HOTEL MANAGEMENT SYSTEM

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RECOMMENDATION LETTER

The project entitled *" Hotel Management System"* submitted by the students

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is under my supervision. I, hereby, agree that the thesis can be submitted for examination.

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CERTIFICATE OF ACCEPTANCE OF THE PROJECT

The project entitled" *Hotel Management System"* submitted by the students

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is, hereby, accepted as the partial fulfillment of the requirements for the award of their bachelor's degrees.

_____   _____

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ACKNOWLEDGEMENTS

ABSTRACT

The hotel management system maintains records of visitors and offers tools for booking, registering, creating bills, entering room rates, etc. Manual systems have drawbacks, such as limited data storage and slow operation. Registers become messy and paper-intensive when records are updated and deleted. It takes a very long time to look up someone's information in the manual register. As a result, Hotel Management System (HMS) was created to get around the drawbacks of the manual system. Oracle database serves as the backend and hypertext markup language is the front-end tool in HMS software. The HMS program offers specifics on the services offered, including information about the room, employee, client, and charge. The use of authentication to access the software has been secured. Access to the software is restricted to authorized users, enhancing security.

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Chapter 1
INTRODUCTION

1 INTRODUCTION

A hotel management system keeps track of visitors, bookings, registrations, publishing bills, entering room prices, etc. A company achieves its objectives by efficiently allocating and utilizing the resources at its disposal. A hotel, for example, consistently manages its operations assisting customers in carrying out their expectations of the business. Information is essential at every level and must be managed and organized to remain in a user-friendly manner. Computers are the most appropriate electronic gadgets since they are known as mechanical brains and accomplish many tasks that the human brain does. The 21st-century"EaElectronicc Wonderland is " where laborious paper-based everyday work is swapped out for result-oriented cutting-edge information technology. A knowledgeable individual who could speak information was needed to operate the hotel if records were kept manually. A manual method has drawbacks including limited storage and sluggish operation. Paper is used up when inserting, removing, and searching records in a file or register. As a result, the Hotel Management Data System (HMS) was created to overcome the manual system's limitations. HMS aids in the management and running of a hotel or hotel chain's front and back offices. The six modules in HMS Software include sales, customer, resources, employee, and report. Information about customer sign-up, checkout, production, and restaurant bill creation can all be stored under the customer module. Room and restaurant information can be found in the resource module ([North DC,1990](#)).

1.1   AIM

"To manage room booking by using this web-based software".

1.2 PROBLEM STATEMENTS

Problems with the hotel's current manual system, which have a direct impact on daily operations, must be resolved to keep up with today's fast-paced, highly accurate, and ideal global environment. Each issue must be resolved quickly (Cyert RM,1963). The following list of issues that a hotel management system can resolve for the manual system currently in use:

- o **Difficulty in maintaining the record:** Data maintenance is challenging because all records are kept manually in a register book that is prone to loss, and misplacing.

- o **Time consuming:** It takes time to quickly check data as well.

- o **Data Redundancy:** Due to the manual handling of a high number of records, data repetition is possible.

- o **Mistake in the calculation of funds:** Manually calculating the finances in significant errors that could cause the corporation money.

1.3 GOAL

Thee-users will find this proposed system to be interactive, quick, and easy to use. The following tasks can be completed with the hotel management system.

- Room Service
- Check-In
- Check Out
- Login.

1.1 OBJECTIVES

The suggested system intends to offer answers to the aforementioned issues and assist the user in successfully and efficiently managing the hotel:

Maximum Accountability: To increase accountability in the management process in the hotel industry by lowering the frequency of fraud and cutting waste.

Provide Data Security: By granting diverse staff members varying levels of access, the study will implement security measures (W. J. Relihan Iii,1989).

Increased Profit Line for The Organization: Reducing the incidence of fraud and managing resources effectively will boost the organization's bottom line.

Chapter 2
LITERATURE REVIEW

2 LITERATURE REVIEW

In the literature study, we take into account and scrutinize the work of other academics and researchers who have addressed this specific topic (Hotel Management System) The usage of computers, automated equipment, and the expansion of information technology as a whole has had a significant impact on the hospitality business recently and will continue to do so. Technology has evolved and become more widely used in all forms of the industry during the past 20 years. While this is not the case for some establishments, particularly premium hotels, it does free up personnel to provide customers with a more individualized level of service while still following standards. Therefore, high-end tourism facilities depend on cutting-edge technology systems. Facilities improve the lives of the patrons additionally, the hotel makes use of technology to its guests' advantage while they are there. For instance, several hotels have added cutting-edge communications technologies in the rooms, allowing travelers on business visits to continue working while they are hotel guests (M. S. Islam,2009).

