Smart Home Automation System

TCP Client: This program is used to inject utilities utilization in the server required for monitoring. It also provides the option of generating reports which the client can use.

TCP Server: This program is used to accept request from clients. Receive utilization on a constant interval and store them in a file. Also construct a graph using GNU plot which is a functionality as a part of the graph report in the client.

HOW to compile the program.

Extract the client to a **directory** and the server in **another** **directory**. Client 1 and 2 client ids are hardcoded in the program.

* **Client1**: Run the make file by going to the directly where tcpclient.c is present and type **make** in the command prompt.
* **Client2**: Run the make file by going to the directly where tcpclient.c is present and type **make** in the command prompt.
* **Server**: Run the make file by going to the directly where tcpserver.c is present and type **make** in the command prompt

How to run the program

* Open a terminal in Ubuntu and go to the directory that contains the output files created by make command.
* Once in the appropriate directory where the server is present, type in
  + **./tcpserver 8888** (port number on which the server will run)
  + The $ prompt should now not be available meaning that the process is running.
* Open another terminal from which the client should be executed. Goto the same directory where the client is present and type in. (Client 1 and Client2)
  + **./tcpclient localhost 888**
* Use the options provided by the client to invoke activities, which in turn invokes utilization.
* Client can also be used to generate a text or a graph report based on the utilities.