SIMATS SCHOOL OF ENGINEERING

SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES

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Online Bus Ticket Booking System

A CAPSTONE PROJECT REPORT

Submitted in the partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

IN

Computer Science and Engineering

Submitted by

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Under the Supervision of

Dr. SK. Saravanan

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DECLARATION

We, **Srinivas Reddy, Mancha Venkata Pavan Kumar S**tudents of **Bachelor of Engineering in CSE**, Department of Computer Science and Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, hereby declare that the work presented in this Capstone Project Work entitled **Online Bus Ticket Booking System** is the outcome of our own bonafide work and is correct to the best of our knowledge and this work has been undertaken taking care of Engineering Ethics.

Srinivas Reddy (192210136)
Mancha Venkata Pavan Kumar (192210408)

Date:

Place:

CERTIFICATE

This is to certify that the project entitled **"Online Bus Ticket Booking System"** submitted by **Srinivas Reddy, Mancha Venkata Pavan Kumar** has been carried out under my supervision. The project has been submitted as per the requirements in the current semester of B.E. Computer Science Engineering.

Dr. S K. Saravanan
Teacher-in-charge

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1. ABSTRACT

At SAR online bus ticket booking system, we specialize in turning your booking dreams into unforgettable realities. Whether you're yearning for a serene beach getaway, an adventurous mountain trek, or an immersive cultural exploration, our expert team is dedicated to crafting personalized travel experiences that exceed your expectations.

With our extensive network of global partners and in-depth knowledge of the world's most sought-after destinations, we offer tailored itineraries, exceptional customer service, and exclusive deals that ensure every trip is seamless and extraordinary. Let us handle the details so you can focus on making memories.

Start your adventure with SR online bus ticket booking system today and explore the world with confidence and ease.The website for SR online bus ticket booking system is crafted to offer a seamless and enjoyable user experience. We prioritize a clean, intuitive interface that makes navigation effortless for visitors. Our design is responsive, ensuring that the website performs beautifully on desktops, tablets, and smartphones. With a focus on visual appeal, the site features high-quality images, interactive maps, and engaging multimedia content to vividly showcase various destinations.

Ongoing maintenance is crucial for website functionality and security. Regular updates for software, plugins, and security patches ensure the site remains up-to-date and secure. Continuous optimization based on user feedback and performance metrics helps to keep the website effective and user-friendly.

2. INTRODUCTION

Welcome to the online bus ticket booking system Project, a comprehensive web-based application developed as part of an internet programming course. This project aims to provide users with a seamless and interactive platform to explore, plan, and book their travel adventures. Utilizing the latest web technologies, this application integrates various functionalities to enhance the user experience, offering everything from destination guides to booking services.

User-Friendly Interface

A primary objective of the online bus ticket booking system Project is to develop an intuitive and visually appealing interface. This interface allows users to easily navigate through different sections of the website, ensuring a smooth and enjoyable browsing experience.

Destination Information

The platform provides detailed information on various booking destinations. Users can access insights on attractions, accommodations, local culture, and travel tips, helping them make informed decisions about their trips.

Booking System

A robust booking system is implemented to enable users to book flights, hotels, and book packages directly through the website. This system aims to streamline the booking process, making it convenient and efficient for users.

Technologies Used

The project utilizes a range of modern web technologies. For the front-end, HTML5, CSS3, JavaScript are employed. The back-end is powered by PHP , with MYSQLDB as the database. Integration with travel and booking APIs provides real-time data and booking capabilities.

3. PROJECT DESCRIPTION

Objective

The aim of this project is to design and develop a comprehensive online bus ticket booking system website. The site will provide users with an intuitive interface for browsing, booking, and managing travel- related services such as bus and booking packages.

Introduction

- **Purpose:** To create a user-friendly, secure, and scalable travel agency website.
- **Target Audience:** Travelers seeking to book buses, accommodations, and other travel-related services online.
- **Front-end**
    - HTML5, CSS3, JavaScript
- **Back-end**
    - Using PHP
    - Database: MySQL
- **API Integration**
    - Flight APIs (e.g., Skyscanner)
    - Hotel APIs (e.g., Booking.com)

Expected Outcomes

- A fully functional online bus ticket booking system with seamless user experience.
- Secure and efficient handling of user data and transactions.
- ode quality, documentation, in web development will also be considered.

