**SOFTWARE REQUIREMENTS SPECIFICATION**

**PROJECT: [Optimal Website Services Discovery for Visitors of Makkah (OSD)]**



**Document Control**

|  |  |  |  |
| --- | --- | --- | --- |
| Document ID | Version | Author/Editor | Date |
| OSD\_1 | 1.0 | - Bashair Soliman AL-Joudi  - Afnan Ali Almatrafi. | 23/4/2016 |
| OSD\_2 | 1.2 | - Bashair Soliman AL-Joudi  - Afnan Ali Almatrafi. | 28/4/2016 |
| OSD\_3 | 1.3 | - Bashair Soliman AL-Joudi  - Afnan Ali Almatrafi. | 1/5/2016 |
| OSD\_4 | 1.4 | - Bashair Soliman AL-Joudi  - Afnan Ali Almatrafi. | 4/5/2016 |

**TABLE OF CONTENTS**

[1. Description 4](#_Toc342728864)

[1.1. Business perspective 4](#_Toc342728865)

[1.2. Business Product/Service functions 4](#_Toc342728866)

[1.3. User classes and characteristics 4](#_Toc342728867)

[2. System Functions 5](#_Toc342728868)

[2.1. System function 1 5](#_Toc342728869)

[2.1.1. Identifier 5](#_Toc342728870)

[2.1.2. Description and priority 5](#_Toc342728871)

[2.1.3. Action/result 5](#_Toc342728872)

[2.1.4. Functional requirements 5](#_Toc342728873)

[3. Nonfunctional Requirements 7](#_Toc342728874)

[3.1. Performance requirements 7](#_Toc342728875)

[3.2. Safety requirements 7](#_Toc342728876)

[3.3. Security requirements 7](#_Toc342728877)

[3.4. Software quality attributes 7](#_Toc342728878)

[3.5. Other Operational requirements 8](#_Toc342728879)

# Description

## Business perspective

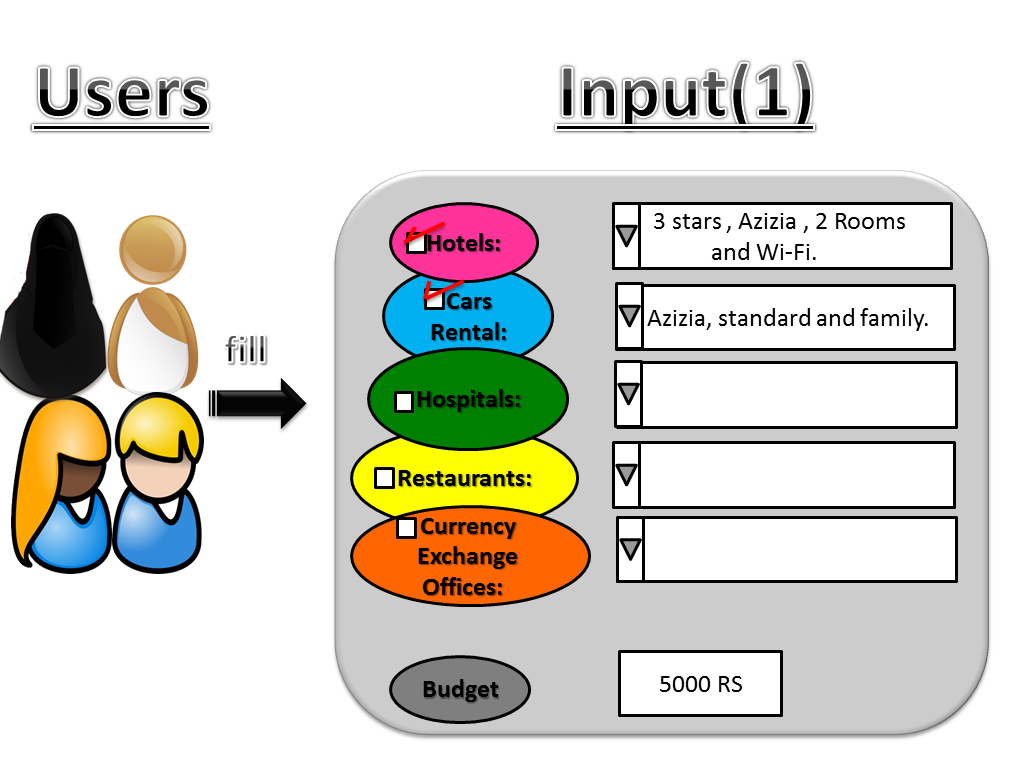
 Our website helps people find necessary visitor services including hotel, car rental, hospital, restaurant and currency exchange office in Makkah using one website, saving visitors time and effort. There are many websites that can help visitors get the information they want, but as these websites focus on individual services (e.g. Hotel) like booking website and Budget website specializing in Car Rental and so on.

