DESIGN AND IMPLEMENTATION OF

HOTEL BOOKING WEBSITE

BY

SHOUMIK SAHA

ID: 221-15-4787

This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering.

Supervised By

Dr. Arif mahmud
Associate Professor
Department of CSE
Daffodil International University

Co-supervised By

Mr. Md Assaduzzaman
Lecturer (senior scale)
Department of CSE
Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This Project titled **Design and Implementation of Hotel Booking Website** submitted by Shoumik saha, ID No: 221-15-4787 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 13 January, 2025.

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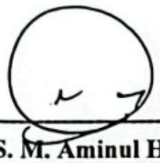

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Faculty of Science & Information Technology
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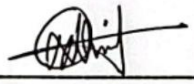
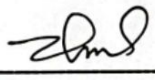
Faculty of Science & Information Technology
Daffodil International University



Mr. Md. Aynul Hasan Nahid — **Internal Examiner**
Lecturer
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



Dr. Md. Zulfiker Mahmud — **External Examiner**
Professor
Department of Computer Science and Engineering
Jagannath University

DECLARATION

I hereby declare that, this project has been done by me under the supervision of **Dr. Arif Mahmud, Associate Professor, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

28/12/24

Dr. Arif mahmud
Associate Professor
Department of CSE
Daffodil International University

Co-Supervised by:

28/12/24

Mr. Md Assaduzzaman
Lecturer
Department of CSE
Daffodil International University

Submitted by:

Shoumik Saha 28/12/24

Shoumik saha
ID: 221-15-4787
Department of CSE
Daffodil International University

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ABSTRACT

Due to the popularity of social networks, hotel booking systems are one of the most important tools for the functioning of hotels. This project aims at designing a web based Hotel Management Booking System which will have the capability to handle the hotel reservation, available rooms, customer details and administrative option. In its current configuration, the system alleviates harsh realities inherent in customary forms of bookings, which includes human mistake, slow update processes, and restricted access to the booking aggregator.Through this, the customers can perform searches, see live availability of the rooms and book for accommodations in one place. A clean and a flexible design guarantees the best experience across the platforms. However, such as the dynamic price, special offers, and users 'reviews, the functionality of the platform only adds to the site's convenience. The front end of the system is developed with **HTML**, **CSS**, **Bootstrap** to give a nice look to the system and its capability to adapt on the owner handheld device. **PHP** is employed as the primary server-side language and **AJAX** and **JavaScript** make the page live and interactive without the need for continual full page refreshes. The backend database page which is created using **MySQL** includes customer information, booking history, and hotel details. For security, one additional feature is implemented as: session management, while for optimizing the functional feature, the following techniques are used: input validation and error handling. The project also use System Development Life Cycle (SDLC) model for systematic planning, analysis, designing, implementation and system maintenance.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER-1

Introduction

1.1 Introduction

The Hotel Management Booking System is an website to ease control and arrangement of rooms and customer booking services. On the one hand, it enables administrators to share, maintain, and update hotel room information bookings successfully. This system is available through third generation PCs and other gadgets necessary for ease and effectiveness of all parties.

The Hotel Management Booking System was designed to be precise with reduced error compared to conventional techniques. It has a great architecture of automated operations, which makes a smooth running of the system for the users as well as for the administrators. They include rooms scheduling, booking, payments and reporting functions to give a complete package which helps in managing hotel operations.

The conventional ways of booking a hotel come with their vices, including the delay to update traveller information and disorganized data. These drawbacks are solved by the offered system because the data are stored in central locations and can be updated in real-time; there are powerful tools for both administrators and customers.

Some of the operations, which this system effectively can implement, include; defining of room categories, updating availability status, capturing of bookings and cancellations, and others that entail immediate response to the users.

The most important goal of this work is to establish a viable, wireless, and easy-to-navigate ecosystem that enhances overall consumer satisfaction in hotel bookings and services. When this system is applied, the hotels will benefit from the efficiencies gained which will translate into a delivery of better services to client

1.2 Project motivation

Bangladesh is growing fast, and many areas are becoming digital. The ICT sector is working hard to make this happen, and our university also focuses on IT education. Every semester, students from the Department of Computer Science and Engineering work on different projects for their final year. Students out of many choose the particular assignments in a given way and for a given reason and therefore there is every different thought. Attempting to pack loads of important work into projects is counterproductive; it is better to select good projects. It is not about finishing an assignment to get that virtual grade, but to contribute to the community's 'well-being .These are not projects to be done to gain full marks but to fix actual problems in society.

The structure and jobs in the hotels of Bangladesh are still centralized and many of them are still using old and manual methods for the booking of their customers. Such systems are capable of producing errors, extra time consumption, and unsatisfied clients. This motivate me to drawing something that is even better. I reflected on what idea in the management of the hotel could be better if it were done through technology.

1.3 Objectives of this project

The main idea of this project is to simplify the process of hotel bookings specifically by removing manual work. Through this system, persons will be able to book for rooms online, view the available rooms and also be able to customize their bookings. This project has the following significant goals Establishing first offers is one of the goals Know that Every piece of information will be conveyed appropriately. Providing all information in an efficient and fast manner.

- Giving the users a chance to get instant updates about their bookings.
- Providing proper maintenance of the room's availability schedule.
- Offer a smooth and easy-to-use online room booking system.

- Helping the hotel managers manage room bookings and customer details more efficiently.

1.4 Expected Outcome

- Since it is an online system, the customer can book hotel rooms from any location.
- Hotel staff can manage bookings and payments in a much more effective manner.
- No long queues and no paper work for the reservation of rooms by writing manually.
- The customers will save their time in booking rooms online rather than physically visiting the hotel.
- It will improve general management and provide a better experience for customers and hotel staff in general.

1.5 Project management and finance

This project involves only me as its member. It is the result of properly planned and put effort into my final year project. Initially, I had some ideas for the final year project but could not decide which one to choose. After having thought over it, I realized that most of the hotels in Bangladesh are still dependent on the manual method for managing bookings. It leads to a lot of errors and delays and causes great inconvenience to customers and hotel staff.

This made me realize the need for a good online system that could effectively handle issues to do with room bookings, customer data and even payments. The above problems aspiring to breach the mode motivated the following idea to develop a system that book in a hotel for all. After a brief discussion with my supervisor and getting some feed-back, I selected the Hotel Management Booking System. I considered this project relevant and realistic.

Yet, finally having brought the project to its completion, I did think and distribute the activities stepwise. From this process, I received much useful advice from my supervisor. With their help and my efforts, we were able to design a system that fits the needs of customers and the administrators of the hotels.

1.6 Report Layout

The report for the Hotel Management Booking System follows a structured format, which in most cases, for clarity and organization, starts with a title page showing the project title, the name of the author, supervisor's name, and the date of submission.Generally, the introduction describes the project in general, its purpose, and the problems it would resole.

The website has some distinctive features like the clearly chosen and elaborated design of the website and a convenient search system containing filters allowing searching hotels by the location, prices, ratings, amenities, and availability; availability notifications and information about the hotel are also important elements of the website.

It also allows different forms of payment, customer feedbacks, and using segregated loyalty programs. The admin dashboard empowers hotel managers into presenting bookings,

CHAPTER 2

Background

2.1 Introduction

The Hotel Management Booking System is online place to do booking of a hotel and it has been developed to provide ease to the user. It enables user to open an account with the use of the email address and some password of his/ her own choice. After registration they can come and use all the services that are available in the application.

This system allows the customers to see the available rooms, rank and reserve rooms or a hotel of their preferred choice. The vented hotels' hotelkeepers and managers can easily be able to monitor bookings, changing calendar, and records of the clients from the offered instrument.

2.2 Related Work

Several web applications have been developed to manage hotel booking systems, providing a range of features to help streamline the booking process for both customers and hotel administrators. Below are a few examples of related work:

1. Agoda

The content of this website is strictly restricted to sharing informative data about hotels and accommodations in Bangladesh. Elements include accommodation features, availability of rooms, costs and place of hotel accommodation. By itself, agoda.com also has an option for the availability of places to stay and other interfaces from which users can find a place to stay as per their whims and likings. It does not contain such aspects as user registration, or

presence of a payment solution; this does not complicate the system and makes it very user friendly. Furthermore, the site offers phone numbers, e-mail and other steady information about local tourist attractions, which will make users of the site to find all the information they need, within a single site. [1].

2. Its Holyday

This website also describes hotel availability and any related check-in and check-out dates and times, as well as a myriad of rules and regulation concerning bookings and cancellations. Moreover, it includes the total number of rooms and services of available hotels [2].

3. OYOROOMS

OYO is a well-known hotel management platform that focuses on offering budget-friendly accommodations. It allows users to search for rooms, view room details, and make bookings directly. The website includes user reviews, hotel amenities, and a payment gateway. OYO Rooms also features an admin dashboard for hotel managers to update room availability and prices [3].

4. Travelluxe

It offers detailed information regarding best travel and hotel reservations that are expensive. It contains information regarding and attractions, services offered at hotels, and travel packages and their costs and space. TravelLuxe focuses on luxury travel and its website list selected offer and promotions. Further, the website has a Travel Guide section, as well as booking details, policies, and regulations for a great trip[4].

5. Amari

This site also gives a very descriptive account on hotel room availability, check in and check out times as well as offering many a rule and regulation of the hotels. Also it disclose total no of rooms available and facility offered at each hotel branch [5].

This section highlights websites that are similar to your hotel management system, focusing on booking functionalities, user experience, and simplicity. These examples provide context for how your system fits into the broader landscape of hotel booking applications.

2.3 Comparative Studies

This system will offer very useful and specific data on hotel bookings as well as on their management. It will also be the most convenient to the customers and the hotel administrators in equal measures due to reliable booking procedures. While there are several existing hotel management systems, they often lack critical features or fail to provide a seamless user experience.

Comparing our system with other systems, we find out that none of the other systems offered is as efficient or offers as many features as the proposed system. In our system, the availability of the room is constant and every time the user checks for free rooms he or she gets to know which of the rooms are occupied and which are not. Also, customers can order rooms with just a click from the computer and can easily cancel their reservation. comparison of the features offered by existing systems and our proposed Hotel Management Booking System is presented in Table 2.1:

Table 2.1: Summary of the examination of current systems

Features	**agoda**	**Its Holyday**	**TravelLuxe**	Amari	Daffodil Hotel
Online Booking	Yes	Yes	No	No	Yes
Admin Dashboard	No	Yes	NO	No	Yes
Real-time Room Availability	No	Yes	Yes	Yes	Yes
Room Layout Visualization	No	No	No	Yes	Yes
Online Booking	Yes	No	Yes	Yes	No
Booking Cancellation	No	No	No	No	No
Payment Gateway	No	Yes	Yes	Yes	No
Employee Info	Yes	Yes	No	Yes	Yes

2.4 Scope of the Problem

The problem area of a Hotel Management Booking System is therefore to offer an easy to use, effective and inexpensive device for the management of hotel reservations. Customers should be able to browse through rooms to book and check on their availability with ease to book rooms of their preference. It should also allow hotel staff to be able to manage bookings for rooms, change the status of a room, and produce reports on these.

