

## **50.012 Networks**

### **Group 4 Chat Server Application**

#### **Members:**

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#### **Introduction**

Our chat server application allows peers/friends/students to chat together by connecting to our server. They would only need to provide their username and the chatroom name in order to be connected to others.

#### **Current Features:**

1. Support MIME type of messages. (text, image and file)
2. Congestion Control applied at the client side.
3. Multi-user chatroom.
4. Ability to record video to send over to the chat. (**\*IN PROGRESS**)

## User Instructions

\*System Requirements: Python 3.6 and python library (cv2)

1. Unzip and extract the file we have submitted.
2. Run **server.py** first and then **client.py**. (You can run up till **2** clients)
3. At client.py, you will be prompted to key in your username, **any username** will do. After that, you will be prompted to key in the chatroom name. For now, we are only allowed for one chatroom, named “**SUTD**”.
4. After successfully connected to the server, there is a **list of commands** which you can do different things. You can try out different commands below to play around with our chat server application. To **send normal message**, you can just type on the command prompt.

Command	Usage
/onlineMembers	View current list of members who are online.
/allMembers	View all list of members who are/were in the chatroom.
/transferFile	To send over file to the chatroom. After key in this command, you will be prompted to key in the filename of the file that you would like to send (*To be safe, it would be better if you save the image in the same folder as the script). To test out, you could use the existing image, ‘ <b>new cat.jpg</b> ’ to try out.
/openVideo	Open the webcam and start recording. ( <b>*STILL IN PROGRESS</b> ) Currently, it can only display the webcam.
/congestionControl	This command will automatically send packets to the server and a loss/triple dupack will be observed here. It will print out the size of cwnd, sending rate everytime it sends a packet.