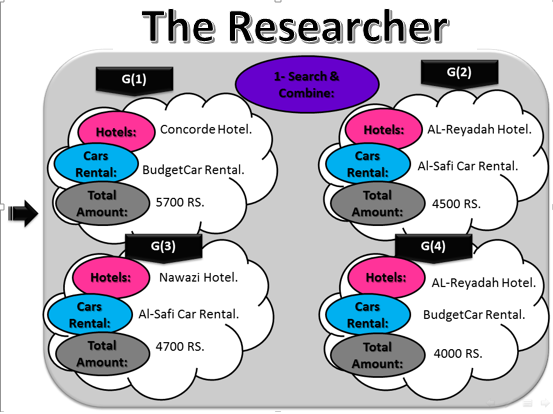
## Business Product/Service functions

Our goal is to create a website that gives the visitors the best**1[[1]](#footnote-1)**combinationof services. We will use the mathematical method that obtains the visitors' requirements and gives them the best combination of required services in less time and effort.

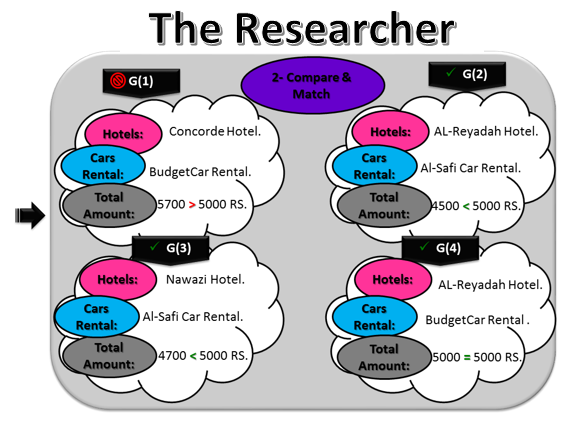
The novelty in our idea is to get a collection of services that will be searched in reduced time. Additionally, we will provide users with extra information about services in the region as well, such as which one is the nearest the hotel, restaurant, ATM, hospital and so on.

**Sketch describe the System Work (Simple Example):**

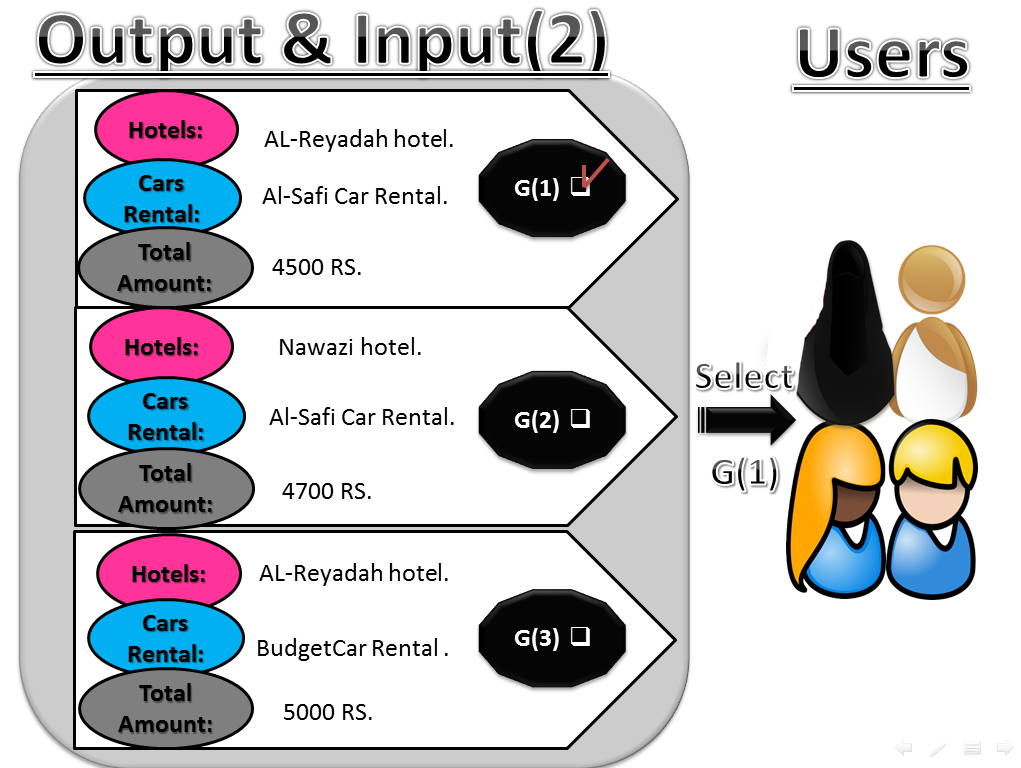
**Screen (1):** User fill specifications and budget in the form.

**Screen (2):** Shows how the researcher works step (1): search & combine.

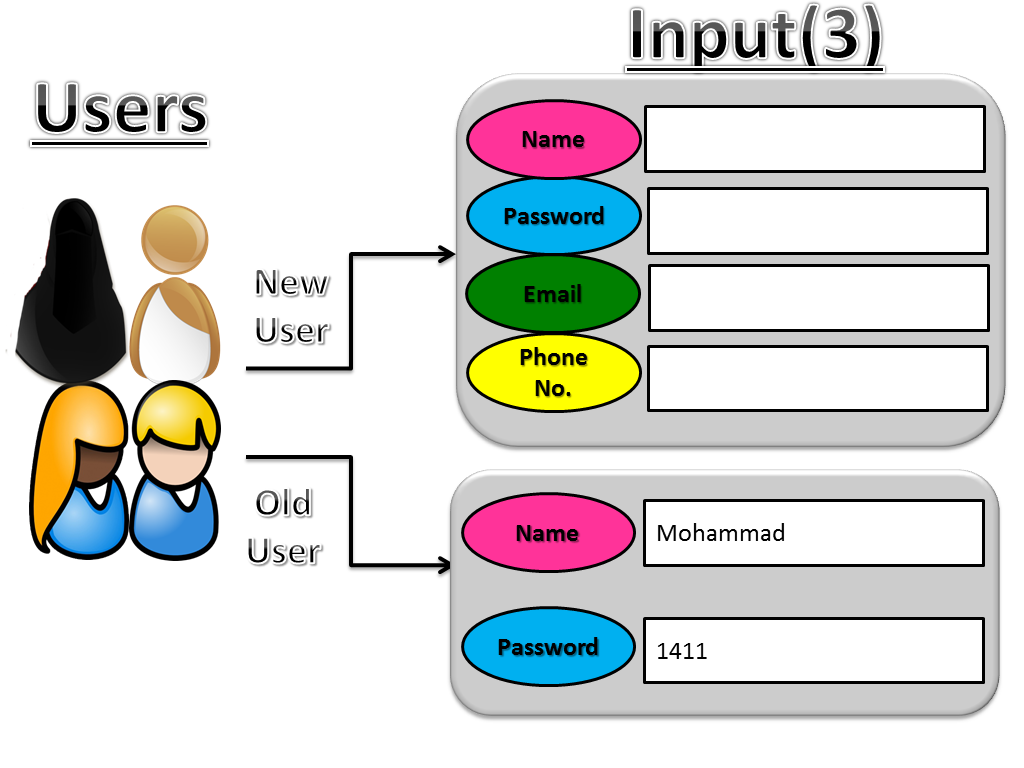
**Screen (3) :** Shows how the researcher works step (2) : compare & match the total amount with user budget.

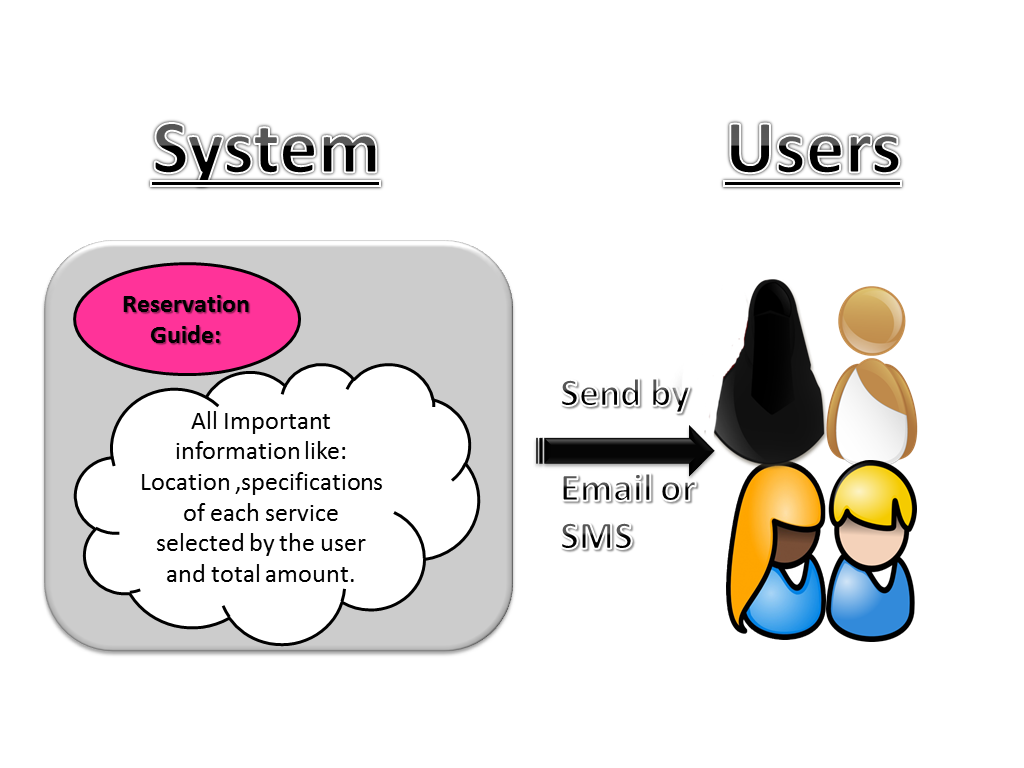
****

**Screen (4):** User select one group from their 3 groups.

****

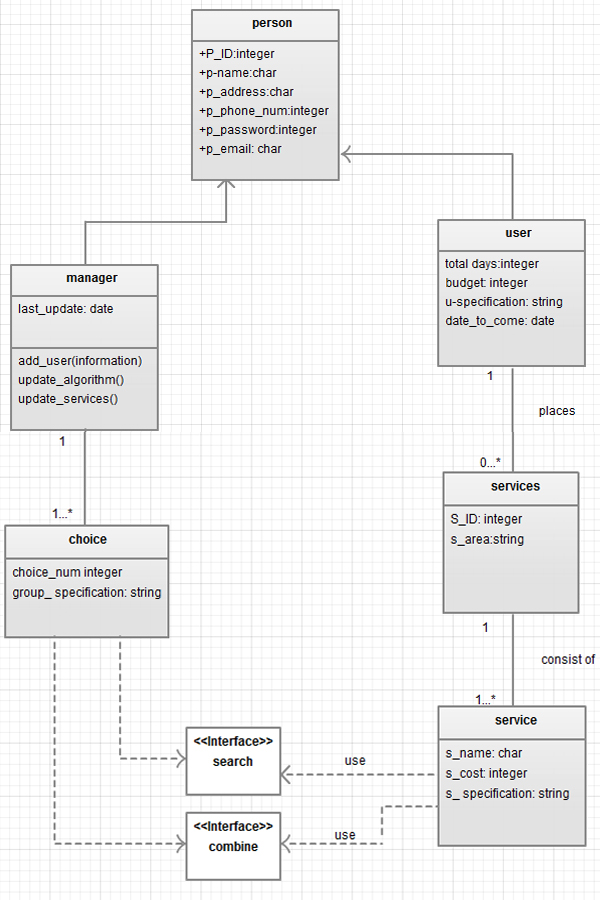
**Screen (5):** User registers their information if new user or login if old user .

****

**Screen (6):** In the end the system send to user reservation guide by email or SMS.

## User classes and characteristics

**System user diagram**



**Web master**

**USE CASE DESCRIPTION:**

**Brief Description for Each Use Case:**

1. **User Specifications:**

When the user open the website, the user needs to fill the form that has one field for each service (user need to choose at least two services) and one field for the budget. Then takes these required specifications and saves them for reservation purpose.

On the web master side, the web master can change the services form because there may be times where we need to add or change services attributes.

1. **Researcher:**

When the system sends the user specifications to the algorithm, the algorithm starts a search for each service individually to find the three or four best combinations of services depending on user specifications. The algorithm then saves these groups of services before displaying them to the user.

The web master can update some parts of the algorithm to improve the work of the algorithm.

When a user chooses one group of services, the system will save the user’s choice and display the total cost of this group to the user.

1. **User Choice:**

When user choose one group of services then the system will save the user choice and display the total amount of this group to the user.

1. **Register Operation:**

When the system takes the user’s consent, the system then asks the user to enter their information if this is the first time s/he has used our system. Otherwise, users may update their information.

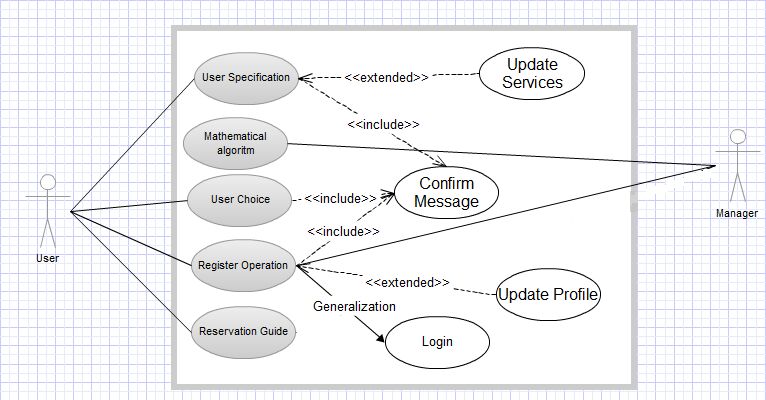
The webmaster can update the database when needed.

1. **Reservation Guide:**

When saving the user information finished by the system, the system sends a reserve guide for each service to the user via email or SMS.

USE CASE DIAGRAM:

Identify external and internal factors that affect the system such as the user and web master, used to collect system requirements (researcher, register operation).



# System Functions

## User Specifications

### Identifier

*REQ\_FUNC\_1.0.*

### Description and priority

When the user open the website, the system takes the required specifications from the user and saves them. On the web master side, the web master can change the services form. This function conducted as high priority feature.

### Action/result

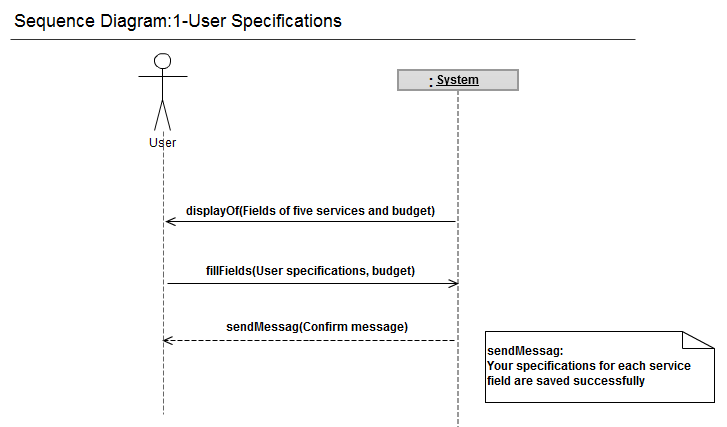
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Source | Use Case | Response | Destination |
| Open the website | User | User specifications | 1-Take the required specifications from user  2- Save these specifications | System  Web master |

### Functional requirements

REQ\_FUNC\_1.1. : When the user open the website, the user shall be able to fill the form that has one field for each service (user need to choose at least two services) and one field for the budget.

REQ\_FUNC\_1.2. :The system shall be able to take the required user specifications and saves them.

REQ\_FUNC\_1.3. :The web master shall be able to change the services form because there may be times where we need to add or change services attributes.



## Researcher

### Identifier

*REQ\_FUNC\_2.0.*

### Description and priority

System receives user specifications and apply some sort of algorithm to find three or four best combinations of services depending on user specifications. This function conducted as high priority function.

### Action/result

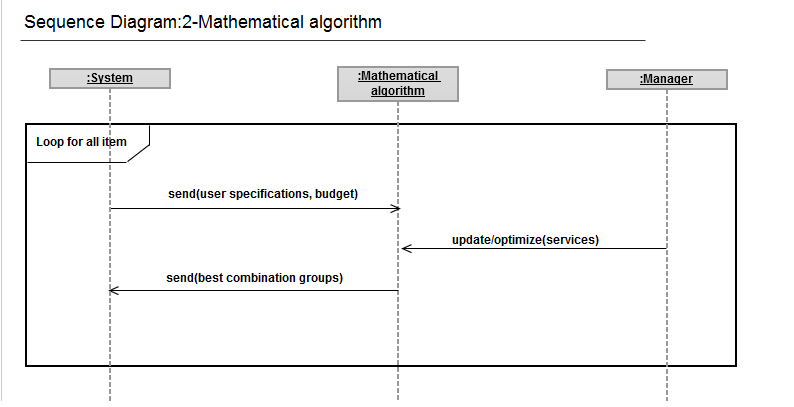
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Source | Use Case | Response | Destination |
| Send the user  specifications | System | Researcher | 1-Start search about each service  2- Save result of all best group combination services  3- Give the user the best combination of services | User  Web master |

### Functional requirements

REQ\_FUNC\_2.1. : When the system sends the user specifications to the algorithm, the algorithm shall be able to start a search for each service individually to find the three or four best combinations of services depending on user specifications.

REQ\_FUNC\_2.2. : The algorithm shall be able to saves these groups of services before displaying them to the user.

REQ\_FUNC\_2.3. :The web master shall be able to update some parts of the algorithm to improve the work of the algorithm.



## User Choice

### Identifier

*REQ\_FUNC\_3.0.*

### Description and priority

When user choose one group of services then the system will save the user choice and display the total amount of this group to the user. This function conducted as high priority function.

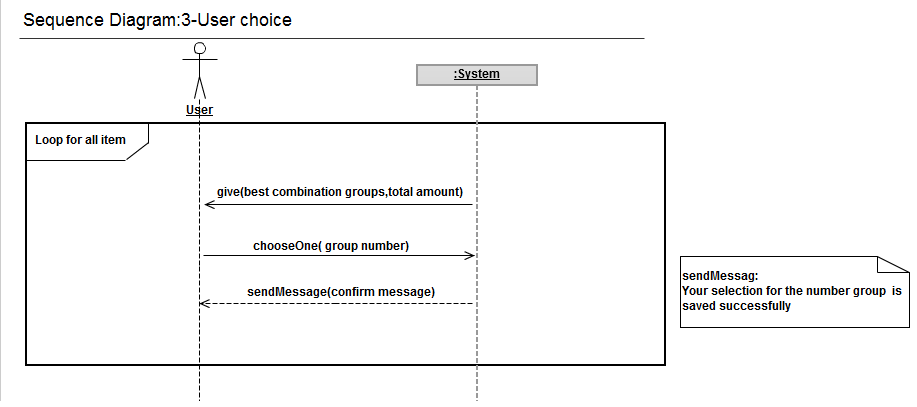
### Action/result

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Source | Use Case | Response | Destination |
| User chooses one group of services | User | User choice | 1-Save the user choice  2-Display the total amount of this group | System |

### Functional requirements

REQ\_FUNC\_3.1. :The user shall be able to choose one group of services offered by the system.

REQ\_FUNC\_3.2. : The system shall be able to save the user’s choice and display the total cost of this group to the user.



## Register Operation

### Identifier

*REQ\_FUNC\_4.0.*

### Description and priority

When the system takes the user’s consent, the system then asks the user for their information or update them if already registered. This function conducted as medium priority function.

### Action/result

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Source | Use Case | Response | Destination |
| Ask the user to enter their information if this is the first time s/he has used our system,  or update their information | System | Register  Operation | 1-Take the user’s information  2-Save the user’s information  with the choice | User  Web master |

