ONLINE BUS RESERVATION SYSTEM USING PHP

A report submitted in the partial fulfilment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE AND ENGINEERING

By

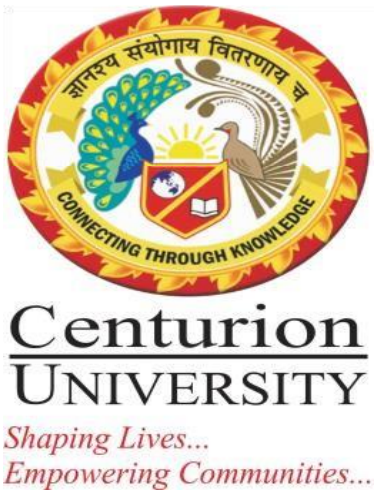
M. USHA SREE

(211801350019)

Under the esteemed guidance of

M. ASWINI KUMAR, M-Tech, (Ph.D.)

Assistant Professor



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CENTURION UNIVERSITY OF TECHNOLOGY AND MNAGEMENT
VIZIANAGARAM-535003, ANDHRA PRADESH,
INDIA

2022-2023

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT
VIZIANAGARAM-535003,
ANDHRA PRADESH, INDIA

CERTIFICATE

This is to certify that the Thesis/Dissertation work entitled **"ONLINE BUS RESERVATION SYSTEM USING PHP"** is a bonafide record prepared by **M. USHA SREE, 211801350019** during 2022-2023 in the partial fulfilment of the requirements for the award of the degree Bachelor of Technology in Computer Science and Engineering in the department of computer science and engineering, **Centurion University of Technology and Management Vizianagaram, Andhra Pradesh.** The results embodied in this project have not been submitted to any other University or Institute for the award of any degree or diploma.

Signature of the Guide

M. ASWINI KUMAR

Assist. Professor

Dept. of CSE

Head of the Department

R. LAKSHAMAN RAO

Assist. Professor&

Dept. of CSE

External Examiner

DECLARATION

I hereby solemnly declare that the work done on the project entitled "**ONLINE BUS RESERVATION SYSTEM USING PHP"** submitted to the department of computer science and engineering, **CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT**, **ANDHRA PRADESH.**, is prepared by me and was not submitted to any other institution for the award of any other degree.

Signature of the Candidate
M. USHA SREE
(211801350019)

Place:

Date:

ACKNOWLEDGEMENT

It is with at most pleasure and excitement we submit our project partial fulfillment of the requirement for the award of Bachelor of Technology.

The project is a result to the cumulate efforts, support, guidance, encouragement and inspiration from many of those for whom we have to give our truthful honor and express gratitude through bringing out this project at the outset as per our knowledge.

I convey my special thanks to our project **Guide Mr. M. ASWINI KUMAR, (Asst. Prof.)** who has guided, encouraged and tremendously supported me to enhance my knowledge with present working of this project to bring out enriching the quality of project.

I express my appreciativeness to **Mr. R. LAKSHMANA RAO (Asst. Prof.) and Head of the Department,** who facilitated us to providing the friendly environment which helped to enhance my skills in present project.

I would also like to extend my gratitude to **Dr. K. V. G. KRISHNA MURTHY, DeanSchool of Engineering and Technology, Centurion University of Technology and Management** who has helped us to attain all the requirements of the project.

I convey my sincere thanks to **Dr. RAMANA RAO, Ph. D Registrar of Centurion University of Technology and Management** who provided us with an opportunity to take on project work in wellequipped laboratories of Computer Science Department in our college.

At the outset, we thank to **Sri. G.S.N. RAJU**, beloved **Vice Chancellor of Centurion University of Technology and Management** who is the back bone by providing for completion of this project, Thank you sir.

M.USHA SREE

(211801350019)

ABSTRACTION

The online bus reservation system is a web-based application designed to facilitate the booking process for bus passengers. Its primary objective is to provide a convenient and efficient platform for users to search for bus routes, check seat availability, and make reservations online. The system employs various technologies, including PHP for server-side programming, HTML and CSS for the user interface, and a relational database management system for data storage and retrieval. The purpose of the system is to overcome the limitations of traditional manual bus reservation processes, such as long queues, limited accessibility, and the potential for errors. By offering an online platform, users can access the system anytime and from anywhere, providing them with flexibility and convenience. The system enables passengers to search for bus routes based on their preferences, view available seats in real-time, and secure their reservations with ease. the online bus reservation system offers a convenient and streamlined approach to bus ticket booking. By harnessing the power of web technologies, it provides users with a seamless and efficient platform to search for bus routes, check seat availability, and make reservations online. The system aims to revolutionize the bus reservation process, offering improved accessibility, reliability, and user satisfaction in the transportation industry.

TABLE OF CONTENTS

1.INTRODUCTION

The Online Bus Reservation System is a web-based application developed using PHP, which aims to provide a convenient and efficient way for users to book bus tickets online. In today's fast-paced world, where people are constantly on the move, an online reservation system for bus tickets offers significant advantages over traditional ticket booking methods. It eliminates the need for physical visits to bus terminals or travel agencies, saving time and effort for both users and bus operators.

The system allows users to search for available buses, view their schedules, choose preferred seats, and make secure online payments for their reservations. It provides a user-friendly interface that ensures a seamless and hassle-free booking experience. Users can access the system from any device with an internet connection, making it highly accessible and convenient.

The Online Bus Reservation System consists of several key modules. The user registration module enables users to create accounts and maintain their profiles, storing their personal details, contact information, and booking history. The bus management module allows bus operators to add and manage bus details, including routes, schedules, and seat availability. The reservation module handles the booking process, allowing users to search for buses based on their desired origin, destination, date, and time. Once the user selects a bus and seats, they can proceed to make secure online payments through integrated payment gateways. The system generates electronic tickets or booking confirmations that users can access and print for their reference.