Chapter 3
METHODOLOGY

3 METHODOLOGY

Instead of using drag and drop, this system was developed as an interactive web-based application using HTML. All transactions will be under the system's control. The backend, which stores customer records and transactions, is My-SQL. It acts as a database. Links are used to controlling dialog boxes, text boxes, and photos. The project work will guarantee that all information regarding hotel reservations, cancellations, and availability is stored on a data server. The administrator has access to these data. An effective and integrated hotel management system is created to complete all these tasks for the hotel as well as the consumer side. We have created an HMS system that is unique to a certain hotel. Without having to interact with the target audience directly, it helps the owner service them. In this study, some of these criteria were taken into account as system functions and design concepts.

Chapter 4
REQUIREMENT ANALYSIS

4 REQUIREMENT ANALYSIS

The automated system's objectives must be attained for the design of the HMS to be successful:

- o The system must fully disclose all hotel services to the customer, including room information and costs.

- o To quickly respond to user queries, the system must be able to search databases or records.

- o The system must guarantee data consistency and prevent any data, no matter how minute, from being duplicated.

- o The system must be able to produce reports and print data at the user's request.

- o The system has to provide several degrees of access for different user jobs, such as Manager, Administrator, Accountant, and Other Staff.

4.1 Software requirement Specification:

Software refers to a collection of applications used to operate computers. The component of a computer system known as the software. The following are the specs for the project's minimal software requirements:

Operating System: Windows XP/Vista/2000, Linux.
Presentation layer: PHP, CSS, HTML, JSP, FLASH
Database: My SQL
Presentation: PowerPoint 2003
Documentation Tools: Ms. Office

4.2 Hardware Requirement Specification:

Hardware refers to the assortment of internal electronic circuits and external physical components utilized in the construction of a computer. The following minimal hardware parameters must be met to develop this project:

Processor: Standard processor with a speed of 1.6 GHz
RAM: 2GB RAM or more
Hard Disk: 120 GB or more
Monito: Standard color monitor

4.3 TECHNOLOGY:

4.3.1 HTML:

The preferred markup language for building Web pages is HTML. Hyper Text Mark-up Language is known as HTML. Using markup, HTML outlines the structure of Web pages. The foundation of HTML pages are HTML components. Tags are used to represent HTML elements.

4.3.2 CSS:

Cascading Style Sheets is what CSS stands for. CSS explains how HTML elements should appear on screens, in print, or other media. A lot of work is saved via CSS. It can manage the design of several web pages simultaneously. In CSS files, external stylesheets are kept.

4.3.3 DATABASE(MySQL):

An open-source relational database management system is called MySQL (RDBMS). The word "My" is a combination of "SQL," the acronym for a structured query language, and the name of co-founder Michael Widenius's daughter. Sun Microsystems acquired the Swedish company MySQL AB, which owned and sponsored MySQL (now OracleCorporation). Widenius forked the open-source MySQL project to develop MariaDB in 2010, the year Oracle acquired Sun. It was created using C and C++.

4.3.4 JAVA SCRIPT:

A just-in-time compiled or lightweight programming language having first-class functions is called JavaScript (JS). Many non-browser contexts, like Node.js, Apache CouchDB, and Adobe Acrobat, employ it even though it is best recognized as the scripting language for Web pages.

4.3.5 SERVER (APACHE):

An open-source web server design, deployment, and management tool is Apache Web Server. It was initially created by a team of computer programmers, and the Apache Software Foundation now maintains it. The code base of Apache Web Server can be changed, and further extensions and add-ons can be added. Since Apache Web Server supports and recognizes various hosts that are located on the same computer by default, it is also extensively used by web hosting providers to offer shared/virtual hosting.

