Leading University

Computer Science & Engineering

Course Title:	Web Technologies Sessional
Course Code:	CSE-4116
Title:	Design and Development of a Responsive Travel Website with User Authentication

Submitted To:

Name:	Somapika Das
Designation:	Lecturer
Faculty:	Computer Science & Engineering

Submitted By:

Name:	Md Shahir Sammun
Department:	Computer Science & Engineering
Batch:	60
Section:	B
ID:	2122020021

Submission Date: 2025-09-26

Contents

Chapter 1

Abstract

This project focuses on the design and development of a complete **user authentication system** and **responsive travel website** for **Jadoo**, a fictional travel agency. Built using **PHP, MySQL, HTML, CSS, Bootstrap, and PHPMailer**, the system provides a secure and professional user experience. Key features include **user registration with email-based OTP verification, secure login, password reset via tokenized email links, session management, and a full CRUD system within the user profile**, allowing users to view, update, and delete their account information. In addition, a visually engaging and fully responsive **landing page** was developed, replicating a professional-grade UI with sections such as a hero area with call-to-action buttons, service categories, top travel destinations, booking steps, testimonials, brand partnerships, subscription prompt, and a multi-column footer with a "Discover Our App" section. The project integrates **robust backend security** with **modern frontend responsiveness**, delivering a user-friendly platform that demonstrates best practices in contemporary web development.

Chapter 2

Introduction

In today's competitive digital landscape, providing a secure and visually engaging web platform is essential for attracting and retaining users. This project focused on the design and development of a comprehensive user authentication and travel website system for Jadoo, a fictional travel agency. The system was built using PHP, MySQL, HTML, CSS, Bootstrap, and PHPMailer, combining a robust backend with a responsive, professional-quality frontend.

The platform includes user registration with email-based OTP verification, secure login, password reset via tokenized email links, and session management to ensure data security. Additionally, a fully responsive landing page was developed to showcase Jadoo's travel services effectively. Key components include a hero section with call-to-action buttons, service categories, popular travel destinations, booking procedures, testimonials, brand partnerships, a subscription prompt, and a multi-column footer featuring a "Discover Our App" section.

This project strengthened both backend security and frontend responsiveness, reinforcing modern web development practices and delivering a complete, user-friendly travel website aligned with current industry standards.

1.1 Objective

The primary objectives of this project were:

- **Develop a complete travel website system** for Jadoo using **PHP, MySQL, HTML, CSS, Bootstrap, PHPMailer, and XAMPP**.

- **Implement secure user authentication**, including registration with email-based OTP verification, login, password reset via tokenized email links, and session management.

- **Create a modern, responsive landing page** showcasing Jadoo's travel services, with sections such as a hero area, service categories, top destinations, booking steps, testimonials, brand partnerships, a subscription prompt, and a multi-column footer featuring a "Discover Our App" section.

- **Ensure full responsiveness and accessibility** across desktops, tablets, and mobile devices.

- **Apply clean UI/UX design principles** along with Bootstrap's grid system, components, and utilities to deliver a professional and user-friendly interface.

- **Strengthen full-stack web development skills**, integrating secure backend functionality with an engaging and visually appealing frontend.

Chapter 2

Background Study

This project integrates both front-end and back-end web technologies to deliver a secure, fully responsive travel website for **Jadoo**. Each technology played a distinct role in building the complete system:

- **HTML (HyperText Markup Language):**
  Provided the structural foundation of the website. It defined all major sections of the landing page—hero area, services, top destinations, booking steps, testimonials, brand partnerships, subscription prompt, and footer. Semantic tags ensured clean code, improved accessibility, and easier maintenance.

- **CSS (Cascading Style Sheets):** Controlled the site's visual presentation. It implemented color schemes, typography, spacing, and subtle animations to create a modern and consistent design. Custom styles refined the layout to match the provided UI reference precisely, including accurate positioning of images, icons, and call-to-action elements.

- **Bootstrap:** Streamlined the development of a responsive layout. Its grid system and utility classes simplified alignment and spacing across devices, enabling seamless viewing on desktop, tablet, and mobile. Components such as responsive columns and pre-built utilities reduced the need for extensive custom CSS.