Moreover, the system incorporates administrative functionalities, providing an admin panel for managing the overall system. The admin can manage user accounts, review and approve bus operator requests, view reservation details, generate reports, and handle any system-related configurations.

The Online Bus Reservation System leverages the power of PHP as a server-side scripting language, along with HTML, CSS, and JavaScript for the front-end development. It utilizes a backend database system, such as MySQL, to store and retrieve data efficiently.

1.2. Purpose of the Project

The purpose of an online bus reservation system is to simplify the bus ticket booking process, offer convenience and accessibility to users, save time, provide flexibility and choice, promote transparency and information sharing, ensure secure transactions, and enable efficient management for bus operators. By fulfilling these purposes, the system enhances the overall user experience and transforms the way bus tickets are booked.

1.3. Existing System & Disadvantages

The existing system of online bus reservation typically involves a web-based platform or mobile application that allows users to search for available buses, view their schedules, select seats, and make reservations. These systems provide an alternative to the traditional method of booking bus tickets in person at bus terminals or through travel agencies.

In the existing system, users access the online bus reservation platform through their internet-connected devices. They can search for buses based on their desired origin, destination, date, and time. The system provides a list of available buses that match the search criteria, along with their respective schedules, fares, and other relevant details.

Once users have selected a bus, they can proceed to choose their preferred seats from a seating layout. The system displays real-time seat availability, allowing users to make informed decisions. After seat selection, users are prompted to provide their personal details and contact information. Some systems may require user registration and login to proceed with the reservation.

Moreover, the existing systems may incorporate administrative features for bus operators. This includes a backend admin panel that enables bus operators to manage bus details, update schedules, monitor reservations, and generate reports for business analysis and decision-making.

Disadvantages

- This process can be time-consuming, especially during peak travel periods when long queues are common.
- Geographically limited as users need to physically visit the bus terminal or travel agency.
- Dependency on Working Hours
- Human errors during the booking process
- Lack real-time information about bus schedules, seat availability, or changes in routes.
- Have limited payment options, primarily cash-based transactions.
- Making modifications or cancellations to reservations in a manual system can be challenging.

1.4. Proposed System & It's Advantages:

Proposed System

online bus reservation system aims to enhance the booking experience for users by offering accessibility, convenience, and real-time information. It aims to simplify the process, save time, and improve efficiency for both users and bus operators. By providing a user-friendly interface, secure transactions, and administrative control, the proposed system seeks to revolutionize the way bus tickets are reserved, making it a preferred choice for users and bus operators alike.

Additionally, the system will provide administrative features for bus operators, allowing them to manage bus details, update schedules, and monitor reservations through an admin panel. This will enable efficient management of the bus services, ensuring accurate and up-to-date information for users.

Advantages:

- Convenience: Users can conveniently book bus tickets anytime and from anywhere using their internet-connected devices.
- Time-saving: The online system reduces the time required for booking by eliminating the need to visit physical locations or stand in long queues.
- Accessibility: Users can access the system from any location, overcoming geographical constraints and providing access to a wider user base.
- Real-time Information: Users can view real-time bus schedules, seat availability, and fares, enabling them to make informed decisions.
- Seat Selection: The system allows users to select their preferred seats from an interactive seating layout, enhancing the booking experience.
- Secure Transactions: Online payment gateways ensure the security of financial transactions, protecting users' personal and payment information.
- Flexibility: Users have the flexibility to modify or cancel their reservations online, reducing the hassle and providing greater control over their bookings.

- Multiple Payment Options: The system supports various payment methods, including credit cards, debit cards, and digital wallets, catering to user preferences.
- Electronic Tickets: Users receive electronic tickets or booking confirmations via email or within their user accounts, eliminating the need for physical tickets.

2.ABOUT PROGRAMMING LANGUAGES

PHP: PHP is used as the primary server-side programming language. It handles the backend logic of the system, such as processing user requests, interacting with databases, and generating dynamic web content. PHP is responsible for tasks like user authentication, seat availability checks, reservation management, and integrating with external payment gateways.

HTML: HTML is used to structure the web pages of the reservation system. It defines the layout, content, and structure of the user interface. HTML is responsible for creating forms for user input, displaying information about bus schedules, seat selection, and presenting the overall visual structure of the system's web pages.

CSS: CSS is used to style and format the web pages of the reservation system. It defines the colors, fonts, layouts, and other visual aspects of the user interface. CSS helps in creating an attractive and consistent appearance across different pages of the system.

JavaScript: JavaScript is used for client-side scripting, adding interactivity and enhancing the user experience. It is used to handle events, perform form validation, dynamically update content, and interact with the server-side components through AJAX calls. JavaScript can also be used to implement features like autocomplete search, dynamic seat selection, and real-time updates.

SQL: SQL is used to interact with the database management system (DBMS) and perform database operations. It is used for creating, querying, updating, and deleting data from database tables. SQL is essential for managing user information, bus schedules, seat availability, reservations, and other related data.

Ajax: Ajax (Asynchronous JavaScript and XML) is a combination of JavaScript, XML, and server-side programming. It is used to create asynchronous web applications that can send and receive data in the background without refreshing the entire page. Ajax is commonly used to fetch bus schedules, check seat availability, and update reservation information without interrupting the user's browsing experience.

These programming languages work together to create a functional and interactive online bus reservation system. They handle different aspects of the system, including user interface design, data processing, server-side logic, database management, and client-side interactivity. The combination of these programming languages enables the system to provide a seamless and user-friendly booking experience for customers.

3.SYSTEM ANALYSIS

3.1. Study Of The System

To provide flexibility to the users, the interfaces have been developed that are accessible through a browser. The GUI'S at the top level have been categorized as

1. Administrative user interface

2. The operational or generic user interface

The 'administrative user interface' concentrates on the consistent information that is practically, part of the organizational activities and which needs proper authentication for the data collection. These interfaces help the administrators with all the transactional states like Data insertion, Data deletion and Date updation along with the extensive data search capabilities.

