

HOTEL MANAGEMENT SYSTEM

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Table of Contents

1.Introduction.....	3
1.1 Purpose.....	3
1.2 Scope.....	3
1.3 Definitions and abbreviations	4
1.4 References.....	4
2.Overall Description	5
2.1 Product Perspective	5
2.2 Product Features.....	5
2.3 User Classes and Characteristics.....	5
2.3.1 User Classes.....	5
2.3.2 Characteristics of User Classes.....	6
2.4 Hardware requirements.....	6
2.5 Safety and Security	6
3.System features	7
4.Non-Functional Requirements	8
4.1 Performance Requirements.....	8
4.2 Software Quality Attributes	8
4.3 Business Rules.....	9
5.External Interface Requirements.....	9
5.1 User Interface	9
5.2 Software Interfaces	9
5.3 Communications Interfaces.....	10
6.UML Diagrams	10
6.1 Use Case Diagram.....	10
6.2. ER Diagram:	11
6.3 Sequence Diagram:	12

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 users 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.

The main purpose of this work is therefore to develop a web application project that would avoid all those problems encountered in the manual hotel booking system, so that customers can easily go online to browse the relevant information they need about the hotel so that they can book for the appropriate suite that is within their budget.

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. Administration department will monitor all. There is two End Users for HMS. The End Users are User and Admin. Admin can access to all system functionalities without any restrictions. Like adding and updating the Details of Guests. User can do their Reservation in online. 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 Core: ASP .NET Core is an open-source and cross-platform Web Application framework designed for Web development to produce dynamic web pages developed by Microsoft. It is a part of the .NET platform for building, deploying, and running web apps.

React Js: React is an open-source JavaScript library for building user interfaces. It is used to build single page applications. It allows to create reusable UI components

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

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=PL6n9fhu94yhVm6S8l2xd6nYz2ZORd7X2v>

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

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

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 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

- Login
- Search Rooms
- Make Reservation
- Add Guest
- Make Payment
- Booking Confirmation
- E-Mail Notifications
- Manage Rooms
- Set Rates
- View Reports

2.3 User Classes and Characteristics

2.3.1 User Classes

There are three user levels in Hotel Management System.

- I. User
- II. Admin

2.3.2 Characteristics of User Classes

User: User (end customer) are vital part of the system. Users have access to view the vacant room information and price range. They should be able to confirm the booking and cancel it if necessary. Users have access to User service desk portal to forward their inquiry. User should at least be capable to use the web UI interface.

Admin: Admin is responsible for managing resources available in hotel management system. Admin also has most of the privileges mentioned above except the things regarding the payment handling. The user level, Admin has the authority to take all the reports available in the system and includes the reports related to financial stuff, hotel income. Admin has other abilities. Such as, adding new rooms to the system, modifying them or removing them, setting rates for that rooms, modifying them and removing them from the system. Adding new room types to the system, modifying them and deleting them. Admin can view the reports till date as Number of rooms booked, Number of Rooms Vacant, Transaction and User details.

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 username 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 username 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:

- **Search Rooms:** The search rooms function is done by the user where the user finds the type of rooms and the number of rooms, check-in date, check out date, number of persons, price will be displayed.
- **Reservations:** When user click on make Reservations the user can insert the guest details and when make payment is clicked it will be redirected to make payment page and also there will be an option to cancel the reservation.
- **Payment:** When the user clicks the make payment it will ask for card details and when the payment is successful the user will receive an email notification regarding the booking, the system will validate the details and record the information into the database.
- **Set Room Rates:** The rates are set by the admin. The admin can update and delete the rate. The system will validate the details and record the information into the database.
- **Add Rooms:** The admin can add, update, delete the types of rooms and number of rooms.

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 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 24*7 any day.
- 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

Online Hotel Management System will perform under two users which are user and admin. There are two distinct areas of this system: the back end and the customer-facing end. The system is designed in a way where user can book his reservation hassle free. User will have to sign up for first time and then login and make reservations by adding few details of user and pay online. Features like that are taking backup, restoring of the system and handling financial details, hotel income reports of the system, deleting of any information in the system is only allowed for the admin.

