

Software requirement specification

Hotel Management System for Grand Opera Hotel

System Analysis and Design - IS 21217

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1 Introduction

1.1 Purpose

The purpose of this document is to build Hotel Management Software package for Grand opera hotel. This SRS will be used by the Software development team which is constructing the HMS and the hotel end users. The project team will use this SRS to fully understand the expectation of Hotel Management Software to construct the appropriate software. The hotel end users will be able to use this SRS to check whether constructing team will be constructing the system to their expectation.

1.2 Document Convention

This document is prepared using TeXstudio 2.12.16 and has used the font type "CMR 10". The fixed font size that has been used to type this document is 10pt with 1.15 line spacing. It has used the Bold property to set the headings with font type "CMBX12" and font size 12pt of the document. User Interfaces have been created using Pencil, Ink. Data flow diagrams have been created using DrawExpress Lite Mobile App.

1.3 Intended Audience and Reading Suggestions

The intended audience of this document would be owner Mr W.J.M.S.Perera and specific employees like Manager Mr W.J.M.Malidu Ishan, Receptionist Miss J.M.Taniya Jayasinghe of Grand Opera Hotel, and the project team with the object to refer and analysis the information. This SRS document can be used in any case regarding the requirement of project and the solutions that has been taken.

This document provides the briefly outline about the

1. Overall Description
2. System Features
3. External Interface requirement
4. Non functional requirements

1.4 Project Scope

By introducing the Hotel management system which is going to be implemented for Grand oprera hotel will automate the major hotel operations. We divided the whole system into five subsystems.

1. Reservation System

The Reservation system is to keep track in Rooms, Banquet halls, Restaurant tables, Swimming pool and Car park facilities and allow to check availability and make appointments.

2. Room management System

The Room Management system is for manage all room types room services. The Grand opera Hotel has six air conditioned double rooms with free wi-fi, three Standard Double Rooms with fans and a deluxe double room with air conditioned and free wi-fi.

3. Banquet hall management system

Banquet hall management system is for manage the Banquet halls according to the number of guests and customers interested. Grand Opera hotel has two Banquet hall which ground floor has facilitated for 150- 250 guests and first floor for 250-450 guests.

4. Restaurant and Bar management system

This subsystem helps to manage and operate the restaurant and bar. Restaurant of the grand opera hotel has 15 tables each table is arranged for 5 customers.

5. Inventory management system

This Subsystem will keep track in all inventories of the hotel and guests details will be handled by the management. At the sometimes this subsystem allows management to add, modify and delete information on rooms and rates and food menu items and prices.

1.5 References

1. <https://opus.govst.edu/cgi/viewcontent.cgi?article=1199&context=capstones>
2. https://www.academia.edu/10313728/srs_document_for_hotel_management_system
3. http://docshare.tips/srs-for-hotel-management-system_5775a857b6d87fbb328b4929.html
4. <http://www.buzzle.com/articles/hotel-receptionist-duties.html>
5. <https://www.bartleby.com>
6. IanSommerville, Software Engineering 8th edition. Pearson education,2008.

2 Overall Description

2.1 Product Perspective

The Hotel Management System is a new self-contained software which is produced for overcome the problems that have occurred from the current manual system. The newly introduced system will provide easy access to the system by user friendly functions and attractive interfaces. The System will provide better options for the problems such as handling large scale of physical file system, errors in calculations and all other required tasks that has been specified by the client. The final outcome of this project will make running the business more efficiently and ultimately more profitable.

2.2 Product Functions

1. Master Entry

- (a) Hotel : Add/Delete/update/Save/ Get Data of Hotel information
- (b) Room types: Add/update/Delete/Save and get Rooms types
- (c) Room List: Add/Delete/Save/Get Data about Rooms
- (d) Suppliers : Add/Update/Delete/Save/Get Data about all suppliers
- (e) Guests: Add/Update/Delete/Save/get data/ and print about the Guest Details
- (f) Extra Beds : Add/Update/Delete/Save/Get data about List of extra Beds charges
- (g) Extra Persons : Add/Update/Delete/Save/Get Data about List of extra person charges
- (h) Swimming Pool: Add/Update/Delete/Save/GET Data about the pool use
- (i) Banquet Halls : Add/ Update/ Delete/ Save/Get Data about Banquet hall facilities
- (j) Buffet Menu Charges: Add/Update/Delete/Save/get data about list of buffet menus and charges
- (k) Food Category: Add/ Update/Delete/Save/Get Data about Restaurant food category
- (l) Restaurant Food Items : Add/Update/Delete/Save/Get Data about the food items related to food categories
- (m) Liquor categories : Add/Update/Delete/Save/Get Data about list of liquor categories
- (n) List of liquor quantities: Add/Update/Delete/Save/Get Data about List of Liquor Quantities
- (o) Liquor prices: Add/Update/Delete/Save/Get Data about liquor prices
- (p) Liquor master: Add/Update/Delete/Save/Get Data liquor name related to the category (q) Table master: Activate/Deactivate the tables for reservations (r) Kitchen/section master:

2. Point of Sales

- (a) Restaurant Billing : Save and Print the Bills for Restaurant
- (b) Bar Billing : Save and Print the Bills for Bar
- (c) Weddings and Events Billing : Save and print the bill for Weddings and Other Events
- (d) Pool billing : Save and print the bills for pool using
- (e) Restaurant Report: View for the Reports of Restaurant in specific Time periods.