The 'operational or generic user interface' helps the end users of the system in transactions through the existing data and required services. The operational user interface also helps the ordinary users in managing their own information in a customized manner as per the included flexibilities

3.2. Input & Output Representation

Input design is a part of overall system design.

The main objective during the input design is as given below:

• To produce a cost-effective method of input.

• To achieve the highest possible level of accuracy.

• To ensure that the input is acceptable and understood by the user.

Input Stages:

The main input stages can be listed as below:

• Data recording

• Data transcription

• Data conversion

4.ABOUT THE PROJECT

User Registration and Login: The system allows users to create an account and securely log in. Registered users can access personalized features, manage their bookings, and view their booking history.

Bus Route Search: Users can search for bus routes based on their desired departure and destination locations. The system provides a comprehensive database of bus routes, allowing users to find the most convenient options.

Seat Availability: The system displays real-time seat availability for each bus route. Users can view the available seats and select their preferred ones.

Booking and Payment: Users can make online reservations by selecting the desired bus, date, and seats. The system integrates secure payment gateways to enable users to make payments conveniently and receive e-tickets upon successful completion of the transaction.

Reservation Management: The system allows users to manage their reservations, including modifying booking details, canceling reservations, or rescheduling their travel dates (if permitted).

Bus Schedule Management: The system provides administrative functionalities to manage bus schedules. Bus operators can add, edit, or delete bus routes, set departure and arrival times, and update other relevant information.

User Notifications: The system sends automated notifications to users regarding their booking status, reservation updates, and any changes to the bus schedule.

Seat Selection: Users can select their preferred seats from the available options. The system may display a visual representation of the bus layout, allowing users to choose seats conveniently.

Fare Calculation: The system calculates the fare based on factors such as the distance traveled, the type of bus, and any applicable discounts or promotions.

Reporting and Analytics: The system generates reports and analytics for bus operators, providing insights into booking trends, seat occupancy rates, revenue generated, and other key metrics.

User Feedback and Ratings: The system may include a feature for users to provide feedback and ratings based on their travel experience. This can help bus operators improve their services and maintain customer satisfaction.

5.SYSTEM REQUIREMENTS AND SPECIFICATIONS

5.1. Hardware Requirements

- Processor : Pentium-III (or) Higher
  - RAM :64MB (or) Higher
  - Cache :512MB
  - Hard disk :10GBSOFTWARE COMPONENTS

5.2. Software Requirements

- Operating System : Windows Family or higher version
- Techniques : JDK 1.7
- Data Bases : MySQL
- Server : Apache Tomcat

6.IMPLEMENTATION

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
    <meta name="description" content="">
    <meta name="author" content="">
    <title>Admin Login</title>
    <!-- Custom fonts for this template-->
    <link href="<?= base_url() ?>assets/backend/vendor/fontawesome-free/css/all.min.css" rel="stylesheet" type="text/css">
    <link
    href="https://fonts.googleapis.com/css?family=Nunito:200,200i,300,300i,400,400i,600,600i,700,700i,800,800i,900,900i"
        rel="stylesheet">
    <script src="https://unpkg.com/sweetalert/dist/sweetalert.min.js"></script>
    <!-- Custom styles for this template-->
    <link href="<?= base_url() ?>assets/backend/css/sb-admin-2.min.css" rel="stylesheet">
</head>
<body class="bg-gradient-info">
    <div class="container">
        <!-- Outer Row -->
        <div class="row justify-content-center">
            <div class="col-xl-5 col-lg-12 col-md-9">
                <div class="card o-hidden border-0 shadow-lg my-5">
                    <div class="card-body p-0">
```

```
                                        <!-- Nested Row within Card Body -->
                                        <div class="row justify-content-center">
                                            <div class="col-lg-11">
                                                <div class="p-5">
                                                    <div class="text-center">
<h1 class="h4 text-gray-900 mb-4"><i class="fas fa-bus"></i> Admin Login Panel</h1>
                                                    </div>
<form class="user" method="post" action="<?= base_url('backend/login/cekuser') ?>">
<div class="form-group">
<input required="" type="text" class="form-control form-control-user" name="username"
aria-describedby="emailHelp" placeholder="Username">
        </div>
 <div class="form-group">
<input required="" type="password" class="form-control form-control-user"
name="password" placeholder="Password"></div>
<button type="submit" class="btn btn-success btn-block">Login</button>
<!--  <hr>
                <a href="index.html" class="btn btn-google btn-user btn-block">
                  <i class="fab fa-google fa-fw"></i> Login with Google  </a>
                <a href="index.html" class="btn btn-facebook btn-user btn-block">
                  <i class="fab fa-facebook-f fa-fw"></i> Login with Facebook
                </a> --></form><hr>
<!-- <p align="center" class="login-box-msg">Your IP : <?= $ipaddres; ?></p> -->
                                                    </div>
                                                </div>
                                            </div>
                                        </div>
                                    </div>
                                </div>
                            </div>
                        </div>
```

```
        <!-- Bootstrap core JavaScript-->
        <?= "<script>".$this->session->flashdata('message')."</script>"?>
        <script src="<?= base_url() ?>assets/backend/vendor/jquery/jquery.min.js"></script>
        <script src="<?= base_url()
?>assets/backend/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>
        <!-- Core plugin JavaScript-->
        <script src="<?= base_url() ?>assets/backend/vendor/jquery-
easing/jquery.easing.min.js"></script>
        <!-- Custom scripts for all pages-->
        <script src="<?= base_url() ?>assets/backend/js/sb-admin-2.min.js"></script>
</body>