This system should also be an accurate source of information on availability of rooms, price, and bookings in progress. It should also let the user cancel or update a booking when for one or many reasons he desires to do so. Further, the system may allow creating invoices and storing customers' records who may be needed in future for various purposes.

The hotel booking problem domain covers operational disadvantages of manual reservation management, slow updates of room availability, and limited visibility into the process, and customer care. The following problems are likely to cause the dissatisfaction of customers and low organizational efficiency of the hotel administrators.

In order to overcome these challenges the proposed system will incorporate the facility to automate all the aspects related with booking and also develop a simple and efficient interface for the customer as well as the employees. It is also capital intensive to incorporate complex features such as the payment gateways within the hotel for the online buying process as well as the interiors for useful information from customers about the hotels' reputation for effectiveness and efficiency in the management of the enterprise.

2.4.1 Time Scheduling

Table 2.2: Time Scheduling

Planning	**2 Week**
Design And Analysis	1 Week
Coding	4 Month
Evaluation and Application	3 Month
Total	7 Month 3 Week

2.5 Challenges

Hotel management system has the following challenges in its usage by the users. One is explaining to the users how they can search for their preferred rooms and see other rooms' availability.

Another question is how to explain to them that in case they need to cancel the booking, it is possible. Making the system as friendly as possible to customers and employees will also be a goal.Another problem that customers face is that only the administrators can answer their questions and problems.

Additionally, optimizing the website for mobile devices and maintaining fast loading speeds are critical to enhance user experience. Handling complex cancellation and refund policies, managing multi-lingual and multi-currency support, and maintaining up-to-date inventory synchronization are also significant hurdles

This leads to other queries piling up and causes a bottleneck each time many queries are received at a go. Real-time update and keeping the availability up to date is also challenging in many ways.

Lastly, maintaining a glitch-free and error-free system is still considered a tough obstacle, it simply affects users' satisfaction and stability of the system itself

.CHAPTER 3

Requirement Specification

3.1 Business Process Model

The current system and its interactions with other components of the system allow for a detailed analysis of various activities performed. This involves examining the limitations of the system and determining whether improvements can be made by referencing similar systems. During the analysis phase, relevant information is collected, including available documentation, decision points, and processes handled by the current system.

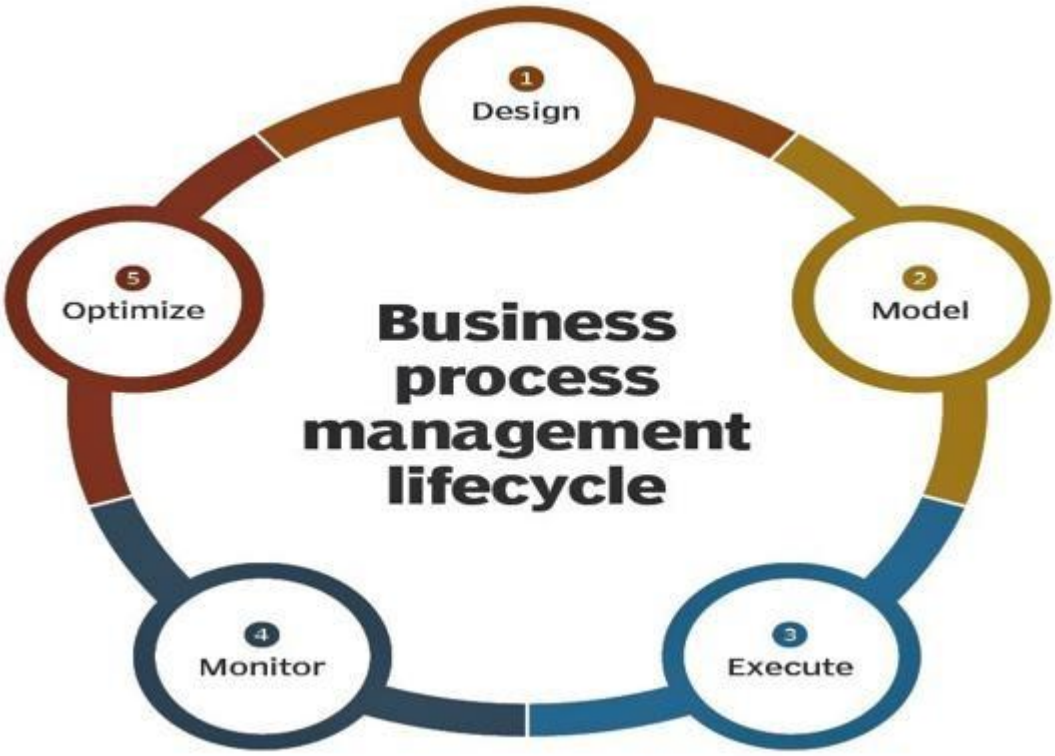


Figure 3.1 Business Process Model

3.1.1 Agile model

The Agile Model divides the development process into small, manageable cycles called sprints. Each sprint delivers a working version of the system, which can be tested, reviewed, and improved. This approach allows for continuous feedback and adjustments, making it highly adaptable to changing requirements. Developers and users work closely together, ensuring that the system evolves to meet user needs efficiently.

The Agile Model emphasizes delivering small, functional parts of the system quickly while continuously refining the final product. A diagram of the Agile methodology is shown in Picture 3.2 below..

Figure 3.2 The Agile Development Methodology

3.2 Requirement Collection and Analysis

In the Agile model, collecting and analyzing requirements is an ongoing process that happens throughout the project. Instead of gathering all the requirements at once, Agile focuses on breaking them into smaller, manageable parts that can be updated as the project progresses. This allows for flexibility and ensures the project meets the needs of the users and stakeholders.

During this process, the team identifies what needs to be done, how it should be done, and what resources are required. The team also evaluates whether the project is practical and achievable by checking the following factors:

Technical Feasibility: Can the system be built with the available tools and skills

Economic Feasibility: Is the project affordable, and will it provide good value for the cost

Legal Feasibility: Does the project follow all legal rules and regulations.

Operational Feasibility: Will the system work well for users and meet their needs.

Schedule Feasibility: Can the project be completed on time.

3.2.1 Technical practicality

It looks at the ability to develop the system particularly by considering the resources and technologies to be used in the project. It includes assessing theactive and passive requirements of the system including inputs, processes, output and activities. Data volumes, patterns, and how frequently these have to be updated are other features for which the applicability of the system is assessed.

At our university Daffodil International University creativity and innovation factor is of much importance. Nevertheless, in the light of this research, in the case that, the university has available the required programming tools, hardware, skilled workforce and knowledge to execute the project successfully then the project can be seen as technically feasible.

3.2.2 Economic attainability

Economic viability is centered on the overall fiscal attainability of the project. This is normally accomplished by means of a cost-benefit analysis, where the probable benefits and savings from the new system are placed against the probable cost. Economically feasible at the end of the day indicates that cost of the benefit that's acquired is much higher than the cost of the project.This is a critical step throughout the undertaking process, to have to evaluate the benefits and pitfalls in order to guarantee that they are going to generate worth from the project.

3.2.3 Legal plausibility

Legal feasibility checks if the proposed system follows all legal rules and regulations, like data protection laws. It ensures that the system operates within the law. In this project, since all the tools and software used are free, no copyright or anti-theft laws are being violated.

3.2.4 Operational attainability

Operational feasibility focuses on the aspect of satisfying the problems that are found during the planning and analysis phase as well as leveraging on opportunities. It determines whether the system can perform optimally and whether the laid down objectives can be achieved to the letter.

3.2.5 Schedule attainability

It has become evident that the schedule for any project determines its success or failure in equal measure depending on its feasibility and overall work plan. In developing the schedule for Hotel Management Booking System, different phases of the project were set during the planning process in such a way that each phase can be completed and accomplished within the given duration of the project while yet achieving the best quality and functionality of the project.

The project was divided into the following stages: anticipatory, methodologic, program, discretionary, investigational, and operational planning. Each of the above described stages was assigned an appropriate time depending on the relative difficulty and needs of each stage. The planning phase lasted for two weeks and under this phase, the overview of the project and the goals and characteristics of the project were defined. Besides providing a good start for the rest of the project, this phase facilitated on attaining a good start.

The design and analysis phase took one week to complete. It was during this time that such fundamental aspects such as the system's overall design, interface design and the structure of database were set in motion. This phase was so important in order to develop the system which would fulfill the requirements of the users while at the same time would be easily scalable and operationally efficient.

The last stage of coding which is the most time-consuming process took about 4 months. This phase focused in deploying the front-end using HTML, CSS & Bootstrap while the back-end

was done using PHP & MySQL. Concerning the system's reliability, possibilities of room booking, availability checking, and reservation cancellation were tested.

The evaluation and application phases lasted two months, and during that time testing was conducted in order to identify and eliminate any problems that the system could contain and to establish whether its use is intuitive or not. Information gathered from the testers was used to make the required adjustments to make the system ready for implementation.

3.3 Use Case diagram

Admin:

Update Room Information: Both admin and clients can edit features including Room pricing, availability status, and other related features.

Make Bookings: Admin can watch the customer details and change or even cancel the reservations.

Generate Reports: It allows admin to create simple reports regarding the room occupancy, total sales, and other feedbacks.

Customer:

View Room Details: Every room is depicted together with its prices and the available dates.

Make Reservation: The order of the room can be viewed, preferences can be chosen, and the necessary details provided by customers.

Cancel Booking: Customers will cancel their reservation depending on the prevailing policy.

View Booking Confirmation: Customers get notified through email or phone and the basket and room association number when the reservation is successful.

The above Hotel Management System follows a central approach to organizing all activities into administration and clientele interface hence promoting order and easy flow of activities.