3. Accounting

(f) Reservation :

- i. Rooms: Make Reservations/ Cancel Reservations for rooms
- ii. Banquet halls: Make appointment/ Cancel appointment for weddings and other events to discuss with hotel manager
- iii. Pool : Make Reservation/ Cancel Reservation to fully booking the Swimming pool

(b) Purchase Entry

- i. Restaurant: Add/Delete/Update/Save raw materials for kitchen ii. Banquet Halls: Add/Delete/Update/Save the things and prices of outsourcing iii. Rooms: Add/Delete/Update/Save the things and prices of outsourcing

4. Reports:

Provide the relevant reports about the followings;

- (a) Rooms
- (b) Food menu items
- (c) Liquor menu items
- (d) Liquor stock-in
- (e) Liquor stock-out
- (f) Guest profiles and Account Ledger
- (g) Purchased Inventory
- (h) Banquet hall reservations
- (i) Rooms Reservations
- (j) Check-in
- (k) Check-out
- (l) Room services
- (m) Restaurant Billing
- (n) Room service Bills (o) Hall reservation invoice

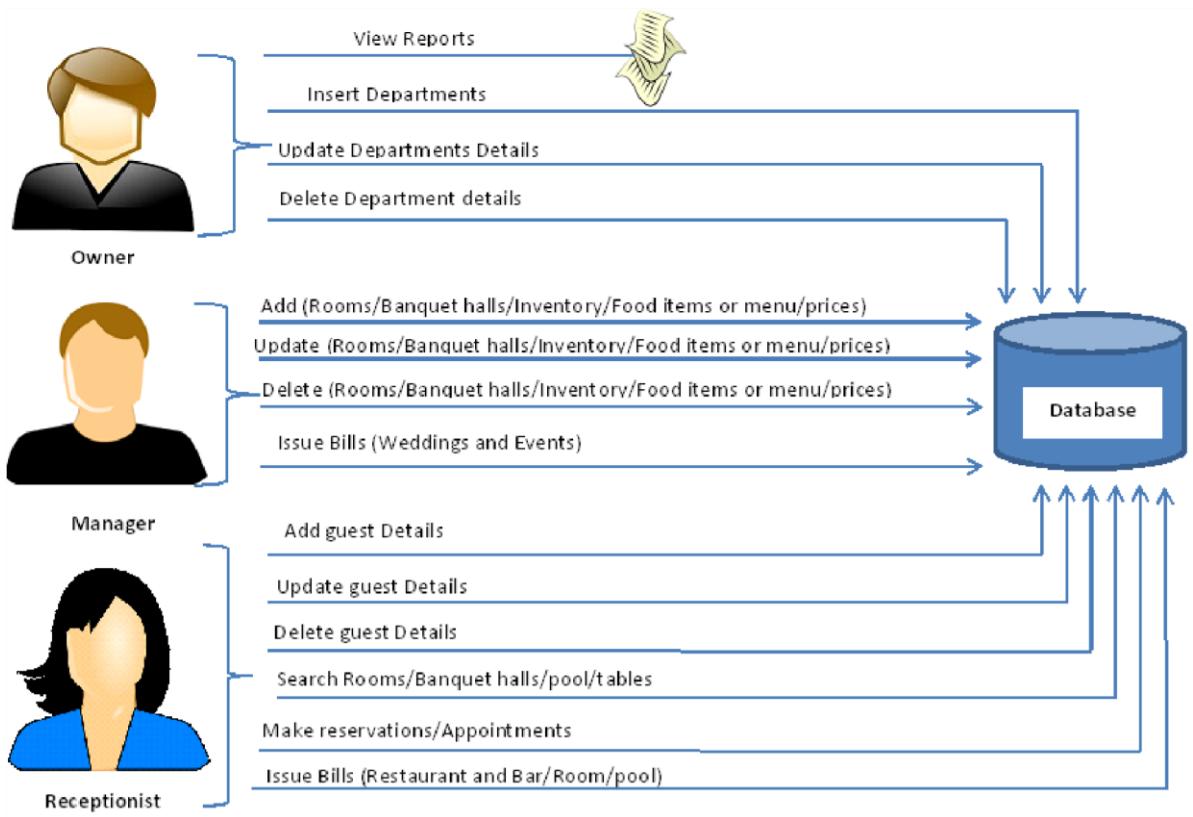
5. User Utilities:

- (a) Registration : Add/Update/Delete/Save List of registered users.
- (b) Change passwords: Update the current password
- (c) Logs: View the all previous user login with date and time
- (d) User contact: Add/Update/Delete Users Contact Details
- (e) SQL Server Setting
- (f) E-mail setting
- (g) Printer Settings

6. About : display the Information about Hotel management system

7. check availability : Check available rooms and Banquet halls for given date

8. Current Check-in : Display rooms current check-in/Update the Room services charge



9. Log-out : to log-out the own user account

10. Database – (a) Backup (b) Restore

2.3 User Classes and Characteristics

2.3.1 User Classes

There are three user levels in Hotel Management system of Grand Opera hotel. They are;

- Owner
- Manager
- Receptionist

2.3.2 Characteristics of user Classes

1. Owner

Hotel Owner has the privilege of Monitoring and authorization of the the tasks handle by the system. He can access all functions of the system. Taking backups and restoring the system can also be done by the owner. Meanwhile he will be able to view all kind of reports available in the system. He has power to set rooms rates. Hotel owner has the sole right of block the users who can log into the system.

2. Manager

Manager is the person who is responsible for managing resources available in hotel management system. Manager has most privileges mentioned above 'Master Entry' expect the guest handling.

He is the person who is responsible for the all weddings and event handling. As well as he has to handle the payments of it. Manager has to authority to take all reports available in the systems expect the reports related to finance.

3. Receptionist

As a hotel receptionist, her role will be to attain the goal of booking and ensure that all the guests are treated with a high standard of customer service. Hierarchically she has least accessibility to the system. She can perform limited functions such as registering the new guest to the system ,check rooms and banquet hall availability, make reservation, make appointments, sends e-mail reminders to clients for booking confirmation, issue Restaurant bills, Bar Bills, and Room services bills. Management of the hotel will prefer to hire receptionist who have good in subjects like English, Mathematics and IT.

2.4 Operating Environment

Hardware and software requirements **Hardware:-**

1. **Operating system** Support all Known operating system.(Windows, Linux)
2. **Computer** 512MB + RAM, Monitor with minimum resolution of 1024×768 , Keyboard and mouse
3. **Hard Drive** should be in NTFS file-system formatted with minimum 10GB of free space.
4. Windows compatible printer (Laser printer)

Software:-

1. Software is designed to run on windows 7,8,8.1 or 10
2. Microsoft.NET Frameworks 4.0 or above
3. Microsoft SQL Server Management Studio Express 2010.

2.5 Design and Implementation constraints

Software development team provides their best effort in developing the system. But some design and implementation constraints are applied on the system. System will need a minimum memory of 512MB, but it is highly recommended to have a 1GB memory. New tools such as Dev Express can be used to designing the interfaces of system, but when considering the clients budget we have to use the affordable technologies.

2.6 Assumptions and Dependencies

- We assume that client won't change that requirement on the next phrases of the software development.
- We assume our client is using at least windows 7
- Some software will be high cost which have to use in implementing the system and the client has agreed to the amount of money needed to purchase them.
- staff and pay roll management system is not included.
- All transactions will be done by Sri Lankan Rupees

3 System Features

3.1 Functional Requirements

□ Master Entry

Function 1	Hotel
Input	Hotel Name, Address, Contact No, E-mail, Registered No
Output	Database Record, Database Successfully updated message
Processing	Validate the given details and record the information into the database
Function 2	Room type
Input	Room type
Output	Database Record, Database Successfully updated message
Processing	Validate the given details and record the information into the database
Function 3	List of rooms
Input	Room No, Room type, Room charges, Max. No of Adults allowed , Max.No of Kids allowed
Output	Database Record, Database Successfully updated message
Processing	Validate the given details and record the information into the database
Function 4	Supplier Entry
Input	Supplier ID, Supplier Name, Address, City, State, Contact No, E-mail
Output	Database Record, Database Successfully updated message
Processing	Validate the given details and record the information into the database
Function 5	Guest
Input	Guest ID, Guest Name, Gender, Religion, Occupation, Address ,Country, Contact No, E-mail, ID type, ID No, Vehicle No, Model, Color
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 6	Extra Beds
Input	Room type, Charges per Day
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 7	Extra Persons
Input	Room type, Charges per person
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 8	Swimming Pool
Input	Reservation type, Charges per hour
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 9	Banquet Halls
Input	Mix.No of guest, hall name, charges
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 10	Banquet hall food menu charges
Input	Menu No, Charges
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 11	Restaurant food category
Input	Food Category, VAT, Service Tax
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database

Function 12	Food Items
Input	Food Category, Food Name, Qty, Price
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 13	Liquor Category
Input	Category, VAT, Service Tax
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 14	liquor Quantity
Input	Liquor Quantity (ml)
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 15	Liquor Master
Input	Liquor category, Liquor name
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 16	Liquor Price
Input	Liquor Category, Liquor name, quantity(ml), Rate
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database
Function 17	Table Master
Input	Table No, Status
output	Database Record, Database Successfully updated message
processing	Validate the given details and record the information into the database

- Point of Sales

Function 1	Restaurant Billing
Input	Food name, Quantity, Cash amount
output	Total amount of the bill, Printed version of the bill
processing	<ul style="list-style-type: none"> - Bill No and Bill date is automatically given by the system - Select food items and enter the quantity - Add them into the cart - Total amount/ discount is automatically calculated by the system - Enter the Cash amount - change is automatically calculated by the system - Save+print
Function 2	Bar Billing
Input	Liquor name, Volume , Qty
output	Total amount of the bill, Printed version of the bill
processing	<ul style="list-style-type: none"> - Bill No and Bill date is automatically given by the system - Select liquor name and Volume and Quantity of liquor bottles - Add them into the cart - Total amount is automatically calculated by the system - Enter the Cash amount - change is automatically calculated by the system - Save+print

Function 3	Wedding and Event Billing
Input	No of guest, Menu No ,No OF Extra Plates, Extra Food items and Qty, Liquor name, Volume, No of bottles, Bit name and Qty, Extra charges
output	Total amount of the bill,Printed version of the bill
processing	<ul style="list-style-type: none"> - Bill No and Bill date is automatically given by the system - Enter No of Guests, Select Menu No, Enter No of extra plates - Add to cart extra food items and Qty - Select liquor name and Volume , Enter the the No of Bottles - Add them into the cart - Select Bite name and qty(Kg) - Add them into the cart - Enter Reason for Extra Charges and rate - Add them into the cart - Total amount is automatically calculated by the system - Enter the Cash amount - change is automatically calculated by the system - Save+print
Function 4	pool Billing
Input	Reservation type, No of hours, No of customers
output	Total amount of the bill,Printed version of the bill
processing	<ul style="list-style-type: none"> - Bill No and Bill date is automatically given by the system - Select Booking type and Enter No of hours, No of customers - Add them into the cart - Total amount is automatically calculated by the system - Enter the Cash amount - change is automatically calculated by the system - Save+print

• Accounting

Function 1	Room Reservation
Input	Date, Time, No of Adults , No of Kids, No of Rooms, Type of Room, Room No, Customer Details
output	Make Room reservation, Send E-mail reminder to client for booking confirmation by the system
processing	<ul style="list-style-type: none"> - Check rooms availability - Receptionist enter the Customer details and Reservation Details - Receptionist confirm the booking on system - Send E-mail reminder to client for booking confirmation by the system

Function 2	Banquet hall Reservation
Input	Date,Time, Type of event, No of Guests, Hall Name, Advancement,Customer Details
output	Make Reservation ,Send E-mail reminder to client for Reservation confirmation by the system
processing	<ul style="list-style-type: none"> - Check Banquet hall availability - Receptionist enter the Customer details and Reservation Details - Receptionist confirm the Reservation on system - Send E-mail reminder to client for Reservation confirmation by the system
Function 3	Pool Reservation
Input	Date,Time,Type,No of Kids, No of Adults, Total guest, No of Hours, Customer Details
output	Make Pool reservation,Send E-mail reminder to client for reservation confirmation by the system
processing	<ul style="list-style-type: none"> - Check pool availability - Receptionist enter the Customer details and reservation Details - Receptionist confirm the reservation on system - Send E-mail reminder to client for reservation confirmation by the system
Function 4	Table Reservation
Input	Date,Time,Type,No of Kids, No of Adults, Total guest, No of Tables,Table No, Customer Details
output	Make Table reservation,Send E-mail reminder to client for reservation confirmation by the system
processing	<ul style="list-style-type: none"> - Check Table availability - Receptionist enter the Customer details and reservation Details - Receptionist confirm the reservation on system - Send E-mail reminder to client for reservation confirmation by the system
Function 5	Purchase Entry
Input	invoice No,Supplier Id,Supplier Name, Supplier Address,Supplier Contact Number, Product Name,Unit,Qty,Price per Unit
output	Database Record,Database Successfully updated message
processing	Validate the given details and record the information into the database