4.3.6 PHP:

"PHP: Hypertext Preprocessor" is referred to by the acronym PHP. A popular open-source scripting language is PHP. On the server, PHP scripts are executed. You may use and download PHP for free. Text, HTML, CSS, JavaScript, and PHP code can all be found in PHP files. ".php" is the extension for PHP files. PHP can produce dynamic content for web pages. On the server, PHP may open, create, read, write, delete, and close files. PHP may gather data from forms. PHP is capable of exchanging cookies. PHP allows you to add, delete, and alter database records. The usage of PHP to manage user access PHP can encrypt data. PHP does not only allow for HTML output. Images, A variety of platforms support PHP (Windows, Linux, Unix, Mac OS X, etc.) PHP works with nearly all servers in use today (Apache, IIS, etc.) PHP is compatible with a variety of databases. Free is PHP. Visit www.php.net to see the official PHP download page. PHP is simple to learn and performs well on servers.

4.3.7 GRAPHICAL USER INTERFACE:

The interface was created in a graphical user interface manner for the user's freedom. The browser is used to apply the standard interface. The top-level GUIs have been classified as:

1) Administrative user interface

2) Customer or general user interface

The administrative user interface focuses on the consistent data that practically underpin organizational operations and requires appropriate authorization for data collecting. The user interfaces assist visitors in all transactional states, including data input, deletion, and updating, as well as data search capabilities. Through the necessary services that are offered on the system, the general user interface assists users in transactions.

4.3.8 ACCOMMODATION INFORMATION:

This module keeps track of all the information regarding the available Accommodation locations, the units inside each location, and their respective Reference Unit Types.

4.3.9 UNITS INFORMATION:

This module keeps track of all the units that have been registered by requirements as well as the types of reference units they use. The module additionally looks after the system using the available unit and reference unit facilities.

4.3.10 BOOKING MODULE:

This module keeps track of all unit booking information. To find the individual registered guests who have asked for a certain unit, it searches the station database of available units.

4.3.11 GUEST MODULE:

This module keeps track of all the operations that go into making a guest uniquely registered in a certain domain. It also centrally establishes interpretation through booking and registry to unit status.

4.3.12 FACILITIES MODULE:

This module keeps track of all actions taking place in the facilities that are made available for all or portion of the designated units. This module assists in registering any reference unit facilities that might sporadically enter the system.

4.3.13 NUMBER OF VIEWS:

• Administrative View

• Guest View

4.3.13.1 ADMINISTRATIVE VIEW:

This view is made to interact with the most fundamental Meta Data, which serves as the ultimate consistency repository. Only registered administrators who have been approved by the Watershed Development central administration department can access this view. This Module takes care of the responsibility of the major Table management for

- o Data Insertion

- o Data Deletion

- o Data Updating

- o Data Selection

All the activities are validated and authenticated to the proper profile to access.

4.3.13.2 GUEST VIEW:

The visitor can view all the information on the list of available accommodations in this view.

4.3.14 METHOD OF BOOKING:

Thanks to computerization, guests can now make reservations or book directly with the hotel. When a customer chooses to phone directly and make a reservation, the front desk will ask what kind of room they would like. There are four main types of rooms:

i.   Single Non-AC

ii.   Single AC

iii.   Double Non-AC

iv.   Double AC

This specifies the kinds of rooms that are offered and their associated costs. The consumer fills out the guest registration form after deciding on the selected room. This card will include details such as the customer's name, address, passport number (if applicable), arrival date, departure date, etc. When the client eventually shows up for allocation, it is assumed that a reservation was made The actual time of arrival and departure are also recorded in the register.

4.3.15 DATABASE ACCESS TECHNOLOGY:

This solution can combine MySQL and Java usage. DBC, which consists of a collection of Java classes and interfaces, is a Java API for running SQL statements and can offer unified access to numerous relational databases. JDBC offers database developers a common API on which they may base more complex tools and interfaces, allowing them to create database applications using only the Java API. A connection to the database, sending a statement of the operational database, and processing the results are all features of JDBC. Java is a superb language for creating database applications since it is reliable, secure, simple to use, simple to comprehend, and can be downloaded automatically from the network. All you need is a Java application, and JDBC is a technique for communicating across various databases. JDBC increases Java's functionality.

For instance, a Web page with an applet that applet from external databases can be published using Java and the JDBC API. Even if employees use these computers with a range of operating systems, including Windows, Macintosh, UNIX, etc., businesses can still use JDBC via the intranet to one or more internal databases. T JDBC API enables a three-tier model (B/S) in addition to a two-layer model (c/s) for database access. The Java application or applet will communicate directly with the database in a two-layer approach. To interface with a certain database management system, you will need a JDBC driver. The database receives the user's SQL statement and responds with the results.

