Chapter 5

Test Plan

Emergency Information on Mobile

Test Plan

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Chapter One | Introduction

1.1 Objectives

The objectives of the test plan of Emergency Information on Mobile project is to establish test plan of the unit testing and system testing and make sure that the bugs or the defects are discovered and fixed. The unit testing covers all of the implemented methods in the Emergency Information on Mobile system. The system testing covers the user requirements.

1.2 Scope

This test plan describes the unit testing activities to detect the defects on the system and describes the system testing activities for testing a completely integrated system to verify that it meets the user requirements.

1.3 Acronyms and Definitions

1.3.1 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

1.3.2 Definitions

Feature	Transformation of input parameters to output parameters based on a specified algorithm. It describes the functionality of a product in the language of the 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 possessed by a 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] |
| UML | Unified Modeling Languages. Standardized notation for Modeling design descriptions, architectures 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 resources by its environment. Characterized by an objective-set of interactions within and at the borders of that system. (2) Notation from UML for describing a scenario(Usage approach, operational scenario)from the perspective of this user.[IEEE90] |

Chapter Two | Test Plan and Test Procedure

2.1 Test Objective

The objectives of testing Emergency Information on Mobile project are:

1. All bugs or defects are detected.
2. Those bugs or defects are fixed.
3. Functions and user interface covered the requirements.
4. All functions and features must be there.

2.2 Scope of testing

Emergency Information on Mobile will test by white-box testing techniques that are unit testing and system testing and record the test results in the test record.

2.3 Purpose of Test Plan and Test Procedure

In this document consist of test plan and test procedure of progress report II. So the stakeholder of Emergency Information on Mobile can review the test in the project.

2.4 Test Duration

Progress	Date and Duration
Progress Report I	**Perform date:** 10/03/14 - 11/07/14 **Duration:** 124 days
Progress Report II	**Perform date:** 22/07/14 – 21/11/14 **Duration:** 120 days
Progress Report III	**Perform date:** 22/11/14 – 12/12/14 **Duration:** 30 days

2.5 Test Responsibility

Item	Responsibility
Unit test and System test of server part (web application)	Sawatdiporn
Unit test Unit test and System test of mobile part (mobile application)	Putchakarn
Record Unit test and System test of server part	Sawatdiporn
Record Unit test and System test of mobile part	Putchakarn

2.6 Test Strategy

Emergency Information on Mobile test strategy will be follow by:

1. Design test case for each feature.
2. Prepare test data for each feature.
3. Determine expected results.
4. Perform testing on individual features.
5. Result of testing will be recorded.
6. All test files will be stored in the project repository.

2.7 Result of Testing

In the test record the test result will separate into two parts, which are:

1. Actual output: The actual outputs that are performed by each test case.
2. Pass, Fail, N/A criteria:

    2.1 Pass: The result of actual is same like expected result.

    2.2 Fail: the result of actual result is not same like expected result.

    2.3 N/A: the result of actual result is not available.

2.8 Test Environment

2.8.1 Hardware

- **Computers**
  - Apple Macbook Pro mid 2013
    - Processor: Intel® Core™ i7-3520M CPU @ 2.90GHz 2.90GHz
    - RAM: 8.00 GB
    - Operating System: Windows 7 Ultimate
  - Dell Inspiron n5110
    - Processor: Intel® Core™ i5-2410M CPU @ 2.30GHz 2.30GHz
    - RAM: 4.00 GB
    - Operating System: Windows 7 Ultimate

- **Mobile phones:** Android Operating System
  - o Samsung Galaxy Grand 2 SM-G7102
    - CPU: Quad-core 1.2 GHz Cortex-A7
    - RAM: 1.5 GB
    - Operating System: Android OS, v4.3 (Jelly Bean)
  - o Samsung Galaxy S DUOS
    - CPU: 1GHz Cortex-A5
    - RAM: 768 MB
    - Operating System: Android OS, v4.04 (Ice Cream Sandwich)

2.8.2 Software

- IntelliJ IDEA
- Eclipse
- Google chrome

Chapter Three | Unit testing of EIOM

3.1 Mobile Part

3.1.1 Class name for testing: HelpPlaceServiceImpl

Unit Test Case mobile 01 (UTCm-01): `testGetHelpPlaceByJsonOBJ (JSONObject jsonOBJ) :JSONArray`

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Record 4 in appendix A

Case	Description	input JSON object	Expected Result Size of JSON Array
1	Test to get JSON array by input JSON object	{"Android":[{"Address":"110 Suthep Rd, Mueang Chiang Mai District, Chiang Mai","PhoneNumber":"053947700","Latitude":"18.789602","Longitude":"98.9742 09","Name":"Maharaj Nakorn Chiang Mai Hospital"}]}	1

Unit Test Case mobile 02 (UTCm-02): `testGetHelpPlacesOnDevice () :HelpPlace []`

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Record 5 in appendix A

Case	Description	Expected Result Size of HelpPlace Array
1	Test get size of HelpPlace Array	5

Case	Description	Id	Name	Address	Phone Number	Latitude	Longitude
				Expected Result			
				HelpPlace object			
1	Test to get help place from device database each index of array	1	Maharaj Nakorn Chiang Mai Hospital	110 Suthep Rd, Mueang Chiang Mai District, Chiang Mai	053947700	18.789602	98.974209
2	Test to get help place from device database each index of array	2	Lanna Hospital	Chang Phuak Amphoe Mueang Chiang Mai, Chang Wat Chiang Mai	053999758	18.812723	98.991151
3	Test to get help place from device database each index of array	3	Muang Chiang Mai Police Station	Si Phum Mueang Chiang Mai District, Chiang Mai	053276040	18.788341	98.984755
4	Test to get help place from device database each index of array	4	Chang Phueak Police Station	Mueang Chiang Mai District, Chiang Mai	053218443	18.818822	98.975520
5	Test to get help place from device database each index of array	5	Kriangkrai Konlakan Garage	7/2, See Ping Mueang Road, Tambon Chang Khlan, Amphoe Mueang, Chiang Mai	053244599	18.771195	98.983062

Unit Test Case mobile 03 (UTCm-03): insertHelpPlace(ArrayList <HelpPlace> helpPlace) : int

