German University in Cairo
Information Engineering and Technology (IET)
Networks Department
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Internet

Milestone 1 (Individual)
Deadline: Tuesday 08.10.2019 @ 11:59 PM

1   Requirements

Extend your implementation on milestone 0, **(it is better to use the milestone 0 solution posted on eee)**, you are required to extend your chatting application designed over a network to be composed **of N clients and a single server**. The **server** should communicate with N clients **concurrently.** The chatting application should feature the following:

1. The server should communicate with the N clients **concurrently (using java threading)**. **Note: you will find a pdf file on eee for the concept of Java threading**
2. The server should save the client information such as the connection socket and a unique ID for each client. (use any data structure such as linkedlist, arraylist, .etc)
3. Any client chats with the server **at any time**.
4. The server responds with the same message sent by the corresponding client in **CAPITALIZED** format.
5. The connection between any client and server stays open until the client sends to the server a message contains **CLOSE SOCKET** then the connection between the server and the client closes.
6. The chatting connections are TCP based.

Note:

- **You are free to create your own objects to help implement through the implementation. For example, it is preferable to create an object called "ClientThread" that extends "Thread" object in java or implements "Runnable" interface. This customized class can hold the extra data needed for each client on the server like the connection socket, id, clientsentence, capitalizedsentence, dataoutputstreams and bufferedreader.**
- **You can make a constructor that takes (connection socket and ID) as inputs.**

2   Submission

Milestone 1 is an **individual** task. **Any cheating case will be graded ZERO.**

Export **your java code to a zip file**. Save the zipped file with your id number. The zipped file name should be like (43-1234).

Please submit your zipped file in the following link:
https://docs.google.com/forms/d/e/1FAIpQLSeytEMva0waGHa895o7MO0EbwZGvs9yGs_Cvsvt7ljWzttAWQ/viewform?usp=pp_url