# 5.1. Introduction

## 5.1.1. System overview

## 5.2.2. Test Approach

# 5.2. Testing plan

## 5.2.1. Features to be tested

Developer will perform unit test to ensure that all functions are working correctly.

|  |  |  |  |
| --- | --- | --- | --- |
| No | Component | Feature Name | Function to be Tested |
| 1 | Electronic Components | Operability | Checking components that can operate following their characteristics in datasheet. |
| 2 | Function in Sensors | Sensor’s operations | Checking sensors whether they are working correctly or not. |

## 5.2.2. Features not to be tested

## 5.2.3. Testing tools and environment

HSS testing environment:

\* Arduino IDE 1.6.7

# 5.3. Test Cases

## 5.3.1. Function in Android App

## 5.3.2. Function in Hardware

### 5.3.2.1. User’s interaction on Button

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Test Case Title** | **Test Procedure** | **Expected Result** | **Result** | **Test Date** | **Assign** |
| User Role: User  Precondition: Hardware of HSS System is running.  Arduino is connecting to Raspberry Pi via Serial Port. | | | | | | |
| HSS\_Button\_Press | Press the button to make the bell rings. | Press the button | Buzzer alarms, a push notification is sent to App with a message “Someone press the door bell” | Pass |  |  |

### 5.3.2.2. Sensors’ operation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Test Case Title** | **Test Procedure** | **Expected Result** | **Result** | **Test Date** | **Assign** |
| User Role: User  Precondition: Hardware of HSS System is running.  Arduino is connecting to Raspberry Pi via Serial Port. | | | | | | |
| HSS\_PIR\_Detected | PIR Sensor detect a movement | User make a movement in front of PIR sensor | Buzzer alarms, LED turns on, a push notification is sent to App with a message “Motion detected!” | Pass |  |  |
| HSS\_PIR\_End | PIR Sensor does not alert if there is no movement | Users stop making movement | Buzzer stops, LED turns off, , a push notification is sent to App with a message “Motion ended” | Pass |  |  |
| HSS\_Switch\_Opened | Magnetic Reed Switch detects if the door was opened | User open the door | Buzzer alarms, LED turns on, a push notification is sent to App with a message “Door opened” | Pass |  |  |
| HSS\_Switch\_Closed | Magnetic Reed Switch detects if the door was closed | Users close the door | Buzzer stops, LED turns off, a push notification is sent to App with a message “Door closed” | Pass |  |  |

# 5.4. Test report

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | Module | Pass | Fail | Untested | N/A | Number of test case |
| 1 | Electronic Component |  |  |  |  |  |
| 2 | User Interface |  |  |  |  |  |
| 3 | Function of Android App |  |  |  |  |  |
| 4 | Function in hardware | 5 | 0 | 0 | 0 | 5 |