REPORT - CHAT APPLICATION

[Users may also disconnect arbitrarily by pressing Ctrl-C and not send an UNREGISTER message. How would you deal with such a scenario? You need not implement this, just describe it in detail. Also think and describe how you would extend the client and server applications to deal with offline users? Similar to the single and double checks in Whatsapp, a sender should be able to send messages to offline recipients and get notified later whenever the messages are delivered to them. You do not have to implement this, just describe it in detail.]

On closing a client by pressing Ctrl-C, a null message gets sent to the server on the send connection of the client with server. This can be used to detect such a scenario and remove inactive users from server hashtable, i.e., deregister the user or mark them inactive.

To deal with offline users, maintain a track of active/inactive users (pressing Ctrl-C or losing connection could make a user inactive). Consider the following example - suppose Alice wants to send a message to Bob (Bob is inactive but registered); on getting the send request from Alice the server would intimate her that Bob is inactive and that it will try to send the message as soon as Bob is active; the server would maintain a buffer of messages to be sent to any user; as soon as the Bob gets active and intimates the server (by sending a message similar to the register message), it is sent all the messages from its buffer in the server; Bob gives acknowledgements for all the messages; after this a sent acknowledgement is sent to Alice.

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