User Manual for Client and Server

This manual will explain the steps needed in order to start the server and client program of this coursework.

Step 1: Starting the Server
- To start the server, make sure you are in the server directory and have first created an executable of the server by entering "make all" into the terminal.
- Then to get the server running enter "./server" to the terminal. At this point the terminal should read "Waiting for connection…" until a client connects.
- At this point the server will wait until we connect with a client, move on to Step 2.

Step 2: Starting the Client
- At this point the server is running, so we can connect with a client. We can connect multiple clients as well
- First we must open a new terminal window and move to the client directory. This is needed as we will want to have be able to perform functions in the client separate from the server
- To connect the client, like with the server, create an executable by entering "make all" and then "./client" at the terminal
- If you are connected, a welcome message should appear as "Welcome Niklas!" and a list of options to choose will appear. This means we are connected to the server.
- If you wish to connect multiple clients, all you must do open another new terminal window, move to the client directory, and enter "./client" once more. No need to make, as there will already be an executable from last time.

Step 3: Performing operations

- At this point the client and server is working, now we can do some stuff on the client and server will respond to those actions. There will be a list options that appear and should read as
    0. Display options
    1. Get Student Id and Client IP Address
    2. Get Server time
    3. Get System information of Server
    4. Get list of files in the Server upload Directory
    5. Exit
- Each of these operations will do as their name states, and will return their output to the terminal window
- To use them, all you must enter is the number beside them. You may enter any number you wish but you will get an invalid option error.
- Two options to remember
    o 0 – Will show the option menu again
    o 5 – Will quit the client

Step 4: Closing up the Client and Server
- At this point you have completed any operations you may wish to perform and it is time to close the programs. This requires two simple steps that may be done at any time, let's start with the client.
    o Enter 5 – This will end the client program and tell the server that the client has disconnected.
    o Ctrl+C – This will also terminate the program by a singal interruption, this can be performed at any time.
- Now to close the client. There is only way do to this and it must be done in the server terminal window. Push Crtl+C to send a signal interrupt to the server, this will tell the server to exit and it will return an executable time to the window. This shows that the server is closed.
- The client can be started and exited as many times as you wish, and the server will not shutdown, however the server will only turn off if Ctrl+C is sent.

You should now know how the both the client and server operate and should able to them appropriately