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 Software Interfaces

User on Internet: Web Browser

Operating System: (any)

Database Server: Microsoft SQL Server

Network: Internet

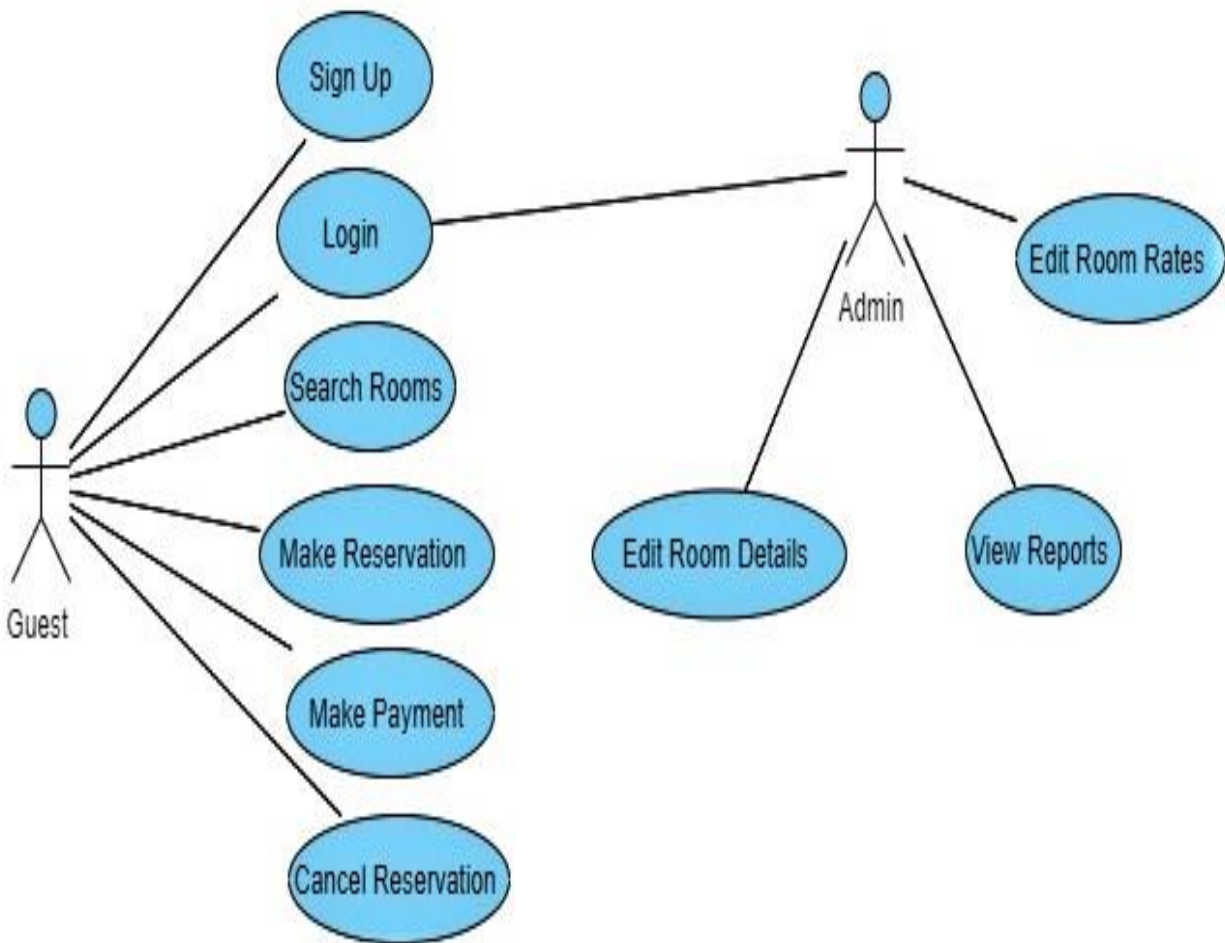
Development Tools: ASP .Net Core, Web API, React JS, CSS

