DAYANANDA SAGAR UNIVERSITY

MINI PROJECT REPORT

ON

"Hotel Management System"

SUBMITTED TO THE VIIth SEMESTER
WEB PROGRAMMING LABORATORY-2020

BACHELOR OF TECHNOLOGY
IN
COMPUTER SCIENCE & ENGINEERING

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CERTIFICATE

This is to certify that Mr. Gopana Sai Teja, Ms. Hari Chandana T, Mr. Harsh Gupta, Ms. Mudiyala Anusha, Mr. Mukund K V bearing USN ENG17CS0076, ENG17CS0082, ENG17CS0084, ENG17CS0132, ENG17CS0133 has satisfactorily completed his/her Mini Project as prescribed by the University for the 7th semester B.Tech. programme in Computer Science & Engineering during the year 2020-21 at the School of Engineering, Dayananda Sagar University., Bangalore.

Date: ——————   ——————————

Signature of the faculty in-charge

Max Marks	Marks Obtained

——————————

Signature of Chairman

Department of Computer Science & Engineering

DECLARATION

We hereby declare that the work presented in this mini project entitled-
"Hotel Management System", has been carried out by us and it has not been submitted for the award of any degree, diploma or the mini project of any other college or university.

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Abstract

This project has GUI based software that will help in storing, updating and retrieving the information through various user-friendly menu-driven modules. The project "Hotel Management System" is aimed to develop to maintain the day-to-day state of admission/Vacation of Residents, List of Worker, payment details etc. Main objective of this project is to provide a solution for hotels to manage most their work using computerized processes. This software application will help admin to handle customers information, room allocation details, payment details, billing information. Etc.

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of a task would be incomplete without the mention of the people who made it possible and whose constant guidance and encouragement crown all the efforts with success.

We are especially thankful to our **Chairman, Dr. Sanjay Chitnis**, for providing necessary departmental facilities, moral support and encouragement.

We are very much thankful to **Asst.prof Gousia Thahniyath** for providing help and suggestions in completion of this mini project successfully.

We have received a great deal of guidance and co-operation from our friends and we wish to thank all that have directly or indirectly helped us in the successful completion of this project work.

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1. Introduction

Our project on "Hotel Management System" gives ideas about the management in hotels. The package gives all the information regarding the check in or check out facilities of the customer. The customer can make his or her booking for rooms. It gives details of the customer and the time of arrival and departure of customer.

The project Hotel Management manages and maintains the records of customers and rooms in the hotel. The rooms have different categories such as Deluxe, Semi-Deluxe etc., so their charges and records will be maintained accordingly. This software has been made in a user friendly interface, so that anyone can add, delete the entries of customers and handle all the transactions easily. As a security we have provided Admin & user level authentication for different modules such as set-up-user etc., also the username and password gets stored in the database in encrypted format more dealing with the security.

1.1 Objective and Goals

The main aim of the entire activity is to automate the process of day to day activities of Hotel like Room activities, Admission of a New Customer, Assign a room according to customer's demand, checkout of a computer and releasing the room and finally compute the bill etc.

Using this Hotel Manager doesn't have to sit and manage the entire activities on paper. And at the same time Owner of the Hotel will feel comfortable to keep a check on Hotel easily from anywhere around the world.

The system allows the manager to keep track of available rooms in the system and even maintain staff details like their hours worked and salary.

Customers can view and book an available room online and the system will automatically generate the bill according to the number of days the type of room is booked.

1.2 Existing System

In this phase we carry out the task of defining the problem or in other words we define our need for this project. The organization was using the conventional methods (Excel Sheet or Register) for keeping the information about Hotel Management System i.e. records of hotel management system activities. There are various types of activities performed in day shift & night shift. It was quite a laborious task & involved a large number of data records deployed for this purpose.

1.3 Problem statement

Web application for Hotel reservation. We will take the selection criteria from users and display the hotels list for users based on the criteria. Users can book the room if there is availability of the rooms in that particular hotel. There are three different types of user roles for the application they are administrator, hotel agent and normal user. Following are the actions provided for each user.

