

# **Chapter 3**

## **Software Requirement Specification**

# **Emergency Information on Mobile**

## **Software Requirement Specification**

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## Document History

Document Name	Details	Status	Date	Viewable	Reviewer	Responsible
<b>Documents</b>						
<b>EIOM-SRS-V.0.1.docx</b>	<b>Chapter 1</b> • Introduction	Draft	13/3/2014	PJ, SK, CD	PJ, SK	PJ, SK
<b>EIOM-SRS-V.0.2.docx</b>	<b>Chapter 2</b> • URS • SRS	Draft	15/3/2014	PJ, SK, CD	PJ, SK	PJ, SK
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## Chapter One | Introduction

### 1.1 Objective

Software Requirement Specification of Emergency Information on Mobile is the document that describes each function, process, software environment, and constraint. The document is based on the contract and project plan. It is created for software developer and software tester to more understanding in the requirement. The purpose of Emergency Information on Mobile is providing area for presenting information of help place for the users. Admin also can manage information of help place.

### 1.2 Intended Audience and Reading Suggestions

The Software Requirement Specification was created for everyone that involved with the Emergency Information on Mobile. The document of Software Requirement Specification will make the benefit for people as following:

#### 1.2.1 Development Team

- Make strategies and planning process convenient
- Improve the system in right needed and use for prioritize what process become first or what process should be after.
- Reference in testing system because tester will validate if the system is correct and appropriate.
- Verify and specify requirements to ensure the same understanding about requirements. The ensuring can help in working and discuss all detail about requirements for avoid any error in work.
- Control and guarantee qualities of the system to make it right regarding the standard and contract.
- Easier discussion all information about the system because the constant and reliability source of the system.

#### 1.2.2 Customer

- Easy for users to understand about quality and limitation of the system.
- Ensure the same understanding about requirement.

### 1.3 Project Scope

The objective of this software requirement specification is to specify requirements to establish the application that:

- Emergency Information on Mobile is a web application for both computer website and mobile devices.
- Emergency Information on Mobile for mobile devices supports android operating system.
- Emergency Information on Mobile provides offline map and last downloaded information of help places.
- Emergency Information on Mobile supports English language.
- Emergency Information on Mobile provides admin to manage the information of help place, such as add, edit and remove help place.

### 1.4 User Characteristic

#### 1.4.1 User

- The group of person who already to use online map and offline map. The user of the application that will receive the information of help place to call and get an address.

#### 1.4.2 Administrator

- The group of person who manage the information of the help place.

### 1.5 Acronyms and Definitions

#### 1.5.1 Acronyms

EIOM	Emergency Information on Mobile
SRSs	Software Requirement Specification Server
SRSm	Software Requirement Specification Mobile
URSs	User Requirement Specification Server
URSm	User Requirement Specification Mobile
UCs	Use Case Server
UCm	Use Case Mobile

UIs	User Interface Server
UIm	User Interface Mobile
UTCs	Unit Test Case Server
UTCm	Unit Test Case Mobile
STCs	System Test Case Server
STCm	System Test Case Mobile

### 1.5.2 Definitions

Feature	Transformation of input parameters to output parameters based on a specified algorithm. It describes the functionality of a product. Used for requirements analysis, design, coding, testing or maintenance. [IEEE90]
IEEE	Institute for Electrical and Electronics Engineers. Biggest global interest group for engineers of different branches and for computer scientists. [IEEE90]
Requirement	(1) A condition or capability needed by a user to solve a problem or achieve an objective. (2) A condition or capability that must be met or processed by system or system component to satisfy a contract, standard, specification, or other formally imposed document. (3) A documented representation of a condition or capability as in definition (1) or (2). [IEEE90]
Specification	Precise description of an activity or work product which serves as basis or input for further activities or work product. A specification can comprise requirements to a product and how they will be solved. Different parts of a specification (e.g. what is to be done, how it will be done) must not be mixed. [IEEE90]
Design	The period of time in the software life cycle during which the designs for architecture, software component, interfaces and data are created, documented, and verified to satisfy requirements. [IEEE90]
UML	Unified Modeling Language. Standardized notation for Modeling design descriptions, architecture or scenarios. Not depending on a specific method. Issued and maintained by the Object Management Group (OMG). [IEEE90]
Use Case	(1) Concept to describe a system based on usage of system resource by its environment. Characterized by an objective set of interactions within and at the borders a scenario (Usage approach, operational scenario) from the perspective of this user. [IEEE90]

## Chapter Two | Functional Requirement

### 2.1 User Requirement Specification

#### 2.1.1 Mobile Part

- **Feature 1: Map and Help Information System**

URSm-01: The user can view the online map with their current location.

URSm-02: The user can view the offline map with their current location.

URSm-03: The user can view the help places in online map.

URSm-04: The user can view the help places in offline map.

URSm-05: The user can view help information of each help place in online map.

URSm-06: The user can view help information of each help place in offline map.

URSm-07: The user can make emergency call to each help place in online map.

URSm-08: The user can make emergency call to each help place in offline map.

URSm-13: The user can view the route of distance between the current locations of user to the destination.

URSm-14: The user can view details of each point on routing the direction.

- **Feature 2: Search information system**

URSm-09: The user can search help place's name by keyword in online map.

URSm-10: The user can find the nearest help place by selection the category in online map.



- **Feature 3: Rating location**

URSm-15: The user can view average rating score of each help place in online map.

URSm-16: The user can view average rating score of each help place in offline map.

URSm-17: The user can rate the help place in online map.

- **Feature 4: Automatic collecting data system**

URSm-11: The user can set the scope for downloading data.

URSm-12: The mobile application can collect help place information automatically.

### 2.1.2 Server Part

- **Feature 5: Manage Information System**

URSs-01: The administrator can add help place's information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.

URSs-02: The administrator can edit help place's information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.

URSs-03: The administrator can remove help place.

URSs-04: The administrator can view help information of each help place.

URSs-05: The administrator can browse the help place by category.

URSs-06: The administrator can browse the help place by province of Thailand.

URSs-07: The administrator can browse the help place by category and province of Thailand.

URSs-08: The administrator can login to the system.

URSs-09: The administrator can logout of the system.

URSs-10: The administrator can update their account's password.

- **Feature 6: Support information for mobile**

URSs-11: The mobile application can get list of all help places in the database.

URSs-12: The mobile application can get the nearest help place by the selected category.

URSs-13: The mobile application can get list of help places where locate in the setting scope.

URSs-14: The mobile application can retrieve the help place with new average rating score.

## **2.2 Software Requirement Specification**

### **2.2.1 Mobile Part**

**URSm-01: The user can view the online map with their current location.**

**SRSm-01:** The system shall obtain the latitude and longitude of the user's current location.

**SRSm-02:** The system shall show the online map UI.

**SRSm-03:** SRS-: The system shall show the user's current location on the online map.

**URSm-02: The user can view the offline map with their current location.**

**SRSm-01:** The system shall obtain the latitude and longitude of the user's current location.

**SRSm-04:** The system shall check MapsWithMe application is installed in the device.

**SRSm-05:** The system shall show dialog to offer user download MapsWithMe application.

**SRSm-06:** The system shall connect MapsWithMe application.

**SRSm-07:** SRS-: The system shall show the offline map UI.

**SRSm-08:** SRS-: The system shall show the user's current location on the offline map.

**URSm-03: The user can view the help places in online map.**

**SRSm-02:** The system shall show the online map UI

**SRSm-09:** The system will retrieve all help places from server.

**SRSm-10:** The system shall input marker of help places into online map UI.

**SRSm-11:** The system shall show all markers of help places on an online map UI.

**URSm-04: The user can view the help places in offline map.**

**SRSm-04:** The system shall check MapsWithMe application is installed in device.

**SRSm-05:** The system shall show dialog to offer user download MapsWithMe application.

**SRSm-06:** The system shall connect MapsWithMe application.

**SRSm-07:** The system shall show the offline map UI.

**SRSm-12:** The system shall retrieve the loaded help places from the user's device.

**SRSm-13:** The system shall input marker of help places into offline map UI.

**SRSm-14:** The system shall show all markers of help places on an offline map UI.

**URSm-05: The user can view help information of each help place in online map.**

**SRSm-15:** The system shall receive the help place object that user selected

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**URSm-06: The user can view help information of each help place in offline map.**

**SRSm-15:** The system shall receive the help place object that user selected.

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**URSm-07: The user can make emergency call to each help place in online map.**

**SRSm-15:** The system shall receive the help place object that user selected from offline map.

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**SRSm-18:** The system shall provide the call UI.