Class name: HelpPlaceServiceImplTest **Test Data:** Test Data 4 in appendix A

Case	Description	Input	Expected Result
		List of Help Places ID	List of Help Places ID
1	Test insert array list of help places into database	1,2,3,4,5	1,2,3,4,5
2	Test insert array list of help places are not null	1,2,3,4,5	Not null

Unit Test Case mobile 04 (UTCm-04): deleteAllHelpPlaces (): boolean

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 4 in appendix A

Case	Description	Expected Result
		Boolean
1	Test delete all help places in database	true

3.2 Server Part

3.2.1 Class name for testing: HelpPlaceServiceImpl

Unit Test Case Server 01 (UTCs-01): getHelpPlaces():List<HelpPlace>

Class name: HelpPlaceServiceImplTest **Test Data:** Test Data 1 in appendix A

Case	Description	Expected Result
		List of help place object ID
1	Test get all help place in database	1,2,3,4,5

Unit Test Case Server 02 (UTCs-02): `findById(Integer id):HelpPlace`

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1 in appendix A

Case	Description	Input	Expected Result Help place object								
			Name	Address	District	Province	Zip code	Phone Number	Latitude	Longitude	Category
1	Test find help place by input ID which is in database	1	Maharaj Nakorn Chiang Mai Hospital	10 Suthep Rd	Mueang Chiang Mai	Chiang Mai	50200	053947700	18.789602	98.974209	Hospital
2	Test find help place by input ID which is not in database	6	null								

Unit Test Case Server 03 (UTCs-03): `updateHelpPlace(HelpPlace helpPlace):HelpPlace`

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1 in appendix A

Case	Description	Input Help place object								
		Name	Address	District	Province	Zip code	Phone Number	Latitude	Longitude	Category
1	Test update help place into database	Maharaj Nakorn Chiang Mai Hospital	10 Suthep Rd	Mueang Chiang Mai	Chiang Mai	50200	053111111	18.789602	98.974209	Hospital

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Case	Expected Result								
	Help place object								
	Name	Address	District	Province	Zip code	Phone Number	Latitude	Longitude	Category
1	Maharaj Nakorn Chiang Mai Hospital	10 Suthep Rd	Mueang Chiang Mai	Chiang Mai	50200	053111111	18.789602	98.974209	Hospital

Unit Test Case Server 04 (UTCs-04): deleteHelpPlaceTest

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1 in appendix A   deleteHelpPlace(HelpPlace helpPlace):boolean

Case	Description	Input	Expected Result
		Help place object	Boolean
		ID	
1	Test delete help place in database	1	true
2	Test delete help place in database	4	true
3	Test delete help place which not in database	7	false

Unit Test Case Server 05 (UTCs-05): `getHelpPlacesByCategory(Integer categoryId):List<HelpPlace>`

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1 in appendix A

Case	Description	Input	Expected Result List of help place object ID
1	Test get help place by input category id	1	1,2,3
2	Test get help place by input category id	3	5
3	Test get help place by input category id which is not in database	5	null

Unit Test Case Server 06 (UTCs-06): `getHelpPlacesByProvince(Integer provinceId):List<HelpPlace>`

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1 in appendix A

Case	Description	Input	Expected Result List of help place object ID
1	Test get help place by input province id	1	1,2,5
2	Test get help place by input province id	2	4
3	Test get help place by input province id which is not in database	5	null

Unit Test Case Server 07 (UTCs-07): getHelpPlacesByCategoryAndProvince(Integer categoryId, Integer provinceId):List<HelpPlace>

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1 in appendix A

Case	Description	Input		Expected Result
		Category ID	Province ID	List of help place object ID
1	Test get help place by input category id and province id	1	1	1,2
2	Test get help place by input category id and province id	1	3	3
3	Test get help place by input category id and province id which is not in database	3	3	null
4	Test get help place by input category id and province id which is not in database	2	1	null

3.2.2 Class name for testing: CategoryServiceImpl

Unit Test Case Server 08 (UTCs-08): getCategories():List<Category>

Class name: CategoryServiceImplTest   **Test Data:** Test Data 2 in appendix A

| Case | Description | Expected Result |
| | | List of category object |
		ID
1	Test get all categories in database	1,2,3

Unit Test Case Server 09 (UTCs-09): getCategoryById(Integer id):Category

Class name: CategoryServiceTest   **Test Data:** Test Data 2 in appendix A

| Case | Description | Input | Expected Result |
| | | | Category object |
			ID
1	Test find category by input ID which is in database	1	1
2	Test find category by input ID which is not in database	5	null

3.2.3 Class name for testing: ProvinceServiceImpl

Unit Test Case Server 10 (UTCs-10): getProvinces():List<Province>

Class name: ProvinceServiceImplTest   **Test Data:** Test Data 3 in appendix A

| Case | Description | Expected Result |
| | | List of province object |
		ID
1	Test get all provinces in database	1,2,3

Unit Test Case Server 11 (UTCs-11): getProvinceById(Integer id): Province

Class name: ProvinceServiceTest   **Test Data:** Test Data 3 in appendix A

| Case | Description | Input | Expected Result |
| | | | Province object |
			ID
1	Test find province by input ID which is in database	1	1
2	Test find province by input ID which is not in database	5	null

3.2.4 Class name for testing: HelpPlaceServiceImpl

Unit Test Case Server 12 (UTCs-12): getNearestHelpPlace(double userLatitude, double userLongitude, Integer categoryId) :HelpPlace

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1, 2, 3 in appendix A

Case	Description	Input			Expected Result								
		User's latitude	User's longitude	Category's Id	Help place object							
					Name	Address	District	Province	Zip code	Phone Number	Latitude	Longitude	Category
1	Test find nearest help place by input category's ID which is in database	18.789 643	98.96 9758	1	Maharaj Nakorn Chiang Mai Hospital	10 Suthep Rd	Mueang Chiang Mai	Chiang Mai	50200	05394770 0	18.78960 2	98.974209	Hospital
2	Test find nearest help place by input category's ID which is not in database	18.789 643	98.96 9758	8	null								

Unit Test Case Server 13 (UTCs-13): `getHelpPlacesInScope(double userLatitude, double userLongitude, double scope):List<HelpPlace>`