- **PHP (Hypertext Preprocessor):** Powered the server-side logic, handling user registration, login, password resets, and session management. Dynamic pages and secure form handling protected user data and provided real-time feedback.

- **MySQL:** Served as the relational database, storing user information, authentication tokens, and session data. Proper indexing and structured queries ensured reliability and scalability.

- **PHPMailer:** Facilitated email-based features, including OTP verification for new registrations and tokenized password reset links. This library simplified SMTP integration while maintaining security best practices.

By combining these technologies, the project delivered a **complete user authentication system** and a **professional-grade, responsive landing page**. Front-end tools ensured visual appeal and device adaptability, while back-end technologies provided robust security and data management, demonstrating a comprehensive approach to modern web development.

Chapter 3

Methodology

The methodology was divided into key stages—planning, design, development, testing, and final implementation—to ensure the final system met objectives of security, responsiveness, usability, and visual appeal.

3.1 Planning and Design Reference Study

- Began with a detailed analysis of the original Figma design of the Jadoo landing page to understand layout structure, design flow, section ordering, and spacing.
- Created a section-by-section breakdown to guide both HTML structure and CSS styling priorities.
- Planned the user authentication workflow, including database schema, OTP email verification, password reset logic, and session management.

3.2 Tools and Technologies Used

- **HTML5** – For semantic structure of all landing-page sections and dynamic PHP templates.
- **CSS3** – For detailed styling, animations, layout control, and precise section customization.
- **Bootstrap 5** – To implement the grid system, responsive utilities, and base styling support.
- **PHP** – For server-side logic, form handling, session control, and secure authentication features.
- **MySQL** – As the relational database to store user credentials, OTP tokens, and session data.
- **PHPMailer** – To send OTP emails for registration and tokenized password-reset links.

- **XAMPP** – Used as the local development environment, providing Apache server and MySQL database services for testing the PHP and MySQL integration before deployment.

- **Visual Studio Code (VS Code)** – Primary code editor for both front-end and back-end development.

- **Google Chrome + DevTools** – For debugging, layout verification, and responsiveness testing.

3.3 Development Process

- **Front End:** Structured the landing page in HTML with sections such as navigation bar, hero area, service categories, top destinations, booking steps, testimonials, subscription prompt, and footer. Bootstrap's grid and flex utilities managed alignment and responsiveness, while custom CSS refined font sizes, image proportions, hover animations, and spacing.

- **Back-End:** Implemented user registration with OTP verification, secure login, password reset using email tokens, and session handling using PHP. Designed MySQL tables for users and verification tokens with proper indexing to ensure data security and reliability. Added full CRUD functionality in the user profile, allowing users to view, update, and delete their account information securely.

- **Integration:** Connected the front-end and back-end, ensuring form validation, secure data flow, and a seamless user experience across devices.

3.4 Testing and Debugging

- Used Chrome DevTools to simulate multiple screen sizes and verify responsive behavior.

- Performed unit testing on authentication features, including registration, OTP verification, login, and password reset.

- Checked for security issues such as SQL injection and session hijacking.

- Reviewed spacing, alignment, icon sizes, and section flow; debugged and resolved issues like overlapping elements or inconsistent padding.

- Conducted final visual matching against the Figma reference and confirmed that all authentication workflows operated correctly before deployment.

Chapter 4

Tools and Technologies

During the development of the Jadoo travel website, a combination of essential web technologies and tools were used to structure, style, develop, and test the project effectively.

4.1 HTML5 (HyperText Markup Language)

HTML5 served as the backbone for structuring all content on the landing page and dynamic PHP templates. Semantic tags like `<header>`, `<section>`, `<nav>`, and `<footer>` helped organize the layout clearly while improving accessibility and readability of the code. Each section—from the navigation bar and hero area to the destinations, testimonials, subscription prompt, and footer—was built using clean, well-organized HTML markup.

4.2 CSS3 (Cascading Style Sheets)

CSS3 controlled the visual presentation of the project. It defined font styles, spacing, icon sizes, image dimensions, hover effects, and layout refinements. Custom classes were written to match the exact look and feel of the provided design screenshot, ensuring a visually polished and professional user experience. Transitions and subtle animations were also implemented for smoother interactions.