- Search Records

Function	Reports
Input	Date range
output	provide the related reports
processing	<ul style="list-style-type: none"> - Search by giving Date range - System is automatically calculated the reports using the database data - Display on the screen

- User Utilities

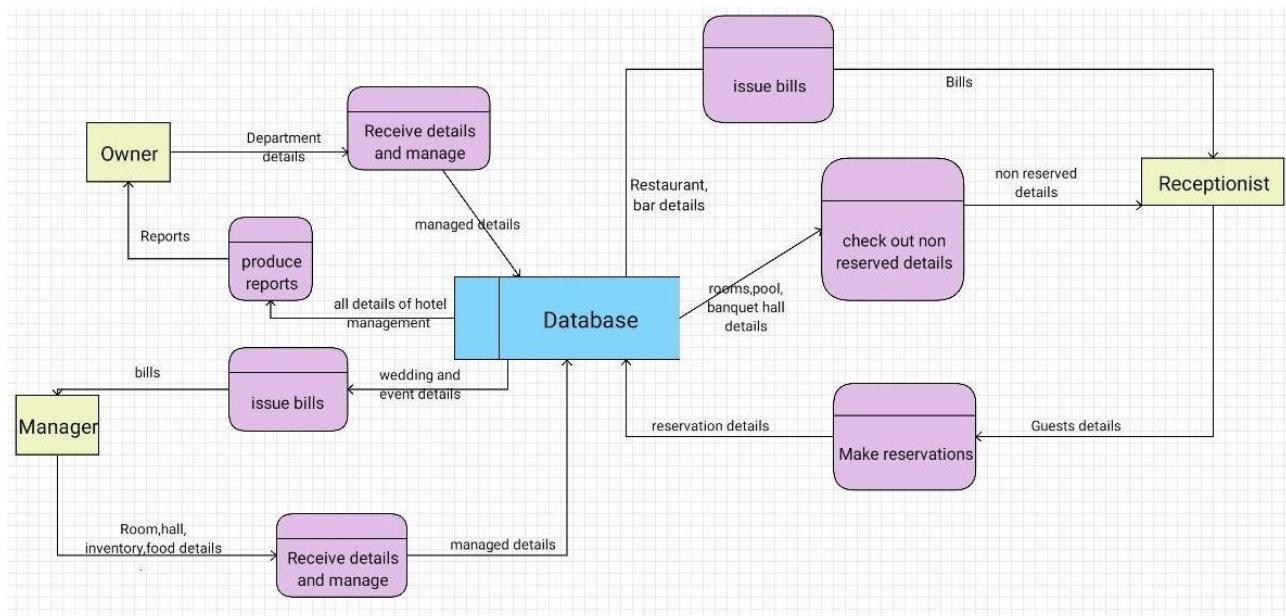
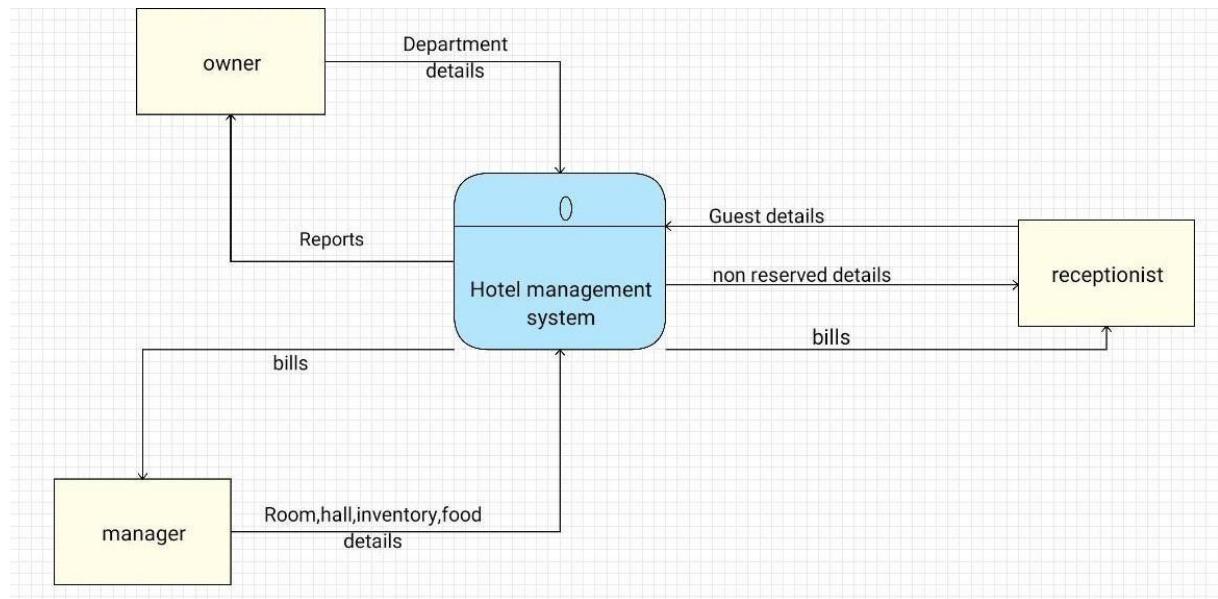
Function 1	Registration
Input	User ID, User Type, Password, Name, E-mail ID, Contact No
output	Registered the Users who can access the system and Display Registered Users on the chart.
processing	<ul style="list-style-type: none"> - Enter the User Details - Save it - Display on the chart
Function 2	Change Password
Input	Current Password, New Password, Re-Enter New password
output	Change the password
processing	<ul style="list-style-type: none"> - Enter Current password - Enter New password - Re-Enter new password - click OK button to change the password
Function 3	User Contact
Input	Contact Person, Contact No
output	Validate the given details and information into the database
processing	<ul style="list-style-type: none"> - Enter the User Details - Save it - Display on the chart

Database

Function	Backup
Input	Location to save Backup files
output	Display the Message showing backups successfully created
processing	validate the user given location to save the backup files. Save the backup file to the user specific location.