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 1, 3 in appendix A

| Case | Description | Input | | | Expected Result |
		User's latitude	User's longitude	Scope(meter)	List of help place object ID
1	Test get help places by input scope which have help place locate	18.789643	98.969758	1000	1
2	Test get help places by input scope which have help place locate	18.789643	98.969758	4000	1,2
3	Test get help places by input scope which does not have help place locate	18.789643	98.969758	1	Empty List

Unit Test Case Server 14 (UTCs-14): getLatitudeDistance(double latitude):double

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 3 in appendix A

Case	Description	Input Latitude	Expected Result Latitude surface distance
1	Test get latitude surface distance by input latitude	18.789643	110649.0
2	Test get latitude surface distance by input latitude	19.912221	110649.0

Unit Test Case Server 15 (UTCs-15): getLongitudeDistance(double longitude):double

Class name: HelpPlaceServiceImplTest   **Test Data:** Test Data 3 in appendix A

Case	Description	Input Latitude	Expected Result Longitude surface distance
1	Test get longitude surface distance by input latitude	18.789602	107551.0
2	Test get longitude surface distance by input latitude	19.912221	107551.0

Unit Test Case Server 16 (UTCs-16): `findDistance(double la1, double long1, double la2, double long2):double`

Class name: HelpPlaceServiceImplTest **Test Data:** Test Data 1, 3 in appendix A

Case	Description	Input					Expected Result
		Place 1 Latitude	Place 1 Longitude	Place 2 Latitude	Place 2 Longitude		Distance (meter)
1	Test get distance between two places by input latitude and longitude	18.789643	98.969758	18.789602	98.974209		478.730996661931
2	Test get distance between two places by input latitude and longitude	18.789643	98.969758	19.912221	99.832526		155044.92200234122

Unit Test Case Server 17 (UTCs-17): `calculateAverageRate(Integer id, double score):HelpPlace`

Class name: HelpPlaceServiceImplTest **Test Data:** Test Data1 in appendix B

Case	Description	Input		Expected Result
		Help place's ID	Rating score	New average rating score (double)
1	Test calculate new help place's average rating score.	1	2	3.5
2	Test calculate new help place's average rating score.	2	4.5	3.25

Unit Test Case Server 18 (UTCs-18): `findByName(String name):Admin`

Class name: AdminImplTest **Test Data:** Test Data2 in appendix B

Case	Description	Input Admin's name	Expected Result Admin object ID
1	Test get admin by input name which has in the database	admin	1
2	Test get admin by input name which does not has in the database	some	null

Unit Test Case Server 19 (UTCs-19): `saveUser(Admin admin):Admin`

Class name: AdminImplTest **Test Data:** Test Data2 in appendix B

Cas e	Description	Input Admin object	
		Name	**Password**
1	Test update admin into database	Admin	admin

Cas e	Expected Result Admin object	
	Name	**Password**
1	Admin	21232f297a57a5a743894a0e4a801fc3

Chapter Four | System testing of EIOM

4.1 Mobile Part

System Test Case mobile 01 (STCm-01): User can view the online map with their current location

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can view the online map with their current location on the online map page.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User inputs their current latitude and longitude, such as, 98.974209 and 18.789602.

Test Cases

Case	Description	Expected Result
1	Test system display the online map by inputting latitude is 98.974210 and Longitude is 18.789610.	System shows the online map and provides the user's current location. The coordinate is shown the marker at latitude 98.974210 and 18.789610 on the map.

System Test Case mobile 02 (STCm-02): User can view the offline map with their current location

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can view the offline map with their current location on the offline map page.

Test Script:

1. User enters to the application with the device that lost an internet connection.
2. User clicks "Location" button.
3. User inputs their current latitude and longitude, such as, 98.95166 and 18.8005956

Test Cases

Case	Description	Expected Result
1	Test system display the offline map by inputting latitude is 98.95166 and Longitude is 18.8005956	System shows the offline map and provides the user's current location. The coordinate is shown the marker at latitude 98.95166 and 18.8005956 on the map.

System Test Case mobile 03 (STCm-03): User can view help places in online map

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: All help places will show in an online map. The user can view all help places on the map.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User inputs their current latitude and longitude, such as, 98.974209 and 18.789602.

Test Cases

Case	Description	Expected Result
1	Test system display help places by inputting latitude is 98.950924 and Longitude is 18.805626	System retrieves all help places from server and shows marker that located in the visible on device • Maharaj Nakorn Chiang Mai Hospital • Chiangmai Ram Hospital • Chiang Mai Main Police Station

System Test Case mobile 04 (STCm-04): User can view help places in offline map

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can view the location of help places, where are loaded and saved in the user's device.

Test Script:

1. User enters to the application with the device that lost an internet connection.
2. User clicks "Location" button.
3. User inputs their current latitude and longitude, such as, 98.95166 and 18.8005956

Test Cases

Case	Description	Expected Result
1	Test system to display all help places that saved in device to show in the offline map	System retrieves help places from database and shows • Kriangkrai Konlakan Garage • Muang Chiang Mai Police Station • Maharaj Nakorn Chiang Mai Hospital • Lanna Hospital • Chang Phueak Police Station in the offline map

System Test Case mobile 05 (STCm-05): User can view help information of each help place in online map

Prerequisites or Test input: The test data 3 is available at Appendix B.

Description: 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.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User inputs their current latitude and longitude, such as, 98.974209 and 18.789602.
3. User selects marker of "Lanna Hospital".
4. User clicks to view information.

Test Cases

Case	Description	Expected Result
1	Test view information of "Lanna Hospital" help place	System shows information of "Lanna Hospital" . **Name** as "Lanna Hospital" **Phone Number** as "053-999758" **Address** as "Chang Phuak, Mueang Chiang Mai, Chiang Mai, 50300" **Latitude** as "98.991151" **Longitude** as "18.812723" **Rating score** as "5"

System Test Case mobile 06 (STCm-06): User can view help information of each help place in offline map

Prerequisites or Test input: The test data 3 is available at Appendix B.

Description: 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.

Test Script:

1. User enters to the application with the device that lost an internet connection.
2. User clicks "Location" button.
3. User inputs their current latitude and longitude, such as, 98.95166 and 18.8005956.
4. User selects point of help place.
5. User clicks to "show more information" button.