Normal user:

- Can register for the site.
- Search the hotel details based on the criteria.
- Book the hotel room.
- Can modify the self-details.

Hotel Agent:

- Can register for the site.
- Can add/update the details of the hotel.

Administrator:

Will approve the new hotel details added to the application.

Can delete the user/hotel details.

2. Related Study

Managing hotel service is very complex, hence it involves the job of dealing with customers directly, purchases made by customers and room reservation. The manual hotel management is subdivided into sections with each section having specific tasks.

3. Requirement Specification

3.1 Introduction

In the requirement specifications we are going to give the detailed description of the hardware requirements and software requirements for the Hotel Management system. In Hardware requirement specification we are going to specify the processor, speed, RAM and in the Software requirement specification we are going to specify the operating system used, server, front end, backend, scripts, framework, database connectivity and the tools used.

3.2 Hardware Requirement Specification

Processor: Pentium –III

Speed   : 1.1 GHz

RAM   : 256 MB (min)

3.3 Software Requirement Specifications

Operating System	**:**	Windows 7/8/10
Application Server	**:**	Xampp
Front End	**:**	HTML, CSS
Back End	**:**	PHP
Scripts	**:**	JavaScript
Framework	**:**	Bootstrap.
Database Connectivity	**:**	Mysql
Tools Used	**:**	Sublime Text

3.3.1 Functional Requirements

- Booking form
- Search Rooms
- Add Payment
- Manage Room Details(Add, Update, Delete)

4. System Design and Modelling

System design involves transformation of the user implementation model into software design.
The design specification of the proposed system consists of the following:

- Database scheme
- Sequence Diagram
- Flow Chart

4.1 Database Scheme

ROOMS
- ROOM ID - INT
- ROOM NO. - INT
- TYPE - VARCHAR
- PRICE - INT
- DETAILS - VARCHAR

ROOM BOOKING DETAILS
- ID - INT
- NAME - VARCHAR
- EMAIL - VARCHAR
- MOBILE - INT
- ADDRESS - VARCHAR
- CITY - CHAR
- STATE - CHAR
- ZIP - INT
- COUNTRY - CHAR
- ROOM TYPE - CHAR
- CHECK_IN DATE - DATE
- CHECK_IN TIME - TIME
- CHECK_OUT DATE - DATE
- OCCUPANCY - CHAR

ADMIN
- ID - INT
- USER NAME - VARCHAR
- PASSWORD - VARCHAR

FEEDBACK
- ID - INT
- NAME - VARCHAR
- EMAIL - VARCHAR
- MOBILE - INT
- MESSAGE - VARCHAR

CREATE ACCOUNT
- ID - INT
- NAME - VARCHAR
- EMAIL - VARCHAR
- PASSWORD - VARCHAR
- MOBILE - INT
- ADDRESS - VARCHAR
- GENDER - CHAR
- COUNTRY - CHAR

