## SIMATS ENGINEERING

**SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES**

**CHENNAI-602105**

**TRAVELBUDDY.com – The One-Stop Travel Booking Platform**

## A CAPSTONE PROJECT REPORT

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

# BACHELOR OF ENGINEERING

## IN

**COMPUTER SCIENCE AND ENGINEERING**

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**NOVEMBER 2024**

# DECLARATION

We,**T.Nithin Babu , S.Shashank, L.Lava kumar Naidu**, students of **Bachelor of Engineering in the Department** of Computer Science and Engineering, Saveetha Institute of Medical and Technical Sciences, Simats Engineering, Chennai, hereby declare that the work presented in this Capstone Project Work entitled **TRANSPORTBUDDY.COM Transport buddy – Transport 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.

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# CERTIFICATE

This is to certify that the project entitled **“**entitled **TRANSPORTBUDDY.COM Transport buddy – Transport Booking System”** submitted by **T.Nithin Babu , S.Shashank, L.Lava kumar Naidu**,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.

Teacher-in-charge

Dr. K. Jayasakthi Velmurugan

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**Abstract**

TRAVELBUDDY.com is designed to be a comprehensive travel booking platform, aiming to simplify and streamline the travel planning process for users. In today's fast-paced world, the need for a unified platform that caters to a wide range of travel-related services is greater than ever. TRAVELBUDDY.com addresses this by offering an all-in-one solution where users can book flights, trains, buses, and accommodation, as well as access essential travel information with ease. The primary objective of TRAVELBUDDY.com is to enhance the user experience by integrating multiple travel services under one cohesive platform. Users can seamlessly browse options, compare prices, and make informed decisions, all from the convenience of a single website. The platform’s intuitive design and user-friendly interface are tailored to cater to a wide demographic, from frequent travelers to those planning occasional trips.

Safety and data security are also paramount, with the platform incorporating robust security measures to protect user data. The platform’s database, named "capstone," ensures that all user interactions, including registration, login, and payment details, are securely managed. Advanced search and filtering options allow users to tailor their search results to match specific criteria, such as travel dates, budget, and preferred travel times, making planning efficient and hassle-free. Furthermore, TRAVELBUDDY.com goes beyond just booking services by providing users with valuable travel tips, insights, and a dedicated customer support service to assist with any inquiries or issues. This holistic approach not only saves time but also enhances the overall travel experience, positioning TRAVELBUDDY.com as a reliable partner in travel planning. Our platform aims to simplify travel planning by providing an all-in-one solution for booking flights, trains, and buses. This approach eliminates the need for using multiple websites, saving users time and effort. With an intuitive interface and personalized recommendations, users can easily compare options, choose the most suitable travel modes, and make bookings seamlessly. The platform is designed to enhance user experience, improve efficiency, and make travel planning a straightforward and enjoyable process. Secure transactions and reliable performance ensure a trustworthy service, making the entire travel booking journey stress-free.

In conclusion, TRAVELBUDDY.com aims to redefine convenience in travel booking by consolidating essential services into one platform, empowering users with seamless, efficient, and secure travel arrangements. The project's focus on user experience, data safety, and comprehensive service offerings aligns with the evolving needs of the modern traveler, ensuring TRAVELBUDDY.com stands out as the go-to platform for all travel requirements.

**Introduction**

TRAVELBUDDY.com is envisioned as a cutting-edge travel booking platform that brings together various travel services into one seamless and user-friendly interface. In an era where convenience and efficiency are paramount, this platform aims to revolutionize the way users plan their trips. With the capability to book flights, trains, buses, and accommodation, TRAVELBUDDY.com provides users with an integrated solution that saves time and effort, eliminating the need to visit multiple sites or apps. This centralized approach ensures that users have access to the best deals and options tailored to their needs, making travel planning simpler and more accessible. The platform is designed with user experience at its core, featuring an intuitive layout that guides users effortlessly through the booking process. TRAVELBUDDY.com is built to cater to a diverse audience, from business travelers seeking quick arrangements to families planning vacations. Enhanced search filters, real-time availability updates, and competitive pricing empower users to make well-informed decisions. Security and data protection are also prioritized, with robust measures in place to safeguard personal information and payment details, ensuring a trustworthy experience.

