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Test Plan
“SWT21 lab kit”

Revision History

Date	Version	Description	Author	Customer
06/June/2021	1.0	Created Test Plan for CAN subsystem in “SWT21 lab kit” device	Maria Markova	Joachim Lublin
28/June/2021	1.1	Added changes (Team size, test types)	Maria Markova	Joachim Lublin
29/June/2021	1.2	Added changes (Test schedule, team members responsibilities)	Maria Markova	Joachim Lublin

Summary

1. Introduction

1.1. General information

This document describes methods, strategy and plan that will be used by the Markova testing team in the functional and non-functional testing processes of the industrial test equipment “SWT21 lab kit”.

Testing will be based on these core features:

1. “SWT21 lab kit” sends information to CAN bus.
2. “SWT21 lab kit” receives information from CAN bus.

This document contains all the information about approaches and methodologies, resources and testing team needs to reach bullets above.

2. Test strategy

2.1. Scope of work

1. Study documentation (user manual)
2. Write test plan
3. Plan approval by testing team
4. Design and execute static testing
5. Design and execute functional manual test cases
6. Design and execute unit tests
7. Report Bugs
8. Create Test Result Report
9. Present Test Results (send to customer)

2.1.1. Components and commands to be tested

#	Component name	Functions	Description
6	CAN commands	can help	The user sees the description and capabilities of the component.
		can send	The user sends information to the CAN bus using the component.
		can rx	The user receives information from the CAN bus using the component.
		can config	The user changes configuration of the component.

2.2. Feature not to be tested

These feature will not be tested because they are not included in the software requirement specification:

1. GUI
2. Security

2.3. Test types

In the project “SWT21 lab kit”, there are 4 types of testing that should be conducted.

1. CAN subsystem Testing
   2.1. CAN subsystem Functional Testing (Functional Manual)
   2.2. CAN Unit Testing
   2.3. Compatibility testing (Windows, Mac OS)

2. Static testing
   2.1. User manual
   2.2. SRC code
   2.3. Access to labkit

3. Test Resources

3.1. Test team

#	Project Role	Name	Location	Responsibilities
1	Tester	Maria Markova	Lund, Sweden	Development of unit tests, execution and generation of bug reports
2	Tester	Jan Abrahamsson	Ed, Sweden	Development of manual test cases, execution and generation of bug reports
3	Reviewer	Muhammad Obaid Ullah Khan	Växjö, Sweden	Development of static testing, review process
4	Manager	Devrim Kadiroglu	Göteborg, Sweden	Jira management, organizing
5	Support	Yasir Hussain	Sweden	Team support

3.2. Test hardware

#	Resource	Hardware configuration	Software configuration
1	SWT21 lab kit	Standart	1.1 Joachim´s firmware
2	PC	RAM: 4 Gb	Win 10 64 bit
3	Macbook pro	M1 chip	iOS 11.4
4	USB-C adapter	Deltaco USBC-1266	-

3.3. Test tools

#	Tool	Comment
1	Jira	Kanban board.
2	Google docs	❖ Creating test-cases ❖ Documentation ❖ Reports
3	Visual Studio Code	To write unit tests
5	GIT	To store unit tests and documentation

3.4. Test documentation

#	Title	Responsible person	Frequency (delivery time)	Method of delivery
1	Test Plan	Maria Markova	Once before the testing start	Google docs itslearning.com
2	Functional Manual Test Cases	Jan Abrahamsson	Before the testing start	Google docs
3	Unit tests cases	Maria Markova	Before the testing start	Google docs
4	Static test cases	Muhammad Obaid Ullah Khan	Before dynamic testing start	Google docs
5	Bug Reports	Maria Markova, Obaid Ullah Khan, Jan Abrahamsson	Upon finding a bug	Google docs
6	Test Result Report	Maria Markova, Obaid Ullah Khan, Jan Abrahamsson	Once after the testing finish	Google docs

Method of delivery may be changed after customer comments.

4. Test Criteria

Equipment	Testing according to the Test Plan is possible if the following equipment is available: ❖ The “SWT21 lab kit”. ❖ PC with USB port ❖ Macbook pro with USB-C adapter.
Entry Criteria	The tester will start the test execution when all of the following inputs are ready ❖ Necessary devices, instruments, and other equipment are acquired. ❖ Software is available for testing. ❖ Test Specification is created. ❖ Test Environment is working. ❖ Two testers are available.
Completion Criteria	❖ All the planned tests are performed. ❖ There are no show-stoppers. ❖ All found errors are reported. ❖ The test results are evaluated, discussed and approved.

4.1. The criteria of quality

- ❖ The product should operate in accordance with the requirements and the functional specification (if present).
- ❖ The product should not contain critical and blocking defects in the final version of the project.
- ❖ All necessary artifacts collected: test cases and bug reports.

5. Testing Process Risks

The following risks may jeopardize testing:

- Test plan not approved by customer;
- The test device was not acquired or did not arrive on time;
- The project schedule is too tight;
- The Team member lacks the required skills for testing the device;
- Problems in the test equipment. Breakdown of computer hardware;
- Delays in bug-fixing.

6. Test schedule

#	Activity	Work content	Deadline dates	Workers
1	Study device manual	1 day	06/06/2021	Maria, Jan, Obaid, Devrim, Yasir
2	Write Test Plan	1 day	06/06/2021	Maria
3	Test Plan review (static testing)	2 days	29/06/2021	Obaid
4	Download test environment	1 day	28/06/2021	Maria
5	Check Entry criteria	1 day	28/06/2021	Maria, Jan, Obaid
6	Write manual test cases	2 days	29/06/2021	Jan
7	Design unit tests	2 days	29/06/2021	Maria
8	Execute manual testing	1 day	30/06/2021	Jan
9	Execute unit tests	1 day	30/06/2021	Maria

6	Write bug report	1 day	30/06/2021	Maria, Jan
7	Create Test Result Report	1 day	30/06/2021	Maria, Jan
8	Present Test Results	1 day	01/07/2021	Maria, Jan, Obaid, Devrim

Execution schedule changed. The size of the team was changed and the tasks were divided among the team members.

The question was raised about the need to check the Linux environment. Are there resources to execute Compatibility testing by Linux. It is necessary to decide whether to leave this test environment in the test plan./

Attachment 2.

Meeting 2. 29/06/2021
Participants: Maria, Jan, Obaid, Devrim

1. Updated time schedule
2. Setup of Jira with Kan ban board
3. Presentation of test case examples