**System Test Report**  
(Systemtestbericht)

**(TINF20C, SWE I Praxisprojekt 2021/2022)**

Project: Standalone Modelling Wizard for Devices

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| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Comment** |
| 0.1 | 24.04.2022 | Linus Eickhoff | Created |
| 0.9 | 05.05.2022 | Florian Kaiser | Added missing cases |
| 1.0 | 05.05.2022 | Malte Horst | Finished document with missing data |
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# Scope

The STR (System Test Report) documents the results of tests derived from the STP (System Test Plan). It contains the test cases specified in the STP combined with their actual results from executing the test plan.

# Definitions

**TC** Testcase

**TS** Testsuite

**GUI** Graphical User Interface

# Test Objects

The following test objects must be verified:

|  |  |  |  |
| --- | --- | --- | --- |
| **Ref.-Id.** | **Product Number** | **Product Name** | **Product Description** |
| 1 | Build v1.0 | Standalone Modelling Wizard for Devices GUI | Windows standalone application with a GUI |

# Test Equipment

The following equipment must be available for testing:

* A computer with Windows 10 or higher
* The standalone Device Modelling Wizard software

# References / Standards

[1] [SRS TINF20C Device Modelling Wizard](https://github.com/H4CK3R-01/TINF20C_ModellingWizard_Devices/wiki/1.-Software-Requirements--Specification)

# Testcases

## Testsuite <TS-001 File operations>

### <TC-001-001> (Loading of a valid file with validation)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-001-001 | | |
| **Testcase Name:** | | Loading of a valid file with validation | | |
| **Req.-ID:** | | LF10, LF20, LF30 | | |
| **Description:** | | The test case verifies that it recognizes if a valid file has been loaded. | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected result** | **Actual result** |
| 1 | Open Application.exe from Binary Folder | | Application starts without problems. | Application starts fast and without problems. |
| 2 | Select a valid input file for the validation, by selecting “File” and then “Open” and choose file in explorer | | The validation is executed successfully, and the conversion is completed correctly without error message. | File is being selected as intended without any problems or errors. |
| 3 | Check if Data was interpreted correctly in “Attributes”, “Generic Information”, “Interfaces” | | Should have all valid data in readable format. | Data is displayed fully in Attributes, Generic Information and Interfaces. |
|  | | | | |

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| --- | --- | --- | --- | --- | --- |
| **Testdata:** | | TD-001-001 | | | |
| **Dataset** | **File** | | **Validation** | **Permission Input** | **Permission Output** |
| 1 | Balluff\_ProductLibrary\_CAEX3\_221020.amlx | | valid | given | given |
| 2 | Balluff-BNI\_PNT-507-005-Z040-20201208.amlx | | valid | given | given |
|  | | | | | |

|  |  |  |
| --- | --- | --- |
| Tester | Linus Eickhoff | |
| Date | 24.04.2022 | |
| Testcase result | Dataset 1 | Pass |
| Dataset 2 | Pass |

### <TC-001-002> (Loading of an invalid file with validation)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-001-002 | | |
| **Testcase Name:** | | Loading of an invalid file with validation | | |
| **Req.-ID:** | | LF10, LF20, LF30 | | |
| **Description:** | | The test case verifies that errors are detected during the validation of the input file and a corresponding error message is displayed with a description of the error and line details in the log. | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected result** | **Actual Result** |
| 1 | Open Application.exe from Binary Folder | | Application starts without problems. | Application starts without problems. |
| 2 | Select an invalid input file for the validation, by selecting “File” and then “Open” and choose file in explorer | | The validation is executed successfully, without crashing. | The validation is executed successfully, without crashing. |
| 3 | Check if error message is displayed to the user. | | The Application displays the error when the file is invalid. | The Application displays the error when the file is invalid. |
|  | | | | |

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| --- | --- | --- | --- | --- | --- |
| **Testdata:** | | TD-001-002 | | | |
| **Dataset** | **File** | | **Validation** | **Permission Input** | **Permission Output** |
| 1 | Balluff\_ProductLibrary\_CAEX3\_221020.amlx (manipulated to be invalid) | | invalid | given | given |
|  | | | | | |

|  |  |  |
| --- | --- | --- |
| Tester | Malte Horst | |
| Date | 05.05.2022 | |
| Testcase result | Dataset 1 | Pass |

