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# **Software Requirements Specification**

**For**

## **Choose, Book & Luxuriate, Hotel Management System**

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**DATE**  
28 February, 2016

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## Revision History

Name	Date	Reason For Changes	Version

# **1. Introduction**

This section provides an overview of the Software Requirements Specification (SRS) for the subject Hotel Management System for King's Park. The purpose of the document is to outline its intended audience. Subsequently, the scope of the project specified by the document is given with a particular focus on what the resultant software will do and the relevant benefits associated with it.

## **1.1 Purpose**

The purpose of this SRS is to outline both the functional and non-functional requirements of the system. In addition to requirements, the document also provides a detailed profile of the external interfaces, performance considerations and design constraints imposed on the subsequent implementation. It is the intention that the presented set of requirements possesses the following qualities - correctness, unambiguousness, completeness, consistency and modifiability. Consequently, the document should act as a foundation for efficient and well-managed project completion and further serve as an accurate reference in the future.

## **1.2 Document Conventions**

This document is written using Times New Roman font and the text size of headings is 14pt and the text size of rest of the document is 12pt.

## **1.3 Intended Audience and Reading Suggestions**

This document is intended for the developers, managers and the marketing staff. Also the users are benefitted from this software on a large basis. This SRS will provide detailed functionalities of the software and the various tasks that can be done with it. Users should read the section 2 only. And developers should read the section 3 first, then 4 and then the section 2.

## **1.4 Project Scope**

In current environment, some form of physical static menu is utilized to convey the available rooms, party halls and hotel table choices to customers. As booking involves a lot of paper based work and hence impose restrictions on the ability to update them and the time period in the process, that is consumed is very large. This document specifies the requirements for a hotel provision menu and booking replacement strategy to alleviate the problems associated with the current method. Three related concepts are encompassed by the general scope of the Hotel Management System. The first pertains to the creation of automated availability list, the second surrounds the process of online booking of halls or table bookings and the third relates to a strategy for placing the orders of food items online. It should be noted that while the suggested strategy incorporates the use of various hardware components, the primary focus of the presented SRS relates to the constituent software elements.

## **1.5 References**

[1] IEEE Software Engineering Standards Committee, "IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications", October 20, 1998.

## **2. Overall Description**

### **2.1 Product Perspective**

The software described in this SRS is the software for a King's Park Hotel. The system merges various hardware and software elements and further interfaces with external systems. Thus, while the software covers the majority of the system's functionality, it relies on a number of external interfaces for persistence and unhandled tasks, as well as physically interfacing with humans.

#### **2.1.1 System interfaces**

The Hotel Management System interfaces with an existing payment system, including a cash register and software-accessible credit system, in order to quickly and easily handle customer

billing. The payment system should be operable such that it can return information to the Hotel Management system as to whether payment was successful or failed.

### **2.1.3 Hardware interfaces**

There are two external hardware devices used by the Hotel Management System, each related to a user interface. These devices are the surface computers, the wireless tablets or mobiles. The devices behave as 'terminals' in the sense that they never have a full system image, do not store data and are not used for the core logic of the system. However, they should be fully capable computers that can use textual data from the server along with local UI/interpretation code to display UI elements and take input. All order and transaction records should be stored on the server, not these computers. In all three cases, the hardware device takes information from the Hotel Management System and processes the information to display. It also provides user input information to the Hotel Management System. The hardware connection to the database server is managed by the underlying operating system on the mobile phone and the web server.

### **2.1.4 Software interfaces**

The system will interface with a Database Management System (DBMS) that stores the information necessary for the system to operate. The DBMS must be able to provide, on request and with low latency, data concerning the hotel's menu, customer's information (their passwords and address) and transactions. This data will include records of all orders, bookings and transactions (system states and state changes) executed by the system. The DBMS must store all data such that it can be used for accounting, as well as accountability.

The communication between the database and the web portal consists of operation concerning both reading and modifying the data.

### **2.1.5 Communications interfaces**

The communication between the different parts of the system is important since they depend on each other. It should use a reliable-type IP protocol such as TCP/IP or reliable-UDP/IP for

maximum compatibility and stability. All devices it will interface with should contain standard Ethernet compatible .However, in what way the communication is achieved is not important for the system and is therefore, handled by the underlying operating systems for the web portal.

### **2.1.6 Memory**

No memory is needed in the system as the whole system is web-based. No need to download any software. An internet connection is required to access the website.

### **2.1.7 Operations**

The system has only one mode of operation. However, because of the hotel environment it is used in, it must be able to operate for long periods, without error. The server must be able to operate unattended indefinitely. It should not need physical interaction except for upgrades and failure of hardware elements. Backup and recovery should be handled by the DBMS and operating system, or external software running on a timed backup system. Interaction from the system should not be required. Since data should not be stored on any of the devices other than the server, keeping a system image on the server for each device may be a sufficient operational method to facilitate restoration should a device become corrupted.

## **2.2 Product Features**

The structure of the system can be divided into three main logical components. The first component must provide some form of availability list and food menu management, allowing the hotel to control what can be booked and ordered by customers. The second component is the web ordering and booking system and provides the functionality for customers to place their order and supply all necessary details. The third and final logical component is the order retrieval system. Used by the hotel to keep track of all orders which have been placed, this component takes care of retrieving and displaying order information, as well as updating orders which have already been processed.

