# HOTEL RESERVATION SYSTEM

**Project Based Learning(PBL) Report**

**of the course**

**Web Technologies Lab - 20CS22L03**

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE AND ENGINEERING (CYBER SECURITY)**

By

**G. Maneesh 22R11A6215**

**J.Sairaj 22R11A6218**

**N.SriDeepak 22R11A6230**

**Under the Guidance of**

**Chiranjeevi Phaneendra**

**Associate Professor**

**CSE - CS**

****

**Department of Computer Science** **& Engineering (CYBER SECURITY)**

**Accredited by NBA**

**Geethanjali College of Engineering and Technology**

**(UGC Autonomous)**

(Affiliated to J.N.T.U.H, Approved by AICTE, New Delhi)

Cheeryal (V), Keesara (M), Medchal.Dist.-501 301.

**July - 2024**

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1. **ABSTRACT**

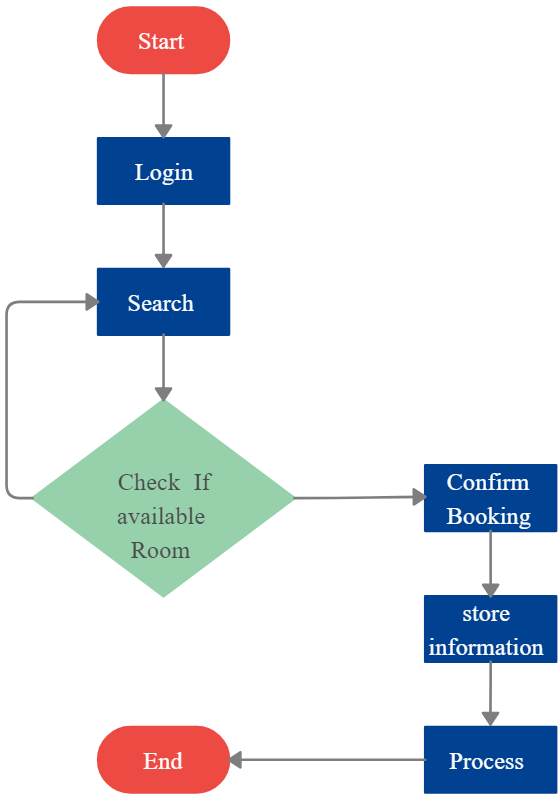
Hotel management system could include information about how the systemhelps streamline various hotel operations such as reservations, check-ins, check-outs, room assignments, billing, and inventory management. It could alsomention the integration of online booking systems, customer relationshipmanagement tools, and reporting functionalities to enhance efficiency andcustomersatisfaction.Furthermore, the abstract might highlight the importance of data security, user-friendly interfaces for both staff and guests, and the ability to generate reports for management decision-making. Overall, a hotel management system abstract would emphasize how the system optimizes hotel operations, improves guest experiences, and ultimately contributes to the overall success of the hotel business.

1. **INTRODUCTION**

The hotel management system is a comprehensive software solution designed to streamline and optimize the operations of hotels, resorts, and other hospitality establishments. This system plays a crucial role in the hospitality industry, providing a centralized platform for managing various aspects of hotel management, from reservations and guest check-in/check-out to inventory control and financial reporting.

At the core of the hotel management system is the utilization of HTML (Hypertext Markup Language), which serves as the foundation for the system's user interface and web-based functionality. HTML enables the creation of intuitive and visually appealing web pages that hotel staff and guests can interact with seamlessly. Through the use of HTML, the hotel management system provides a user-friendly and accessible platform for managing all hotel-related tasks, from booking rooms and managing guest profiles to generating detailed reports and analytics.

1. **SYSTEM ARCHITECTURE**

****

Start

Fig 1System design for Movie database

1. **IMPLEMENTATION**



**index.html**

<!DOCTYPE html>

<html>

<head>

<title>Dakshayini.Hotels</title>

<style>

body {

font-family: Arial, sans-serif;

height: 100%;

}

.NavBar {

display:flex;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

h1 {

font-size:30px;

}

h2{

color: #000080;

}

input[type=date]{

width: 50%;

padding: 3px 5px;

margin: 8px 0;

box-sizing: border-box;

}

footer {

background-color: #6699CC;

color: #fff;

text-align: center;

padding: 10px 0;

position: fixed;

width: 100%;

bottom: 0;

}

.intro{

background-color: #fff;

padding: 10px;

margin: 10px 0;

border-radius: 5px;

}

button {

padding: 7px 9px;

font-size: 16px;

color: #000;

background-color: #b0c4de;

border: none;

border-radius: 5px;

cursor: pointer;

align-content: center;