### <TC-001-003> (Export of a valid device to file with validation)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-001-003 | | |
| **Testcase Name:** | | Export of a valid device to file with validation | | |
| **Req.-ID:** | | LF20, LF30, LF80 | | |
| **Description:** | | The test case verifies that a correctly formatted device can be validated and exported to a file | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected result** | **Actual result** |
| 1 | Open Application.exe from Binary Folder. | | Application starts without problems. | Application starts without problems. |
| 2 | Select a valid input file for editing, by selecting “File” and then “Open” and choose file in explorer. | | The validation is executed successfully without crashing and the data is read and displayed correctly. | The validation is executed successfully without crashing and the data is read and displayed correctly. |
| 3 | Edit the File, by changing its attributes and adding new data to empty attribute fields. | | Attributes are changed correctly. | Attributes are changed correctly. |
| 4 | Click on “File” and select “Save”, select location in the file explorer and save file. | | Valid file can be saved without errors and filename is generated automatically. | Filename is generated automatically but file contains errors sometimes. |
| 5 | Open File again in Application and check if Changes were applied and file is still valid. | | Changes like changes in Attributes are displayed correctly. | File is not displayed as expected. |
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| --- | --- | --- | --- | --- | --- |
| **Testdata:** | | TD-001-003 | | | |
| **Dataset** | **File** | | **Validation** | **Permission Input** | **Permission Output** |
| 1 | Balluff\_ProductLibrary\_CAEX3\_221020.amlx | | valid | given | Given |
|  | | | | | |

|  |  |  |
| --- | --- | --- |
| Tester | Florian Kaiser | |
| Date | 05.05.2022 | |
| Testcase result | Dataset 1 | Fail |

### <TC-001-004> (Export of an invalid device to file with validation)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-001-001 | | |
| **Testcase Name:** | | Export of an invalid device with validation | | |
| **Req.-ID:** | | LF10, LF20, LF30 | | |
| **Description:** | | The test case verifies that errors are detected during the validation of the exported device. | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected result** | **Actual result** |
| 1 | Open Application.exe from Binary Folder. | | Application starts without problems. | Application starts without problems. |
| 2 | Select a valid input file for editing, by selecting “File” and then “Open” and choose file in explorer. | | The validation is executed successfully, without crashing and the data is read and displayed correctly. | The validation is executed successfully, without crashing and the data is read and displayed correctly. |
| 3 | Edit the File, by changing its attributes with invalid data. | | Invalid Inputs to attributes are recognized when exporting the device. Error message is displayed. | Invalid Inputs to attributes are recognized when exporting the device. Error message is displayed. |
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| --- | --- | --- | --- | --- | --- |
| **Testdata:** | | TD-001-004 | | | |
| **Dataset** | **File** | | **Validation** | **Permission Input** | **Permission Output** |
| 1 | Balluff-BNI\_PNT-507-005-Z040-20201208.amlx | | Valid (before editing) | given | given |
|  | | | | | |

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| --- | --- | --- |
| Tester | Florian Kaiser | |
| Date | 05.05.2022 | |
| Testcase result | Dataset 1 | Pass |

## Testsuite <TS-002 GUI>

### <TC-002-001> (Add interface and attachment to device)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-002-001 | | |
| **Testcase Name:** | | Add interface and attachment to device | | |
| **Req.-ID:** | | LF40, LF60 | | |
| **Description:** | | Run application and try if interfaces and attachments can be added to an device | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected result** | **Actual result** |
| 1 | Open Application.exe from Binary Folder. | | Application starts without problems. | Application starts without problems. |
| 2 | Drag Interface from “Interface Class Library” to “Interfaces” Window | | The dragged Interface should be added to the device, indexed in order. | Drag and Drop works without problems. |
| 3 | Add Attachment (e.g. “ComponentPicture”) and click “select File” | | File Explorer should open to select the right file. | File explorer opens correctly, file is selectable. |
| 4 | Select File from explorer. | | See if path is displayed in “Attachments” correctly. | Added Attachment is added and Path is displayed correctly (used PNG for “ComponentIcon”) |
|  | | | | |