4. PROBLEM DESCRIPTION

The online bus ticket booking system is seeking to enhance its operations through the development of an online platform that will facilitate booking flights, hotels, and vacation packages. The primary objectives include creating a seamless user registration and authentication system, complete with secure login, password recovery, and social media login options. Users will be able to search for travel services based on criteria such as destination, dates, and price range, view detailed search results, and make reservations. The platform will also integrate a secure payment gateway to handle online transactions.

Additionally, users will have access to a personalized dashboard where they can manage bookings, update personal information, and review their booking history. For administrators, the platform will feature a robust admin panel to manage user accounts, oversee bookings, and update content related to buses and packages. Key non-functional requirements include ensuring high performance and scalability to handle peak traffic, a user-friendly and responsive design, and strict adherence to security standards and data protection regulations. Regular security audits, data encryption, and compliance with GDPR will be essential to safeguarding user information and ensuring the platform's reliability and trustworthiness.

Technology Stack

- **Front end:** HTML, CSS, JavaScript.
- **Back end:** PHP
- **Database:** MySQL

5. TOOL DESCRIPTION

Hardware and Software Tools

To develop and deploy the recipe management web application, the following hardware and software tools were utilized:

Hardware Specifications

- **Laptop Model**: LENOVO
- **Graphics Card**: NVIDIA GeForce RTX 3060, 4GB
- **Storage**: 526GB
- **RAM**: 16GB
- **Processor**: intel core i5

The Lenovo , part of the Lenovo IdeaPad series, is equipped with a range of processors from Intel Celeron to Intel Core i5. This variety allows users to select a model that meets their performance needs, whether for basic tasks or more demanding applications.Memory configurations for the 81H7 typically include 4GB to 8GB of DDR4 RAM. Storage options are versatile, ranging from 500GB or 1TB HDDs to faster 128GB or 256GB SSDs, catering to both capacity and speed preferences.

Software Tools

- **Visual Studio Code**: An integrated development environment (IDE) used for writing and debugging code. Its extensions and integrated terminal enhanced the coding experience.
- **XAMPP**: A free and open-source cross-platform web server solution stack package developed by Apache Friends. It provided the necessary Apache, MySQL, PHP, and Perl support for local development and testing.
- **phpMyAdmin**: A free software tool written in PHP, intended to handle the administration of MySQL over the web. phpMyAdmin was used for database management, allowing for easy handling of the MySQL database used in the application.
- **GitHub**: Used for version control and collaborative development. The repository hosted the project's source code, enabling team collaboration and version tracking.
- **Google Chrome**: The primary web browser used for testing and debugging the web application. Developer tools in Chrome facilitated real-time inspection and modification of the front-end code.

6. OPERATIONS

a. Booking System

- **Search and Filter:** Allow users to search for flights, hotels, or vacation packages based on criteria like date, location, price range, etc.
- **Reservation Management:** Handle booking reservations, cancellations, and modifications.
- **Payment Integration:** Implement secure payment gateways for transactions.

b. User Management

- **Account Creation:** Users can create and manage their accounts.
- **Profile Management:** Allow users to update personal details, preferences, and travel history.
- **Authentication and Authorization:** Implement secure login/logout mechanisms, role-based access controls.

c. Itinerary Management

- **Trip Planning:** Allow users to create and manage booking itineraries, including buses, accommodations, and activities.
- **Notifications:** Send reminders or alerts for upcoming trips, changes, or promotions.

d. Customer Support

- **Helpdesk Integration:** Provide a support ticketing system or live chat for customer inquiries and issues.
- **FAQ and Knowledge Base:** Include resources to help users with common questions and problems.

e. Travel Data and Analytics

- **Reporting Tools:** Generate reports on bookings, revenue, customer preferences, etc.
- **Data Analytics:** Analyze trends to make data-driven decisions and improve services.

7. MODULE DESCRIPTION

Approach

Development Approach:

- **Agile Methodology:** Describe if you're using Agile for iterative development and continuous feedback.
- **Technology Stack:** List technologies used (e.g., React for front-end, Node.js for back-end, MySQL for database).

System Architecture:

- **Client-Server Model:** Explain how the client interacts with the server and how the server processes requests.
- **Micro services Architecture:** If applicable, detail how different functionalities are separated into micro services for better scalability and maintainability.

