Bangladesh University of Business and Technology(BUBT)

Hotel Booking System

Submitted by:

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In partial fulfillment of the requirements for the degree

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DECLARATION

We, therefore, proclaim that the Extend and announce that the undertaking named "Hotel Booking System" was submitted partially to satisfy the wants for Bachelor of computing degree and Bangladesh Business and Technology University (BUBT). Engineering is our own add the school of computing and Engineering (CSE). This task doesn't contain any material that has not been acknowledged for the honor (respects) to the next degree up-and-comer. To the simplest of our knowledge, it doesn't contain material previously published or written by anyone aside from making appropriate references to the project.

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CERTIFICATE TO
WHOM IT MAY CONCERN

This is to guarantee that Md. Rakibul Islam Rubel, Sumaiya Akter, Maharan Maria of B.Sc. in¨CSE has finished their venture work named "Hotel Booking System " in fractional satisfaction for the ¨prerequisite of B.Sc. in CSE. Bangladesh University of Business and Technology in the year 2020.

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DEDICATION

This investigation is committed to our parents both of whom gave me the motivation of something that they had never delighted in and since the time at that point, we've been prepared to like the value of perusing and long-lasting learning.

APPROVAL

This Project "**Hotel Booking System"** Submitted by **Md. Rakibul Islam Rubel** ID: **151631026, Sumaiya Akter** ID: **15163103044** and **Maharun Maria** ID: **15163103042** Department of Computer Science and Engineering(CSE), Bangladesh University of Business and Technology (BUBT) under the supervision of **M. M. Fazle Rabbi,** Department of Computer Science and Engineering has been accepted as satisfactory for the partial fulfillment of the requirement for the degree of B.Sc. Engg. in CSE and approved as to its style and contents.

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ABSTRACT

The project "Online Hotel Booking System" is a system based on accessing the internet to book rooms in a hotel. The purpose of this study is to develop and implement an online hotel reservation system for hotels, that will replace the manual method of booking for hotel rooms. The previous system for booking rooms was faced with so many problems like, delay in processing the customer booking or paying for rooms that are below or beyond his standard, causes difficulty for emergency booking.

The use of the online view of room rates and uploading of available rooms and facilities was used for the new system so that the customer can view and make his choice before arrival, and also in the case of emergency traveling. This new system assisted the hotel owners in managing their hotels because they can also regulate the receptionist moves and avoid fraudulent activities. It also increased the efficiency of the hotel managers and also their profit margin, once they have a better and good facility.

ABBREVIATION AND NOMENCLATURE

Abbreviation   **Description**

PC   Personal Computer

URL   Universal Resource Locator

MMU   Memory Management Unit

DOM   Document Object Model

W3C   The World Wide Consortium

DFD   Data Flow Diagram

ERD   Entity Relationship Diagram

HTML   Hyper Text Markup Language

CSS   Cascading Style Sheet

IT   Information Technology

RAM   Random Access Memory

RDBMS   Relational Database Management System

SQL   Structure Query Language

MySQL   My Structure Query Language

XML   Extensible Markup Language

GUI   Graphical User Interface

Table of Contents

CHAPTER 1

INTRODUCTION

1.1 Introduction

An Online hotel book system provides a unique search and book functionality for global clients and they can make searches, book, and cancel an existing booking. A preponderance of the customers use the internet in this digital world, they discover on the internet everything they need to know. It's a great opportunity for the entrepreneur. With hotel booking systems, an entrepreneur can expand his market, attract more guests and make those guests loyal customers.In an online booking system entrepreneur can easily promote his business through social media online to create a page or start a campaign and sell a package, add-ons online.

Due to the internet accessibility, millions of people across the world can view our website at any time, meaning that for those looking to expand our business and reach out to a larger audience. We have many more opportunities to do so. Customer can make searches, easily booking their desired one, and cancel an existing booking on the hotel booking websites. Using this system user can check which room is booked and which room is available. The administrator can add or update the hotel and the room information to approve/disapprove a new travel agent's account application and generates a monthly occupancy rate report for each hotel. It is helpful for the authority of hotel management clients. A study says over57% of travel booking is done online.

In the manual booking system, there are numerous problems. Sometimes it's not easy for the customers to visit the hotel rooms physically. Customers may face a hard time getting a place to stay in the area. It is difficult to store customer information. Management of customer schedules on the booking process is difficult and more time-consuming. The payment processing system is also difficult. There is no centralized database that can be created as information, not in one place. More money and paper and other resources are wasted to store the record of available rooms and customers. These customers can be travelers, foreigners, businessmen, tourists, visitors, etc. Customers are mostly constrained in trying to get room to pass the night, as the usual practice is to look for a hotel when you have arrived in the particular location, walk-in, and find out whether there is a vacant room. In the case that there is no vacant room, they have to move to the next closest hotel to enquire once more. But in the online booking system customer

can visit the hotel's website, choose a more reasonable room and perfect one via mobile, tablets, or laptop in their living place, working place, or anywhere. Visiting a website is available at any time. They can compare booking costs among other hotels and choose the required one. In the booking

time, customers can select their breakfast, lunch, and dinner menu. They have great features to help the customers but that does not allow the customers to manage their data. Customers will get all the details required during the booking process and they don't have to waste time asking for more information.

In our system, customers will get all the details required during the booking process and they don't have to waste time asking for more information. Send out an automated email to the booking party as a confirmation of the booking. We put a "feedbacking" feature in our system where customers can share their satisfaction and inform their demands with the hotel's service. The feedback will help us to improve our facilities and services. Online booking requests as well as easy to reply feedback to the customers. We are working to design such a system that will reduce a lot of paperwork and save people's time. All booking and reservations made on our site are displayed with all booking details: arrival time, departure date, hotel name, number of customers, price. The menu option shows the contact information.

Nowadays, people travel a lot from country to country. During vacation time, the hotels are fulfilled with travelers. People travel with their family and the demand for the hotel room are increased. Also for business purposes, clients can meet from national and international. For the meeting purpose, hotels arrange conferences room and it can bring more benefits to the hotel's authority. International travelers travel to a different country to make a documentary, photography, researches, or other project work.

Our hotel booking system is user interactive. Customers will choose it because they can browse our system easily. Our system is more secure and trustworthy. Data security is high. Our system is user-friendly. In the future, we will work to make the system user-friendly. Online booking is hassle-free and more relaxing both for the customer and administrator.

1.2 Motivation

In the modern era, everything is online-based and it has a bright future. Without going online we can't think about our progress worldwide. Using the internet we can increase our business and spreads our services worldwide. Everyone wants to save time and those who save time automatically save money. If the hotel booking is more time-consuming and trustworthy at once, then what is best for that. Then undoubtedly people will like the services. Where the manual system is not time-consuming and not secure. And day by day

people focus on internet services and it's become available for the people. So we have motivated to do this system. On the internet, we can browse all the time and there is no restriction. We can scrutinize all the features and services from another hotel website and can compare them with others. In a manual system sometimes we face an awkward moment in front of the hotel manager or administrator and they also feel bored.

We see that traveling is becoming a passion. On workday off people will become more interested to do a trip for refreshing themselves. This refreshment can add extra energy and concentrate to join the work again. Also in this vacation students spend their time then turn out from somewhere. A foreigner visits another country and captured their memorable days. All travelers are needed a place to stay for a few days. That's why they need to book the hotel and the demand for a hotel along with travel proportionally.

There are some reasons we are motivated to do this project.

1. Customers can book a hotel room online by sitting at home.

2. Customers can book a hotel room in 24 hours.

3. Customers can save valuable time by using this system.

4. Customer data will be more secure.

5. Online hotel booking management is very easy.

6. Transaction system is very safe.

7. Customers can pay by using a credit card, mobile banking, and cash on delivery system.

8. Customer can design and execute own booking and cancellation policy.

9. Online booking system is designed to provide all the features of self-service portals.

10. This system will make the staff more efficient. They won't be tied to a phone waiting for guest calls. What's more, the customer will be able to take bookings around the clock, 7 days a week.

11. Prospective guests who book rooms online are much more likely to show up. And in cases when someone doesn't show up, the online booking system will automatically free the booking room, making it available for booking.

12. It is much easier to create, publish, promote and sell packages and add-ons online. We can combine them or let customers choose the package they want.

1.3 Objectives of the project

The objective of the hotel booking system is to provide people seeking hotel rooms with accurate information about available accommodations and contribute to growing their business. It should have some effective features that help to generate revenues. This system saves Customers valuable time and the customer will access 24 hours in the websites. Searching and retrieving records is being easier since there would be a search module that would filter all the needed records. Transaction system is very easy and safe. Customer data will be more secure.

The booking and cancellation procedure is in the customer's hand. The clients can cancel the already booked room in the particular hotel on a particular day. It's more beneficial to the customer. Online booking is hassle-free and more relaxing both for the customer and the Administrator.

The main purpose of online hotel booking system:

1.To save customers time.

2.To make it easy for customers to make reservations.

3.To allow booking of rooms without errors and without creating conflicts.

4.To provide people seeking hotel rooms with accurate information about available accommodations.

5.To maximize occupancy.

6.To provide up-to-date information about the status of reservations.

7.To present the hotel as an excellent, or the best, choice to its target market.
8.To make it easy for customers to get their questions answered, lowering barriers to selecting this chain's hotels.

9.To allow staff to easily update information in the system and have the system inform everyone who needs to know.

10.Efficiency of booking, especially for repeat customers.
11. Ease of information gathering in support of selecting a hotel.
12.To provide accurate, reliable reservations.
13. To maximize occupancy, selling each room at the highest possible rate.
14.To provide excellent comparative information about available hotel rooms.

1.4 Contribution

In our project, we worked on different features. We developed to replace the manual process of booking for the hotel room or any other facility of the hotel. In our system, customers can search and choose their desire room. Customers can transact very easily and more safely by cash on delivery. Customers can see which room is booked and which are available. They can cancel the book within a fixed time. We put a feedback feature on our websites where customers can share their opinion. Using contact info they can contact with admin for any query. We have a very feasible admin panel so that the admin can manage the whole system properly. An admin can add or update the hotel and the room information approved or disapproved. In our project, the system keeps a proper record of customers for emergency and security purposes.

The contribution of our project is mentioned here:

1. Our system enables users to search and find the most relevant booking options and book their room via the portal.

2. Customers can cancel bookings.

3. Our system is easy to use, efficient and accessible.

4. It has a user-Friendly Interface.

5. It keeps track of hotel documentation, activities, and responses.

6. It is a secure online payment portal.

7. Customers can transact by cash on delivery.

8. Customers can contact us for any kinds of inquiry

1.5 Conclusion

The hotel booking system has a future. A preponderance of the customers use the internet in this digital world, they discover on the internet everything they need to know. In a hotel booking system, we can easily promote our business through social media online to create a page or start a campaign and sell packages, add-ons online. Payments mode are very easy. This system gives freedom to potential visitors to book a room anytime and anywhere they want. We have chosen this system because nowadays online platform is very popular all over the world as well as in our country. This system is also hassle-free, relaxing, time-consuming. Customer data is more secure and the transaction process is easy and trustworthy. A customer loves this system because he does not need to go to the hotel place. He can choose and book the required room by sitting at home. So he saves more time using this online service. In the future, we will work more on our system and expand our service that's why the customers will be more benefited using this system.

CHAPTER 2

EXISTING SYSTEM AND LITERATURE REVIEW

2.2.1 Booking.com

Booking.com is one of the biggest platforms in the hospitality and travel industry. More than 752,402 hotel booking services are available on this site around the world. This website has become the world's largest platform for hotel booking around the world over the past 20 years.

They have a car rental and airport taxi facility. They provide their car rental and taxis facility depends on the location, number of passengers, etc. They have professional drivers. So driving is safer and time-consuming. Booking.com's global customer service team is here to help 24/7 in 43+ languages. They have free cancellation on many attractions. Customer can cancel their booking for their causes. But cancellation must be confirmed immediately. If someone's plans change, he/she can cancel for free up to 24 hours before his/her scheduled pick-up time.

In COVID 19, they add an extra facility for the customers. Cancellation may be accepted including free of charge until cancellation expires. They add some conditions. If the booking is no longer free to cancel or is non-refundable, the customer may incur a cancellation fee. Properties can also choose to change the dates of customer reservations at no extra cost. But if the booking was affected by Coronavirus-related events such as border closures or travel limitations enforced by authorities, but is no longer free to cancel or is non-refundable, sign in to check options to manage the booking.

The payment system of Booking.com either by virtual credit card (VCC) or via bank transfer. For international travelers, they support alternative payment solutions like PayPal, Alipay, and WeChat Pay.

2.2.2 Agoda.com

Agoda is the world's fastest-growing online travel booking platform. From its beginning as an e-commerce start-up based in Singapore in 2005. Agoda has grown to offer a global network of 2 million properties in more than 200 countries. It provides travelers with easy access to a wide choice of luxury and budget hotels, apartments, homes, and villas to suit all budgets and travel occasions. It services hotels, vacation rentals, flights, and airport transfers in more than 30 countries in 38 languages around the world. They give services to above 23 million customers. They have 7 features adjust on the homepage of their website. Hotel & Homes, Flight, Airport transfer, today's deals, Apartments, Car rentals, Things to do. It has car rental facilities, easy cancellation option.

It has an easy cancellation policy. Customers can easily cancel their booked one using the Agoda app or Agoda websites. Customers can change their booking dates, extend and shorten their stays. There are more facilities for customers if they needed. It provides a credit card for the payment process. It also provides a car rental facility. Customers can choose car services requiring their passenger number. It is relatively cheap. In the Coronavirus pandemic, the authority has made changes to their booking policies. Certain destinations continue to impose and modify restrictions on travel.

2.2.3 Amaroom.com

Amaroo is Bangladeshi online hotel booking room portals. They have buses, flight services. It has blog features for the web visitors that they can read this amazing blog.

