COSC 4333 Group Project Report

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**Setup:**

The demonstration begins by first compiling and running the server program. When running the server in terminal, we pass it the port for the server to communicate through.

In a separate terminal, we compile and then run the client program. When running the client in terminal, we pass it port of the server so that a connection can be established between the server and client. The client will also be able to input a username and which chat room they want to join. This process occurs for every new client that wants to communicate with the server.

**Chat Interaction:**

If the correct port numbers are passed when executing both the server and client(s), the connection will be established. Once this is done, a client handler thread will be created in the server for each client that connects. Inside this thread, it will set the name of the client to the user input as well as join or create a desired chatroom. This handler thread will stay running until the client exits and ends the connection. The handler thread will call upon the multicast methods which will send the text message to all of the other clients that are currently in the corresponding chatroom.

The client side will work by starting two threads, a sender and receiver thread, which will constantly be running so that the user can send whenever and receive other user chats whenever they are transmitted.

**Leave:**

When the client wants to leave the chatroom, they will type “LEAVE” which will notify the other users in the chat that the current user has left. The client handler thread will then call the end connection method which will sever the connection from the server.