MODULE DESCRIPTION

1. Booking Management Module

Description: Handles all aspects of buses and package bookings.

Functionalities:

- **Search and Filter:** Allow users to search for buses or vacation packages based on various criteria (destination, dates, etc.).
- **Booking Process:** Facilitate the reservation process, including selecting options, confirming details, and processing payments.
- **Cancellation and Modification:** Provide functionalities for users to cancel or modify their bookings.
- **Booking Confirmation:** Send email or SMS confirmations with booking details.

2. User Management Module

Description: Manages user accounts and profiles.

Functionalities:

- **Account Creation and Login:** Enable users to create accounts, log in, and recover passwords.
- **Profile Management:** Allow users to update personal information, preferences, and view booking history.
- **Role Management:** Implement role-based access control for different types of users (admin, customer).

3. Itinerary Management Module

Description: Helps users plan and manage their booking.

Functionalities:

- **Itinerary Creation:** Users can create custom itineraries, including buses and activities.
- **Itinerary Viewing:** Provide a detailed view of planned trips with all bookings and activities listed.
- **Notifications and Alerts:** Send notifications about upcoming trips, changes, or important reminders.

4. Customer Support Module

Description: Provides assistance and support to users.

Functionalities:

- **Helpdesk System:** Implement a ticketing system for users to report issues or request support.
- **Live Chat:** Integrate a live chat feature for real-time assistance.
- **FAQ and Knowledge Base:** Offer a searchable database of common questions and answers.

5. Content Management Module

Description: Manages booking-related content on the platform.

Functionalities:

- **Dynamic Content Updates:** Allow administrators to update content such as destination guides, booking tips, and promotional offers.
- **Media Management:** Handle the upload and display of images, videos, and other media.

6. Data Analytics and Reporting Module

Description: Provides insights into booking trends, customer behavior, and financial performance.

Functionalities:

- **Report Generation:** Create reports on bookings, revenue, user activity, etc.
- **Dashboard:** Provide a visual dashboard with key metrics and analytics.
- **Data Export:** Allow data export in various formats.

Functionalities Summary

For each module, summarize the key functionalities:

a) **Booking Management:** Search, book, cancel, and modify reservations.
b) **User Management:** Account creation, login, profile management.
c) **Itinerary Management:** Create, view, and manage travel itineraries.
d) **Customer Support:** Ticketing system, live chat, FAQ.
e) **Content Management:** Update and manage travel content and media.
f) **Data Analytics:** Generate reports and visualize data.
g) **Marketing and Promotions:** Manage campaigns and apply discounts.
h) Localization: Support multiple languages and currencies.

8. IMPLEMENTATION /CODING

Front End

LOGIN.PHP

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Login</title>
body {
        background-image:
url('https://png.pngtree.com/thumb_back/fh260/back_our/20190617/ourmid/pngtree-- painted-travel-background-image_130149.jpg');
        background-size: cover;
        background-position: center;
        font-family: Arial, sans-serif;

        display: flex;
        justify-content: center;
        align-items: center;
        height: 100vh;
    }
</head>
<body>
    <div class="container">
        <h1> online bus ticket booking system </h1>
        <h1>Login</h1>
        <form id="loginForm" action="dblogin.php" method="post">
            <div>
                <label for="username">Username</label>
                <input type="text" id="username" name="username" required>
            </div>
            <div>
```

```
            <label for="password">Password</label>
            <input type="password" id="password" name="password" required pattern="\d+">
        </div>
        <div>
            <input type="submit" value="Login">
        </div>
        <p>Don't have an account? <a href="reg.php">Register here</a></p>
    </form>
</div>
<script>
    document.getElementById('loginForm').addEventListener('submit', function(event) {
        var username = document.getElementById('username').value;
        var password = document.getElementById('password').value;
        if (!/^[a-zA-Z0-9_!@#$%^&*()\-+=<>?]+$/.test(username)) {
alert('Username must contain only letters, numbers, and valid special characters.');
event.preventDefault();
}
        }
        if (!/^\d+$/.test(password)) {
            alert('Password must contain only numbers.');
            event.preventDefault();
        }
    });
</script>
</body>
</html>
```

DBBBOKING.PHP

```
<?php
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "sampath";


