**HOME AUTOMATION SYSTEM**

**TEST REPORT**

***Submitted by***

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**1.Test Plan Identifier**

This test plan is to test whether the correct updation can be done by unit modules as well as all of them integrated in the application backend.

The identification for high level test plan would be based on following modules:

* **Initial Setup of the Wifi Module**:

It will be dealing with setting of the Wifi Module to connect with a particular wifi having a particular Name and Passowrd.

* **Connection of the Wifi Module:**

Testing with this module will be dealing with the connection of the Wifi Module with the specified Wifi Module

* **Webpage Found and Data Collected**:

Testing if the connection with the website was made and the data was fetched correctly or not.

**2. Testing Strategy**

**2.1 Environment requirements**

The testing can be only performed by running a integrated hardware system in which the application server has to be run. Then only the backend interface can be seen and further modules can be tested.  
The project application setup contains a Microcontroller setup which is coded using C language and a PHP based website.

**2.2 Testing tools:**Manual Testing

**3. Test Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| S No. | Test Scenario | Test case ID | Test Case Name |
| TS01 | To validate if the desired power was given to the hardware module. | TC01 | Power Source |
| TS02 | To validate if the wifi connection was correctly made by the Wifi module and the name and password are correct. | TC02 | Wifi Authentication |
| TS03 | To validate if the connection was made with the website or not | TC03 | Website Connection |
| TS04 | To validate if the data was entered from user correctly or not. | TC04 | Validate user inputs. |
| TS05 | To validate if the message page had the correct data transferred to it. | TC05 | Validate Message page. |
| TS06 | To validate if the data was correctly fetched by the wifi module and then transferred to the microprocessor. | TC06 | Validate Data fetched and transferred. |
| TS07 | To validate if the correct device was switched on/off. | TC07 | Devices Switches |

Table 3

**4. Unit Testing Result and Analysis & Test Cases Draft**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S.no. | Test Case ID | Test Case name | Steps | Expected Result | Actual Result | Bug ID |
| 1 | TC01 | Input from the user | The user will give four inputs in the text box of the website as a command for the devices | The user input either of these four enteries (on/ON/off/OFF) or left null. | The user inputs any random text. | N/A |
| 2 | TC01 | Data fetched by message page. | The four input will be than transferred to the message page. | The exact messages were transferred as entered by the user. | The messages input by the user were exactly transferred to the message page | N/A |
| 3 | TC02 | The connection made by the wifi module to a particular wifi hotspot. | The wifi module will connect to a part setting of wifi hotspot which has a particular name and password. | The connection is made successfully. | Delay in the connection. | N/A |
| 4 | TC03 | Data fetched by the wifi module from the webpage. | The exact data that was there in message page was transferred to the wifi module. | The user data was successfully transferred to the wifi module and then to the microcontroller. | There was a delay in transferred of the message page data. | N/A |
| 5 | TC03 | The microcontroller accessed the data from the wifi module and gives output for the appliances | The microcontroller was able to fetch exact data as inputs from the webpage via wifi module. | Data was successful fetched as inputs. | Delay in fetching of the data. | N/A |

Table 4

**5. Testing Platform And Requirement**

* Code of the Webpage.
* User Inputs.
* Wifi Connection.
* The programmed microcontroller setup.

**6. Integration Testing and Result Analysis**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S.No. | Test Case ID | Test Case Name | Steps | Expected Result | Actual Result | Bug ID |
| 1 | TC01 | Input from the user transferred to the message page. | The commands given by the user were transferred to the message page to be fetched by the Microprocessor. | The data was successfully fetched by the message page as given by the user. | The data was transferred successfully. | N/A |
| 2 | TC02 | The wifi module was able to make connection with the hotspot | The wifi module has to make a connection with the exact wifi hotspot as programmed in the microcontroller. | The wifi module made a successful connection. | The wifi module made a successful connection. | N/A |
| 3 | TC03 | The microcontroller takes inputs and outputs them as inputs for the four appliance. | The microcontroller first fetched data from the website and then transfer the data to the appliances to be controlled. | The devices are controlled successful by the user via the wifi. | The devices are controlled successful by the user via the wifi. | N/A |

Table 5

**7. Test Closure and Risk assessment**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S no. | Number of modules tested | Number of Test cases | Bugs found | Unit Testing | Integration Testing |
| 1 | 3 | 5 | Nil | **✓** | **✓** |

Table 6

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No | Risk Type | Low | Medium | High |
| 1 | Lack of personnel resources when testing is to begin. |  |  |  |
| 2 | Delays in training on the application and/or tools |  |  |  |
| 3 | Changes to the original requirements or designs. |  |  |  |
| 4 | Lack of availability of required hardware, software, data or tools. |  |  |  |

Table 7