Figure 4.1 Database Schema

4.2 Sequence diagram/data flow diagram

Figure 4.2.1 Sequence Diagram

Figure 4.2.2 Data flow diagram

Figure 4.2.3 Flowchart diagram

5. Implementation
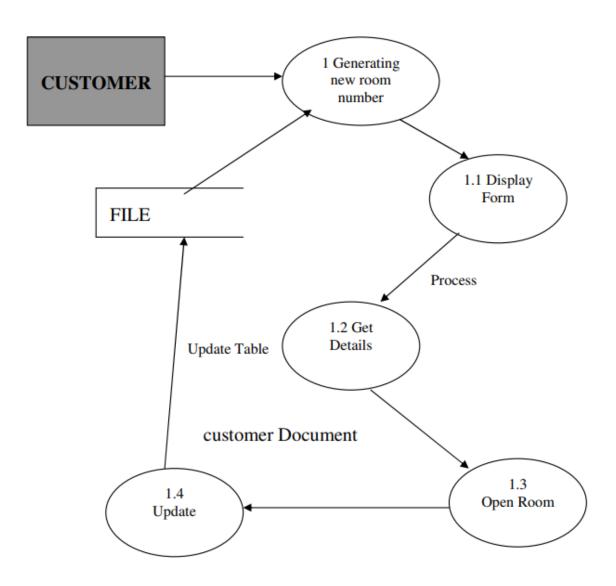
5.1 Website Application Structure

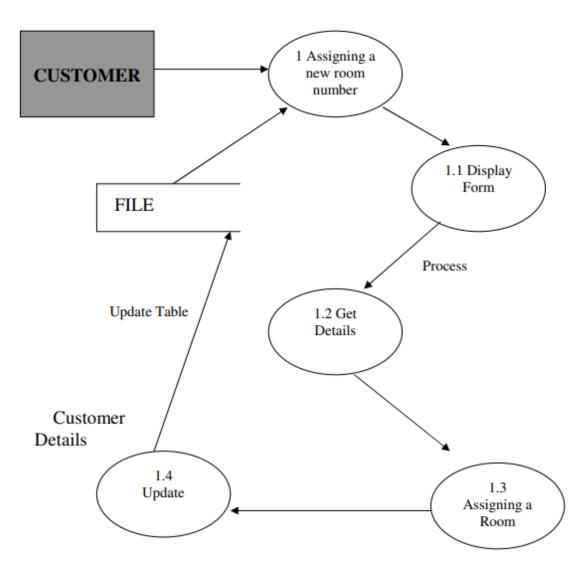**Figure 5.1.1** FLOW DIAGRAM FOR OPENING A ROOM