## **2.3 User Classes and Characteristics**

The end-users fall into three primary categories, unskilled, partly skilled and highly skilled.

## **2.4 Operating Environment**

The environment in which the web portal will operate which includes the hardware platform, operating system and the other software components with which it must peacefully coexist.

### **Hardware**

1. Pentium 4 or higher CPU with L2 Cache of at least 128KB.
2. At least 1GB available disk space and 1GB allocable memory.

### **Software**

For Unix/Linux server:

1. Apache or any Web Server that supports PHP dynamic cache and SSL.
2. PHP 5.2 or higher.
3. MySQL 5.1 or higher.

For Windows server:

1. XAMPP 1.6 or higher.

### **Network**

At least 2 mbps network for the desired response time.

## **2.5 Design and Implementation Constraints**

The internet speed must be greater than mentioned or the website would take quite a while to be loaded. Also the memory space in the server should be large enough to hold the order details. The person using the website must know the English(UK) language and the basic operations of opening, closing and shifting from one GUI to other.

## **2.6 User Documentation**

The web portal designed for this system is very user friendly. The user can easily locate the functionality required because of the priority given to the user interface. In case, the user encounters some problem then “HELP” button will be provided which will help the user by giving directions to meet the problem.

The admin in the hotel must have knowledge of computer basics so that he could manage the availability list and food menu and check the orders & respond to the customer’s queries.

## **2.7 Assumptions and Dependencies**

The SRS assumes that none of the constituent system components will be implemented as embedded applications.

- The hotel must have appropriate hardware support to run the software.
- The hotel must have a reliable internet connection.
- The hotel manager or the admin must be trained to operate admin panel.
- The success of the software is possible if and only if customers have proper internet connections and they are able to access the website easily.

## **3. External Interface Requirements**

### **3.1 User interfaces**

There are three separate user interfaces used by the Hotel Management System software, each related to an interfaced physical hardware device. These three user interfaces are the Computer UI, Tablet UI and Admin UI.

#### **Computer UI**

The Computer UI is the interface used by hotel’s customers. After opening the website, using this interface users interact with the system by navigating objects around on the flat-screen display.



The users can manipulate objects such as items of food and menus. Such objects can be moved into static objects such as room booking and payments to perform various functions. A limited system menu is necessary. Users will summon their hotel availabilities, which is combined with a system/command menu, by clicking on it, and dismiss it by clicking the close button GUI element. The GUI will take a small percentage of the screen, so the UI will be clear and uncluttered.

### **Tablet UI**

The Tablet UI is designed to run on a small, wireless-enabled touch-screen tablet PC, to be used by customers to place orders or bookings. This UI will be designed for use with a stylus input into the touch-screen. Because the number of operations the UI needs to support is relatively limited, there will be no nested menu structure. The UI shall provide simple graphical interfaces to order the food , booking of tables or halls.

### **Admin UI**

The admin UI is designed to run on a personal computer screen. It will provide the admin the interface to view the orders, bookings and to manage the availabilities. Using this UI, the admin can add a new item in the available list or can delete an item. The UI will also provide the interface to update the price of an already existing item.

## **3.2 Hardware Interfaces**

Since the application must run over the internet, all the hardware shall require to connect internet. The customer shall be able to login, view menu, place orders through the online website of the hotel. All orders, bookings placed should be stored on the server. Whenever required the Admin must be able to get information of all orders, bookings placed, which will be displayed on the computer in the hotel.

### **3.3 Software Interfaces**

Because the design patterns of the Online Ordering System are pretty much the standard for a web application, the non-functional requirements of the system are very straightforward. All of the application data is stored in a MySQL database and the application is cross-compiled to Bootstrap, along with PHP as backend and Apache as web server.

### **3.4 Communications Interfaces**

The communication between the different parts of the system is important since they depend on each other. The e-store system shall use the HTTP protocol for communication over the internet.

## **4. System Features**

### **4.1 Manager Interface**

This interface enables the manager to interact with the database. The manager is responsible for updating the availability list on regular basis in order to provide the full view available rooms, rooms and party halls. The availability list contains number of free rooms, tables, party halls etc.

The manager also enters the new food items details in the food item menu. This section needs the weekly updation on which items are now provided according to the season. This interface enables the manager to keep the record in order to maintain the proper view of the services provided.

### **4.2 Customer Interface**

In this section, the details of the customer are filled by the customers themselves which include their contact details, order placed, customized meal, cancellation of order etc. The cancellation of order must be done 45 minutes before the delivery timings of the specific meal but the room once booked cannot be cancelled with refund. This section includes the available room, party halls and tables and also the proper menu of food item available for each day.

### **4.3 Back-end**

The back-end of the product is My-SQL database which is responsible for storing each and every detail required for the product which includes customer's details, booking details, food item details etc.

The back-end should include the proper security features so that details of each customer and employee must not be shared or leaked through any means. Moreover only the manager should have the right to access the database. Further there should be proper back-up of the database so that the data is safe if any problem occurs in the system or data gets lost or corrupted due to unforeseen circumstances.

