Programming Assignment

8% Total Course Grade

Due Date: April 30

Report Session:

When you finish, create a ZIP file with your student ID as the file name. In the ZIP file, please include the source files with the appropriate remarks and the corresponding executable files. You must submit your file before the due, April 30.

Demo Session:

You should use the version, which you uploaded in the LMES system, to do the demo. But please keep your own version on your laptop as well. If the version in LMES doesn't work during your demo, you can choose to use your program on the laptop to do the demo. But some points will be deducted in this case.

Major Objective:

The major requirement of this programming assignment is to be able to broadcast messages to multiple connected clients.

Evaluation:

A demo session will be arranged in the tutorial class on May 4 and 5. It will be a 5 mins per person demo and following criterion will be evaluated.

1. Broadcast program compiles [YES | NO] 1 Point
2. Demo of broadcast program
    - The server program starts successfully [YES | NO] 1 Point
    - Client-1 connects and is able to send messages to server [YES | NO] 1 Point
    - At least 2 more clients can connect to the server [YES | NO] 1 Point
    - Message sent by client-1 is now received by client-2 & 3 [YES | NO] 1 Point
    - Client removal. Show the idle client can be removed from the server's list.

      (In order to finish the demo faster, please set your timer to 30s, i.e. the idle clients will be removed after 30 seconds.) [YES | NO] 1 Point
    - UI design. Design the receiving window and sending window separately as required in the Programming Assignment Guidelines. Bonus [YES | NO] 2 points

      (This point is not strictly required. If you finished this part, we will give you 2 bonus points.)
3. Individual knowledge of the project and network programming 2 Points

Details :

1. For the demo session you are expected to run the server program in one terminal window (say terminal-1). Then open multiple terminal (say terminal-2, terminal-3 etc.) to run the clients which connect to the server i.e. Program running in terminal-1.
2. You need to show the broadcast process and the client removal process in your demo.
3. Finally you are expected to give a brief explanation of your program. Tell the TA whether you choose UDP or TCP and the functions for the modules in your program.

NOTE:

a. You should bring your own laptops for the demo. If you choose to use the program on your own laptop to do the demo, the TA needs to compare your source code with the one in your LMES system to make sure it is written by you.

b. You may use any programming environment for this assignment. A non-exhaustive list - C/C++ Sockets, Qt, Java, Python etc.

c. Part-2 of evaluation will be `All` or `None`.