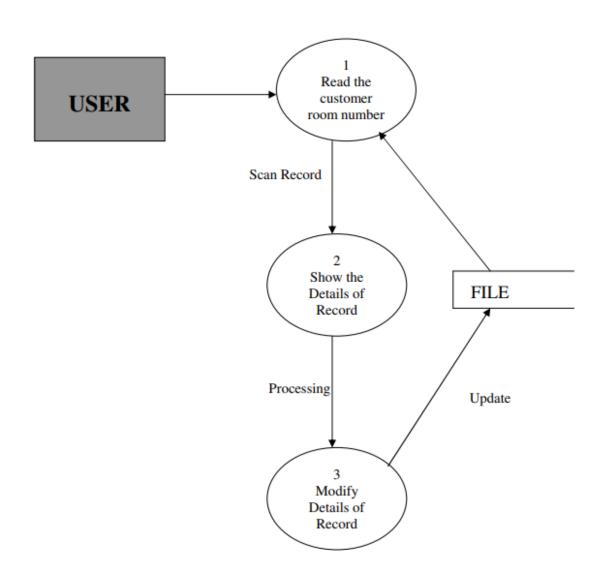**Figure 5.1.2** FLOW DIAGRAM FOR CHECK-IN OF NEW CUSTOMER
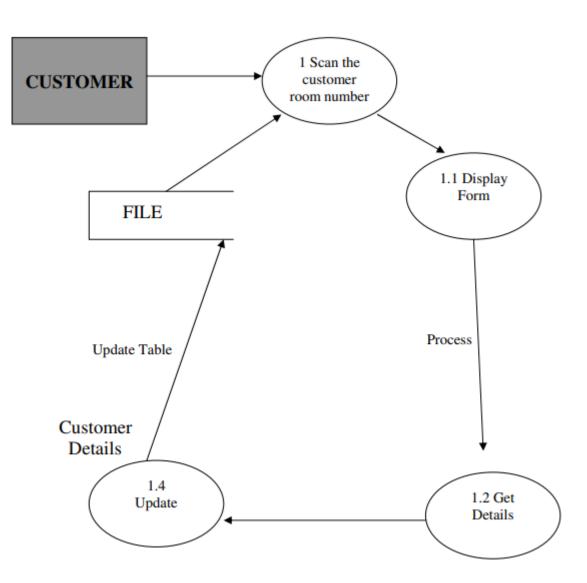
Figure 5.1.3 FLOW DIAGRAM FOR RECORD MODIFICATION
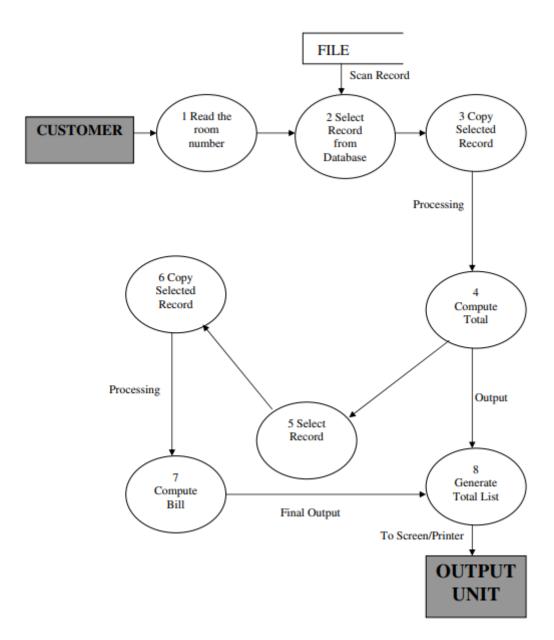
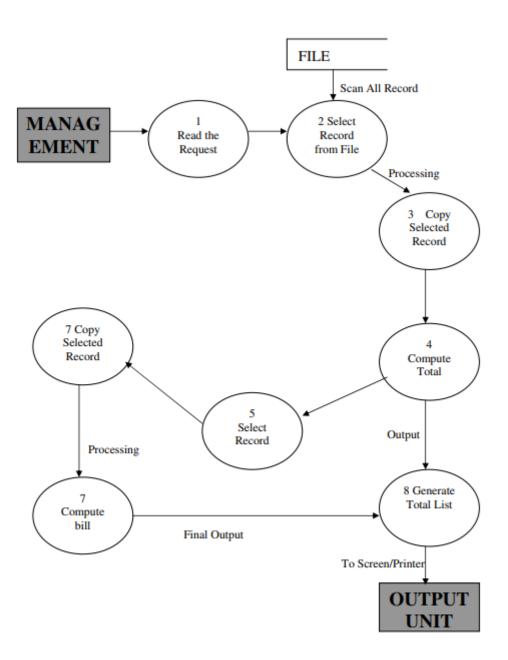**Figure 5.1.4** FLOW DIAGRAM FOR CHECK-OUT OF CUSTOMER

Figure 5.1.5 DATA FLOW DIAGRAM FOR LISTING OF CUSTOMERS

Figure 5.1.6 FLOW DIAGRAM FOR LIST OF ALL RECORDS

5.2 Programming language for implementation

Php: Hypertext Pre-processor (or simply PHP) is a server-side scripting language designed for Web development, but also used as a general-purpose programming language.

HTML: Hypertext Mark-up Language (HTML) is the standard mark-up language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web

Bootstrap: Bootstrap is a free and open-source front-end framework for designing websites and web applications. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation and other 6 interface components, as well as optional JavaScript extensions. Unlike many web frameworks, it concerns itself with front-end development only.

5.4 Functional Description of modules

5.4.1 User Authentication Module

Identification: User Authentication Module

Type: Application

Purpose: This Module provides a user to register and authenticate.

Function: Users are enabled to register to the system and log in. Also this module provides changing passwords and helping users if they forgot their password.

Subordinates:

- Sign in
- Log in
- Changed Password
- Forgotten Password

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5.4.1.1 Sign in

Identification: Sign in

Type: Process

Purpose: Provides users to get their authorization level which is recorded in the corresponding cell of the user table.

Function: A user enters their required information (e-mail, password) to the web form.If those information match with a row of the user table, the user gets their authorization level.

