

Independent Study Project Proposal

I. Project Goal

- A. The goal of the project is to provide a small chat application similar to IRC clients.

II. Project Components

A. Server (Low-Level)

1. Provides a multi-threaded TCP server (to handle multiple clients) on the port 6464
2. Forwards the messages sent by clients to all the other clients
3. Interprets specified configuration file and sends config to clients

B. Client (Low-Level)

1. Sends chat messages to the server
2. Interprets received messages from the server
3. Scans network for available servers

C. Main GUI

1. Allows user to choose between client and server modes
2. Starts the specified GUI and closes this GUI

D. Server GUI

1. Allows user to choose a configuration file or the default one
2. Starts the Server class to provide the actual network server
3. Closes this GUI and starts the Client GUI to automatically connect back to the server (so whoever started the server can still access the chat)

E. Client GUI

1. If it was started by the Server GUI
 - a) Automatically connects back to localhost to the server
 - b) Shows network IP of the computer
2. Else
 - a) Offers a Server Discovery function and the ability to manually enter the IP of the server
3. Prompts for an onscreen name upon connection to the server
4. Deposits the user in a chat environment similar to an IRC client
 - a) List of different channels/rooms on the left

b) Main chat screen in the middle, showing the onscreen names and their messages in the currently selected channel

c) Single line textbox at the bottom to type out and send messages from, with Send button or the enter key

5. Communicates with the Client class to perform the actual network operations (sending and receiving messages)

III. Project Scope

A. The program is designed to only handle textual conversation, and only between machines on the local network.

1. In this case, the SBISD network. The server can be hosted on any machine (probably the computer I use) on the network on port 6464 (assuming there's no funky business with the school blocking ports or something). A client does not need to be hosted anywhere, and will simply be run from another machine on the same network (e.g. the computer next to me).

B. The project will utilize the native Java libraries, and possible tools to package the finished product into a JAR and/or an executable.

1. These may include, but are not limited to, the 'jar' command line tool, Launch4j, and NSIS.

2. Subject to change.

C. I, Carson Foster, will be responsible for the entirety of the project's creation.