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Project Design

Description:

Our project will be a client-server chat application written in Python. Once the server is started, it will wait for incoming client connections or commands from connected clients. When a client connects to the server, the client will be assigned a unique identifier (UID) and be echo'd back a list of all currently connected clients and chatrooms. The client will then have two options: to send a message to another client or join a chatroom. If the client would simply like to send a message to another, s/he will send a command with the UID and then the message, which the server will relay to the correct client. If the user joins a chatroom, the server will properly allocate data to represent being in a group. The client can then send messages to the room by sending a command with the chatroom ID and the message.

Implementation:

Our project will heavily rely on the Python 'socket' library. The 'socket' library will facilitate connections between the clients and the server, allowing the different processes to communicate. No databases or external APIs will be needed at this time in order to echo messages between clients. The server will keep track of a list of available chatrooms as well as connected clients to allow both chatroom and individual messaging.

Program Flowchart: