**SOFTWARE REQUIREMENTS SPECIFICATION**

**PROJECT: [Optimal 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 Al-matrafi | 14\4\2016 |
| OSD\_2 | 2.0 | - Bashair Soliman Al-joudi  - Afnan Ali Al-matrafi | 23\4\2016 |
| OSD\_3 | 3.0 | - Bashair Soliman Al-joudi  - Afnan Ali Al-matrafi | 1\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)

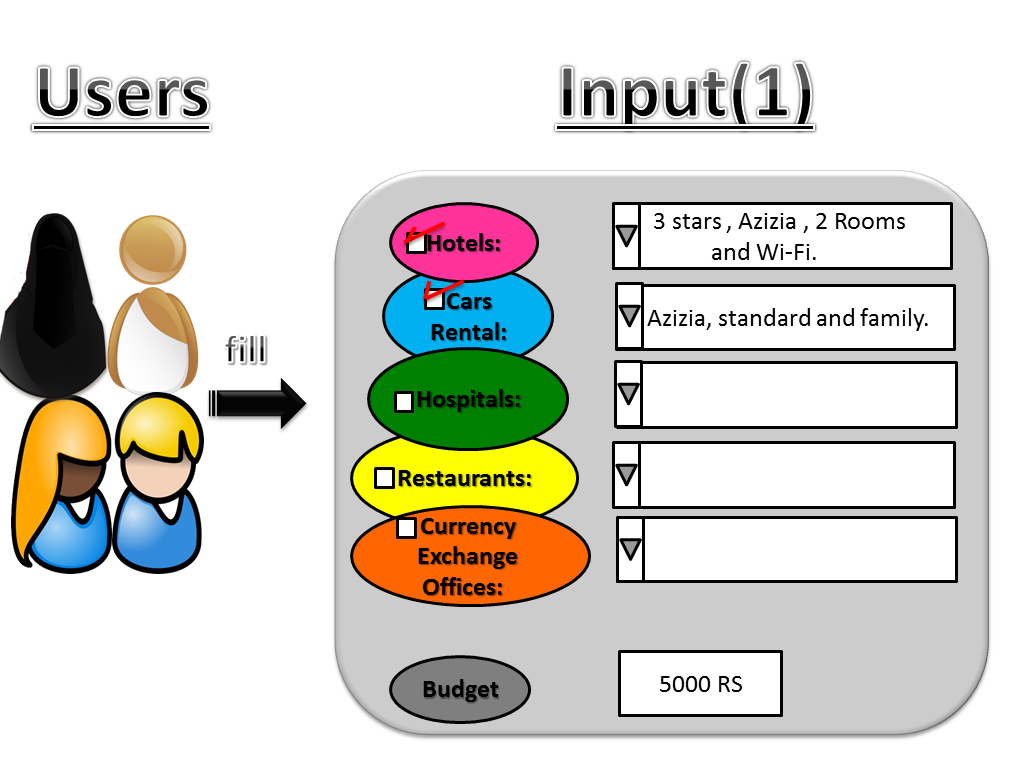
[3.5. Other Operational requirements 8](#_Toc342728879)

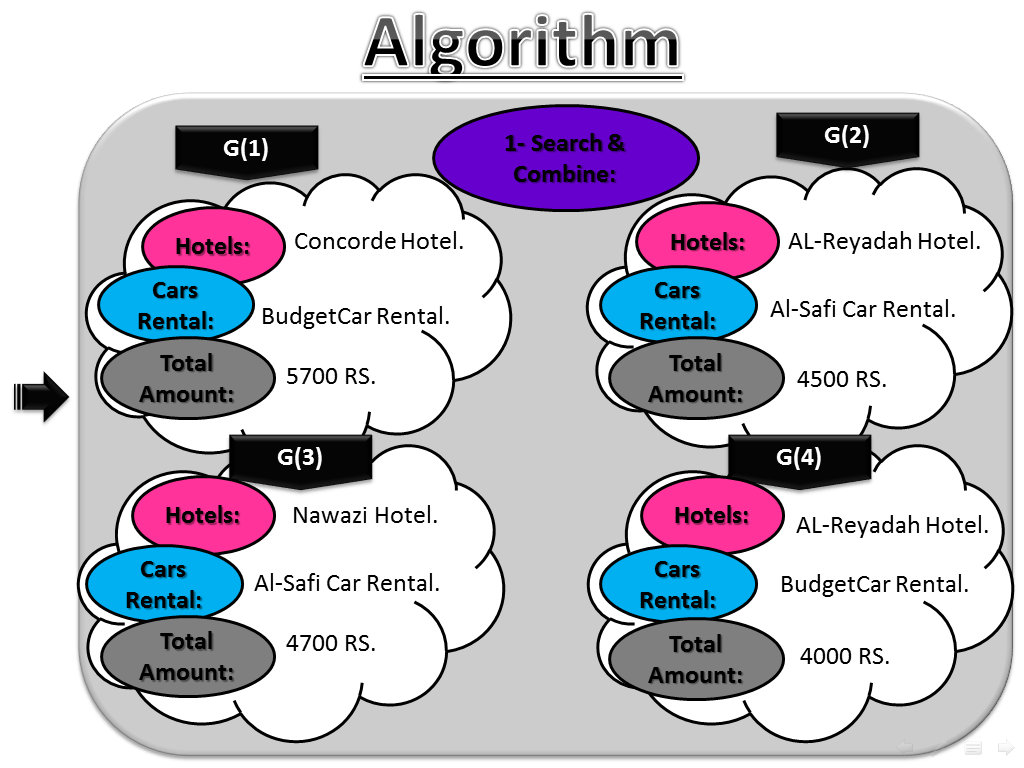
# Description

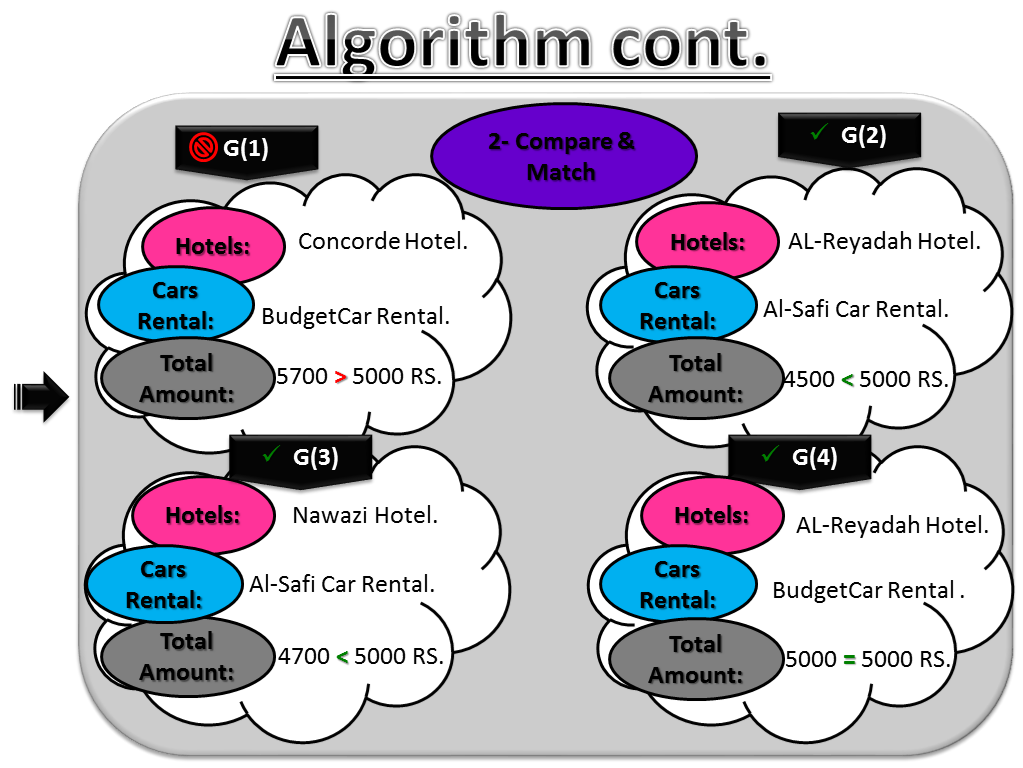
## Business perspective

Our project helps people find necessary visitor services including hotels and car rentals in Makkah using one system, saving visitors time and effort. This gives visitors greater opportunity to enjoy their experience visiting Makkah and explore more of the city and its offerings. There are many websites that can help visitors get the information they want, but as these system focus on individual services (hotel, car rental, hospital, restaurant and currency exchange office) likeBooking website, searching for these services becomes time-consuming and wastes visitors’ time. To solve this problem and meet visitors’ needs, we will provide one system for visitors to find every service needed.

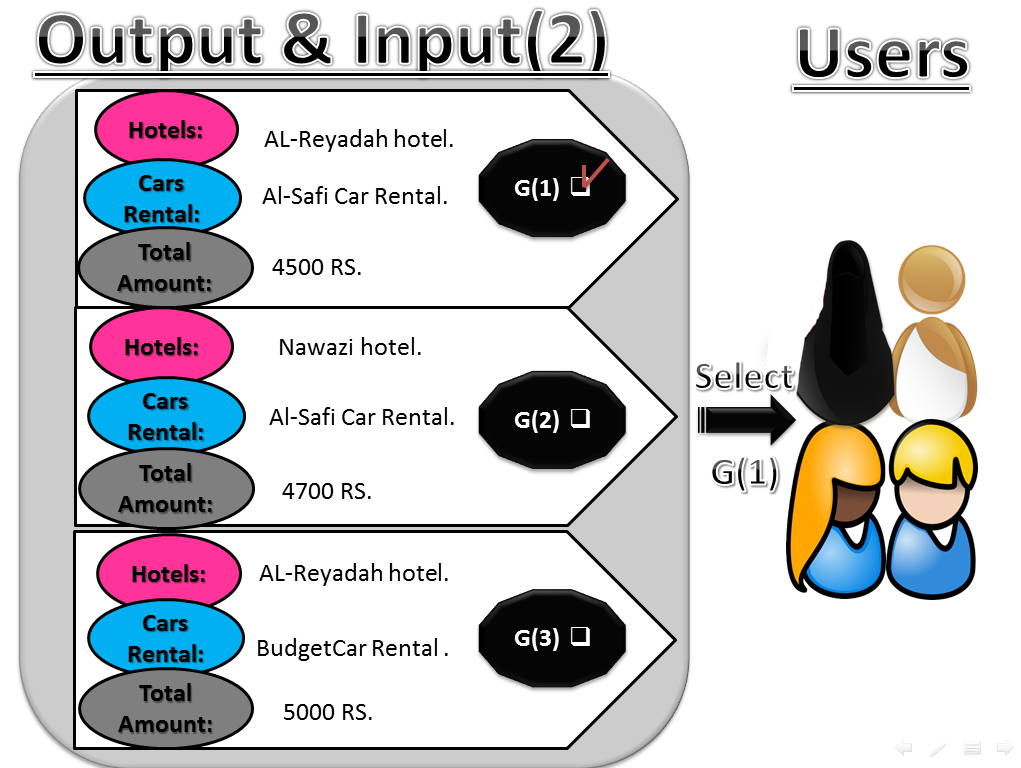
**Sketch describe the System Work (Simple Example):**