### **4.4 Front-end**

The front-end consists of the attractive layout of the product. It should be made in such a way that it should be easily accessible by everyone even with little knowledge of working with computers. The buttons should link to various pages containing different sections or interface for each task such as customer's interface, manager's interface etc. Each and every instruction should be clear so that no time wastage of wandering through pages in order to find the information of interest be done. It must contain a search bar to directly reach the page you want.

## **5. Other Nonfunctional Requirements**

### **5.1 Performance Requirements**

The manager is responsible for entering availability details and customers have the access to product by selecting the room, halls and tables and also the meal from the specific menu provided, selecting the time at which they need it.

## 5.2 Safety Requirements

The most important safety requirement is that the details of any customer or manager should not be visible to any other person. The complete access of database is with the manager only. No other person has the provision to access the database.

Another thing to be taken care of is the back-up of the database. If in any case the database becomes corrupt or data gets lost, we must have a proper back-up of our data.

## 5.3 Security Requirements

The booking of the rooms, halls and the tables is done with semi cash payment which is not refundable and is done through credit and debit cards. Thus, the online transaction should be handled carefully though the bank which will provide the service will be responsible for security on large basis.

## 5.4 Software Quality Attributes

Table presents the identified non-functional human engineering requirements that directly relate to the entire subject.

Requirement	Description
1	Any element of the system will take no longer than 10-seconds to restart/refresh.
2	A surface computer must not dismiss any webpage or functionality unless the customer requests it.

## 6. Other Requirements

The policy of the hotel is such that one should approach the hotel once before making an account on the basis of security grounds which can't be publically told.

## Appendix A: Glossary

Term	Definition
Admin/Administrator System	Administrator who is given specific permission for managing and controlling the system
User	Someone who interacts with the website