5.3 Communications Interfaces

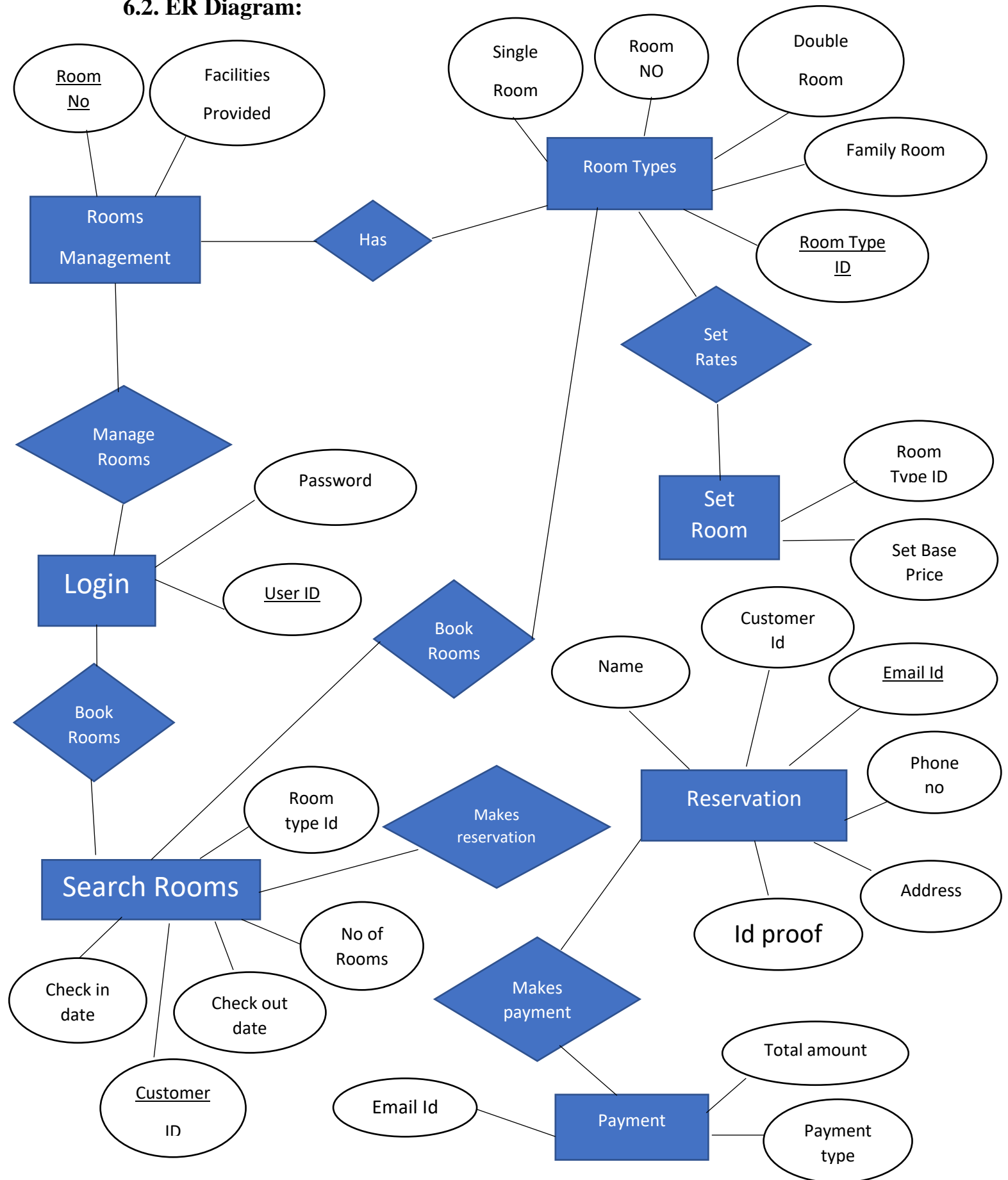
When a specific reservation reserved at the same time an e-mail notification will be sent to both relevant staff member's e-mail account and guest's account. Guest will be notified in the check-out date. To achieve that functionality, it requires having a stable internet connection. Mostly a broadband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

6.UML Diagrams

6.1 Use Case Diagram



6.2. ER Diagram:



6.3 Sequence Diagram:

