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WaMP Assignment 5

I developed a chat room application. Below is how I designed the server to handle multiple clients.

* Establish a server socket ready for listening
* Begin accepting all client connections in a recursive callback function (new thread)
* For each client connection:
  + Get client’s user name in the first message
  + Save the client socket with name in a dictionary
  + Begin receiving message from corresponding client in a recursive callback function (new thread)
  + Every time get new message from client, deliver that message to all clients in the dictionary
  + If client disconnected, delete it from the dictionary

With this architecture, once a client send a message to server, this client and all other connected clients receive the message delivered by server

And below is how I designed the client:

* Get user name, IP Address and port from user, validate and connect to server (manual)
* Send user name to server for registration in first message (automatic)
* Begin receiving message delivered from server in a recursive callback function (new thread)
  + Once received new message from server, display it in a display textbox (read-only)
* User then input message in another separate textbox and send that message to server

NOTE: Once a client connected, both server and client keep connection. This helps server can keep track of all connections to deliver messages.