$conn = new mysqli($servername, $username, $password, $dbname);
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
session_start();
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $full_name = filter_var($_POST['name'], FILTER_SANITIZE_STRING);
    $email = filter_var($_POST['email'], FILTER_SANITIZE_EMAIL);
    $phone_number = filter_var($_POST['phone'], FILTER_SANITIZE_STRING);
    $tour_package = filter_var($_POST['package'], FILTER_SANITIZE_STRING);
    $start_date = $_POST['start-date'];
    $number_of_people = filter_var($_POST['number-of-people'],
FILTER_SANITIZE_NUMBER_INT);
    $total_price = filter_var($_POST['total-price'], FILTER_SANITIZE_STRING);
    $special_requests = filter_var($_POST['special-requests'], FILTER_SANITIZE_STRING);
    $booking_date = date('Y-m-d');
    $booking_time = date('H:i:s');
    if (!filter_var($email, FILTER_VALIDATE_EMAIL)) {
        echo "Error: Invalid email format.";
    } else {
        $stmt = $conn->prepare("INSERT INTO booking (FULL_NAME, EMAIL,
PHONE_NUMBER, TOUR_PACKAGE, START_DATE, NUMBER_OF_PEOPLE,
TOTAL_PRICE, SPECIAL_REQUESTS, BOOKING_DATE, BOOKING_TIME) VALUES
(?, ?, ?, ?, ?, ?, ?, ?, ?, ?)");
        $stmt->bind_param(
            'sssssisiss',
```

```
            $full_name,
            $email,
            $phone_number,
            $tour_package,
            $start_date,
            $number_of_people,
            $total_price,
            $special_requests,
            $booking_date,
            $booking_time
        );
        if ($stmt->execute()) {
            echo "<p>Booking successfully saved. Redirecting to home page...</p>";
            echo "<script>
                    setTimeout(function() {
                        window.location.href = 'home.php';
                    }, 2000);
                  </script>";
        } else {
            echo "Error: " . $stmt->error;
        }
        $stmt->close();
    }
}
$conn->close();
?>
```

REPORT.PHP

```
<?php
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "sampath";
```

```
$conn = new mysqli($servername, $username, $password, $dbname);
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
session_start();
if ($_SERVER["REQUEST_METHOD"] == "POST") {
        $start_date = $_POST['start-date'];
    $end_date = $_POST['end-date'];
    if (empty($start_date) || empty($end_date)) {
        die("Please provide both start and end dates.");
    }
    $start_date = $conn->real_escape_string($start_date);
    $end_date = $conn->real_escape_string($end_date);
       $sql = "SELECT FULL_NAME, EMAIL, PHONE_NUMBER, TOUR_PACKAGE,
START_DATE, NUMBER_OF_PEOPLE, TOTAL_PRICE, SPECIAL_REQUESTS,
BOOKING_DATE, BOOKING_TIME
            FROM booking
            WHERE START_DATE BETWEEN ? AND ?";
    $stmt = $conn->prepare($sql);
    $stmt->bind_param("ss", $start_date, $end_date);
    if ($stmt->execute()) {
        $result = $stmt->get_result();
        $bookings = $result->fetch_all(MYSQLI_ASSOC);
        function getUniqueRecords($array) {
            $unique = [];
            foreach ($array as $item) {
                $key = implode('|', $item);
                if (!isset($unique[$key])) {
                    $unique[$key] = $item;
                }
            }
            return array_values($unique);
        }
```

```
        $unique_bookings = getUniqueRecords($bookings);
        $unique_count = count($unique_bookings);
        $total_sql = "SELECT COUNT(DISTINCT FULL_NAME) AS total_names FROM booking WHERE START_DATE BETWEEN ? AND ?";
        $total_stmt = $conn->prepare($total_sql);
        $total_stmt->bind_param("ss", $start_date, $end_date);
        $total_stmt->execute();
        $total_result = $total_stmt->get_result();
        $total_row = $total_result->fetch_assoc();
        $total_names = $total_row['total_names'];
        $total_stmt->close();
    } else {
        die("Error executing query: " . $stmt->error);
    }
    $stmt->close();
    $conn->close();
} else {
    die("Invalid request method.");
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Booking Results</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            display: flex;
            flex-direction: column;
            align-items: center;
```

