Test Plan and Procedure – P2.2

ECE 3740 – Ken Ferens – Fall 2017

Assignment 2

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1. INTRODUCTION

1.1 Purpose of the Test Plan Document

The purpose of these tests are to verify the working order of the Basic Multi-threaded Time Server/Client Application as described in Assignment 2 for ECE3740, Fall 2017. These tests verify that the Client can connect and disconnect from the Server and issue commands without errors.

2. TESTING

2.1 Test Plan and Cases

Item to Test	Test Description	Test Date	Responsibility
Connect to Server	Verify that the client can be connected to the server.		Daniel Lovegrove
Get time from Server	Verify that the client can successfully request and receive the time from the server.		Daniel Lovegrove
Disconnect from Server	Verify that the client can successfully disconnect, reconnect, and quit.		Daniel Lovegrove
Error Handling	Verify that the client program does not quit when they input a command that is not recognized.		Daniel Lovegrove

2.2 Test Procedures

2.2.1 Connect to Server

Prerequisites: Have the P2.2 folder downloaded and ensure the Netbeans IDE is installed and configured to run Java applications.

Instruction	P/F
1. Open the Netbeans IDE. Click File -> Open Project. Using the file explorer that Netbeans just opened, navigate to the P2.2 folder and open the “Server” project inside of it. Do the same for the “Client” project.	
2. On the left panel, single click the box that says “Server.” This should be a box with a coffee mug symbol. If you did it correctly, it should be highlighted in orange.	
3. Press F6 to run the Server project.	

4. The application should have opened a window at the bottom called “**Server (run)**” Start the server by pressing *6*, then Enter. Follow this by pressing *2*, then Enter. If you did this correctly, the window at the bottom should have displayed the two messages: “Server Socket has been created” and “Server is now listening, ...”	
5. *Leave the server running for the remainder of testing.	
6. Redo steps 2 & 3, this time running the “Client” application.	
7. The application should have opened another window called “**Client (run)**”. Connect to the server by typing the command *connect* and hit Enter.	
8. Verify that the client window displayed the message “Connected to server.” and the server output window displayed a message starting with “Client connected: ...”	

2.2.2 Get time from Server

Prerequisites: Server and client are connected and still running from steps 1-8 of test 2.2.1.

Instruction	P/F
1. In the client output window, type the command *time* and hit Enter.	
2. The client output should have responded with “Response: xx:xx:xx” where xx:xx:xx is the current time. Verify the time is right with a clock.	
3. Navigate to the server output window. There should be output stating that the “Get Time command received from client”.	

2.2.3 Disconnect from Server

Prerequisites: Server and client are connected and still running from steps 1-8 of test 2.2.1.

Instruction	P/F
1. In the client output window, type the command *time* and hit Enter.	
2. The client output should have responded with “Disconnected from server.”	
3. The server output should have responded with “Disconnect command received from client ...”	
4. Reconnect by typing the command *connect* in the client output window and hit Enter.	
5. Verify that the client output window responded with “Connected to server.” and the server output window responded with the message starting with “Client connected: ...”	
6. Disconnect again, this time by issuing the *quit* command in the client output window. Type *quit* and hit enter.	
7. Verify that the client output window responded with “Quitting...” and the program	

exited.	
8. Verify that the server output window responded with “Quit command received from client ...”	

2.2.4 Error Handling

Prerequisites: Server and client are connected and still running from steps 1-8 of test 2.2.1.

Instruction	P/F
1. Issue a bad command by typing the command *ece3740* in the client output window and hitting Enter. The client output window should have responded with ““ece3740” is not recognized.”	
2. Issue two more invalid commands of your choice and verify that the program responds with “”<*your command*>” is not recognized.”	
3. Make sure the client is connected, and issue the *connect* command and hit Enter. The output should respond with “Already connected!”	
4. Now issue the *disconnect* command twice and hit Enter after each time. The output should respond with “Disconnected from server.” followed by “No connected server.”	
5. Hit Enter without typing a command. The output window should show no errors, and do nothing except move down a line.	

This concludes the testing. You may now close the Netbeans IDE after stopping both Client and Server applications.

3. TEST PLAN APPROVAL

The undersigned acknowledge they have reviewed the P2.2 Test Plan and Procedure document and agree with the approach it presents. Any changes to this Requirements Definition will be coordinated with and approved by the undersigned or their designated representatives.

Signature (TA) _____ Date: _____

Print Name: _____

Title: _____

Role: _____

4. REFERENCES

K. Ferens, “ECE 3740 Systems Engineering Principles 1,” 15 September 2001. [Online]. Available: http://ece.eng.umanitoba.ca/undergradutate/ECE3740/. [Accessed 17 September 2017].