Beyond bookings, TRAVELBUDDY.com offers an array of additional resources that enrich the travel experience. Users can access practical travel tips, explore destination guides, and reach out to a responsive customer support team for assistance. This commitment to comprehensive service positions TRAVELBUDDY.com as more than just a booking platform—it is a reliable partner that accompanies travelers every step of the way, ensuring peace of mind and an enjoyable journey from start to finish.TRAVELBUDDY.com stands out not only for its comprehensive offerings but also for its commitment to incorporating modern technology to enhance functionality. The platform leverages advanced algorithms and machine learning to provide personalized recommendations based on user preferences and travel history. This feature helps travelers discover unique destinations, tailored itineraries, and cost-effective travel plans that align with their specific interests and budget. With this level of customization, users experience a heightened sense of convenience and engagement, making travel planning both inspiring and efficient.

Furthermore, TRAVELBUDDY.com is designed with adaptability in mind, ensuring that users can access the platform across various devices—from desktops to mobile phones. This cross-platform compatibility means users can book or modify their travel plans anytime, anywhere, offering maximum flexibility. The inclusion of seamless payment integrations with multiple options allows for hassle-free transactions. TRAVELBUDDY.com also collaborates with trusted travel partners and service providers, guaranteeing high-quality service and competitive prices. This dedication to quality and innovation reinforces TRAVELBUDDY.com’s mission: to become the ultimate, one-stop travel companion for modern travelers seeking reliability and simplicity.

**PROBLEM DESCRIPTION**

The primary goal of this project is to create an integrated online travel booking platform that serves as a comprehensive solution for travelers seeking convenience and efficiency in booking their trips. The platform, TRAVELBUDDY.com, addresses several challenges commonly faced in the travel industry, such as fragmented service providers, user authentication issues, real-time availability updates, and seamless payment processing. By tackling these obstacles, TRAVELBUDDY.com aims to deliver a one-stop travel booking solution that supports multiple modes of transport and accommodations under one cohesive system.

In recent years, the demand for unified travel booking platforms has increased as travelers look for simpler, more reliable solutions to plan their journeys. However, many existing systems lack full integration or fall short in providing a smooth, user-centric experience. This project seeks to bridge these gaps by building a platform with a user-friendly design and robust backend, ensuring a secure, efficient, and scalable system that caters to both regular travelers and first-time users. This initiative leverages cutting-edge technology, focusing on reliability and comprehensive services.

**Project Objectives:**

**1. Streamlined User Experience:** Develop an intuitive and responsive user interface that allows users to browse and book flights, trains, and buses effortlessly. The platform will feature a straightforward layout to enhance user interaction, providing a seamless experience across all devices.

**2. Centralized Booking Management:** Implement a system that enables users to create accounts, save travel preferences, and manage bookings within a single dashboard, thus enhancing organization and ease of use.

**3. Real-Time Data Integration:** Ensure that the platform integrates with external APIs to deliver real-time availability and pricing updates. This feature will provide users with accurate and up-to-date information for planning their travel.

**4. Secure and Transparent Payment Processing:** Integrate multiple secure payment options, including credit card, digital wallets, and net banking, to guarantee a trustworthy transaction experience for users.

**5. Scalable Backend Infrastructure:** Utilize a scalable server architecture that can handle high traffic and data loads, ensuring that the platform remains fast and responsive even during peak usage times.

**6. Personalized Recommendations:** Incorporate a system that uses user data and travel history to suggest personalized travel options and special offers, enriching the user experience and encouraging repeat visits. Problem Description

**TOOLS:**

TRAVELBUDDY.com leverages a range of cutting-edge tools and technologies to create an efficient and reliable platform. The MERN stack (MongoDB, Express.js, React.js, and Node.js) forms the backbone of the application, ensuring a robust and scalable solution. APIs are integrated for real-time booking information, payment gateways, and location services, enhancing user experience. Responsive design frameworks like Bootstrap make the interface adaptable to various devices, ensuring mobile and desktop usability. Security measures include encryption, secure user authentication, and firewall protocols for data protection. Git is employed for version control, facilitating collaborative development, while testing tools like Jest and Selenium ensure quality through rigorous testing.