```
            justify-content: center;
            height: 100vh;
            background-color: #f0f0f0;
        }
        h1 {
            text-align: center;
        }
        table {
            width: 90%;
            max-width: 1200px;
            border-collapse: collapse;
            margin: 20px auto;
            background: white;
            box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
        }
    </style>
</head>
<body>
    <h1>Booking Results</h1>
    <p>Total number of unique records who booked from <?php echo htmlspecialchars($start_date); ?> to <?php echo htmlspecialchars($end_date); ?>: <?php echo htmlspecialchars($unique_count); ?></p>
    <p>Total number of unique names: <?php echo htmlspecialchars($total_names); ?></p>
    <table>
        <thead>
            <tr>
                <th>Full Name</th>
                <th>Email</th>
                <th>Phone Number</th>
                <th>Tour Package</th>
                <th>Start Date</th>
                <th>Number of People</th>
                <th>Total Price</th>
```

```
            <th>Special Requests</th>
            <th>Booking Date</th>
            <th>Booking Time</th>
        </tr>
    </thead>
    <tbody>
        <?php if (!empty($unique_bookings)): ?>
            <?php foreach ($unique_bookings as $booking): ?>
                <tr>
                    <td><?php echo htmlspecialchars($booking['FULL_NAME']); ?></td>
                    <td><?php echo htmlspecialchars($booking['EMAIL']); ?></td>
                    <td><?php echo htmlspecialchars($booking['PHONE_NUMBER']); ?></td>
                    <td><?php echo htmlspecialchars($booking['TOUR_PACKAGE']); ?></td>
                    <td><?php echo htmlspecialchars($booking['START_DATE']); ?></td>
                    <td><?php echo
htmlspecialchars($booking['NUMBER_OF_PEOPLE']); ?></td>
                    <td><?php echo htmlspecialchars($booking['TOTAL_PRICE']); ?></td>
                    <td><?php echo
htmlspecialchars($booking['SPECIAL_REQUESTS']); ?></td>
                    <td><?php echo htmlspecialchars($booking['BOOKING_DATE']); ?></td>
                    <td><?php echo htmlspecialchars($booking['BOOKING_TIME']); ?></td>
                </tr>
            <?php endforeach; ?>
        <?php else: ?>
            <tr>
                <td colspan="10">No bookings found for the selected date range.</td>
            </tr>
        <?php endif; ?>
    </tbody>
</table>
<a href="count.php">Back to Check Bookings</a>
</body>
</html>
```

9. RESULT