</html>



<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
    <meta name="description" content="">
    <meta name="author" content="">
    <title><?= $title ?></title>
    <!-- css -->
    <?php $this->load->view('backend/include/base_css'); ?>
  </head>
  <body id="page-top">
    <!-- navbar -->
    <?php $this->load->view('backend/include/base_nav'); ?>
    <!-- Begin Page Content -->
```

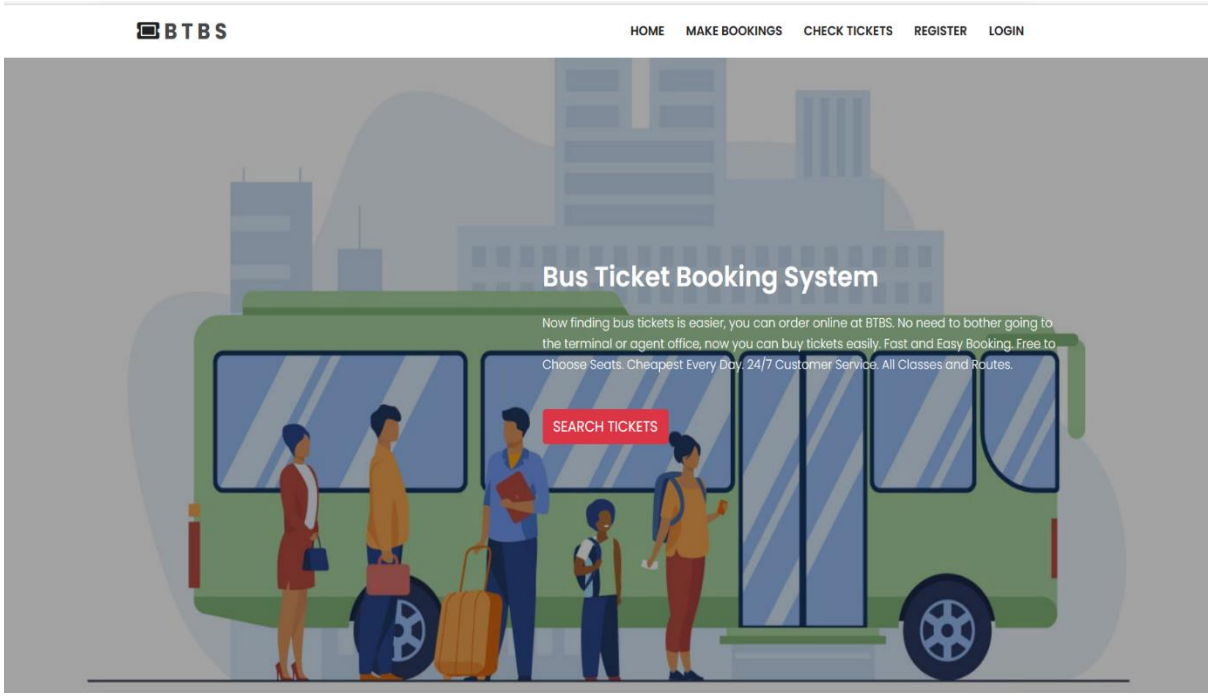
```
<div class="container-fluid">

  <!-- DataTales Example -->
  <!-- Log on to codeastro.com for more projects -->
  <div class="card shadow mb-4">
    <div class="card-header py-3">
    <h1 class="h5 text-gray-800">Booking List</h1>
    </div>
    <div class="card-body">

      <div class="table-responsive">
        <table class="table table-bordered table-hover" id="dataTable" width="100%" cellspacing="0">
          <thead class="thead-dark">
            <tr>
              <th>#</th>
              <th>Code</th>
              <th>Schedule Code</th>
              <th>Departure Date</th>
              <th>Customer</th>
              <th>Purchase Date</th>
              <th>Ticket Qty.</th>
              <th>Status</th>
              <th>Action</th>
            </tr>
          </thead>
          <tbody>
            <?php $i=1;foreach ($order as $row) { ?>
              <tr>
                <td><?= $i++; ?></td>
                <td><?= $row['kd_order']; ?></td>
```

