Austin Ackerman

CIS 457

FTP Project Report

Basic Logic/Implementation:

This multithreaded ftp server prompts the user for a command (initially only connect works, because they aren't connected yet). Once connected it prompts for another command (here only RETR, STOR, LIST, and QUIT will work). The server receives the command from the command socket and according to that will send the data or store a file through the data socket. The initial command is handled with a while loop until the client connects to the server. Each command has a function in server and client that helps deal with the command. The main command loop is at the bottom of the program with an infinite while loop so the client can make multiple commands and it will not terminate the connection until the client sends the quit command, the server will terminate that connection and stay open for other connections.

Problems:

Starting from scratch was a big feat for me and this project. The main problems I ran into was getting the file stored in the same directory as the server and keep a constant command loop for multiple commands. There were a lot of minor bumps like formatting and keeping the two tcp sockets straight but those weren't too hard to figure out. An infinite while loop fixed my multiple command problem and trial, and error fixed most of the rest. This project involved a LOT of running the program on the terminal and testing out all the commands until I got them correct.

```
C:\Users\aacke\Desktop\Homework\CIS457>python ftp_client.py
Enter Command: connect <216.171.56.60> <7857>
Connected...
Enter command: list
ftp_server.py
test2.html
Enter command: stor <test1.html>
file stored
Enter command: list
ftp_server.py
test1.html
test2.html
Enter command: _
```

```
C:\Users\aacke\Desktop\Homework\CIS457>python ftp_client.py
Enter Command: connect <216.171.56.60> <7857>
Connected...
Enter command: list
ftp_server.py
test2.html
Enter command: stor <test1.html>
file stored
Enter command: list
ftp_server.py
test1.html
test2.html
Enter command: retr <test2.html>
Enter command: quit

C:\Users\aacke\Desktop\Homework\CIS457>
```

Command Prompt - python ftp_server.py

```
Microsoft Windows [Version 10.0.19043.1586]
(c) Microsoft Corporation. All rights reserved.

C:\Users\aacke>cd Desktop\Homework\CIS457\CIS457-FTPProject_Ackerman

C:\Users\aacke\Desktop\Homework\CIS457\CIS457-FTPProject_Ackerman>python ftp_server.py
connection terminated.
```
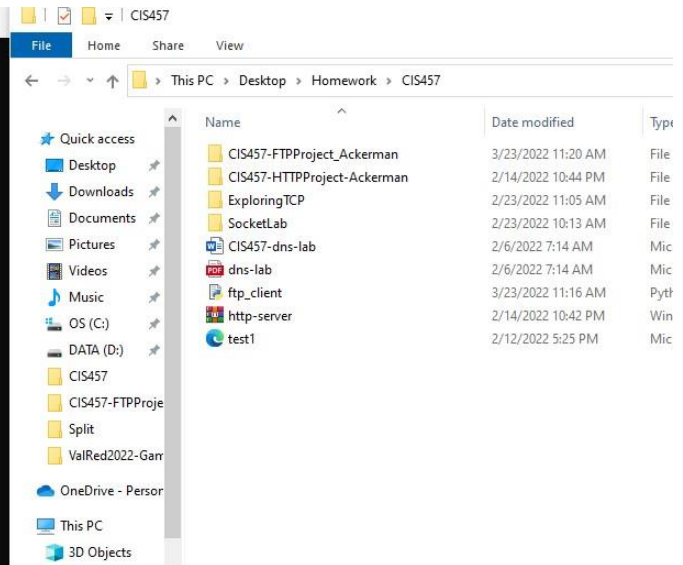
Command Prompt - python ftp_client.py

```
Enter Command: connect <216.171.56.60> <7857>
Connected...
Enter command: list
ftp_server.py
test1.html
test2.html
Enter command: quit

C:\Users\aacke\Desktop\Homework\CIS457>python ftp_client.py
Enter Command: connect <216.171.56.60> <7857>
Connected...
Enter command: quit

C:\Users\aacke\Desktop\Homework\CIS457>clear
'clear' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\aacke\Desktop\Homework\CIS457>python ftp_client.py
Enter Command: connect <216.171.56.60> <7857>
Connected...
Enter command: list
ftp_server.py
test2.html
Enter command: stor <test1.html>
file stored
Enter command: list
ftp_server.py
test1.html
test2.html
Enter command:
```

CIS457 — This PC > Desktop > Homework > CIS457

Name	Date modified	Type
CIS457-FTPProject_Ackerman	3/23/2022 11:20 AM	File
CIS457-HTTPProject-Ackerman	2/14/2022 10:44 PM	File
ExploringTCP	2/23/2022 11:05 AM	File
SocketLab	2/23/2022 10:13 AM	File
CIS457-dns-lab	2/6/2022 7:14 AM	Mic
dns-lab	2/6/2022 7:14 AM	Mic
ftp_client	3/23/2022 11:16 AM	Pyt
http-server	2/14/2022 10:42 PM	Win
test1	2/12/2022 5:25 PM	Mic

Command Prompt - python ftp_client.py

```
Connected...
Enter command: list
ftp_server.py
test1.html
test2.html
Enter command: quit

C:\Users\aacke\Desktop\Homework\CIS457>python ftp_client.py
Enter Command: connect <216.171.56.60> <7857>
Connected...
Enter command: quit

C:\Users\aacke\Desktop\Homework\CIS457>clear
'clear' is not recognized as an internal or external command,
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C:\Users\aacke\Desktop\Homework\CIS457>python ftp_client.py
Enter Command: connect <216.171.56.60> <7857>
Connected...
Enter command: list
ftp_server.py
test2.html
Enter command: stor <test1.html>
file stored
Enter command: list
ftp_server.py
test1.html
test2.html
Enter command: retr <test2.html>
Enter command:
```

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Name	Date modified	Type	Size
CIS457-FTPProject_Ackerman	3/23/2022 11:21 AM	File folder	
CIS457-HTTPProject-Ackerman	2/14/2022 10:44 PM	File folder	
ExploringTCP	2/23/2022 11:05 AM	File folder	
SocketLab	2/23/2022 10:13 AM	File folder	
CIS457-dns-lab	2/6/2022 7:14 AM	Microsoft Word D...	265 KB
dns-lab	2/6/2022 7:14 AM	Microsoft Edge P...	247 KB
ftp_client	3/23/2022 11:16 AM	Python File	4 KB
http-server	2/14/2022 10:42 PM	WinRAR ZIP archive	121 KB
test1	2/12/2022 5:25 PM	Microsoft Edge H...	1 KB
test2	3/23/2022 11:21 AM	Microsoft Edge H...	1 KB