Users can connect to databases that are located on various computers over a network. This is referred to as a client/server arrangement, in which users' computers function as clients and the computer hosting the database serves as a server. The command is transmitted to the service's "middle-tier" in a three-tiered architecture, which subsequently sends SQL statements to the database.

Chapter 5
FEASIBILITY ANALYSIS

5 FEASIBILITY ANALYSIS

The analysis of the structure of hotels management information systems mainly from the use of feasibility, technical and economic aspects

    i.   Possibility of applying Since each hotel has different needs and currently only a few star hotels use computer-aided automation, convenient, and efficient systems of hotel management, it is important to first identify these needs in detail before developing a management information system. The operator's actual situation and environmental factors were the main focus of the feasibility analysis employed for hotel management information systems.

        Therefore, when conducting a feasibility analysis, pay particular attention to industry-specific roles, especially those that require a high level of mission criticality, such as hotel general managers and department heads who are aware of and familiar with the system. Additionally, when a system uses a feasibility analysis, it should take into account the environmental variables, particularly unique situations that arise during business operations.

    ii.   **Technical feasibility:** According to the direction of technological growth, B/the s mode may be employed for the construction of this system, Intranet technologies. A database server that uses the MySQL database to manage enormous volumes of data while preserving the data's integrity and offers numerous sophisticated management features. Its ease of use, security, and flexibility offer favorable conditions for database programming. As a result, software platforms for systems are already developed and theoretically feasible.

    iii.   **Economic feasibility:** Economic feasibility analysis focuses on analyzing and evaluating the capital efficiency and funding requirements for construction projects, as well as budget projections, input-output ratios, payback periods for investments, investment benefit analyses, and other factors. As a result, choosing management

information systems for hotels has significant economic viability and substantial investment returns.