```
                <td><?= $row['kd_jadwal']; ?></td>
                <td><?= hari_indo(date('N',strtotime($row['tgl_berangkat_order']))).',
'.tanggal_indo(date('Y-m-d',strtotime(".$row['tgl_berangkat_order'].")));?></td>
                <td><?= $row['nama_order']; ?></td>
                <td><?= $row['tgl_beli_order']; ?></td>
                <?php $sqlcek = $this->db->query("SELECT * FROM tbl_order WHERE
kd_order LIKE '".$row['kd_order']."'")->result_array(); ?>
                <td><?= count($sqlcek); ?></td>
                <?php if ($row['status_order'] == '1') { ?>
                    <td class="btn-danger"> Unpaid</td>
                    <?php } elseif($row['status_order'] == '2') { ?>
                    <td class="btn-success"> Paid</td>
                  <?php } else { ?>
                    <td class="btn-warning"> Cancelled</td>
                    <?php } ?>
                <td><a href="<?= base_url('backend/order/vieworder/'.$row['kd_order']) ?>"
class="btn btn btn-info">View</a></td>
              </tr>
             <?php } ?>
          </tbody>
        </table>
      </div>
    </div>
  </div>
  <!-- /.container-fluid -->
 </div>
 <!-- /.container-fluid -->
</div>
<!-- End of Main Content -->
<!-- Footer -->
<?php $this->load->view('backend/include/base_footer'); ?>
```

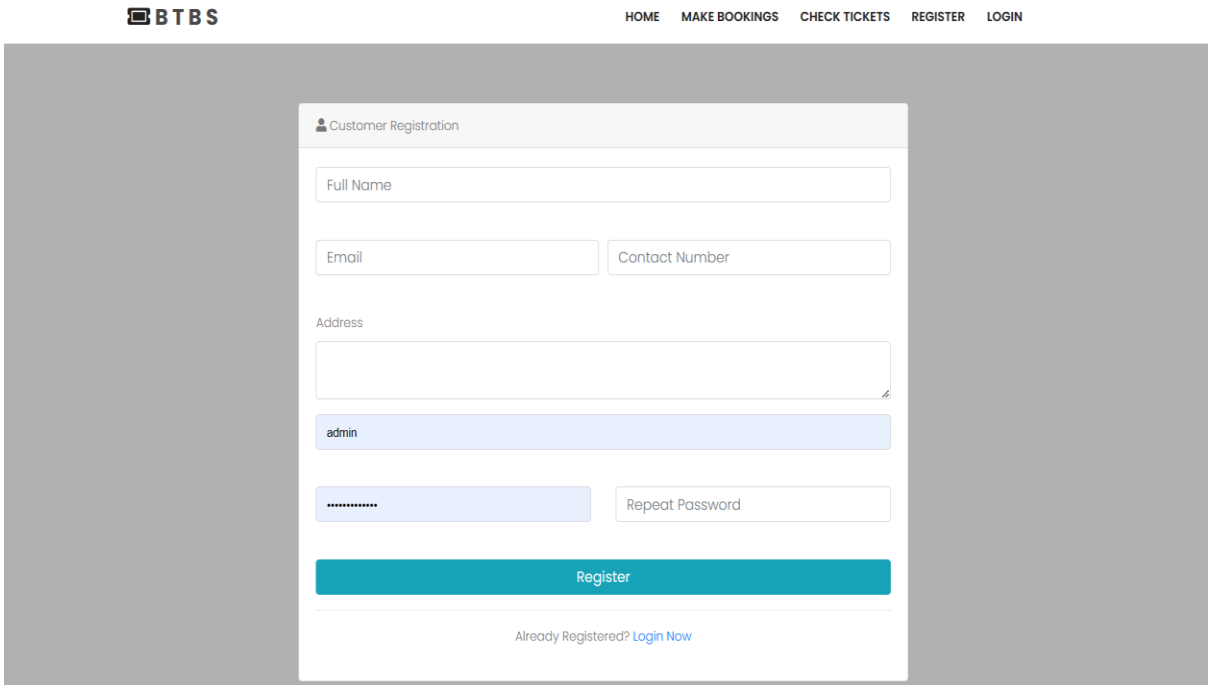
```
<!-- End of Footer -->
</div>
<!-- End of Content Wrapper -->
</div><!-- Log on to codeastro.com for more projects -->
<!-- End of Page Wrapper -->
<!-- Scroll to Top Button-->
<a class="scroll-to-top rounded" href="#page-top">