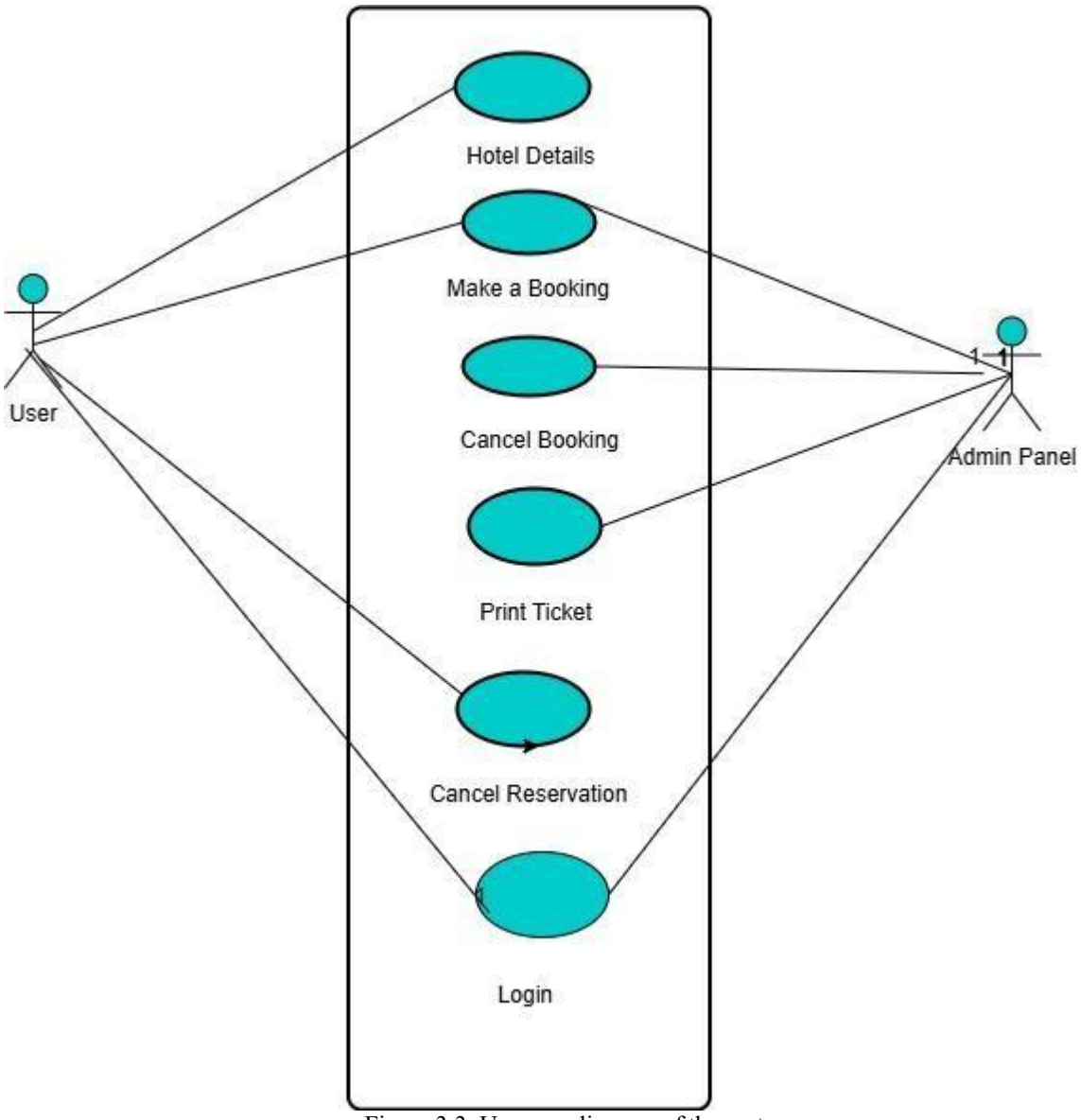


Figure 3.3: Use case diagram of the system.

A use case is going to explain “who” is permitted to use what system to accomplish what precisely. The use case technique which is used in capturing a system’s behavioral requirements deeds out the functional requirements by describing the threads based on scenarios.

3.4 Entity relationship model and Diagram

Entity-Relationship (E-R) model is an illustration of two entities and the connection between them in relation to the implementation of a system. This is a critical step before arriving at the actual layout of the database because it helps to identify how data is structured and how they are keyed before laying the structure of the design plan. Hence, the primary objective of producing an E-R diagram is to map the existing real world scenario to the best of its capacity and, of course the ability of the database to reflect reality.

As seen before, e-r diagram is very useful to create the database for it is a map of the database. While it does not translate directly to a database, it gives you a plan that makes designing databases very easy in a relative sense. In most cases shown in the E-R diagram the entities and many-to-many relationships are in fact stored in tables in a relational database. Each column in the tables is using one attribute of an entity and each raw is representing an instance of the same entities.

In relational database, getting from from one table to another means the creating of keys. The identity of one table is stored in the other table by means of a survey wherein the main key of one table acts as the foreign key for the second table. It also sees to it that data is made uniform and best placed so that it can be retrieved with ease.

The main components of an E-R diagram are:

Entities: The set of objects the entity set is made of which are individual and unique in their own ways.

Attributes: Intrinsic details of the different entities..

Primary Key: In most of the time, any entity set will have at least one candidate key, an identifier of the given entity. The “Student” entity set could be keyed on a unique student ID For example.

Relationship: Relationships can be conceived between an entity set and other entity sets. For example, a “Student ” entity instance can have a association with a “Course” entity set as a student will enroll for a particular course.

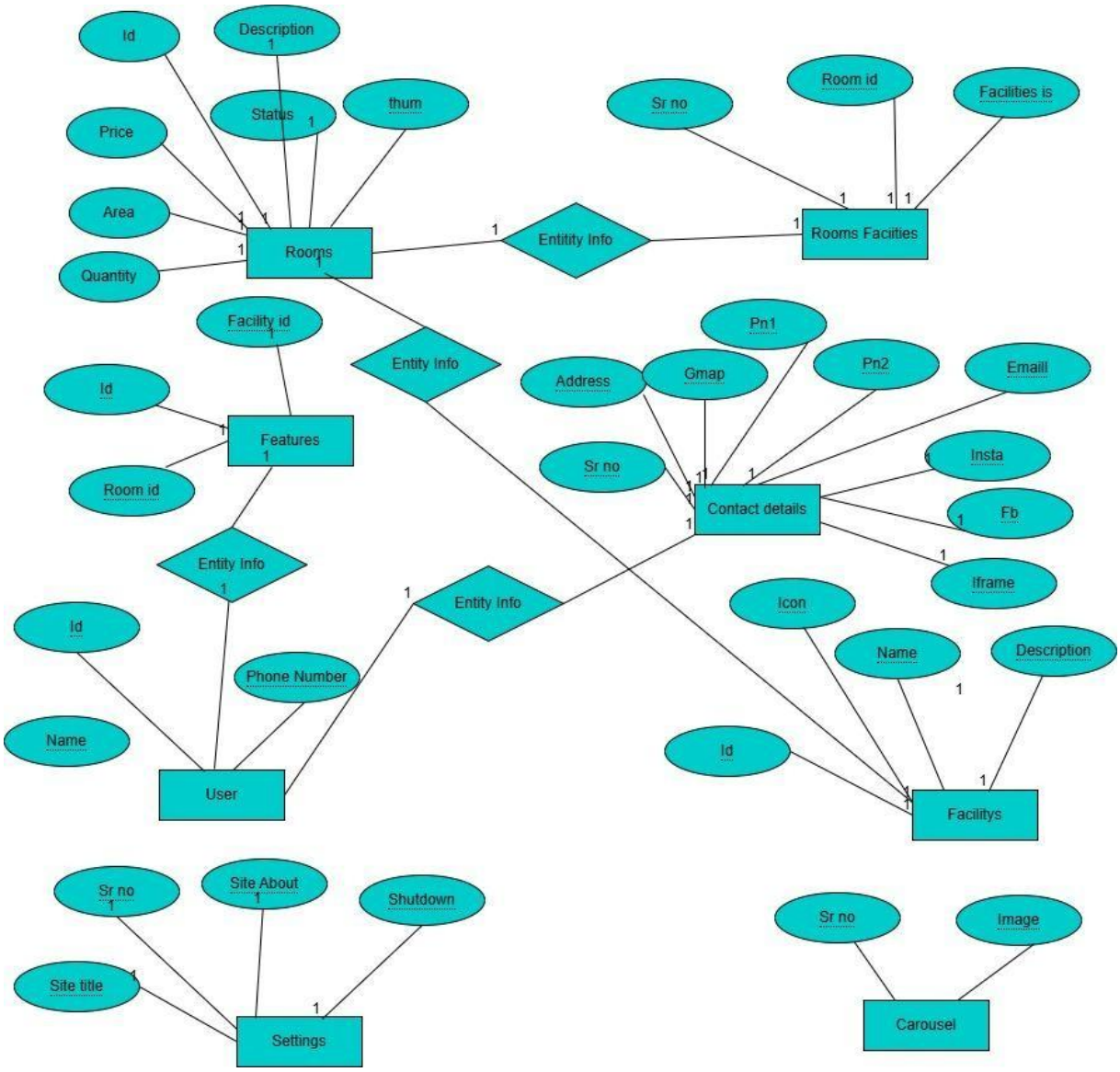


Figure 3.4: Entity relationship Diagram

3.5 Structure Design

The structure of the Hotel Booking Website provides a clear and organized view of the entire system. The website is designed to ensure that users can easily access the information and services they need. Guests can explore room details, check availability, view pricing, and make reservations directly through the website. They can also access additional features like cancellation policies, feedback forms, and recommendations for nearby attractions.
On the other hand, the admin section allows management to update room availability, pricing, and other details on the portal. The admin can also manage feedback, monitor bookings, and generate reports for analysis. The website's structure is divided into two main parts: the **User Section** for customer interactions and the **Admin Section** for backend operations, ensuring a seamless experience for both users and administrate.

hotel booking website suggests that easy to use navigation is of paramount importance to the overall design of the web site. The homepage is used as the starting point for any user on the portal and contains a search form by destination, dates and guest preferences, as well as information about promotions and selected hotels. There is a separate “Search Results” page with the hotel options and options to choose by price, location, amenities, and rating. Every hotel has a dedicated page to show rooms, pictures, more photographs with great quality, reviews, and booking details.

The design features a safe booking procedure based on a concise page into which visitors input their registration specifics as well as payment details. Furthermore, the website is enhanced by a booking and profile page for users to manage their bookings, a contact page of the customer care services, and an administration page to manage the hotel database and the users’ information and bookings. The crux of the website is developed to be responsive to the various platforms thus allowing ease of use for the users on both the desktop and the mobile devices.

CHAPTER 4

Application Design and Specification

4.1 Front-end Design

The concept of Hotel Management Booking System was developed to enable effective booking of rooms and availability of other services in a given hotel. The system involves a simplified interface with which customers can search the database and access details of available rooms as well as book for a given room. The system also enables easy input of new rooms or deletion of rooms or modification of the available rooms by the hotel administrators in charge of the hotel business.

The front end of this system was built using HTML, CSS, Bootstrap to enhance the look and to provide a form that can be viewed on any device. This means that the layout follows the best structure that would guarantee users' ability to access information or products on the website using a mobile phone, tablet or a desk- top.

This system was developed with objectives of not only managing the operations of the hotel operations but also a ability to support industrial booking and management systems. It is convenient, easy, and reflects modernity for the customers and the hotel's managers and administrators.

4.2 Back-end Design

I Design a website for those Application :

- PHP
- Bootstrap
- HTML and CSS (Markup language)
- MYSQL (Database Engine)

- Ajax
- Bootstrarp

4.2.1 Ajax

AJAX, short for Asynchronous JavaScript and XML, is the revolutionary web development technology that brings with it efficiency, speed, and interactivity to the modern web application. Allowing asynchronous communication with servers, AJAX enables developers to build dynamic, seamless user experiences by updating parts of a web page without having to reload it in its entirety.The beauty of AJAX is in its simplicity and flexibility. By combining the power of JavaScript with either XML or JSON for data exchange, coupled with the latest browser APIs, AJAX is capable of supporting real-time updates, user-friendly interactions, and smoother workflows in web applications. Tasks such as form submissions, updating content, and retrieving data are much faster and more efficient.

4.2.2 PHP

PHP is indeed one of the most popular server-side programming languages that the developers use to develop dynamic and active web applications. This makes use of a PHP processor module in a server, where PHP code is executed to arrive at the end web page output. This makes it possible for website to deal with users request and show content accordingly.