}

.MainForm {

margin: 20px auto;

max-width: 330px;

padding: 20px;

background-color: #f0f0f0;

border-radius: 10px;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

</style>

</head>

<body>

<header>

<div class="NavBar">

<image src="Dakshayani.jpg" width="70" height="65" alt="D-Logo"/><br>

<h1>akshayini Hotels</h1>

</div>

</header>

<main>

<div class="intro">

<i align="center"><h2>Welcome to Our Hotel Booking Website</h2></i>

</div>

<div class="MainForm" align="center">

<h2>Check Dates</h2>

<form id="dateForm" action="SearchRooms.jsp" method="post">

<label for="checkin">Check-In Date:</label>

<input type="date" name="checkInDate" id="checkInDate" required /><br><br>

<label for="checkOut">Check-Out Date:</label>

<input type="date" name="checkOutDate" id="checkOutDate" required /><br><br>

<button type="submit">Check Availability</button>

</form>

<strong><p id="errorMessage" style="color:red;"></p></strong>

</div>

</main>

<script>

document.getElementById('dateForm').addEventListener('submit', function(event) {

const checkIn = document.getElementById('checkInDate').value;

const checkOut = document.getElementById('checkOutDate').value;

const errorMessage = document.getElementById('errorMessage');

const today = new Date();

today.setHours(0, 0, 0, 0);

const checkInDate = new Date(checkIn);

const checkOutDate = new Date(checkOut);

if (checkInDate < today) {

errorMessage.textContent = 'Check-In date cannot be before today.';

event.preventDefault();

return;

}

if (checkOutDate <= checkInDate) {

errorMessage.textContent = 'Check-Out date must be later than Check-In date.';

event.preventDefault();

return;

}

errorMessage.textContent = '';

});

</script>

<footer align="center">Copy@Rights are Reserved for SDM Developers</footer>

</body>

</html>

Bottom of Form

**SearchRooms.jsp**

Bottom of Form

<%@page import="java.util.List"%>

<%@page import="java.util.ArrayList"%>

<%@page import="java.text.ParseException"%>

<%@page contentType="text/html; charset=UTF-8" language="java"%>

<%@page import="java.sql.\*"%>

<%@page import="java.util.Date"%>

<%@page import="java.text.SimpleDateFormat"%>

<!DOCTYPE html>

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

<title>Dakshayini Hotels</title>

<style>

body {

font-family: Arial, sans-serif;

height: 100%;

}

.NavBar {

display: flex;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

h1 {

font-size: 30px;

}

.featured-rooms {

background-color: #fff;

margin: 20px 0;

border-radius: 7px;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

padding: 30px;

display: flex;

justify-content: space-around;

flex-wrap: wrap;

}

.room {

background-color: #fff;

padding: 20px;

border-radius: 5px;

margin: 10px;

text-align: center;

}

.room h3 {

color: #333;

}

.room p {

margin: 10px 0;

color: #666;

}

.room img {

max-width: 60%;

height: auto;

border-radius: 5px;

cursor: pointer;

}

footer {

background-color: #6699CC;

color: #fff;

text-align: center;

padding: 10px 0;

position: fixed;

width: 100%;

bottom: 0;

}

</style>

</head>

<body>

<header>

<div class="NavBar">

<img src="Dakshayani.jpg" width="70" height="65" alt="D-Logo"/><br>

<h1>Dakshayini Hotels</h1>

</div>

</header>

<%

String url = "jdbc:mysql://localhost:3306/22r11a6218";

String driver = "com.mysql.cj.jdbc.Driver";

String user = "sairaj";

String password = "sairaj8799";

Connection con = null;

PreparedStatement st = null;

ResultSet rs = null;

String checkin = request.getParameter("checkInDate");

String checkout = request.getParameter("checkOutDate");

SimpleDateFormat dateFormat = new SimpleDateFormat("dd-MM-yyyy");

Date CheckinDate = null;

Date CheckoutDate = null;

List<Integer> availableRooms = new ArrayList<>();

String[] imgSource = {"8images.jfif", "images (6).jfif", "download.jfif", "download1.jfif", "images 9.jfif"};

try {

CheckinDate = dateFormat.parse(checkin);

CheckoutDate = dateFormat.parse(checkout);

String query = "SELECT RoonNo FROM dakshayani WHERE (CheckInDate BETWEEN ? AND ?) OR (CheckOutDate BETWEEN ? AND ?) OR (? <= CheckInDate AND ? >= CheckOutDate)";

Class.forName(driver);

con = DriverManager.getConnection(url, user, password);

st = con.prepareStatement(query);

st.setDate(1, new java.sql.Date(CheckinDate.getTime()));

st.setDate(2, new java.sql.Date(CheckoutDate.getTime()));

st.setDate(3, new java.sql.Date(CheckinDate.getTime()));

st.setDate(4, new java.sql.Date(CheckoutDate.getTime()));

st.setDate(5, new java.sql.Date(CheckinDate.getTime()));

st.setDate(6, new java.sql.Date(CheckoutDate.getTime()));

rs = st.executeQuery();

if (rs.next()) {

// There are booked rooms for the specified dates

do {

int bookedRoomNo = rs.getInt("RoomNo");

for (int i = 1; i <= imgSource.length; i++) {

if (i != bookedRoomNo && !availableRooms.contains(i)) {

availableRooms.add(i);

}

}

} while (rs.next());

} else {

// No booked rooms for the specified dates, show all rooms

for (int i = 1; i <= imgSource.length; i++) {

availableRooms.add(i);

}

}

} catch (Exception e) {

// Log the exception for debugging

e.printStackTrace();

// Redirect to an error page or display a user-friendly message

response.sendRedirect("BookingFailed.jsp?error="+e);