Chapter 6
SYSTEM DESIGN

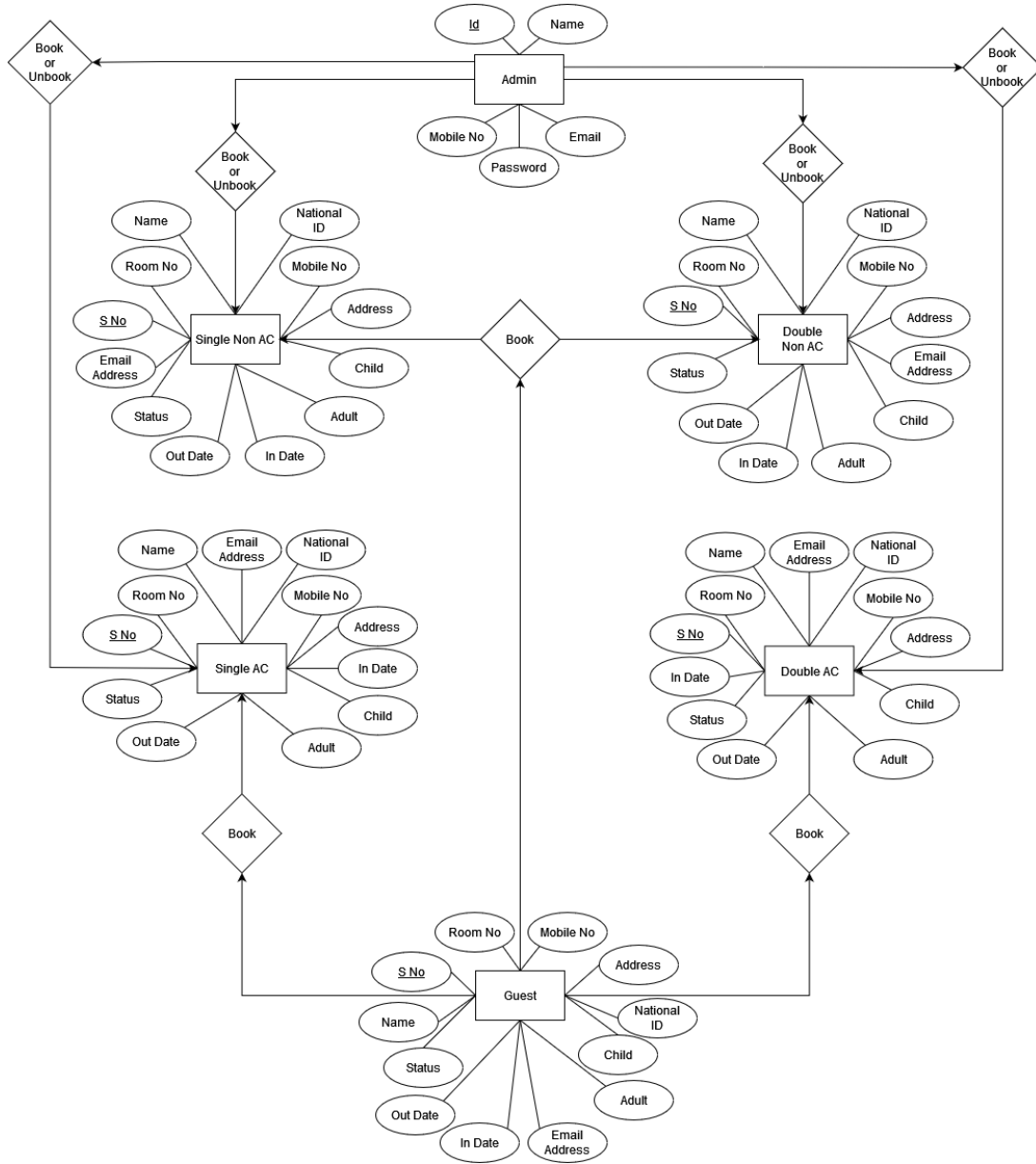# 6 SYSTEM DESIGN

6.1 ER DIAGRAM

Diagram 6.1: ER Diagram

The ERD's main objective is to represent data objects and their connections.