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

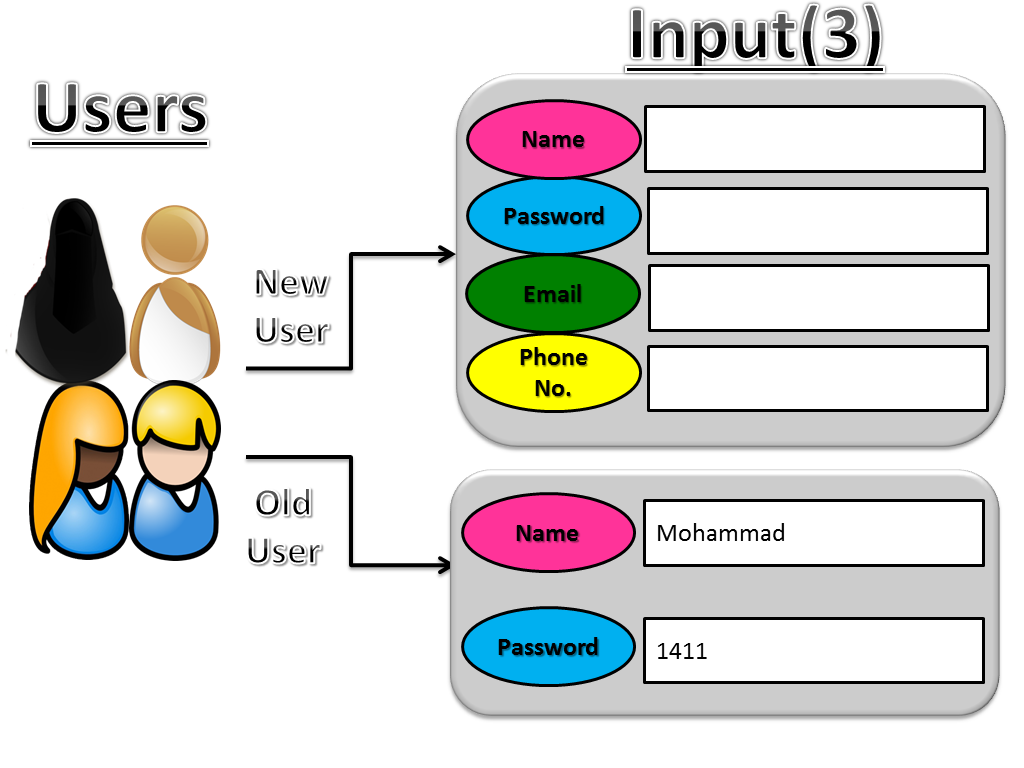
**Screen (2):** Shows how the algorithm works step (1) : search & combine.

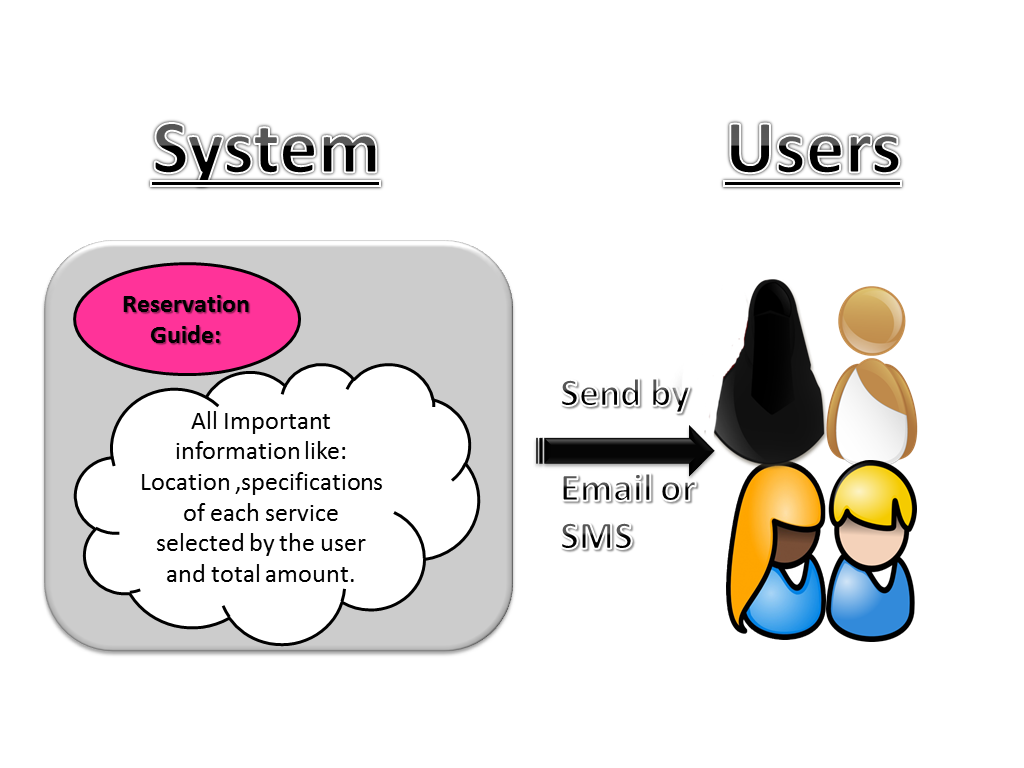
**Screen (3) :** Shows how the algorithm works step (2) : compare & match the total amount with user budget.