## Appendix B: Analysis Models

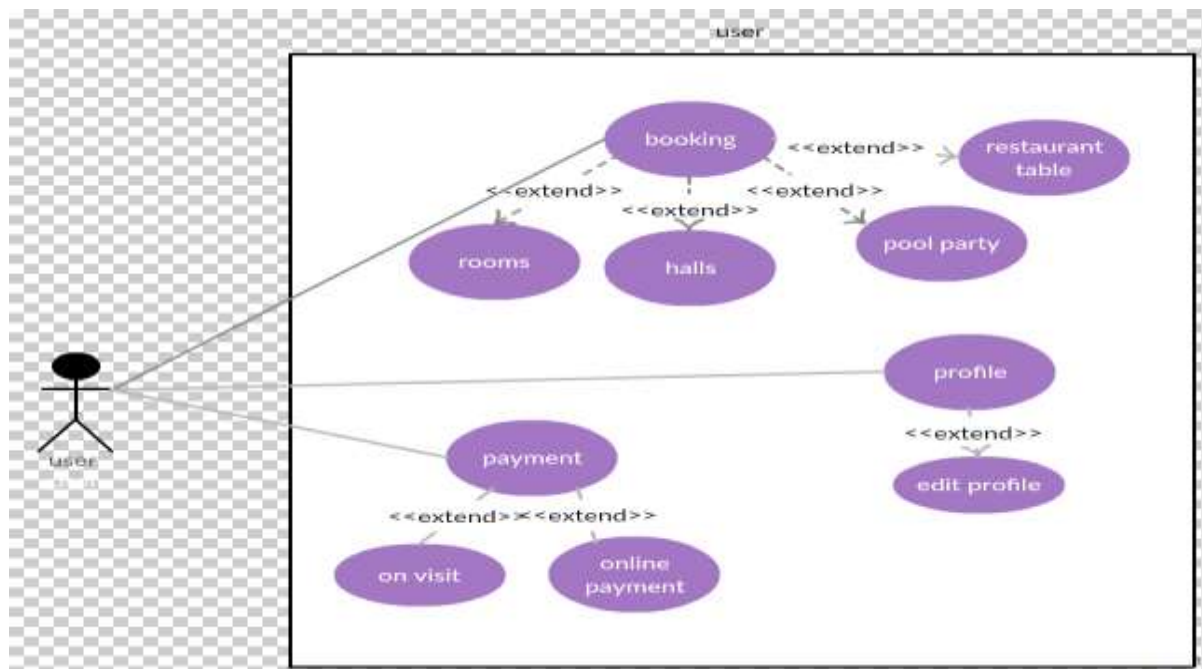
### 6.1 Use Cases

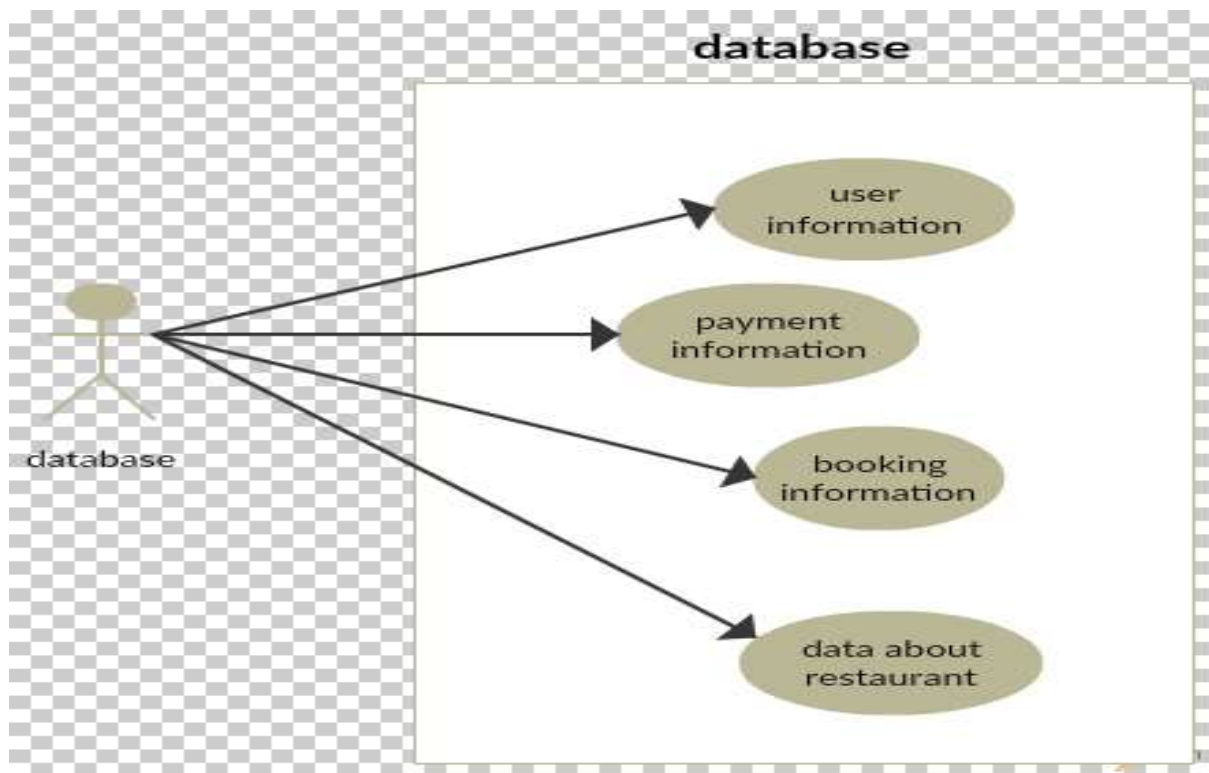
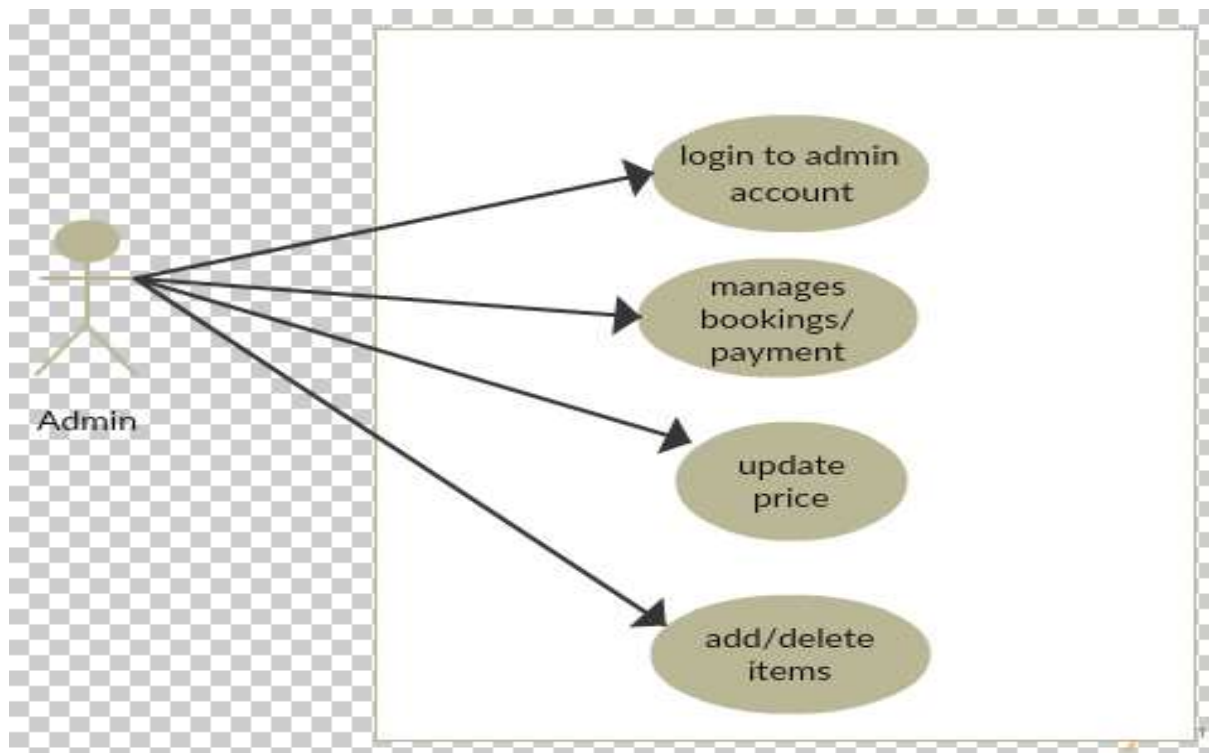
This subsection extends upon the functional requirements given in Section 3.1 through the presentation of detailed use cases. To facilitate an unambiguous and clear view of how the end-users interacts, the actors (end-users) involved in the use cases, a use case diagram and detailed use case descriptions are provided..