4.3 Bootstrap 5

Bootstrap 5 played a key role in creating a responsive layout without requiring custom media queries. Its grid system, utility classes, and pre-built components were used to align content, maintain consistent spacing, and ensure the design remained mobile-friendly across all devices. Sections such as “Discover Our App” and the booking steps were efficiently arranged using Bootstrap’s column layout without disrupting surrounding elements.

4.4 PHP (Hypertext Preprocessor)

PHP powered the server-side functionality of the project. It handled user registration, OTP-based email verification, secure login, password reset via tokenized links, and session management. PHP scripts processed form data and connected to the database, ensuring a secure and seamless authentication workflow.

4.5 MySQL

MySQL served as the relational database system, storing user credentials, OTP codes, password-reset tokens, and session information. Structured queries and proper indexing ensured reliable performance and data integrity throughout the authentication process.

4.6 PHPMailer

PHPMailer was used to implement email-based features such as sending OTP verification codes during registration and dispatching password-reset links. It simplified SMTP configuration while maintaining strong security practices for email communication.

4.7 XAMPP

XAMPP provided the local development environment for the project, offering an Apache server and MySQL database for testing PHP and database operations. It allowed seamless integration of backend scripts with the database before deployment to a live server.

4.8 Visual Studio Code (VS Code)

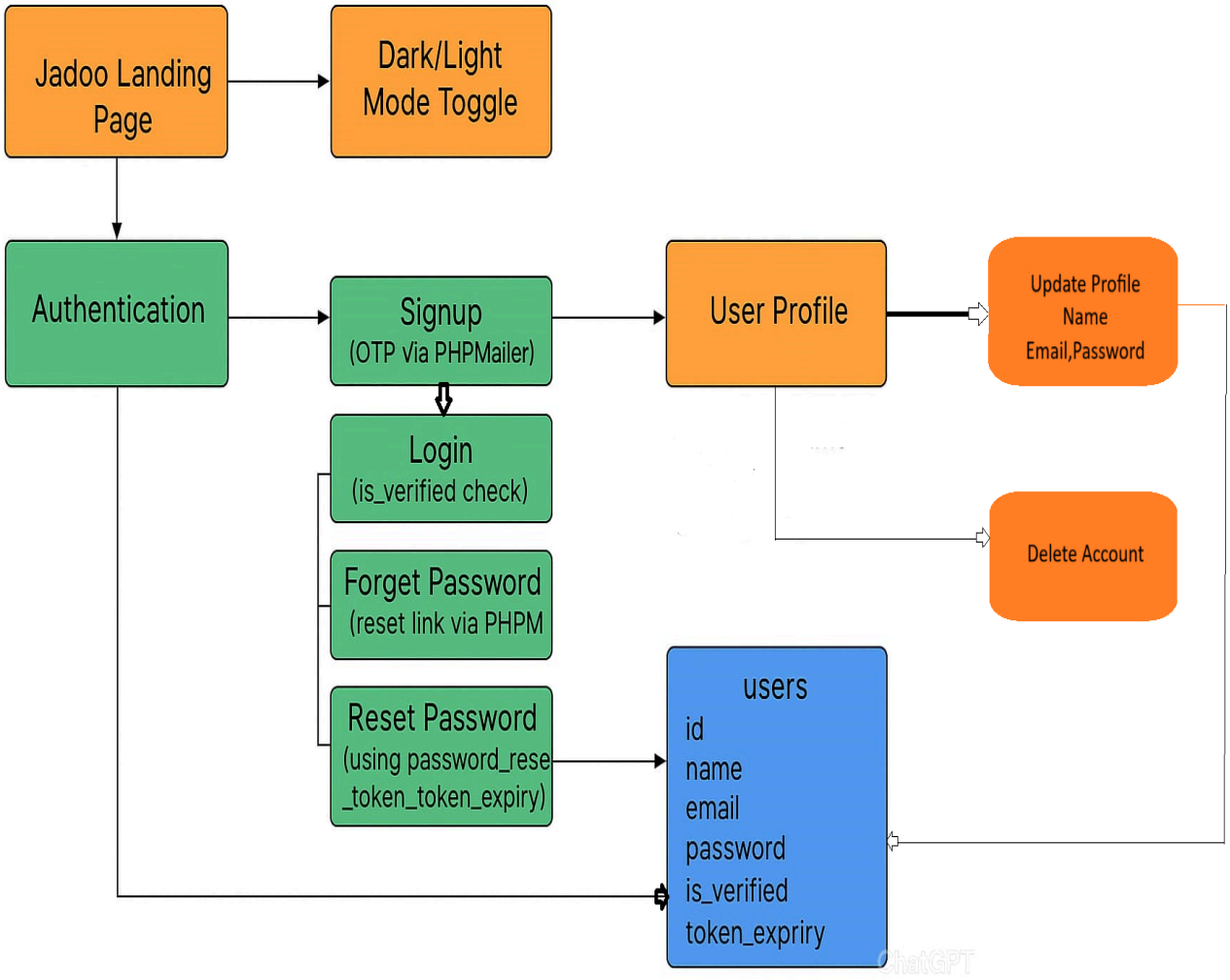
VS Code served as the main code editor. Features like the Live Server extension, syntax highlighting, and efficient file navigation enabled smooth development and quick previews of changes. It also helped manage and organize HTML, CSS, PHP, and configuration files effectively.