In case of cancellation, they provide customers with a refund according to their policy. The privacy policy is poor. They update their policy in the future. If some clients have registered as a member on their sites, they will notify about material changes to this privacy policy by sending a notice to the email address the clients provide.

It has lower price special hotels anywhere. It's more beneficial for travel lover people. All class of people can get their services. It provides flexible and secure payment options including cards, Mobile banking, EMI, and Pay at Hotels.

2.3.1 HTML(HyperText Markup Language)

HTML stands for the full meaning (HyperText Markup Language). HTML is the Web-based Markup language for creating documents and web applications for everyone to use so far, anywhere. It is used to design web pages using a markup language. A markup language is used to define the text document within tag which defines the structure of web pages. (geeksforgeeks, 2021). Here is the HTML helps to structure our websites well. The way a skeleton system gives a structure to the human body in a similar manner HTML acts as a skeleton for websites, without it a website cannot be made. If you want to work as a software Developer especially in the web development domain, then learning HTML is a must, because without knowledge of it you cannot build a website. (geeksforgeeks, Why to use HTML, 2021). The extension of the HTML file must be **".html"** and HTML is the main structure for website building.

2.3.1.1 Basic form of HTML.

```html
<!DOCTYPE html>
<html>

    <head>
        <title>website</title>

        <link rel="stylesheet" type="text/css" href="">
    </head>
    <body>
        <h1>Learn html.</h1>
    </body>

</html>
```

Figure 2 : 1 html tag

2.3.2 CSS (Cascading Style sheet)

Here is the CSS full meaning of Cascading Style Sheet. Mainly CSS given all style opportunity on the web sites it can modify huge style on sites and adding some mechanism and style (fonts color, fonts bolding an so on).when a websites make for use then html and css used for make structure and style overall the web sites and it mention that how a content displayed using css and html it link between css and html from different sources it would be relational css text and style sheet and css design responsive web sites today. Styling has been an essential property for any website since many decades , Here it si increase the standards and overall look of the website which makes it easier for the user to interactive with it. A website cannot be made without CSS, as styling is must since user would want to interactive with a dull and shabby website so for we have to learn and design and development using css (geeksforgeeks, CSS Tutorials, 2021). This separation can improve content accessibility, provide more flexibility. This separation of formatting and content makes it possible to present the same markup page in different styles for different rendering methods.

2.3.2.1 Importance of CSS

I. Web pages load easier and they use less bandwidth.

II. CSS is compatible perfectly with every web browser.

III. CSS makes the content very efficient.

IV. Redesign the website more quickly.

V. CSS saves a lot of works.

2.3.3 PHP

The full meaning of is PHP (Hypertext Preprocessor) this is used for web programming that means developing server sites and connecting database that's called backend. PHP is a total server scripting language. PHP used for dynamic web page developing and create huge capable for database section. Recently PHP used for oop(Object Oriented Programming) and making powerful dynamic websites. We will be referring to the PHP lines of code as statements. PHP

statements end with a semicolon (;). If you only have one statement, you can omit the semi-colon. If you have more than one statement, then you must end each line with a semicolon. For the sake of consistency, it is recommended that you always end your statement(s) with a semicolon. PHP scripts are executed on the server. The output is returned in form of HTML (guru99, 2021).

2.3.3.1 Reasons To use PHP

Now that you are comfortable using HTML on your website, it is time to tackle PHP, a programming language you can use to enhance your HTML website. Why use PHP? Here are some great reasons Anyone who already has a website and is familiar with HTML can easily make the step to PHP. Php and PHP are interchangeable within the page. You can put PHP outside the PHP or inside. While PHP adds new features to your site, the basic appearance is still all created with HTML. Read more about using PHP with HTML

PHP allows you to interact with your visitors in ways HTML alone can't. You can use it to design simple email forms or elaborate shopping carts that save past orders and recommend similar products. It can also deliver interactive forums and private messaging systems

PHP is a lot easier to get started with than you might think. By learning just a few simple functions, you can do a lot of things with your website. Once you know the basics, check out the available on the internet that you only need to tweak slightly to fit your needs. The PHP documentation is the best on the web. Hands down. Every function and method call is documented, and most have tons of examples you can study, along with comments from other users There are a lot of great PHP blogs on the internet. Whether you need a question answered or want to rub elbows with PHP expert programmers, there are blogs for you. PHP is available online for free. It is accepted globally so you can use it on all website development and design tasks With an extension or abstraction layer, PHP supports a wide range of databases including MySQL. Php solves problems easier and faster than almost anything else out there. It is user-friendly, cross-platform, and easy to learn. How many more reasons do you need to try PHP on your website (Bradley, 2021).

2.3.4 MYSQL

MySql is currently the world-famous most popular widely open-source database technology and data storage system using localhost on our computer. today MySQL offers great reliability and ease for us. Here is MySQL support to develop for freely available open-source Relational Database Management system and MySql is developed, supported, and marketed by MySql AB. This database available to free and MySQL offers great reliability and a case of use. MySQL server is an open-source relational database management system that is a major support for web-based applications. Databases and related tables are the main component of many websites and applications as the data is stored and exchanged over the web. Even all social networking websites mainly Facebook, Twitter, and Google depend on MySQL data which are designed and optimized for such purpose. For all these reasons, the MySQL server becomes the default choice for web applications (geeksforgeeks, MySQL, 2021).

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2.3.4.1 Reasons To Use MySql

I. MySql deal for both small and large applications

II.MySql is very fast reliable and easy to use

III.Its used for standard SQL

IV. MySql compiles on a number and characters of the platform.

V. MySql develops and designed and distributed support by oracle Corporation.

VI. Very Strong for data protected

VII. MySql is free for download and uses.

VIII. It's a web-based system.

IX. MySql support every time

X. MySql is a database system that runs on a computer server.

XI. Its permit to develop large applications

2.3.5 XAMPP

XAMPP is a Cross-platform web server used to develop and run the programs on a local computer server. Its developed and managed by Apache friends and is a open source. It has some additional features which is apache HTTP server, MariaDB and interpreter for few programming language like perl and php (sarvankumar8128, 2021).Officially, XAMPP's designers intended it for use only as a development tool, to allow website designers and programmers to test their work on their computers without any access to the Internet. To make this as easy as possible, many important security features are disabled by default. XAMPP can serve web pages on the World Wide Web. A special tool is provided to password-protect the most important parts of the package. XAMPP also provides support for creating and manipulating databases in MariaDB and SQLite among others. Once XAMPP is installed, it is possible to treat a localhost like a remote host by connecting using an FTP client. Using a program like FileZilla has many advantages when installing a content management system (CMS) like Joomla or WordPress. It is also possible to connect to localhost via FTP with an HTML editor.

2.3.6 JAVASCRIPT

JavaScript is web based programming language that maintains huge scripting on web server it has huge functional features that connected with different web Scripting and JavaScript is very powerful scripting language for web sites building. And javaScript used for dynamic websites and applications here is facebook, Youtube and others social platform use by JavaScript.

JavaScript can communicate with asynchronously and alter the document contain for displayed. And javaScript used in html also while design web structure using some tag but javaScript used by <script> open and </script> close tag.

2.3.6.1 Importance of JavaScript

I. All browsers have JavaScript interpreters built-in. No other languages have this tremendous advantage.

II. JavaScript is very easy to learning and for use.

III. And JavaScript use for machine learning

IV. JavaScript very popular for Server Applications and Games

2.3.7 JQuery

Jquery is a fast and concise JavaScript library created in the year 2006 with a nice motto . write very less and do more thing here is JQuery simplifies html document traversing and even handling, animating and Ajax interaction for rapid web developemt. JQuery is aJavaScript toolkit designed to simplify various tasks by writing less code some important core features below (tutorialspoint, 2021).

JQuery includes the following features:

I. DOM manipulation and event handling

II. AJAX support and Animations

III. Lightweight and Cross Browser Support

IV. Latest Technology.

2.3.7.1 Importance of jQuery

Here is the actual purpose of JQuery is to make it much easier to use JavaScript on your website and its make things like HTML document traversal and manipulation animation event handling and AJAX much simpler with an easy to easy API that across a multitude of browser.

JQuery is more important because:

I. JQuery is a lightweight library.

II. JQuery supports cross-browser.

III. Easy Dom traversing.

IV. JQuery is highly extensible.

V. JQuery elements display even when JavaScript is disabled.

VI. JQuery makes animated applications just like Flash.

VII. JQuery pages load faster.

VIII. JQuery can be SEO-friendly.

2.3.8 Internet Information Services (IIS).

Stands for "Internet Information Services" IIS is a web server software package designed for Windows Server. It is used for hosting websites and other content on the Web. Microsoft's Internet Information Services provides a graphical user interface (GUI) for managing websites and the associated users. It provides a visual means of creating, configuring, and publishing sites on the web. The IIS Manager tool allows web administrators to modify website options, such as default pages, error pages, logging settings, security settings, and performance optimizations. IIS can serve both standard HTML web pages and dynamic web pages, such as ASP.NET applications and PHP pages. When a visitor accesses a page on a static website, IIS

simply sends the HTML and associated images to the user's browser. When a page on a dynamic website is accessed, IIS runs any applications and processes any scripts contained in the page, then sends the resulting data to the user's browser.

While IIS includes all the features necessary to host a website, it also supports extensions (or "modules") that add extra functionality to the server. For example, the Win Cache Extension enables PHP scripts to run faster by caching PHP processes. The URL Rewrite module allows webmasters to publish pages with friendly URLs that are easier for visitors to type and remember. A streaming extension can be installed to provide streaming media to website visitors.

IIS is a popular option for commercial websites since it offers many advanced features and is supported by Microsoft. However, it also requires a commercial license, and the pricing increases depending on the number of users. Therefore, Apache HTTP Server, which is open source and free for unlimited users, remains the most popular web server software (techterms, 2021).

2.3.9 Entity Relationship Diagram (ERD)

The full meaning of ERD(Entity Relationship Diagram) its can create a relationship with all entity that connects each other. It has known as the entity-relationship model and it's a graphical representation of the information system that depicts the relationship among people, objects, places, concepts, or events within that system. It provides entity-relationship a visual representation of database design. And it creates a relationship with an attribute using a rectangle shape where attribute shape is ellipse where entity contains rectangle.

 An entity can be a real-world object, either animate or inanimate, that can be easily identifiable. For example, in a school database, students, teachers, classes, and courses offered can be considered entities. All these entities have some attributes or properties that give them their identity.

An entity set is a collection of similar types of entities. An entity set may contain entities with attributes sharing similar values. For example, a Student set may contain all the students of a

school; likewise, a Teacher set may contain all the teachers of a school from all faculties. Entity sets need not be disjoint (tutorialspoint, Entity, 2021)

2.3.9.1 Generel Overview of ERD

An entity-relationship consists of some features that are given below.

    I.   Entity

    II.   Weak Entity

    III.   Attribute

    IV.   Multi-valued Attribute

    IV.   Derived attribute

    V.   Relationship

that can help define business processes and be used as the foundation for a relational database. Entity-relationship diagrams provide a visual starting point for database design that can also be used to help determine information system requirements throughout an organization. After a relational database is rolled out, an ERD can still serve as a referral point, should any debugging or business process re-engineering be needed later. However, while an ERD can be useful for organizing data that can be represented by a relational structure, it can't sufficiently represent semi-structured or unstructured data. It's also unlikely to be helpful on its own in integrating data into a pre-existing information system.

2.3.9.1 General Overview of ERD

An entity-relationship consists of some features that are given below.

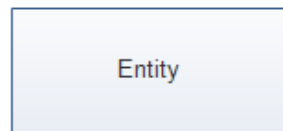I. Entity

II. Weak entity

III. Attribute

IV. Multi-valued attribute

V. Derived attribute
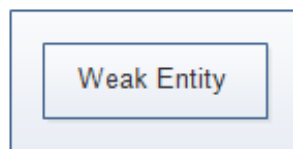
VI. Relationship

Entity.

An entity can be represented by a person, place, event, or object that procedure by a given system that we are designing. For example, a university includes some of the features there is a system that is student, teacher, staff and other things here is all things entity and entity represented in ER diagram by a **rectangle**.
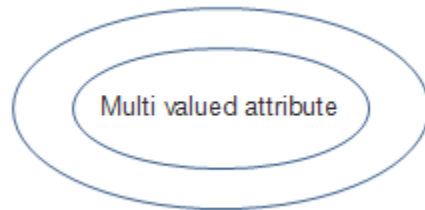
Weak Entity.

Attribute

An attribute is a property, trait, or characteristic of an entity, relationship, or another attribute. It is represented by an ellipse.
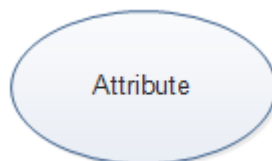
Multi-valued attribute.

Multi-value attributes may contain more than one value. For example, a person can have more than one phone number, email_address, etc (tutorialspoint, ER Model - Basic Concepts, 2021).