Subordinates: None

5.4.1.2. Sign Up

Identification: Sign up

Type: Process

Purpose: Provides a registration process to the user, if user information is not recorded to the user table.

Function: A visitor fills the registration form and clicks on the Complete Registration button. If every information given is correct, the user's information is recorded to the user table and the user gets the "customer" status by default. For other employees it is defined by the administrator in their panel manually.

5.4.1.3 Change Password

Identification: Change Password

Type: Process

Purpose: To make users able to change their passwords.

Function: User enters their old password and new password. New password replaces the old password if it is correct.

Subordinates: None

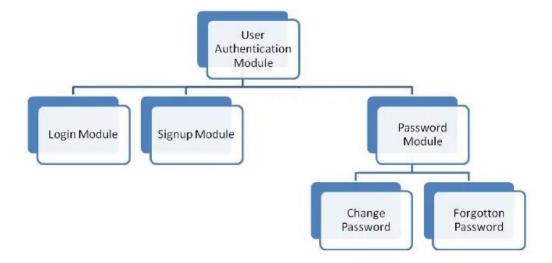### 5.4.1.4 Forgotten Password

Identification: Forgotten Password

Type: Process

Purpose: By this module, users can get their forgotten password.

Function: User sends a request to the system that denotes they have forgotten their password. System sends them an e-mail including their password.

Subordinates: None

5.4.2 Messaging Module

Identification: Messaging Module

Type: Application

Purpose: This module is used for messaging between users except customers.

Function: Employees can send or receive messages to each other.

Subordinates: Send Message

Messaging Module (Other Users)

- Send Message
- Delete Message

5.4.2.1 Send Message

Identification: Send Message

Type: Process

Purpose: For faster communication, provides hotel employees to send and receive text messages.

Function: User fills the required areas in the form and clicks on the "Send"button. According to the information in the messages table, every user has their sent and received messages.

Subordinates: None

5.4.2.2 Delete Message

Identification: Delete Message

Type: Process

Purpose: Provides hotel employees to delete their messages visually.

Function: User clicks on the "Delete" button. Message status changes to "deleted" and the user cannot see that message anymore. At the end, the message is not deleted from the table. Because of foreign key constraints, the corresponding message's status changes.

Subordinates: None

5.4.3 Searching Module

Identification: Searching Module

Type: Application

Purpose: It allows the user to search information, data in the system.

Subordinates:

Searching Module (Administrator)

- Search Room
- Search Employee
- Search Customer

5.4.3.1 Search Room (Administrator)

Identification: Search Room

Type: Process

Purpose: Provides a sophisticated room searching to administrators.

Function: Administrator enters the capacity and price intervals to the module. All suitable rooms are listed.

Subordinates: None

5.4.3.2 Search Employee

Identification: Search Employee

Type: Process

Purpose: Provides an administrator to search employees by type, name, etc.

Function: Administrator specifies how the search will be done, all suitable employee information is listed.

Subordinates: None

5.4.3.3 Search Customer

Identification: Search Customer

Type: Process

Purpose: Provides administrator to search customers by name and SSN.

Function: Administrator specifies how the search data, all suitable customer information is listed.

Subordinates: None

5.4.4 Online Reservation Module

Identification: Online Reservation Module

Type: Application

Purpose: This module allows to customer

Subordinates:

- ● Reserve Room
- ● Modify Reservation
- ● Cancel Reservation

5.4.4.1 Reserve Room

Identification: Reserve Room

Type: Process

Purpose: Provides customers to reserve a room.

Function: Customer picks a room. Specifies entering and leaving dates and how the room price will be paid. Clicks on the reserve button.

Subordinates: None

5.4.4.2 Modify Reservation Identification

Identification: Modify Reservation

Type: Process

Purpose: Provides customers to change their reservation information.

Function: Customer clicks on modify reservation button. They can change any information about the room and cancel the reservation.

Subordinates: Cancel Reservation.

5.4.4.3 Cancel Reservation Identification:

Identification: Cancel Reservation

Type: Process

Purpose: Provides customers to cancel the reservation. Any related data in the reservation table will be erased.