} finally {

try {

if (rs != null) rs.close();

if (st != null) st.close();

if (con != null) con.close();

} catch (SQLException e) {

e.printStackTrace();

}

}

%>

<main>

<section class="intro" align="center">

<h2>Traditional & Luxury Experience</h2>

<p>Book your stay at our exclusive hotel.</p>

<% if (availableRooms.isEmpty()) { %>

<div>

<strong><p style="color:red;">Sorry! Rooms Are Already Booked</p></strong>

</div>

<% } else { %>

<strong><p>Available from <em style="color:blueviolet;"><%= checkin %> to <%= checkout %></em></p></strong>

<% } %>

</section>

<section class="featured-rooms">

<h2>High Featured Rooms</h2><br>

<% for (int i : availableRooms) { %>

<div class="room">

<form action="RoomBooking.jsp" method="post">

<input type="hidden" name="roomId" value="<%= i %>">

<button type="submit" style="border: none; background: none; cursor: pointer;">

<img src="<%= imgSource[i - 1] %>" alt="Room">

</button>

<input type="hidden" name="checkin" id="checkin" value="<%= checkin %>" required/>

<input type="hidden" name="checkout" id="checkout" value="<%= checkout %>" required/>

<h3>Room-<%= i %></h3>

<input type="hidden" name="cost" value="Rs.500 per night">

<p>Rs.500 per night</p>

</form>

</div>

<% } %>

<center>

<a href="index.html">Return to Home Page</a>

</center>

</section>

</main>

<footer>Copy@Rights are Reserved for SDM Developers</footer>

</body>

</html>

**RoomBooking.jsp**

<%@page import="java.text.ParseException"%>

<%@page contentType="text/html" pageEncoding="UTF-8" language="java"%>

<%@page import="java.util.Date"%>

<%@page import="java.text.SimpleDateFormat"%>

<%

String RoomNo = request.getParameter("roomId");

String Checkin = request.getParameter("checkin");

String Checkout = request.getParameter("checkout");

String Cost = request.getParameter("cost");

Date checkinDate = null;

Date checkoutDate = null;

SimpleDateFormat inputFormat = new SimpleDateFormat("yyyy-MM-dd");

try {

if (Checkin != null && !Checkin.isEmpty()) {

checkinDate = inputFormat.parse(Checkin);

} else {

throw new IllegalArgumentException("Checkin date is null or empty");

}

if (Checkout != null && !Checkout.isEmpty()) {

checkoutDate = inputFormat.parse(Checkout);

} else {

throw new IllegalArgumentException("CheckOut date is null or empty");

}

} catch (ParseException e) {

e.printStackTrace();

} catch (IllegalArgumentException e) {

e.printStackTrace();

}

%>

<!DOCTYPE html>

<html>

<head>

<title>Dakshayini Hotels</title>

<style>

body {

font-family: Arial, sans-serif;

height: 100%;

}

.NavBar {

display: flex;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

h1 {

font-size: 30px;

}

footer {

background-color: #6699CC;

color: #fff;

text-align: center;

padding: 10px 0;

position: fixed;

width: 100%;

bottom: 0;

}

main {

text-align: center;

margin: 20px auto;

max-width: 400px;

padding: 20px;

background-color: #f0f0f0;

border-radius: 10px;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

dl {

text-align: left;

margin: 0 auto;

display: inline-block;

}

button {

padding: 7px 9px;

font-size: 16px;

background-color: #6699CC;

color: #fff;

border: none;

border-radius: 5px;

cursor: pointer;

}

input[type=text],[type=email],[type=number]{

width: 50%;

padding: 3px 5px;

margin: 8px 0;

box-sizing: border-box;

}

</style>

</head>

<body>

<header>

<div class="NavBar">

<img src="Dakshayani.jpg" width="70" height="65" alt="D-Logo"/><br>

<h1>Dakshayini Hotels</h1>

</div>

</header>

<main>

<section>

<form action="BookDB" method="post">

<dl>

<h2><label><strong>Registration Form:</strong></label></h2>

<dt><strong>Guest Details</strong></dt>

<dd style="padding:9px;">

<label>Customer Name:</label>

<input type="text" id="Cname" name="Cname" required/><br><br>

<label>Mobile No:</label>

<input type="number" id="PhNo" name="PhNo" required/><br><br>

<label>Email Id:</label>

<input type="email" id="CMail" name="CMail" required/><br><br>

</dd>

<dt><strong>Booking Details</strong></dt>

<dd style="padding:9px;">

<label>Check In Date: <%= checkinDate != null ? new SimpleDateFormat("yyyy-MM-dd").format(checkinDate) : Checkin %></label>

<input type="hidden" id="CheckinDate" name="CheckinDate" value="<%= checkinDate != null ? new SimpleDateFormat("yyyy-MM-dd").format(checkinDate) : "" %>" readonly/><br><br>

<label>Check Out Date: <%= checkoutDate != null ? new SimpleDateFormat("yyyy-MM-dd").format(checkoutDate) : Checkout %></label>

<input type="hidden" id="checkoutDate" name="checkoutDate" value="<%= checkoutDate != null ? new SimpleDateFormat("yyyy-MM-dd").format(checkoutDate) : "" %>" readonly/><br><br>

