Distributed Systems

Auction System Assignment 21st November 2019

# **Declaration:**

***I declare this work, which is to be submitted as part of my coursework, is entirely my own, except where clearly and explicitly stated.***

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# **Client and Server Setup**

## Command line set up of the server

*rem usage: java Server port*

*java -classpath . Server 7000*

The file is setup to configure the port on which the server will listen on with regards to the IP address. The server class itself handles the Ip address on localhost in which it will accept information from. The port is passed from the batch file into the server. All is necessary to start the batch file is ensure port 7000 is not used then click on “server.bat”.

## Command Line Setup of the clients

*rem uage java Client address port username password*

*java -classpath . Client "0.0.0.0" 7000 Tom Tom*

The file is setup to execute the client to connect to the server through its designated IP, port, the user name and password. The ip for the server is 0.0.0.0 in this example and the listening port is 7000. There are numerous clients, all which have their own details to log into the application. All is needed is to execute which client desired by clicking on it. More than one can be executed if necessary.

The bat files are in the same dir as the class files and must be that way for them to work properly.

# Architecture Setup

The application is a multi-threaded concurrent Client-Server design. The passage of communication is through the associated threads of each aspect of the communication. The client passes message through the port to the server threads, which is redirected to the main server. The server then communicates the necessary information through the port to the client threads, which is redirected to the main associated client. The Clients communicate through the Ip address, where the Server communicates through the ids of the clients’ collection which its handles. It would be regarded as a one server to many clients in simple passage.

The server handles the communication to the files, auctioned items and the timer. All the client can do is request information from them, except pass in details of a new item to be auctioned off. The server keeps tracks of all the information flow and waits on requests before sending information. The only time is not true is when the server needs to alert to the connected client of necessary information, which is pushes to the clients that are connected to the same port.