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

****

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

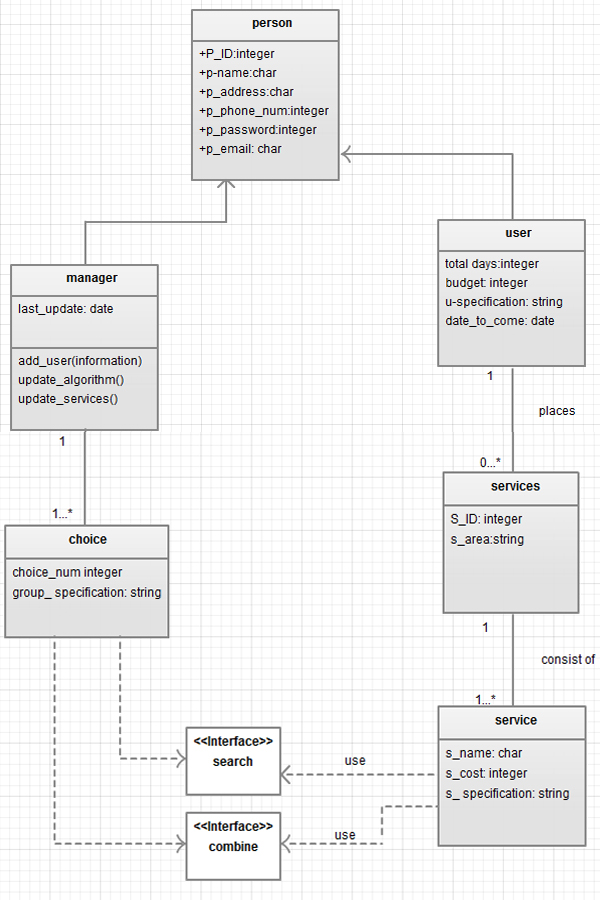
****

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

## Business Product/Service functions

Our goal is to create a system that gives the visitors the best combination of services. We will use the mathematical method to create a new algorithm that obtains the visitors' requirements and gives them the best combination of required services.

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.

**Class diagram**

## User classes and characteristics

**USE CASE DESCRIPTION:**

**Brief Description for Each Use Case:**

1. **User Specifications:**

When the user installs the system correctly and runs it, 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 the system takes these required specifications and saves them.

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

1. **Mathematical Algorithm:**

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 manager 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.

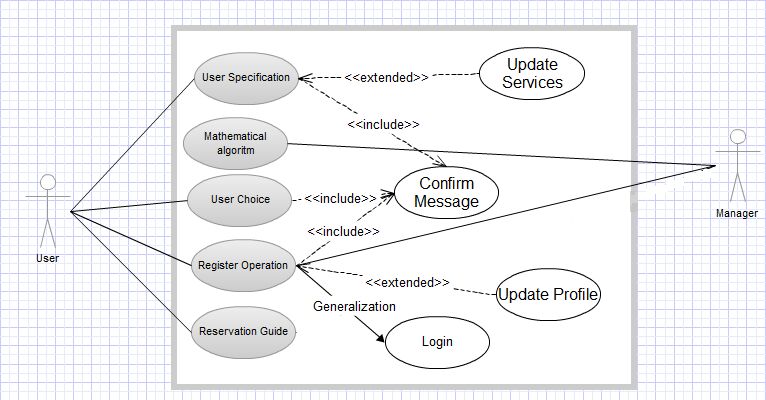
The manager can update the database when needed.

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 manager, used to collect system requirements (a mathematical algorithm, register operation).