<label>Room No: <%= RoomNo %></label>

<input type="hidden" id="RNo" name="RNo" value="<%= RoomNo %>" required/>

</dd>

<dt><strong>Payment Information</strong></dt>

<dd style="padding:9px;">

<label>Cost (INC all Taxes): <%= Cost %></label>

<input type="hidden" id="Cost" name="Cost" value="<%= Cost %>" readonly/><br><br>

<label>Payment Type:</label>

<select id="Ptype" name="PType" required>

<option value=""></option>

<option value="UPI">UPI</option>

<option value="Credit">Credit Card</option>

<option value="Debit">Debit Card</option>

</select><br><br>

<label>Pay:</label>

<input type="number" id="payment" name="payment" required/><br><br>

</dd>

<center><button type="submit">Book</button></center><br>

</dl>

</form>

<a href="index.html">Back to Home</a>

</section>

</main>

<footer>Copy@Rights are Reserved for SDM Developers</footer>

</body>

</html>

**BookingDB.java**

import java.io.FileInputStream;

import java.io.IOException;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.SQLException;

import java.util.logging.Level;

import java.util.logging.Logger;

import java.text.ParseException;

import java.text.SimpleDateFormat;

import java.util.Properties;

import java.io.InputStream;

import java.net.URLEncoder;

public class BookDB extends HttpServlet {

private static final long serialVersionUID = 1L;

private static final Logger logger = Logger.getLogger(BookDB.class.getName());

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

String url = "jdbc:mysql://localhost:3306/22r11a6218";

String driver = "com.mysql.cj.jdbc.Driver";

String user = "sairaj";

String password = "sairaj8799";

Connection con = null;

PreparedStatement st = null;

String query = "INSERT INTO Dakshayani (RoonNo, Cname, PhNo, CheckInDate, CheckOutDate) VALUES (?, ?, ?, ?, ?)";

int flag = 0;

String CName = request.getParameter("Cname");

String PhoneNo = request.getParameter("PhNo");

String RoomNo = request.getParameter("RNo");

String checkin = request.getParameter("CheckinDate");

String checkout = request.getParameter("checkoutDate");

if (CName == null || PhoneNo == null || RoomNo == null || checkin == null || checkout == null ||

CName.isEmpty() || PhoneNo.isEmpty() || RoomNo.isEmpty() || checkin.isEmpty() || checkout.isEmpty()) {

response.sendRedirect("BookingFailed.jsp?error=Missing+parameters"+CName.isEmpty()+""+PhoneNo.isEmpty()+""+RoomNo.isEmpty()+""+checkin.isEmpty()+""+checkout.isEmpty());

return;

}

SimpleDateFormat dateFormat = new SimpleDateFormat("yyyy-MM-dd");

dateFormat.setLenient(false);

java.sql.Date checkinSqlDate = null;

java.sql.Date checkoutSqlDate = null;

try {

java.util.Date checkinUtilDate = dateFormat.parse(checkin);

java.util.Date checkoutUtilDate = dateFormat.parse(checkout);

checkinSqlDate = new java.sql.Date(checkinUtilDate.getTime());

checkoutSqlDate = new java.sql.Date(checkoutUtilDate.getTime());

} catch (ParseException e) {

logger.log(Level.SEVERE, "Date parsing error", e);

response.sendRedirect("BookingFailed.jsp?error=Invalid+date+format");

return;

}

try {

Class.forName(driver);

con = DriverManager.getConnection(url, user, password);

st = con.prepareStatement(query);

st.setString(1, RoomNo);

st.setString(2, CName);

st.setString(3, PhoneNo);

st.setDate(4, checkinSqlDate);

st.setDate(5, checkoutSqlDate);

flag = st.executeUpdate();

} catch (ClassNotFoundException | SQLException e) {

logger.log(Level.SEVERE, "Error executing SQL query", e);

response.sendRedirect("BookingFailed.jsp?error=Database+error");

return;

} finally {

try {

if (st != null) {

st.close();

}

if (con != null) {

con.close();

}

} catch (SQLException ex) {

logger.log(Level.SEVERE, "Error closing resources", ex);

}

}

if (flag != 0){

response.sendRedirect("Succes.jsp?Cname=" + URLEncoder.encode(CName, "UTF-8") + "&RNo=" + URLEncoder.encode(RoomNo, "UTF-8"));

} else {

response.sendRedirect("BookingFailed.jsp?error=Booking+failed");

}

}

}

**Succes.jsp**

<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

<title>Dakshayini.Hotels</title>

<style>

body {

font-family: Arial, sans-serif;

height: 100%;

}

.NavBar {

display:flex;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

h1 {

font-size:30px;

}

footer {

background-color: #6699CC;

color: #fff;

text-align: center;

padding: 10px 0;

position: fixed;

width: 100%;

bottom: 0;

}

section{

background-color: #fff;

padding: 10px;

margin: 10px 0;

border-radius: 5px;

}

.message {

color: green;

font-weight: bold;

margin-top: 20px;

