Assignment #6 – Client-Server with Socket Network Programming
EE422C (Prof. Edison Thomaz) - The University of Texas at Austin – Fall 2019

Assignment Due Date: Dec 5th 2019 at 9am
Points: 100pts + 10pts (bonus)

General Assignment Requirements

The purpose of this assignment is to use Java Socket Programming to build a simple chat room application. You are free to use whatever classes and methods from the Java 8 library you wish. You may not use non-standard library features. We are providing you some sample code to start with.

In this assignment, you are asked to implement a simple chat room application with both Server and Client. You should use Java Socket for network communication. You should design your application using OOP principles.

Server: The server is responsible for receiving messages from clients and dispatching messages to appropriate clients. You just need one server; call the main class of the server ServerMain.java. Make sure that ServerMain.java has a main() method.

Client: You should implement One-to-One chat, and make sure that it works with at least three clients. Client A can chat with Client B and Client C individually at the same time. You can just use one window to show both chats. Using separate windows to represent different conversations is also acceptable. Make sure that you have a ClientMain.java file with a main() method in it.

There are opportunities for extra-credit:

1. You are encouraged to design a user interface for your application based on your experience of using chat room applications. You are encouraged to add more interesting functions to the chat room, such as registering with a login and password, retrieving chat history, sending friend requests, etc.
2. You may choose to develop your client as an Android application. In this case, the server would be running on your computer and the mobile client would be able to connect to the server as long as they are both on the same network.

These extra features will be worth up to 10 extra points based on their complexity. We recommend you discuss your ideas with the TAs before implementation.

Submission and grading

Put your code in a package named assignment_6, zip all your files and name the zip file as Assignment_6_EID.zip. Do not turn in your test code. Please make sure that the structure of the final ZIP file is as follows, when unzipped:

Assignment_6_EID1/ (folder that is created by zip)
    README.pdf
    <other non-code files>
    <executable jar files for server and client>
    src/
        ServerMain.java
        ClientMain.java
        <other code files>

To get credit for this assignment, you will need to:

- Turn in your code by the due date.

- Meet with the TAs during recitation on Dec 5th to show your working application. We will ask you to demo your implementation with at least 3 clients. When meeting with the TA, be prepared to show the source code of your application and answer questions about your design and implementation choices. If you cannot meet with one of the TAs on Dec 5th, schedule a time with them individually.