Test Cases

Case	Description	Expected Result
1	Test view information of "Maharaj Nakorn Chiang Mai Hospital" help place	System shows information of "Maharaj Nakorn Chiang Mai Hospital" **Name** as "Maharaj Nakorn Chiang Mai Hospital" **Phone Number** as "053-999758" **Address** as "110 Suthep Rd, Mueang Chiang Mai, Chiang Mai, 50201" **Latitude** as "98.974209" **Longitude** as "18.789602" **Rating score** as "5"

System Test Case mobile 07 (STCm-07): User can make emergency call to each help place in online map

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can call to each help place directly from the application.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User inputs their current latitude and longitude, such as, 98.974209 and 18.789602.
3. User selects marker of "Lanna Hospital".
4. User clicks to view information.
5. User clicks "Phone Call" button.

Test Cases

Case	Description	Input Telephone number	Expected Result
1	Test call by using telephone service	"053-999758"	System display the connection of telephone service with 053999758 and system is calling from the application to 053999758

System Test Case mobile 08 (STCm-08): User can make emergency call to each help place in offline map

Prerequisites or Test input: The test data 3 is available at Appendix B.

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

Test Script:

1. User enters to the application with the device that lost an internet connection.
2. User clicks "Location" button.
3. User inputs their current latitude and longitude, such as, 98.95166 and 18.8005956.
4. User selects point of help place.
5. User clicks to "show more information" button.
6. User clicks "Phone Call" button.

Test Cases

Case	Description	Input	Expected Result
		Telephone number	
1	Test call by using telephone service	"053-947700"	System display the connection of telephone service with 053947700 and system is calling from the application to 053947700

System Test Case mobile 09 (STCm-09): User can search help place's name by keyword in online map

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can search the help places by input a keyword.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User selects "Search" button.
3. User inserts "Maharaj" in text filed.

Test Cases

Case	Description	Input	Expected Result
		A part of word	
1	In step 3 of test script. Test search help places by a part of word that match with name of help place	"Maharaj"	System shows list of name in the system "Maharaj Nakorn Chiang Mai Hospital"
2	In step 3 of test script. Test search help places by a part of word that does not match with any name in server	"Campus"	System shows empty list
3	Test input no data	null	System shows the list of all help places in Appendix test data 5

System Test Case mobile 10 (STCm-10): User can find the nearest help place by selection the category in online map.

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can find the nearest help places by choosing the help place's category.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User inputs their current latitude and longitude, such as, 98.974209 and 18.789602.
3. User selects the category button of help place such as, hospital, police station, highway police and garage.

Test Cases

Case	Description	Input Id of help place's category	Expected Result
1	Test search help places by selecting "Hospital" button of help place	"1"	System shows "Maharaj Nakorn Chiang Mai Hospital"
2	Test search help places by selecting "Police Station" button of help place	"2"	System shows "Chiang Mai Main Police Station" preview information of help by showing name and address
3	Test search help places by selecting "Garage" button of help place	"3"	System shows "SN Body Service" preview information of help by showing name and address
4	Test search help places by selecting "Highway Police Station" button of help place	"4"	System shows "Chiang Mai Provincial Highway Police Station" preview information of help by showing name and address

System Test Case mobile 11 (STCm-11): User can set the scope for downloading data

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can define the scope and duration of storage.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User selects the menu button of android device
3. User selects "Setting" button
4. User selects scope (10 KM, 15 KM, 20 KM, 25 KM, 30 KM)

Test Cases

Case	Description	Input Id of help place's category	Expected Result
1	Test setting scope by choosing number of scope	"15 KM"	System display in setting scope dialouge, it select "15 KM"

System Test Case mobile 12 (STCm-12): Mobile application can collect help place information automatically

Prerequisites or Test input: The test data 3 is available at Appendix B.

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

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User inputs their current latitude and longitude, such as, 98.974209 and 18.789602.
3. User moves their current location more than 10 KM from original location.

Test Cases

Case	Description	Input	Expected Result
		Kilometer that user change position	
1	Test collecting help place automatically into database	"11 KM"	System collect help places to save into database • Hospital in range • Police station in rang • Garage in rang • Highway police station in rang

System Test Case mobile 13 (STCm-13): User can view the route of distance between the current locations of user to the destination

Prerequisites or Test input: The test data 3 is available at Appendix B.

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

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User selects marker of help place.
3. User clicks to view information.
4. User clicks "route" button

Test Cases

Case	Description	Expected Result
1	Test show polyline on the online map	System displays polyline on the map of distance from current location to destination.

System Test Case mobile 14 (STCm-14): User can view details of each point on routing the direction

Prerequisites or Test input: The test data 3 is available at Appendix B.

Description: 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.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User selects marker of help place.
3. User clicks to view information.
4. User clicks "route" button
5. User clicks "info" button

Test Cases

Case	Description	Expected Result
1	Test show dialogue details of each point	System displays popup dialogue to show details of each point by providing time, distance per each point, average time and average distance.

System Test Case mobile 15 (STCm-15): User can view average rating score of each help place in online map

Prerequisites or Test input: The test data 3 is available at Appendix B.

Description: The user can view the animation for traveling from user's current location to the destination point by moving the marker on the polyline.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User inputs their current latitude and longitude, such as, 98.974209 and 18.789602.
3. User selects marker of "SN Body Service".
4. User clicks to view information and rating.

Test Cases

Case	Description	Expected Result
1	Test view information of "SN Body Service" help place	System shows information of "SN Body Service". **Name** as "SN Body Service" **Phone Number** as "053–202849" **Address** as "14/12 Mahidol Rd., Mueang Chiang Mai District, Chiang Mai, 50100" **Latitude** as "98.985429" **Longitude** as "18.767368" **Rating score** as "5.0"

System Test Case mobile 16 (STCm-16): User can view average rating score of each help place in offline map

Prerequisites or Test input: The test data 3 is available at Appendix B.

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

Test Script:

1. User enters to the application with the device that lost an internet connection.
2. User clicks "Location" button.
3. User inputs their current latitude and longitude, such as, 98.95166 and 18.8005956.
4. User selects point of "SN Body Service".
5. User clicks to "show more information" button.

