# Test Specification

By Group 2


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## 1. Version History

| Test Specification Versioning Table | | | |
|---|---|---|---|
| Version | Date | Editor | Modifications |
| 0.1 | 11-05-2022 | All | Outlining of test cases, based on use-cases. |
| 0.2 | 15-05-2022 | All | Editing and finalizing test cases |

## 4.2 TC2

| Name | Start Timer. |
|---|---|
| Use case | UC2 |
| Primary actor | Sensor(Kitchen) |
| Precondition | The controller has not received events stating that the user is still in the kitchen for more than 20 seconds. |
| Test input | The kitchen sensor will be blocked, thus indicating that the user has left the kitchen. |
| Test functionality | To test if the timer starts and operates correctly. |
| Expected result | The timer starts after the assigned waiting period of 20 seconds |
| Result(Pass fail ) | Pass |
| Note: | |

## 4.3 TC3

| Name | Search for user |
|---|---|
| Use case | UC4 |
| Primary actor | Sensor(s) |
| Precondition | UC3 is running. |
| Test input | 1. The user will wave his hand in front of the second sensor indicating movent in another room. |
| Test functionality | To locate the user after leaving the kitchen. |
| Expected result | The controller receives an event telling which room the user is located in. This can be seen in the event terminal. |
| Result(Pass fail ) | Pass |
| Note: | |

## 4.4 TC4

| Name | Alert User |
|---|---|
| Use case | UC3 |
| Primary actor | Alerting lights |
| Precondition | Five minutes have passed since the timer of UC2 has been started. |
| Test input | 1. UC4 will determine which room the user is located in. |
| Test functionality | To test the alerting lights. |
| Expected result | Lights will turn on in the room the user is located in.<br>This will be indicated by a change of color on the LED strip. |
| Result(Pass fail ) | Pass |
| Note: | |

## 4.5 TC5

| Name | Detect User Return |
|---|---|
| Use case | UC5 |
| Primary actor | Sensor(s) |
| Precondition | The user is not in the kitchen and the stove is on. |
| Test input | 1. The user waves his hand in front of the kitchen sensor to indicate his return to the kitchen. |
| Test functionality | To detect the return of the user. |
| Expected result | The timer is reset, all alerting lights are turned off and the event is saved on the database. |
| Result(Pass fail ) | Pass |
| Note: | |

# 2. Introduction

This test specification describes how to perform different test cases designed for the functional requirements described in the Requirement Specification document, made for the 2022 computer engineering project 2. The system design centers around home use, with different visual cues throughout the home indicating that the stove has been left on and after an extended period of time, the stove will be turned off. The system will also store data for later review by the user on a web page.

## 2.1 Abbreviations

| Abbreviation | Description |
|---|---|
| TC | Test Case |
| P | Pass |
| F | Fail |

# 3. Testing Plan

To test the functionality of the kitchen guard program a test case will be defined for each of the listed functional requirements in the Requirements Specification. Each of these test cases must then be performed and accepted. In this document, test cases will be listed and referenced to the appropriate use cases listed in the Requirements Specification. Each of the test cases will have a clear description of what the tester will need to perform the test of the use case in question. This will be followed by the expected result, such that the tester knows what to look for when deciding whether the test passes or fails. At last, the tester will also have a chance to leave notes if the tester deems it necessary.
These tests will be performed by a group of the developer's peers, and at least two signatures from said peers will be collected in this document.

# 4. Test Cases

## 4.1 TC1

| Name | Monitor Stove |
|---|---|
| Use case | UC1 |
| Primary actor | User |
| Precondition | Stove is turned on |
| Test input. | 1. The user will wave his hand in front of the kitchen sensor to indicate movement in the kitchen. |
| Expected result | The controller receives an event, and prints it in the controller terminal. |
| Test functionality | To test if the sensor can send events to the controller and to test if the controller can receive said events. |
| Result(Pass/fail) | Pass |
| Note: | |

## 4.6 TC6

| Name | Turn the stove off |
|---|---|
| Use case | UC6 |
| Primary actor | Power plug and alerting light. |
| Precondition | 20 minutes has passed without the user present in the kitchen |
| Test input | 1. Wait for a period of 20 minutes<br>(While testing this timer is set to a lower period) |
| Test functionality | To test that the stove safely turns off after a period of 20 minutes. |
| Expected result | The stove is off and the light in the kitchen is showing a colored light indicating the stove was left on for too long. For the test, the alerting light will be seen as a change in color on the LED strip. |
| Result(Pass/fail ) | Pass |
| Note: | |

## 4.7 TC7

| Name | View data |
|---|---|
| Use case | UC7 |
| Primary actor | User |
| Precondition | None: |
| Test input | 1. The user opens a browser<br>2. The user enters the web page (KitchenGuard.ddns.net)<br>3. The user can watch the information from the database |
| Test functionality | To test that the webpage can read data from the database |
| Expected result | The user has access to the information from the database |
| Result(Pass/fail/) | Pass |
| Note: | |

## 4.8 TC8

| Name | Recieve new data from database |
|---|---|
| Use case | UC7 |
| Primary actor | User |
| Precondition | User has webpage open |
| Test input | 1. An event will be sent to the database<br>2. The user will refresh the web page |
| Test functionality | To test that the webpage can new data from the database |
| Expected result | The user will see the new event appear on the web page |
| Result(Pass/fail/) | Pass |
| Note: | |