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| Tester | Linus Eickhoff | |
| Date | 24.04.2022 | |
| Testcase result | (No Dataset required) | Pass |

### <TC-002-002> (GUI Load file via file explorer)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-002-002 | | |
| **Testcase Name:** | | GUI Input file selection via file explorer | | |
| **Req.-ID:** | | LF10, LF20, LF40, LF50 | | |
| **Description:** | | The test case verifies that only the permitted file formats can be selected as input via file explorer. Afterwards, the device from the file has to be displayed correctly in the GUI.  Permitted file formats: .xml | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected result** | **Actual result** |
| 1 | Open Application.exe from Binary Folder. | | Application starts without problems. | Application starts without problems. |
| 2 | Click on “File” and “Open” | | The file explorer opens in a new window. | The file explorer opens in a new window. |
| 3 | Search for file to load | | A drop-down menu opens showing that only .amlx Files are allowed. | Drop down menu shows that only AML Files are allowed |
| 4 | Double click on the file to select and load it. | | File is loaded correctly if valid | File is loaded correctly |
|  | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **Testdata:** | | TD-002-002 | | | | |
| **Dataset** | **Input File** | | **Validation** | **Permission Input** | **Permission Output** | **Output File** |
| 1 | Balluff-BNI\_PNT-507-005-Z040-20201208.amlx | | valid | given | given | - |
|  | | | | | | |

|  |  |  |
| --- | --- | --- |
| Tester | Linus Eickhoff | |
| Date | 24.04.2022 | |
| Testcase result | Dataset 1 | Pass |

### <TC-002-003> (GUI Creation and editing of a new device)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-002-003 | | |
| **Testcase Name:** | | GUI Creation and editing of a new device | | |
| **Req.-ID:** | | LF40, LF60, LF70 | | |
| **Description:** | | The test case verifies whether a new, empty device can be created and edited in the editor. | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected result** | **Expected result** |
| 1 | Open Application.exe from Binary Folder. | | Application starts without problems. | Application starts without problems. |
| 2 | Go to “File” and select “new” to start creating new device. | | All Fields are reset correctly. | All Fields are reset correctly. |
| 3 | Edit and fill attribute and interface data | | All fields are edited correctly. | All fields are edited correctly (No field checking). |
|  | | | | |

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| --- | --- | --- |
| Tester | Linus Eickhoff | |
| Date | 24.04.2022 | |
| Testcase result | (No Dataset required) | Pass |

### <TC-002-004> (GUI Export of a loaded device)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testcase ID:** | | TC-002-004 | | | |
| **Testcase Name:** | | GUI Export of a loaded device | | | |
| **Req.-ID:** | | LF40, LF80 | | | |
| **Description:** | | The test case verifies whether a loaded device in the application can be exported and saved as a file. | | | |
| **Test Steps** | | | | | |
| **Step** | **Action** | | **Expected result** | | **Actual Result** |
| 1 | Open Application.exe from Binary Folder. | | Application starts without problems. | | Application starts without problems. |
| 2 | Select a valid input file for editing, by selecting “File” and then “Open” and choose file in explorer. | | Device is loaded correctly and file validation is successful. | | Device is loaded correctly and file validation is successful. |
| 3 | Change data, like attributes and click on “File” and then on “Save”. | | | File Explorer is opened and Filename autogenerated but editable. | File Explorer is opened and Filename autogenerated but editable. |
| 4 | Choose saving location for file and save. | | | File is saved and exported correctly without errors | File is saved and exported correctly without errors when creating a new device. While editing an existing device, exporting fails. |
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| **Testdata:** | | TD-002-004 | |
| **Dataset** | **Input File** | | **Output File** |
| 1 | Balluff-BNI\_PNT-507-005-Z040-20201208.amlx | | Balluff-BNI\_PNT-507-005-Z040-20201208.amlx |
| 2 | Balluff-BNI\_PNT-508-105-Z015-CAEX3-20201207.amlx | | Balluff-BNI\_PNT-508-105-Z015-CAEX3-20201207.amlx |
|  | | | |

|  |  |  |
| --- | --- | --- |
| Tester | Florian Kaiser | |
| Date | 05.05.2022 | |
| Testcase result | Dataset 1 | Fail |
| Dataset 2 | Fail |