4.9 Google Chrome and DevTools

Google Chrome was the primary browser for previewing and testing the website. Chrome DevTools allowed developers to inspect elements, debug issues, and simulate various device screen sizes. It was instrumental in ensuring responsive design accuracy and in identifying minor spacing or alignment issues for immediate fixes.

Chapter 5

Study Design



Chapter 6

Results & Outcomes

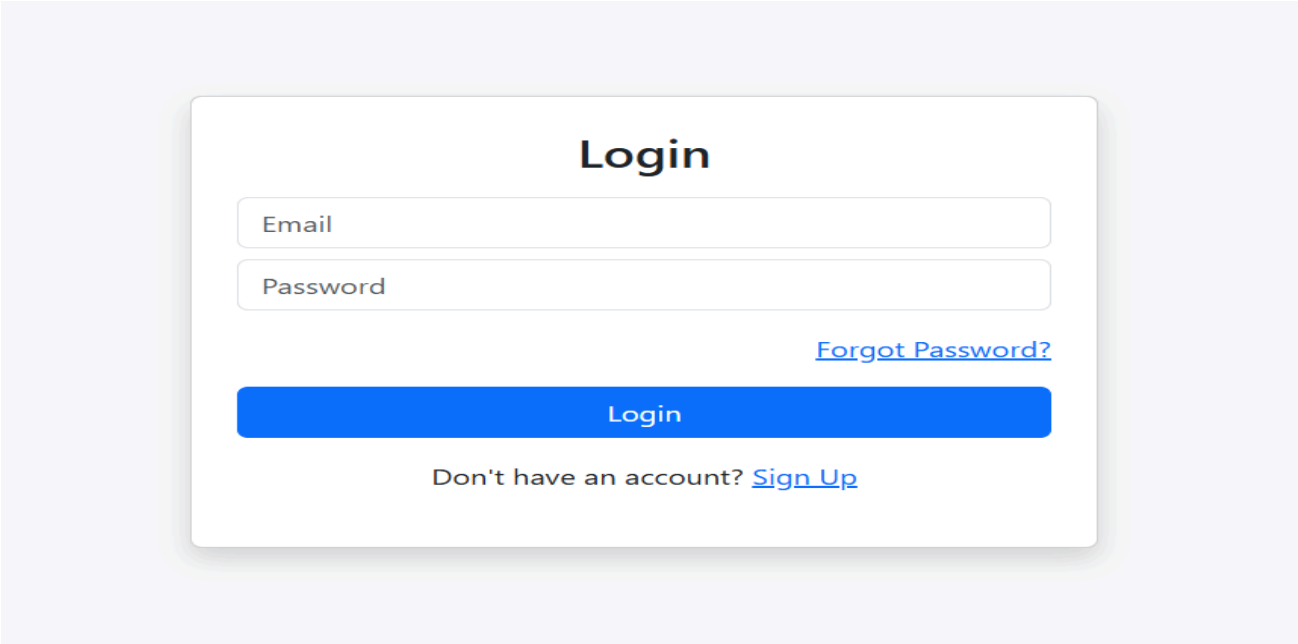


Fig 01: Page 1

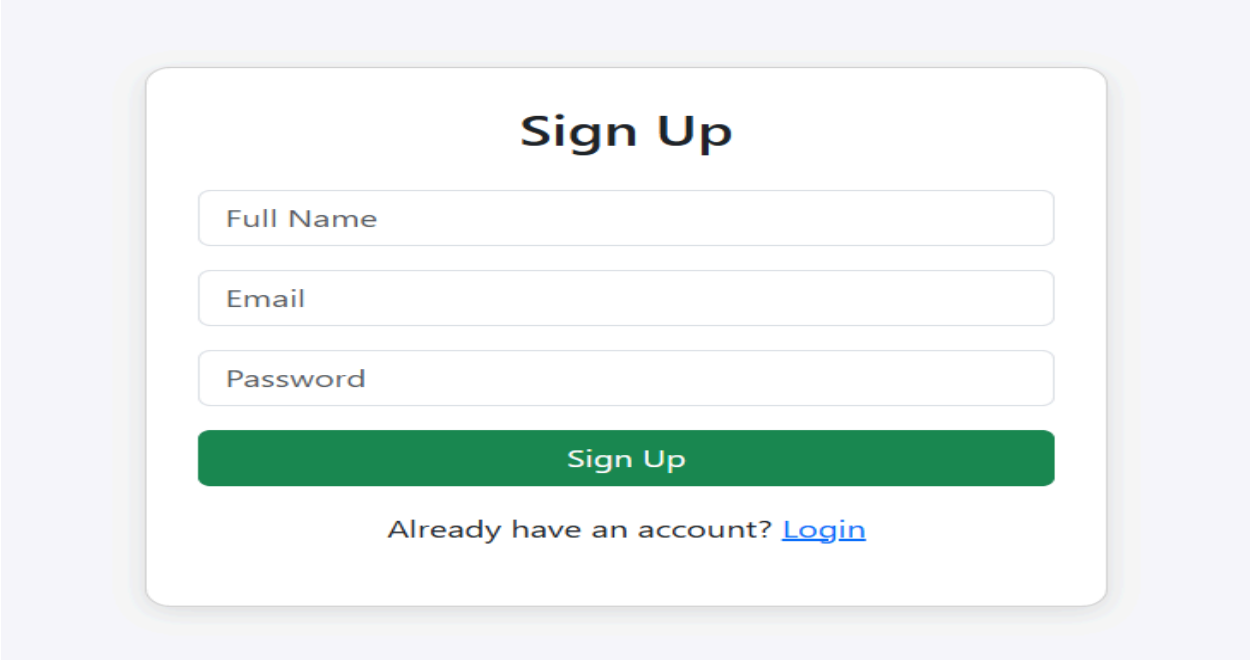