6.2   OUTPUTS
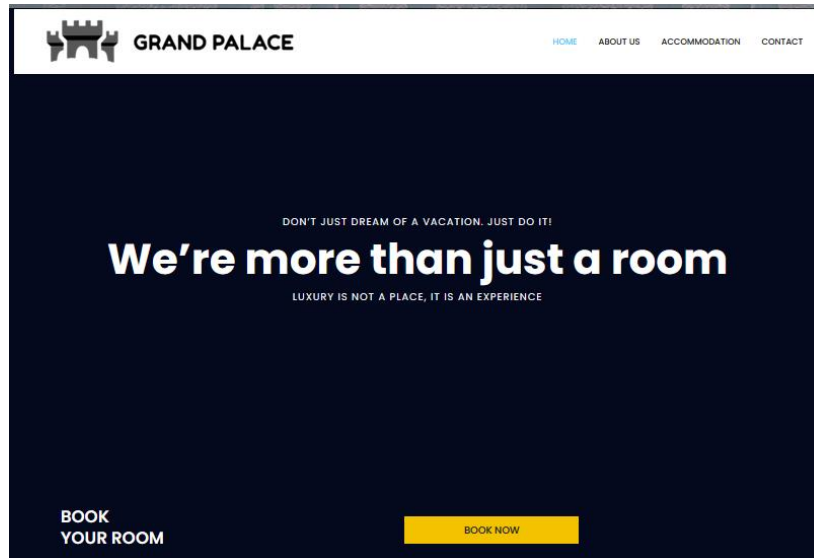
6.2.1   HOME PAGE
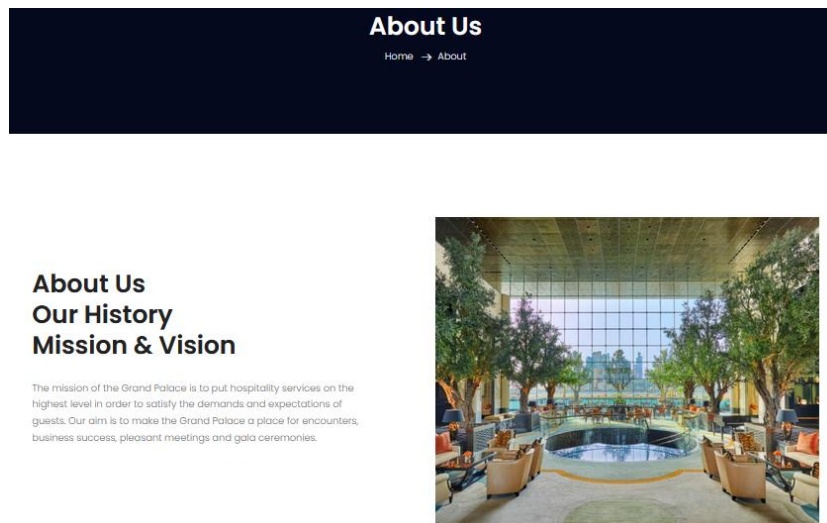

Figure 6.1: Home Page

6.2.2   ABOUT PAGE

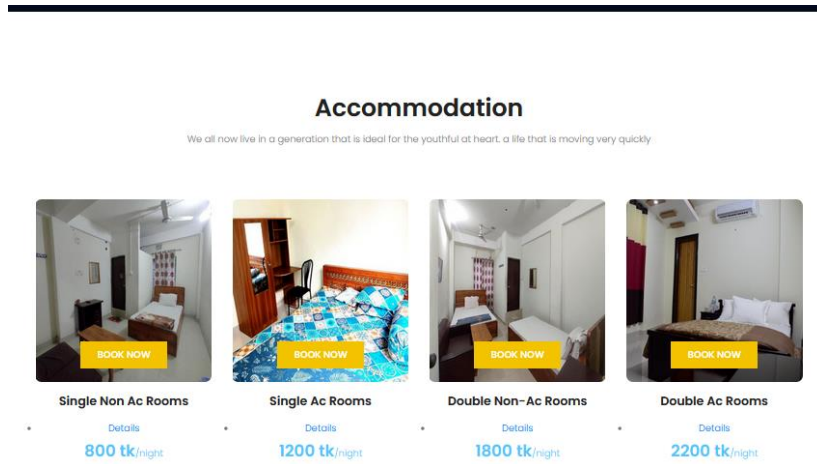**Figure 6.2: About Page**

6.2.3 ACCOMMODATION

Figure 6.3: Accommodation

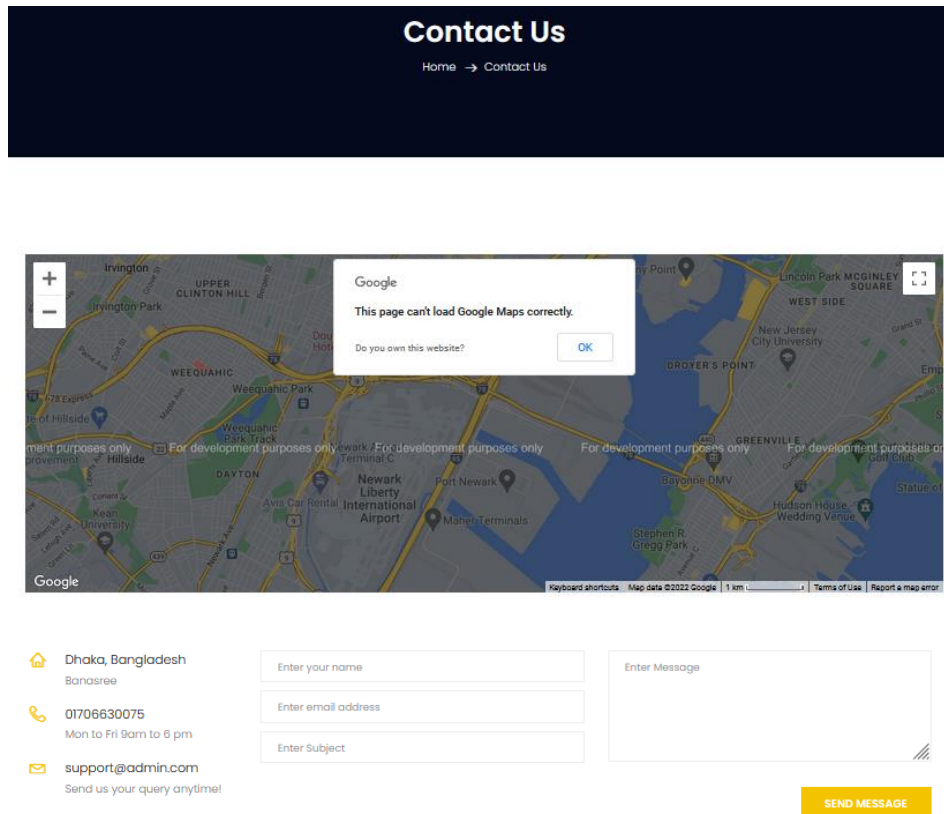## 6.2.4   CONTACT

Figure 6.4: Contact

6.2.5 ROOM BOOKING PAGE

Room Booking Page

Room Type:- Single Non Ac Rooms

Room No: 101	Room No: 102	Room No: 103	Room No: 104
Room Status: Available	Room Status: Already Booked	Room Status: Available	Room Status: Available
Book	Book	Book	Book

