CSE 5306 – Distributed Systems

LAB #3

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Steps to execute the application:

1. I have written this lab using Java in Eclipse IDE Neon 3 version 4.6.3. Please download this IDE to run this code.
2. Create a folder in D drive named "5306". This folder contains all the shared directories. Each shared directory contains a test.txt file.
3. Open the IDE, Create a new Java Project and in the default package import the Server.java and Client.java file which is provided in the submission file.
4. Once imported, run the Server.java first. A GUI window titled Server will open. Press Start server button to start the server.
5. Then run the Client.java thrice to have three client GUI window. In each window give the name and click connect to start the client-server connection.
6. In Server GUI Click on Display Clients button to display all the clients connected at that point of time.
7. In Client GUI click on Display Files button to print the names of all files in their directory.
8. You can disconnect the client and stop the server with respective buttons in the GUI windows.
9. When the test.txt file inside the client directories is deleted the server is notified by the client about the deletion.
10. Server sends election message to the other clients for deletion operation and timer for the response from the client starts in the server. The timer is set for 3 seconds.
11. If other two clients voted yes within 3 seconds, server sends notification to the clients for delete operation. The test.txt file is deleted from all the client repositories.
12. If at least one client did not reply (implicit denial), the operation is aborted and the deleted file is restored in the client repository.
13. Voting process is made random process based on generation of odd or even numbers from 1 to 10.

Note: The test.txt file from the server is not deleted for the restoration purpose. Please copy the file from server to the shared directories to continue running the application.

References:

- https://www.geeksforgeeks.org/introducing-threads-socket-programming-java/
- https://www.geeksforgeeks.org/multi-threaded-chat-application-set-1/
- https://www.tutorialspoint.com/swing/swing_gridbaglayout.htm
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