

## CSCI3280 Group 9

### Project Progress

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Implementation of the basic function of “**Chat room creation and joining**”:

- **Chat room creation:**

In this function, the user can create a new chat room by typing the port number, then get the IP of the socket and bind the IP and the port number. Then the user presses the join room button. After inputting the name and the room number, the application will start the new room if there is no such room exists, which the user can create a new room and join the room. Otherwise, it will show an error message in the interface. Then the server will update the list including: the client to chat room list; the chat room to client list; the IP to client list; and the client to IP list.

- **Chat room list:**

In this function, the chat room list is shown on the left hand side in the interface. When any new chat room is created, the server will update the chat room list in all the user interfaces, and when any chat room is terminated, the server will also update the chat room list by removing the terminated chat room.

- **Joining chat room:**

The user can join the chat room by inputting the username, IP address, the port number and the room number. And then it will connect to the server, by sending the message to the server and update the room list and the client list. After it successfully connects, the success message will be shown and the application will play the voice streams and send the voice streams to another user.

- **Basic GUI:**

The GUI shows the basic function of the peer to peer chat room, including the chat room creation, the chat room list and the joining chat room. On the left hand side, users can see the chat room list with the create chat room button and joining chat room button at the bottom of the chat room list. When the user creates the new chat room, the IP and port will be shown in the UI. When a user joins the new room, the server will show a message of “(username) have joined the room (room number)” will be shown; and in the user interface, a message will show a message of “You have successfully joined the room (room number)”. Also at the bottom of the GUI, there is a button to record the chat.

Implementation of the basic function of **“Multi-user voice chat”**:

- **Support for multiple users:**  
The system supports a minimum of three users simultaneously participating in the same chat room. And the user can leave the chat room at any time, and other users can see that any user left the chat room with a message will be shown.
- **Continuous voice communication:**  
All the users in the chat room can listen to other users while they are speaking at the same time without any delay with the uninterrupted and seamless voice communication experience. Until the user leaves the chat room, they are able to have continuous voice communication.
- **Simultaneous voice speaking:**  
The voice chatting in the chat room is simultaneous, which means the server will capture the user voice chat and be able to transmit the voice to another user with no data loss in the process. And the system is able to support multiple users to speak at the same time without delay and data loss in the communication.
- **Microphone control:**  
The user can mute themselves by just pressing a mute button. Then the application will stop transmitting the voice to the server and then to another user. By pressing the mute button again, another user can listen to the user again.
- **GUI:**  
In the GUI of the chat room, it includes the room number and all the users in the same chat room will be shown in the chat room interface. And if the user leaves or mutes in the chat room, all the messages will be shown in the interface.

Implementation of the basic function of **“Recording”**:

- **Start/stop function:**  
In the chat room, the users are able to record the voice chat. The user can start the recording and stop the recording at the same time. The recording will include all the user voice without interrupting the voice chatting system. After stopping the recording, the recording will be saved on the computer.

Implementation of the enhanced function:

- **Transcript:**  
In this function, after the user stops the recording, the system will turn the recording into a text file and save it to the computer. So that the user can easily review the voice chat without listening to the whole recording. Second, the search for certain content in the recording.