}

</style>

</head>

<body>

<header class="NavBar">

<image src="Dakshayani.jpg" width="70" height="65" alt="D-Logo"/><br>

<h1>akshayini Hotels</h1>

</header>

<main>

<section><center>

<h1>Booking Confirmed</h1>

<p>Your booking has been confirmed.<strong> Thank you for choosing our hotel!</strong></p>

<div class="message">

<%

String cname = request.getParameter("Cname");

String roomNo = request.getParameter("RNo");

if (cname != null && !cname.isEmpty() && roomNo != null && !roomNo.isEmpty()) {

out.print("Thank you, " + cname + "! Your room number is " + roomNo + ".");

} else {

out.print("Thank you for your booking!");

}

%>

</div>

<a href="index.html">Return to Home Page</a>

</center>

</section>

</main>

<footer>Copy@Rights are Reserved for SDM Developers</footer>

</body>

</html>

**BookingFailed.jsp**

<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

<title>Dakshayini.Hotels</title>

<style>

body {

font-family: Arial, sans-serif;

height: 100%;

}

.NavBar {

display:flex;

box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

h1 {

font-size:30px;

}

footer {

background-color: #6699CC;

color: #fff;

text-align: center;

padding: 10px 0;

position: fixed;

width: 100%;

bottom: 0;

}

section{

background-color: #fff;

padding: 10px;

margin: 10px 0;

border-radius: 5px;

}

.error {

color: red;

font-weight: bold;

margin-top: 20px;

}

</style>

</head>

<body>

<header class="NavBar">

<image src="Dakshayani.jpg" width="70" height="65" alt="D-Logo"/><br>

<h1>akshayini Hotels</h1>

</header>

<main>

<section><center>

<h1>Booking Failed</h1>

<p>We are sorry, but your booking could not be processed. <strong>Please try again later!!</strong></p>

<div class="error">

<%

String error = request.getParameter("error");

if (error != null && !error.isEmpty()) {

out.print("Error: " + error);

} else {

out.print("Unknown error occurred.");