**USER INTERFACE:**

TRAVELBUDDY.com is crafted to deliver an easy-to-navigate and comprehensive user experience for travel planning and booking. The interface ensures that users, whether experienced or new to online platforms, can effortlessly access and utilize the site’s functionalities. Key aspects include:

1. **Clean and Structured Layout:** Information is presented in a well-organized manner, ensuring that booking options and navigation elements are readily available and straightforward to use.
2. **Consistent Visual Design:** The platform maintains a cohesive look with a unified color palette, fonts, and iconography for an appealing and professional experience.
3. **Responsive Adaptation:** TRAVELBUDDY.com is optimized to function seamlessly on various devices, from desktops to tablets and smartphones, maintaining functionality and usability.
4. **User Dashboard:** Personalized dashboards allow users to view and manage their bookings, save preferences, and access trip histories.

**FEATURES:**

TRAVELBUDDY.com provides a comprehensive suite of features to cater to a wide range of travel needs, including:

1. **Comprehensive Search and Booking Options**: Users can search for bus, flight, or train services, utilizing filters like departure time, cost, and travel class for tailored results.
2. **Real-Time Updates:** The platform ensures users receive up-to-date information on availability, schedules, and pricing changes for informed decision-making.
3. **Secure Account Management:** Advanced security protocols, such as multi-factor authentication, safeguard user data and ensure secure logins and registrations.
4. **Multiple Payment Methods:** Payments are processed through secure channels with options such as credit/debit cards, e-wallets, and direct bank transfers.
5. **Customer Support:** A combination of an AI-powered chatbot and human agents provides 24/7 assistance for queries and issues.

These elements position TRAVELBUDDY.com as a comprehensive travel booking platform that simplifies the process of planning journeys and managing travel details efficiently.

**Operations:**

1. Customer Interaction: Users visit the platform (website or app) to search for and book travel options, such as flights, trains, or buses. They select their preferred dates, times, and travel options. The process is designed to be intuitive and user-friendly, ensuring customers can complete bookings quickly and effortlessly.

2. Booking Processing: The system checks for the availability of the selected travel options, processes the booking, and updates the database in real-time. This ensures that all bookings are accurately recorded and the availability status is current.

3. Confirmation and Notification: After a booking is made, customers receive a confirmation via email or SMS. This serves as a record of the booking and provides assurance to the user. Notifications may also include travel details and any necessary reminders before the travel date.

4. Admin Management: Travel administrators use a dedicated dashboard to view, manage, and oversee incoming bookings. The dashboard allows for adjustments, such as handling cancellations or modifying schedules. This helps administrators optimize capacity and manage bookings efficiently.

5. Data Analytics: The system provides insights into user booking trends, peak travel times, and popular travel routes. These analytics help administrators make data-driven decisions, optimize pricing strategies, and improve service offerings based on user preferences and behavior.

6. User Profile Management: Users can create accounts to manage their bookings, track past trips, and view upcoming travel. This feature enhances the customer experience by providing a centralized view of all their travel plans.

7. Secure Payment Processing: The platform integrates secure payment gateways to handle transactions, offering multiple payment options to suit different user needs. This ensures a smooth and safe payment experience for customers.

8. Customer Support and Assistance: A support system is available to help users with queries, booking modifications, or cancellations. This ensures a high level of customer satisfaction by providing assistance throughout the booking process.

Travel Buddy’s operations are designed to streamline and enhance the travel booking experience. The platform allows users to easily search for and book flights, trains, and buses through an intuitive interface, ensuring a smooth and user-friendly interaction. Real-time booking processing verifies availability and updates the database instantly, preventing conflicts and ensuring accuracy. Users receive immediate booking confirmations via email or SMS, providing assurance and key travel details. The administrative dashboard enables efficient management of bookings, handling of cancellations, and optimization of travel schedules. Data analytics within the system provide insights into booking trends and user behavior, helping improve service and inform strategic decisions.