- Appointment

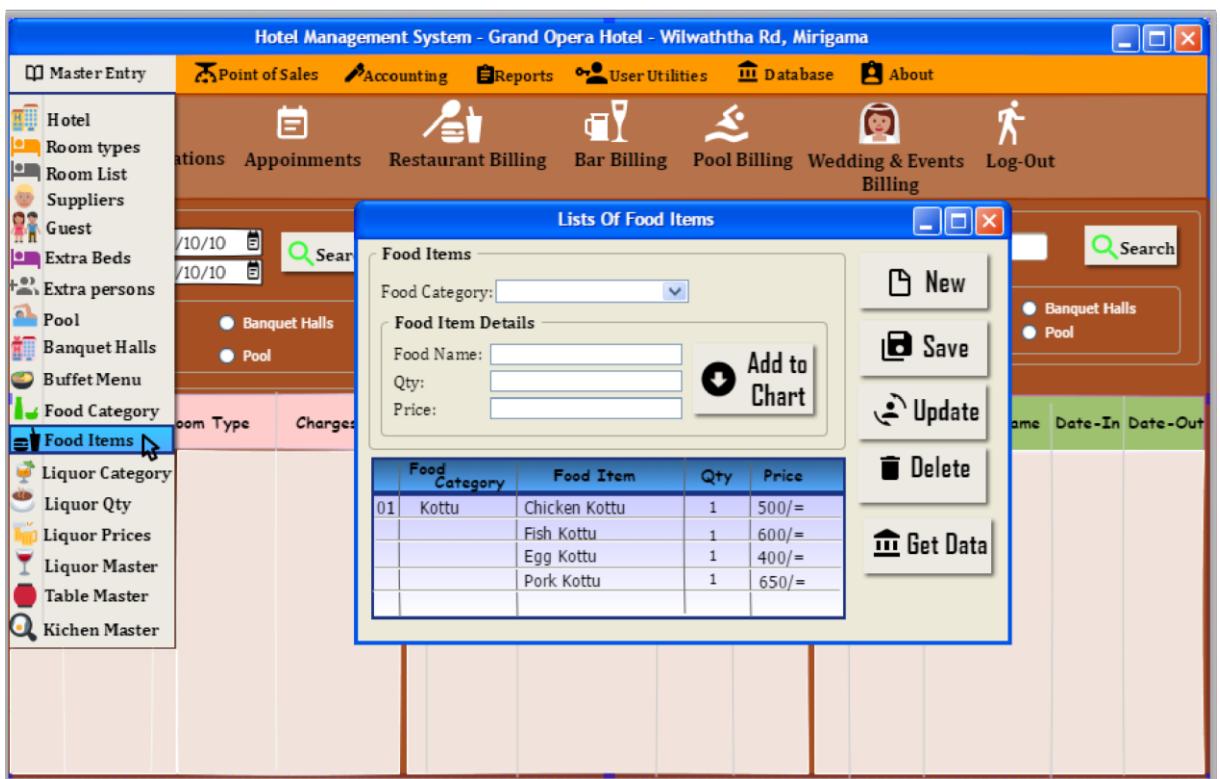
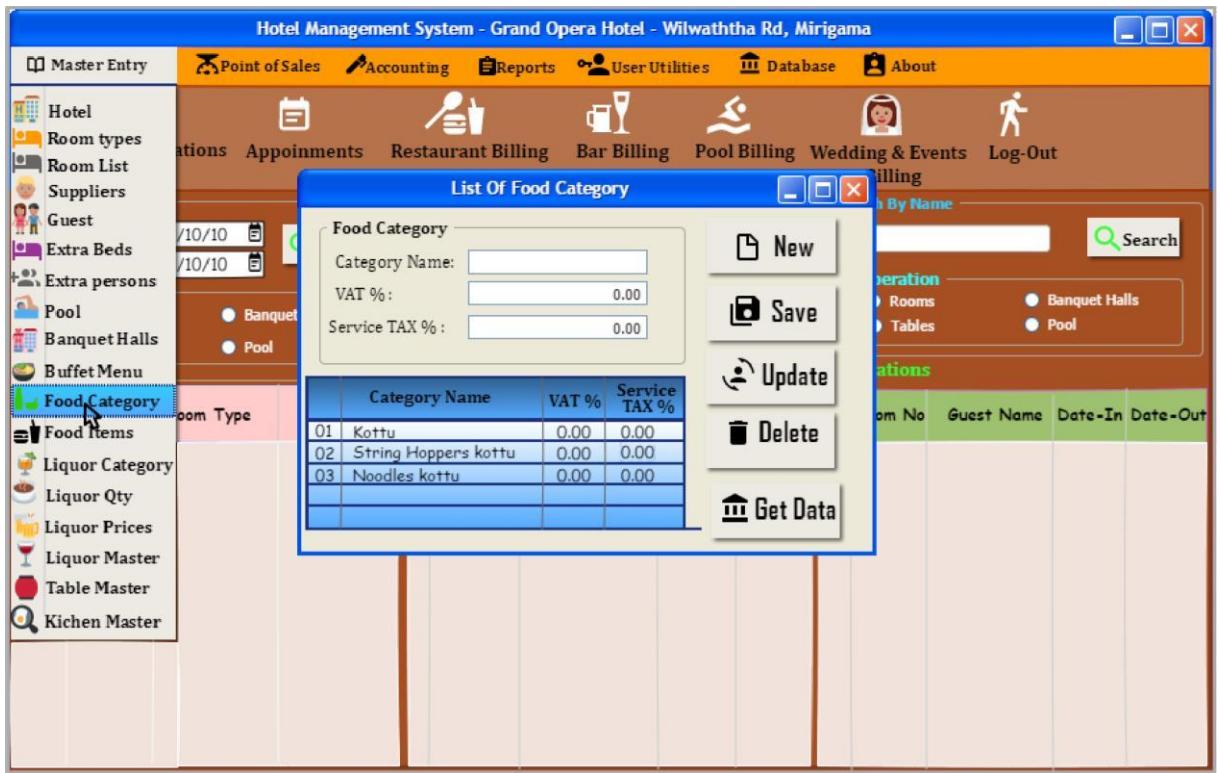
Function	Appointment
Input	Name, Address, E-mail, phone No, Country, Appointment date, Appointment Time
output	Make and appointment and information into the database
processing	Validate the given details and record the information into the database