}

%>

</div>

<a href="index.html">Return to Home Page</a>

</center>

</section>

</main>

<footer>Copy@Rights are Reserved for SDM Developers</footer>

</body>

</html>

**5. Results**

**Sample Output**

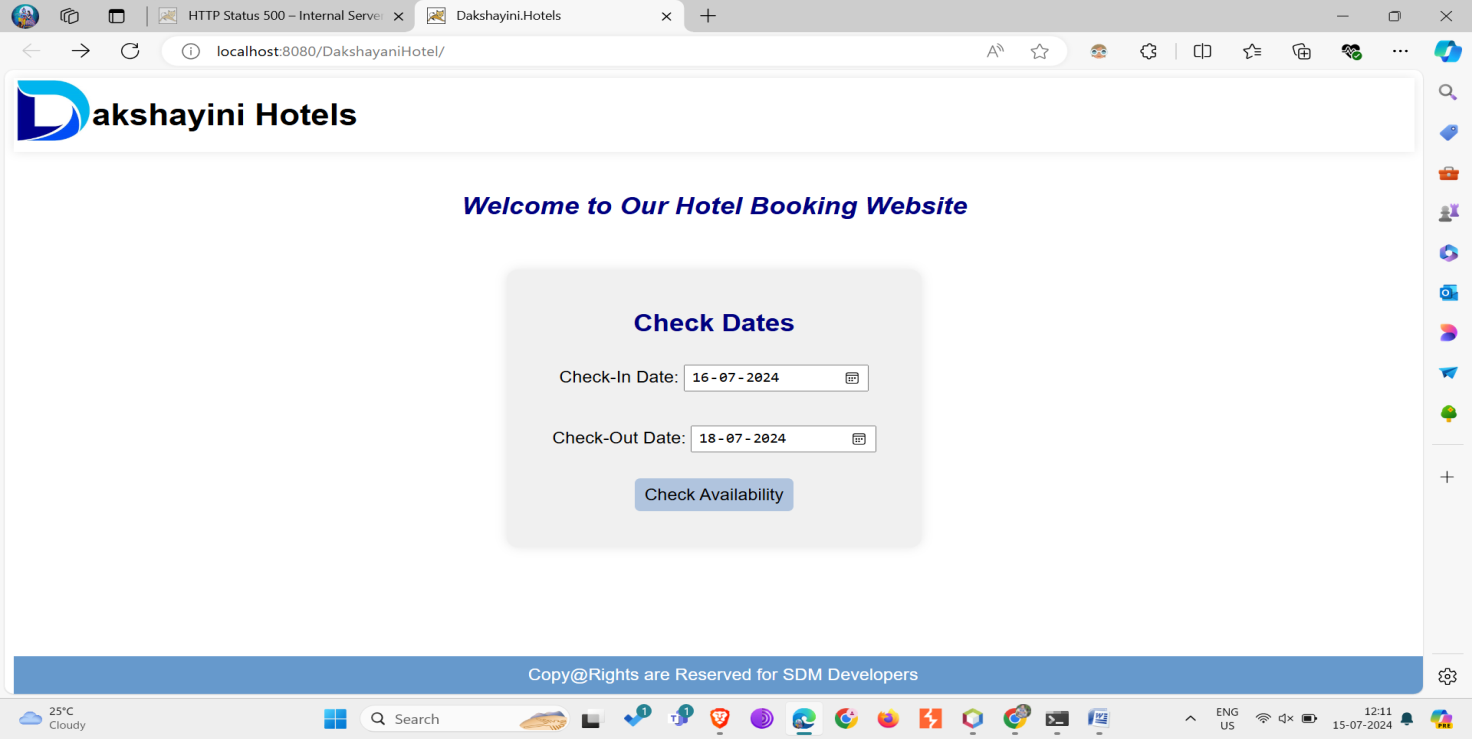
****

Fig 1. Home page for Checking dates