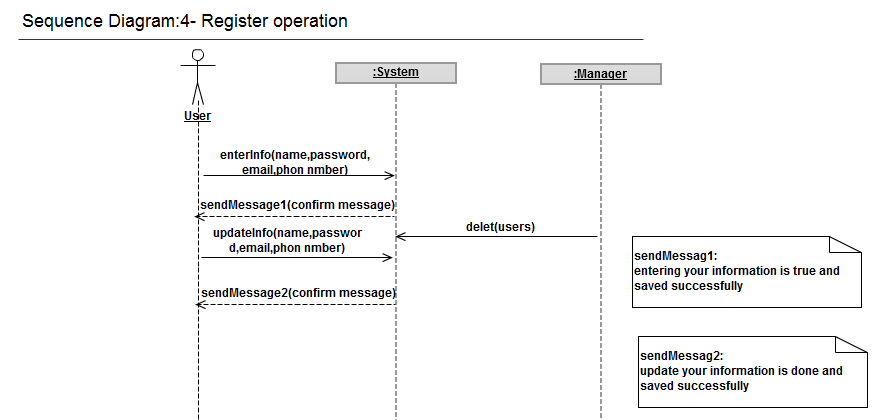
### Functional requirements

REQ\_FUNC\_4.1. :The user shall be able to take the user information if it is the first time s/he has used the system.

REQ\_FUNC\_4.2. : The user shall be able to update the user information if s/he has used the system.

REQ\_FUNC\_4.3. : The web master shall be able to *update the database when needed.*

.



## Reservation Guide

### Identifier

*REQ\_FUNC\_5.0.*

### Description and priority

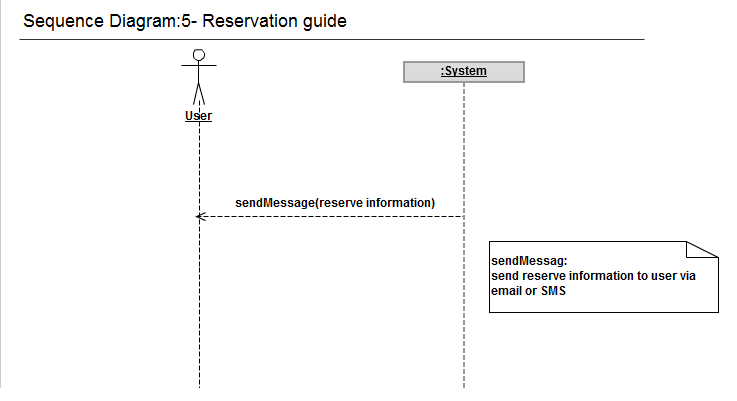
When saving the user information finished by the system, the system sends a reserve information to the user.This function conducted as medium priority function.

### Action/result

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Event | Source | Use Case | Response | Destination |
| Give the Reserve information to the user | System | Reservation guide | Send reserve information to the user | User |

### Functional requirements

REQ\_FUNC\_5.1. : The system sends a reserve guide for each service to the user via email or SMS.

****

# Nonfunctional Requirements

***REQ\_NonFUNC\_1.0. Performance requirements***

**- Time**: A short response time will complete users’ requirements and give them the best solution.

- **Quality**: We will fulfill user requests completely if able, or we will suggest the closest services available for them. Therefore, the user will be satisfied with our services.

***REQ\_NonFUNC\_2.0. Safety requirements***

**- Availability:**Website should be available 24/7 per week.

- Reliability:

* Website information shall be up-to-date.
* User shall be able to get the best combination of services, criteria(budget, maximum services, quality of services based on previous ratings).

***REQ\_NonFUNC\_3.0. Security requirements***

* Users information shall be secure safe from spyware or theft.
* We will provide integrity by not allowing anyone to modify the information and only allowing the user modification access.
* User history only accessible by authorized user.

## REQ\_NonFUNC\_4.0. Software quality attributes

- Maintainability:

* Add new services. Web pages should be built automatically according to information about services available from database in such a way that if a service is added the UI code is not affected.
* Meet new requirement Make future maintenance easier in such way that it will be easy to meet new requirement and cope with a changed environment.
* Website needs to be updated frequently, about every three or four months.

- Portability:

* Website should have mobile version in addition to desktop version.
* Website should work on Mozilla Firefox and Google Chrome in addition to Safari.

## REQ\_NonFUNC\_5.0. Other Operational requirements

**- Database:**The database should be very extensive because different information is stored in the database, such as:

* User information, including name, email, etc.
* Information about the services and most common companies that offer the best services, including name, type of service, the cost of the service, etc.

1. search in our database and match the same criteria (e.g. rating in the hotel )that the user selected in each services and in budget limit and in the same region that his want, if not found exactly the same ,then we try to find the nearest region for the region selected by the user or find the criteria less than criteria that selected by the user. [↑](#footnote-ref-1)