**SRSm-19:** The system shall call to the selected help place.

**URSm-08: The user can make emergency call to each help place in offline map.**

**SRSm-15:** The system shall receive the help place object that user selected from offline map.

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**SRSm-18:** The system shall provide the call UI.

**SRSm-19:** The system shall call to the selected help place.

**URSm-09: The user can search help place's name by keyword in online map.**

**SRSm-20:** The system shall provide search button UI.

**SRSm-21:** The system shall provide text field UI.

**SRSm-22:** The system shall receive all help places from server.

**SRSm-23:** The system shall search help places by keyword from user inputting.

**SRSm-24:** The system shall matching keyword with help places.

**SRSm-25:** The system shall display help places which matching with keyword.

**SRSm-26:** The system shall provide map with help place that user selection from searching by keyword.

**URSm-10: The user can find the nearest help place by selection the category in online map.**

**SRSm-27:** The system shall provide category button.

**SRSm-28:** The system shall receive the current location of user and category's id.

**SRSm-29:** The system shall send the current location of user and category's id to the server.

**SRSm-30:** The system shall receive help place object from the server.

**SRSm-31:** The system shall change color of marker to show the position of nearest help place by searching.

**SRSm-32:** The system shall display the nearest help place of each category from user selection.

**URSm-11: The user can set the scope for downloading data.**

**SRSm-33:** The system shall provide menu setting UI.

**SRSm-34:** The system shall provide number for setting scope with radio button UI.

**SRSm-35:** The system shall define a default value of scope.

**URSm-12: The mobile application can collect help place information automatically.**

**SRSm-36:** The system shall check distance between original coordinates and new coordinates position automatically.

**SRSm-37:** The system shall send latitude and longitude of user to the server.

**SRSm-38:** The system shall receive help places from server.

**SRSm-39:** The system shall delete the latest data of help places from the database.

**SRSm-40:** The system shall add new data of help places into database.

**URSm-13: The user can view the route of distance between the current locations of user to the destination.**

**SRSm-41:** The system shall retrieve information file from XML file of Google direction API.

**SRSm-42:** The system shall provide Map UI for showing route distance.

**SRSm-43:** The system shows polyline of distance from current location to destination.

**URSm-14: The user can view details of each point on routing the direction.**

**SRSm-42:** The system shall provide Map UI for showing route distance.

**SRSm-44:** The system shall provide UI for viewing the details.

**SRSm-41:** The system shall retrieve information file from XML file of Google direction API.

**SRSm-45:** The system provides UI to show details of distances, which are distance of each point on the map, time to use for driving to each point, average time and the average point.

**URSm-15: The user can view average rating score of each help place in online map.**

**SRSm-46:** The system shall receive the help place object that user selected.

**SRSm-47:** The system shall retrieve information of help place object.

**SRSm-48:** The system provides information UI to show the help information and rating score of help place

**URSm-16: The user can view average rating score of each help place in offline map.**

**SRSm-46:** The system shall receive the help place object that user selected.

**SRSm-47:** The system shall retrieve information of help place object.

**SRSm-48:** The system provides information UI to show the help information and rating score of help place

**URSm-17: The user can rate the help place in online map.**

**SRSm-49:** The system provides UI with the rating bar.

**SRSm-50:** The system shall send help place's id and score that user rate to the server.

**SRSm-51:** The system shall retrieve the new average score of help place's that user rate from the server.

**SRSm-52:** The system shall refresh the average score on the information page.

## **2.2.2 Server Part**

**URSS-01: The administrator can add help place's information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.**

**SRSs-01:** The system provides the UI, which receive name, address, district, province, zip code, phone number, category, latitude and longitude.

**SRSs-02:** The system provides map UI.

**SRSs-03:** The system provides searched province UI.

**SRSs-04:** The system shall receive latitude and longitude from map.

**SRSs-05:** The system shall check the name length. The name must be 1- 50 characters.

**SRSs-06:** The system shall check the address length. The address must be 0- 50 characters.

- SRSs-07:** The system shall check the district length. The district must be 0- 50 characters.
- SRSs-08:** The system shall check the zip code length. The zip code must be 0- 5 characters.
- SRSs-09:** The system shall check the phone number format. The phone number should be 9-10 digits.
- SRSs-10:** The system shall check the latitude format. The latitude should not be null.
- SRSs-11:** The system shall check the longitude format. The longitude should not be null.
- SRSs-12:** The system shall check the province format. The province should not be null.
- SRSs-13:** The system shall check the category format. The category should not be null.
- SRSs-14:** The system shall display the error message “Name must between 1 to 50 characters”
- SRSs-15:** The system shall display the error message “The address length should be 0-50 characters”
- SRSs-16:** The system shall display the error message “The district length should be 0-50 characters”
- SRSs-17:** The system shall display the error message “The zip code length should be 0-5 characters”
- SRSs-18:** The system shall display the error message “Please choose province”
- SRSs-19:** The system shall display the error message “The phone number length should be 9-10 characters”
- SRSs-20:** The system shall display the error message “Please put latitude”
- SRSs-21:** The system shall display the error message “Please put longitude”
- SRSs-22:** The system shall display the error message “Please choose province”
- SRSs-23:** The system shall add a new help place into the database.
- SRSs-24:** The system shall provide the successful adding help information UI with message “The help place has been added to database.”

**URSS-02: The administrator can edit help place’s information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.**

- SRSs-25:** The system shall retrieve all help places from system database.
- SRSs-26:** The system shall provide UI to show all lists of help places.
- SRSs-27:** The system shall provide edit UI for all lists of help places.

- SRSs-28:** The system retrieves information of the selected help place from database.
- SRSs-29:** The system shall show information of the selected help place which includes name, address, district, province, zip code, phone number, category, latitude and longitude.
- SRSs-01:** The system provides the UI, which receive name, address, district, province, zip code, phone number, category, latitude and longitude.
- SRSs-02:** The system provides map UI.
- SRSs-03:** The system provides searched province UI.
- SRSs-04:** The system shall receive latitude and longitude from map.
- SRSs-05:** The system shall check the name length. The name must be 1- 50 characters.
- SRSs-06:** The system shall check the address length. The address must be 0- 50 characters.
- SRSs-07:** The system shall check the district length. The district must be 0- 50 characters.
- SRSs-08:** The system shall check the zip code length. The zip code must be 0- 5 characters.
- SRSs-09:** The system shall check the phone number format. The phone number should be 9-10 digits.
- SRSs-10:** The system shall check the latitude format. The latitude should not be null.
- SRSs-11:** The system shall check the longitude format. The longitude should not be null.
- SRSs-12:** The system shall check the province format. The province should not be null.
- SRSs-13:** The system shall check the category format. The category should not be null.
- SRSs-14:** The system shall display the error message “Name must between 1 to 50 characters”
- SRSs-15:** The system shall display the error message “The address length should be 0-50 characters”
- SRSs-16:** The system shall display the error message “The district length should be 0-50 characters”
- SRSs-17:** The system shall display the error message “The zip code length should be 0-5 characters”
- SRSs-18:** The system shall display the error message “Please choose province”
- SRSs-19:** The system shall display the error message “The phone number length should be 9-10 characters”
- SRSs-20:** The system shall display the error message “Please put latitude”



**SRSs-21:** The system shall display the error message “Please put longitude”

**SRSs-22:** The system shall display the error message “Please choose province”

**SRSs-30:** The system shall update the help information into the database.

**SRSs-31:** The system shall provide the successful editing help information UI with message “The help place has been added to database.”

**URSs-03: The administrator can remove help place.**

**SRSs-25:** The system shall retrieve all help places from system database.

**SRSs-26:** The system shall provide UI to show all lists of help places.

**SRSs-32:** The system shall provide remove UI for all lists of help places.

**SRSs-33:** The system shall provide UI with message “Are you sure to delete?” to ask permission before remove help place.