# System Functions

## User Specifications ( High priority )

### Identifier

*REQ\_FUNC\_1.0.*

### Description

When the user installs the system correctly and runs it, the system takes the required specifications from the user and saves them. On the manager side, the manager can change the services form.

### D:\my secret document '__'\مستندات بيشو\المستوى التاسع\Qraduation project\المرحله 2\final report\اخر الملفات\الرسمات\s1.pngAction/result

### Functional requirements

REQ\_FUNC\_1.1. : When the user installs the system correctly and runs it, 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 manager shall be able to change the services form because there may be times where we need to add or change services attributes.

## MathematicalAlgorithm ( High priority )

### 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.

### D:\my secret document '__'\مستندات بيشو\المستوى التاسع\Qraduation project\المرحله 2\final report\اخر الملفات\الرسمات\s2.pngAction/result

### 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 manager shall be able to update some parts of the algorithm to improve the work of the algorithm.

## User Choice ( High priority )

### Identifier

*REQ\_FUNC\_3.0.*

### Description

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.

### D:\my secret document '__'\مستندات بيشو\المستوى التاسع\Qraduation project\المرحله 2\final report\اخر الملفات\الرسمات\s3.pngAction/result

### Functional requirements

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

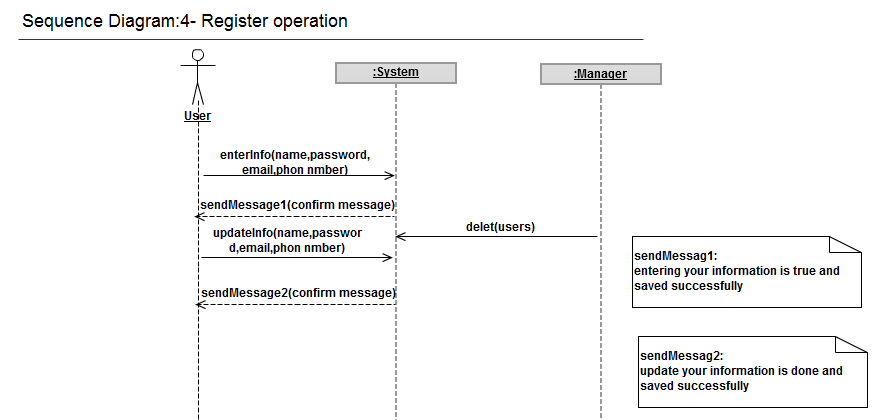
REQ\_FUNC\_3.2. : The system shall be able to save the user’s choice and display the total cost of this group to the user.

## Register Operation ( Medium priority )

### Identifier

*REQ\_FUNC\_4.0.*

### Description

When the system takes the user’s consent,the system then asks the user for their information or update them if already registered.

### Action/result

### 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 manager shall be able to *update the database when needed.*

.

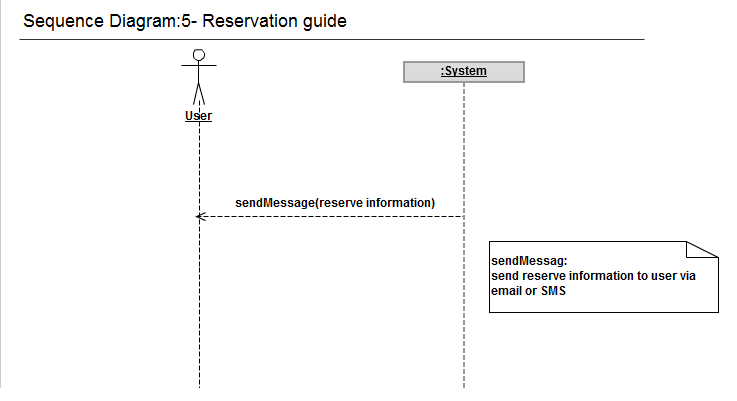
## Reservation Guide (Medium priority )

### Identifier

*REQ\_FUNC\_5.0.*

### Description

When saving the user information finished by the system, the system sends a reserve information to the user.



### Action/result

### 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. 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.