#### 6.1.1 Actors

There are three actors i.e, admin, database, customer.

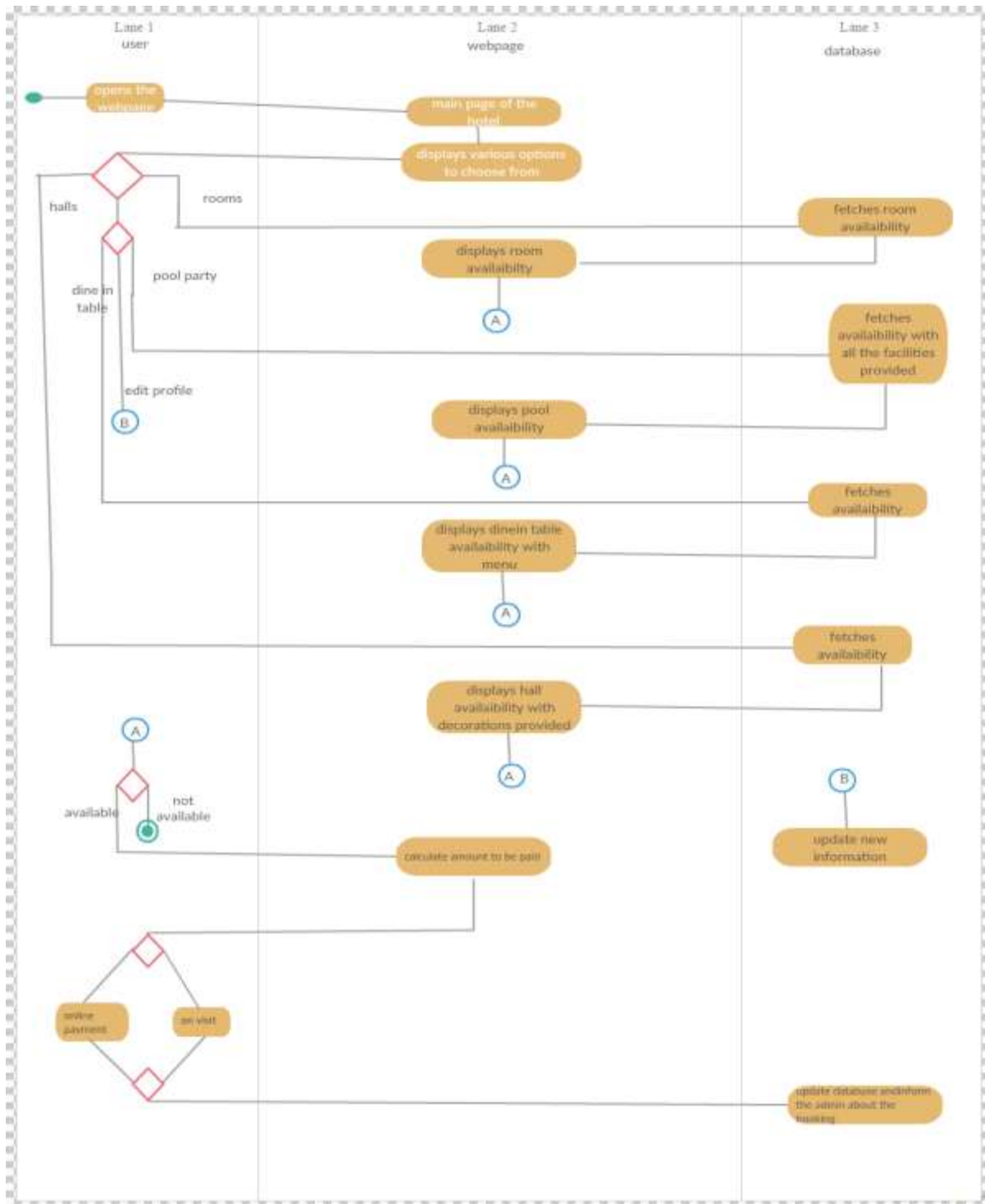
#### 6.1.2 Use case diagram