2.3.9.2 Mapping Cardinality of ERD

Cardinality defines the number of entities in one entity set, which can be associated with the number of entities of other sets via a relationship set (tutorialspoint, Relationship, 2021). For example, a customer can book rooms.

i.One-to-one

ii. One-to-Many or Many-to-One (dependent on the direction)
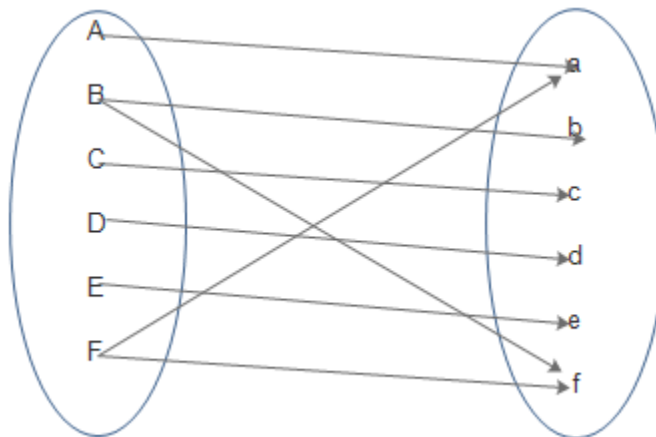
iii. Many-to-One

iv. Many-to-Many

One to One

A one-to-one relationship consists of an entity can relationship with another entity that connects a one-to-one system. For example, a customer can be kept only in one word/cell at a time.
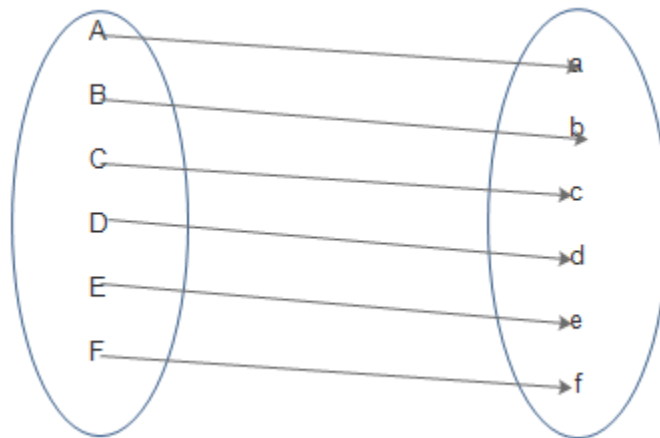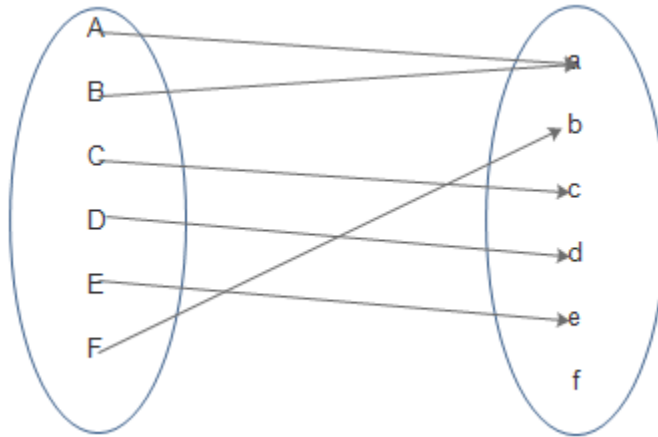

One-to-many

Here two sets below like A and B and then A entity can associate more than one entity for B sets this concept to represent by one-to-many.

Many –to-one

Here are many objects can be a relationship with one entity of the opposite sets.

Many-to-many

A Many-to-Many relationship creates two sets every entity can be in relationship with both sites.

2.3.10 Data Flow Diagram (DFD)

The data flow diagram is a graphical representation of the flow of data in an information system. It is capable of depicting incoming data flow, outgoing data flow, and stored data. The DFD does not mention anything about how data flows through the system.

There is a prominent difference between DFD and Flowchart. The flowchart depicts the flow of control in program modules. DFDs depict the flow of data in the system at various levels. DFD does not contain any control or branch elements (tutorialspoint, Data Flow Diagram, 2021).

Structure chart is a chart derived from Data Flow Diagram. It represents the system in more detail than DFD. It breaks down the entire system into the lowest functional modules, describes functions and sub-functions of each module of the system in greater detail than DFD. The structure chart represents the hierarchical structure of modules. At each layer, a specific task is performed (tutorialspoint, Structure Charts, 2021)

2.3.10.1 Features of DFD

DFDs only involve four symbols. They are:

i. Process

ii. Data Object

iii. Data Store

iv. External Entity

Activities and action representation perform by the circle.

Dataflow

Movement of the data in the system that we are designed.

External Entity
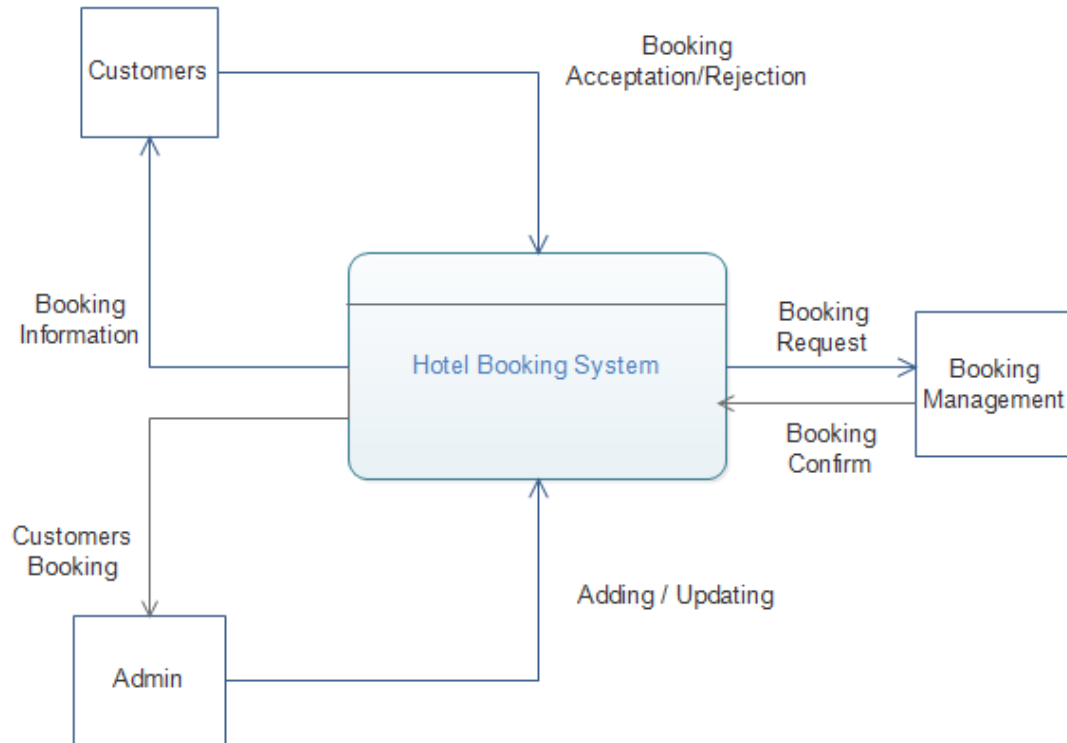
It makes data storage and destination of the entities.

Data Store

Data repositories for data that are not moving. It may be as simple as a buffer or a queue or as sophisticated as a relational database.

2.3.10.2 Example

0-level data flow diagram:

**Figure 2. 3: 0-level DFD for Customer Service System**

The highest abstraction level DFD is known as Level 0 DFD, which depicts the entire information system as one diagram concealing all the underlying details. Level 0 DFDs are also known as context level DFDs (tutorialspoint, Software Analysis & Design Tools, 2021), CS Assistant and Passenger are the two entities that will interact with the system. In between the process and the external entities, there is a data flow that indicates the existence of information exchange between the entities and the system.

2.3.11 Use Case Diagram

An important part of the Unified Modeling Language (UML) is the facilities for drawing use-case diagrams. Use-cases are used during the analysis phase of a project to identify and partition system functionality. They separate the system into actors and use-cases. Actors represent roles that can are played by users of the system. Those users can be humans, other computers, pieces of hardware, or even other software systems. The only criterion is that they must be external to the part of the system that is partitioned into use-cases. They must supply stimuli to that part of the system, and they must receive outputs from it. Use-cases represent the activities that actors perform with the help of your system in the pursuit of a goal. We need to define what those users (actors) need from the system. Use-case should reflect user needs and goals and should be initiated by an actor. Business, actors, Customers participating in the business use-case should be connected to the use-case by association (tutorialspoint, Use-Case Diagrams, 2021).

2.3.11.1 Basic Use Case Diagram Symbols and Notations.

System Draw your system's boundaries using a rectangle that contains use cases. Place actors outside the system's boundaries.

System Name
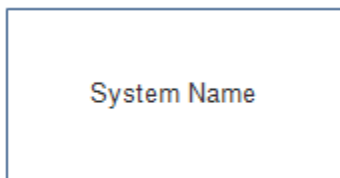
Use Case Draw use cases using ovals. Label the ovals with verbs that represent the system's functions.

Use Case

Actors are the users of a system. When one system is the actor of another system, label the actor system with the actor stereotype.

Actor

Relationships Illustrate relationships between an actor and a use case with a simple line. For relationships among use cases, use arrows labeled either "uses" or "extends." A "uses" relationship indicates that one use case is needed by another to perform a task. An "extends" relationship indicates alternative options under a certain use case.

<<include>>

<<Extend>>
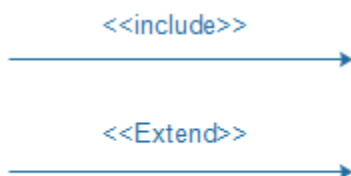
2.3.12 Relational Database (RDB)

These databases are categorized by a set of tables where data gets fit into a pre-defined category. The table consists of rows and columns where the column has an entry for data for a specific category and rows contains instance for that data defined according to the category. The Structured Query Language (SQL) is the standard user and application program interface for a relational database. Various simple operations can be applied over the table which makes these databases easier to extend, join two databases with a common relation and modify all existing applications (tutorialspoint, Relational Databases, 2021).

Relational databases are designed to make data entry and management simpler, quicker, and less prone to data corruption by storing information so that each piece of data is stored only once, and referenced by other pieces of data when needed. This is achieved by creating relations between data sets, hence the term relational database. To see how some of the key principles of relational databases work, let's take our example order records through the process of database development.

Normalizing

The process of normalizing a relational database consists of separating data into smaller, more closely related information. In this example, initially, we might separate the customer information from the order information so that all the customer details are stored in one table, and a single reference, Customer Number, is included in the order table. Through a series of logical iterations, each designed to prevent extensive data duplication, we might end up with several tables. For example, we might have a list of customers, a list of contacts, a list of addresses, a list of orders, and a list of booking lists.

2.5 Conclusions

From this chapter, we know the details about the related work of our project. There are also many popular international online booking systems such as booking.com, agoda.com. Because of these international online booking systems, we have gathered much information very easily and this information is very effective for us to develop our system. Our project is an existing system. So we can learn many things from these existing systems. Moreover, we gather knowledge and also can learn about many functionalities and modules from these existing systems. These existing systems are very useful for developing our system. Nowadays our system is very popular all over the world. That's why it is very easy for us to find out the required information of our system.

CHAPTER 3
PROPOSED MODEL

3.1 Introduction

The proposed system is a web-based application that allows customers to make inquiries online and book for services providing the required details. which provides an online booking facility available for everyone. Any type of hotel room will be available for the customer, and it can be easy to booking faster when compared with others. Online booking application concentrates more on user-friendly interfaces and promotes users to booking faster and easier. There is a facility available to do online booking. Online booking has a registration facility. The registration process is faster and easier compared to any existing application model.

In the user interface of the online booking system, there will be accomplished with options to find new hotel rooms available and most book and customer satisfying facilities. Customers can avail themselves of this facility and book these rooms faster. All rooms on the website will be highlighted with the image of the hotel rooms. By click on the image, it will take you booking page, from where customers can booking easily.

the online booking system is provided with a customer support page. Using this page any customer can get assistance from the available customer support executive online. There we have supported over the phone, email, and contact form. Customers can use this facility at any time. As security issue pays major importance today, extra attention towards security is done in the online booking system application. We incorporate digital signature techniques to ensure much effective security for the customer. Digital signature will provide secure data transactions and also during money transactions for booking.

3.2 Feasibility Study

The objective of the feasibility study is to determine whether or not the proposed system is feasible. A feasibility study is a preliminary investigation of a proposed system to decide whether the system can run smoothly with the organization, will the organization realize the benefits that are expected, and decide will the organization go for it.

Feasibility is defined as the practical extent to which a project can be performed successfully. To evaluate the feasibility, a feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Information such as resource availability, cost estimation for software development, benefits of the software to the organization after it is developed, and cost to be incurred on its maintenance are considered during the feasibility study.

The objective of the feasibility study is to establish the reasons for developing the software that is acceptable to users, adaptable to change, and conformable to established standards. Various other objectives of the feasibility study are listed below. There are many problems with the existing hotel booking system in Bangladesh and the problems are stated in the problem analysis. It is economically feasible as we are making this for the partial fulfillment of the program and is operationally feasible as we are making this system by removing the threats and weaknesses of existing systems as well as it is technologically feasible as we are using open-source coding with the use of PHP and MySql.

- To analyze whether the software will meet organizational requirements
- To determine whether the software can be implemented using the current technology and within the specified budget and schedule
- To determine whether the software can be integrated with other existing software.

Three Types of the feasibility study

1. Technical Feasibility.

2. Operational Feasibility.

3. Economical Feasibility.

3.2.1 Technical feasibility

In this, one has to test whether the system can be developed using existing technology or not. Necessary hardware and software are available for the development and implementation of the proposed system. We acquired the technical knowledge of working in languages, and then only we have started designing our project. The system is self-explanting and does not need any entire sophisticated training. A system has been built by concentrating on the graphical user interface concepts, the application can also be handled very easily with novice uses.

The overall time that a user needs to get trained is less than 15 minutes. The system has been added with features of menu device and button interaction methods, which makes him the master as he starts working through the environment. As the software that was used for developing this application is very economical and is readily available in the market the only time that is lost by the customer is just installation time. Technical feasibility performs the following tasks.

I. Analyzes the technical skills and capabilities of the software development team members.

II. Determines whether the relevant technology is stable and established.

III. Ascertains that the technology chosen for software development has a large number of users so that they can be consulted when problems arise or improvements are required.

