# HOTEL MANAGEMENT SYSTEM

**SUBMITTED BY:**

GROUP 4

**GROUP MEMBERS:**

PRAJOTSNA P

SHUBHAM VERMA

V PRAGNA

T PRANAVASRINIJA

MOHAMMED SHAFI P. N

R. RANJITH KUMAR

P. JAGADEESH

VENKATA KALYANI .M

AKASH V P

SUBHAM BHATTACHARJEE

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# 1. Introduction

## 1.1 Purpose

The Software Requirements Specification (SRS) will provide a detailed description of the requirements for the Hotel Management System (HMS). This SRS will allow for a complete understanding of what is to be expected from the newly introduced system which is to be constructed. The clear understanding of the system and its' functionality will allow for the correct software to be developed for the end user and will be used for the development of the future stages of the project. This SRS will provide the foundation for the project. From this SRS, the Hotel Management System can be designed, constructed, and finally tested.

This SRS will be used by the system development team which is constructing the HMS and the hotel end users. The Project team will use the SRS to fully understand the expectations of this HMS to construct the appropriate software. The hotel end users will be able to use this SRS as a "test" to see if the constructing team will be constructing the system to their expectations. If it is not to their expectations the end users can specify how it is not to their liking and the team will change the SRS to fit the end users' needs.

## 1.2 Scope

The introducing software, Hotel Management System which is going to be implemented for a hotel will automate the major operations of the hotel. The Reservation System is to keep track in room and hall reservation and check availability. The Room Management System is for manage all room types of room services. The Inventory Control System will keep track in all inventories of the hotel and guest details will handled by guest management. Administration department will monitor all. There is three End Users for HMS. The End Users are Owner, Manager and Receptionist. Owner can access to all system functionalities without any restrictions. Manager can access to all system functionalities with limited restrictions. Receptionist can only access to the Reservation management section. To keep restrictions for each End User levels HMS can create different Login functions.

The objectives of the automated Hotel Management System are to simplify the day-to-day processes of the hotel. The system will be able to handle many services to take care of all customers

in a quick manner. As a solution to the large amount of file handling happening at the hotel, this software will be used to overcome those drawbacks. Safety, easiness of using and most importantly the efficiency of information retrieval is some benefits the development team going to present with this system. The system should be user appropriate, easy to use, provide easy recovery of errors and have an overall end user high subjective satisfaction.

## 1.3 Definitions and abbreviations

**Microsoft SQL Server**: Microsoft SQL server is a relational database management system developed by Microsoft. As a database server, it is a software product with the primary function of storing and retrieving data as requested by other software application- which may run either on the same computer on another computer across a network.

**ASP .Net MVC**:ASP .NET MVC is an open-source web development framework from Microsoft that provides a Model View Controller architecture. ASP .NET MVC offers an alternative to ASP .NET Webform for building web application. It is a part of the .NET platform for building, deploying, and running web apps.

**Database:** Database is an organized collection of data stored and accessed electronically.

**User**: A owner or manager or receptionist who uses or operates something.

## 1.4 References

Google sites:

**https://geekwall.in/p/ryNw8MJNr/in-depth-react-tutorial-build-a-hotel-reservation-site-with-contentful-and-netlify**

**https://www.youtube.com/watch?v=j942wKiXFu8&list=PL4cUxeGkcC9gZD-Tvwfod2gaISzfRiP9d**

**https://www.youtube.com/watch?v=-pzwRwYlXMw&list=PL6n9fhu94yhVm6S8I2xd6nYz2ZORd7X2v**

**https://www.youtube.com/watch?v=W6NZfCO5SIk**

**https://docs.microsoft.com/en-us/dotnet/framework/data/adonet/**

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# 2. Overall Description

## 2.1 Product Perspective

The Hotel Management System is a new self-contained software product which will be produced by the project team in order to overcome the problems that have occurred due to the current manual system. The newly introduced system will provide an easy access to the system, and it will contain user friendly functions with attractive interfaces. The system will give better options for the problem of handling large scale of physical file system, for the errors occurring in calculations and all the other required tasks that has been specified by the client. The final outcome of this project will increase the efficiency of almost all the tasks done at the Hotel in a much convenient manner.