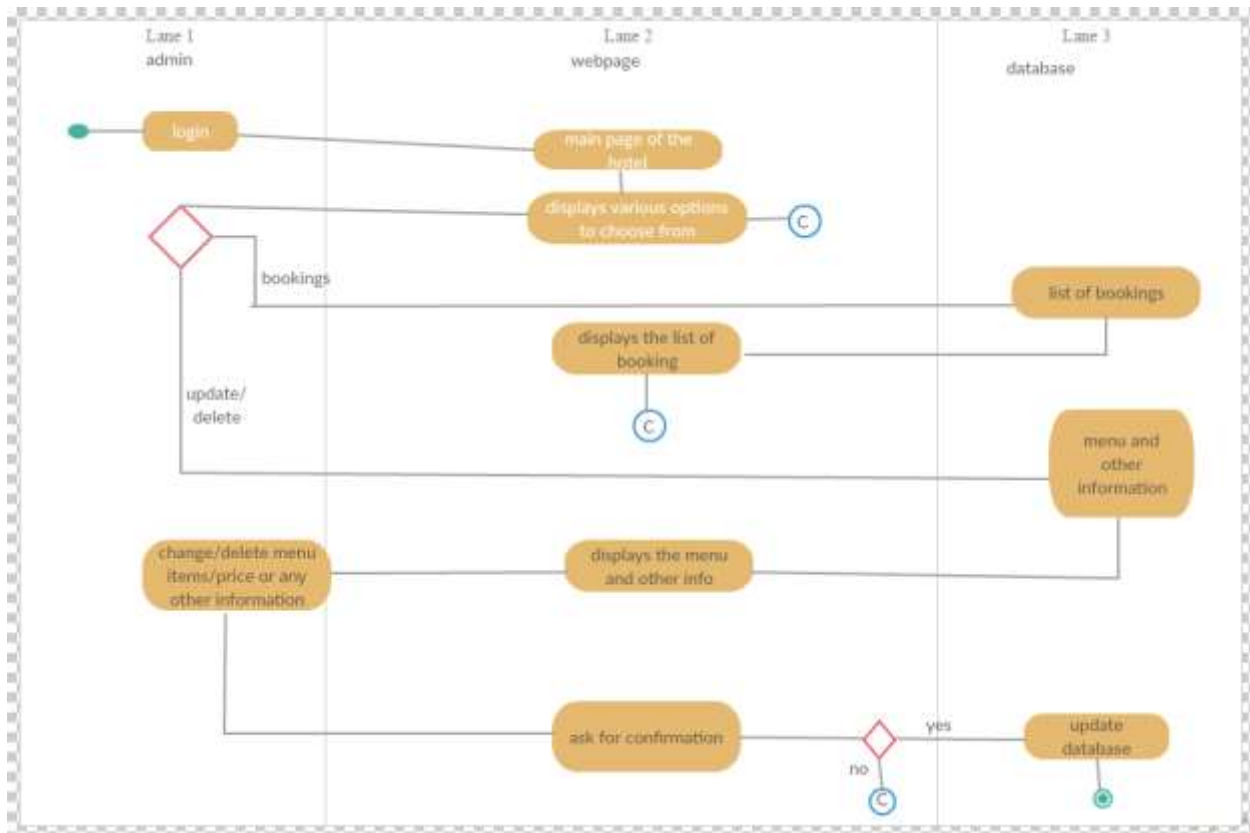




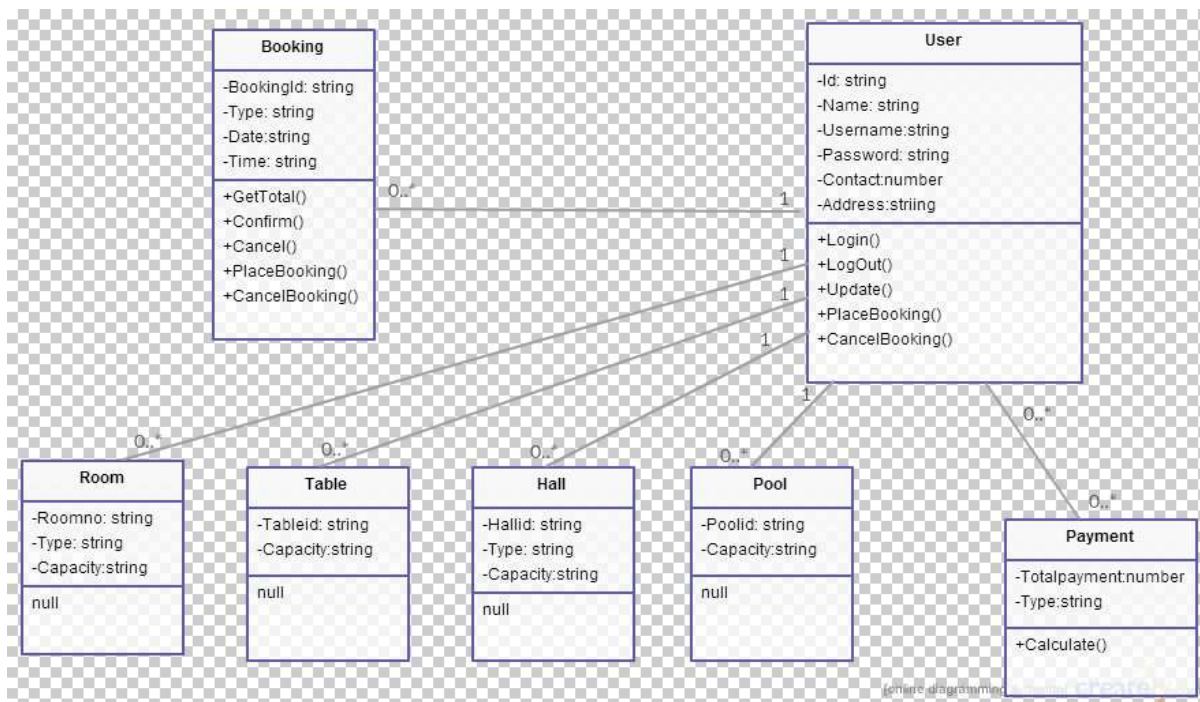
## 6.2 Activity Diagrams

Figure 6.2.1 presents the Activity diagram for the whole system.