The beauty of PHP is that it can be programmed and embedded directly into HTML files which makes design and functionality one piece. Unlike other languages, PHP introduces convenient means for requesting data via form submission, communicating with the databases, and performing other server-side computations. This makes PHP a basic tool to be used when designing web application that are friendly with the user interface.

Bootstrap is one of the most utilized and free html/CSS framework that intends to make web development much easier. There is a package consisting of pre-built parts, constructive web formats, and JavaScript utilities to contribute to fast site production with attractive appearances and satisfactory usability. Bootstrap can be a real boon for a hotel management website, as – if nothing else – it makes designing for responsiveness and mobile devices far easier.

Bootstrap includes a grid in its features and this is extremely important when you wish to make your website viewable across the devices. It splits the page horizontally and vertically, so content can be scaled to suit the size of the viewer's screen. From the point of view of the layout, users do not have to significantly disrupt the orientation when moving from viewing the site on a mobile phone to a tablet or a PC – the grid format facilitates this.

A snap navigation structure from Bootstrap such as navbars, dropdown and tabs make it easier to browse through the website structures of a website by the visitors. For a hotel website, you can integrate systems such as rooms' booking, availability and services menus and many more. The framework encompasses lovely buttons, forms, alerts as well as cards, which can be fitted with the site's branding.

Like other complex frameworks, Bootstrap also provides the utility classes to design a specific element in a customized way; developers can easily work on contents rather than the integration of principles of Bootstrap framework. It is especially useful when displaying information about hotels, for instance the type of rooms the hotel offers and the pictures of the rooms, and the prices in a clean and professional manner.

The use of Bootstrap on a hotel management site is that developers can launch the site quickly and then promote it and make changes as they go along. It's malleability also makes it diverse as the hotel expands, the website can incorporate new aspects like translations, booking services, and modes of payment.

HTML & CSS

HTML and CSS are the two basic tools in the development sector that allow designers to build aesthetically pleasing and efficient websites for online users. HTML works as a foundation to the content of the webpage, while CSS works as designing pages of the website, which offers hotel management services. HTML determines the containing structure of a website through such items as headings, paragraphs, images, tables, and form.

In its current layout, a well designed hotel website should ensure that the visitor is most importantly encouraged to book with the establishment. Again, it contains the use of concepts such as heading, navigation, sections and footer help in designing the layout and help to navigate through the web page.

HTML on the other hand contains the content of the website, while CSS gives those contents on the website a style. For instance use of colours, typefaces and spacings and also the layout

designs used can be made to correspond with the hotel's brand name and or logo. CSS features that will be implemented in a Hotel website, which make the elements stunning, are navigation, grid, and positioning, to make the website accessible on mobile devices and used for hover effects on buttons and links.

With the help of frameworks like Bootstrap, a developer could take up a number of works, helping in the designing of a site, making sure that it looks amazing on any device. You can, therefore, show rooms or other facilities orderly in a grid system, say, in a real estate website.

DBMS

A database is a system designed to store and manipulate data effectively.. It stores and represents relevant real-world information in a structured way to support the needs of an application. For example, in a hotel management system, the database holds data such as room availability, customer details, and booking records, ensuring smooth and reliable operations. Database Management Systems (DBMS) are specialized software designed to interact with users, other programs, and the database itself to store retrieve, and manipulate data. A fully functional DBMS allows users to define, create, update, and manage the data structure while ensuring data integrity and security.

For my project, I used **MySQL**, a popular and reliable DBMS, to handle the storage and management of hotel booking data. MySQL ensures data consistency and provides fast and efficient operations, making it suitable for real-time applications like hotel booking systems.

4.2.3 Web server

The web server is the backbone of a hotel management website, making it functional and accessible. It hosts all the necessary files, databases, and resources that make the operations on the website smooth online. When a customer visits a hotel website, a request is sent to the web server, which in turn processes the request. It retrieves data from the storage of the server related to the requested information and returns the same to the user's browser. In the context of a hotel management website, that could be booking systems, room availability, price, services, and amenities.

The web server makes sure that the information is always updated and available at all times, hence giving users a smooth experience. It can handle multiple requests simultaneously, so that guests may book rooms, make inquiries about services, or use other features without any

hindrance. Being part of the infrastructure of the website, the server has to be ready for high traffic volumes, especially during peak seasons or promotional events.

The other critical area that the web server manages is security. It has to send and properly store highly sensitive information regarding customers, including payment information, personal details, and booking history. In this regard, the server has set up encryption protocols like HTTPS to help in safeguarding this information from outside threats. Besides, regular backups, firewall protection, and monitoring systems are performed to ensure the integrity of the server and to minimize any chance of data loss or unauthorized access.

4.2.4 Font Awesome Icons

Font Awesome is an iconic toolkit that can elevate the design and functionality of a hotel management website. It provides a vast library of scalable vector icons that help enhance user experience by visually representing key services and features. These icons can be used for various elements, from the navigation menu to highlighting amenities like room service, gym, spa, or restaurant.

In the highly competitive hotel industry, website aesthetics play a significant role in attracting and retaining customers. Font Awesome's collection includes icons for booking systems, customer support, transportation, and even check-in/out processes, making it easy to communicate services efficiently. The versatility of these icons makes them adaptable to any design, whether it's a minimalist layout or a more complex, luxurious look.

Integrating Font Awesome on a hotel website ensures that the visual elements are consistent and aligned with the brand's identity. This simplicity and clarity enhance user interaction and improve accessibility. With its user-friendly implementation, hotels can quickly update and adapt their sites without compromising quality.

4.3 Design and Experience for user

The main importants elements in the design stage of a hotel management website are Interaction Design (IxD) and User Experience (UX). A hotel management website structure is designed in such a way that it is easy to navigate through, where guests can find what they want with less confusion and complete their booking. A well-designed user interface is aesthetically pleasing but, more importantly, user-centric to keep a positive experience throughout a user's journey on a site.

The hotel website's interaction design should concentrate on a very user-friendly layout with clear call-to-action buttons, fluid transitions that smoothly navigates the user organically through the site. Minimal friction should be created so that users do not experience difficulties when engaging in activities such as booking a room, looking around for services, and checking the availability of rooms without feeling puzzled or annoyed. The experiences need to be holistic: from the first landing page through to the final step of booking confirmation.

It will also be imperative to have a responsive design, as guests will most likely access the hotel website from different devices such as desktops, tablets, and mobile phones. Most especially, optimization for mobile use makes it very easy for guests to book on the go, hence improving the general experience. Consider personalization of content—things like local recommendations, special offers, and promotions of relevant interest—to make them feel valued and engaged with their experience.

4.1 Home Reservation Module

The home page of the Hotel Booking Website allows users to conveniently search and reserve rooms based on their preferences. Users can select their check-in and check-out dates, the number of guests, and the type of room they need. Additionally, they can view room availability and pricing options directly on the home page.

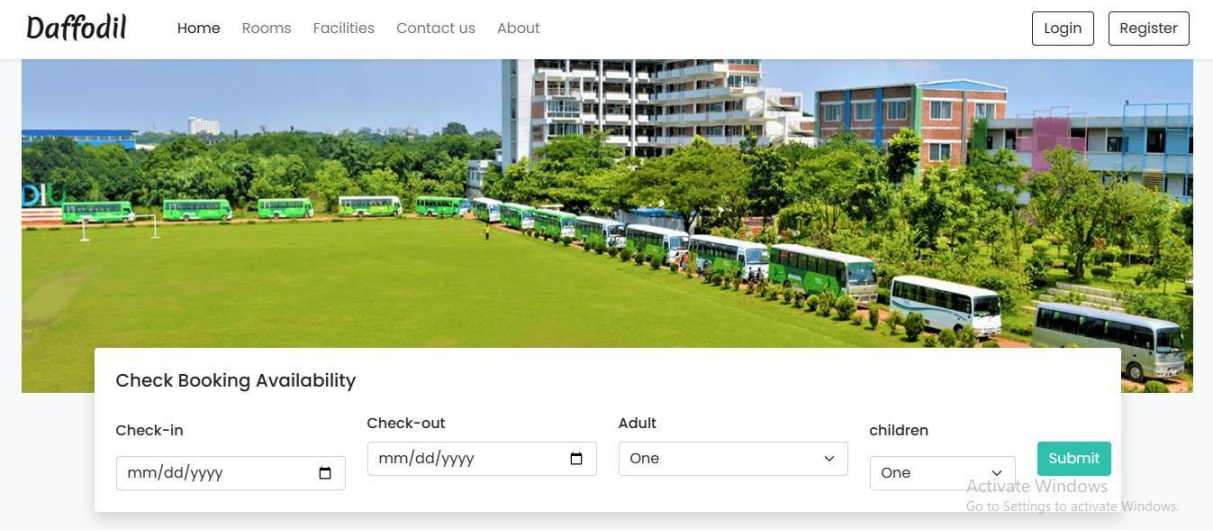


Figure 4.1: Home Reservation Module

4.2 .Room Section

Browse our variety of rooms tailored to your needs, from cozy single rooms to luxurious suites. Each room offers modern amenities, comfortable furnishings, and an unforgettable stay experience.

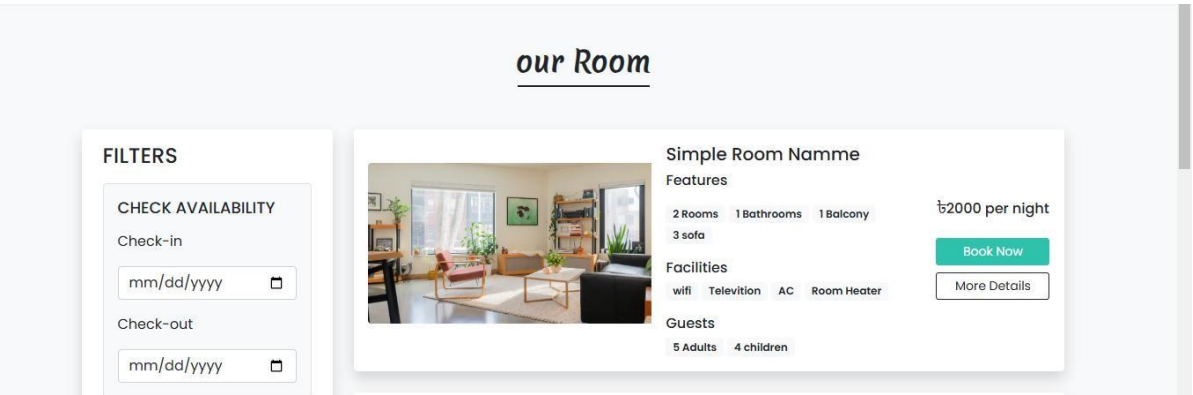


Figure 4.2: Room Section

4.4 .Booking Section

Book your stay effortlessly with our user-friendly booking section. Choose your dates, browse available rooms, and secure your reservation in just a few clicks. Enjoy seamless navigation and personalized options to suit your preferences. Your perfect getaway is just a step away.

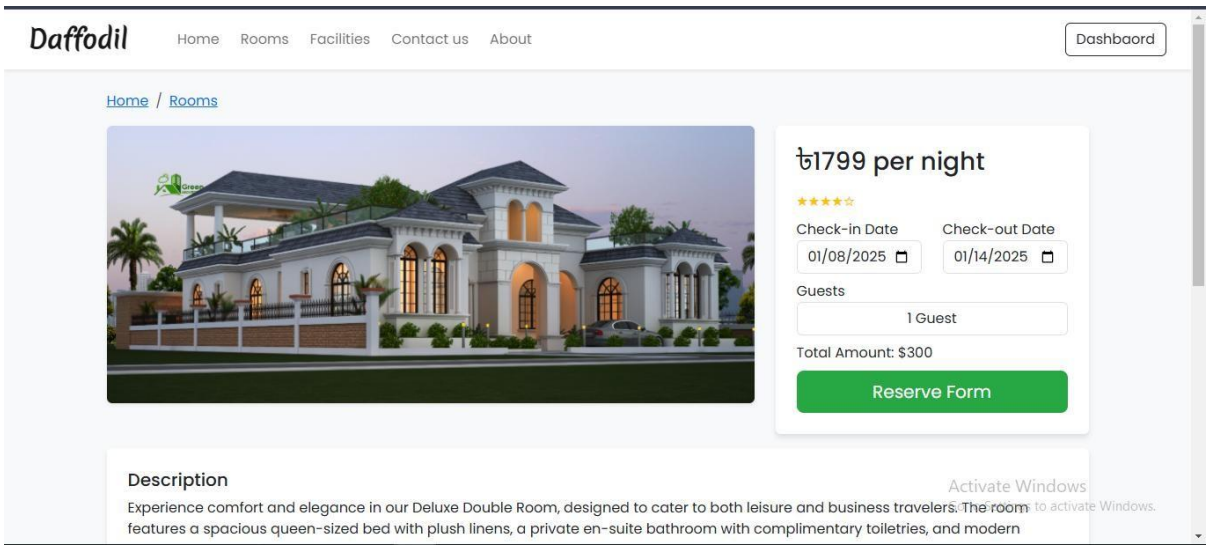


Figure 4.2.1: Booking

4.5 Facilities

Enjoy top-notch facilities including free Wi-Fi, , and television and a fitness center to make your stay comfortable and memorable. We ensure a perfect blend of convenience and luxury for all our guests.

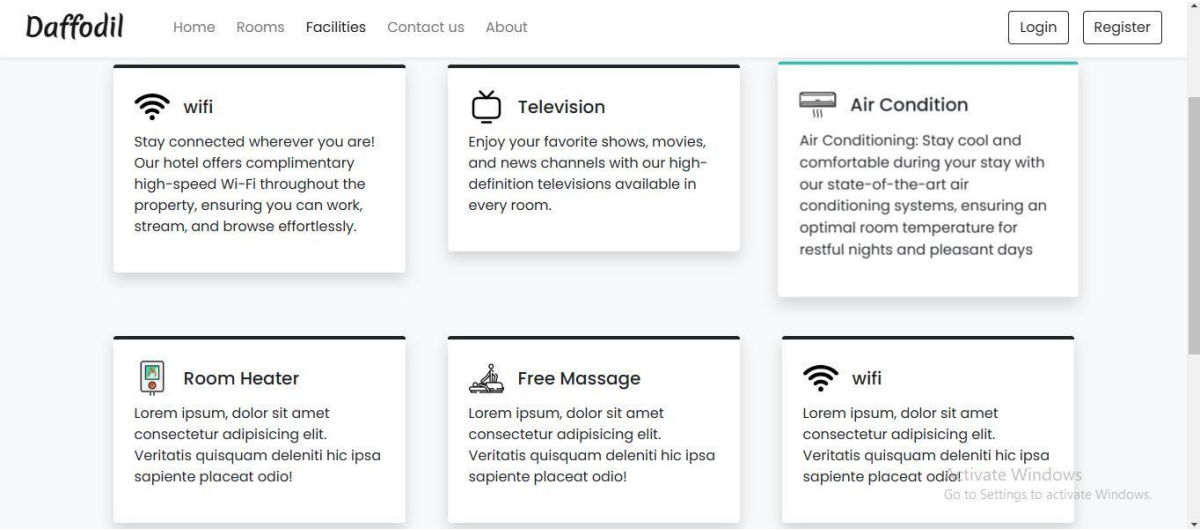


Figure 4.3: Facility

4.6 contact us

Reach out to us anytime via email, phone, or our online contact form.

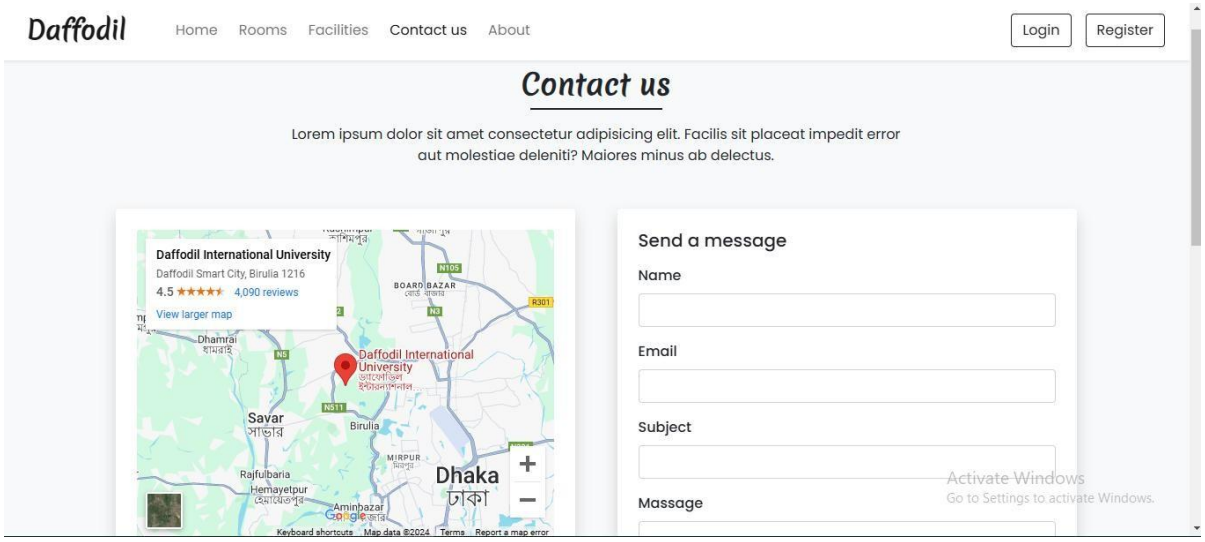


Figure 4.4: Contact Us

4.7 Footer

Explore unforgettable stays with us—book your dream room today! Stay connected: follow us on social media for the latest updates and offers.

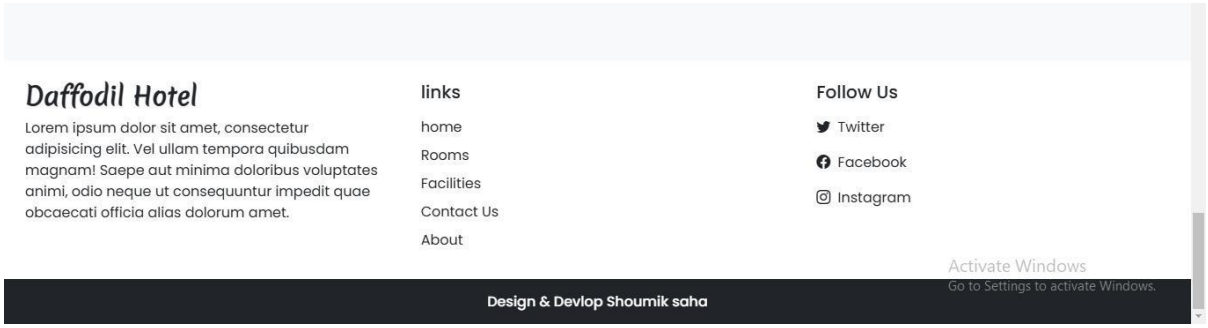


Figure 4.5: Footer

4.8 Home Page Screen

This is a Home page, where user can search available hotel rooms.

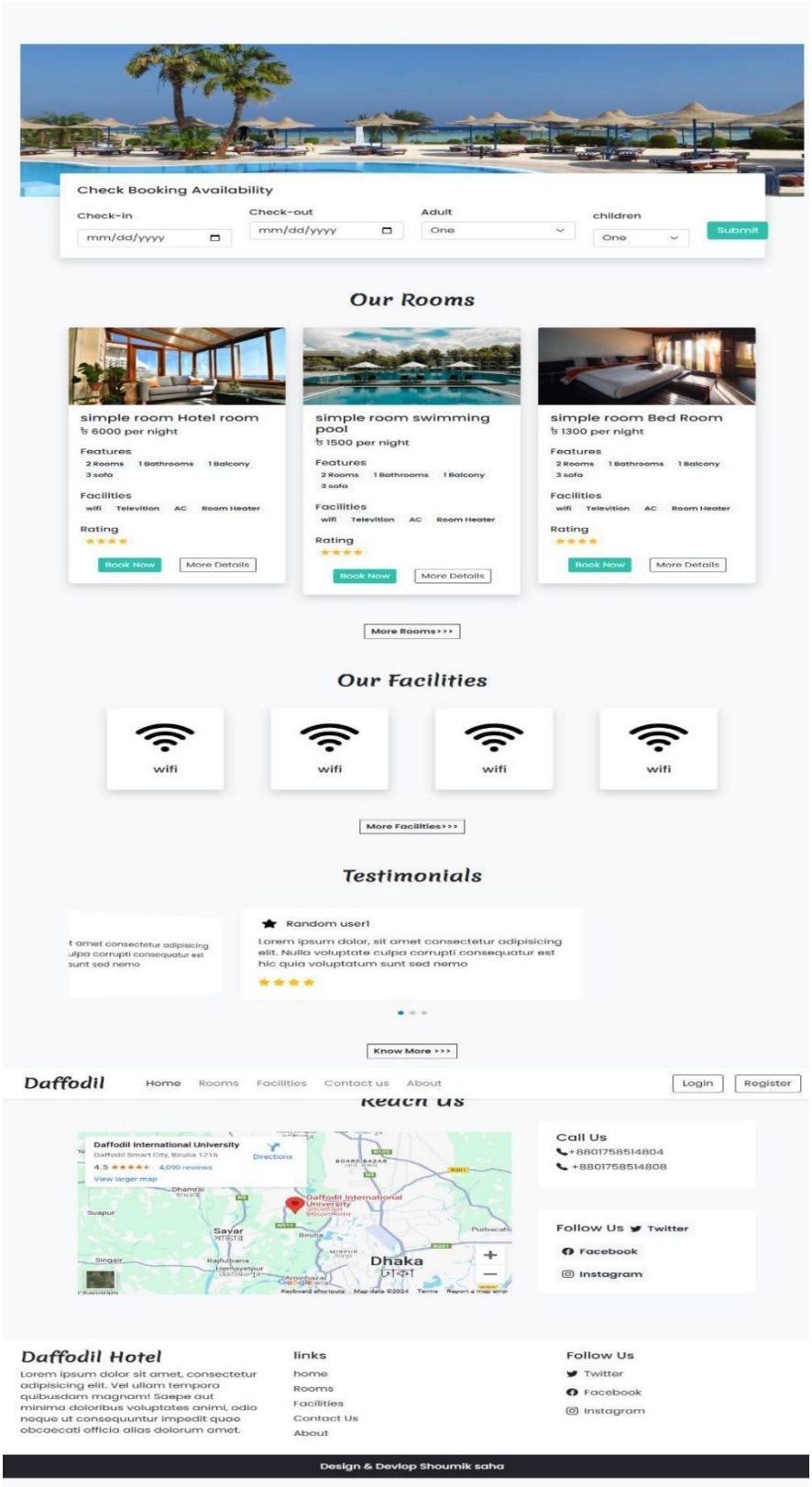


Figure 4.6: Home Page Screen

4.9 About Project Screen

In About sections everything are describe about Daffodil Hotel Booking System.

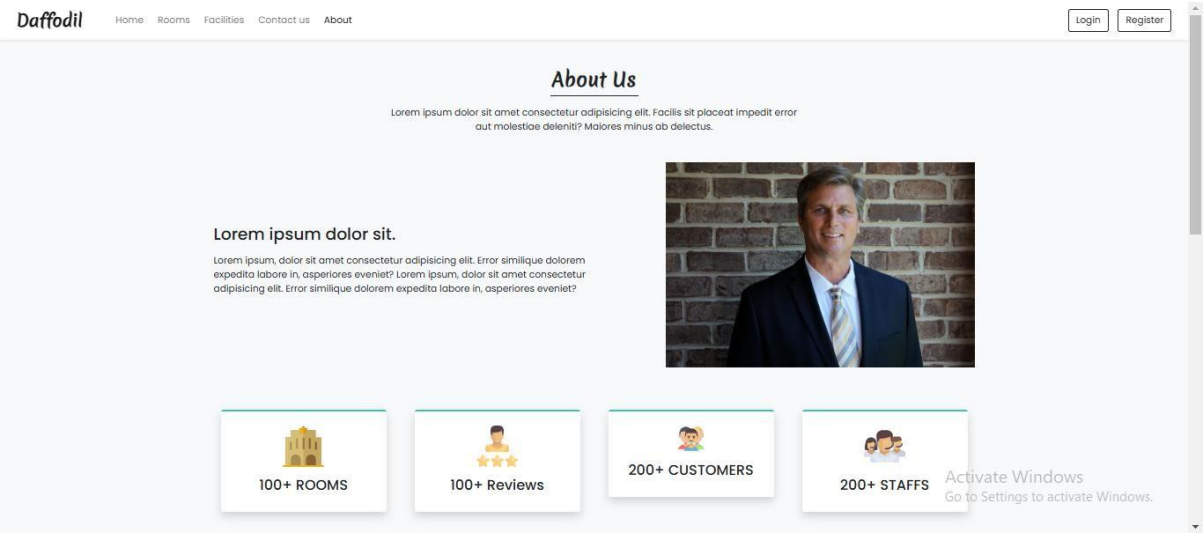


Figure 4.7: About Project Screen

4.10 Sign in Module

If a user already registered user need to Log in.

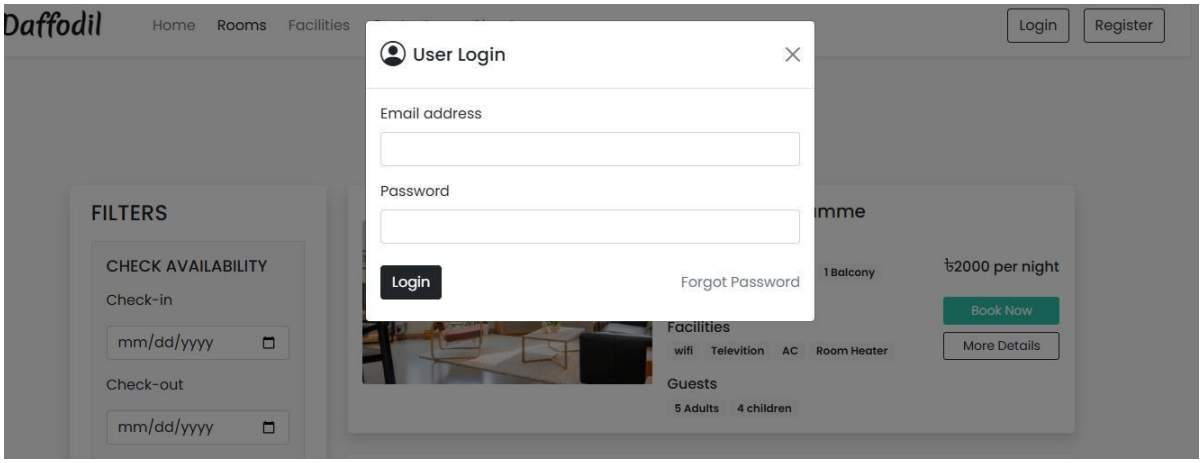


Figure 4.8: Sign in Module

4.11 Sign Up Module

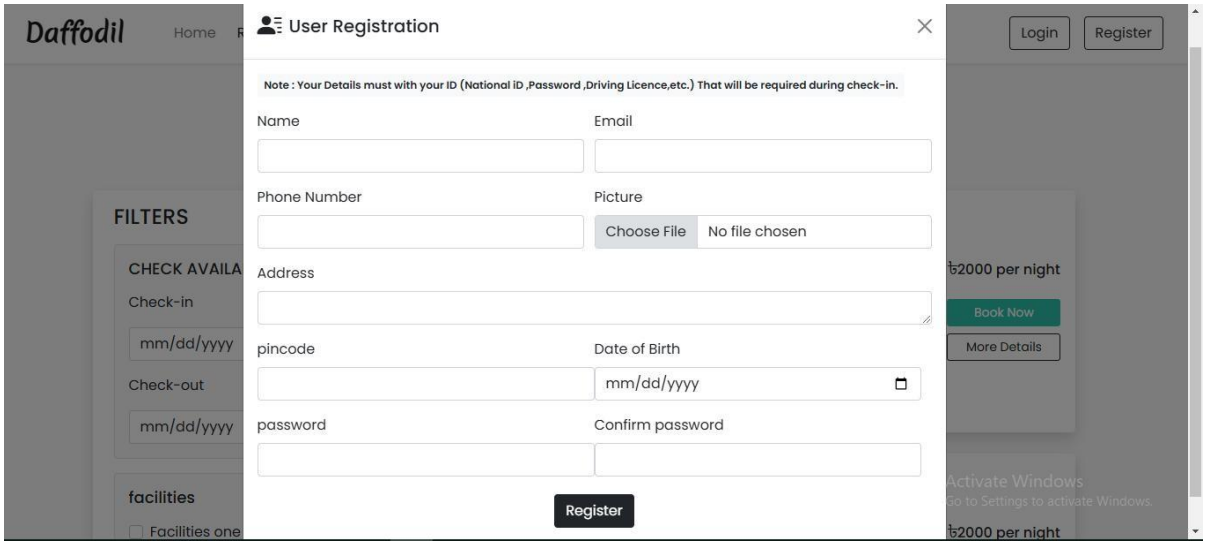


Figure 4.9: Sign Up Module

4.12 Admin Dashboard Screen

The Admin Dashboard shows the main indicators and activities help to control the hotel booking website and application. Once the admin enters the correct combination of the correct username and a correct password, the admin can be directed to the dashboard which provides the statistics and the operational panel.

.