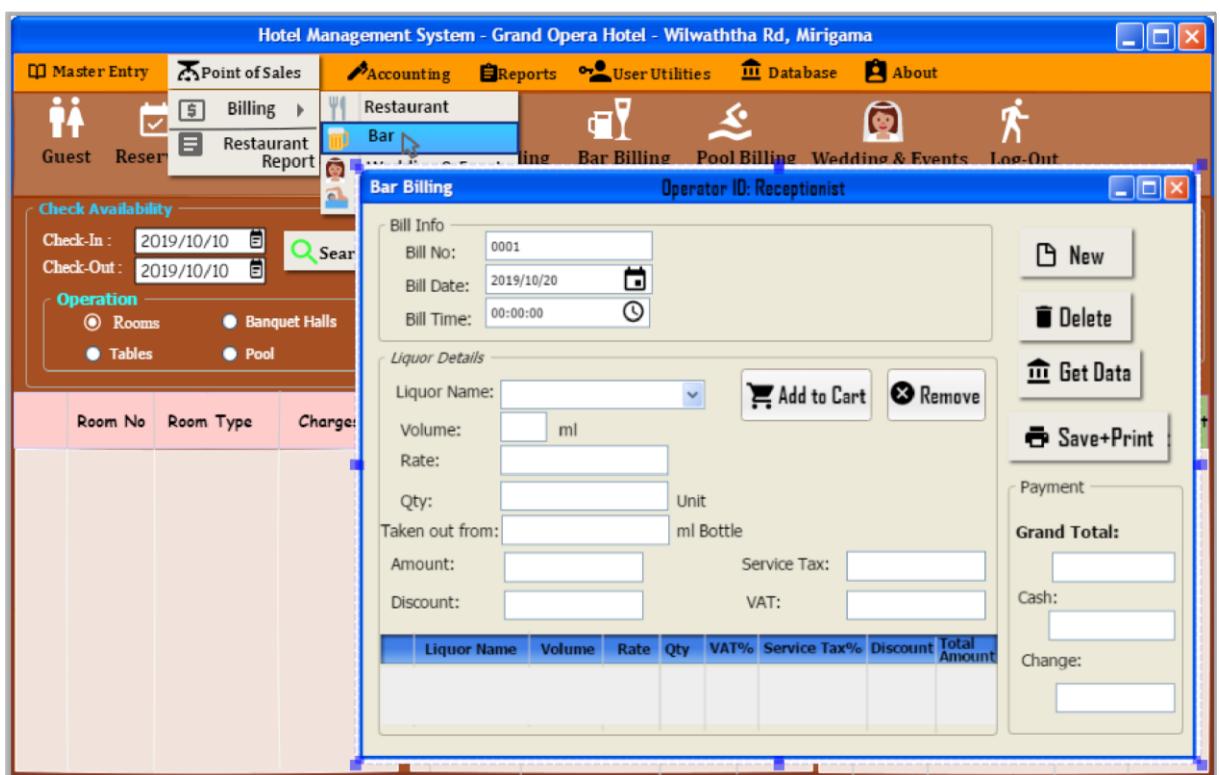
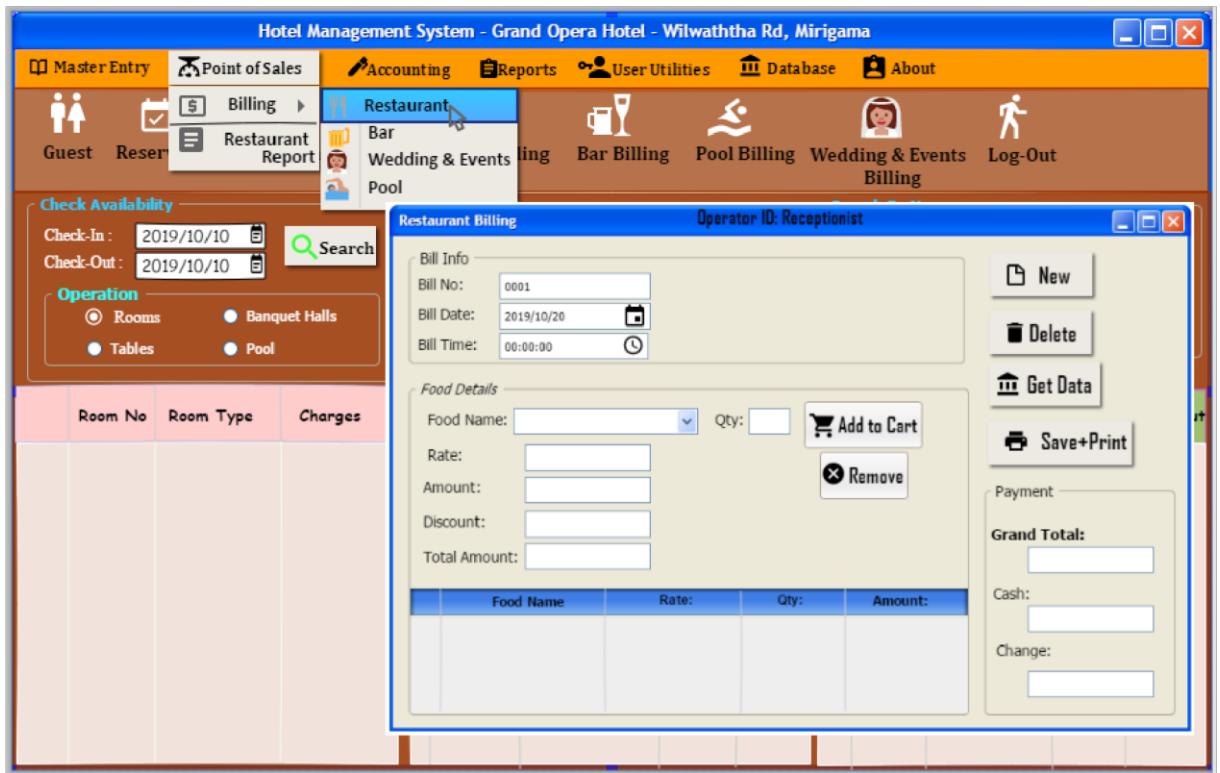