**Approach:**

Travel Buddy aims to be an all-in-one solution for travelers looking to plan their trips with minimal effort. The platform focuses on delivering an intuitive and integrated user experience by allowing customers to book flights, trains, and bus services from a single, easy-to-use interface. The approach prioritizes seamless navigation, real-time data synchronization, and personalized user interactions to make the travel planning process quick and efficient. With a commitment to data security, the platform ensures that users can book with confidence, knowing their information is protected.

**Module Description:**

1. User Authentication Module:

* Registration/Login System: Users can sign up using their email or social media accounts, ensuring quick and secure access.
* Profile Management: Users can update their contact information, travel preferences, and view past bookings.

2. Search and Booking Module:

* Unified Search Engine: Combines results for flights, trains, and buses based on user input, with options for one-way, round-trip, or multi-city bookings.
* Real-Time Data Integration: Connects with travel providers to show current seat availability, schedules, and prices.
* Booking Workflow: Guides users through selecting seats, confirming details, and finalizing the purchase with ease.

3. Payment Gateway Module:

* Multiple Payment Options: Users can choose from credit cards, debit cards, digital wallets, and bank transfers.
* Secure Processing: Employs encryption and secure payment protocols to protect financial data.
* Payment Confirmation: Generates instant receipts and updates booking status after successful payment.

4. Notifications and Alerts Module:

* Instant Booking Confirmations: Notifies users via email/SMS immediately after booking.
* Travel Reminders: Sends timely reminders about upcoming departures and travel documents.
* Live Alerts: Updates users on delays, cancellations, or changes to travel plans to minimize inconvenience.

5. Admin Dashboard Module:

* Comprehensive Booking Management: Provides admins with tools to monitor, modify, or cancel bookings.
* Real-Time Analytics: Tracks user trends, peak travel times, and popular routes for data-driven decision-making.
* Customer Support Tools: Enables efficient handling of user inquiries and issue resolution.

**IMPLEMENTATION**

**Registration:** The user fills out a registration form on the frontend (HTML/CSS/JS). The form data is sent to the web server (PHP) via an HTTP POST request. The PHP script validates the data and inserts the user information into the database.

**Login:** The user enters their credentials on the login form on the frontend. The credentials are sent to the web server (PHP) via an HTTP POST request. The PHP script verifies the credentials against the database and sets a session if successful.

**Travel Booking System:** The logged-in user selects travel booking options for flights, trains, or buses on the frontend. The booking details are sent to the web server (PHP) via an HTTP POST request. The PHP script processes the booking, verifies availability, and stores the details in the database. If required, it may interact with external travel service APIs to confirm real-time availability and pricing.

**CODE:**

**LOGIN.HTML:**

< html>

<head>

<title>Login - TRAVEL BUDDY.com</title>

<link rel="stylesheet" href="style.css">

</head>

<body>

<header class="header">

<div class="logo-text">

<h2>TRAVEL BUDDY <span>.com</span></h2>

</div>

<nav class="navbar">

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

<a href="register.html">Register</a>

<a href="login.html">Login</a>

<a href="about.html">About</a>

<a href="contact.html">Contact</a>

</nav>

<a href="#" id="menu-bars" class="fas fa-bars"></a>

</header>

<div class="body-structure">

<div class="form-container">

<h1>Login</h1>

<form action="login.php" method="post">

<div class="form-group">

<label for="uname">Username:</label>

<input type="text" id="uname" name="uname" placeholder="USERNAME" required>

</div>

<div class="form-group">

<label for="pass">Password:</label>

<input type="password" id="pass" name="pass" placeholder="PASSWORD" required>

</div>

<input type="submit" value="Login">

</form>

<a class="register" href="register.html">Don't have an account? Register</a>

</div>

</div>

</body>

</html>

**STYLE.CSS:**

\* {

     margin: 0;

     padding: 0;

     box-sizing: border-box;

     font-family: 'Roboto', sans-serif;