Function: Customer clicks on cancel reservation button. Reservation is cancelled.

Subordinates: None

5.4.5 Manage Room Module

Identification: Manage Room Module

Type: Application

Purpose: Administrator enables room.

Function: This module provides add, delete or change room information like room is vacated or occupied.

- Add Room
- Delete Room
- Modify Room Information(Vacated/Occupied)

5.4.5.1 Add Room

Identification: Add Room

Type: Process

Purpose: Provides administrator to add a new room.

Function: Administrator clicks on "Add new Room" button, fills the form according to room specifications, clicks on save button.

Subordinates: None

5.4.5.2 Delete Room

Identification: Delete Room

Type: Process

Purpose: Provides administrator to delete a room.

Function: Administrator clicks on "Delete Room" button, clicks on save button. Because room information is not erased from the database, this process is reversible.

Subordinates: None

5.4.5.3 Modify Room Information

Identification: Modify Room Information

Type: Process

Purpose: Provides administrator to modify a room's information.

Function: Administrator clicks on "Modify Room Information" button, all the information can be changed.

Subordinates: None

5.5 Module name

5.5.1 Owner Profile

- In the Owner profile, he has full access to the system. The owner can view all the details in a graphical way and he has the authority to change the Cost of Room, Room Availability, Service Details and much more.
- He can also check the details of the receptionist and staff member currently working at that Hotel. He will get the notification of all the changes made by the Manager in the system.
- He will also have special permission to revert those changes if needed. He can also check the transactions made through the day and thought the month and an algorithm will check the progress the Hotel is making.

5.5.2 Customer Profile:

In the Customer profile, people can check the availability of rooms and they can also book a room according to their budget and need. Customer profile contains their name, Contact details, address, and other necessary details etc.

They need to sign-up for booking the hotel, which will make them as well as manager of the hotel to easily interact with each other. They can pay the amount Online and if they need to do payment Offline they must give some advance amount to confirm their room.

5.5.3 Booking:

The customer can easily search their Room from the various options available. This all will be so user-friendly so that the Customer will not find any trouble in the booking room.

Once the room is searched and the customer finds his choice room then this module helps the customer to book the room by following the rules of the Hotel like Check-in and check-out time of the Hotel, Limit of people per room etc.

If everything is done properly he will be asked to pay partial or complete money. And then he will be forwarded to Payment Gateway. Where he can easily pay Online.

5.5.4 Add / update / delete Hotel Members / Booking Details:

Owner can easily add, update, or delete details. If the customer does not reach the hotel within 3hr of check-in time and if he does not give any prior details of this arrival then the receptionist will have complete authority to remove his booking and allow another customer that room if needed.

5.5.5 User authentication according to his/her role:

This portal will take care of every profile in our system. No user will be allowed to use our system without a valid ID. Every profile must authenticate using system procedure. This would ensure the security of our system.

6. Inference from the Result

From this project we got the following result, we were able to build the online hotel management system successfully with the following information. This project makes it easy for the hotel management and the customers to communicate online. The customer can book the rooms in the hotel from any location possible and the hotel manager can get access to the customer bookings once he has booked the room online. Once the room or rooms are booked the Hotel will generate the booking status of the room that the customer has booked so, we can conclude from the result we got, Online Hotel Management System is a very convenient and easy process for the Customers as well as the Hotel Management.

7 Conclusion and Future Enhancements

7.1 Conclusion:

- ➢ This project is designed to meet the requirements of Online Hotel Management. It has been developed in JSP, Servlets keeping in mind the specifications of the system.
- ➢ For designing the system we have used simple data flow diagrams.
- ➢ Overall the project teaches us the essential skills like:
- ➢ Using system analysis and design techniques like data flow diagram in designing the system.
- ➢ Understanding the database handling and query processing

7.2 Future Enhancements

This project can be used in the hotel after adding some more useful modules in the project for which hotels are providing services.