## 2.2 Product Features

- Make Reservations
- Search Rooms
- Add Payment
- Issue Bills
- Manage Guest (Add, Update Guest)
- Manage Room Details (Add, Update, Delete)
- Manage Staff (Add, Update, Delete, View)
- Manage Inventory (Add, Edit, Delete)
- Set Rates
- Retrieve Reports (Staff payment, Income)
- Manage Users (Add, Update, Delete)
- E-mail notifications

## 2.3 User Classes and Characteristics

### 2.3.1 User Classes

There are three user levels in Hotel Management System.

I. Owner
II. Manager
III. Receptionist

### 2.3.2 Characteristics of User Classes

**Owner**: -

Hotel owner has the privilege of Monitoring and authorization of all the tasks handle by the system. He can access every function performed by the system. Owner of the hotel as well as the system can access to the administration panel which is consider the core of the system. As the main authorized person of the hotel owner gets the ability to manage the other users including their user levels and privileges. Meanwhile he will be able to take all the kinds of reports available in the system. As the owner of the system and the hotel he has the power to set room rates as well. Hotel owner has the sole right of deleting a staff member from the system database.

**Manager**:

Manager is responsible for managing resources available in hotel management system. Manager also has most of the privileges mentioned above except the things regarding the payment handling. The reason for using a manager is to reduce the workload done by the owner that cannot be assigned to the receptionist, as those tasks seem much responsible. The user level, Manager has the authority to take all the reports available in the system but here also except the reports related to financial stuff, hotel income. Manager has other abilities that receptionist, user level has. Such as, adding new staff member to the system, modifying them or removing them, adding new guests to the system, modifying them and removing them from the system, adding new inventory to the system, modifying them and removing them. Adding new room types to the system, modifying them and removing them.

**Receptionist**:

As a hotel receptionist, he or her role will be to attain the goals of bookings and to ensure that all guests are treated with a high standard of customer service. Hierarchically receptionist role has the least accessibility to the system functions. Receptionist plays the boundary role of the system .He or she can perform limited functions such as registering new guest to the system, make reservations, sending e-mail reminders to clients for booking confirmation. Management of hotel will prefer to hire receptionist who have a good standard of general education and possibly in subjects such as English, math and IT.

## 2.4 Hardware requirements

Since neither the mobile application nor the web portal have any designated hardware, it does not have any direct hardware interfaces. The connection to the database server is managed by the underlying operating system on the phone and the web server. Hence, no additional hardware requirement.

## 2.5 Safety and Security

There are several user levels in hotel management system, Access to the various subsystems will be protected by a user log in screen that requires a user name and password. This gives different views and accessible functions of user levels through the system. Maintaining backups ensure the system database security. System can be restoring in any case of emergency.

Receptionist and Managers and owner will be able to log in to the Hotel Management System. Receptionists will have access to the Reservation/Booking and subsystems. Managers will have access to the Management subsystem as well as the Reservation/Booking subsystems. Owner has the maximum privilege to all subsystems. Access to the various subsystems will be protected by a user log in screen that requires a user name and password.

## 2.6 Assumptions and dependencies

Some software used in implementing the system is with high cost and the client has agreed to afford the amount of money needed to purchase them. It's assumed that client won't change that decision on the next phases of the software development. Although we assume that client is using windows 7 or windows 8. Otherwise, if client use an open-source operating system, there is a need of changing the SRS accordingly.

# 3. System features

**This software will have following functionalities:**

- **Make Reservations**: The receptionists will make reservations by inputting code, Number of adults, Number of children, check-in date, check out date, status, and Number of nights. The system will validate the details and record the information into the database.
- **Add Guest**: The add guest function is also done by the receptionists after gathering the details like Name, E-mail, Gender, Address, Phone number and Member code from the guest. The system will validate these details also and record the information into the database.
- **Add staff member**: This is a function performed by the manager. The details included are Employee Name, Age, Employee Address, NIC, Salary, Designation, E-mail and Code. The system will validate the details and record the information into the database.
- **Search Rooms**: The search rooms function is done by the receptionists after considering the period, check-in, check-out and guest. The details will be validated, and the system will check for the available rooms in given time period and return its availability.
- **Add Payments:** It is also done by the receptionists. The inputs are Total, pay time and credit card details. The system will validate the details and record the information into the database.
- **Issue Bill**: The bill is issued by the receptionist with the details like Billing no, stay Dates, Price, Taxes and Services. The details will be validated, and total cost is calculated according to the services gain by the customer.