Room Type:- Single Ac Rooms

Room No: 151	Room No: 152	Room No: 153	Room No: 154
Room Status: Available	Room Status: Already Booked	Room Status: Available	Room Status: Available
Book	Book	Book	Book

Room Type:- Double Non-Ac Rooms

Room No: 201	Room No: 202	Room No: 203	Room No: 204
Room Status: Available	Room Status: Already Booked	Room Status: Available	Room Status: Available
Book	Book	Book	Book

Room Type:- Double Ac Rooms

Room No: 251	Room No: 252	Room No: 253	Room No: 254
Room Status: Available	Room Status: Already Booked	Room Status: Available	Room Status: Available
Book	Book	Book	Book

Figure 6.5: Room Booking Page

6.2.6 REGISTRATION

Room No:

101

Room Type:

Single Non-AC

Name:

Email Address:

National ID:

Mobile No:

Address:

No of Child:

-Select-

No of Adult:

-Select-

Check-In Date:

Check-Out Date:

Book Now

Figure 6.6: Registration

6.2.7 FACILITIES

Single Non Ac Rooms

Size: 37 m²
- 1 bed and 1 sofa
- Towels
- Mirror
- Hairdryer
- Toilet paper
- Child safety socket covers
- Iron
- Stovetop
- Dishwasher
- Oven
- Dryer
- Desk
- Cable channels

Figure 6.7.1: Single Non AC

Single Ac Rooms

Size: 37 m²
- 1 bed and 1 sofa
- Towels
- Hairdryer
- Toilet paper
- View
- Child safety socket covers
- Air conditioning
- Iron
- Refrigerator
- Stovetop
- Dishwasher
- Oven
- Dryer
- Desk
- Cable channels

Figure 6.7.2: Single AC

Double Non Ac Rooms

Room Size 23 m²

• 2 bed

This double room has a sofa . In your private bathroom:

• Free toiletries
• Shower
• Towels
• Slippers
• Toilet paper
• View
• Mirror
• Upper floors accessible by stairs only
• Wardrobe or closet
• Tile/Marble floor
• Fan
• Sofa
• Flat-screen TV
• Cable channels
• Clothes rack
• Wake-up service

Figure 6.7.3: Double Non AC

Double Ac Rooms

Room Size 30 m²

• 1 full bed (This double room features a sofa, view and air conditioning
In your private bathroom:
• Free toiletries
• Shower
• Towels
• Slippers
• Toilet paper
• City view
• Upper floors accessible by elevator
• Wardrobe or closet
• Air conditioning
• Tile/Marble floor
• Fan
• Sofa
• TV
• Telephone
• Flat-screen TV
• Cable channels
• Terrace
• Clothes rack
• Wake-up service
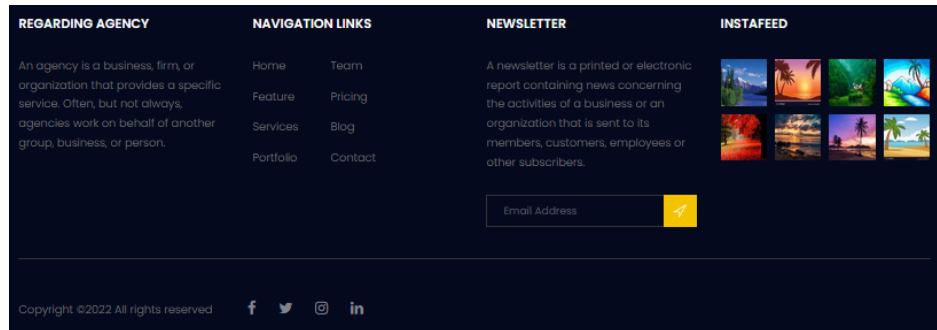
Figure 6.7.4: Double AC

