Programming II Chat Program

For our spring 2013 Programming II class we developed a basic chat program. The Programming language used to develop the program was Java 7. The chat program requires Java 7+ in order to run. The following is a description of how the program and its classes work and are utilized.

Server Class

The Server class creates a chat server that listens for connections using TCP. The server class can be ran from the command console using the command, java Server. Sockets are used for this communication. When the server is started it listens on the 1500 port but can have a different port specified using the command java Server 1400. The <ctrl>C command can be used to stop the server. The server class creates a separate thread for every client connection. When a Client sends a ChatMessage to the server, the server then broadcasts the ChatMessage to all the clients connected to the server.

ServerGUI Class

The ServerGUI Class uses the Server class and creates a GUI for it. It has an area for the Port number, the messages being broadcast and an events area to display events like connections, broadcasts and any exceptions that occur. It has a start button to stop the server and a stop button to stop the server.

The ChatMessage class  
The objects sent to the sockets implements Serializable. In this application, all the messages sent from the Server to the Client are String objects. All the messages sent from the Client to the Server are ChatMessage objects. ChatMessage have a type and a String that contains the actual message.

Client Class

The Client Class opens input and output streams to read from the sockets. When starting the Client you must specify the server IP, port and user name. The defaults are localhost, 1500, and Anonymous respectively. The Client can be ran from the command console using java Client Anonymous 1500 localhost to use the defaults. To specify different parameters the command is java Client USER PORT SERVER. While running in console typing LOGOUT will log out of the server and close connections. WHOISIN will display the list of users connected to the server. Anything else that is typed will cause the client to broadcast a ChatMessage to the server with your user name.

ClientGUI Class

The ClientGUI class uses the Client class and creates a GUI for it. When first ran it has an area to enter the Server IP, port and user name. It then has a login button to connect to the server. Once connected you can type your message to broadcast into the message text box which will be displayed in the chat area as well as messages broadcast by other clients connected to the server. While connected to see what other users are connected as well use the Whoisin button. Once finished to logout use the logout button.