**SRSs-34:** The system shall delete the help place out of the database.

**SRSs-35:** The system shall provide the successful removing help place UI with message “The help place has been removed!”

**URSs-04: The admin can view help information of each help place.**

**SRSs-25:** The system shall retrieve all help places from system database.

**SRSs-26:** The system shall provide UI to show all lists of help places.

**SRSs-28:** The system retrieves information of the selected help place from database.

**SRSs-29:** The system shall show information of the selected help place which include name, address, district, province, zip code, phone number, category, latitude, longitude, and average rate.

**URSs-05: The administrator can browse the help place by category.**

**SRSs-36:** The system provides categories UI, which are police station, highway police station, hospital, and garage.

**SRSs-37:** The system shall retrieve help places from database by the selected category.

**SRSs-38:** The system shall show lists of help places by selected category.

**URSs-06: The administrator can browse the help place by province of Thailand.**

**SRSs-39:** The system provides UI to show lists of Thailand’s provinces.

**SRSs-40:** The system shall retrieve the help place from database by the selected province.

**SRSs-41:** The system shall show lists of help places by the selected province.

**URSS-07: The administrator can browse the help place by category and province of Thailand.**

**SRSs-42:** The system provides UI to show lists of categories and Thailand's provinces.

**SRSs-43:** The system shall retrieve help places from database by the selected category and province.

**SRSs-44:** The system shall show lists of help places by the selected category and selected province

**URSS-08: The administrator can login to the system.**

**SRSs-45:** The system provides the login page with UI to receive username and password.

**SRSs-46:** The system checks username and password in database.

**SRSs-47:** The system shows home page.

**URSS-09: The administrator can logout of the system.**

**SRSs-45:** The system provides log in page with UI to receive username and password.

**URSS-10: The administrator can update their account's password.**

**SRSs-48:** The system provides change password UI.

**SRSs-49:** The system updates a new password into the system database.

**URSS-11: The mobile application can get list of all help places in the database.**

**SRSs-25:** The system shall retrieve all help places from system database.

**SRSs-50:** The system shall show list of all help places in form of JSON.

**URSS-12: The mobile application can get the nearest help place by the selected category.**

**SRSs-51:** The system shall find the nearest help place by the selected category.

**SRSs-52:** The system shall show the nearest help place in form of JSON.

**URSS-13: The mobile application can get list of help places where locate in the setting scope.**

**SRSs-53:** The system shall retrieve list of help places where locate in the setting scope from the database.

**SRSs-54:** The system shall show list of help places where locate in setting scope in form of JSON.

**URSS-14:** The mobile application can retrieve the help place with new average rating score.

**SRSs-55:** The system calculates a new average rating score from the new rating score that the mobile application requested.

**SRSs-56:** The system updates a new average rating score into the system database.

**SRSs-57:** The system shows help place with new average rating score in form of JSON.

## Chapter Three | Specific Requirement

### 3.1 Use Case Scenarios

#### • Mobile Part

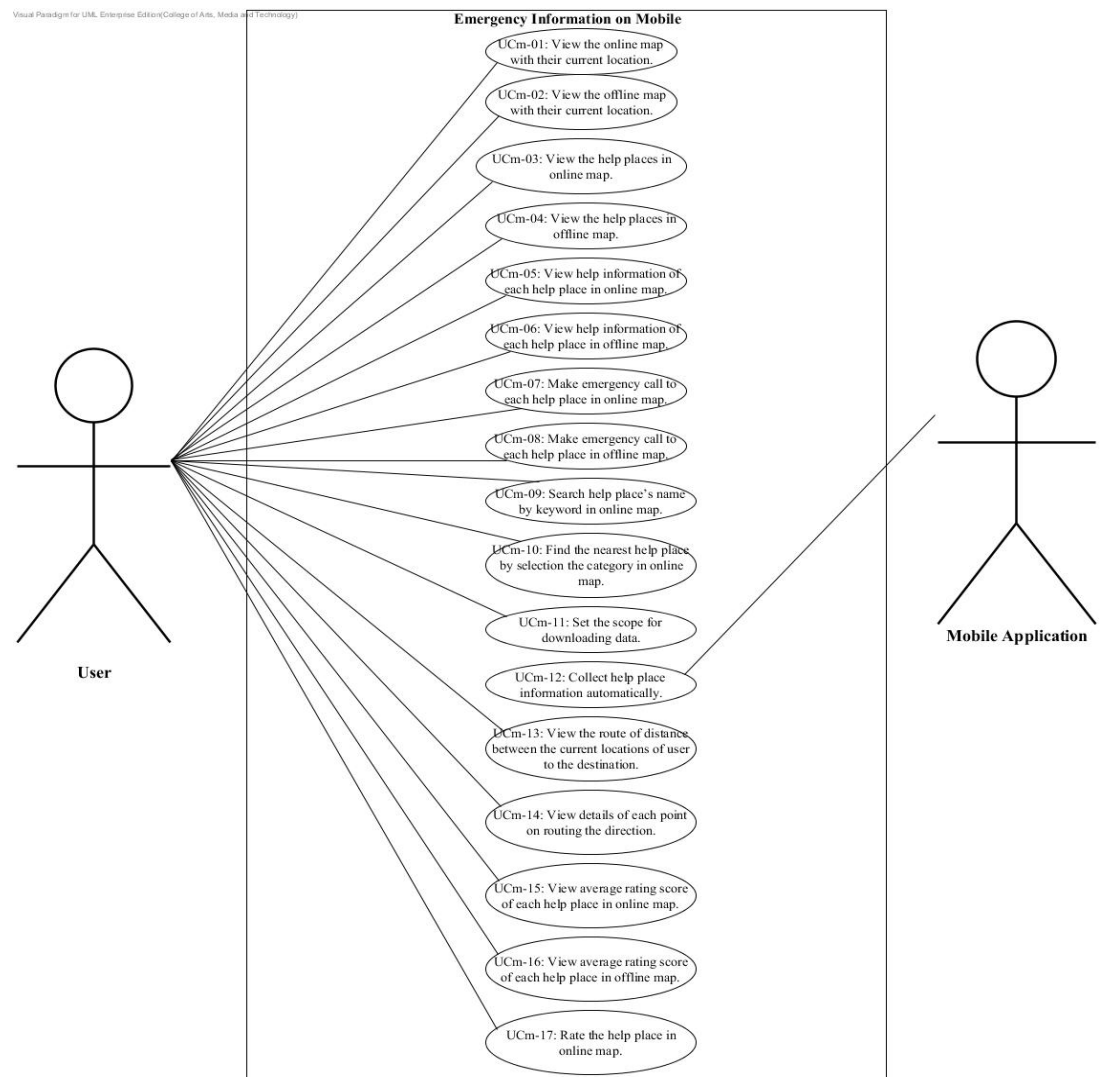


Figure 01 Show use case of "Emergency Information Mobile"