6.2.8 FOOTER AREA

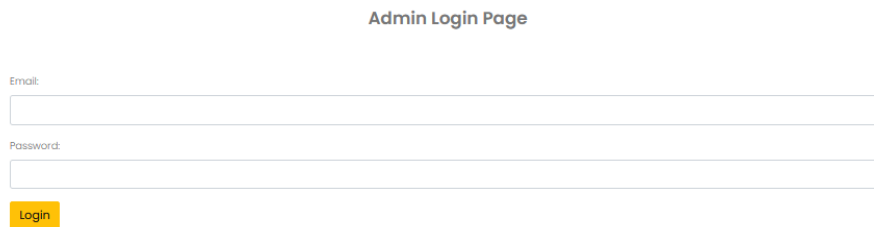**Figure 6.8: Footer Area**

6.2.9 ADMIN LOG-IN PAGE

Figure 6.9: Admin Log-in Page

6.2.10 USER DETAILS

Figure 6.10: User Details

Chapter 7
RESULT ANALYSIS & IMPLEMENTATION

7 RESULT ANALYSIS & IMPLEMENTATION

The methodology outlined in the earlier chapters served as the foundation for the design of the project, and the implementation was driven by the need for a hotel management system. The retrieval of records, user actions, administrator activities, and hotel reservations are the four main components of the project effort. The outcomes of the work's implementation are described in more detail in the sections that follow (Law, R., J. Wong,2003). As a result, we can reserve a room for each customer during this phase. The reservation form is displayed in the process above.

7.1 ADMINISTRATION'S ACTIVITIES

After logging in, the administrator can carry out a variety of tasks, including booking rooms for customers, viewing database information, allowing access to the system to other users, and obtaining data from those individuals. The administrator enters information about the room, including the name, kind, description, and number as well as the rate, adult fee, and kid fee. The information is then saved in the database. The administrator is also capable of carrying out additional tasks, like data retrieval.

7.2 GUEST'S ACTIVITIES

Other than the administrator, several other people have access to the system to carry out specific tasks. The action taken depends on the authority the administrator has given them. The user logs into the system here. After logging into the system, the user can also reserve rooms for clients. Additionally, as demonstrated, the user has control over customers checking in and out by approving the client's balance when they check-in. In a similar vein, the user can also view database data.

7.3 OBSERVATION FROM THE IMPLEMENTED WORK

Through the various outcomes of the work's implementation, we were able to prevent conflicts in the assignment of rooms and ensure good data management by preventing unauthorized users from

accessing the system. The project has many advantages, some of which are highlighted below, and it can be executed in real-time.

Performance: The manual management of the hotel record takes a lot of time and is quite error-prone. Thanks to quick data retrieval and centralized data coordination, this effort will enhance the functionality of the hotel management system.

Efficiency: Due to the division of labor created by the privileges offered to other users, the project work improves the hotel's operational efficiency.

Control: A person with permission and the password to this project has full authority over the electronic system, and unapproved access is not something that should be dealt with.

Security: The primary criterion for an electronic hotel management system is security. Since unauthorized access could cause the database to become corrupt, data storage is protected. As a result, the project effort ensures data security.

Chapter 8

Conclusions

8 CONCLUSIONS

8.1 LIMITATIONS

The project, which deals with administrative, security, and general services transactions in hotel management, was already discussed. However, these findings indicate that the initiative has limitations. Although the study seeks to reduce burdensome procedures, this approach gathers all of the customer's information. The system is not intended to operate offline, and the online room reservation menu does not include an option for online payment.

Due to time restrictions, some fields were left out, and the program was only able to cover the most important aspects of hotel management. It reduces clerical errors and enhances the efficiency, speed, and economy of operations. Customers are given information easily and without error, yet fewer tiresome copies are required. Despite efforts to make this package simple to form, it has certain limitations. One of the limitations is that it only functions on digital computers and that no text are available. Technical changes could be made to this package to allow for text-based outputs. This package's operating system may be switched from a standalone to an online version (March JG,1958).

8.1 FUTURE SCOPE

• The system should contain biometric measures like a fingerprint, retinal scan, etc. to ensure good security, prevent impersonation and illegal access to stored data, and avoid loss of critical information.

• The use of a multi-modal hotel management control system for customer service.

• The implementation of more up-to-date online features, such as PayPal for online payments.

• Appropriate arrangements should be created so that guests can use their mobile phones to communicate with hotel employees who are authorized to make reservations.

8.2 CONCLUSION

In conclusion, if implemented successfully, we think this project will save time, lessen the amount of work that needs to be done by the administration, and replace stationery with electronic equipment. The system ought to act as a crucial toolkit for increasing hotel management efficiency. Consequently, a project with predetermined outcomes has been created. By addressing issues with modern operating systems, such as heavy workload, delayed data transmission, prone to mistake management statistics, and other factors, this management system improves the competitiveness of the hotel industry.

Chapter 9

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