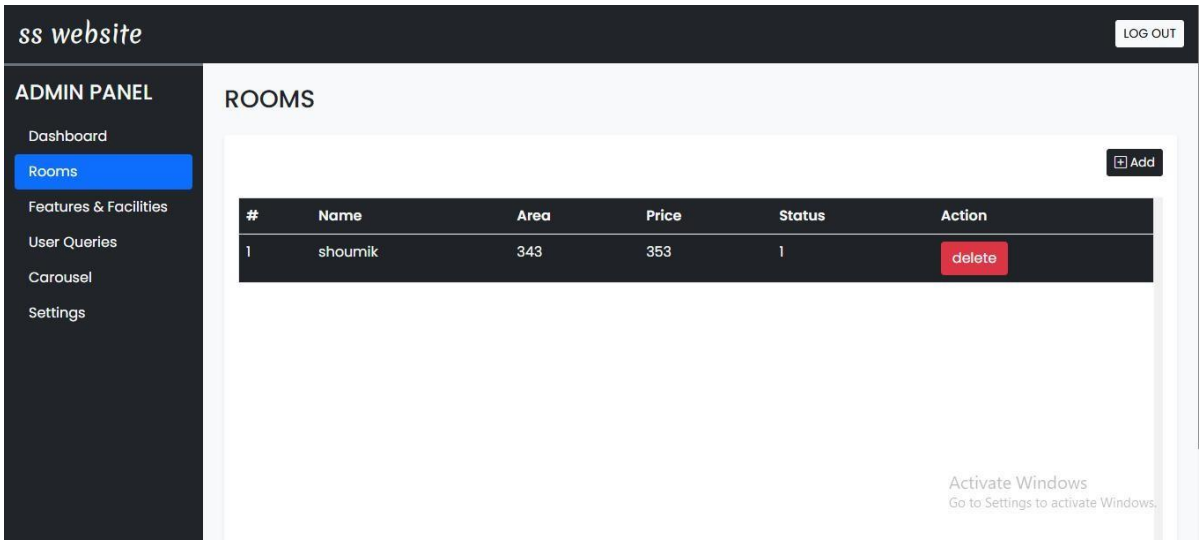


Figure 4.13: Admin Dashboard Module

4.13 User Queries

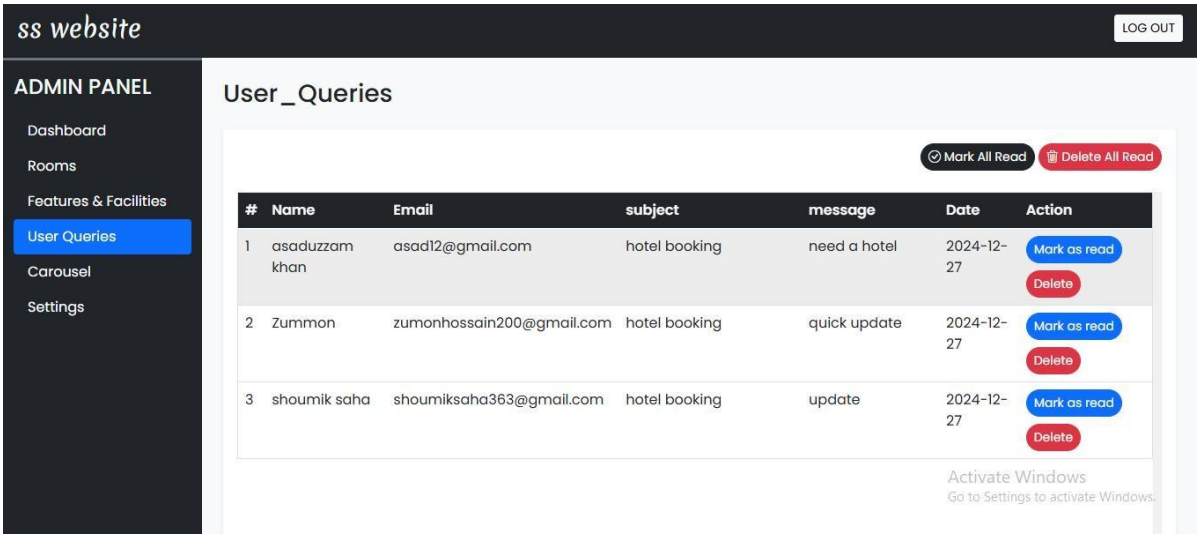


Figure 4.16: user queries

4.14 Carousel

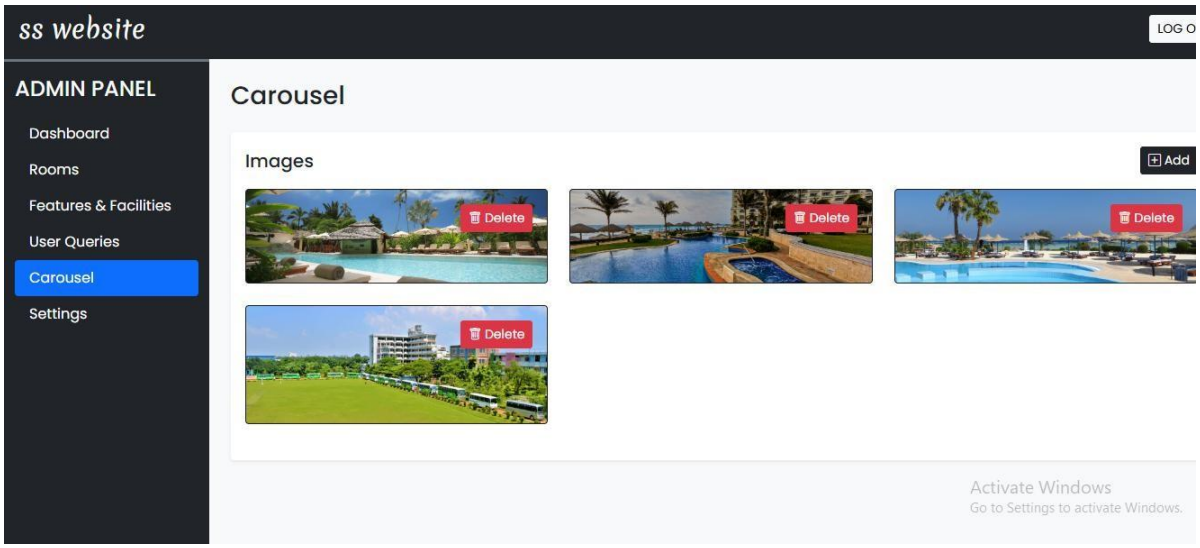


Figure 4.17: Carousel

4.15 Setting

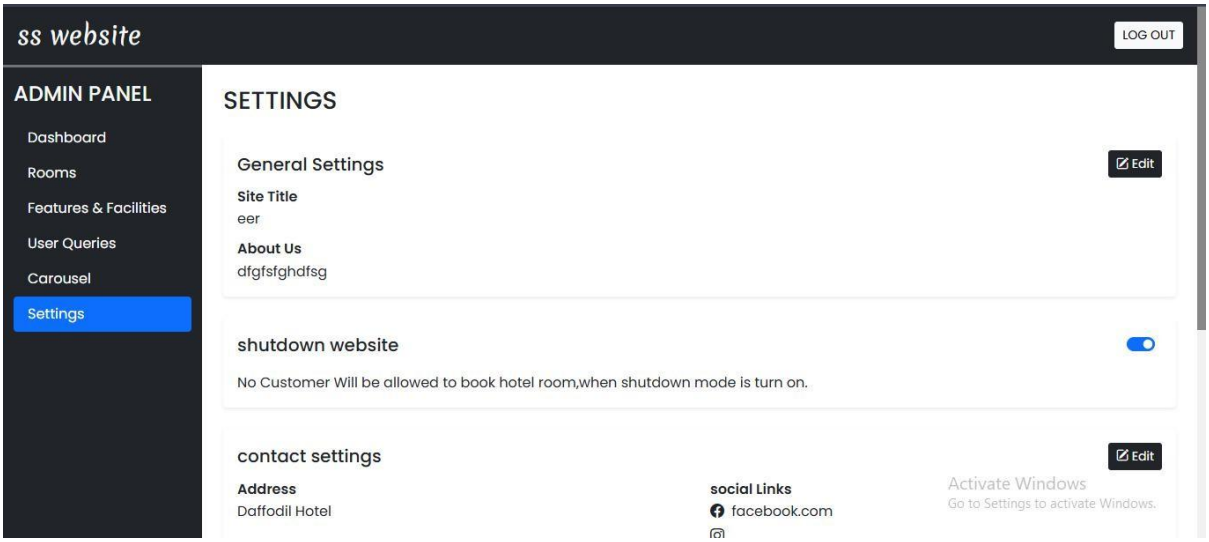


Figure 4.18: Setting

4.16 User Dashboard

View upcoming reservations, access past stays, and easily modify your plans. Stay updated with exclusive offers and rewards tailored to you. Simplify your travel with all your details in one place.

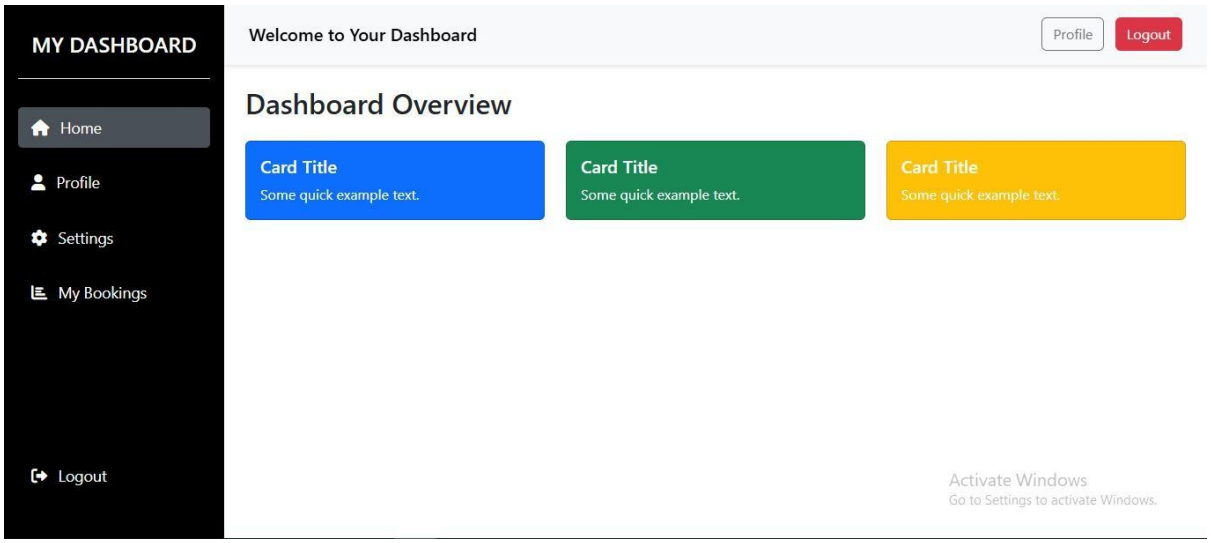


Figure 4.19: User Dashboard

4.17 Payment Getway

Guests can choose from multiple payment options, including credit/debit cards, digital wallets, and net banking. Advanced encryption guarantees the safety of your personal and financial data. Book your stay with confidence through our reliable payment system .

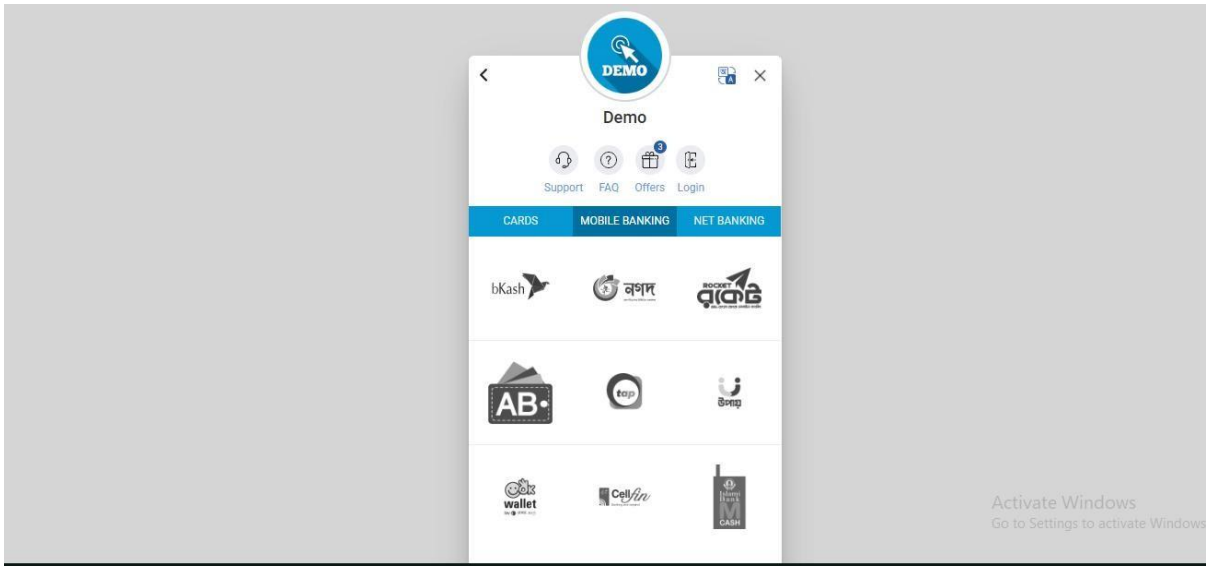


Figure 4.20: Payment Getway

4.18 Booking Success

A confirmation email with all your details has been sent. Please check your inbox for more information about your stay.