Fig 02: Page 2

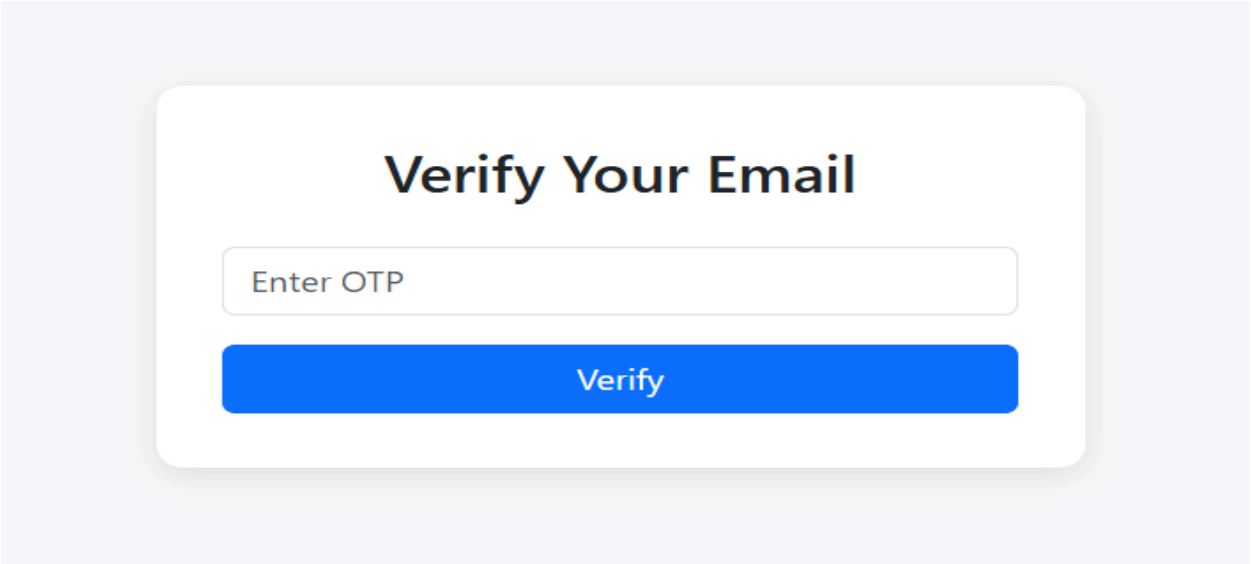


Fig 03: Page 3

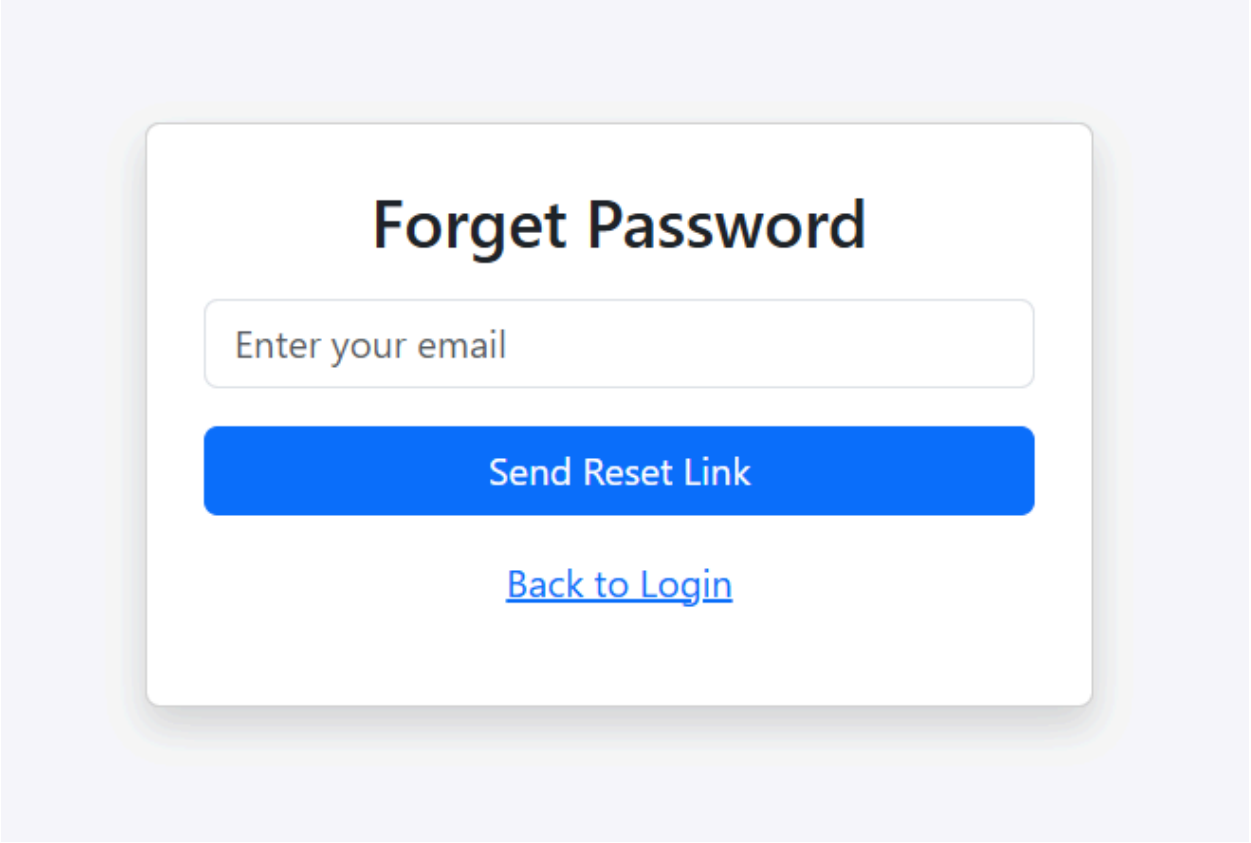


Fig 04: Page 4