Test Cases

Case	Description	Expected Result
1	Test view information of "SN Body Service" help place	System shows information of "SN Body Service". **Name** as "SN Body Service" **Phone Number** as "053-202849" **Address** as "14/12 Mahidol Rd., Mueang Chiang Mai District, Chiang Mai, 50100" **Latitude** as "98.985429" **Longitude** as "18.767368" **Rating score** as "5.0"

System Test Case mobile 17 (STCm-17): User can rate the help place in online map

Prerequisites or Test input: The test data 3 is available at Appendix B.
Description: The user can rate score of each help place in the online map that user must rate never before.

Test Script:

1. User enters to the application with the device that has an internet connection.
2. User selects marker of "Maharaj Nakorn Chiang Mai Hospital".
3. User clicks to view information and rating.
4. User clicks "rate" button
5. User clicks "OK" button

Test Cases

Case	Description	Input Rating score	Expected Result
1	Test rating the help place "Maharaj Nakorn Chiang Mai Hospital" score	"5.0"	System refresh new average rating score as "5.0" to show on screen
2	Test rating the help place place "Maharaj Nakorn Chiang Mai Hospital" score without choosing score	null	System display show the original score "5.0"

4.2 Server Part

System Test Case server 01 (STCs-01): The administrator can add help place's information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.

Prerequisites or Test input: The test data 1 is available at Appendix B.
Description: The administrator can add new help place with its information in the system.

Test Script:

3. Administrator enters to Emergency Information Web Application.
4. Administrator clicks "Add Help Place" button.
5. Administrator inputs information in the text box.
6. Administrator saves new help place by click "Save" button.

Test Cases

Case	Description	Input	Expected Result
1	Test add by input new help place information with valid format	Name = Mae Wang Hospital Address = 191 Ban Kad District = Mae Wang District Zipcode = 50360 Province = Chiang Mai Phone Number = 053-311015 Latitude = 18.6183331 Longitude = 98.7753985 Category =Hospital	When add successful, the system shall show successful message "The help place has been added to database" .

| 2 | Test add by input new help place information with invalid format | Name = Mae Wang Hospital
Address = 191 Ban Kad
District = Mae Wang District
Zipcode = 50360
Province = Chiang Mai
Phone Number = 2
Latitude = 18.6183331
Longitude = 98.7753985
Category =Hospital | The system shall show error message to input information again "The phone number length should be 9-10 characters". |

System Test Case server 02 (STCs-02): The administrator can edit help place's information, which include name, address, district, province, zip code, phone number, category, latitude and longitude.

Prerequisites or Test input: The test data 1 is available at Appendix B.
Description: The administrator can edit a help place with new information in the system.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator clicks "Edit" button on help place that he wants to edit.
3. Administrator edits information in the text box.
4. Administrator clicks "Save" button to save a help place.

Test Cases

Case	Description	Input	Expected Result
1	Test edit information of help place with valid format	Name = Maharaj Nakorn Chiang Mai Hospital Address = Ban Kan Rd. District = Mueang Chiang Mai Zipcode = 50200 Province = Chiang Mai Phone Number = 053-947700 Latitude = 18.789602 Longitude = 98.974209 Category =Hospital	When edit successful, the system shall show successful message "The help place has been added to database" .
2	Test edit information of help place with invalid format	Name = Maharaj Nakorn Chiang Mai Hospital Address = Ban Kan Rd. District = Mueang Chiang Mai Zipcode = 50200 Province = Chiang Mai Phone Number = 2 Latitude = 18.789602 Longitude = 98.974209 Category =Hospital	The system shall show error message to input information again "The phone number length should be 9-10 characters" .

System Test Case server 03 (STCs-03): The administrator can remove help place.

Prerequisites or Test input: The test data 1 is available at Appendix B.
Description: The administrator can remove help place out of the system.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator clicks "Remove" button on help place that he wants to remove.
3. Administrator clicks "Confirm" button to confirm remove a help place.

Test Cases

Case	Description	Expected Result
1	Test remove a help place out of the system by select "Maharaj Nakorn Chiang Mai Hospital"	When remove successful, the system shall show successful message "The help place has been removed!", and the help place does not show on home page.
2	Test remove a help place out of the system by select "Chiang Mai Main Police Station"	When remove successful, the system shall show successful message "The help place has been removed!", and the help place does not show on home page.

System Test Case server 04 (STCs-04): The administrator can view help information of each help place.

Prerequisites or Test input: The test data 1 is available at Appendix B.

Description: The administrator can view information of each help place.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator clicks Name of help place that he wants to view information.

Test Cases

Case	Description	Expected Result
1	Test view information of "Maharaj Nakorn Chiang Mai Hospital" help place	System shows information of "Maharaj Nakorn Chiang Mai Hospital". Name = Maharaj Nakorn Chiang Mai Hospital Address = Ban Kan Rd. District = Mueang Chiang Mai Zipcode = 50200 Province = Chiang Mai Phone Number = 053-947700 Latitude = 18.789602 Longitude = 98.974209 Category =Hospital

2	Test view information of "Chiang Mai Main Police Station" help place	System shows information of "Chiang Mai Main Police Station". Name = Chiang Mai Main Police Station Address = 169 Ratchadamnoen Rd. District = Mueang Chiang Mai District Zipcode = 50200 Province = Chiang Mai Phone Number = 053-814313 Latitude = 18.8083976 Longitude = 98.9764103 Category = Police Station Average Rate = 4.5

System Test Case server 05 (STCs-05): The administrator can browse the help place by category.

Prerequisites or Test input: The test data 1 is available at Appendix B.
Description: The administrator can browse the help place by select a category.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator selects "Category" in a list.
3. Administrator clicks "Search" button.

Test Cases

Case	Description	Expected Result
1	Test browse help places by select "Garage"	System shows list of help places which are Ruangchai Yon Garage, Nakornping Workshop Garage, Wirut Garage, VN Auto Body, and SN Body Service. Name = Ruangchai Yon Garage Province = Chiang Mai Category = Garage Name = Nakornping Workshop Garage Province = Chiang Mai Category = Garage Name= Wirut Garage Province = Chiang Mai Category = Garage Name = VN Auto Body Province = Chiang Mai Category = Garage Name = SN Body Service Province = Chiang Mai Category = Garage

System Test Case server 06 (STCs-06): The administrator can browse the help place by province of Thailand.