    }

    body {

     background-color: #f8f9fa;

     background-image: url('path/to/your/background-image.jpg');

     background-size: cover;

     background-position: center;

     background-attachment: fixed;

     background-repeat: no-repeat;

     color: #212529;

     line-height: 1.6;

     display: flex;

     flex-direction: column;

     min-height: 100vh;

    }

    /\* Header and Footer Styling \*/

    .header, .footer {

     background-color: #343a40;

     color: #030101d9;

     padding: 1rem 2rem;

     display: flex;

     justify-content: space-between;

     align-items: center;

     width: 100%;

     position: relative;

     z-index: 1;

    }

    .header .navbar a {

     color: #ffc107;

     text-decoration: none;

     margin: 0 15px;

     font-size: 1.1rem;

     transition: color 0.3s;

    }

    .header .navbar a:hover {

     color: #fff;

    }

    /\* Form and Booking Container \*/

    .form-container, .booking-form {

     background: #fff;

     padding: 40px;

     border-radius: 10px;

     box-shadow: 0 5px 15px rgba(0, 0, 0, 0.1);

     width: 100%;

     max-width: 600px;

     margin: 40px auto;

    }

    /\* Input Fields Styling \*/

    input[type="text"], input[type="password"], input[type="email"], select {

     width: calc(100% - 20px);

     padding: 10px;

     margin-bottom: 15px;

     border-radius: 5px;

      border: 1px solid #ccc;

     font-size: 1rem;

    }

    /\* Submit Button Styling \*/

    input[type="submit"], .btn {

     background: #007bff;

     color: #fff;

     padding: 10px 20px;

     border: none;

     border-radius: 5px;

     cursor: pointer;

     font-size: 1.1rem;

     transition: background 0.3s, transform 0.2s;

    }

    input[type="submit"]:hover, .btn:hover {

     background: #0056b3;

     transform: scale(1.05);

    }

    /\* Footer Styling \*/

    .footer {

     text-align: center;

     padding: 20px 0;

    background: #343a40;

     color: #ffc107;

     margin-top: auto;

     width: 100%;

    }

    /\* Container to center page content \*/

    .main-content {

     display: flex;

     justify-content: center;

     align-items: center;

     flex-direction: column;

     padding: 2rem;

     flex-grow: 1;

     text-align: center;

     width: 100%;

    }

    /\* Logo Text \*/

    .logo-text h2 {

     color: white;

    font-size: 3rem;

    }

    .logo-text h2 span {

     color: #ffc61a;

    }

    .navbar.active {

     top: 10%;

    }

    .body-structure {

     display: flex;

     flex-direction: column;

     justify-content: center;

     align-items: center;

     height: calc(100vh - 160px); /\* Adjusted to fit header and footer \*/

     text-align: center;

     padding: 2rem;

     color: white;

     background: rgba(0, 0, 0, 0.4);

     border-radius: 15px;

    }

    .body-structure h1 {

     font-size: 4.5rem;

     margin-bottom: 1rem;

     color: #000000;

     font-weight: bold;

    }

    .body-structure p {

     font-size: 2rem;

     max-width: 600px;

     line-height: 1.6;

    }

    /\* Responsive Styling \*/

    @media (max-width: 768px) {

     .header .logo-text h2 {

     font-size: 2rem;

     }

 .navbar {

     display: none;

    }

     #menu-bars {

     display: block;

     }

    .body-structure h1 {

     font-size: 3.5rem;

     }

     .body-structure p {

     font-size: 1.6rem;

     }

    }

**PHP:**

<?php

require 'config.php';

if ($\_SERVER['REQUEST\_METHOD'] === 'POST') {

    $username = $\_POST['uname'];

    $password = $\_POST['pass'];

    $stmt = $pdo->prepare("SELECT \* FROM users WHERE username = ?");

    $stmt->execute([$username]);

    $user = $stmt->fetch();

    if ($user && password\_verify($password, $user['password'])) {

        session\_start();

        $\_SESSION['user'] = $user['username'];

        echo "Login Succesful";

        header("refresh:5;url=index.html");