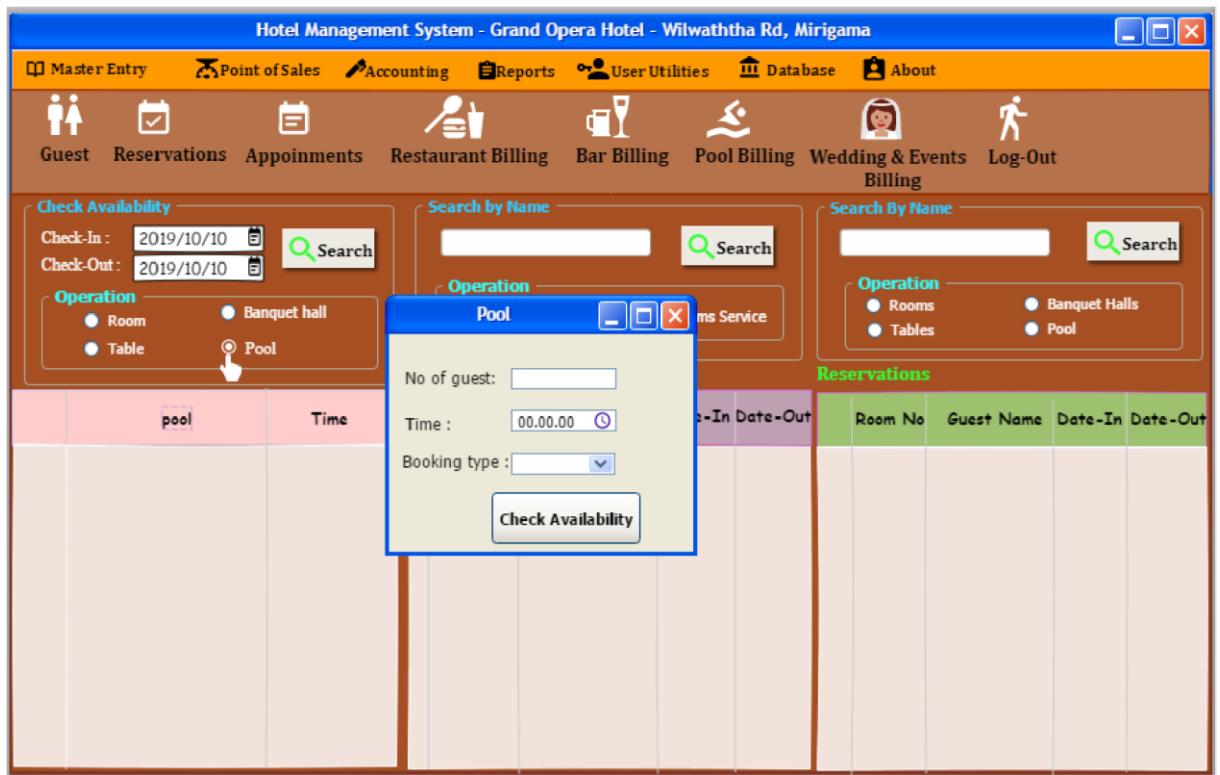
4 External Interface Requirements

4.1 User Interfaces

The image shows a 'Log-In Form' window. At the top, there is a blue header bar with a white arrow icon on the left and the text 'Log-In Form' in white. Below the header, the main area is light gray. It contains two text input fields: one for 'User ID' and one for 'Password', both with black outlines. Below the inputs are two dark gray rectangular buttons with white text: 'Cancel' on the left and 'Log-In' on the right.







<p>Check Availability</p> <p>Check-In : 2019/10/10 <input type="button" value=""/></p> <p>Check-Out : 2019/10/10 <input type="button" value=""/></p> <p>Operation</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> Room <input type="radio"/> Banquet hall <input checked="" type="radio"/> Tables <input type="radio"/> Pool 	<p>Search by Name</p> <input type="text"/> <input type="button" value="Search"/> <p>Operation</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> Check-In <input type="radio"/> Check-In <input checked="" type="radio"/> Rooms Service 	<p>Search By Name</p> <input type="text"/> <input type="button" value="Search"/> <p>Operation</p> <ul style="list-style-type: none"> <input checked="" type="radio"/> Rooms <input type="radio"/> Banquet Halls <input checked="" type="radio"/> Tables <input type="radio"/> Pool
<p>Currently Check-In</p> <p>Reservations</p>		

Room Service Billing Form

- □ X

Form Info

Reservation No:	<input type="text"/>
Date :	<input type="text"/>
Time:	<input type="text"/>