<i class="fas fa-angle-up"></i>
</a>
<!-- js -->
<?php $this->load->view('backend/include/base_js'); ?>
</body>
</html>
```

7.OUTPUTS

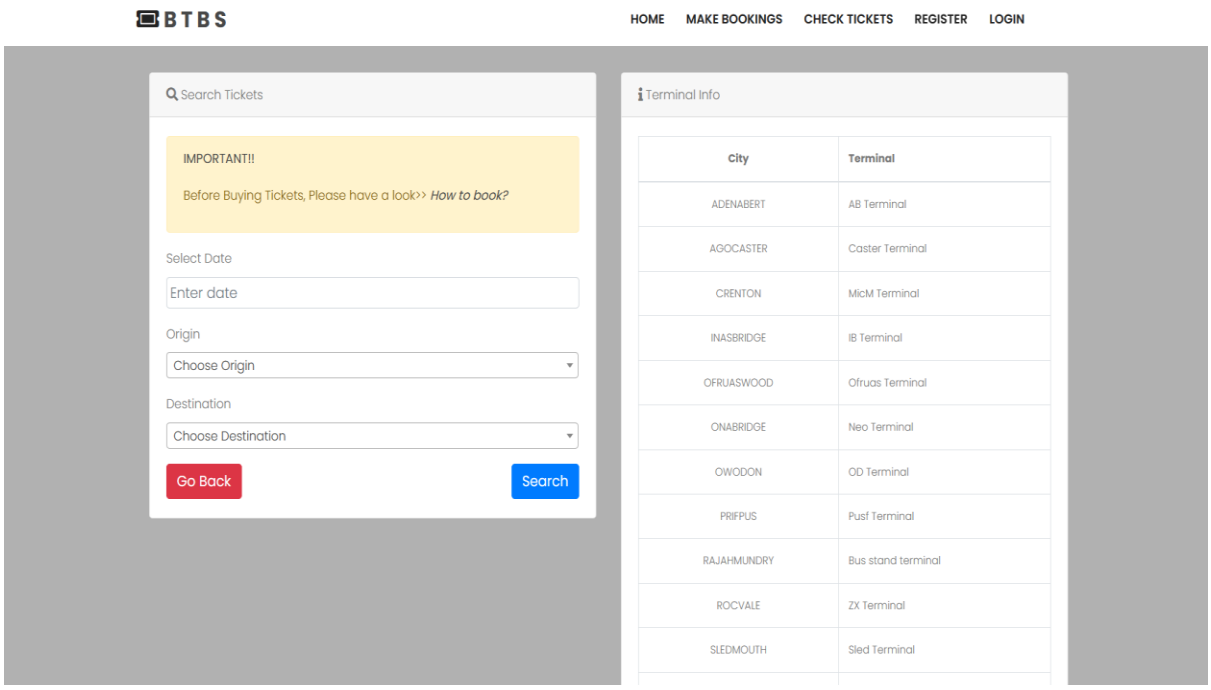
Home pages:



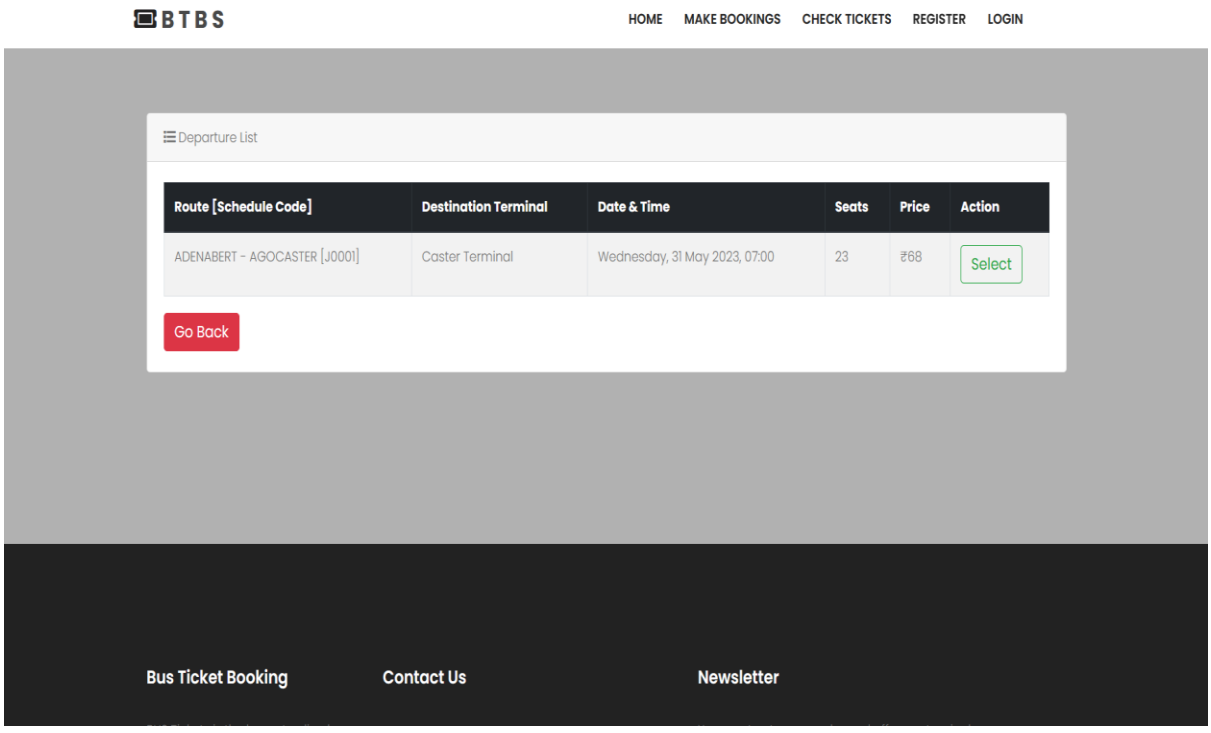
Login page:



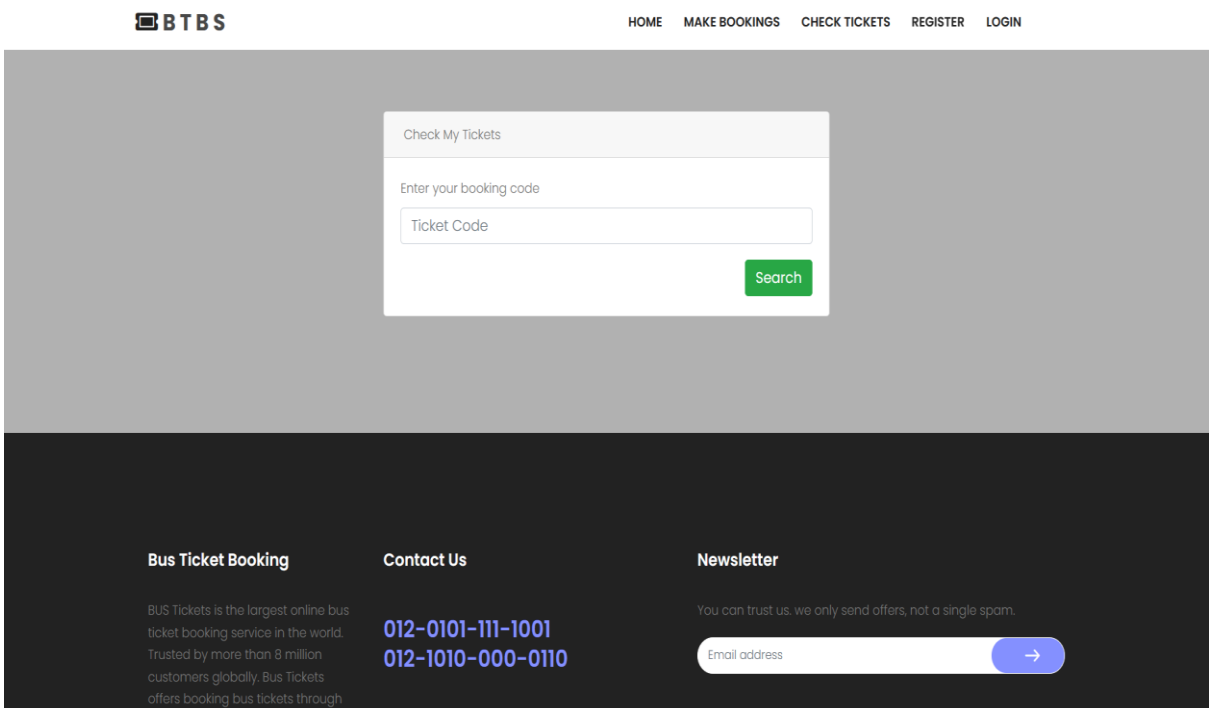
Search Tickets:



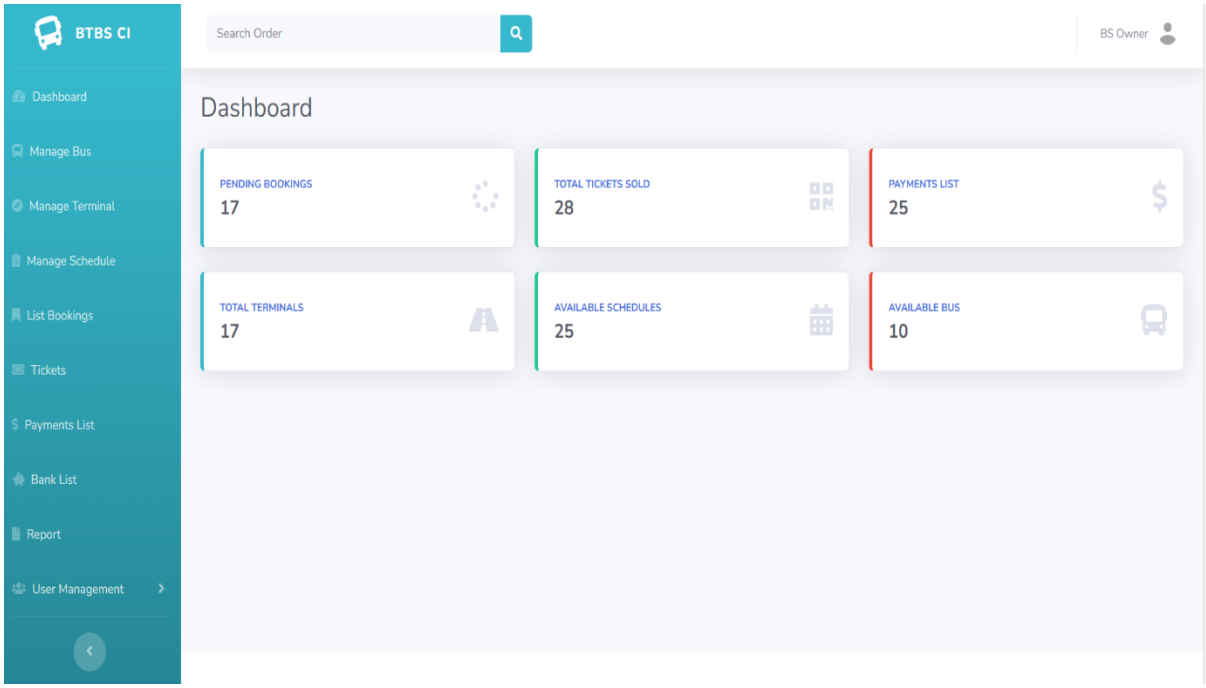
Selected location:



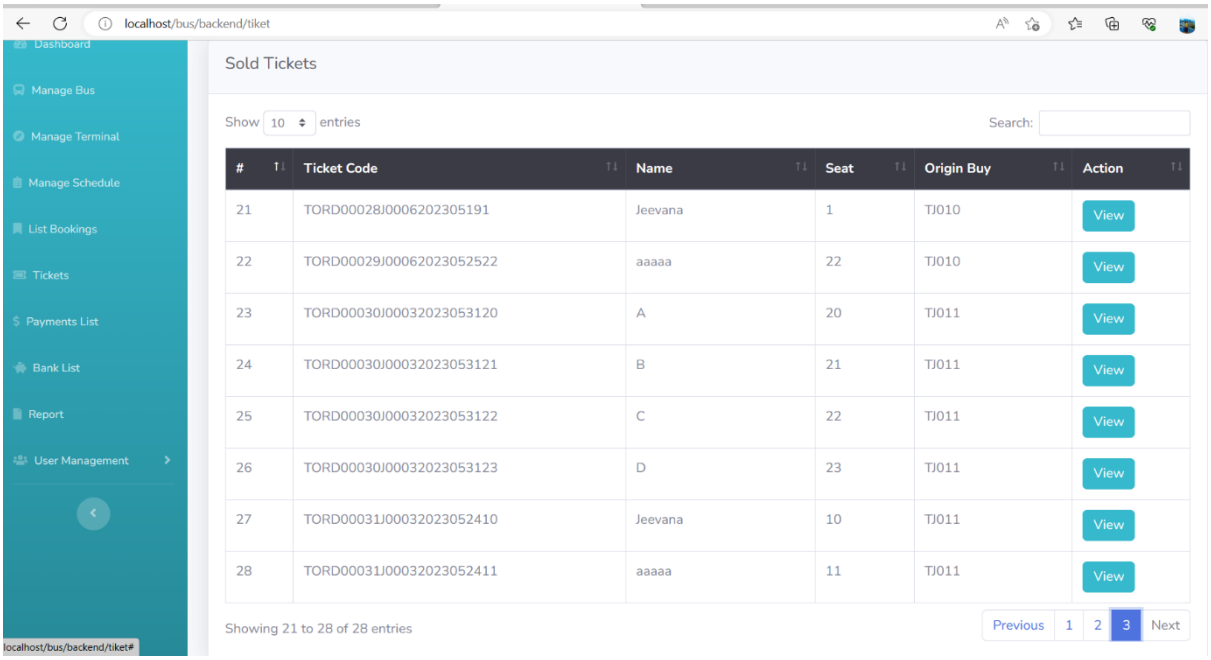
Check Tickets:



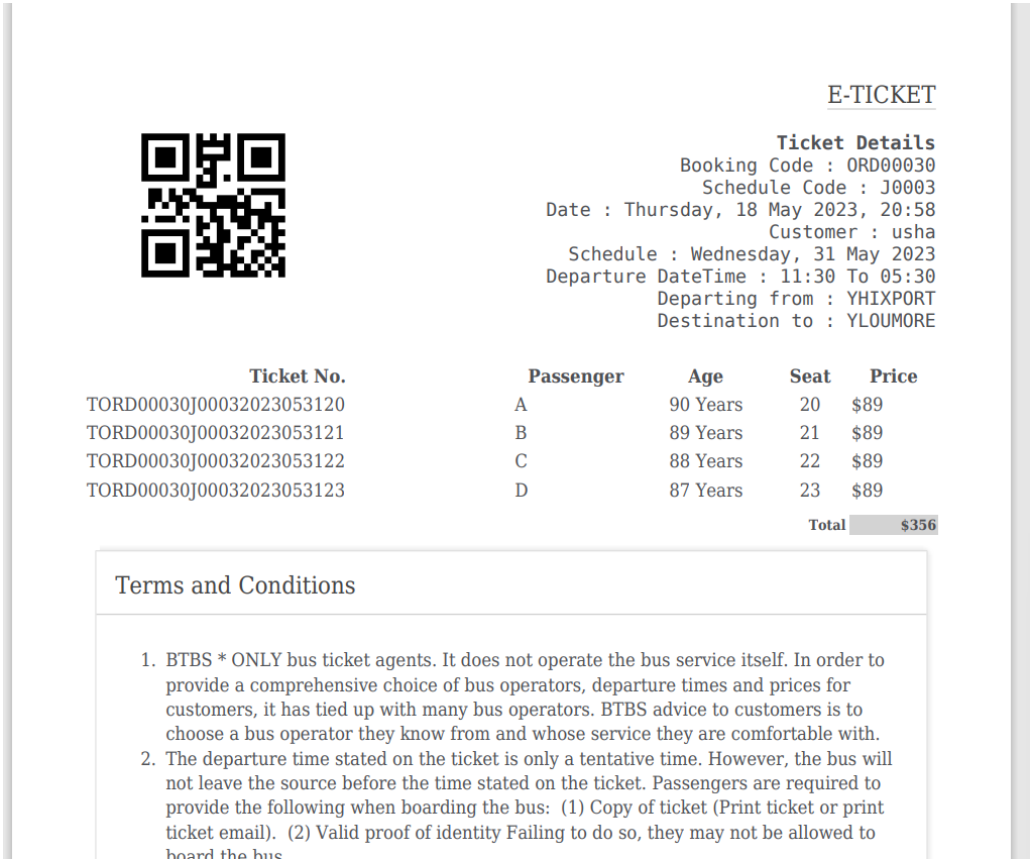
Dashboard :



Tickets list in admin pages:



Ticket:



E-TICKET

Ticket Details
Booking Code : ORD00030
Schedule Code : J0003
Date : Thursday, 18 May 2023, 20:58
Customer : usha
Schedule : Wednesday, 31 May 2023
Departure DateTime : 11:30 To 05:30
Departing from : YHIXPORT
Destination to : YLOUMORE

Ticket No.	Passenger	Age	Seat	Price
TORD00030J00032023053120	A	90 Years	20	$89
TORD00030J00032023053121	B	89 Years	21	$89
TORD00030J00032023053122	C	88 Years	22	$89
TORD00030J00032023053123	D	87 Years	23	$89
			Total	$356

Terms and Conditions

1. BTBS * ONLY bus ticket agents. It does not operate the bus service itself. In order to provide a comprehensive choice of bus operators, departure times and prices for customers, it has tied up with many bus operators. BTBS advice to customers is to choose a bus operator they know from and whose service they are comfortable with.
2. The departure time stated on the ticket is only a tentative time. However, the bus will not leave the source before the time stated on the ticket. Passengers are required to provide the following when boarding the bus: (1) Copy of ticket (Print ticket or print ticket email). (2) Valid proof of identity Failing to do so, they may not be allowed to board the bus

