CSE 344 System Programming

Final Project

Due June 16

In this project, your task is to implement a simplified version of Dropbox.

The server side should be capable of handling multiple clients simultaneously, functioning as a multi-threaded internet server. Upon establishing a connection with the server, the directories on both the server and client sides need to be synchronized. This means that any new file created, deleted, or updated on the server should reflect the same changes on the client side, and vice versa.
Unlike the official Dropbox service, your server should also maintain a logfile under the respective client's directory. This logfile should record the names and access times of created, deleted, and updated files. Additionally, it is important to handle SIGINT signal on both the server and client sides.

An example call for the server should be in the following format:

BibakBOXServer [directory] [threadPoolSize] [portnumber]

where the directory is the server's specific area for file operations, threadPoolSize is the maximum number of threads active at a time, portnumber is the port server will wait for connection

An example call from the client might be in the following format:

BibakBOXClient [dirName] [portnumber]

where dirName is the name of the directory on server side and portnumber is the connection port of the server
Note that the client should return with a proper message when the server is, and server should prompt a message when a client connection is accepted (with the address of connection) to the screen.

Test your code with multiple (10, 20, 50) clients, reconnect to see if the server updates the client information properly. Check what happens when a new file is added, edited or removed on the client size when the client server connection is still active. Write a report examining at

least 5 different cases. Make sure to include testing scenarios where the server and client are running on separate machines.

Submission rules:

1) Your source files, your makefile and a report; place them all in a directory named "lastname_firstname_studentnumber", and zip the directory.
2) Your makefile should only compile the program, not run it!
3) Your report must be in PDF format and should include a detailed explanation of how you solved the problem, which requirements you met, and the test cases you executed.
4) You should do your homework on your own. Your homework will be compared against online sources as well as each other's homework. Proven cases of plagiarism will result in –100 grade.

Best Luck