

Project Evaluation Report

My Project:

My “TauNet” is a simple messaging application. On the client side it is able to view a .csv file consisting of contacts and let the user select one of those contacts. It then makes a socket connection with the user selected contact and allows the user to input a message to send to that contact. TauNet then encrypts the message and sends it to the connected contact.

On the server side, TauNet will listen for incoming socket connections, accept an incoming connection, and then accept the incoming byte stream. It will decrypt the byte stream and save it to a text file that is also accessible by the client for viewing. In addition to that it will write connection information to a server log text file.

Results:

I feel that my project works pretty well. It is far from perfect but I am quite proud of what I accomplished and had a good time in the process. I ran into some crazy bugs in the process but managed to fix them all. Before my encryption was all sorted out I was sending to people and receiving unreadable messages. Once I got the encryption figured out I was receiving a “bad header” message from the echo server but managed to fix that and hope that it currently meets the protocol. Before I implemented zero length message handling my server would crash every time it was probed for online status. This was easily solved.

What I learned:

I honestly learned a ton of stuff while working on this project. I learned what TCP is and how it works. I learned about different networking architectures. I learned what sockets are and how to make a connection between sockets. I learned how to set up port forwarding, DHCP reservations, and all the related stuff that puts that into context.

I had never used exception handling before and by integrating “try-catch” blocks into my project I learned just how useful it is in tracking down bugs. It also makes a program much more robust since it will not crash with every error.

I learned how to use git and I am very glad I was forced to do so for this class. Not only did I learn command line git commands, I learned how to use the visual studio git extension since I did some of my development and testing using visual studio.

Future Versions:

In future versions of my TauNet Project I would like to add support for multiple simultaneous connections. I’m thinking I could do this by implementing asynchronous sockets.

I would also like to add a better method of storing messages than a text file. It is not very secure and does not have much functionality. It meets the requirements for the minimum viable product but something like a lightweight database would work better.

For security purposes it would be nice to implement a method for verifying contacts before accepting their message. A future version should only be able to accept connections and messages from the predefined list of contacts.