Prerequisites or Test input: The test data 1 is available at Appendix B.

Description: The administrator can browse the help place by select province.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator selects "Province" in a list.
3. Administrator clicks "Search" button.

Test Cases

Case	Description	Expected Result
1	Test browse help places by select "Chiang Rai"	System shows help place "Chiang Rai Police Station" Name = Chiang Rai Police Station Province = Chiang Rai Category = Police Station

System Test Case server 07 (STCs-07): The administrator can browse the help place by category and province of Thailand.

Prerequisites or Test input: The test data 1 is available at Appendix B.

Description: The administrator can browse the help place by category and province of Thailand.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator selects "Category" and "Province" in a list.
3. Administrator clicks "Search" button.

Test Cases

Case	Description	Expected Result
1	Test browse help places by select "Hospital" in "Lampang"	System shows help place "Lampang Hospital" Name = Lampang Hospital Province = Lampang Category = Hospital
2	Test browse help places by select "Police Station" in "Chiang Rai"	System shows help place "Chiang Rai Police Station" Name = Chiang Rai Police Station Province = Chiang Rai Category = Police Station

System Test Case server 08 (STCs-08): The administrator can login to the system.

Prerequisites or Test input: The test data 2 is available at Appendix B.
Description: The administrator can login to the Emergency Information Web Application.

Test Script:

   1. Administrator enters to Login page.

Test Cases

Case	Description	Input	Expected Result
1	Test login to the system with valid username and password	Name = admin Password = user	If login successful, the system shall show home page of the Emergency Information Web Application.
2	Test login to the system with invalid username and password	Name = admin Password = 2	The system shall show error message "You have entered an invalid username or password!"

System Test Case server 09 (STCs-09): The administrator can logout of the system.

Prerequisites or Test input: -

Description: The administrator can logout of the system.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator clicks "log out" link.

Test Cases

Case	Description	Expected Result
1	Test logout of system	If logout successful, the system shall show login page of the Emergency Information Web Application.

System Test Case server 10 (STCs-10): The administrator can update their account's password.

Prerequisites or Test input: The test data 2 is available at Appendix B.

Description: The administrator can change their account's password.

Test Script:

1. Administrator enters to Emergency Information Web Application.
2. Administrator clicks "Update Password?" link.

Test Cases

Case	Description	Input	Expected Result
1	Test update password of administrator	Name = admin Password = admin	If update successful, the system shall show home page of the Emergency Information Web Application.

System Test Case server 11 (STCs-11): The mobile application can get list of all help places in the database.

Prerequisites or Test input: The test data 1 is available at Appendix B.
Description: The mobile application can get list of all help places in the database in form of JSON.

Test Script:

1. Mobile application requests to get list of all help places in the database.

Test Cases

Case	Description	Expected Result
1	Test get list of all help places in the database se in form of JSON.	{"Helpplaces":[{ "id":1, "category":"Police Station", "phoneNumber":"053-947700", "address":"110 Suthep Rd, Mueang Chiang Mai, Chiang Mai, 50201", "name":"Maharaj Nakorn Chiang Mai Hospital", "longitude":98.974209,"latitude":18.789602}, {"id":2, "category":"Hospital", "phoneNumber":"053-999758", "address":"Chang Phuak, Mueang Chiang Mai, Chiang Mai, 50300", "name":"Lanna Hospital", "longitude":98.991151, "latitude":18.812723}, {"id":3, "category":"Hospital", "phoneNumber":"054-237400", "address":"Tambon Phrabat, Amphoe Mueang Lampang, Lampang, 52000", "name":"Lampang Hospital", "longitude":99.506305,"latitude":18.285378},{"id":4,"category":"Police Station", "phoneNumber":"053-603100","address":"Rattanakeat Road, Mueang Chiang Rai, Chiang Rai, 57000", "name":"Chiang Rai Police Station", "longitude":99.832526,"latitude":19.912221},{"id":5,"category":"Garage", "phoneNumber":"053-242999","address":"Outer Ring Road, Saraphi District, Chiang Mai, 50000", "name":"Ruangchai Yon Garage", "longitude":99.055108,"latitude":18.750651},{"id":6,"category":"Hospital", "phoneNumber":"053-220022","address":"1/7 Changpuek, Mueang Chiang Mai District, Chiang Mai, 50200","name":"Changpuek Hospital", "longitude":98.986944,"latitude":18.798967},{"id":7,"category":"Hospital", "phoneNumber":"053\u20139201300","address":"8 Boonreungrit Rd., Mueang Chiang Mai District, Chiang Mai, 50200", "name":"Chiangmai Ram Hospital", "longitude":98.977693,"latitude":18.794931},{"id":8,"category":"Hospital", "phoneNumber":"053-272788","address":"158 Pardat, Mueang Chiang Mai District, Chiang Mai, 50100","name":"Chiangmai Klaimor