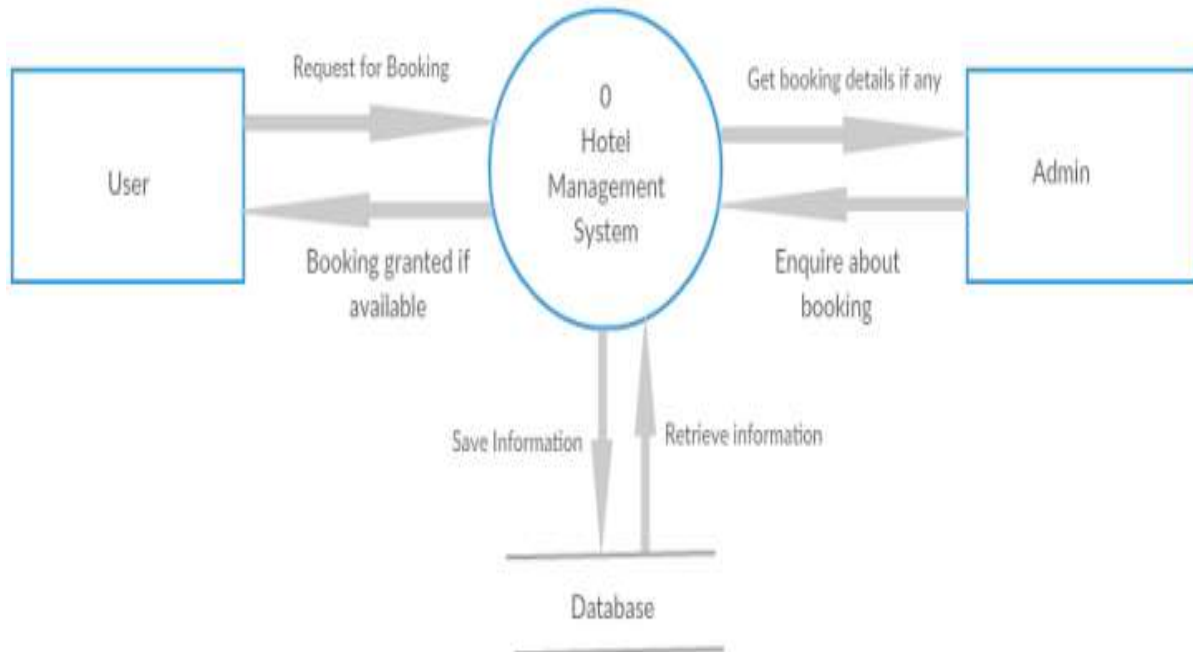
## 6.3 Class Diagram





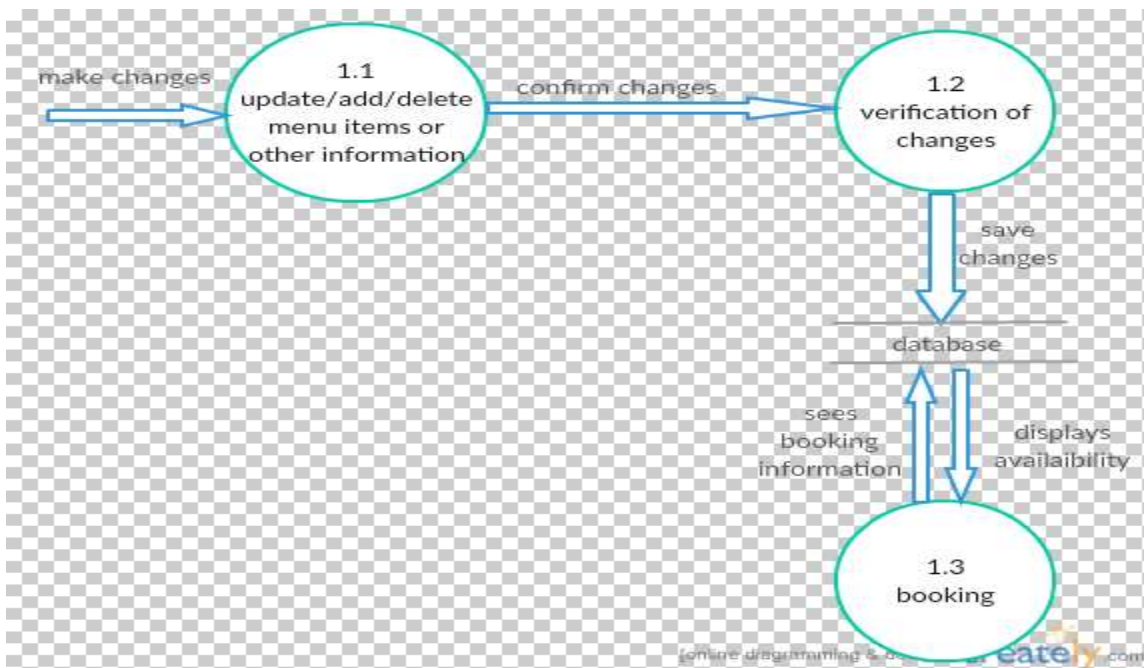
## 6.4 Data Flow Diagram

### Level 0

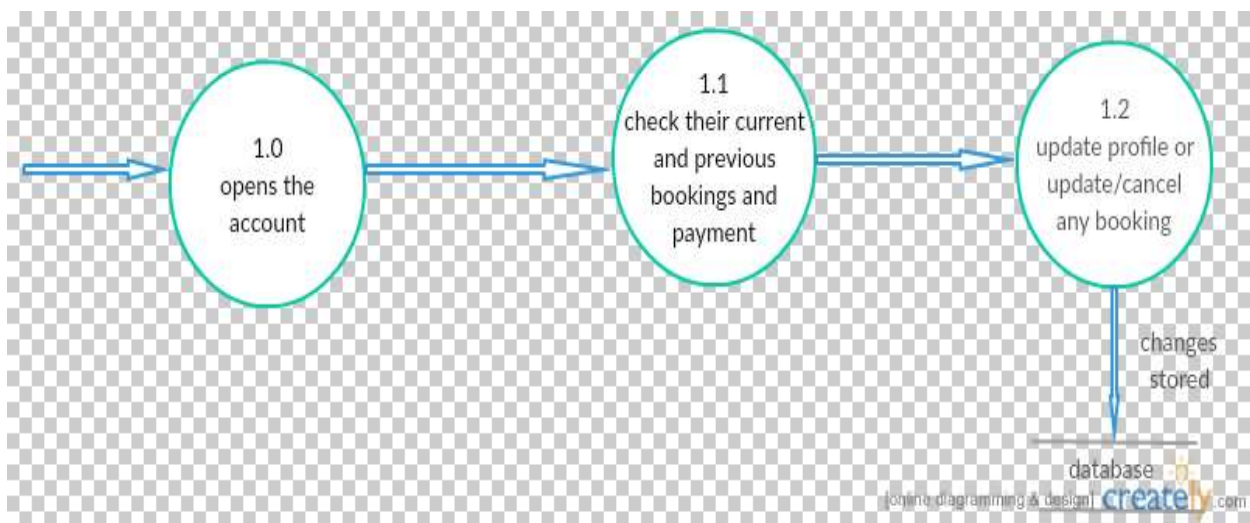
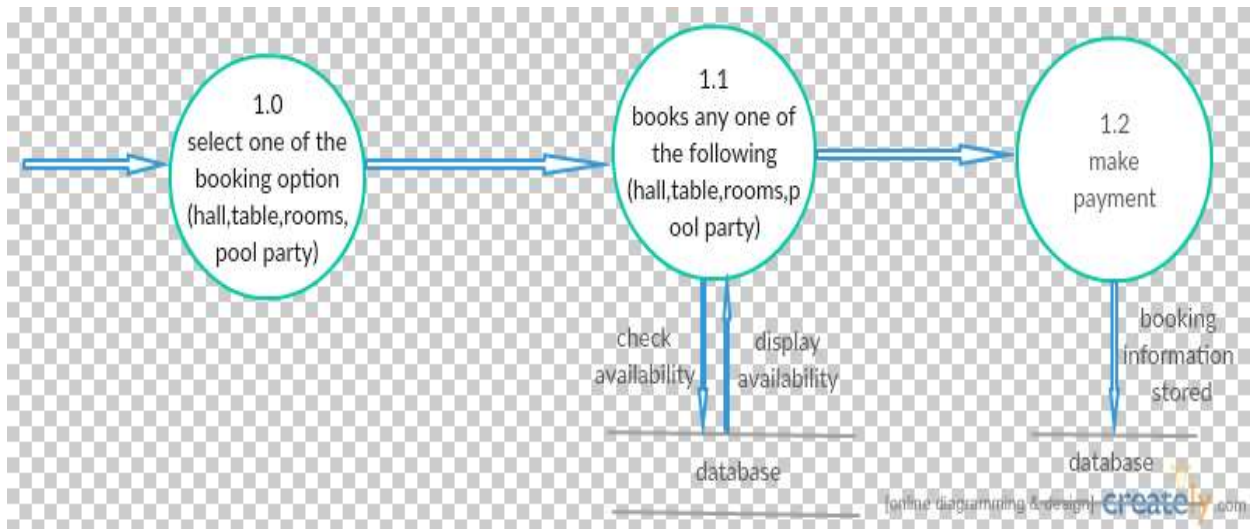


### Level 1

#### Dfd for Admin



## Dfd for user



## Appendix C: Issues List

Issue Name	Description	Priority
Internationalization	Search options for accommodating multiple languages in indexing, searching and user input.	High

