P4.1 TEST PLAN

READING TEMPERATURE SENSOR (STANDARD IO)

VERSION 1

NOV. 17, 2017

RICHARD CONSTANTINE

#7686561

TABLE OF CONTENTS

1 – TPP VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason	Mark
1	Richard Constantine	11/17/2017				

2 - INTRODUCTION

2.1 PURPOSE OF THE TEST PLAN TEMPLATE DOCUMENT

The purpose of this test plan document is to test the client software (with using standard IO) to confirm that it can successfully establish a TCP connection with the server software on the MX7 board, as well as provide functionality to read the connected temperature sensor (via the I2C bus).

3 – READING TEMPERATURE SENSOR (STANDARD IO)

3.1 TEST PLAN AND CASES

Item to Test	Test Description	Test Date	Responsibility
READING TEMPERATURE SENSOR (STANDARD IO)	The tester will connect and command the MX7 server via text communication using the Standard IO. The tester will confirm that the MX7 board can successfully read and communicate the temperature, and the client can successfully display it.	Nov. 17, 2017	Richard Constantine

3.2 TEST PROCEDURE

Instruction		P/F
1.	Ensure the PC being used has an up-to-date version of Windows (Windows 7 or later) along with the Netbeans IDE, ensuring to download the Java JDK (these can be found via google).	
2.	Also, ensure that a version of MPLAB X (v4.01 or later) is installed – this can be accomplished by downloading the software via the Microchip website – then connect the MX7 board (using the debug port) to the host PC with the USB micro cable. Also connect the device to the host PC using an ethernet connection.	
3.	Ensure that the MX7 board has the temperature sensor connected to the right-most pins of the I2C2 jumper,	
4.	Go to the Google OneDrive URL sent via email. This should take you a folder called Richard Constantine - 7686561 - ECE 3740 - Assignment 7. Download and extract all files within P4.1.zip, and place its contents in a directory called C:\Users\<YourUsername>\ECE3740\Constantine_Richard_P4\P4.1.	
5.	Start the Netbeans IDE by doubling clicking the desktop icon, or locating the install folder and running the .exe.	

6.	Next, within Nebeans, open the client project by selecting File –> Open Project. Browse to C:\Users\<YourUsername>\ECE3740\Constantine_Richard_P4\P4.1\v4\ClientwithGUI and open the project called client.java.	
7.	Within MPLAB X, open the server project by selecting File –> Open Project and browsing to C:\Users\<YourUsername>\ECE3740\Constantine_Richard_P4\ P4.1\v1\MX7Server\TCPIPStack\ TCPIP\Demo App\ and opening the project XC32-PIC32_ETH_SK_ETH795.	
8.	Ensure that the IP address is correctly configured in the clienttest.java file of the Client.	
9.	Run the client program by highlighting the client project in the Projects tab (within Netbeans) and selecting Run -> Run Project (client).	
10.	Run the server program by highlighting the XC32-PIC32_ETH_SK_ETH795 project in the Projects tab (within MPLAB X) and selecting Run -> Run Project. Once the server has finished compiling and programming (a message will indicate when the program has been uploaded).	
11.	On the client, press '1' to connect to the server. A message should be displayed confirming the connection has been established.	
12.	Next, press '4' to get the temperature reading. A message should display showing the temperature to 4 decimal places.	
13.	Ensure that the client can successfully disconnect and reconnect with the '2' and '1' commands respectively.	
14.	Check that the client can still receive temperature readings from the MX7 server (by pressing '4'),	
15.	Finally, quit the program by entering '5'.	

4 - TEST PLAN TEMPLATE APPROVAL

The undersigned acknowledge they have reviewed the P4.1 Test Plan Template 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.

Required Signatures:

- TA - Kaiser Nahiyan

Signature: _____ Date: _____

Print Name: _____

Title: _____

Role: _____

REFERENCES

[1] K. Ferens, "ECE 3740 Systems Engineering Principles 1," 15 September 2001. [Online]. Available: http://ece.eng.umanitoba.ca/undergraduate/ECE3740/. [Accessed 16 September 2017].