    } else {

        echo " Invalid credentials!";

        header("refresh:5;url=login.html");

    }

}

?>

**OUTPUT**

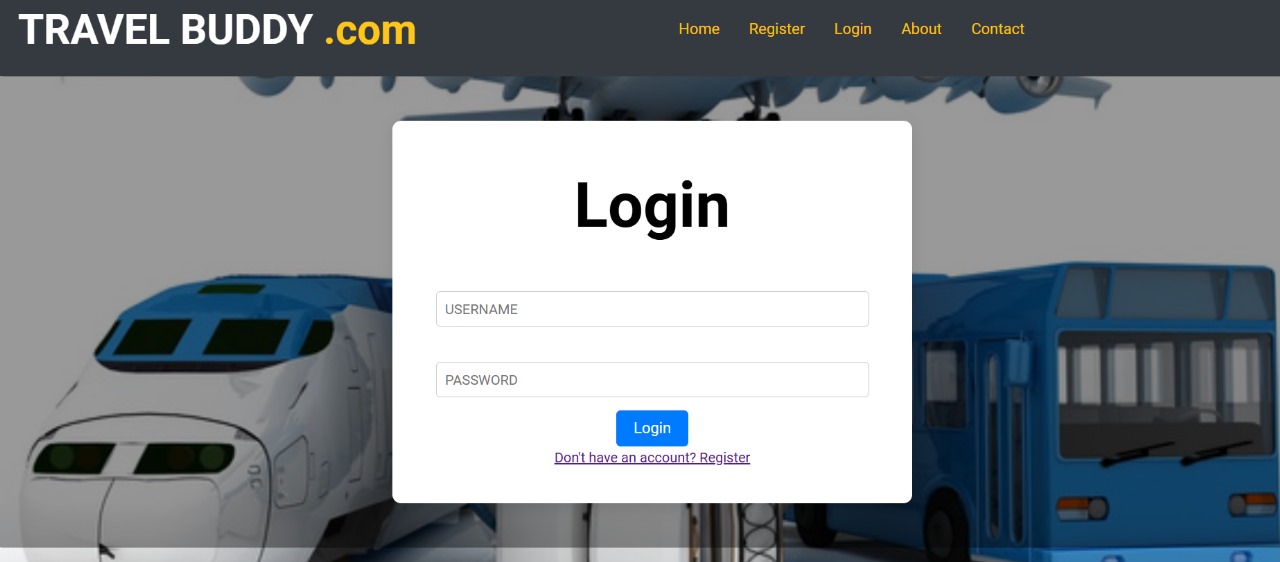


    Fig 1:Login Form

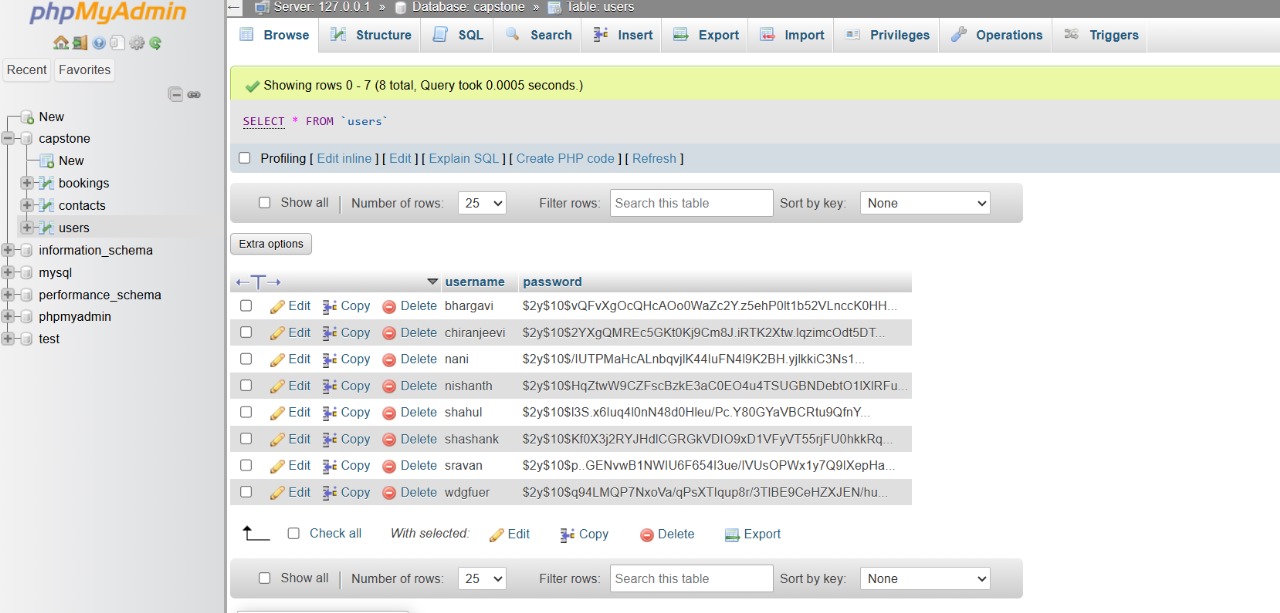


Fig 2: Database of Table

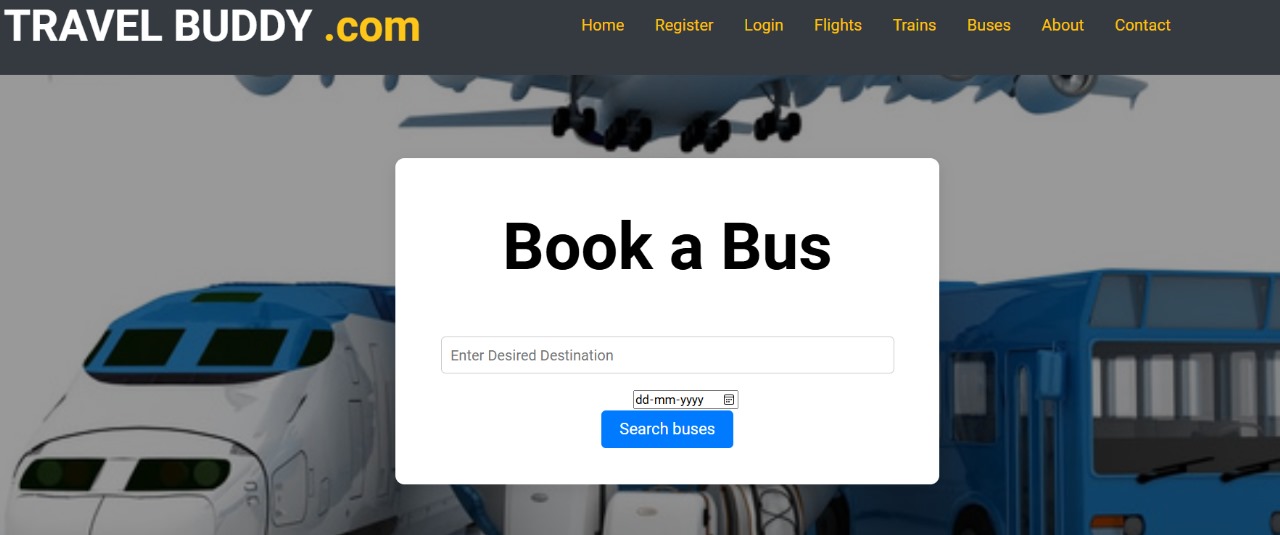


Fig.3.bus booking system

**Conclusion**

The Travel Buddy platform is designed to simplify the travel booking process by integrating flight, train, and bus reservations into one seamless platform. By providing an easy-to-use interface, it enhances the user experience, allowing customers to quickly compare options and secure bookings across multiple transport modes. This centralized approach not only saves time for users but also streamlines operations for service providers, ensuring real-time updates and efficient management of resources. As digital transformation continues to reshape the travel industry, Travel Buddy stands as a key solution in meeting the evolving needs of modern travelers. The successful implementation of this platform is expected to enhance customer satisfaction, improve operational efficiency, and contribute to the growth of the travel sector.

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