## • Server Part

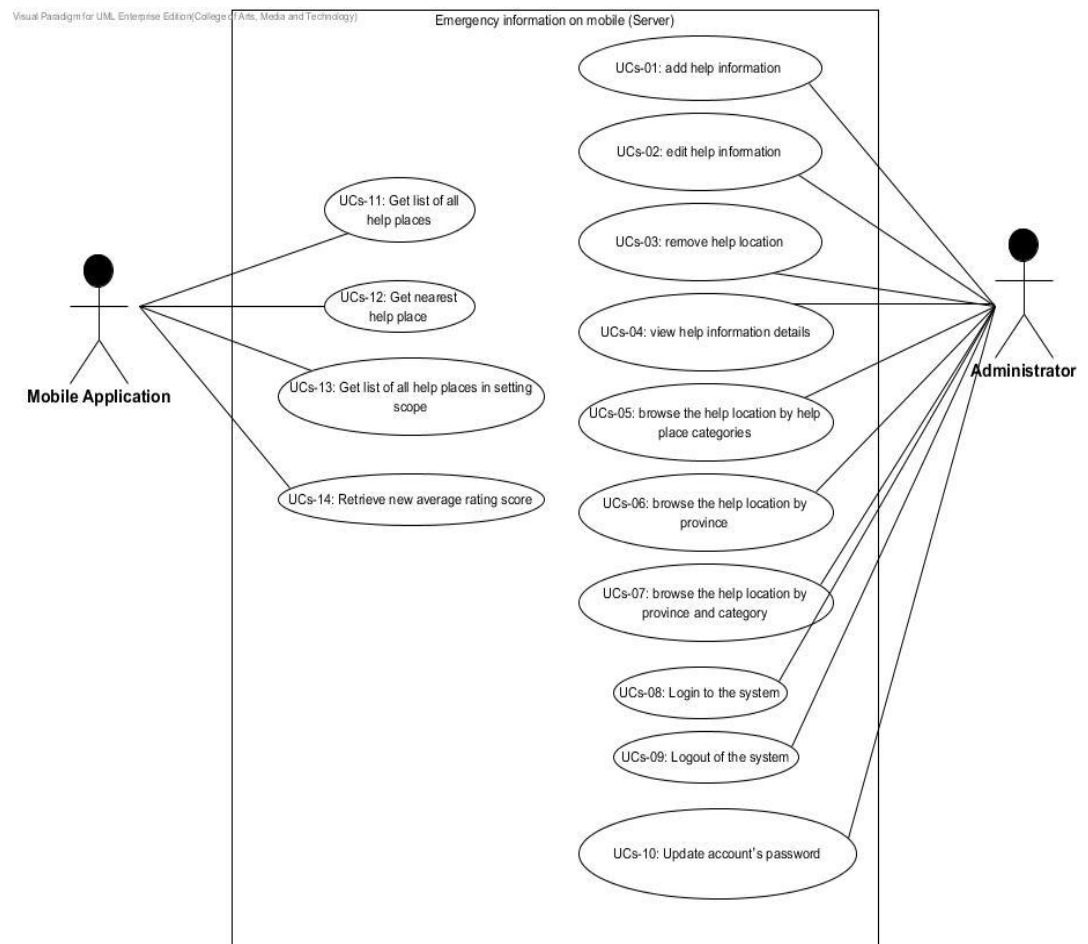


Figure 02 Show use case of “Emergency Information on Mobile”

## 3.2 Use Case Description

### 3.2.1 Mobile Part

#### UCm-01: View the online map

The user can view the online map with their current location on the online map page.

#### Actor

Users

#### Prerequisite

The user has to connect with the internet.

The user has to turn on GPS and enter to the online map page.

#### Input

Name	Description	Example	Remarks
Latitude	Latitude of user's current location should be the DD (decimal degrees) format, which base on MapsWithMe.	18.809011	Latitude must be decimal number of degrees.
Longitude	Longitude of user's current location should be the DD (decimal degrees) format, which base on MapsWithMe.	99.218742	Longitude must be decimal number of degrees.

#### Output

The online map is shown with the current location of the user.

#### Flow of Execution

1. The user enters to the online map.
2. The system shall obtain the latitude and longitude of the user's current location.
3. The system shall show the online map UI..
4. The system shall show the user's current location on the online map.

**Use Case:** View the online map (UCm-01)

**URSm-01:** The user can view the online map with their current location.

**System Requirement Specification:**

**SRSm-01:** The system shall obtain the latitude and longitude of the user's current location.

**SRSm-02:** The system shall show the online map UI.

**SRSm-03:** The system shall show the user's current location on the online map.

**UCm-02: View the offline map**

The user can view the offline map with their current location on the offline map page.

**Actor**

Users

**Prerequisite**

The user has to turn on GPS and enter to the offline map page.

The user has to download Thailand map from MapsWithMe application.

The user installs MapsWithMe application on their device.

**Input and Output**

Name	Description	Example	Remarks
Latitude	Latitude of user's current location should be the DD (decimal degrees) format, which base on MapsWithMe.	18.809011	Latitude must be decimal number of degrees.
Longitude	Longitude of user's current location should be the DD (decimal degrees) format, which base on MapsWithMe.	99.218742	Longitude must be decimal number of degrees.

**Output**

The offline map is shown with the current location of the user.

**Flow of Execution**

1. The user enters to the offline map.
2. The system connects MapsWithMe application.
3. The system obtains the latitude and longitude of the user's current location.
4. The system provides offline map UI, which shows offline map with the user's current location.



**Use Case:** View the offline map (UCm-02)

**URSm-02:** The user can view the offline map with their current location.

**System Requirement Specification:**

**SRSm-01:** The system shall obtain the latitude and longitude of the user's current location.

**SRSm-04:** The system shall check MapsWithMe application is installed in the device.

**SRSm-05:** The system shall connect MapsWithMe application.

**SRSm-06:** The system shall connect MapsWithMe application.

**SRSm-07:** The system shall show the offline map UI.

**SRSm-08:** The system shall show the user's current location on the offline map.

**UCm-03: View help places in online map**

All help places will show in an online map. The user can view all help places on the map.

**Actor**

Users

**Prerequisite**

The user has to connect with the internet.

The user has to turn on GPS and enter to the online map page.

**Input**

The user input the uniform resource location automatic when start the application.

**Output**

All help places shows on the online map.

**Flow of Execution**

5. The user enters to the online map.
6. The system get map from Google Maps.
7. The system retrieve help places from server.
8. The system shall input marker of help places into online map.
9. The system shall provide all markers of help places on an online map.

**Use Case:** View help places in online map (UCm-03)

**URSm-03:** The user can view help places in online map.

**System Requirement Specification:**

**SRSm-02:** The system shall show the online map UI

**SRSm-09:** The system will retrieve all help places from server.

**SRSm-10:** The system shall input marker of help places into online map UI.

**SRSm-11:** The system shall show all markers of help places on an online map UI.

**UCm-04: View help places in offline map**

The user can view the location of help places, where are loaded and saved in the user's device.

**Actor**

Users

**Prerequisite**

The user enters to the offline map page.

The user has to turn on GPS.

The user has to download Thailand map from MapsWithMe application.

The user installs MapsWithMe application on their device.

There is information of help place, which is loaded, on the user device.

**Input**

The user enters to the offline map.

**Output**

The help location shows on the offline map.

**Flow of Execution**

1. The user enters to the offline map.
2. The system connects MapsWithMe application.
3. The system retrieves the loaded help places from the user's device.
4. The system shall input marker of help places into offline map.
5. The system shows help places on the offline map UI.

**Use Case:** View help places in offline map (UCm-04)

**URSm-04:** The user can view help places in offline map.

**System Requirement Specification:**

**SRSm-04:** The system shall check MapsWithMe application is installed in device.

**SRSm-05:** The system shall show dialog to offer user download MapsWithMe application.

**SRSm-06:** The system shall connect MapsWithMe application.

**SRSm-07:** The system shall show the offline map UI.

**SRSm-12:** The system shall retrieve the loaded help places from the user's device.

**SRSm-13:** The system shall input marker of help places into offline map UI.

**SRSm-14:** The system shall show all markers of help places on an offline map UI.

**UCm-05:** View information of each help place in online map

The user can view the help information of each help place. The help information is name, address, district, province, zip code, and phone number of help place.

**Actor**

Users

**Prerequisite**

The user enters to the online map page, which shows the location of help place.

**Input**

The selected help place object.

**Output**

The help information of the selected help place, which is name, address, district, province, zip code, and phone number of help place.

**Flow of Execution**

1. The user selects the help place they want to see information on the online map page.
2. The system shall receive the help place object that user selected from online map.
3. The system shall retrieve information of help place object.
4. The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**Use Case:** View help information of each help place in online map (UCm-05)

**URSm-05:** The user can view help information of each help place in online map.

**System Requirement Specification:**

**SRSm-15:** The system shall receive the help place object that user selected.

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**UCm-06:** View information of each help place in offline map

The user can view the help information of each help place. The help information is name, address, district, province, zip code, and phone number of help place.

**Actor**

Users

**Prerequisite**

The user enters to the offline map page, which shows the location of help place.

There is information of help place, which is loaded, on the user device.