- **Set Rates**: The rates are set by the owner of the hotel. It is based on Check-in, Check-out, Day, No. of guests, per night charges and total charges according to the number of days. The system will validate the details and record the information into the database.

# 4. Non-Functional Requirements

## 4.1 Performance Requirements

Performance requirements define acceptable response times for system functionality. Although the system is developed suiting for the least system performances, the performance of the system will highly depend on the performance of the hardware and software components of the installing computer. When consider about the timing relationships of the system the load time for user interface screens shall take no longer than two seconds. It makes fast access to system functions. The log in information shall be verified within five seconds causes' efficiency of the system. Returning query results within five seconds makes search function more accurate.

## 4.2 Software Quality Attributes

- Availability: - The system shall be available during normal hotel operating hours
- Correctness: - extent to which program satisfies specifications, fulfills user's mission objectives
- Efficiency: - How much smaller number of resources and time are required to achieve a particular task through the system.
- Flexibility: - Ability to add new features to the system and handle them conveniently.
- Integrity: - How the system would insecure the information in the system and how it avoids the data losses. Referential integrity in database tables and interfaces
- Maintainability: - How easy is to keep the system as it is and correct defects with making changes.
- Portability: - The Hotel Management System shall run in any Microsoft Windows environment
- Reliability: - Specify the factors required to establish the required reliability of the software system at time of delivery. Mean time between failures and mean time to recovery

- Reusability: - What is the ability to use the available components of the system in other systems as well.
- Testability: - Effort needed to test to ensure performs as intended
- Usability: - How easily a person can be taken the benefits of the system and the user friendliness.
- Robustness: – Strength of the system to handle system functions accurately and maintain the database without facing to unexpected failures
- Maintainability: – What design, coding standards must be adhered to exclusions created

### 4.3 Business Rules

Hotel Management System will perform under three users which are Owner, Manager and Receptionist. The system is designed in a way where responsibility and privileges are decreased in the order of owner, manager and receptionist. The role of manager is elected in the aim of making the owner's hands free from regular interfering with the system. So, most of the privileges that owner has are given to manager, except the ones are critical and important. Some features like that are, taking backup, restoring of the system and handling financial details, hotel income reports of the system. Receptionist is given with the most frequently used features of the system which has less responsibility than the other two users. Deleting of any information in the system is only allowed for the owner of the hotel.

# 5. External Interface Requirements

## 5.1 User Interface

Application will be accessed through a browser interface. The interface will be viewed best using 1024 x 768 and 800 x 600 pixels resolution setting. The software would be fully compatible with Chrome. No user would be able to access any part of the application without logging onto the system. Since there are three users with the hotel management system, they can only view or access the application after logging into the system.

## 5.2 Hardware Interfaces:

**Server side**:

a) Operating System: Windows 8 or higher
b) Processor: i3-5005U or higher
c) RAM: 8 GB or more
d) Hard Drive: 10 GB or more

**Client Side**:

a) Operating System: Windows 8 or higher
b) Processor: i3-5005U or higher
c) RAM: 2 GB or more

## 5.3 Software Interfaces

User on Internet: Web Browser

Operating System (any)

Database Server: Microsoft SQL Server

Network: Internet

Development Tools: ASP .Net MVC, Html, OS (windows), React JS, CSS

## 5.4 Communications Interfaces

When a specific reservation reserved at the same time an e-mail notification will be sent to both relevant staff member's e-mail account and guest's account. Guest will be notified in the check-out date. To achieve that functionality, it requires having a stable internet connection. Mostly a broadband connection with the client's computer will provide the efficient service.

# 6. Detail Use-Case Diagram