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| **Group 8** | **Death Star Image Exfiltration** |
| **Major:** | **Team members:** |
| EE | Nicholas Michael |
| CEG | Mason McDaniel |
| IT/Cyber | Chase Ennis |
| IT/Cyber  CS | Cade Wrinkle  Michael Mowad |

**Test and Evaluation Master Plan**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Requirement | Test Method | Evaluation Method | Threshold | Objective |
| 10 | Visual Inspection | Pass/Fail | Present | Verify the presence of the Raspberry Pi within the delivered solution. |
| 20 | Visual Inspection | Pass/Fail | Present | Verify the presence of the Linux Server within the delivered solution. |
| 30 | Visual Inspection | Pass/Fail | Present | Verify the presence of a communication device attached to the Raspberry Pi within the delivered solution. |
| 40 | Visual Inspection | Pass/Fail | Present | Verify the presence of a communication device attached to the Raspberry Pi within the delivered solution. |
| 50.1 | Device Detection | Pass/Fail | Present | Verify the device can detect the usb connection |
| 50.2 | Functional Test | Pass/Fail |  | Verify that software can recognize and load a 1024x1024 png from the USB device. |
| 60 |  |  |  |  |
|  |  |  |  |  |
| 70.1 | Functional Test | Pass/Fail | f | ffdddddddddd |
| 70.2 |  |  |  |  |
| 70.3 |  |  |  | ddd |
| 70.4 |  |  |  |  |
| 70.5 |  |  |  |  |
| 80 |  |  |  |  |
| 90 |  |  |  |  |
| 100 |  |  |  |  |
| 110 |  |  |  |  |
| 120 |  |  |  |  |
| 130 |  |  |  |  |

*A black and white list with text

Description automatically generated*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Constraint | Test Method | Evaluation Method | Threshold | Objective |
| 10 | *Visual Inspection* | *Pass/Fail* |  | *Verify there is no physical link connecting the Raspberry Pi to the Linux Server* |
| 20 | *Visual Inspection* | *Pass/Fail* |  | *Verify there is no physical contact with the boundary window.* |
| 30 |  |  |  | *Verify that there is no Wi-Fi, Bluetooth, cellular, nor any other associated protocols used in the design.* |
| 40 | *Budget Inspection* | *Pass/Fail* |  | *Verify that the total project shall not exceed $300 USD.* |
| 50 | *Rubric Inspection* | *Pass/Fail* |  | *Verify that all materials and components used are provided by the course instructors.* |
| 60 | *Visual Inspection* | *Pass/Fail* |  | *Verify the rebel server is equal to or grater than 5 meters away to the glass wall.* |
| *70* |  |  |  | *Verify the solution will not impede other network activities occurring concurrently* |
| *80* |  |  |  | *Verify the established communication is bi-directional* |
|  |  |  |  | *Verify all communications between the pi and the server are encrypted* |
|  |  |  |  | *Verify that the Raspberry P* |

*A screenshot of a computer error

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| --- | --- | --- | --- | --- |
| *Standard* | *Test Method* | *Evaluation Method* | *Threshold* | *Objective* |
| *10* |  |  |  |  |
| *20* |  |  |  |  |
| *30* |  |  |  |  |
| *40* |  |  |  |  |
| *50* |  |  |  |  |
| *60* |  |  |  |  |
| *70* |  |  |  |  |
| *80* |  |  |  |  |

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***Summary Tables of Test Results***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Requirement* | *Test Date* | *Test and Evaluation Location* | *Result* | *Notes* | *Date Passed (Accepted)* |
| *1.1* |  |  |  |  |  |
| *1.2* |  |  |  |  |  |
| *2.1* |  |  |  |  |  |
| *⁞* |  |  |  |  |  |
|  |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Constraint* | *Test Date* | *Test and Evaluation Location* | *Result* | *Notes* | *Date Passed (Accepted)* |
| *1.1* |  |  |  |  |  |
| *1.2* |  |  |  |  |  |
| *2.1* |  |  |  |  |  |
| *⁞* |  |  |  |  |  |
|  |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Standard* | *Test Date* | *Test and Evaluation Location* | *Result* | *Notes* | *Date Passed (Accepted)* |
| *1.1* |  |  |  |  |  |
| *1.2* |  |  |  |  |  |
| *2.1* |  |  |  |  |  |
| *⁞* |  |  |  |  |  |
|  |  |  |  |  |  |

***Test and Evaluation Methods***

*Testing of requirements is to validate the system’s achievement of a capability or level of performance. Testing of constraints is to verify that the system’s properties, capabilities or levels of performance conform to limits set by of the constraints. Testing to standards is to verify that the system’s capabilities, function or levels of performance comply with industry standards.*

*The following examples illustrate simple approaches for writing descriptions of test and evaluation methods to verify achievement of a requirement, to verify the system conforms to constraints, and to verify the system complies with standards.*

***Requirements (verification of achievement)***

*Requirement 1.1 will be tested at Facility X which hosts equipment Z and test chamber Y. The test method is as follows: Subsystem J will be monitored using a P test meter at standard temperature and standard pressure for H hours of continuous operation. Specialized test equipment and test fixtures are not required. The results will be evaluated by direct observation of the tests. The threshold is U units and the objective is V units.*

*Requirement 2.1 will be tested at Facility X which hosts equipment Z and test chamber Y. The test method is as follows: Subsystem J will be monitored using a P test meter at standard temperature and standard pressure for H hours of continuous operation. A specialized test connector Fitting K is required and the results will be evaluated by indirect observation. The Value at test port A will be processed using a discrete Fourier transform and frequency domain analysis. The threshold is U units and the objective is V units.*

*….*

***Constraints (verification of conformity)***

*Constraint 1.1 will be tested at Facility Y which hosts Windows- and Linux-based laptops, desktops and workstations. The test method is as follows: Graphical User Interface (GUI) software for subsystem H will be compiled on OS D without error or warnings. Each of the GUI features will be demonstrated following Use Cases A, B, C as described below. The threshold is zero run-time errors. The objective is zero run-time errors.*

*Constraint 1.2 will be tested at Facility Y which hosts Windows- and Linux-based laptops, desktops and workstations. The test method is as follows: Following successful demonstration of Requirement 2.1.1, Algorithm W will be tested using the Graphical User Interface (GUI) software for subsystem H. Each of the GUI fields values will be compared against the expected values following Use Cases A, B, C as described below. The threshold is accuracy of +/-X units. The objective is +/-X/2 units.*

*…*

***Standards (verification of compliance)***

*Standard 1.1 will be verified in accordance to IEEE Standard 102.11C dated Sep. 2016. The tests will occur at Facility X which hosts equipment Z and test chamber Y. Specialized test equipment and test fixtures are not required. The results will be evaluated by direct observation of the tests. The threshold is U units and the objective is V units.*

*Standard 1.2 will be tested for compliance with IEEE 802.11 a/b/g/n/ac at the Interoperability Laboratory at the University of New Hampshire. The cost of this test service will be $X, and will be completed along with a compliance report within Y weeks.*