COM S/SE 319: Construction of User Interfaces
Spring 2020

Homework 2: Server Client Thread (Warmup)

[Total Points: 50]

Assignment Due: Sunday, January 26, 2019, 11:59 PM

1. **Review of Threads and Socket Programming**

   If you are unfamiliar with Threads and Sockets, there are some tutorials available on Canvas.

   - Step-by-step Lab Tutorial on Threads, Data Corruption & Deadlocks with Code
   - Step-by-step Lab Tutorial on Server-Client with Code

2. **APPLICATION SECTION: Server Client/Thread**

   Create a chat application. You will need to create both the server and the client codes. The server and clients should run on localhost. Below are some features that you should incorporate. Note, we may have under-specified what you need to do. If so, make up your own rules on what to do in those situations. In other cases, follow the requirements carefully.

Create a Server

1.1 Connect to Server (15 points)

a) When you start a client, it should come up with a prompt like below, you should make it entirely text-based (NO GUI required). **(5 points)**

> Enter your name: (After giving input “name”, then press Enter)

> Enter access code: (After giving input “access code”, then press Enter)

(Note: the access code should be “cs319spring2020”, and it can be hard-coded. The verification of the access code should be implemented in the server-side.)

b) After entering the username and correct access code, the client should be connected to the server and get notified that “you are connected” or “incorrect access code”.

In the case of “incorrect access code”, the client is prompted again to enter the access code. **(10 points)**

1.2 Send a text message to the server (25 points)

a) Send **user name** and **chat message** to the server. **(5 points)**

b) Then the server broadcast client’s text message to every other currently connected client (i.e. not to the sending client). **(10 points)**

c) Messages should be printed in each client's console and the server's console. **(10 points)**

2. What to Submit:

Submit via Canvas a **compressed file (.zip)** (rename it with your LAST NAME) containing the following:

1. Please **zip** your .java files and submit on Canvas along with a README **file** and the **report**. Make sure to include all the files that are needed in order to run your program(s). **[** All APPLICATION SECTION points = 5+10+5+10+10 =**40 points]**

2. A **README file** explaining how to **compile and run** the program. [**5 points**]

3. A **report** (.docx or .pdf) describing your solution approach and screenshots of every required output. [**5 points**].