IV. It mentions new hardware requirements of the proposed system.

V. It Mentions Computer with new configuration requirements of the proposed system.

VI. It mentions new software requirements of the proposed system.

3.2.2 Economical Feasibility

Economic feasibility is a measure of the cost-effectiveness of a project or solution. As a part of this, the costs and benefits associated with the proposed system are compared and the project is economically feasible only if tangible and intangible benefits outweigh the cost. The cost for the proposed online shopping system is outweighing the cost and efforts involved in maintaining the registers, books, files, and generation of various reports. The system also reduces the administrative and technical staff to do various jobs that single software can do. So, this system is economically feasible. Economical feasibility also performs the following tasks.

I. Cost incurred on software development to produce long-term gains for an organization.

II. Cost required to conduct full software investigation (such as requirements elicitation and requirements analysis).

III. Cost of hardware, software, development team, and training.

IV. Cost involves in purchase or rental of equipment.

V. Cost of phones & mobile communication equipment.

VI. Cost of salaries of the employee.

VII. Cost of maintenance of equipment.

3.2.3 Operational Feasibility

Operational feasibility means how much the system is user interactive. In this project, the management will know the details of each project where he may be presented and the data will be maintained as decentralized and if any inquires for that particular contract can be known as per their requirements and necessaries. Operational feasibility also performs the following tasks.

I. Determines whether the problems anticipated in user requirements are of high priority.

II. Determines whether the solution suggested by the software development team is acceptable.

III. Analyzes whether users will adapt to new software.

IV.   Determines whether the organization is satisfied by the alternative solutions proposed by the software development team.

V. It finds if any job reconstruction is required or not?

VI. Watches the feelings of the customers as well as the user.

VII.   System should provide right & accurate information to user or customer at right place as well as a right time.

3.3 Requirement Analysis

In the current competitive scenario, every business establishment needs quality processes to increase their efficiency as well as improve their productivity. It is of vital importance that manual, time-consuming, and monotonous operations are automated to streamline the working of an organization. Since the existing system takes more time and manpower for processing. It is keeping in mind this business philosophy that we propose an online booking system. Our system will deal with all the aspects of booking related thinks.

To start gathering requirements, first, it is necessary to identify each group affected by this project and understand everyone's needs. With that information in hand, an initial list of the desired functional and non-functional requirements can be put into the Product Backlog in the form of user stories. Every sprint these requirements may change, the reason why this section is described only the final requirements that are part of the current Product Backlog of the project.

Nonfunctional requirements are the properties that your product must-have. Think of these properties as the characteristics or qualities that make the product attractive, or usable, or fast, or reliable. These properties are not required because they are fundamental activities of the product, activities such as computations, manipulating data, and so on but are there because the client wants the fundamental activities to perform in a certain manner. They are not part of the fundamental reason for the product's existence but are needed to make the product perform in the desired manner.

Nonfunctional requirements do not alter the product's functionality. That is, the functional requirements remain the same no matter what properties you attach to them. The non-functional requirements add functionality to the product, it takes some amount of pressing to make a product easy to use, or secure, or interactive. However, the reason that this functionality is part of the product is to give it the desired characteristics. So you might think of the functional requirements as those that do the work, and the non-functional requirements as those that give character to the work.

 Nonfunctional requirements make up a significant part of the specification. They are important as the client and user may well judge the product on its non-functional properties. Provided the product meets its required amount of functionality, the non-functional properties, how usable, convenient, inviting, and secure it is, maybe the difference between an accepted, well-liked product, and an unused one. The functional requirements specify what the product must do. They relate to the actions that the product must carry out to satisfy the fundamental reasons for its existence.

Think of the functional requirements as the business requirements. That is, if you speak with a user or one of the business people, they will describe the things that the product must do to complete some part of their work. Keep in mind that the requirements specification will become a contract of the product to be built. Thus the functional requirements must fully describe the actions that the intended product can perform. I also relate it to a product you might purchase at a store, if you look at the bullet features list on the back of the box, it is describing the functionality of the product.

3.3.1 Non-Functional Requirements

There are many non-functional requirements of our system. The first nonfunctional requirement is the efficiency requirement. When an online shopping cart is implemented customers can efficiently purchase the product. The next functional requirement is the reliability requirement. The system should provide a reliable environment to both customers and owners. All orders should be reaching the admin without any errors. Now another non-functional requirement is usability requirement. This system is designed for a user-interactive environment and ease of use.

The implementation requirement means the implementation of the system using CSS and HTML in the front end with JSP as the back end and it will be used for database connectivity. And the database part is developed by MySQL. Responsive web designing is used for making the website compatible with any type of screen. Moreover, the delivery requirement states that the whole system is expected to be delivered in the given time.In its first stage, the web-shop template is required mainly to analyze the platform capabilities, show code examples to developers and attract potential customers. For this reason, all nonfunctional requirements are highly focused on those areas.

Other areas of great importance as well, such as compatibility and performance, are left aside from the current project because of the excessive workload that it means. From a developer's point of view, the quality of the code takes a very important role, so it should be well organized,

easy to understand, and reusable. Therefore it would be considered a good practice to use variables and functions with self-explanatory names and keep a well-commented code. To the extent possible, the generic shop logic should be separated from the most specific code to facilitate the use of it as a live documentation of the platform.

The platform should allow testing any web application built on top of it. To prove it is allowed, the template should be completed with automated functional tests, being careful of keeping these tests independent from the backend data in use. That way a change in the data, very likely to happen in a template web-shop, will not affect the results. The same principle should be applied to the code in general, to keep the template from being non-functional when the data used is different.

Although the major part of the required security is located on the e-commerce and payment platforms, there are some risks server-side that must be the top priority when it comes to online shopping. For example, some data needs careful treatment, like user-related data such as addresses, passwords, and payment information. Particular attention must be paid to the checkout process to avoid fraud.

The major non-functional requirements are describing below:

Reliability

As the system provides the right tools for discussion, problem-solving it must be made sure that the system is reliable in its operations and for securing the sensitive details.

Availability

If the internet service gets disrupted while sending information to the server, the information can be sent again for verification.

Security

The main security concern is for users' accounts hence proper login mechanism should be used to avoid hacking. The tablet id registration is a way to spam check for increasing security. Hence, security is provided from the unwanted use of recognition software.

Usability

As the system is easy to handle and navigates most expectedly with no delays. In that case, the system program reacts accordingly and transverses quickly between its states.

3.3.2 Functional Requirements

Now our system consists of many functional requirements. Our first functional requirement is an admin login system. Admin can handle all systems. Admin can add product and category of the product. Moreover, the admin can add the brand name and also can confirm the customer order. Admin can analyze and inquiry about the sales and product report. Apart from admin can check the availability of the product. In our system there are many functional requirements are exist for the customer.

Customers can see the details of the product and also can see the available product. Customers can add the product to the cart for the order. Moreover, the Customer can choose his product by price filtering and brand filtering. Another functional requirement is the checkout option. The customer must fill-up the checkout form to order any product by giving all the details of him. Apart from if any customer wants to contact us then he or she can contact us very easily by filling up the contact us form. That's all about the functional requirements of our project.

Date Picker

In our project, there is a date picker option for the admins. Admins can see the daily, weekly or yearly reports by using this date picker module.

Search

Search option is very important for any website. Our project has also the search module. Customers can search for any product by writing the product's name in the search bar. Apart from that, we also keep the search option for admins. They can search for query anything in the admin panel.

3.4 System Design

System design is the solution for the creation of a new system. This phase focuses on the detailed implementation of the feasible system. Its emphasis on translating design.Specifications to performance specification. System design has two phases of development. They are logical design and physical design.During the logical design phase, the analyst describes inputs (sources), outputs (destinations), databases (data stores), and procedures (data flows) all in a format that meets the user requirements.

The analyst also specifies the needs of the user at a level that virtually determines the information flow in and out of the system and the data resources. Here the logical design is done through data flow diagrams and database design. The physical design is followed by physical design or coding. The physical design produces the working system by defining the design specifications which specify exactly what the candidate system must do. The programmers write the necessary programs that accept input from the user perform necessary processing on accepted data and produce the required report on a hard copy or display it on the screen.

3.4.1 Entity relationship diagram (E-R diagram)

An entity-relationship (ER) diagram is a specialized graphic that illustrates the relationships between entities in a database. ER diagrams often use symbols to represent three different types of information. Boxes are commonly used to represent entities. Diamonds are normally used to represent relationships and ovals are used to represent attributes.
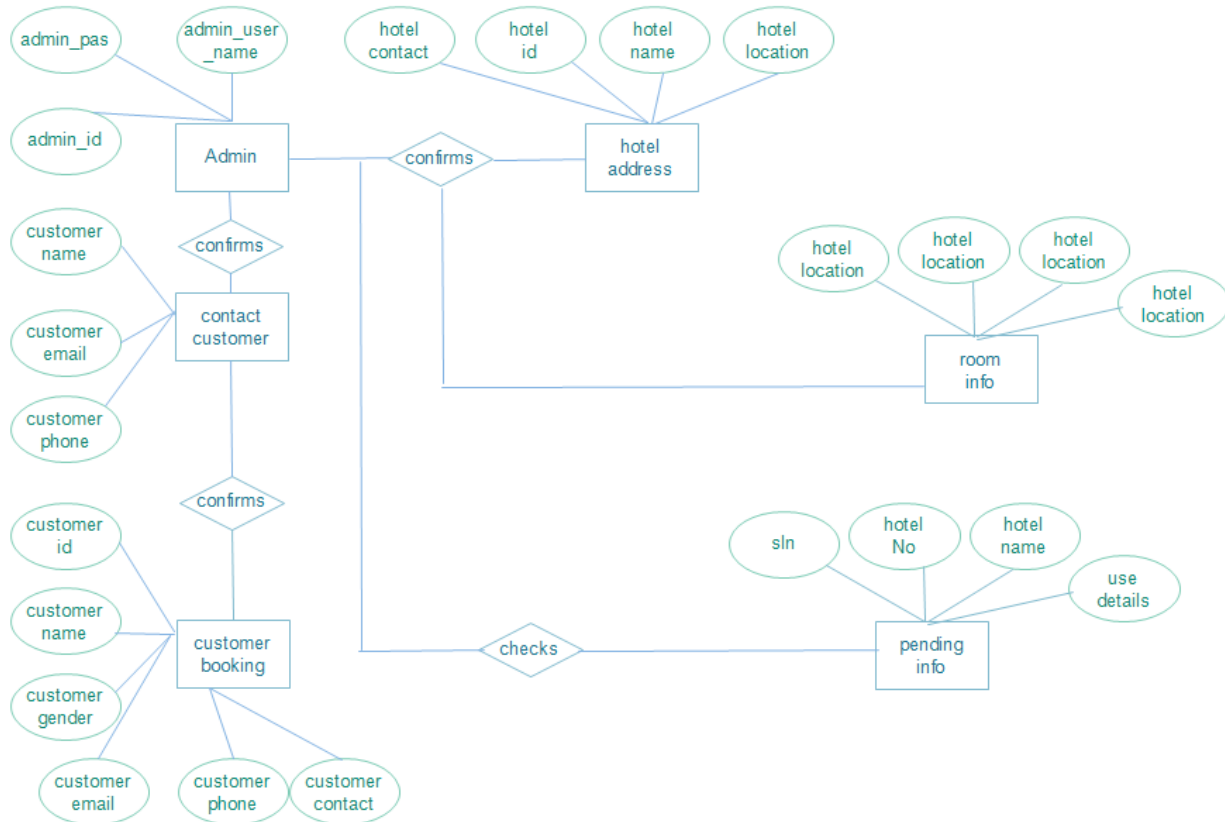
Figure 3. 1: E-R Diagram

Here,

- Rectangles represent entity sets.
- Diamonds represent relationship sets.
- Lines link attributes to entity sets and entity sets to relationship sets.
- Ellipses represent attributes.
- Underline indicates primary key attributes

3.4.4 Use Case Diagram

A use case model depicts what a framework manages without portraying how the framework does it; that is, it is an intelligent model of the framework.
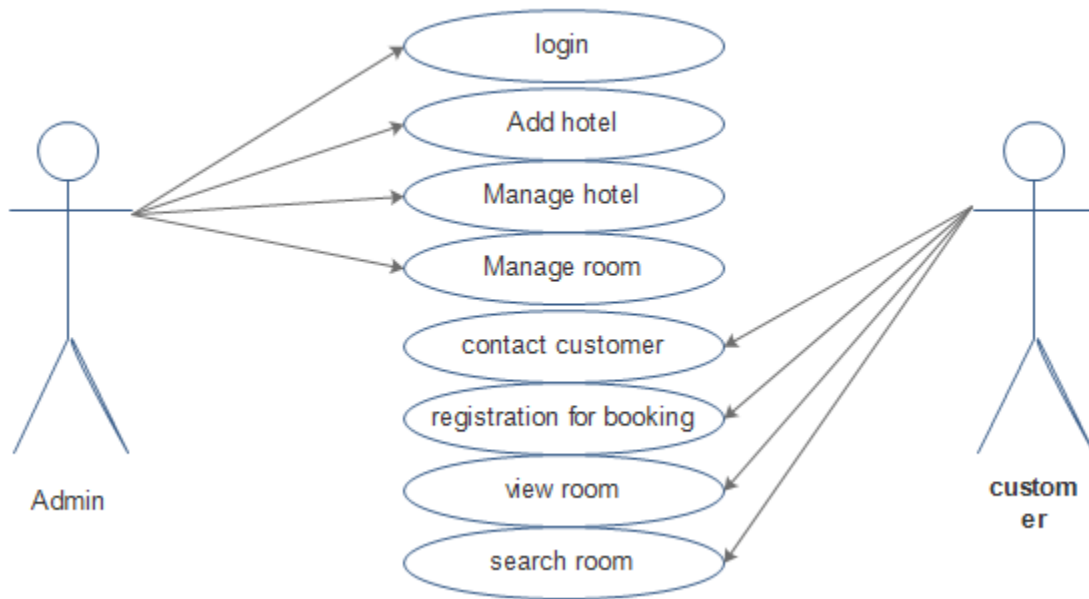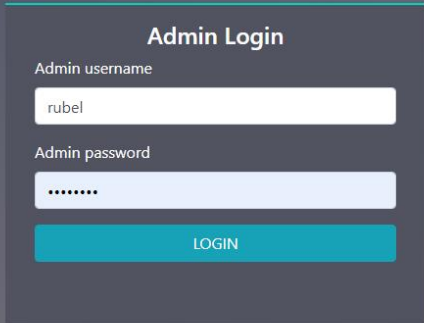
Figure 3.2: Use Case Diagrams

3.5 Front End

The front end part, comprising of pages that users can view, is created by using templates so that it can expedite design and loading processes. In this part, in the appearance, the main menu is consistent, thus it is easy to use. Considered as the most frequent access when comparing with other parts of the website, front-end pages have to use a template, and in turn, saving bandwidth and number of database accesses. For the database operation issue, aiming for minimizing the number of accesses, it needs just four queries to display all details. Those queries consist of jointed SQL statements, which inquire merely main information from the database. This part is consists of HTML, CSS, JavaScript, JQuery, etc.

