

Report of Self-Chosen Project

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Topic: Design and Implement Simple Chat Server

Description:

- Design and implement a chat server program.
- Clients can chat with each other through the server.
- Using the command line interface for interaction.
 - All operations are operated by typing command in the bash.
 - All messages are displayed in the bash.
- Use Socket API for implementation.
 - Construct TCP connections.
 - Use a monitor to handle multiple connections.

Expected Result:

- The Server can handle multiple clients' connection simultaneously.
- Clients need to do the authentication before chatting through the server.
 - First, they need to register a username and password.
 - Second, they need to login the server by their username and password.
 - Third, they will be logout if they close the connection, or they can logout the server manually.

- Users can set their own profile, for example:
 - Set their status, either online, offline, or busy
 - Set their personal information. for example, name, age, birthday, friends, phone number, job, or other self-description.

- User can also view other users' profile.
 - They can set the access control of their own profile.
 - In other words, who can view my profile.

- For chatting through the server
 - Chatting takes place in chat rooms.
 - User can create or close their own chat rooms.
 - User can enter or leave their own or other users' chat rooms.
 - User can set the access control of their own chat rooms.
 - ◆ Is the chat room public or invited only.
 - ◆ Who can invite or ban other users.
 - When entering a chat room, they can see the chatting history.