Welcome to Our Hotel Booking Website: Your Gateway to book Luxury Rooms

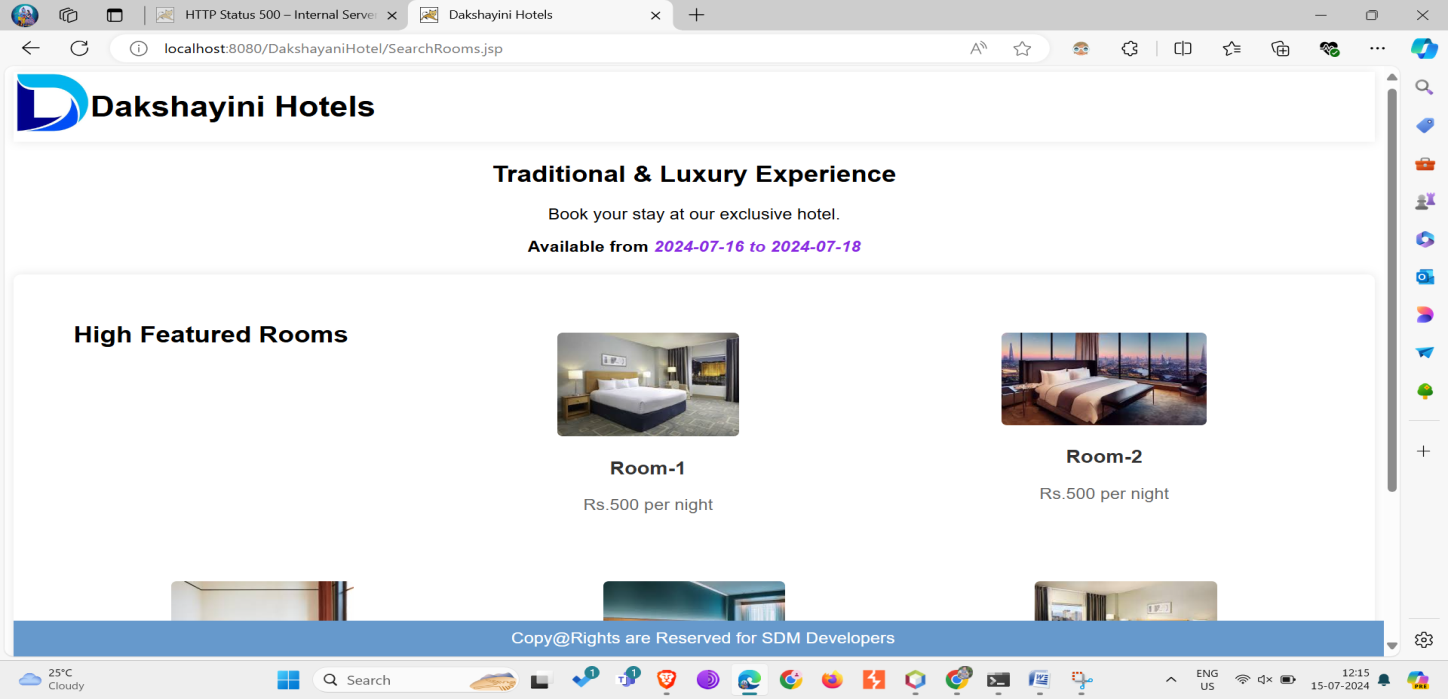
****

Fig 2 .Book your stay at our exclusive hotel

Displays available Rooms

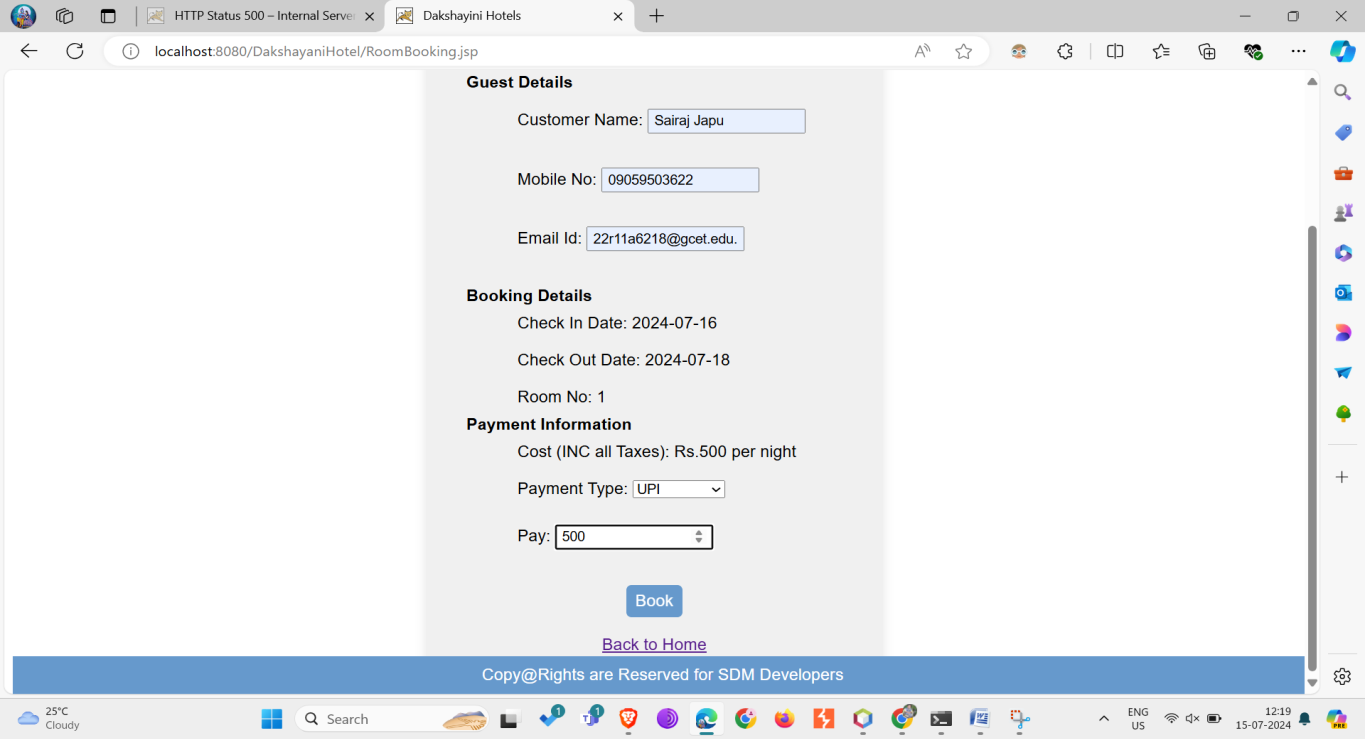


Fig 3.Enter the Registration Form.

