CMPE150 Lab3 design report

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1.file.txt

this file stores all the information of peers who can join the talk , the information includes listening port, user,sending port,user's colour for chatting, and whether the user is activated or not.

For example

listening port	user	sending port	colour	activated
2001	Bob	3001	[31m	d

2. class structure:

There are five classes:Peer，Main，ListeningThread, SendingThread and SingleSender.

1.The Peer class stores the information of the peer including listening port number, username and sending port number.

2.The Main class is the entry of the program,which initiates the peer as well as listening thread and sending thread.

3.ListeningThread contains a server socket which will keep listening on port .When it is terminated by pressing control+C, the server socket will be closed.

4.The SingleSender is a class that contains a socket and a message to be sent. when calls a singleSender, you need to tell the destination port number , which is the listening port of other peers,and the message you want to send. SingleSender only sends message to one peer.

5.The SendingThread can send the message to all peers who are currently in the chat room, it also plays a role as

a group leader, when the sending thread starts, it will first check whether the peer is already in the chat room or not,if not, it will then check if the peer is in the file. Finally, the Sending thread will allow the peer to join the talk and change the status of peer to “activate”. methods to check the peer is activated or not, or change the status of peer, are achieved by checking or changing the activated field in the file,in this case ,the file is file.txt.

3.How it works

1.Run the Main program by typing “java Main 2001 Bob 3001”

2. It creates a peer which name is Bob and is listening on 2001.

3.A sending thread is created

4.A vector which stores all the information of peers who can join the chat is created.

5. The sending thread checks if the peer is already in the chat, then it checks if the peer is in file.txt,finally, it allows the peer to join the chat and creates a listening thread for this peer.

6.The status of peer is changed to “a”(activated)

7.Every time a peer wants to send a message, the vector will scan the file again in case someone left the chat room.

8.When peer left the chat room, the status of the peer is changed to “d”(deactivated).