**SUMMARY**

The most prominent challenge I faced was in synchronizing the socket communication. In C, there are a lot of issues that come along with it and a simple mistake like passing the wrong argument to a function can result in “core dump” error. So, debugging the code is quite difficult.

I decided to make sure that my socket communication was perfect before I started the design aspects of the project. I attempted to keep the code as object-oriented as possible to enable easy changes in the future. I also wanted to keep the communication with user database and socket communication as insulated from each other as possible.

I learnt that socket communication can be a very messy during programming aspects but it also very powerful. The sync issues I faced had solutions that I got with some patience. The most interesting part of this project was in designing the sendAll and receiveAll functions that keep sending and receiving data until the expected data is received. This real-world problem was most interesting to solve in this project. I had to encapsulate data into a packet with packet length + data. This taught me the importance of data encapsulation in process communication and also the need for layers in designing such a system.