chat counterpart clients associated with the previously sent first private chat message;

generating a second private chat message based on the second message including the second private chat content data; and

sending the second private chat message to remaining clients on the client list.

7. The system of claim 6, wherein the first private chat message includes a second private chat identifier which allows the private chat counterpart client to determine that the first private chat message is privately sent to the private chat counterpart client without being sent to other group members participating in the group chat.

8. The system of claim 6, further comprising:

determining that the first private chat identifier is a selection identifier; and

determining that a client corresponding to the private chat counterpart information is the private chat counterpart client.

9. The system of claim 6, further comprising:

determining that the first private chat identifier is an exclusion identifier;

removing from the client list a client corresponding to the private chat counterpart information; and

determining that the remaining clients on the client list are private chat counterpart clients.

10. The system of claim 6, wherein the method further comprises:

receiving input information sent from a publishing client, wherein the input information includes a first directed identifier, directed counterpart information and publishing content information;

determining a directed counterpart client based on the first directed identifier and the directed counterpart information;

generating a directed message based on the input information; and

sending the directed message only to the directed counterpart client.

11. A non-transitory computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for private chat within a group chat performed by a server, the method comprising:

receiving, by the server from a user of a computing device, a first message that includes a first private chat identifier, private chat counterpart information, and first private chat content data;

determining a private chat counterpart client based on the first private chat identifier and the private chat counterpart information, wherein the private chat counterpart client and the computing device are both participating in the group chat;

generating a first private chat message based on the first message including the first private chat content data;

sending the first private chat message to the private chat counterpart client without sending the first private chat message to all members participating in the group chat;

receiving, by the server from the user of the computing device, a second message that includes a private chat counterpart exclusion identifier, private chat counterpart exclusion information, and second private chat content data;

removing from a client list a client corresponding to the private chat counterpart exclusion information based on the private chat counterpart exclusion identifier and the private chat counterpart exclusion information, wherein the client list includes all members of the group chat or one or more private chat counterpart clients associated with the previously sent first private chat message;

generating a second private chat message based on the second message including the second private chat content data; and

sending the second private chat message to remaining clients on the client list.

12. The non-transitory computer-readable storage medium of claim 11, wherein the first private chat message includes a second private chat identifier which allows the private chat counterpart client to determine that the first private chat message is privately sent to the private chat counterpart client without being sent to other group members participating in the group chat.

13. The non-transitory computer-readable storage medium of claim 11, wherein the method further comprises:

determining that the first private chat identifier is a selection identifier; and

determining that a client corresponding to the private chat counterpart information is the private chat counterpart client.

14. A non-transitory computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for private chat within a group chat, the method comprising:

receiving input information from a user on the computer, wherein the computer is a client computing device;

generating a first message based on the input information, wherein the first message includes a first private chat identifier, private chat counterpart information, and first private chat content data, wherein the first message allows a server to:

determine a client that is a private chat counterpart based on the first private chat identifier and the private chat counterpart information,

generate a first private chat message based on the first message, and

send the first private chat message only to the client that is the private chat counterpart;

sending the first message to the server; and

receiving the first private chat message sent by the server and displaying the first private chat message;

receiving, second input information from the user on the client computing device;

generating a second message based on the second input information, wherein the second message includes a private chat counterpart exclusion identifier, private chat counterpart exclusion information, and second private chat content data, wherein the second message allows the server to:

remove from a client list a client corresponding to the private chat counterpart exclusion information based on the private chat counterpart exclusion identifier and the private chat counterpart exclusion information, wherein the client list includes all members of the group chat or one or more private chat counterpart clients associated with the previously sent first private chat message;

generate a second private chat message based on the second message including the second private chat content data; and

send the second private chat message to remaining clients on the client list;

the method further comprising sending the second message to the server.

15. The non-transitory computer-readable storage medium of claim 14, wherein the method further comprises:

receiving, from the server, a message that includes a group chat message and a private chat message, wherein the private chat message includes a second private chat identifier;

determining, based on the second private chat identifier, that one of the two messages is a private chat message; and

displaying the group chat message and private chat message differently.

16. The non-transitory computer-readable storage medium of claim 14, wherein the method further comprises:

adding a private chat message reply area to a private chat message display box depicted on a display area of the client computing device;

receiving a user's private chat message reply through the private chat message reply area; and

in response to receiving the user's private chat message reply, automatically adding to the user's private chat message reply the first private chat identifier and the private chat counterpart information.