**Input**

The selected help place object.

**Output**

The help information of the selected help place, which is name, address, district, province, zip code, and phone number of help place.

**Flow of Execution**

1. The user selects the help place they want to see information on offline map.
2. The system shall receive the help place object that user selected from offline map.
3. The system shall retrieve information of help place object.
4. The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.



**Use Case:** View help information of each help place in offline map (UCm-06)

**URSm-06:** The user can view help information of each help place in offline map.

**System Requirement Specification:**

**SRSm-15:** The system shall receive the help place object that user selected.

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**UCm-07: Make emergency call to each help place in online map**

The user can call to each help place directly from the application.

**Prerequisite**

The user enters to the online map page, which shows the location of help place.

**Actor**

Users

**Input**

The selected help place object, where the user want to make a call.

**Output**

The system connects to call system of the device and make a call to the selected help place.

**Flow of Execution**

1. The user selects the help place they want to call on an online map.
2. The system shall receive the help place object that user selected from online map.
3. The system shall retrieve information of help place object.
4. The system provides the information of the selected help place with call UI.
5. The user selects phone number to call.
6. The system call to the selected help place.

**Use Case:** Make emergency call to each help place in online map (UCm-07)

**URSm-07:** The user can make emergency call to each help place in online map.

**System Requirement Specification:**

**SRSm-15:** The system shall receive the help place object that user selected from online map.

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**SRSm-18:** The system shall provide the call UI.

**SRSm-19:** The system shall call to the selected help place.

**UCm-08: Make emergency call to each help place in offline map**

The user can call to each help place directly from the application.

**Actor**

Users

**Prerequisite**

The user enters to the offline map page, which shows the location of help place.

There is information of help place, which is loaded, on the user device.

**Input**

The selected help place object, where the user want to make a call.

**Output**

The system connects to call system of the device and make a call to the selected help place.

**Flow of Execution**

1. The user selects the help place they want to call on an offline map.
2. The system shall receive the help place object that user selected from offline map.
3. The system shall retrieve information of help place object.
4. The system provides the information of the selected help place with call UI.
5. The user selects phone number to call.
6. The system call to the selected help place.

**Use Case:** Make emergency call to each help place in offline map (UCm-08)

**URSm-08:** The user can make emergency call to each help place in offline map.

**System Requirement Specification:**

**SRSm-15:** The system shall receive the help place object that user selected from online map.

**SRSm-16:** The system shall retrieve information of help place object.

**SRSm-17:** The system provides information UI to show the help information, which are name, address, district, province, zip code, and phone number.

**SRSm-18:** The system shall provide the call UI.

**SRSm-19:** The system shall call to the selected help place.

**UCm-09:** Search help place's name by keyword in online map

The user can search the help places by input a keyword.

**Actor**

User

**Prerequisite**

The user has to connect with the internet.

The user enters to the online map page, which shows the menu for searching.

**Input**

Name	Description	Example
keyword	a part of word use to input for searching help place	"a" , "1", "hospital", "Maharaj"

**Output**

System shows list of result.

**Flow of Execution**

1. The user choose search menu.
2. The system shall provide search UI with text field.
3. The user inputs keyword into text field.
4. The system shall receive all help places from server.
5. The system shall search help places by keyword from user inputting.
6. The system shall matching keyword with help places.
7. The system shall display help places which matching with keyword.
8. The user selects help places list to view in the online map.
9. The system shall provide map with help place that user selection from searching by keyword.

**Use Case:** Search help place's name by keyword in online map (UCm-09)

**URSm-09:** The user can search help place's name by keyword in online map.

**System Requirement Specification:**

**SRSm-20:** The system shall provide search button UI.

**SRSm-21:** The system shall provide text field UI.

**SRSm-22:** The system shall receive all help places from server.

**SRSm-23:** The system shall search help places by keyword from user inputting.

**SRSm-24:** The system shall matching keyword with help places.

**SRSm-25:** The system shall display help places which matching with keyword.

**SRSm-26:** The system shall provide map with help place that user selection from searching by keyword.

**UCm-10: Find the nearest help place**

The user can find the nearest help places by choosing the help place's category.

**Actor**

User

**Prerequisite**

The user has to connect with the internet.

The user enters to the online map page, which shows the menu for finding nearest help place.

**Input**

Category's id of help place

**Output**

Position of the nearest help place on a map

**Flow of Execution**

1. The system shall provide category button.
2. The user selects the category of help place such as, hospital, police station, highway police and garage.
3. The system shall receive the current location of user and category's id.
4. The system shall send the current location of user and category's id to the server.
5. The system shall receive help place object from the server.
6. The system shall change color of marker to show the position of nearest help place by searching.
7. The system shall display the position of help places on the online map.



**Use Case:** Find the nearest help place (UCm-10)

**URSm-10:** The user can find the nearest help place.

**System Requirement Specification:**

**SRSm-27:** The system shall provide category button.

**SRSm-28:** The system shall receive the current location of user and category's id.

**SRSm-29:** The system shall send the current location of user and category's id to the server.

**SRSm-30:** The system shall receive help place object from the server.

**SRSm-31:** The system shall change color of marker to show the position of nearest help place by searching.

**SRSm-32:** The system shall display the nearest help place of each category from user selection.

**UCm-11: Set the scope for downloading data**

The user can define the scope and duration of storage.

**Actor**

User

**Prerequisite**

The user has to connect with the internet.

The user enters to the application.

**Input**

Number of scope in meter

**Output**

Number of scope changed.

**Flow of Execution**

1. The system shall provide menu setting UI.
2. The user selects menu for setting scope of the storage.
3. The system shall provide number for setting scope with radio button UI.
4. The system shall define a default value of scope.
5. The user chooses the number of scope.
6. The system shall receive the scope of user's setting.

**Use Case:** Set the scope for downloading data (UCm-11)

**URSm-11:** The user can set the scope for downloading data.

**System Requirement Specification:**

**SRSm-33:** The system shall provide menu setting UI.

**SRSm-34:** The system shall provide number for setting scope with radio button UI.

**SRSm-35:** The system shall define a default value of scope.

**UCm-12:** Collect help place information automatically

The mobile application can collect help place information automatically when they move in length of setting scope from their old location

**Actor**

Mobile application

**Prerequisite**

The mobile application has to connect with the internet.

**Input**

Help Place Object						
ID	Name	Address	Phone Number	Latitude	Longitude	Category
1	Maharaj Nakorn Chiang Mai Hospital	110 Suthep Rd, Mueang Chiang Mai, Chiang Mai, 50200	053-947700	18.789602	98.974209	Hospital
2	Lanna Hospital	Chang Phuak, Mueang Chiang Mai, Chiang Mai, 50300	053-999758	18.812723	98.991151	Hospital
3	Lampang Hospital	Tambon Phrabat, Amphoe Mueang Lampang, Lampang, 52000	054-237400	18.285378	99.506305	Hospital
4	Chiang Rai Police Station	Rattanaheat Road, Mueang Chiang Rai, Chiang Rai, 57000	053-603100	19.912221	99.832526	Police Station
5	Ruangchai Yon Garage	Outer Ring Road, Saraphi District, Chiang Mai, 50000	053-242999	18.750651	99.055108	Garage

**Output**

Help places that saved show in offline map

### Flow of Execution

1. The mobile application has changed position more than length of setting scope
2. The system shall receive latitude and longitude when the user changes position.
3. The system shall check distance between original coordinates and new coordinates position automatically
4. The system shall send latitude, longitude and setting scope of user to the server.
5. The system shall receive help places from server.
6. The system shall delete the original data of help places from the database.
7. The system shall add new data of help places into database.

**Use Case:** Collect help place information automatically (UCm-12)

**URSm-12:** The user can collect help place information automatically.

### System Requirement Specification:

**SRSm-36:** The system shall check distance between original coordinates and new coordinates position automatically.

**SRSm-37:** The system shall send latitude and longitude of user to the server.

**SRSm-38:** The system shall receive help places from server.

**SRSm-39:** The system shall delete the latest data of help places from the database.

**SRSm-40:** The system shall add new data of help places into database.

**UCm-13:** View the route of distance between the current locations of user to the destination.

The user can view the route of distance between help place's position and the current location of user.