In the front end, we have developed and designed many function modules such as admin login form, price range module, brand filtering module, the checkout form, add to cart form, etc. by using html, CSS, javascript, jQuery, bootstrap, etc. We have also designed many pages for showing our electronics product by their category. We have designed our project from a template. Our project has the same style of all pages. The same kind of user operations is within a single interface to complete. Clicking muse can easily realize commodity, purchase, orders, query, and other functions. It is easy to understand and to use.
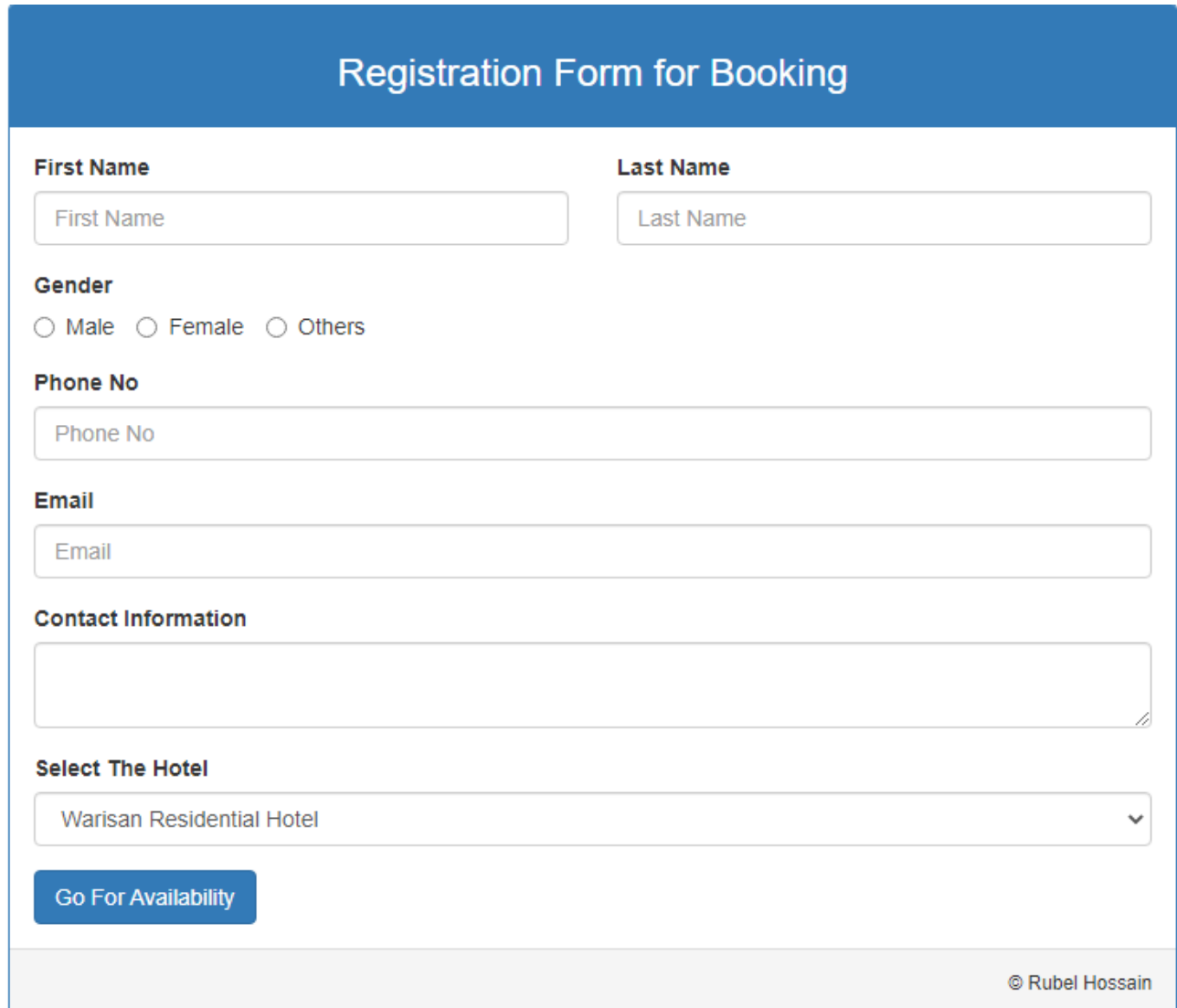
3.5.1 Admin login Form Details:

Figure 3.3 : Admin Login Form

This is the admin login form. In this form, the admin can log in by giving his id and password. This user id and password can be stored in a database to access the admin panel. After the successfully logged-in admin can manage the admin panel. Admin can add, update, delete and remove all the products, products category and add a brand. products, products category and add a brand.
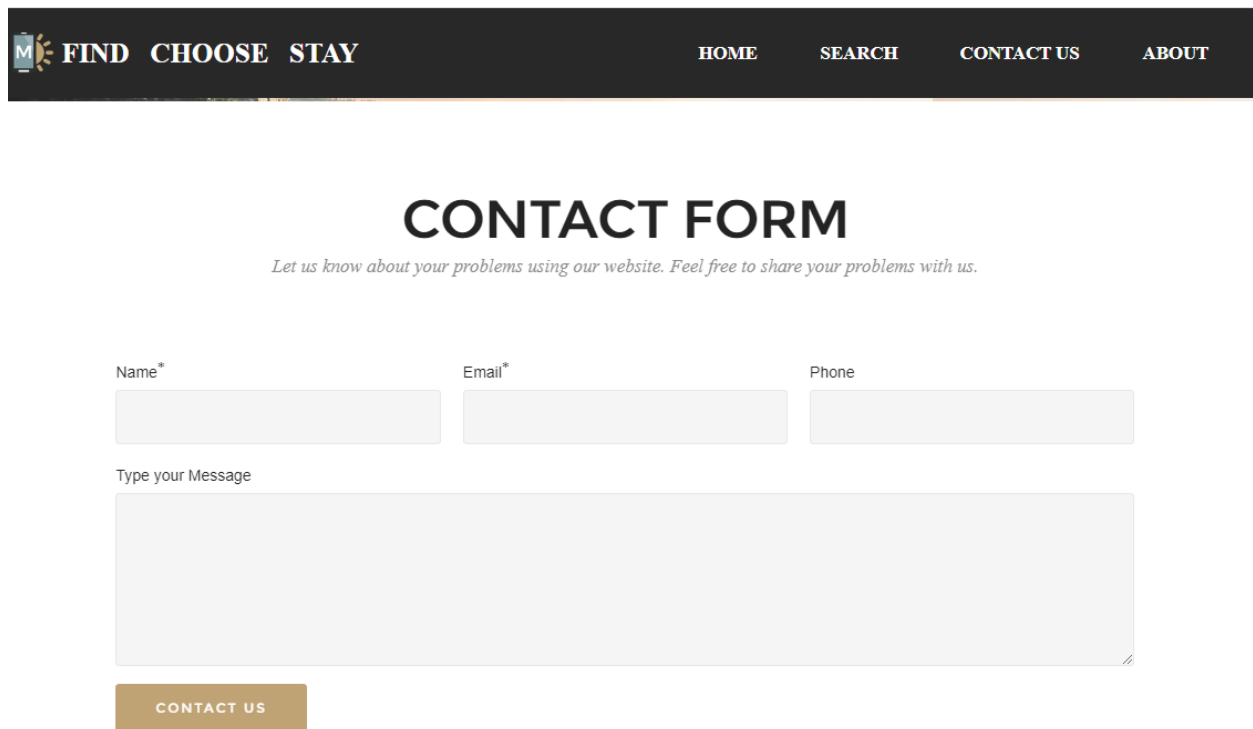
3.5.1.1 Customers Booking Form:

Figure 3.4: Customers Booking Form

Here, is the checkout form. A customer can order a product by giving all his information in this form. The customer must be fill up all the details of this form. Otherwise, he could not buy any product. Here, the first name of this form customers need to give their first name, and then in the last name field, customers should give their last name. Then, in the contact field, customers must

give their contact number. Moreover, in the email field of this form customers must give their email address. At last incomplete address field, customers need to provide their full address.

3.5.1.2 Customer Contact form:

Figure 3.5: Customer Contact form
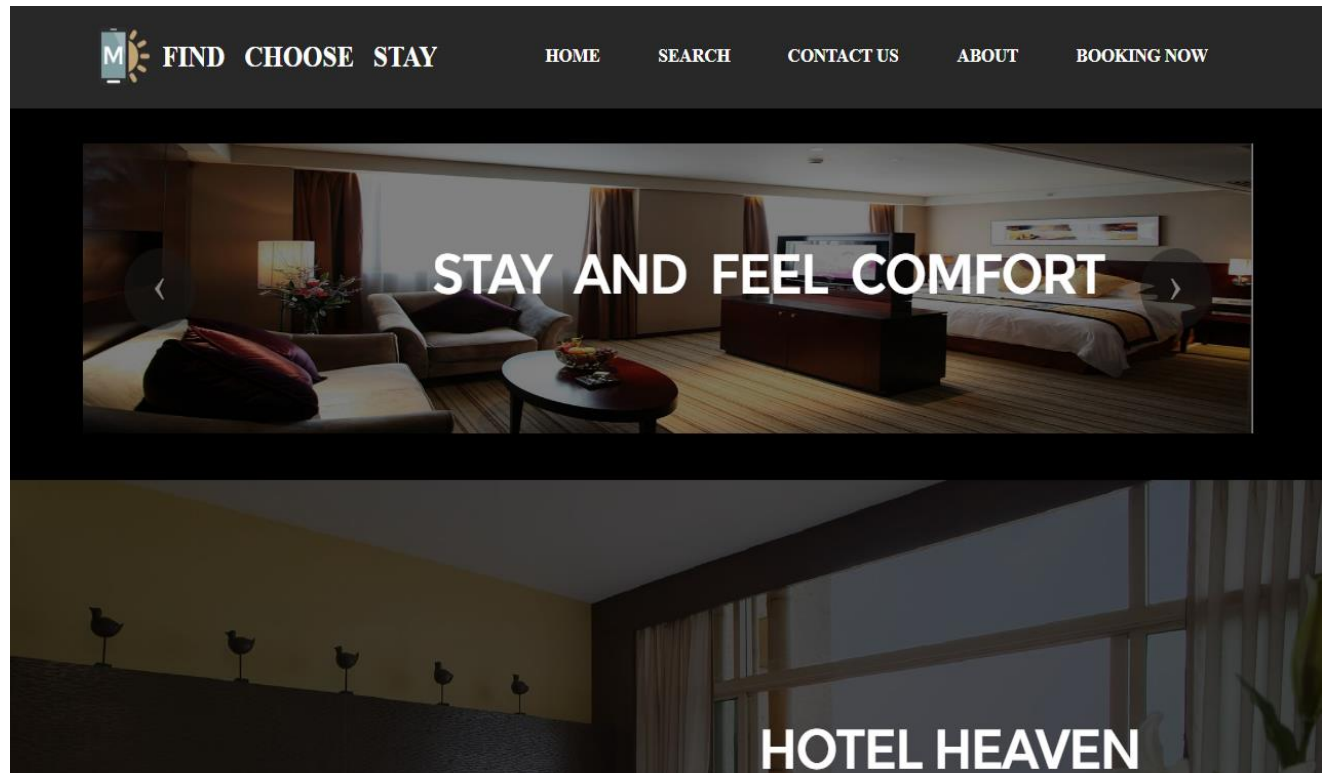
3.5.1.3 Admin dashboard panel:

WelCome To Admin Panel
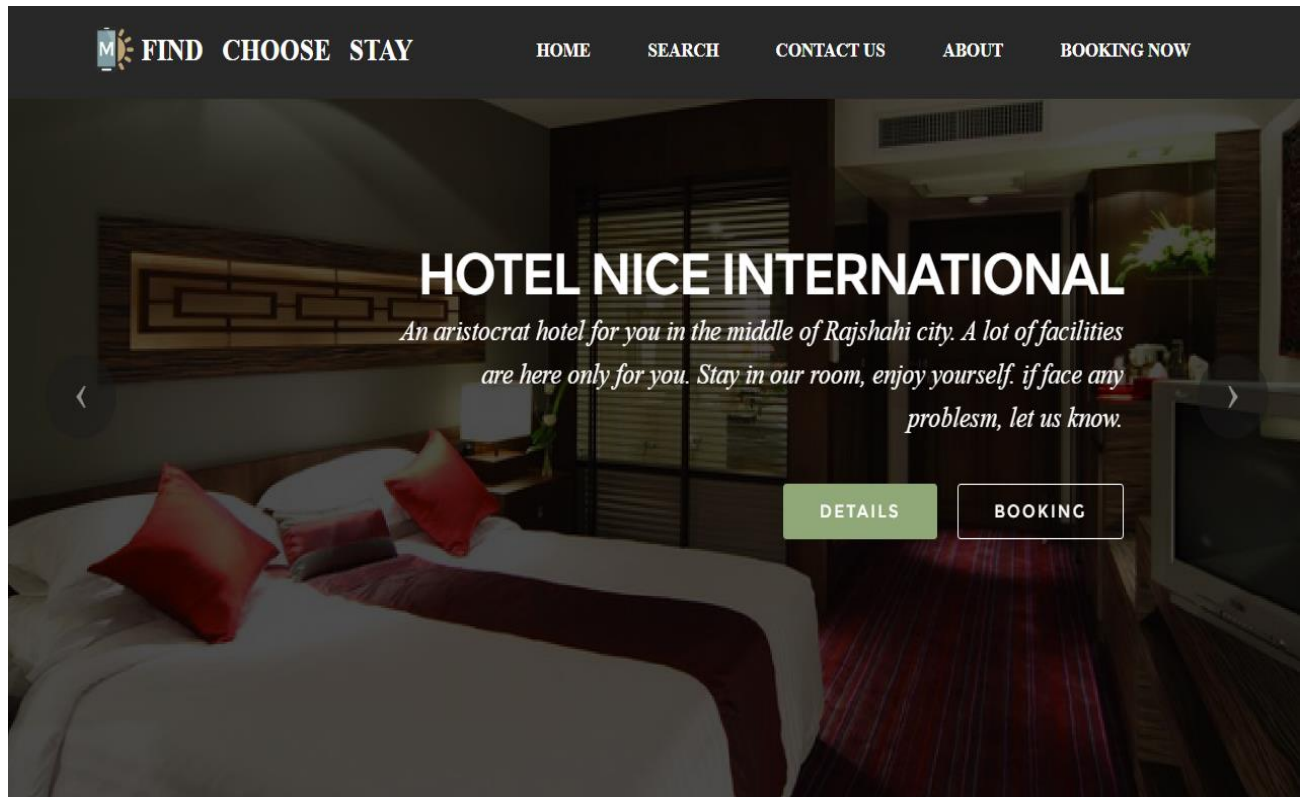
ADD HOTEL

ADD DISTRICT

SHOW HOTEL LIST

Figure 3.6: Admin dashboard panel
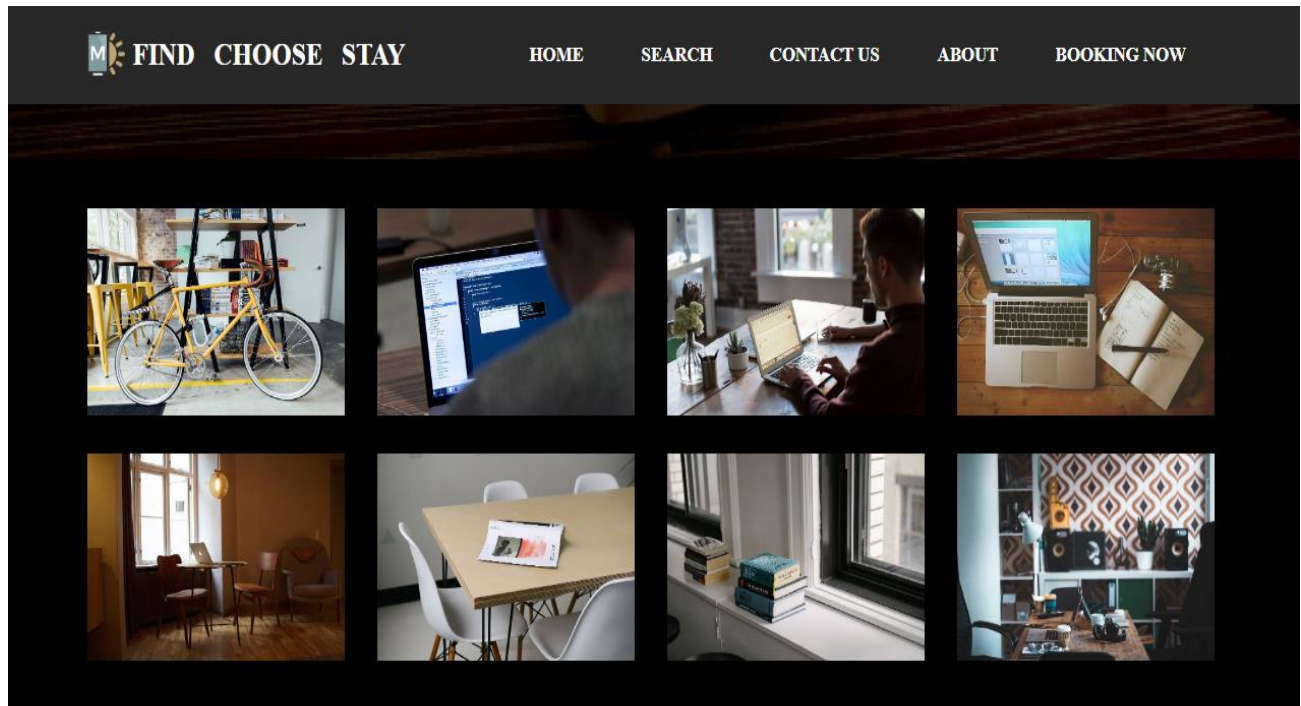
3.5.1.4 Hotel home page 1:

Figure 3.7: Hotel home page 1

3.5.1.5 Hotel home page 2:

Figure 3.8: Hotel home page 2

3.5.1.6 Hotel home page 3:

Figure 3.9 : Hotel home page 3

3.5.1.7 Customer Searching section:

Figure 3.10 : Customer Searching section

3.5.1.8 Hotel Room Report:
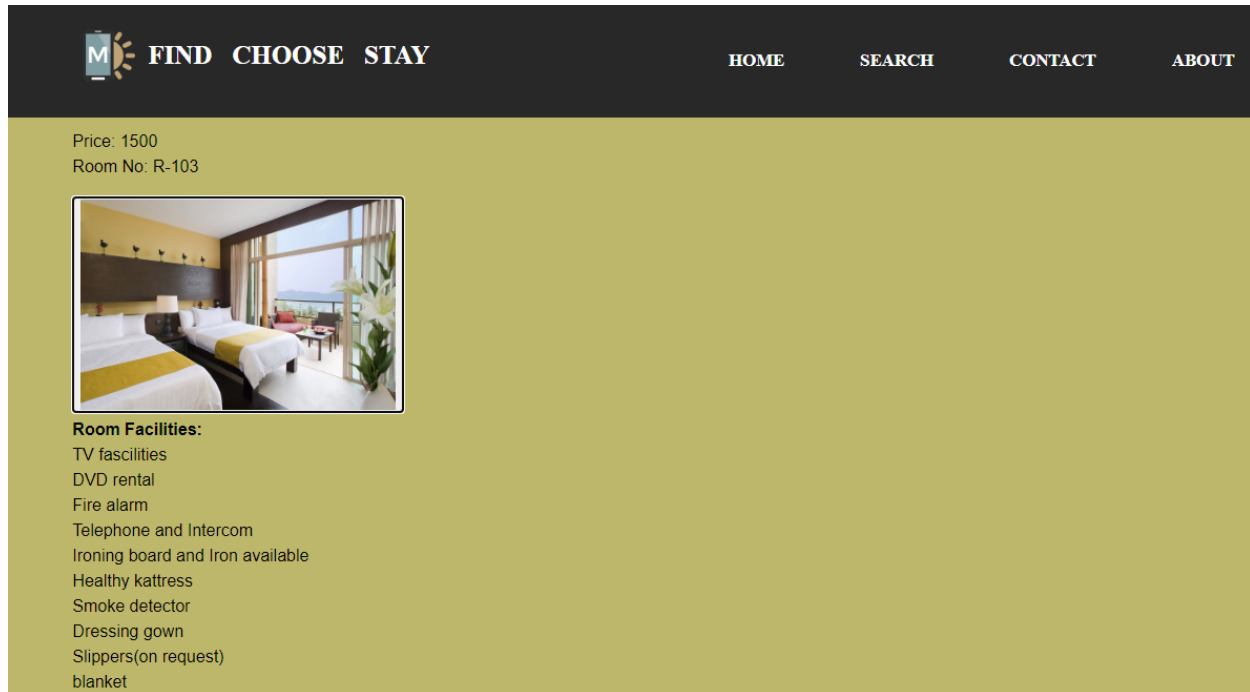
Figure 3.11 : Hotel Room Report

3.5.2 Back End

This part provides a facility for each store owner to edit and modify information in his store. Providing validation checks for member and store identification, the back-end system can securely protect users' proprietary information. Besides, all page views employ session variables to deter manually defined variables by users. Applying a user-friendly approach, and focusing on web programming inexperience, the user can effortlessly manage his back-end information. Inside the back end, users can control and view all store information. Besides that, using content management design, the back end part encompasses these modules: product management, shop information management, web board management, shopping cart management, member management, promotion management, banner management, plaza management, poll management, currency management, and article management. This part is consists of MySQL, XAMPP Server, PHP, IIS, etc. In the back-end, part of each function module in the system background uses the same design scheme,

which involves management functions of goods, product reports, product categories, and orders to add, delete, update and check. They all have adopted the front end page requests sent to the controller action, invocate the service of a business processing module, the last action to deal with the results back to the view layer, and the service layer is call one or more DAO methods for data processing. We have developed an admin login module for the management of our system. To enter the background management system, the administrator must log into our system by providing a username and password. When the administrator inputs the correct user name and password, he can enter the main interface of the system background. In the background of the system, the admin can manage the product information, order information, product category, sales report, and product report. All the background systems are developed by using MySQL, XAMPP server, and PHP.

We have handled the database by using MySQL, and also handled server by XAMPP and scripting server and making dynamic and interactive web pages by PHP. We have developed a product management option for an admin so that he can add, delete and update product information. Admin can also add, delete and update the product category. Apart from admin can add, delete and update the brand name of our shop. We have developed order management for the administration. Order management enables administrators to easily see all the order information, change the orders and delete the order.

We have implemented customer management so that the admin can see all the information of a customer. Moreover, the back end part consists of report management. Admin can see the sales report and product report so that admin can know about how many products are sold and also know about the quantity of the product. Our system has also the option for the admin to see the weekly, monthly, and yearly report of the sales report by date picker option. Apart from we have developed a search option for admin so that he can find information about any product. That's all about the back-end development of our system.

3.5.2.1 Database Design

Databases are the storehouses of data used in software systems. The data is stored in tables inside the database. Several tables are created for the manipulation of the data for the system. Two essential settings for a database are the primary key the field that is unique for all the record occurrences and the foreign key the field used to set relations between tables. Normalization is a technique to avoid redundancy in the tables.

Admin login info:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	uname	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	upass	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More

Figure 3.12: Admin login table

In this table, the fields are admin id, admin username, and admin password. Admin can log in by this database table. Here admin username and password can be stored in our database. Here, we need to input the user name and password in the database before login into our system. We can see the user name and database from the database. Here, another attribute of this table is the username. We need to store the username of admins. The next attribute is password and this is text type. We must store the password in our database.

Contact Customer table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	sl 🔑	int(11)			No	None		AUTO_INCREMENT	🖉 Change	⊝ Drop	▽ More
2	name	varchar(30)	latin1_swedish_ci		No	None			🖉 Change	⊝ Drop	▽ More
3	email	varchar(50)	latin1_swedish_ci		No	None			🖉 Change	⊝ Drop	▽ More
4	phone	varchar(40)	latin1_swedish_ci		No	None			🖉 Change	⊝ Drop	▽ More
5	message	text	latin1_swedish_ci		No	None			🖉 Change	⊝ Drop	▽ More

Figure 3.13 : Contact Customer table

Customer Booking Database:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	id 🔑	int(10)			No	None		AUTO_INCREMENT	🖉 Change	⊝ Drop	▽ More
2	firstName	varchar(123)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
3	lastName	varchar(110)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
4	gender	varchar(50)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
5	phone	varchar(110)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
6	email	varchar(110)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
7	contact_info	varchar(1100)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
8	hotel_name	varchar(110)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
9	sdate	varchar(80)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More
10	edate	varchar(200)	utf8mb4_general_ci		No	None			🖉 Change	⊝ Drop	▽ More

Figure 3.14 : Customer Booking Database

Hotel Info:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Hotel_ID 🔑	int(6)			No	None		AUTO_INCREMENT	🖉 Change ⊖ Drop ▽ More
2	Hotel_name	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
3	District	varchar(20)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
4	Thana	varchar(20)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
5	address	varchar(500)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
6	contact	varchar(150)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
7	email	varchar(50)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
8	fascilities	varchar(1000)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
9	hotel_pic	varchar(256)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
10	lower	int(10)			No	None			🖉 Change ⊖ Drop ▽ More
11	higher	int(10)			No	None			🖉 Change ⊖ Drop ▽ More

Figure 3.15 : Hotel Info database

Hotel Details:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	🖉 Change ⊖ Drop ▽ More
2	name	varchar(100)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
3	room_no	varchar(10)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
4	price	int(11)			No	None			🖉 Change ⊖ Drop ▽ More
5	facilities	varchar(1000)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More
6	path	varchar(256)	latin1_swedish_ci		No	None			🖉 Change ⊖ Drop ▽ More

Figure 3.16 : Hotel Details

Room Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	serial_no 🔑	int(10)			No	None		AUTO_INCREMENT	🖉 Change 🛇 Drop ▾ More
2	room_no	varchar(11)	latin1_swedish_ci		No	None			🖉 Change 🛇 Drop ▾ More
3	hotel_name	varchar(100)	latin1_swedish_ci		No	None			🖉 Change 🛇 Drop ▾ More
4	path	varchar(256)	latin1_swedish_ci		No	None			🖉 Change 🛇 Drop ▾ More
5	img_details	varchar(50)	latin1_swedish_ci		No	None			🖉 Change 🛇 Drop ▾ More

Figure 3.17: Room Table info

3.6 Conclusions

We have discussed in this chapter the feasibility study of an online booking system. Apart from the requirement analysis, system design, and implementation are described in this chapter. In system design, the entity-relationship diagram and data flow diagram are described. Moreover, database design, forms design, and report design are described in system design. Here, also described the screenshot of a database table, form design, and report design. In requirement analysis here discussed the functional and non-functional requirements of our system. Moreover, in implementation here discussed how we implemented our system. That's all about the proposed system chapter of our project.

