CSS 432 Networking

Final Project (FTP Client)

Winter Quarter 2017

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**Documentation:**

FTP (File Transfer Protocol) is a way to send files from one computer to another using a TCP/IP connection. In this project I created a FTP client that is designed to mimic some of the functionality of the linux ftp client. It works by establishing a TCP connection between the client and the server over port 21 (standard port for FTP). This connection handles sending of control information (commands) from the client to the server and acknowledgments from the server to the client.

For commands such as ls, get, and put, a second connection needs to be established to the server with passive mode. First, the client requests a passive connection to the server. Then, the server responds with another hostname and port number for the client to connect to. When the data transfer is complete over this channel, the connection is terminated. This ftp client only supports passive mode connection in which the client has to establish this data channel instead of the server (active mode).

**Usage:**

Usage instructions are found in the corresponding README file in this project.

**Commands Supported:**

cd, ls, get, put, close, quit, open

**Performance Evaluation**

When executing the get command the performance between the linux ftp client and this program was very similar, same amounts of bytes sent, and similar amount of time for the command to run.

**Discussions**

Since the entire ftp client functionality is written into one program, this program is not very extensible. It would be fairly simple to add additional commands and functionality but that would make this program (with the current design) very big and unwieldy. Overall the performance of this program and unix ftp is very similar for the functionality both clients implement.