Hospital","longitude":98.972035,"latitude":18.760426},{"id":9,"category":"Highway Police Station","phoneNumber":"053-242441","address":" Inburi-Chaingmai Rd., Muang Chiang Mai District, Chiang Mai, 50000","name":"Chiang Mai Provincial Highway Police Station","longitude":99.002148,"latitude":18.7893955},{"id":10,"category":"Police Station","phoneNumber":"053-218445","address":"120/2 Chotana Rd., Mueang Chiang Mai District, Chiang Mai, 50200","name":"Chang Phuak Police Station","longitude":98.975552,"latitude":18.818797},{"id":11,"category":"Police Station","phoneNumber":"053-814313","address":"169 Ratchadamnoen Rd., Mueang Chiang Mai District, Chiang Mai, 50200","name":"Chiang Mai Main Police Station","longitude":98.9764103,"latitude":18.8083976},{"id":12,"category":"Police Station","phoneNumber":"053-275704","address":"184 Moo 3, Chiang Mai-Lamphun Rd., Mueang Chiang Mai, Chiang Mai, 50200","name":"Mae Ping Police Station","longitude":99.009687,"latitude":18.751725},{"id":13,"category":"Police Station","phoneNumber":"053-211750","address":"194 Moo 1, Huai Kaew Rd., Chang Phuak, Chiang Mai, 50300","name":"Phu Ping Ratchaniwet Police Station","longitude":98.8986879,"latitude":18.8061444},{"id":14,"category":"Garage","phoneNumber":"053-491777","address":"6 259, San Na Meng, San Sai District, Chiang Mai, 50210","name":"Nakornping Workshop Garage","longitude":99.072494,"latitude":18.84407},{"id":15,"category":"Garage","phoneNumber":"053-396617","address":"4/1 San Sai, Chiang Mai, Chiang Mai, 50210","name":"Wirut Garage","longitude":99.038605,"latitude":18.843677},{"id":16,"category":"Garage","phoneNumber":"053-805900","address":" 178 Mae Hia, Mueang Chiang Mai District, Chiang Mai, 50100","name":"VN Auto Body","longitude":98.987728,"latitude":18.703818},{"id":17,"category":"Garage","phoneNumber":"053-202849","address":"14/12 Mahidol Rd., Mueang Chiang Mai District, Chiang Mai, 50100","name":"SN Body Service","longitude":98.985429,"latitude":18.767368},{"id":19,"category":"Hospital","phoneNumber":"111111111","address":"Ww, ww, Chiang Mai, 11111","name":"ww","longitude":-2.1073632846557757,"latitude":34.95633002033548}]}

System Test Case server 12 (STCs-12): The mobile application can get the nearest help place by the selected category.

Prerequisites or Test input: The test data 1 is available at Appendix B.
Description: The mobile application can get the nearest help place by the selected category in form of JSON.

Test Script:

1. Mobile application requests to get the nearest help place by the selected category

Test Cases

Case	Description	Expected Result
1	Test get the nearest help place of location (18.789643, 98.969758) and select "Hospital" category, in JSON form.	{"NearestHelpPlace":[{"id":1, "averageRate":5,"category":"Hospital", "phoneNumber":"053-947700","address":"110 Suthep Rd, Mueang Chiang Mai, Chiang Mai, 50200","name":"Maharaj Nakorn Chiang Mai Hospital","longitude":98.974209,"latitude":18.789602}]}

System Test Case server 13 (STCs-13): The mobile application can get list of help places where locate in the setting scope.

Prerequisites or Test input: The test data 1 is available at Appendix B.

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

Test Script:

1. Mobile application requests to get list of help places where locate in the setting scope.

Test Cases

Case	Description	Expected Result
1	Test get list of help places where locate in scope of 1000 meters around the location (18.789643, 98.969758), in JSON form.	{"HelpplacesInScope":[{"id":1,"averageRate":5,"category":"Hospital","phoneNumber":"053-947700","address":"110 Suthep Rd, Mueang Chiang Mai, Chiang Mai, 50200","name":"Maharaj Nakorn Chiang Mai Hospital","longitude":98.974209,"latitude":18.789602}]}

System Test Case server 14 (STCs-14): **The mobile application can retrieve the help place with new average rating score.**

Prerequisites or Test input: The test data 1 is available at Appendix B.

Description: The mobile application can retrieve the help place with new average rating score in JSON form.

Test Script:

1. Mobile application requests to retrieve the help place with new average rating score.

Test Cases

Case	Description	Expected Result
1	Test get help place of ID= 1 and give rating score = 2	{"HelpplaceNewAverageRate":[{"id":1,"averageRate":3.5,"category":"Hospital","phoneNumber":"053-947700","address":"110 Suthep Rd, Mueang Chiang Mai, Chiang Mai, 50200","name":"Maharaj Nakorn Chiang Mai Hospital","longitude":98.974209,"latitude":18.789602}]}

Appendix A

- Test Data 1

					Help Place Object					
ID	**Name**	**Address**	**District**	**Province**	**Zip code**	**Phone Number**	**Latitude**	**Longitude**	**Category**	
1	Maharaj Nakorn Chiang Mai Hospital	10 Suthep Rd	Mueang Chiang Mai	Chiang Mai	50200	053947700	18.789602	98.974209	Hospital	
2	Lanna Hospital	Chang Phuak	Mueang Chiang Mai	Chiang Mai	50300	053999758	18.812723	98.991151	Hospital	
3	Lampang Hospital	Tambon Phrabat	Amphoe Mueang Lampang	Lampang	52000	054237400	18.285378	99.506305	Hospital	
4	Chiang Rai Police Station	Rattanakeat Road	Mueang Chiang Rai	Chiang Rai	57000	053603100	19.912221	99.832526	Police Station	
5	Ruangchai Yon Garage	Outer Ring Road	Saraphi District	Chiang Mai	50000	053242999	18.750651	99.055108	Garage	

- Test Data 2

Category Object

ID	Name
1	Hospital
2	Police Station
3	Garage

- Test Data 3

Province Object

ID	Name
1	Chiang Mai
2	Chiang Rai
3	Lampang

- Test Data 4

	HelpPlace Object				
ID	**Name**	**Address**	**Phone Number**	**Latitude**	**Longitude**
1	Maharaj Nakorn Chiang Mai Hospital	110 Suthep Rd, Mueang Chiang Mai District, Chiang Mai	053947700	18.789602	98.974209
2	Lanna Hospital	Chang Phuak Amphoe Mueang Chiang Mai, Chang Wat Chiang Mai	053999758	18.812723	98.991151
3	Muang Chiang Mai Police Station	Si Phum Mueang Chiang Mai District, Chiang Mai	053276040	18.788341	98.984755
4	Chang Phueak Police Station	Mueang Chiang Mai District, Chiang Mai	053218443	18.818822	98.975520
5	Kriangkrai Konlakan Garage	7/2, See Ping Mueang Road, Tambon Chang Khlan, Amphoe Mueang, Chiang Mai	053244599	18.771195	98.983062

