

<COMP3331 Assignment Report>

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3. Application Layer Message Format

-> When I send the messages on this program, each header ([private], [message]...etc.) is used to identify what kind of message it is. Using these headers, the program distinguishes and prints the messages with correct formats. Also, I divided the types of messages into before and after login. So, after Id verification, I was able to run the program without error about login.

1,2,4. Program Design, Data Structure Design, Brief Description of how your system works

-> This system is composed of several multi-threading on tcp sockets. In the case of client.py, it is divided as 3 parts which includes receiving data, sending data, and p2p messaging part each. At the very beginning, using client's address and socket, it starts a connection with server-side socket and then processes login. After finishing Id verification, it can enjoy the functions of the server.

In the case of server.py, it also uses tcp multi-threading, but one class includes the functions which send and receive data both. The class (ClientThread) can get multiple users at the same time because there is no limit to receiving multiple users (using listen() and while loop). After the server socket connects with the user sockets, it verifies their id and password in credentials.txt and provides several functions which can help the users to communicate with other users and so on.

I couldn't fully finish the private connection part. I only could make one-direction connection between the clients to start, process and end communication.