BPM DOCUMENTATION

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| --- | --- | --- | --- | --- | --- | --- |
| ID | SUMMARY OF REQUIREMENT  (I WANT TO) | | RATIONALE  (SO THAT I CAN) | PRIORITY | SOURCE | CREATED |
| POST/Power on | | | | | | |
| P1 | Be able to test the memory | Verify the board will work correctly | | S |  | 04/10/2018 |
| P2 | Be able to test the screen | Verify the screen will display correctly | | S |  | 04/10/2018 |
| P3 | Be able to test the CPU (Jump instructions) | Verify the board will work correctly | | S |  | 04/10/2018 |
| P4 | Be able to test the power | Verify the board will work correctly | | S |  | 04/10/2018 |
| P5 | Be able to test ROM | Verify the board will work correctly | | S |  | 04/10/2018 |
| P6 | Be able to perform POST/Power on the device | So the board can actually be used and boot up | | S |  | 04/10/2018 |
| P7 | Be able to check buttons | So that the buttons can be used | | S |  | 04/10/2018 |
| P8 | Check network interface | So that we can wired devices | | N |  | 04/10/2018 |
| P9 | Check blue tooth module | So that we can connect devices | | N |  | 04/10/2018 |
| P10 | All tests run automatically on system start | Perform the tests automatically every time it is started | | C |  | 12/11/2018 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sphygmomanometer | | | | | |
| B1 | Measure a user’s blood pressure | Take readings and make medical judgements | S |  | 15/10/2018 |
| B2 | Send BP readings to screen | View a user’s blood pressure | S |  | 15/10/2018 |
| B3 | Read data from the reader | So that readings can be gathered | S |  | 17/10/2018 |
| B4 | Take average blood pressure | Have better results | C |  | 17/10/2018 |
| B5 | Filter out erroneous readings and data | Have more accurate results | S |  | 17/10/2018 |
| B6 | Measure blood pressure in real time | Read more relevant ratings | S |  | 17/10/2018 |

# **Acceptance Tests**

## **OST/Power On**

**Test Name**: PP\_T1  
**Requirements Tested**: P1  
**Outline**: Ensure that the system tests the memory  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system | The system will start to display information to the screen |
| 2 | Wait | The system will eventually be started |

**Test Name**: PP\_T2  
**Requirements Tested**: P2  
**Outline**: Ensure that the system tests the screen  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system | The system will start to display characters on the screen |
| 2 | Wait | Eventually, it’ll move on to the next test |

**Test Name**: PP\_T3  
**Requirements Tested**: P3  
**Outline**: Ensure that the CPU instructions work correctly  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system | Diagnostic information will be displayed on the screen relating to the jump instructions being tested |
| 2 | Wait | Eventually the system will move onto the next test |

**Test Name**: PP\_T4  
**Requirements Tested**: P4  
**Outline**: Make sure the power is stable  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system | System shows it is starting |
| 2 | Wait | Information relating to the power supply is displayed |

**Test Name**: PP\_T5  
**Requirements Tested**: P5  
**Outline**: Test the ROM to make sure everything is okay  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system | System shows it is starting |
| 2 | Wait | System shows ROM diagnostic information on the screen |

**Test Name**: PP\_T6  
**Requirements Tested**: P6  
**Outline**: The POST/Power On tests should be able to run  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn the system on | The first test is run |
| 2 | Wait | Each subsequent test is run one after another |
| 3 | Wait | All tests have been run and the system is in a sane state OR some diagnostic information is being displayed |

**Test Name**: PP\_T7  
**Requirements Tested**: P7  
**Outline**: Check to make sure the buttons can be read from  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system | The system shows it is starting |
| 2 | Ask for user input on both buttons | The system confirms each button press and carries on |

**Test Name**: PP\_T8  
**Requirements Tested**: P8  
**Outline**: Check network interface  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn the system on | System shows it is starting |
| 2 | Wait | The system performs a Hardware check to see if there is an Ethernet or Wi-Fi  Module |

**Test Name**: PP\_T9  
**Requirements Tested**: P9  
**Outline**: Check blue-tooth module  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system | System shows it is starting |
| 2 | Wait | The system performs a Hardware check to see if there is a blue-tooth module installed |

**Test Name**: PP\_T10  
**Requirements Tested**: P10, P1, P2, P3, P4, P5, P6, P7, P8, P9  
**Outline**: Perform all tests in sequence at system boot  
**Pre-requisites**: System is turned off  
**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1 | Turn on the system. | The system shows it has begun booting using the LEDs |
| 2 | Wait | Eventually the screen will begin to show POST diagnostic information |
| 3 | Wait | More tests will appear on the screen and completed one after another |
| 4 | Wait | Eventually a splash screen will be displayed, and the user will be informed of any tests that may have failed. |

## **Sphygmomanometer (Blood Pressure)**

**Test Name**: B\_T1  
**Requirements Tested**: B1, B2, B3, B6  
**Outline**: Ensure that the device can measure user’s blood pressure  
**Pre-requisites**: Make sure the device is turned on, healthy and sensors connected

**Method:**

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1. | Attach the sensors to a person | Sensors are properly attached to a person |
| 2. | Once the reading is completed, look at the blood pressure reading on the display | See a reasonable blood pressure reading |
| 3. | Repeat the above ***STEP***s again to check if readings are consistent | See same or very similar blood pressure readings |

**Test Name**: B\_T2  
**Requirements Tested**: B4  
**Outline**: Ensure that the device can take the average blood pressure  
**Pre-requisites**: Make sure the device is turned on, healthy and sensors connected

**Method**:

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1. | Attach the sensors to a person | Sensors are properly attached to a person |
| 2. | Get three different readings from the machine in one sitting | End up with three very similar readings |
| 3. | Once the readings are completed, select the “average” option from the menu | Observe the “average” option returning the average result of the last three readings |

**Test Name**: B\_T3

**Requirements Tested**: B1, B2, B3, B4, B5, B6

**Outline**: Ensure that the device can filter out erroneous readings and data

**Pre-requisites**: Make sure the device is turned on, healthy and sensors connected  
**Method:**

|  |  |  |
| --- | --- | --- |
| **STEP** | Action | Expected Observation |
| 1. | Attach the sensors to a person | Sensors are properly attached to a person |
| 2. | Get different readings from the machine | See the readings on the screen |
| 3. | If some readings are unusually high or low due to – person: not resting 3-5 minutes, talking, has fluctuating body temperature, smoking cigarette less than 30 mins prior to reading or other reasons, identify these readings and delete them. | See a realistic and accurate readings |