CHAPTER 4

EXPERIMENTAL RESULTS

4.1 Introduction

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in our services. It provides a way to check the functionality of components, sub-assemblies, assemblies, and/or a finished product it is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail unacceptably. There are various types of tests. Each test type addresses a specific testing requirement.

This chapter mainly describes the qualitative practice to be used to provide data to examine the issues acknowledged and extend the understanding of consumer value creation in the framework of what and why customers booking hotels. Tentative and descriptive research can provide the multiple outlooks necessary to obtain multiple approvals of online, offline, and channel switching behavior during the buying decision process. This typically involves sampling the population, surveying them, and using inferential statistics to analyze the responses.

The focus of the analysis is to expect the determining factors influencing, in this case, what and why consumers purchase online and offline as well, why they switch from one way to another. The data gathered during the depth interviews were used to identify common questions concerning consumer behavior as it relates to the purely online and offline buying process as well as channel switching from one trade channel to another during the buying choice process.

The deepness of the interviews and concentration groups provide an efficient means of spreading and emerging theoretical concepts to improve the ultimate research design. And are used in this research to better appreciate what and why consumers use the Internet to book and in specific why they choose one channel over another in general. Below defines how this qualitative phase of the research is directed and classifies which of the research objectives each activity supports for both the depth interviews

4.2 Result Analysis

In this chapter, we have analyzed our system. By analyzing we can see the output of the different types of the report such as the booking report. By analyzing we have understood that out all the modules are working. An admin can handle our system by logged in successfully. Some of the reports are describing as follows.
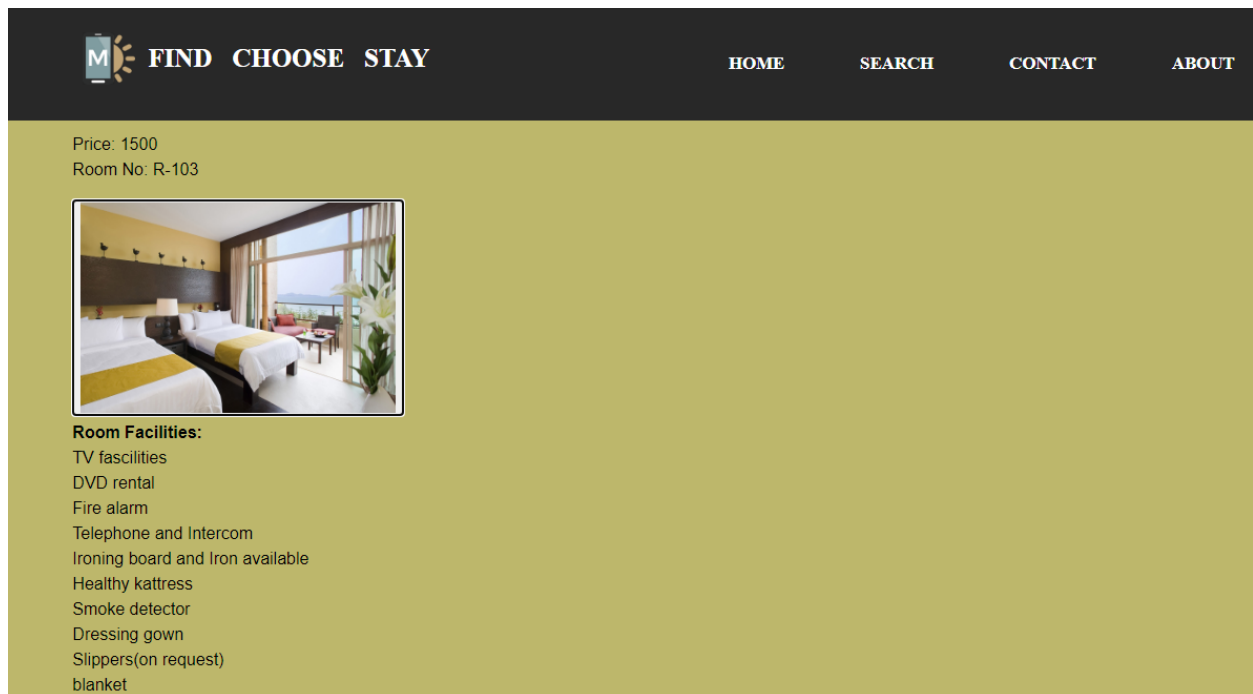
Figure 4.1 : Room Details
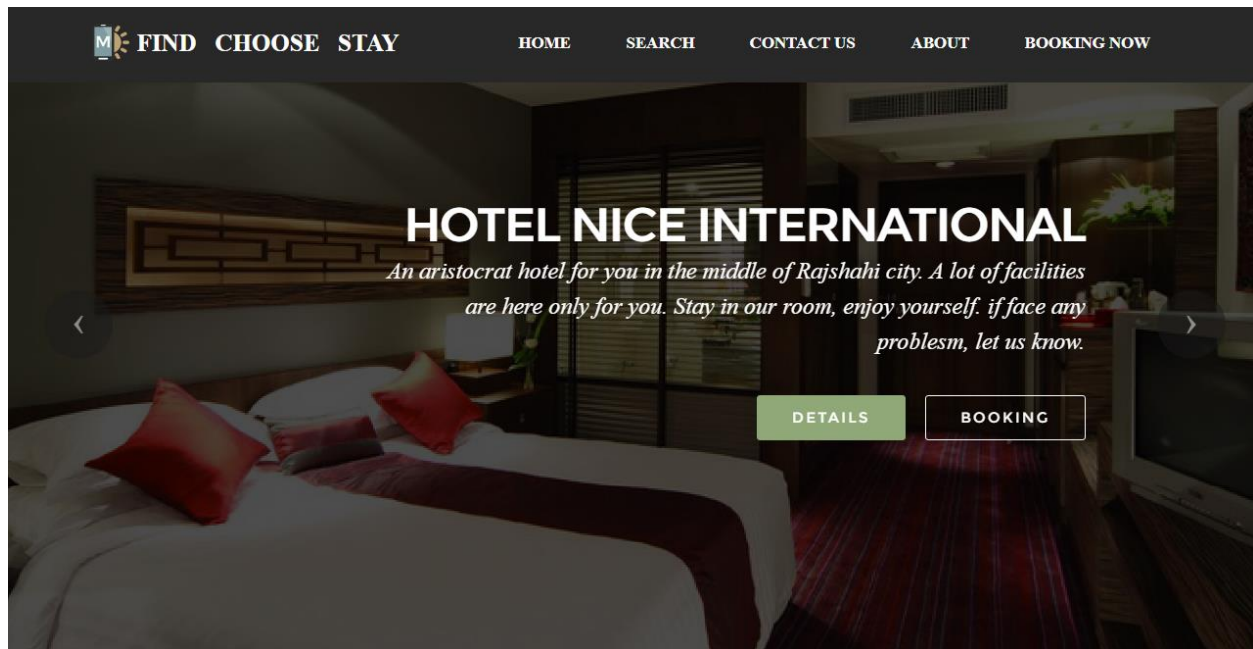
4.3 Application

In real-time, the online booking system is very popular. Every company in the world wants to sell their products online because of cost consuming. Nowadays customer is not want to come to the hotel directly for booking rooms, they can save their time by using an online booking system and they can get their solutions at home. That's why all the companies want to sell their products online. Online stores typically enable shoppers to use "search" features to find specific models, brands, or items.

Online customers must have access to the Internet and a valid method of payment to complete a transaction, such as a credit card, an Interact-enabled debit card, or a service such as PayPal. For physical booking. Users can booking any types of hotel worldwide, they just need an internet connection. Users can access the online booking system by smartphone, tablet, and computer. Any user can get his needed product from any country of the world by paying online transaction system. In our system customers can booking a hotel not only cash on delivery.

We will develop online transactions in the future. We have developed a brand filtering and price filtering option which is very user-friendly. Customers can choose their brand by selecting the brands' name and also choose their price by price range bar. In our system customers can also choose their rooms by category. They can also see the available rooms which are very helpful for them to booking. That means our system has to check availability. Customers can also use our system on a computer, smartphone, and tablet.

Our system has also added to the cart and check-out option. Customers can add the end time to the cart and if they want to book it then they have to fill up the check out form and also need to confirm the order. We have developed a searching option in our system where customers can search their products by a search bar and they can get their desire rooms. Customers may prefer to visit our website to find out about our products and services, instead of visiting us in person.

They will also expect to see our website address and our email on business cards and other promotional materials There are many financial benefits of an online shopping system. For shoppers, the benefits are plentiful. booking online saves time, offers a greater product selection, and allows for cost savings in terms of taxes, the price of the booking. More than 80% of the online population has used the Internet to purchase something. Our customers expect us to be available, and this presence allows us to keep up with the competition.

Otherwise, our audience will be flocking toward our competitors to make an online purchase. As business owners, we want to grow our business and attract new audiences. Physical retail relies on branding and customer relationships, but online retail has the added benefit of driving traffic from the search engines. If a customer is searching for photo editing software, for instance, they may land on your company even though they've never heard of you before. Running an e-commerce store can save our money.

With a web-based management system, you can automate inventory management and decrease the costs associated with it. Also, running an e-commerce store doesn't come with the same overhead costs as a physical store. The additional profit that is made from reaching more customers will offset any initial setup costs. It's difficult to build a customer persona when we're running a mom-and-pop shop. We can get a rough idea of who our customers are, but it's based on our perception rather than actual data.

4.4 Conclusions

In this chapter, we have discussed the experimental results of our project. Here, we have analyzed the room report. Apart from, we have analyzed different types of chart in this chapter. Here we have drawn many types of the chart from the data table of our booking system. Moreover, we can see the weekly sales report chart, daily sales report chart, monthly sales report chart, and yearly sales report chart. We have also known about the booking report chart of the different types of chart.

We can know about which category of the rooms are booking more than others category of the rooms. Here we have also analyzed that which best rooms are book more. We can know about the yearly room booking report of our booking system by this yearly booking report and also can know which category of the hotel are book more than others. Moreover, we have discussed the application, financial benefits, and advantages of the online booking system. That's all about the experimental results.

CHAPTER 5
USER MANUAL

5.1 Introduction

To be used efficiently, all computer software needs certain hardware components or other software resources to be present on a computer. These prerequisites are known as (computer) system requirements and are often used as a guideline as opposed to an absolute rule. Most software defines two sets of system requirements: minimum and recommended. With the increasing demand for higher processing power and resources in newer versions of software, system requirements tend to increase over time. Industry analysts suggest that this trend plays a bigger part in driving upgrades to exist computer systems than technological advancements.

5.2 System Requirements

5.2.1 Hardware Requirements

The most common set of requirements defined by any operating system or software application is the physical computer resources, also known as hardware. A hardware requirements list is often accompanied by a hardware compatibility list (HCL), especially in case of operating systems. An HCL lists tested, compatibility and sometimes incompatible hardware devices for a particular operating system or application. The following sub-sections discuss the various aspects of hardware requirements.

5.2.1.1 Hardware Requirements for Server

Processor : Intel dual Core, Core i3

Ram : 1 GB

Hard Disk : 80 GB

CPU Speed : 2.6 GHz

Monitor : EGA / SVGA (display), 800 × 600 24 bits True Color.

5.2.1.2 Hardware Requirements for Client

Processor : Pentium 4, Intel dual Core, Core i3

Ram : 512 GB

Hard Disk : 40 GB

CPU Speed : 2.6 GHz

Monitor : EGA / SVGA (display), 800 × 600 24 bits True Color.

Mobile Devices : All the mobile devices & Tabs

5.2.2 Software Requirements

Software Requirements deal with defining software resource requirements and pre-requisites that need to be installed on a computer to provide optimal functioning of an application. These requirements or pre-requisites are generally not included in the software installation package and need to be installed separately before the software is installed.

5.2.2.1 Software Requirements for Server

Operating System : Windows 7/ XP/8/10

Front End : HTML, CSS, Java Script.