Utmost care and back-up procedures must be established to ensure 100% successful implementation of the computerized hotel system. In case of system failure, the organization should be in a position to process the transaction with another organization or if the worst comes to the worst, it should be in a position to complete it manually.

REFERENCES

➤ https://ieeexplore.ieee.org/document/9002651
➤ https://www.researchgate.net/publication/261991913_Online_computerized_Hotel_Management_System
➤ https://www.academia.edu/2348821/Hotel_Management_System

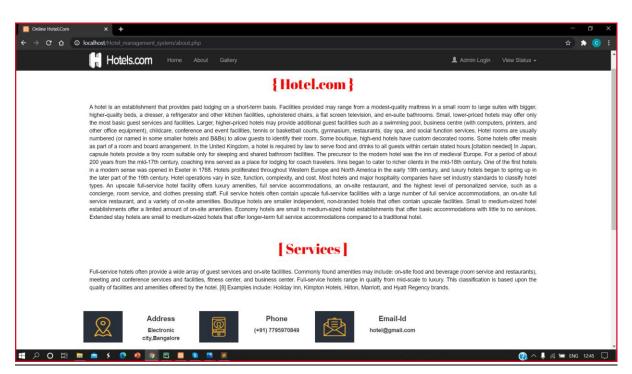# 8. Appendix A: Snapshots

Home Page
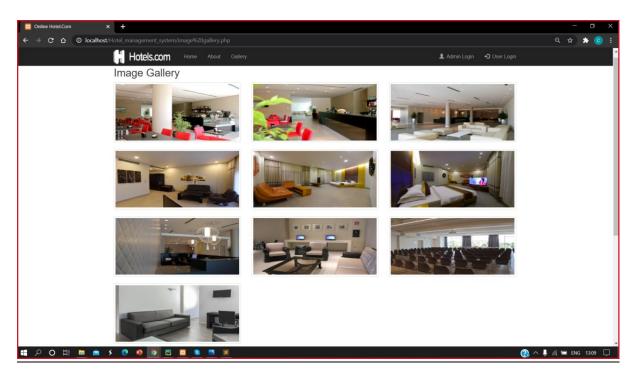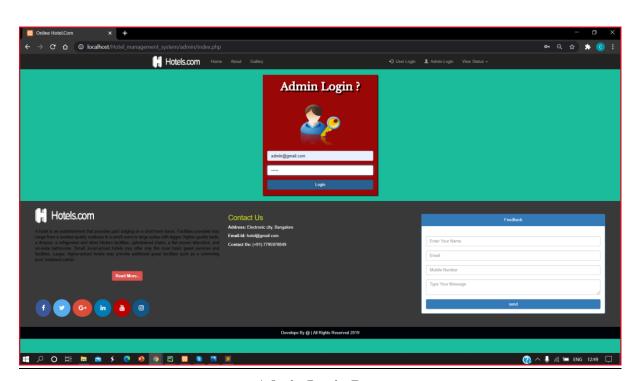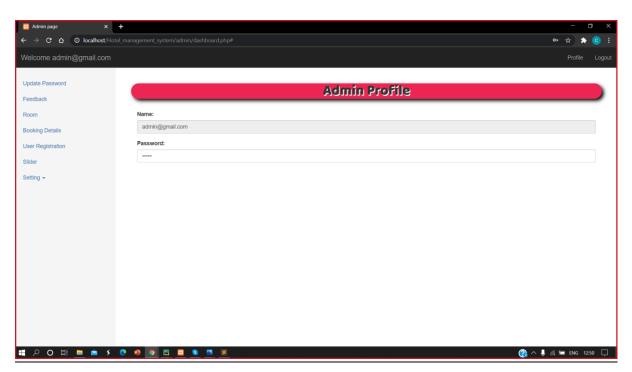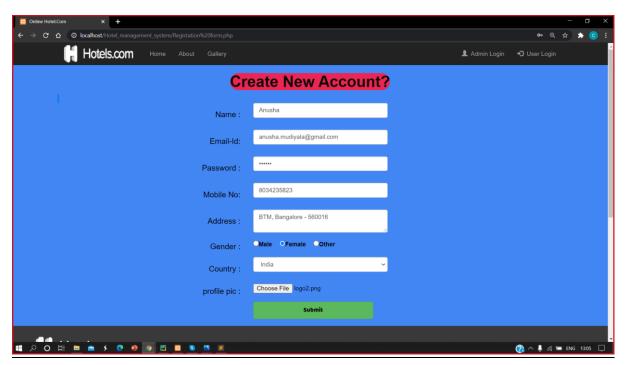
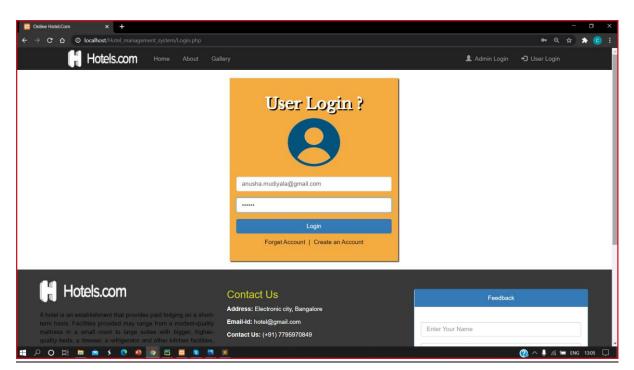**Home & Feedback**

