

Gebze Technical University
Department of Computer Engineering - CSE 344 System Programming
Spring 2018-19, Final Project (Due May 18 @23:00)

In this project you are expected to implement a “simpler” version of Dropbox.

The server side is expected to backup the files of the client by mirroring. While the client is connected to the server, modifications done to client’s directory (add, delete or modify file) must also be done in the server side. Therefore, the two directories must be consistent while the connection is active. The server must be able to handle multiple clients at the same time (a multi-threaded internet server). Your server should also log the create, delete and update operations of all files in a log file under the corresponding directory reserved for the client. We will not touch to any file in the server side while testing.

An example call for the server should be of the form

```
> BibakBOXServer [directory] [threadPoolSize] [portnumber]
```

where the `directory` is the servers specific area for file operations (there shouldn’t be multiple servers running on the same directory in the same computer), `threadPoolSize` is the maximum number of threads active at a time (meaning maximum number of active connected clients), `portnumber` is the port server will wait for connection.

An example call from the client might be of the form

```
> BibakBOXClient [dirName] [ip address] [portnumber]
```

where `dirName` is the name of the directory in the computer where client is called, and `ip address` and `portnumber` is the connection address and port of the server (ex. 10.1.18.44 18232). The path of the directory identifies each client. When a client that was connected before connects again, it will receive missing files from the server if there is any. The files that were created or modified while the client is offline should be detected and copied to the server side after connecting.

Note that the client should return with a proper message when server is down 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

Best Luck