Front End Framework : Bootstrap 4

Server Side Script : PHP

Database : MySQL

Dependency Manager : Composer (If local server using)

Local server setup package : XAMPP, WAMP or other apache, MySQL servers (If local

server using)

5.2.2.2 Software Requirements for Client

Operating System : Windows 7/ XP/8/10

Browsers : Firefox, Opera Mini, Chrome (All the browsers)

5.3 User Interfaces

5.3.1 Home page
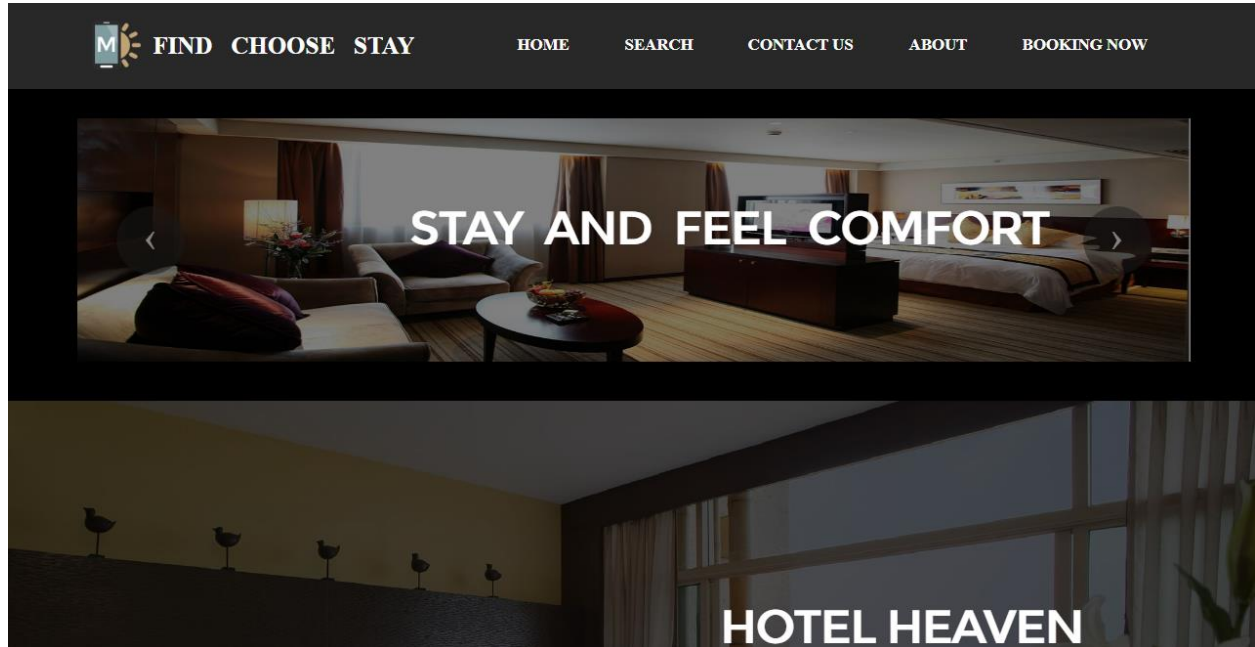
Figure 5. 1: Home Page

This is the home page of our project. Customer can see the all rooms of our sites in home page. From here customer can select the rooms category by clicking category list, room name and price range by filtering. Customer can select his required price and brand by price and brand filtering. Moreover, Customer can select the category of the rooms. In this page customer can see the details of the room by clicking view details button. Navigation bar, Menu bar and search option are also exist in home page of our project.

5.3.2 Contact Us Page:

Figure 5. 2: Contact Us Page

This is contact us page of our system. From here customer can contact with us by filling this form. For contacting with us customer have to fill up all the field of this form. He has to put his full name, valid email id, purpose of the contact in subject field and write the message details. Then he has to click submit button to send us the message.
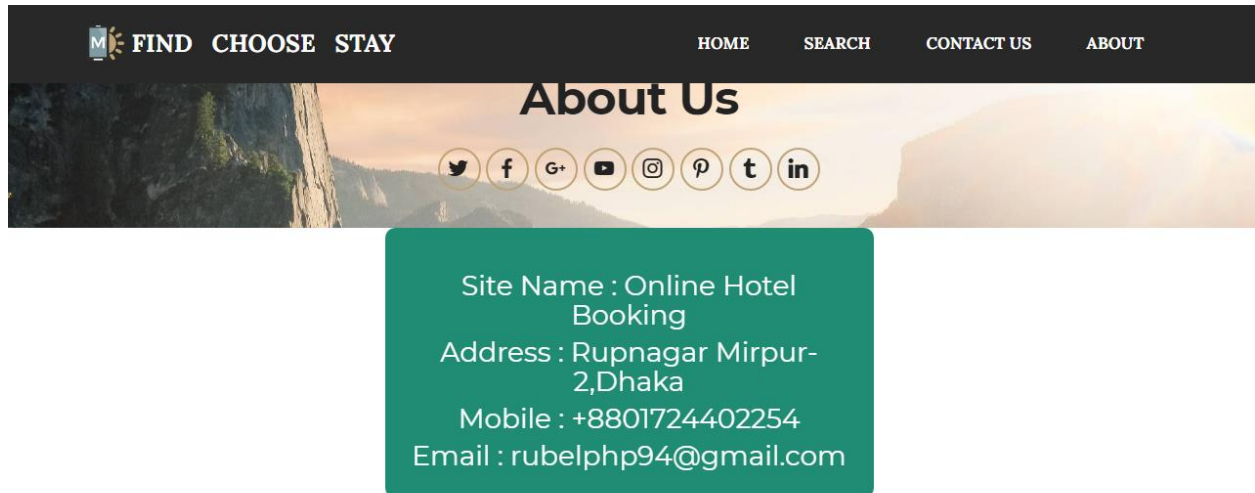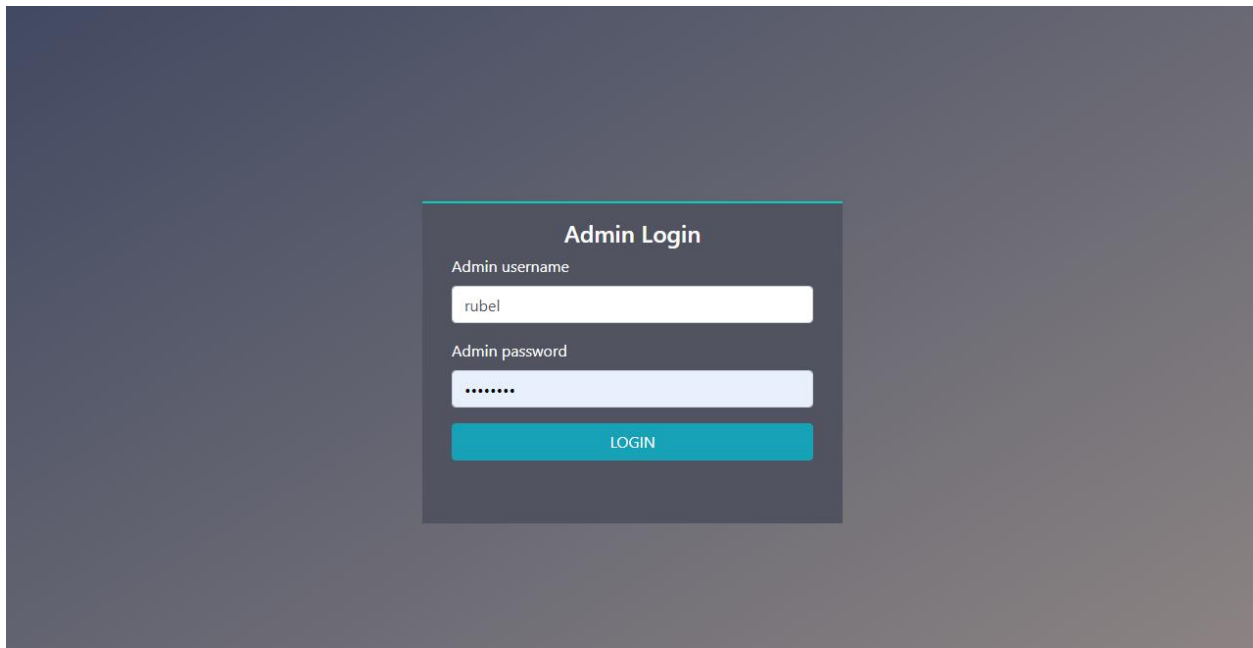
5.3.3 About Us Page:

Figure 5. 3: About us Page

This is about us page. Here customers can see the information about our system. Customers can know the name, address, and contact number, and email id of our system.

5.3.4 Admin Login Page:

Figure 5. 4: Admin Login Page

This is admin login page. For manage the project an admin has to login into our system to access all of our feature. Here admin has to fill up the admin id field and password for access our system.

5.3.5 Admin Add Hotels:

WelCome To Admin Panel
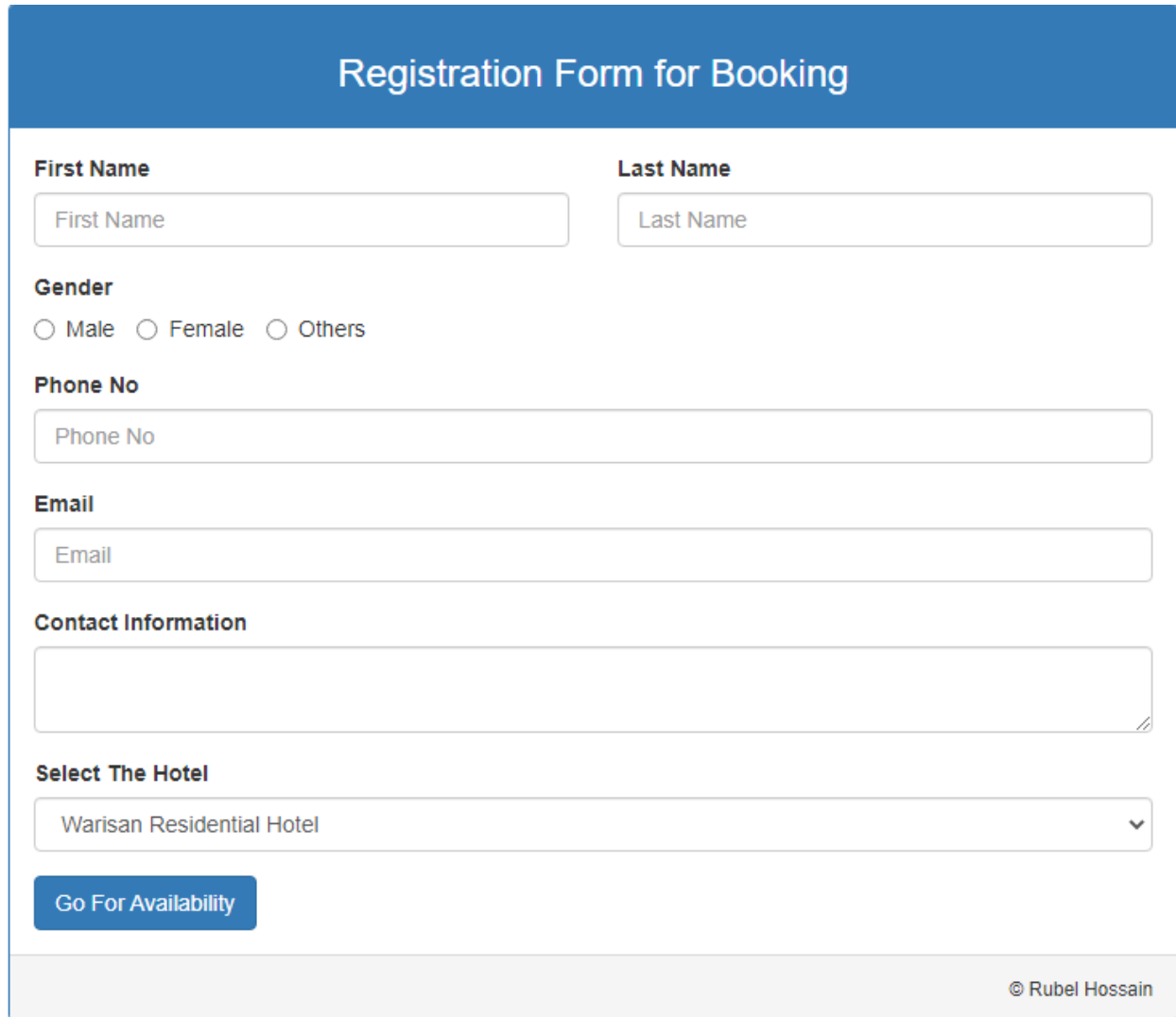
ADD HOTEL
ADD DISTRICT
SHOW HOTEL LIST

Figure 5. 5: Admin Add Hotel

This page is managed by admin. Admin has to fill up room name, hotel name and room category, and room quantity and rooms image by filling the add booking form. Admin can search for any required product by filtering box.

5.3.8 Check Out Form:

Figure 5. 8: Checkout Form

This is checkout form. By this checkout form customer can order the rooms by filling the checkout form. They should give the correct information in this form. In the first name field they have to give their first name. Then in the next field they have to give their last name. After giving the name they have to give or put their contact number. In the next field customer has to type their valid email. Without valid email id they could not booking a room.

5.4 Conclusions

In this chapter we have discussed about the system requirements. From there anyone can know about the hardware requirements and software requirements. Then we have putted the screenshot of our projects interface and described about the functionalities of our screenshotted pages. Apart from here we can know about the uses of our system. Our interface is very user interactive. So users can use it very easily and booking hotel without any hesitation.

CHAPTER 6

CONCLUSION

6.1 Conclusions

The mainly online hotel booking system was developed to replace the manual process of booking a hotel room. A manual system has no efficiency for the customer. The most sensitive issue is customer's data that will be more secure and they will keep trusting that will make them more comfortable and relax.

By working on this project we gather many experiences and face a variety of problems. We have learned how to make a system user-friendly, web designing, database handling. We tried our best to develop a unique, secure, user-friendly website for national and international people. In the future, we will work to extend service for the travel lover people.

6.2 Limitations

In our system, there are some limitations that we are going to work on in the future with these limitations. We tried our best to make the system intact but still have some boundaries.

The limitations of our systems are:

i. No car rental facilities.

ii. No advance cancellation system.

iii. No funds for the client who already deposited their down-payment.

iv. We don't have customer mailboxes on our internet site.

v. No visa card payment system.

6.3 Future Works

Our system is built up for the convenience of the users. We tried our best to make the system convenient, secure, and efficient for all classes of clients. Lack of time and budget it was not possible to accomplish all planned functionalities. We hope to work in the future planned work and work with all limitations and make more and more convenient for our clients.

The functionalities to be implemented are:

1. Add car rental facilities.

2. Providing an advance cancellation system.

3.Add funds for the client who already deposited their down-payment.

4.Providing personalized inboxes to the user.

5. Add a visa card system.

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