CS 342 - Software Design

Machine Problem 4, Spring 2016

Networked Chat Application

Due: Thursday, April 7, 2016 at 11:59 pm

This project will be done in groups of 2 or 3 students. Student can determine their own groups.

For Project 4, your team is to create a set of GUI based programs in Java Swing that will allow multiple people to connect together and send messages to specific connected person or to the entire group.

The Java Socket and <u>ServerSocket</u> classes must to used for the networking implementation. No other networking related classes can be used for this project without explicit permission from Prof. Troy. (Note: the answer will be "No." in every case I can currently think of.)

One program will act as the "central server". Another program will act as the "client program".

All clients will connect to the central server. When sending a message, the client will first send the message to the central server which will then forward the message to the desired client or clients. A clients does not connect directly to another client. We will assume that the central server's network information (ip address and port number) is "well known".

Each client will display a list of the persons currently connected to the central server. As a new person connects to the central server, a displayed list of names at each client needs to be updated to reflect the new person joining the group (or chat room). Also as a person disconnects/leaves from the central server, the displayed list of names at each client need to again be updated.

When a message is send by a client, the client is to have the option to send the message to all currently connected clients or to just a single specific client.

The client is to show a list of messages received and who sent those messages.

For 10 pts extra points, you can add a feature in which a client can specify any number of other clients to send whom a message can be sent.

Programming Style

Your program must be written in good programming style. This includes (but is not limited to):
- Use of classes,
- Data hiding,
- Meaningful identifier names,

- A file header comment at the beginning of each source code file,
- A method header comment at the beginning of the method,
- Proper use of blank lines,
- Proper use of indentation,
- Explanatory "value-added" in-line comments, etc.

You are not allowed to share code with any other person outside of your group/team (inside this class or not). You may discuss the project with other groups; however, you may not show any code you write to another group nor may you look at any other group's written code.

Project Submission

You are to submit this project using GitHub