Customer Details

Name:	<input type="text"/>
Address:	<input type="text"/>
E-mail:	<input type="text"/>
Phone No:	<input type="text"/>
Country:	<input type="text"/>

Food Details

Food Name:	<input type="text"/>	Qty:	<input type="text"/>	▼
Rate:	<input type="text"/>			
Amount:	<input type="text"/>			
Discount:	<input type="text"/>			
Total Amount:	<input type="text"/>			

	Date	Time	Food Name	Rate:	Qty:	Amount:

New

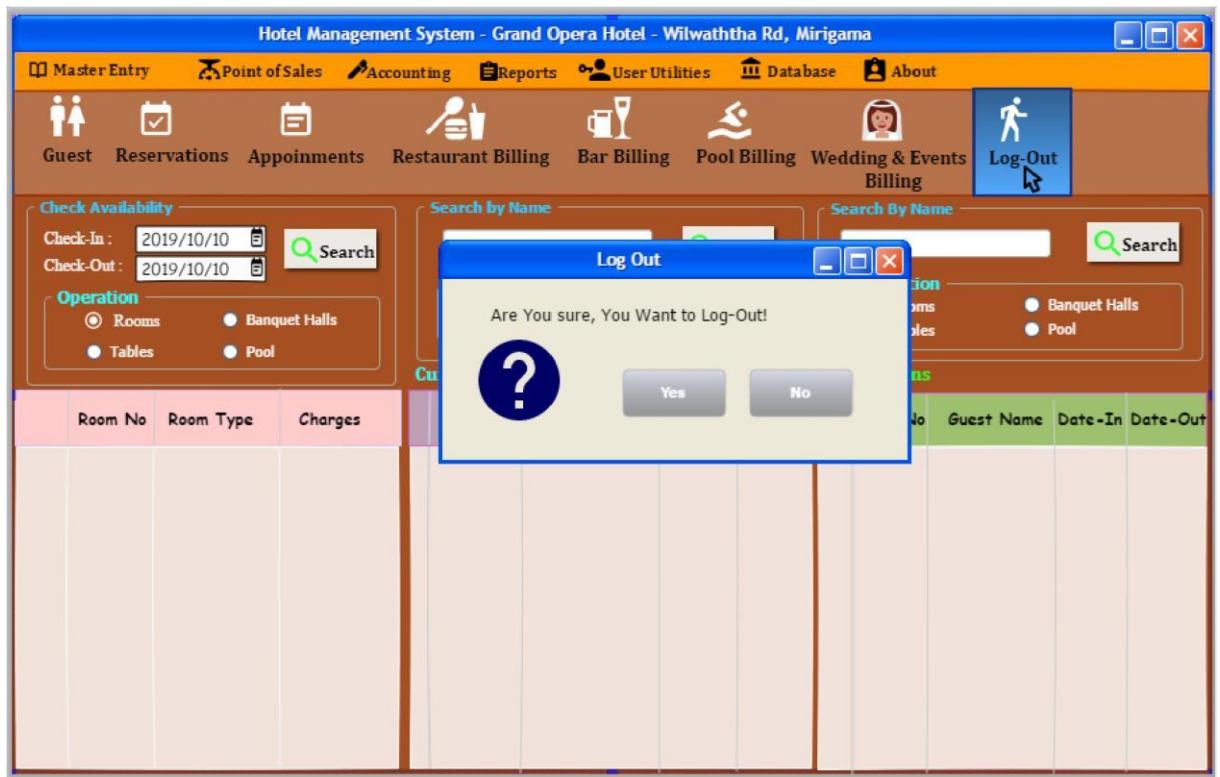
Delete

Update

Save

Add to Cart

Remove



4.2 Hardware Interfaces

Section 2.4 includes the requirements of the Desktop computer where we are going to be installed. Therefore specific computer needs which is match with the above mentioned requirements in order to gain the maximum benefits. There is a need of Broadband Internet connection to send e-mails reminder to client for reservation confirmation by the system. So client able to keep a stable internet connection. Need a windows compatible printer such as Laser printer to print the bills and reports.

4.1 Software Interfaces

The system which is going to be installed need to have Windows Operating system equal or above Windows 7. On the windows platform NET 4.0 or above will be installed. There will be an ADO.NET data transmission with the Microsoft SQL Server Management Studio Express 2010 R2.

4.2 Communication Interfaces

when the reminder the client about reservation confirmation and Appointment confirmation receptionist sends e-mails to guests accounts. To achieve that functionality, it necessary to have stable internet connection.

5 Nonfunctional Requirements

5.1 Performance Requirements

Acceptable response time is the key feature of the performance requirements. Performance of the system will be highly depend on the performance of the hardware and software components of installing computer. When we consider about the load time for user interface screens shall take no longer than two seconds which makes fast access to the system. The log in information shall be verified within five seconds. It is efficiency of the system. Returning query results within five seconds which makes search functions more accurate.

5.2 Safety Requirements

There are several user levels in this system. Access to the varies sub system will be protected by the User log-in screen which requires User ID and Password. This gives different user views and accessible functions of the user levels through the system. Keeps the Database security by maintaining the backups. System can be restoring in any case of emergency

5.3 Security Requirements

Owner, Manager and Receptionist will be able to log into the system. Receptionist will have access to the Reservation subsystem, Room management subsystem, Restaurant and Bar management subsystem within some restricted. Manager will have access to the subsystem as well as Reservation subsystem, Room management subsystem, Restaurant and Bar management subsystem within some restricted. Owner can access whole system without any restricted.

Access to the various subsystems will be protected by a user log-in screen the requires a User ID and password.

5.4 Software Quality Attributes

- Availability : Available during normal hotel operating hours.
- Flexibility : Ability to add new features to the system and handle them conveniently.
- Efficiency : Take less number of resources and time to do some task
- Integrity : Information in the system is secure, because we use the password mechanism to login.
- Portability : Run in any Microsoft Windows environment. (equal or above Windows 7)
- Usability : Easy to take benefits from the system and have a user friendly environment.
- Correctness : Fulfils user requirement