Appendix B

- Test Data 1

Help Place Object Category

ID	Hospital	Address	District	Province	Zip code	Phone Number	Latitude	Longitude	Category	Average Rate	Rate Count
1	Maharaj Nakorn Chiang Mai Hospital	10 Suthep Rd	Mueang Chiang Mai	Chiang Mai	50200	053947700	18.789602	98.974209	Hospital	5.0	1
2	Lanna Hospital	Chang Phuak	Mueang Chiang Mai	Chiang Mai	50300	053999758	18.812723	98.991151	Hospital	2.5	1
3	Lampang Hospital	Tambon Phrabat	Amphoe Mueang Lampang	Lampang	52000	054237400	18.285378	99.506305	Hospital	3.5	1
4	Chiang Rai Police Station	Rattanakeat Road	Mueang Chiang Rai	Chiang Rai	57000	053603100	19.912221	99.832526	Police Station	4.5	1
5	Ruangchai Yon Garage	Outer Ring Road	Saraphi District	Chiang Mai	50000	053242999	18.750651	99.055108	Garage	5.0	1

6	Changpuek Hospital	1/7 Changpuek	Mueang Chiang Mai District	Chiang Mai	50200	053-220022	18.798967	98.986944	Hospital	2.5	1
7	Chiangmai Ram Hospital	8 Boonreungrit Rd	Mueang Chiang Mai District	Chiang Mai	50200	053-920300	18.794931	98.977693	Hospital	1.5	1
8	Chiangmai Klaimor Hospital	158 Pardat	Mueang Chiang Mai District	Chiang Mai	50100	053-272788	18.760426	98.972035	Hospital	3.5	1
9	Chiang Mai Provincial Highway Police Station	Inburi-Chaingmai Rd	Muang Chiang Mai District	Chiang Mai	50000	053-242441	18.7893955	99.002148	Police Station	4.5	1
10	Chang Phuak Police Station	120/2 Chotana Rd	Mueang Chiang Mai District	Chiang Mai	50200	053-218445	18.818797	98.975552	Police Station	5.0	1
11	Chiang Mai Main Police Station	169 Ratchadamnoen Rd	Mueang Chiang Mai District	Chiang Mai	50200	053-814313	18.8083976	98.9764103	Police Station	4.5	1

12	Mae Ping Police Station	184 Moo 3	Chiang Mai-Lamphun Rd.	Chiang Mai	50200	053-275704	18.751725	99.009687	Police Station	3.5	1
13	Phu Ping Ratchaniwet Police Station	194 Moo 1, Huai Kaew Rd.	Chang Phuak	Chiang Mai	50300	053-211750	18.8061444	98.8986879	Police Station	4.0	1
14	Nakornping Workshop Garage	6 259, San Na Meng	San Sai District	Chiang Mai	50210	053-491777	18.84407	99.072494	Garage	3.0	1
15	Wirut Garage	4/1 San Sai	Chiang Mai	Chiang Mai	50210	053-396617	18.843677	99.038605	Garage	2.5	1
16	VN Auto Body	178 Mae Hia	Mueang Chiang Mai District	Chiang Mai	50100	053-805900	18.703818	98.987728	Garage	3.0	1
17	SN Body Service	14/12 Mahidol Rd	Mueang Chiang Mai District	Chiang Mai	50100	053-202849	18.767368	98.985429	Garage	5.0	1

- Test Data 2

Admin

ID	Name	Password
1	Admin	ee11cbb19052e40b07aac0ca060c23ee (user)

- Test Data 3

Help Place Object

ID	Hospital	Address	Phone Number	Latitude	Longitude	Average Rate
1	Maharaj Nakorn Chiang Mai Hospital	110 Suthep Rd, Mueang Chiang Mai, Chiang Mai, 50201	053947700	18.789602	98.974209	5.0
2	Lanna Hospital	Chang Phuak, Mueang Chiang Mai, Chiang Mai, 50300	053999758	18.812723	98.991151	2.5
3	Lampang Hospital	Tambon Phrabat, Amphoe Mueang Lampang, Lampang, 52000	054237400	18.285378	99.506305	3.5
4	Chiang Rai Police Station	Rattanakeat Road, Mueang Chiang Rai, Chiang Rai, 57000	053603100	19.912221	99.832526	4.5

5	Ruangchai Yon Garage	Outer Ring Road, Saraphi District, Chiang Mai, 50000	053242999	18.750651	99.055108	5.0
6	Changpuek Hospital	1/7 Changpuek, Mueang Chiang Mai District, Chiang Mai, 50200	053-220022	18.798967	98.986944	2.5
7	Chiangmai Ram Hospital	8 Boonreungrit Rd., Mueang Chiang Mai District, Chiang Mai, 50200	053–920300	18.794931	98.977693	1.5
8	Chiangmai Klaimor Hospital	158 Pardat, Mueang Chiang Mai District, Chiang Mai, 50100	053-272788	18.760426	98.972035	3.5
9	Chiang Mai Provincial Highway Police Station	Inburi-Chaingmai Rd., Muang Chiang Mai District, Chiang Mai, 50000	053-242441	18.7893955	99.002148	4.5
10	Chang Phuak Police Station	120/2 Chotana Rd., Mueang Chiang Mai District, Chiang Mai, 50200	053-218445	18.818797	98.975552	5.0
11	Chiang Mai Main Police Station	169 Ratchadamnoen Rd., Mueang Chiang Mai District, Chiang Mai, 50200	053-814313	18.8083976	98.9764103	4.5
12	Mae Ping Police Station	184 Moo 3, Chiang Mai-Lamphun Rd., Mueang Chiang Mai, Chiang Mai, 50200	053-275704	18.751725	99.009687	3.5
13	Phu Ping Ratchaniwet Police Station	194 Moo 1, Huai Kaew Rd., Chang Phuak, Chiang Mai, 50300	053-211750	18.8061444	98.8986879	4.0

14	Nakornping Workshop Garage	6/259, San Na Meng, San Sai District, Chiang Mai, 50210	053-491777	18.84407	99.072494	3.0
15	Wirut Garage	4/1 San Sai, Chiang Mai, Chiang Mai, 50210	053-396617	18.843677	99.038605	2.5
16	VN Auto Body	178 Mae Hia, Mueang Chiang Mai District, Chiang Mai, 50100	053-805900	18.703818	98.987728	3.0
17	SN Body Service	14/12 Mahidol Rd., Mueang Chiang Mai District, Chiang Mai, 50100	053-202849	18.767368	98.985429	5.0