**Actor**

Users

**Prerequisite**

The user has to enter to the view information of help place page.

**Input**

Latitude of user's current location

Longitude of user's current location

Latitude of the destination

Longitude of the destination

**Output**

The system displays polyline on the map of distance from current location to destination.

**Flow of Execution**

1. The user selects button to view route distance.
2. The system shall retrieve information file from XML file of Google direction API.
3. The system provides Map UI for showing route distance.
4. The system shall shows polyline of distance from current location to destination.

**Use Case:** view the route of distance between the current locations of user to the destination (UCm-13)

**URSm-13:** The user can view the route of distance between the current locations of user to the destination.

**System Requirement Specification:**

**SRSm-41:** The system shall retrieve information file from XML file of Google direction API.

**SRSm-42:** The system shall provide Map UI for showing route distance.

**SRSm-43:** The system shows polyline of distance from current location to destination

**UCm-14:** View details of each point on routing the direction.

The user can view details, and includes distance of each point on the map, time to use for driving to each point, average time and the average point.

**Actor**

Users

**Prerequisite**

The user has to enter to the view the route of distance

**Input**

The user enters to the view details

**Output**

The system shall displays the details of each point in the map

**Flow of Execution**

1. The user selects button to view the details of the distance.
2. The system shall retrieve information file from XML file of Google direction API.
3. The system provides UI to show details of distances, which are distance of each point on the map, time to use for driving to each point, average time and the average point.



**Use Case:** view details of each point on routing the direction (UCm-14)

**URSm-14:** The user can view details of each point on routing the direction.

**System Requirement Specification:**

**SRSm-41:** The system shall provide Map UI for showing route distance.

**SRSm-42:** The system shall provide UI for viewing the details.

**SRSm-44:** The system shall retrieve information file from XML file of Google direction API.

**SRSm-45:** The system provides UI to show details of distances, which are distance of each point on the map, time to use for driving to each point, average time and the average point.

**UCm-15:** View average rating score of each help place in online map.

The user can view the average rating score of each help place in the online map.

**Actor**

Users

**Prerequisite**

The user enters to the online map page, which shows the location of help place.

**Input**

The selected help place object.

**Output**

The system shows the average rating score on information page with other information.

**Flow of Execution**

1. The user selects the help place they want to see rating score on the online map.
2. The system shall receive the help place object that user selected.
3. The system shall retrieve information of help place object.
4. The system provides information UI to show the help information and rating score of help place.

**Use Case:** View average rating score of each help place in online map (UCm-15)

**URSm-15:** The user can view average rating score of each help place in online map.

**System Requirement Specification:**

**SRSm-46:** The system shall receive the help place object that user selected.

**SRSm-47:** The system shall retrieve information of help place object.

**SRSm-48:** The system provides information UI to show the help information and rating score of help place

**UCm-16:** View average rating score of each help place in offline map.

The user can view the average rating score of each help place in the offline map.

**Actor**

Users

**Prerequisite**

The user enters to the offline map page, which shows the location of help place.

**Input**

The selected help place object.

**Output**

The system shows the average rating score on information page with other information.

**Flow of Execution**

1. The user selects the help place they want to see rating score on the offline map.
2. The system shall receive the help place object that user selected.
3. The system shall retrieve information of help place object.
4. The system provides information UI to show the help information and rating score of help place.

**Use Case:** view average rating score of each help place in offline map (UCm-16)

**URSm-16:** The user can view average rating score of each help place in offline map.

**System Requirement Specification:**

**SRSm-46:** The system shall receive the help place object that user selected.

**SRSm-47:** The system shall retrieve information of help place object.

**SRSm-48:** The system provides information UI to show the help information and rating score of help place.

**UCm-17:** Rate the help place in online map.

The user can rate score of each help place in the online map that user must rate never before.

**Actor**

User

**Prerequisite**

The user has to enter to the view information of help place page.

**Input**

The identity number of selected help place that user will rate score.

**Output**

The system shows new average score on the information page.

**Flow of Execution**

1. The user selects button to give rating score.
2. The system provides UI with the rating bar.
3. The user gives the score by selecting rating bar.
4. The user chooses OK button.
5. The system shall send help place's id and score that user rate to the server.
6. The system shall retrieve the new average score of help place's that user rate from the server.
7. The system shall refresh the average score on the information page.

**Use Case:** rate the help place in online map (UCm-17)

**URSm-17:** The user can rate the help place in online map.

**System Requirement Specification:**

**SRSm-49:** The system provides UI with the rating bar.

**SRSm-50:** The system shall send help place's id and score that user rate to the server.

**SRSm-51:** The system shall retrieve the new average score of help place's that user rate from the server.

**SRSm-52:** The system shall refresh the average score on the information page.

### 3.2.2 Server Part

#### UCs-01: Add help place

The administrator can add the details of help information, which should be real and up to date. The information includes name, address, district, province, zip code, phone number, category, latitude and longitude.

#### Actor

Administrator

#### Prerequisite

The administrator has to enter to the home page.

#### Input

Name	Description	Example	Remarks
Name	Name of help place should have the length 1-50 characters.	"Chiangmai Ram Hospital"	The word can be numeric, character or special alphabet.
Address	Address should be real information. The length should be 0-50 characters.	"8 Boonreungrit Rd"	Address should be the real information.
District	District should be real information. The length should be 0-50 characters.	"Muang"	District should be the real information.
Province	Province should be real information.	"Chiang Mai"	Province should be the real information.
Zip code	Zip code should be real information. The length should be 0-5 characters.	"50200"	Zip code should be the real information.
Phone Number	Phone number should be 9-10 digits.	"053920300"	Phone number should be the numeric.
Latitude	Latitude should be the DD (decimal degrees) format, which base on Google maps.	18.809011	Latitude should locate to the real location.
Longitude	Longitude should be the DD (decimal degrees) format, which base on Google maps.	99.218742	Longitude should locate to the real location.



Category	There are four categories, which are police station, highway police station, hospital and garage.	“Hospital”	Category should base on each help place.
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## Output

The new help place with its information will add into the database.

## Flow of Execution

1. The administrator browses to the add information page.
2. The system provides UI to add name, address, district, province, zip code, phone number, latitude and longitude.
3. The system provides map UI with pinning and searched province UI to get latitude and longitude.
4. The administrator adds the information of the help place.
5. The system checks the format of information.
6. The system adds the new help place into database.
7. The system shows successful UI with message “The help place has been added to database.” and returns to home page.

## Alternative flow A, the validation error

A.5 If the administrator input data in the wrong format, the system returns to step 2, and provides the error message as followed:

The wrong name format: The error message is “Name must between 1 to 50 characters”

The wrong address format: The error message is “The address length should be 0-50 characters”

The wrong district format: The error message is “The district length should be 0-50 characters”

The wrong zip code format: The error message is “The zip code length should be 0-5 characters”

The wrong province format: The error message is “Please choose province”

The wrong phone number format: The phone number length should be 9-10 characters”

The wrong latitude format: The error message is “Please put longitude”

The wrong longitude format: The error message is “Please put longitude”

The wrong category format: The error message is “Please choose province”

**Use Case:** Add help information (UCs-01)

**URSs-01:** The administrator can add help place's information, which includes name, address, district, province, zip code, phone number, category, latitude and longitude.