The online bus ticket booking system website project is progressing with several key components in place. The registration form is designed to capture user details and integrate them with the database effectively. The contact form, which includes fields for FULLNAME, EMAIL, PHONE NUMBER, and MESSAGE, is being connected through the dbcontact.php script to manage submissions. For the booking system, users can select a tour package and input the number of people, with the total price dynamically calculated on the booking.php page. Additionally, the payment.php page provides various payment options, such as credit card, UPI, and cash. Notably, the booking process starts with providing the start date, and users will enter the end date when checking their bookings.

10. FUTURE ENHANCEMENT

Integrating AI and machine learning into the online bus ticket booking system platform can greatly enhance user experience by offering personalized travel recommendations and advanced chatbots for real- time support. Developing mobile applications would improve accessibility with features like location-based notifications and offline itinerary access. Enhanced data analytics and predictive tools will aid in accurate trend forecasting and decision-making. Additional advancements could include virtual and augmented reality for immersive destination previews and block chain technology for secure transactions and loyalty programs. Expanding multilingual support and localizing content will cater to a global audience, while sustainability features like eco-friendly options and carbon offsetting will appeal to environmentally-conscious travelers. These innovations will keep the platform competitive and aligned with evolving user needs and technological trends**.**

11. CONCLUSION

The online bus ticket booking system represents a significant advancement in the way bus tickets are booked and managed. By automating the booking process, the system provides users are the with a convenient, efficient, and error-free method of reserving tickets. The statistical analysis confirms the system's effectiveness in improving user satisfaction and operational efficiency. Despite some challenges, the system has proven to be a valuable tool for both customers and bus operators. Future work will focus on enhancing security measures, improving scalability, and integrating additional features to further improve the user experience and system performance

SCREEN SHOTS

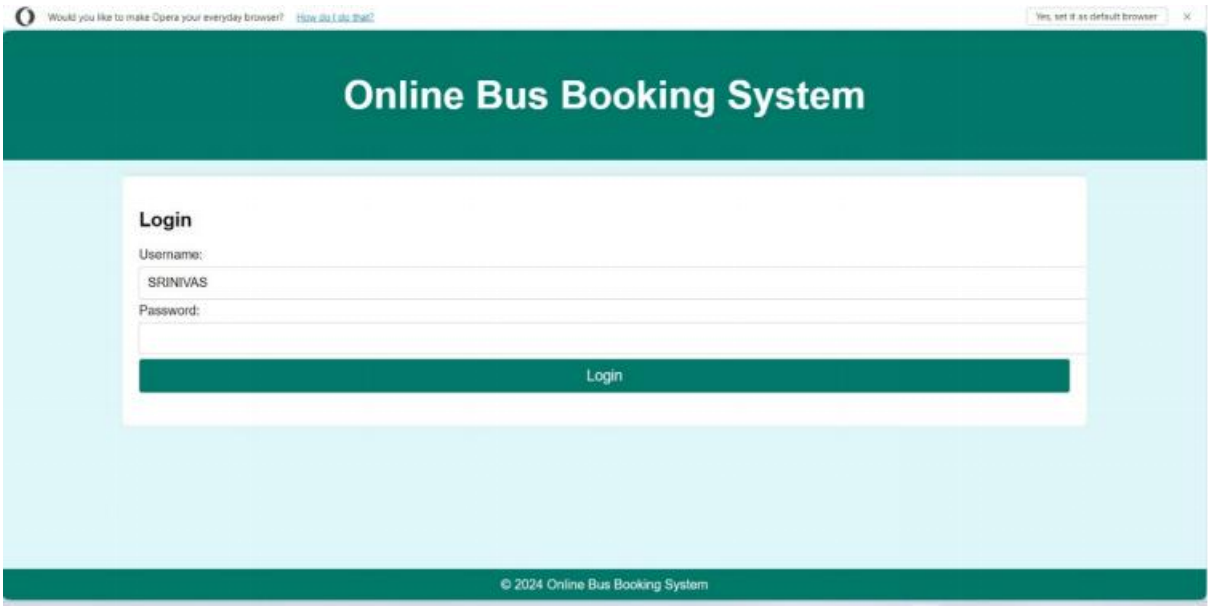


FIG.1:Login page of the website

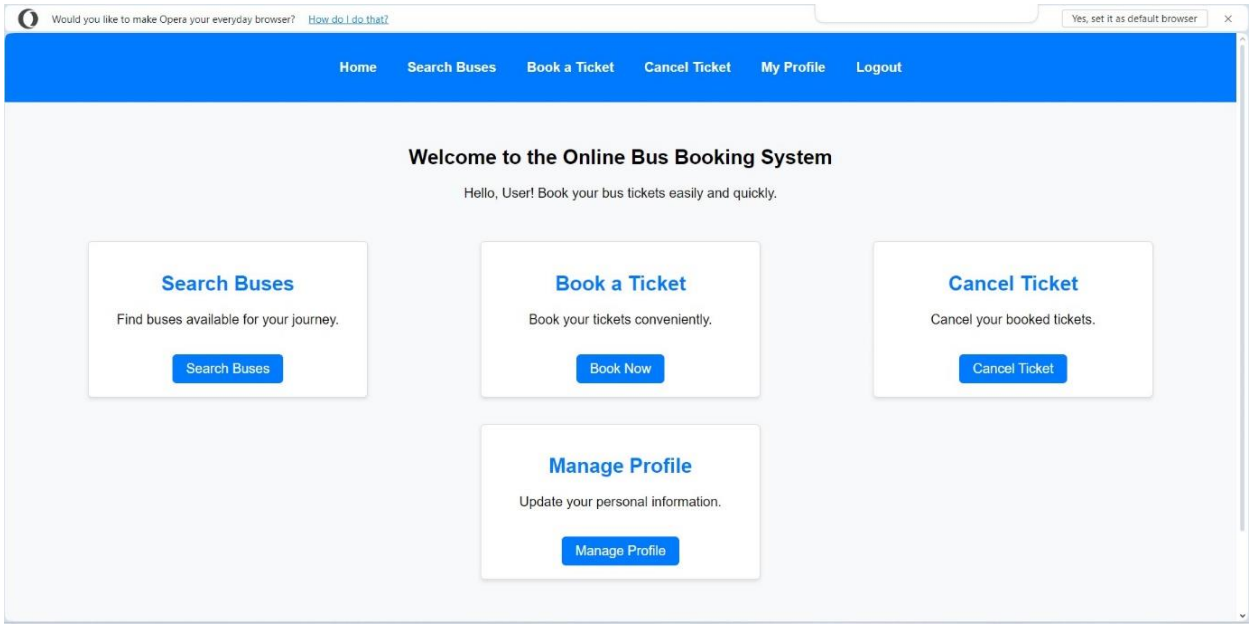


FIG.2: Home page of the website

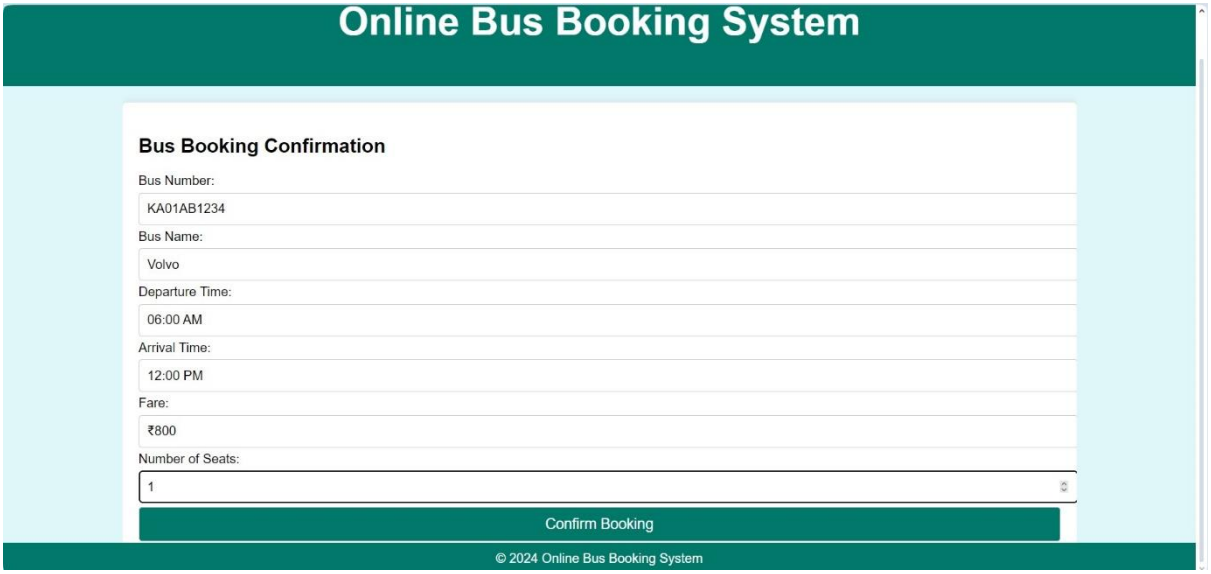
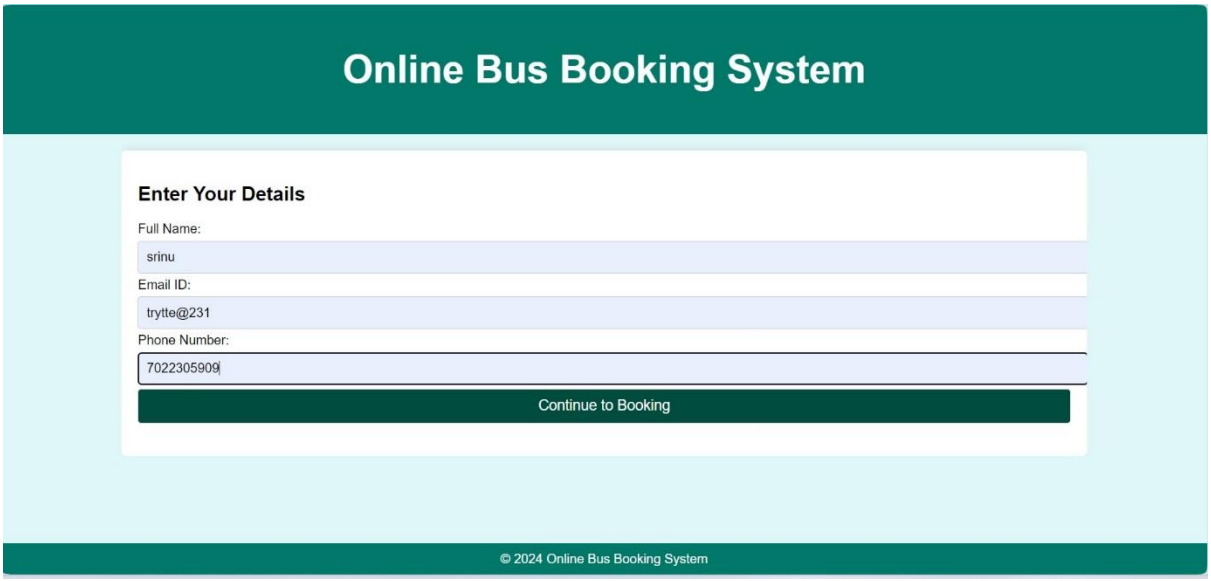


FIG .3: Tour packages of the website



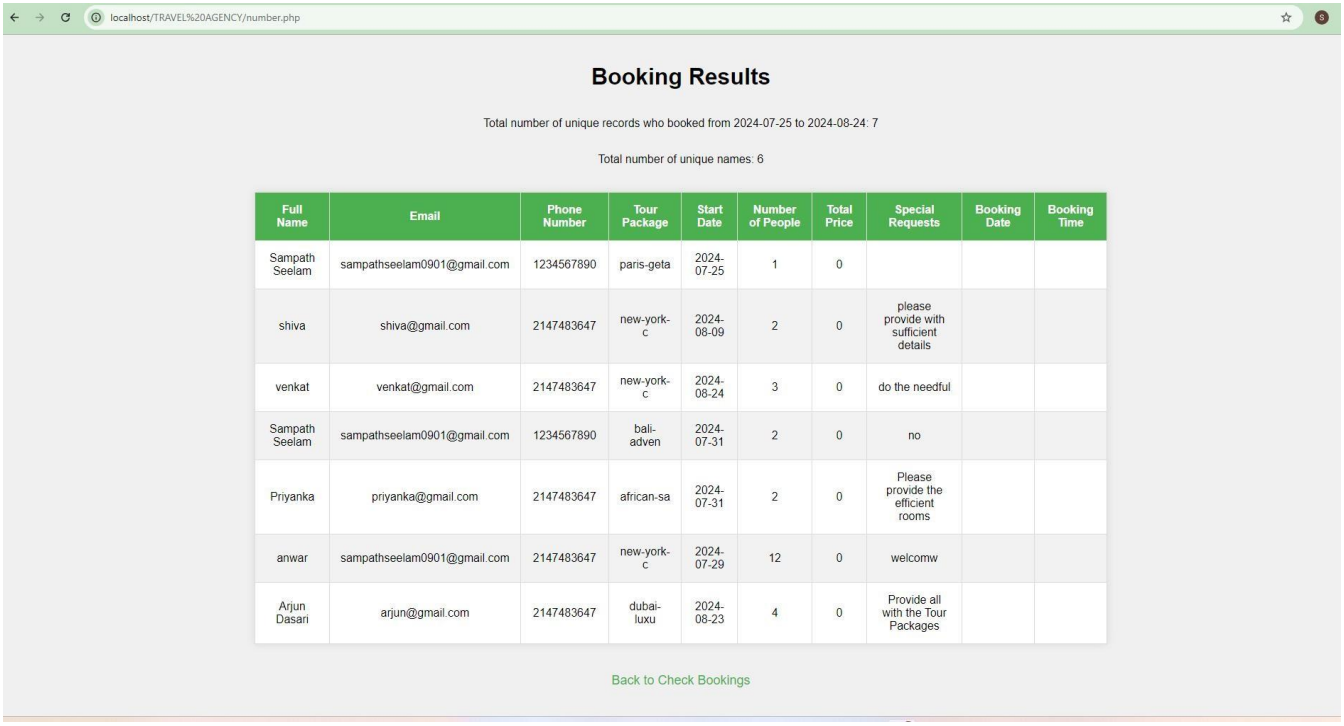


FIG .4: Report for number of members booked from selected dates

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