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| --- | --- | --- |
| **User Story / Requirement ID** | **User Story/Requirement Under Test** | |
| AirFlaps\_01 | The present test will verify if the air flaps of the Iron Man suit can move  between values of 0° and 85° | |
| ***Is it valid?*** |
| Yes |
| ***If not valid, what is the new/Extra information from Marketing/Product Owner?*** | | |
|  | | |
| **Test Case ID** | **Test Case Name** | |
| AirFlaps\_Test | Check if the air flaps opening is between 0° and 85° | |
| **Test Case Steps** | | |
| **Step Number** | **Step description** | **Expected Result** |
| **Step 1** | Install a sensor to check the degrees of the airflap  opening | Get the actual precise angle value  of opening of the airflaps |
| **Step 2** | Boot Iron Man suit on safe mode  (with no one on board)  Set the suit to safe mode by pressing the buttons “On”  and “Help” for seven seconds | Boot on safe mode  successfully |
| **Step 3** | Execute a low safe fly to begin to test the  airflaps opening | System starts flying on safe mode |
| **Step 4** | Set the commands to “Test airflaps” to check if  airflaps can turn between 0° and 85° degrees, also add  a in between value of 45°  Get the angle of opening by using the sensor | Airflaps can succesfully move  between 0° to 85° |
| **Step 5** | Execute a normal fly test to start simulating a normal  Fly when the suit is used | System starts flying on normal  Test mode |
| **Step 6** | Set the commands to “Test airflaps” to check if  airflaps can turn between 0° and 85° degrees, also add  an in between value of 45°  Get the angle of opening by using the sensor | Airflaps can succesfully move  between 0° to 85° degrees |
| **Step 7** | Execute low power fly instruction  Execute a flying test simulating low remaining power  On the device | System starts low power fly test |
| **Step 8** | Set the commands to “Test airflaps” to check if  airflaps can turn between 0° and 85° degrees, also add  an in between value of 45°  Get the angle of opening by using the sensor | Airflaps can succesfully move  between 0° to 85° degrees |
| **Step 9** | Execute safe fly test with airflaps  blocked by an object  (Execute a safe flying test simulating  an object blocking the airflaps movement) | System starts flying on safe mode |
| **Step 10** | Set the commands to “Test airflaps” to check if  airflaps can turn between 0° and 85° degrees, also add  an in between value of 45°.  Get the angle of opening by using the sensor | Airflaps cannot move  between 0° to 85° degrees.  Error message is sent |

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| --- | --- | --- |
| **User Story / Requirement ID** | **User Story/Requirement Under Test** | |
| KyberCrystal\_01 | As Sith Knight, I want that my light saber firmware turns off my saber  when kyber crystal gets overheated (1420°F). | |
| ***Is it valid?*** |
| Yes |
| ***If not valid, what is the new/Extra information from Marketing/Product Owner?*** | | |
|  | | |
| **Test Case ID** | **Test Case Name** | |
| KyberCrystal\_Test |  | |
| **Test Case Steps** | | |
| **Step Number** | **Step description** | **Expected Result** |
| **Step 1** | Install a temperature sensor 2mm apart of the kyber crystal | The sensors monitor the  temperature of the lightsaber |
| **Step 2** | Check the temperature of the lightsaber  if it is 10% under 1420°F, turn on the lightsaber  (Lightsaber must be at room temperature, about 26° C  For testing conditions) | Light saber turns on |
| **Step 3** | Start lightsaber’s testing mode  (By pressing on/off button 5 times in a row) | Light sabers enter testing mode |
| **Step 4** | Start cutting wooden test objects until the light saber reaches  1420° F  (The sensor detects the rise of the temperature) | Light saber cuts the wooden test  objects and the temperature  increases |
| **Step 5** | Microcontroller installed on light saber detects the  temperature of the saber and then change the saber light to  Yellow for 2 seconds and the turn the saber off | Light saber turns off when  reaching 1420° F |
| **Step 6** | Wait for the light saber to cool down at room temperature | Light saber reaches room  temperature (about 26° C) |
| **Step 7** | Repeat process 1- 5 but now with metal test objects | Lightsaber must satisfactory  complete all the steps |
| **Step 8** | Wait for the light saber to cool down at room temperature | Light saber reaches room  temperature (about 26° C) |
| **Step 9** | Disable temperature sensor | Sensor does not measure crystal  temperature |
| **Step 10** | Turn on light saber, since the temperature sensor isn’t  detected, the light of the saber turns on just 3 seconds  and then it turns off, saber’s color change to yellow  to warn the user the sensor isn’t working | Light saber turns on for 3  seconds with a yellow light  then it turns off |

**Activities on GitHub**

On the GitHub repository of your project: in teams, analyze the following user stories and create a *test case* for each of them:

1.- As Iron Man Suit Pilot, I want that my air flaps have 0° to 85° degrees of opening for better flying control.

2.- As Sith Knight, I want that my light saber firmware turns off my saber when kyber crystal gets overheated (1420°F).

*Commit your test case on your GitHub repository as it was taught on the* Introduction to Control Version *Module****.***

***Do NOT forget add this instructions file!***

Send an email to the following engineers with the link of your GitHub repository. Attached files will not be accepted.

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**Activity: TestCases; Team: <name of your team>**

Delivery date: October 5, 2019 at 22:10 hrs.