**System Requirement Specification:**

- SRSs-01:** The system provides the UI, which receive name, address, district, province, zip code, phone number, category, latitude and longitude.
- SRSs-02:** The system provides map UI.
- SRSs-03:** The system provides searched province UI.
- SRSs-04:** The system shall receive latitude and longitude from map.
- SRSs-05:** The system shall check the name length. The name must be 1- 50 characters.
- SRSs-06:** The system shall check the address length. The address must be 0- 50 characters.
- SRSs-07:** The system shall check the district length. The district must be 0- 50 characters.
- SRSs-08:** The system shall check the zip code length. The zip code must be 0- 5 characters.
- SRSs-09:** The system shall check the phone number format. The phone number should be 9-10 digits.
- SRSs-10:** The system shall check the latitude format. The latitude should not be null.
- SRSs-11:** The system shall check the longitude format. The longitude should not be null.
- SRSs-12:** The system shall check the province format. The province should not be null.
- SRSs-13:** The system shall check the category format. The category should not be null.
- SRSs-14:** The system shall display the error message "Name must between 1 to 50 characters"
- SRSs-15:** The system shall display the error message "The address length should be 0-50 characters"
- SRSs-16:** The system shall display the error message "The district length should be 0-50 characters"
- SRSs-17:** The system shall display the error message "The zip code length should be 0-5 characters"
- SRSs-18:** The system shall display the error message "Please choose province"
- SRSs-19:** The system shall display the error message "The phone number length should be 9-10 characters"

**SRSs-20:** The system shall display the error message “Please put latitude”

**SRSs-21:** The system shall display the error message “Please put longitude”

**SRSs-22:** The system shall display the error message “Please choose province”

**SRSs-23:** The system shall add a new help place into the database.

**SRSs-24:** The system shall provide the successful adding help information UI with message “The help place has been added to database.”

**UCs-02: Edit help place**

The administrator can edit the details of help place's information, which should be real and up to date. The information includes name, address, district, province, zip code, phone number, category, latitude and longitude.

**Actor**

Administrator

**Prerequisite**

The administrator has to enter to the home page.

The administrator has to choose the help place, where they want to edit.

**Input**

Name	Description	Example	Remarks
Name	Name of help place should have the length 1-50 characters.	"Chiangmai Ram Hospital"	The word can be numeric, character or special alphabet.
Address	Address should be real information. The length should be 0-50 characters.	"8 Boonreungrit Rd"	Address should be the real information.
District	District should be real information. The length should be 0-50 characters.	"Muang"	District should be the real information.
Province	Province should be real information.	"Chiang Mai"	Province should be the real information.
Zip code	Zip code should be real information. The length should be 0-5 characters.	"50200"	Zip code should be the real information.
Phone Number	Phone number should be 9-10 digits.	"053920300"	Phone number should be the numeric.
Latitude	Latitude should be the DD (decimal degrees) format, which base on Google maps.	18.809011	Latitude should locate to the real location.
Longitude	Longitude should be the DD (decimal degrees) format, which base on Google maps.	99.218742	Longitude should locate to the real location.
Category	There are four categories, which are police station, highway police station, hospital and garage.	"Hospital"	Category should base on each help place.

## Output

The selected help place with new information will update into the database.

## Flow of Execution

1. The administrator browses to the edit information page.
2. The system retrieves information of the selected help place from database.
3. The system shows information of the selected help place.
4. The system provides UI to receive name, address, district, province, zip code, phone number, category, latitude and longitude.
5. The system provides map UI with pinning and searched province UI to get latitude and longitude.
6. The administrator edits the information of the help place.
7. The system checks the format of information.
8. The system updates the help information into database.
9. The system shows successful UI with message “The help place has been added to database.” and returns to home page.

## Alternative flow A, the validation error

A.5 If the administrator input data in the wrong format, the system returns to step 2 and provides the error message as followed:

The wrong name format: The error message is “Name must between 1 to 50 characters”

The wrong address format: The error message is “The address length should be 0-50 characters”

The wrong district format: The error message is “The district length should be 0-50 characters”

The wrong zip code format: The error message is “The zip code length should be 0-5 characters”

The wrong province format: The error message is “Please choose province”

The wrong phone number format: The phone number length should be 9-10 characters”

The wrong latitude format: The error message is “Please put longitude”

The wrong longitude format: The error message is “Please put longitude”

The wrong category format: The error message is “Please choose province”

**Use Case:** Edit help information (UCs-02)

**URSs-02:** The administrator can edit help place's information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.

**System Requirement Specification:**

**SRSs-25:** The system shall retrieve all help places from system database.

**SRSs-26:** The system shall provide UI to show all lists of help places.

**SRSs-27:** The system shall provide edit UI for all lists of help places.

**SRSs-28:** The system retrieves information of the selected help place from database.

**SRSs-29:** The system shall show information of the selected help place which include name, address, district, province, zip code, phone number, category, latitude and longitude.

**SRSs-01:** The system provides the UI, which receive name, address, district, province, zip code, phone number, category, latitude and longitude.

**SRSs-02:** The system provides map UI.

**SRSs-03:** The system provides searched province UI.

**SRSs-04:** The system shall receive latitude and longitude from map.

**SRSs-05:** The system shall check the name length. The name must be 1- 50 characters.

**SRSs-06:** The system shall check the address length. The address must be 0- 50 characters.

**SRSs-07:** The system shall check the district length. The district must be 0- 50 characters.

**SRSs-08:** The system shall check the zip code length. The zip code must be 0- 5 characters.

**SRSs-09:** The system shall check the phone number format. The phone number should be 9-10 digits.

**SRSs-10:** The system shall check the latitude format. The latitude should not be null.

**SRSs-11:** The system shall check the longitude format. The longitude should not be null.

**SRSs-12:** The system shall check the province format. The province should not be null.

**SRSs-13:** The system shall check the category format. The category should not be null.

**SRSs-14:** The system shall display the error message "Name must between 1 to 50 characters"

**SRSs-15:** The system shall display the error message "The address length should be 0-50 characters"

- SRSs-16:** The system shall display the error message “The district length should be 0-50 characters”
- SRSs-17:** The system shall display the error message “The zip code length should be 0-5 characters”
- SRSs-18:** The system shall display the error message “Please choose province”
- SRSs-19:** The system shall display the error message “The phone number length should be 9-10 characters”
- SRSs-20:** The system shall display the error message “Please put latitude”
- SRSs-21:** The system shall display the error message “Please put longitude”
- SRSs-22:** The system shall display the error message “Please choose province”
- SRS-30:** The system shall update the help information into the database.
- SRS-31:** The system shall provide the successful editing help information UI with message “The help place has been added to database.”

**UCs-03: Remove help place**

The administrator can delete the help place out of the database.

**Actor**

Administrator

**Prerequisite**

The administrator has to enter to the home page.

**Input**

The identity number of selected help place

**Output**

System deletes the selected help place from database.

**Flow of Execution**

1. The administrator browses the home page.
2. The system retrieves the help place from database.
3. The system shows list of help place with remove UI.
4. The administrator selects help place, where they want to remove.
5. The system provides UI with message “Are you sure to delete?” to ask permission before remove help place.
6. The administrator accepts to delete help place.
7. The system deletes the help place from database.
8. The system shows successful remove UI with message “The help place has been removed!” and returns to home page.

**Alternative flow A, the validation error**

A.5 If the administrator chooses cancel the system will go back to step 3.



**Use Case:** Remove help place (UCs-03)

**URs-03:** The administrator can remove help place.

**System Requirement Specification:**

**SRSs-25:** The system shall retrieve all help places from system database.

**SRSs-26:** The system shall provide UI to show all lists of help places.

**SRSs-32:** The system shall provide remove UI for all lists of help places.

**SRSs-33:** The system shall provide UI with message “Are you sure to delete?”  
to ask permission before remove help place.

**SRSs-34:** The system shall delete the help place out of the database.

**SRSs-35:** The system shall provide the successful removing help place UI  
with message “The help place has been removed!”

**UCs-04: View help place's information**

The admin can view the help place's information, which include name, address, district, province, zip code, phone number, category, latitude and longitude of each help place.

**Actor**

Administrator

**Prerequisite**

The admin has to enter to the home page.

**Input**

The identity number of the selected help place

**Output**

System will show the information of the selected help place.

**Flow of Execution**

1. The admin browses the home page.
2. The system retrieves the help place from database.
3. The system shows all lists of the help places.
4. The administrator selects help place, where they want to view.
5. The system retrieves information of the selected help place from database.
6. The system shows the help information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.

**Use Case:** View information of each help place in web server (UCs-04)

**URs-04:** The administrator can view help information of each help place.

**System Requirement Specification:**

**SRSs-25:** The system shall retrieve all help places from system database.

**SRSs-26:** The system shall provide UI to show all lists of help places.

**SRSs-28:** The system retrieves information of the selected help place from database.

**SRSs-29:** The system shall show information of the selected help place which include name, address, district, province, zip code, phone number, category, latitude and longitude.