Based On room Availability

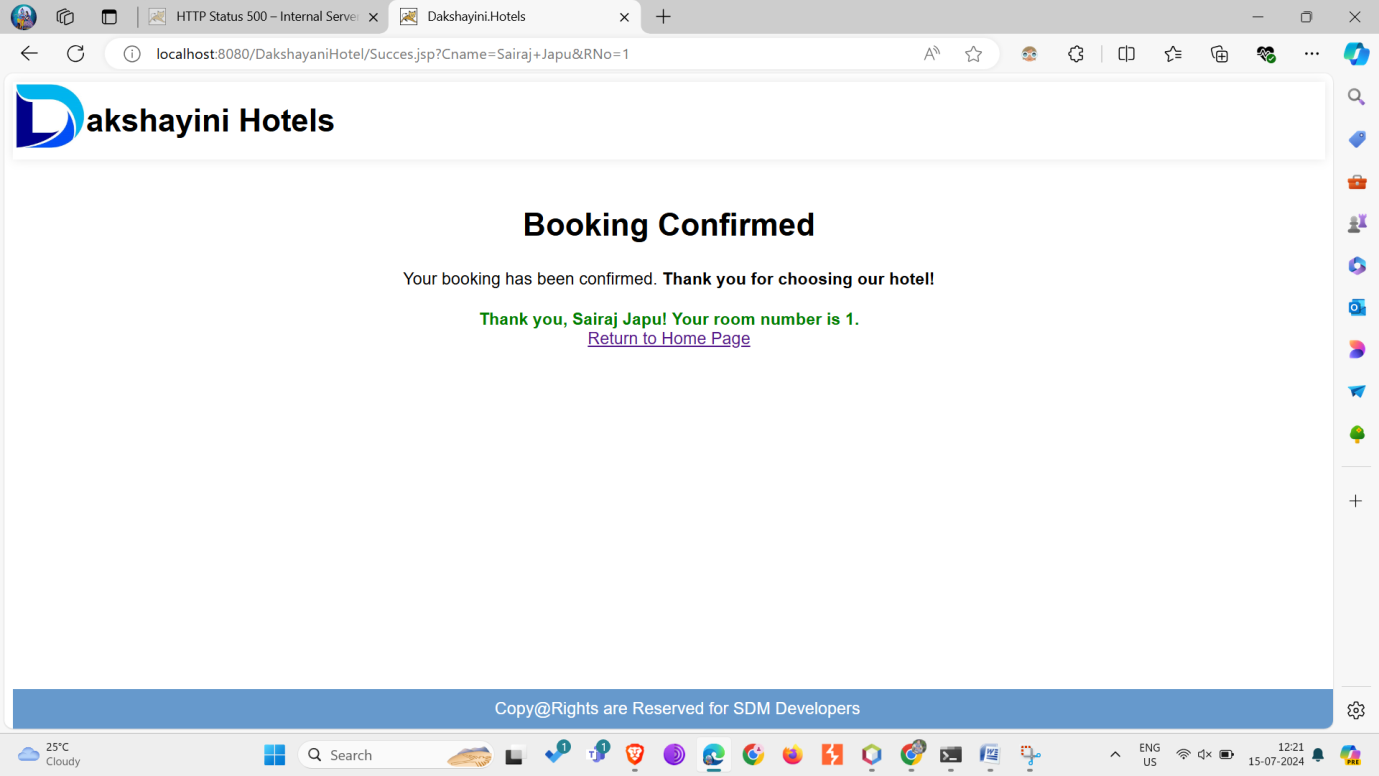
****

Fig 4 .Booking Confirmed after Succcesfull Regitration and payment

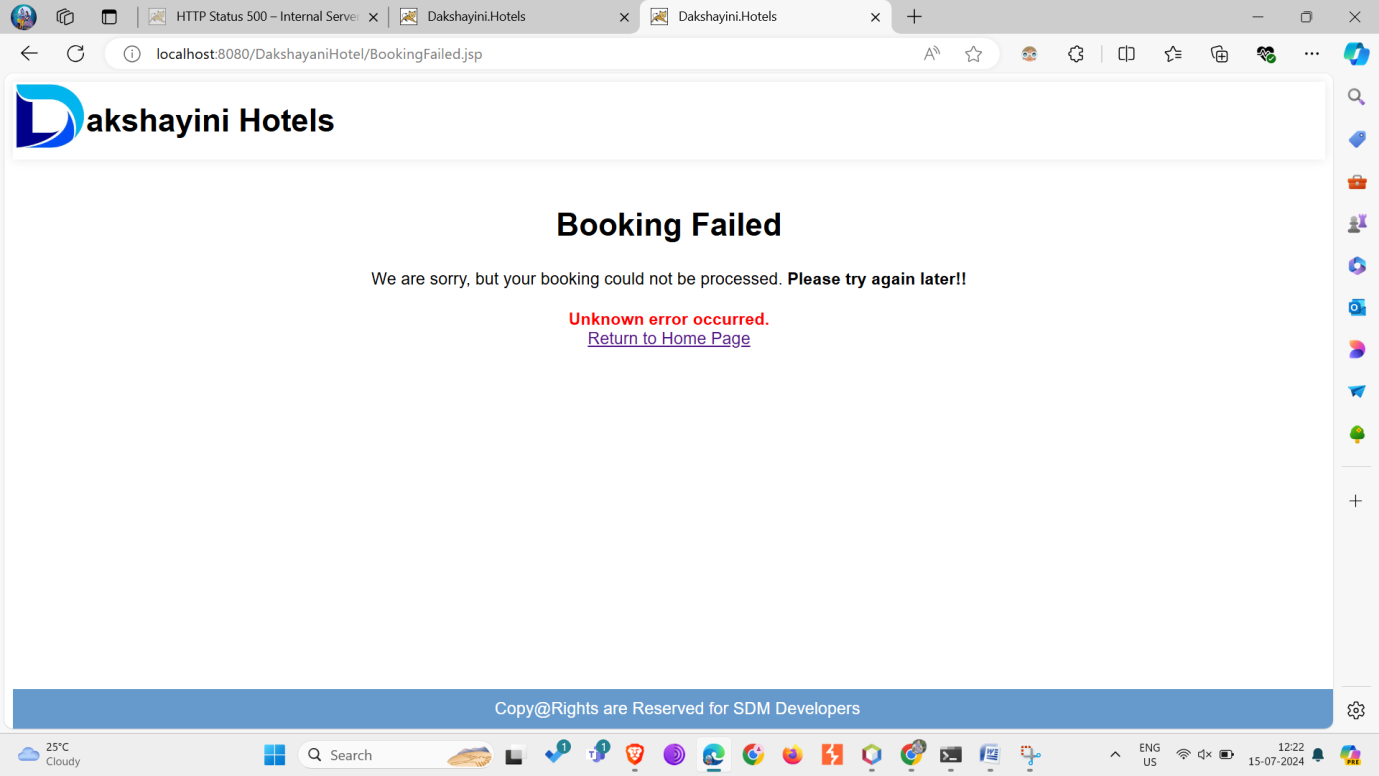
****

Fig 4 .Booking Fails if any issues happened while booking

1. **CONCLUSION**

The Dakshayani Hotel Reservation System embodies a modern approach to hospitality management, seamlessly integrating HTML, CSS, and JavaScript for a dynamic user interface. Its robust backend, powered by efficient data retrieval from a MySQL database, ensures quick access to room availability and booking details.

With intuitive search functionalities and responsive design, guests can effortlessly explore room options, check prices, and make reservations tailored to their preferences. The system's client-server architecture facilitates smooth communication, delivering a user-friendly experience characterized by speed and reliability.

Continually evolving to meet technological advancements, Dakshayani Hotel Reservation System stands as a testament to innovation in hospitality services, offering both convenience and efficiency in hotel bookings. Whether for leisure or business, it remains committed to enhancing guest satisfaction through seamless digital interaction and personalized service.

Explore Dakshayani Hotels for your next stay, where modern convenience meets traditional hospitality in every booking experience.

1. **REFERENCES**

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