8.SYSTEM TESTING

8.1. Software Testing

Testing is a process, which reveals errors in the program. It is the major quality measure employed during software development. During software development. During testing, the program is executed with a set of test cases and the output of the program for the test cases is evaluated to determine if the program is performing as it is expected to perform.

8.2 Testing Methodologies

In order to make sure that the system does not have errors, the different levels of testing strategies that are applied at differing phases of software development are:

Unit Testing:

Unit Testing is done on individual modules as they are completed and become executable. It is confined only to the designer's requirements. Each module can be tested using the following two Strategies:

Black Box Testing:

In this strategy some test cases are generated as input conditions that fully execute all functional requirements for the program. This testing has been uses to find errors in the following categories:

• Incorrect or missing functions

• Interface errors

• Errors in data structure or external database access

• Performance errors

• Initialization and termination errors.

White Box testing:

In this the test cases are generated on the logic of each module by drawing flow graphs of that module and logical decisions are tested on all the cases. It has been uses to generate the test cases in the following cases:

• Guarantee that all independent parts have been executed.

• Execute all logical decisions on their true and false Sides.

• Execute all loops at their boundaries and within their operational bounds

• Execute internal data structures to ensure their validity.

Integrating Testing:

Integration testing ensures that software and subsystems work together a whole.

It tests the interface of all the modules to make sure that the modules behave properly when integrated together.

System Testing:

Involves in-house testing of the entire system before delivery to the user. Its aim is to satisfy the user the system meets all requirements of the client's specifications. Acceptance Testing: It is a pre-delivery testing in which entire system is tested at client's site on real world data to find errors.

9.CONCLUSION

In conclusion, the implementation of a bus reservation system using PHP and MySQL has significant advantages over traditional manual booking systems. The system enables passengers to book bus tickets online, saving time and effort, while providing bus operators with a streamlined method of managing their operations. The system allows passengers to easily search for available buses, view schedules, choose seats, and make payments online. This provides a hassle-free booking experience, eliminating the need for physical queues and making travel more accessible. enables the system to be scalable, secure, and reliable. The system's data can be easily backed up, and it can be customized to meet specific business requirements.