**UCs-05: Browse the help place by category**

The administrator can browse the help place by help place's categories, which are police station, highway police station, hospital, and garage.

**Actor**

Administrator

**Prerequisite**

The administrator has to enter to the home page.

**Input**

The identity number of category that administrator selected

**Output**

System will show list of help places.

**Flow of Execution**

1. The system shows categories UI, which are police station, highway police station, hospital, and garage.
2. The administrator selects category, which they want to view.
3. The system shall retrieve the help place's information from database by the selected category.
4. The system shall show list of help places by the selected category.

**Use Case:** Browse the help place by help place's category (UCs-05)

**URs-05:** The administrator can browse the help place by category.

**System Requirement Specification:**

**SRSs-36:** The system provides categories UI, which are police station, highway police station, hospital, and garage.

**SRSs-37:** The system shall retrieve help places from database by the selected category.

**SRSs-38:** The system shall show lists of help places by selected category.

**UCs-06: Browse the help place by province**

The administrator can browse the help place by selects province of Thailand that they want to view.

**Actor**

Administrator

**Prerequisite**

The administrator has to enter to the home page.

**Input**

The identity number of province that administrator selected

**Output**

System will show list of help places by selected province.

**Flow of Execution**

1. The system provides UI to show list province of Thailand.
2. The administrator selects province, which they want to view.
3. The system shall retrieve the help place's information from database by the selected province.
4. The system shall show list of help places by selected province.

**Use Case:** Browse the help place by province of Thailand (UCs-06)

**URs-06:** The administrator can browse the help place by province of Thailand.

**System Requirement Specification:**

**SRSs-39:** The system provides UI to show lists of Thailand's provinces.

**SRSs-40:** The system shall retrieve the help place from database by the selected province.

**SRSs-41:** The system shall show lists of help places by the selected province.

**UCs-07: Browse the help place by province and category**

The administrator can browse the help place by selects category and province of Thailand that they want to view.

**Actor**

Administrator

**Prerequisite**

The administrator has to enter to the home page.

**Input**

The identity number of category that administrator selected

The identity number of province that administrator selected

**Output**

System will show the list of help places by selected category and province.

**Flow of Execution**

1. The system provides UI to show list province of Thailand, and category of help place.
2. The administrator selects category and province, which they want to view.
3. The system shall retrieve the help place's information from database by the selected category and province.
4. The system shall show the list of help places by selected category and province.



**Use Case:** Browse the help place by category and province (UCs-07)

**URs-07:** The administrator can browse the help place by category and province of Thailand.

**System Requirement Specification:**

**SRS-42:** The system provides UI to show lists of categories and Thailand's provinces.

**SRS-43:** The system shall retrieve help places from database by the selected category and province.

**SRS-44:** The system shall show list of help places by the selected category and selected province.

**UCs-08: Login to the system**

The administrator can login to the system.

**Actor**

Administrator

**Prerequisite**

-

**Input**

The username and password

**Output**

The administrator can log in to the system and view the home page.

**Flow of Execution**

1. The system provides the login page with GUI to receive username and password.
2. The administrator inputs username and password.
3. The system checks username and password in database.
4. The system shows home page.

**Exception**

3a. In step 3 of the normal flow, if the administrator input invalid username and password.

3a.1. Use Case go back to step 1 of normal flow.

3a.2. Message “You have entered an invalid username or password!” to the administrator to re-input username and password.

**Use Case:** Login to the system (UCs-08)

**URSs-08:** The administrator can login to the system.

**System Requirement Specification:**

**SRSs-45:** The system provides the login page with UI to receive username and password.

**SRSs-46:** The system checks username and password in database.

**SRSs-47:** The system shows home page.

**UCs-09: Logout of the system**

The administrator can logout of the system.

**Actor**

Administrator

**Prerequisite**

The administrator has to login to the system.

**Input**

-

**Output**

The administrator can log out of the system and view the login page.

**Flow of Execution**

1. The administrator requests to log out.
2. The system provides log in page with UI to receive username and password.

**Use Case:** Logout of the system (UCs-09)

**URs-09:** The administrator can logout of the system.

**System Requirement Specification:**

**SRSs-45:** The system provides log in page with UI to receive username and password.

**UCs-10: Update account's password**

The administrator can update their account's password.

**Actor**

Administrator

**Prerequisite**

-

**Input**

The new password

**Output**

The system updates a new password into the system database.

**Flow of Execution**

1. The system provides change password UI.
2. The administrator inputs new password.
3. The system updates a new password into the system database.

**Use Case:** Update account's password (UCs-10)

**URSs-10:** The administrator can update their account's password.

**System Requirement Specification:**

**SRSs-48:** The system provides change password UI.

**SRSs-49:** The system updates a new password into the system database.

**UCs-11:** Get list of all help places

The mobile application can get list of all help places in the database.

**Actor**

Mobile application

**Prerequisite**

The mobile application requests to get list of all help places.

**Input**

-

**Output**

System shows list of all help places in database in JSON form.

**Flow of Execution**

1. The mobile application requests to get list of all help places.
2. The system retrieves list of all help places from database.
3. The system shows list of all help places in form of JSON.



**Use Case:** Get list of all help places (UCs-11)

**URSs-10:** The administrator can update their account's password.

**System Requirement Specification:**

**SRSs-25:** The system shall retrieve all help places from system database.

**SRSs-50:** The system shall show list of all help places in form of JSON.

**UCs-12: Get nearest help place**

The mobile application can get the nearest help place by the selected category.

**Actor**

Mobile application

**Prerequisite**

The mobile application requests to get nearest help place.

**Input**

The identity number of selected category.

Latitude of the mobile application's current location.

Longitude of the mobile application's current location.

**Output**

System shows nearest help place in JSON form.

**Flow of Execution**

1. The mobile application requests to get nearest help place.
2. The system finds the nearest help place by the selected category.
3. The system shows the nearest help place in form of JSON.

**Use Case:** Get nearest help place (UCs-12)

**URs-12:** The mobile application can get the nearest help place by the selected category.

**System Requirement Specification:**

**SRSs-51:** The system shall find the nearest help place by the selected category.

**SRSs-52:** The system shall show the nearest help place in form of JSON.

**UCs-13: Get list of all help places in setting scope**

The mobile application can get list of help places where locate in the setting scope.

**Actor**

Mobile application

**Prerequisite**

The mobile application requests to get list of help places where locate in the setting scope.

**Input**

The meter number of setting scope.

Latitude of the mobile application's current location.

Longitude of the mobile application's current location.

**Output**

System shows list of help places where locate in setting scope in JSON form.

**Flow of Execution**

1. The mobile application requests to get list of help places where locate in the setting scope.
2. The system retrieves list of help places where locate in setting scope from the database.
3. The system shows list of help places where locate in setting scope in form of JSON.

**Use Case:** Get list of all help places in setting scope (UCs-13)

**URs-13:** The mobile application can get list of help places where locate in the setting scope.

**System Requirement Specification:**

**SRSs-53:** The system shall retrieve list of help places where locate in the setting scope from the database.

**SRSs-54:** The system shall show list of help places where locate in setting scope in form of JSON.

**UCs-14:** Retrieve new average rating score

The mobile application can retrieve the help place with new average rating score.

**Actor**

Mobile application

**Prerequisite**

-

**Input**

The identity number of selected help place

The rating score of the selected help place

**Output**

System shows help place with new average rating score in form of JSON.

**Flow of Execution**

1. The mobile application requests to get help place with new average rating score.
2. The system calculates a new average rating score from the new rating score that the mobile application requested.
3. The system updates a new average rating score into the system database.
4. The system shows help place with new average rating score in form of JSON.

**Use Case:** Get list of all help places in setting scope (UCs-14)

**URs-14:** The mobile application can retrieve the help place with new average rating score.

**System Requirement Specification:**

**SRSs-55:** The system calculates a new average rating score from the new rating score that the mobile application requested.

**SRSs-56:** The system updates a new average rating score into the system database.

**SRSs-57:** The system shows help place with new average rating score in form of JSON.