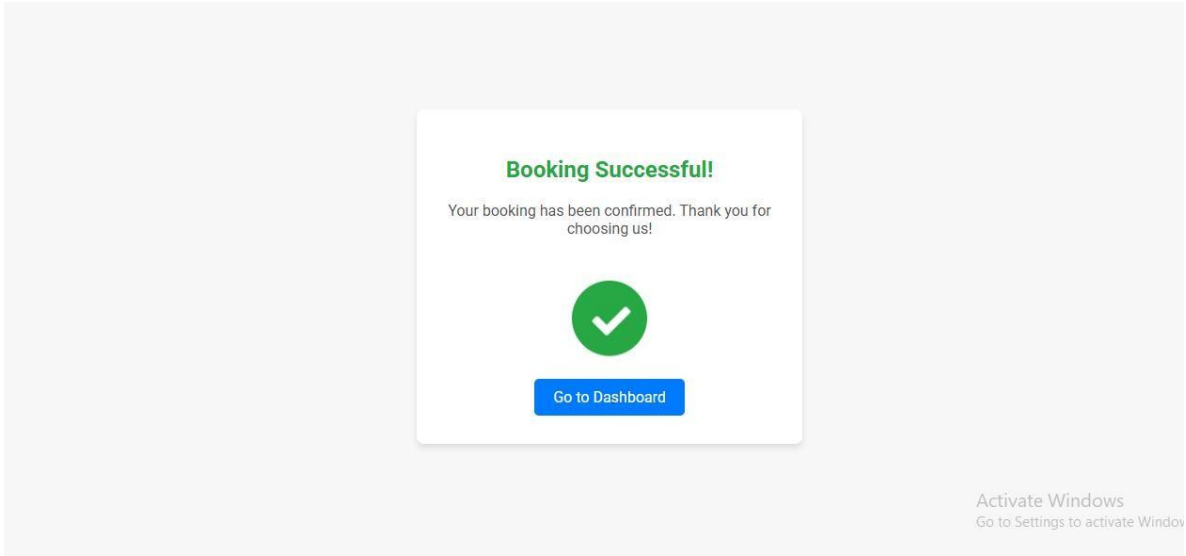


Figure 4.20: Booking success

4.4 Implementation Requirements

To run the application on a Microsoft Windows system, so this is Requirement

Processor: Dual-core 64-bit processor

- **Memory**: 8 GB of RAM (minimum)
- **Storage**: Up to 24 GB of internal storage, with specific allocation as follows:
    - Kony Visualizer: 4 GB
    - Android SDK: 2 GB
    - Windows SDK: 4 GB
    - BlackBerry NDK: 4 GB
    - Ample space for additional complex projects
- **Operating System**: One of the following:
    - Windows 10
    - Windows 8.1 Update
    - Windows 8
    - Windows 7
- **Additional Requirements**:
    - Network interface card
    - Required software dependencies (e.g., Java, Visual Studio, etc.)

Mac-Based Requirements

To run the application on an Apple computer, this is the mac-Based requirement:

Processor: x86-64 architecture (Intel Core 2 Duo, Intel Core i3, Intel Core i5, Intel Core i7, or Xeon processor)

- **Memory**: 8 GB of RAM (minimum)

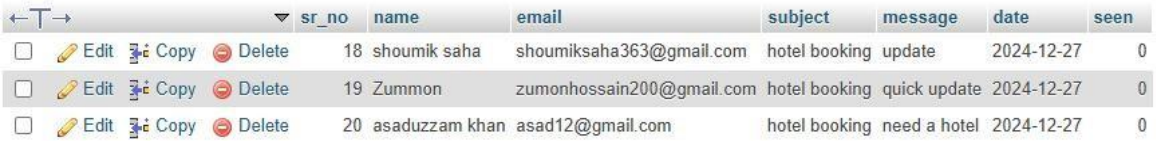
- **Storage**: 150 GB of internal storage, with specific allocation as follows:

CHAPTER 5
Implementation and Testing

5.1 Implementation of Database

Field Name	Data Type	PrimaryKey	DefaultValue	Description
Sr no	INT	PRIMARY KEY		
Name	VARCHAR			
Email	VARCHAR			
Password	VARCHAR			
Subject	TIMESTAMP			
Message	TIMESTAMP			
Date	VARCHAR			
Seen	VARCHAR			

Table 5.1: User Table Creation



	sr_no	name	email	subject	message	date	seen
Edit Copy Delete	18	shoumik saha	shoumiksaha363@gmail.com	hotel booking	update	2024-12-27	0
Edit Copy Delete	19	Zummon	zumonhossain200@gmail.com	hotel booking	quick update	2024-12-27	0
Edit Copy Delete	20	asaduzzam khan	asad12@gmail.com	hotel booking	need a hotel	2024-12-27	0

Figure 5.1: User Database

Field Name	Data Type	Primary Key	Default Value	Description
Sr no	INT	PRIMARY KEY		OPERATOR IDENTIFICATION
Name	VARCHAR			
email	INT			
Subject	VARCHAR			
Message	VARCHAR			
Date	VARCHAR			
Seen	TIMESTAMP			

	sr_no	name	email	subject	message	date	seen
Edit Copy Delete	18	shoumik saha	shoumiksaha363@gmail.com	hotel booking	update	2024-12-27	0
Edit Copy Delete	19	Zummon	zumonhossain200@gmail.com	hotel booking	quick update	2024-12-27	0
Edit Copy Delete	20	asaduzzam khan	asad12@gmail.com	hotel booking	need a hotel	2024-12-27	0

Check all With selected: Edit Copy Delete Export

Figure 5.1: User Quire

Observations:

- **Sr no** is the primary key, ensuring unique identification of each record.
- Some fields like "Name," "Email," and "Subject" have incomplete descriptions.
- **Email** is set as an INT, which might be incorrect since email addresses are typically stored as VARCHAR.
-
- Fields like "Seen" (timestamp) suggest the table tracks when messages are viewed.

Extra options

	id	name	area	price	quantity	description	status	thum
Edit Copy Delete	11	shoumik	343	353	434	gbdsf	1	1735205332.JPG

Check all With selected: Edit Copy Delete Export

Figure 5.7: User Quire

Table 5.9 Report for Testing

Test No	Description	Test Data	Expected Outcome	Actual Outcome
01	By pressing the login button while using an elaborate email and an incorrect secret phrase	Email:Omik@gmail.com Pass: 6876	Invalid User Id and Pass Word	Pass
02	Now enrolled during enrollment Chack mail .	saha@gmail.com Pass:5768	This email Already Exist	Pass
03	by pressing the login button while using a compromised password, email, or both.	Email:diopu@gmail.com Pass:0978	No User are Find Here	Pass
04	utilizing the login button and a password and email that are both genuine	Email:mdrakib505111@gmail.com Password:"1234567"	Direct Go to Home Page	Pass

Table 5.9 Report for Testing

5.3 Test Results and Reports

Some of the users who tested the project Testing gave some positive and negative remarks. The comment are below.

Positive Feedback:

i. In as much as the design of this application is okay it is very much easy to use then other applications.

i. The search function is one of the simplest, and at the same time, one of the most effective ones.

CHAPTER 6

Impact on Society, Environment and Sustainability

6.1 Impact on Society

A hotel management system can cause a change to society by offering consumers easy and efficient means of acquiring hotel services.

This speeds up the methods through which rooms are searched, and booked and, consequently, travel is made easier and enjoyable by the firm to the customers .It also assists the employees in a hotel for them to work smart freeing time and minimizing mistakes driven by fatigue. Such advancement in service quality could add greater level of satisfaction to the customer in relation to the hospitality sector.

Also, the system boosts innovation where more organisation are now embracing innovative technology improvement, an aspect that shapes society's growth and its move to the modern world.

6.2 Impact On Environment

Hotel management and booking can sometimes bring positive effects and at other times negative effects which depending with different management on the hotel. When developed in the right way, such systems could eliminate the use of papers such as those used in appointment scheduling thus leading to minimized wastage and carbon emission. Offering a virtual gateway for hotel accommodation bookings, these systems avoid or at least limit the generation of paper documents and the subsequent marketing collateral.

Further, improved hotel bookings facilitate effective allocation of resources and, reduce occurrences of wastage arising from over bookings mainly through effective use of available rooms and other infrastructure. On the other hand, the systems in question, if designed unsatisfactorily, might intensify such issues as the sheer amount of processed data, server power consumption, and reliance upon energy-intensive technologies with adverse environmental consequences

6.3 Ethical Aspects

The most important ethical concerns that are considered in managing and booking system of a hotel are to do with fairness, security and availability of the service to all the guests. It is about unleashing clear and truthful information on the available hotels and relevant rates as well as their policies. The system needs to be accessible to all customers, and also, no discriminator of a customer's race, colour, gender, age, sexual orientation or marital status, reservation or booking should be complicated.

6.4 Sustainability Plan

Enhance Hotel Services: Invest in upgrading hotel facilities to include eco-friendly amenities, energy-efficient lighting, and water-saving technologies in the pursuit of sustainability and reducing environmental impact.

Promote Green Practices: In the management of the hotel, encourage practices that bring about sustainability, such as waste minimization and recycling programs, and source locally produced goods to support eco-friendly initiatives.

Track Performance: Develop a monitoring system that will track the hotel's sustainability goals, measure the impact of implemented green practices, and provide for continuing improvement in the area of environmental efforts.

This plan will help make the hotel environment more sustainable, improve the guest's experience, and reduce the overall environmental footprint.

CHAPTER 7

Conclusion and Future Scope

7.1 Conclusion

In today's fast-paced digital world, technology has made life more convenient, allowing us to access services from the comfort of our homes. The hotel booking system has become a significant part of modern life as the demand for online services continues to grow. With this project, I have aimed to create a simple yet efficient platform for booking hotels, providing users with a seamless experience to search for accommodations in Bangladesh. This system is designed with the latest technologies to ensure it meets the needs of travelers, offering them convenience and ease of access.

It will reduce the current gap between the customers or users and the hotel mangers to ensure they can access a flexible yet a powerful system. These all act to raise the levels of customers' satisfaction, the control of the hotel's activities, and innovation of digital tools in the hospitality industry.

In turn, in order to help optimize the existing problematic situation for both customers and hotel employees, as well as to advance in the development of modern hotel operations, the Hotel Management Booking System has been created.

I believe the project holds great potential for further expansion, particularly as the digitalization of services continues to advance. The website is not only beneficial for the users but also serves as a valuable tool for hotel managers to handle reservations and customer data efficiently. I have applied my skills and knowledge to this project with the intention of contributing to the hospitality industry in Bangladesh and beyond.

Although the project initially focuses on a web-based system, there is great potential to expand the features into a mobile application, making it even more accessible for users. In the future, I plan to incorporate additional features, such as user reviews, dynamic pricing, and integration with social media platforms, to further enhance the user experience. The goal is to create a more comprehensive platform that can be used for all types of travel needs.

7.2 Scope of further development

Integration of Mobile Application: For the next steps, we are planning to make an application for the convenience of organizing the selection and booking of hotels as well as the administration of the personal account from a smartphone.

Payment Gateway Integration: We plan to integrate an online payment system to provide users with a secure and convenient way to complete their bookings directly through the website.

Enhanced User Interface: We will continue to enhance the user interface by incorporating advanced search filters, room visualizations, and other features that will improve navigation and booking efficiency.

These developments will further improve the functionality, user experience, and overall performance of the hotel booking system.

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HOTEL BOOKING WEBSITE

ORIGINALITY REPORT

15%	14%	1%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	dspace.daffodilvarsity.edu.bd:8080 Internet Source	9%
2	Submitted to Daffodil International University Student Paper	1%
3	Submitted to Hankuk University of Foreign Studies Student Paper	<1%
4	Submitted to Loomis-Chaffee High School Student Paper	<1%
5	technodocbox.com Internet Source	<1%
6	Submitted to Higher Education Commission Pakistan Student Paper	<1%
7	Submitted to Asia Pacific International College Student Paper	<1%
8	Submitted to Curtin University of Technology Student Paper	<1%
9	motoxindia.com	