System Test Report

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(TINF20C, SWE I Praxisprojekt 2021/2022)

Project: Websockets in a LwIP HTTP Server

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0.1	29.04.2022	Yannis Plaschko	created
0.2	04.05.2022	Yannis Plaschko	Finalized Document
1.0	05.05.2022	Yannis Plaschko	Document format fix

Contents

1. Scope

The STP (System Test Report) documents the actual results of the tests specified in the STP (System Test Plan)

2. Abbreviations

- TC – Testcase
- TS – Testsuite
- GUI – Graphical User Interface
- API – Application Programming Interface

3. Test Objects

The following test objects must be verified:

Ref.-Id.	Product Number	Product Name	Product Description
1	Build v1.0	Websockets in a LwIP HTTP Server	An implementation of Websockets and an API in LwIP

4. Test Equipment

The following equipment must be available for testing:

- A computer with Windows 10
- A functioning and correctly configured Installation of LwIP (For tests after TC-001-001 / 002)

5. References

[1] SRS TINF20C Websockets with LwIP

6. Testcases

1.1 Testsuite <TS-001 WebSocket with its Testclient>

1.1.1 <TC-001-001> (Choose the correct network adapter)

Testcase ID	**TC-001-001**		
Testcase Name	Choose the correct network adapter		
Req.-ID	LF10		
Description	This test case verifies that lwIP starts correctly after choosing the correct network adapter.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Run lwIP.exe	Application starts without problems.	Application starts without problems.
2	Insert the correct number of your network adapter	LwIP accepts the Input and runs correctly	LwIP accepts the Input and runs correctly
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Pass		

1.1.2 <TC-001-002> (Choose the wrong network adapter)

Testcase ID	**TC-001-002**		
Testcase Name	Choose the wrong network adapter		
Req.-ID	LF20		
Description	This test case verifies that lwIP fails noisy after choosing a wrong network adapter.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Run lwIP.exe	Application starts without problems.	Application starts without problems.
2	Insert a wrong number which does not belong to a network adapter	A Pop-Up with an error message should appear and the lwIP window will print an error	A Pop-Up with an error message should appear and the lwIP window will print an error
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Pass		

1.1.3 <TC-001-003> (Connect to the Websocket)

Testcase ID	**TC-001-003**		
Testcase Name	Connect to the WebSocket		
Req.-ID	LF30		
Description	This test case verifies that the Testclient is able to connect to the WebSocket.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Open the Testclient	Application starts without problems.	Since there is no Testclient it cant be started
2	Select "Connect" Menu point	A Pop-Up with an input window should appear	-
3	Input the IP of the WebSocket and click on "connect"	The GUI should show "Connection Established" and display a message field	-
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Fail		

1.1.4 <TC-001-004> (Message the Server)

Testcase ID	**TC-001-004**		
Testcase Name	Message the Server		
Req.-ID	LF30, LF40		
Description	This test case verifies that a message sent to the server will be echoed back by it.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Connect the Testclient to a running WebSocket	Application starts without problems.	Since there is no Testclient it can't be started
2	Select "Connect" Menu point	A Pop-Up with an input window should appear	-
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Fail		

1.1.5 <TC-001-005> (Disconnect from WebSocket)

Testcase ID	**TC-001-005**		
Testcase Name	Disconnect from WebSocket		
Req.-ID	LF30, LF40, LF50		
Description	This test case verifies that the Testclient can destroy an existing connection.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Connect the Testclient to a running WebSocket	Application starts without problems.	Since there is no Testclient it can't be started
2	Click on the "Disconnect" button	The Testclient disconnects from the WebSocket and shows the message "Successfully disconnected"	-
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Fail		

6.1. Testsuite <TS-002 API>

1.1.6 <TC-002-001> (Call API Root)

Testcase ID	**TC-002-001**		
Testcase Name	Call API Root		
Req.-ID	LF60		
Description	This test case verifies that calling the Root Endpoint returns a sample website.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Run the LwIP HttpServer	Application starts without problems.	Application starts without problems.
2	Open the Browser and type the IP of the Server in the Search bar and hit enter	A Site should become visible with the Headline "LwIP Test Application", a Text block and a link to "/identification"	A Site becomes visible with the Headline "LwIP Test Application", a Text block and a link to "/identification"
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Pass		

1.1.7 <TC-002-002> (Call API /something)

Testcase ID	**TC-002-002**		
Testcase Name	Call API /something		
Req.-ID	LF70		
Description	This test case verifies that calling a not existing endpoint results in the display of an error message.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Run the LwIP HttpServer	Application starts without problems.	Application starts without problems.
2	Open the Browser and type the IP of the Server in the Search bar plus "/something" and hit enter	The Browser should display an error Message depending on the used Browser.	The Browser displays a error Message
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Pass		

1.1.8 <TC-002-003> (Call API /identification directly)

Testcase ID	**TC-002-003**		
Testcase Name	Call API /identification directly		
Req.-ID	LF80		
Description	This test case verifies whether a direct call displays information about the Server.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Run the LwIP HttpServer	Application starts without problems.	Application starts without problems.
2	Open the Browser and type the IP of the Server in the Search bar plus "/identification" and hit enter	The Browser should display the information about the server in JSON.	The Browser displays the information about the server in JSON.
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Pass		

1.1.9 <TC-002-004> (Call API /identification from root)

Testcase ID	**TC-002-004**		
Testcase Name	Call API /identification from root		
Req.-ID	LF60, LF90		
Description	This test case verifies whether a click on the link redirects to displays information about the Server.		
Test Steps			
Step	Action	Expected Result	Actual Result
1	Run the LwIP HttpServer	Application starts without problems.	Application starts without problems.
	Open the Browser and type the IP of the Server in the Search and hit enter	A Site should become visible with the Headline “LwIP Test Application”, a Text block and a link to “/identification”	A Site becomes visible with the Headline “LwIP Test Application”, a Text block and a link to “/identification”
	Click on the Link	The Browser should display the information about the server in JSON.	The Browser displays the information about the server in JSON.
Tester	Yannis Plaschko		
Date	05.05.2022		
Testcase Result	Pass		