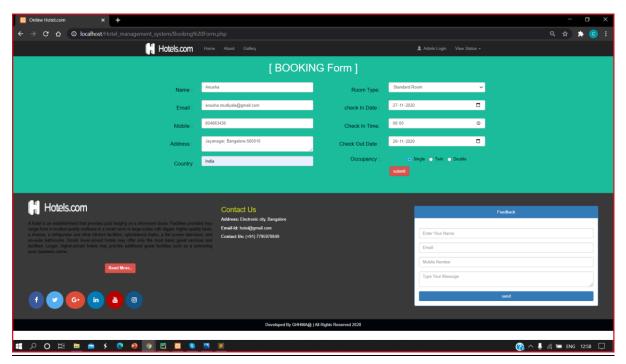**About**

Room Gallery

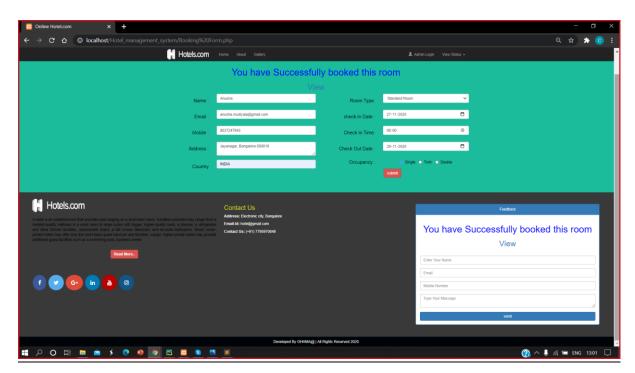**Admin Login Page**

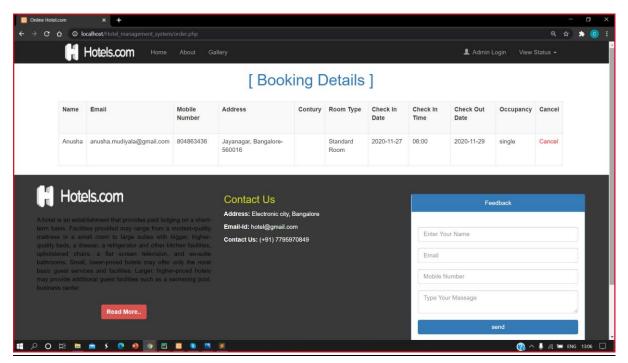**Admin Profile**

Create User Account

User Login Page

Hotel Booking Form

Successful Booking of Room

Booking Status