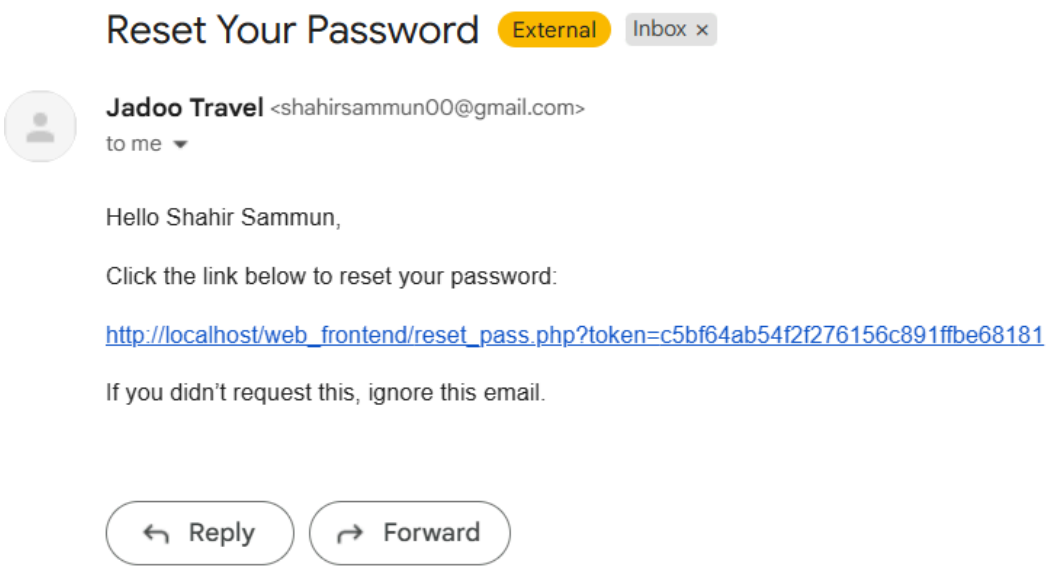


Fig 05: Page 5

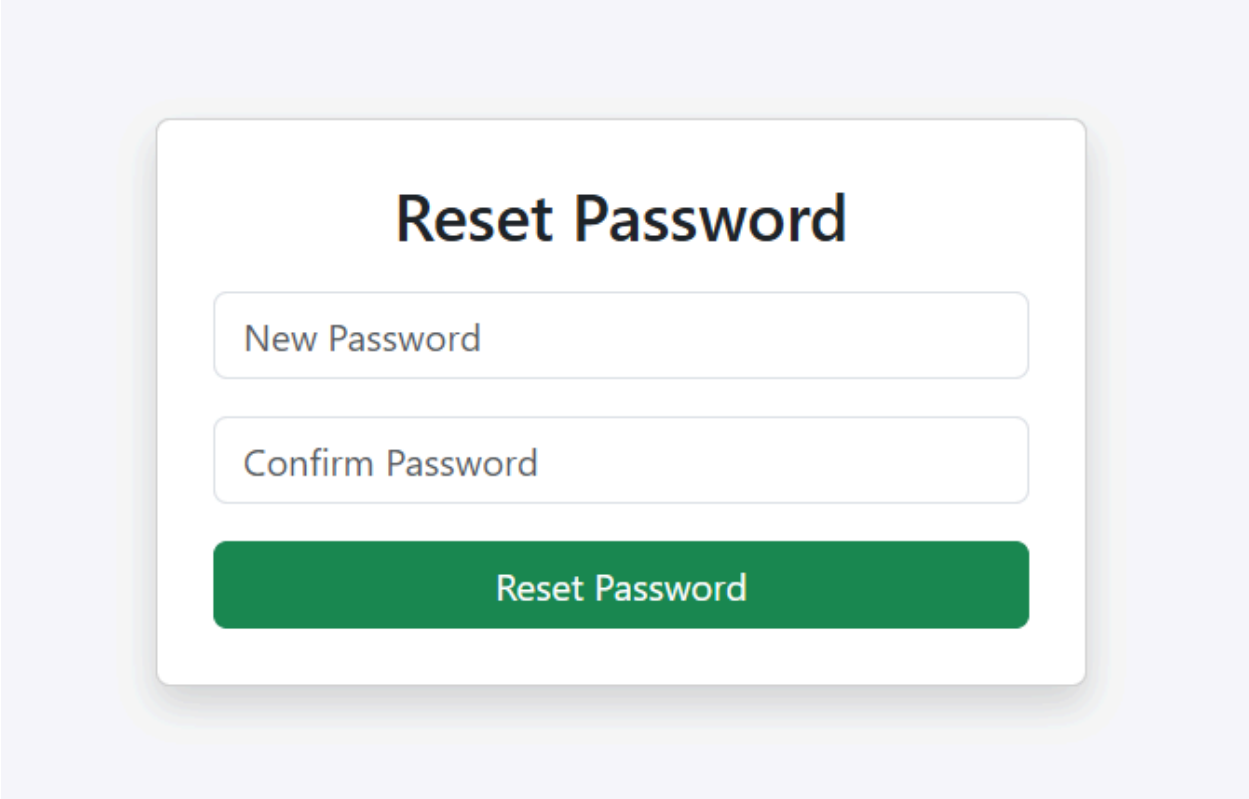


Fig 06: Page 6

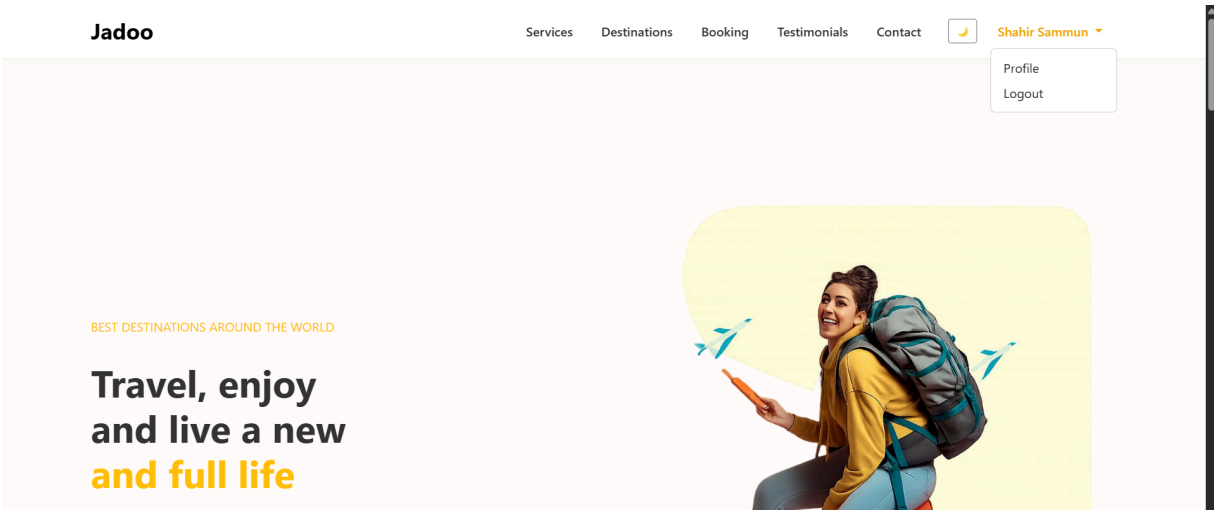


Fig 07: Page 7

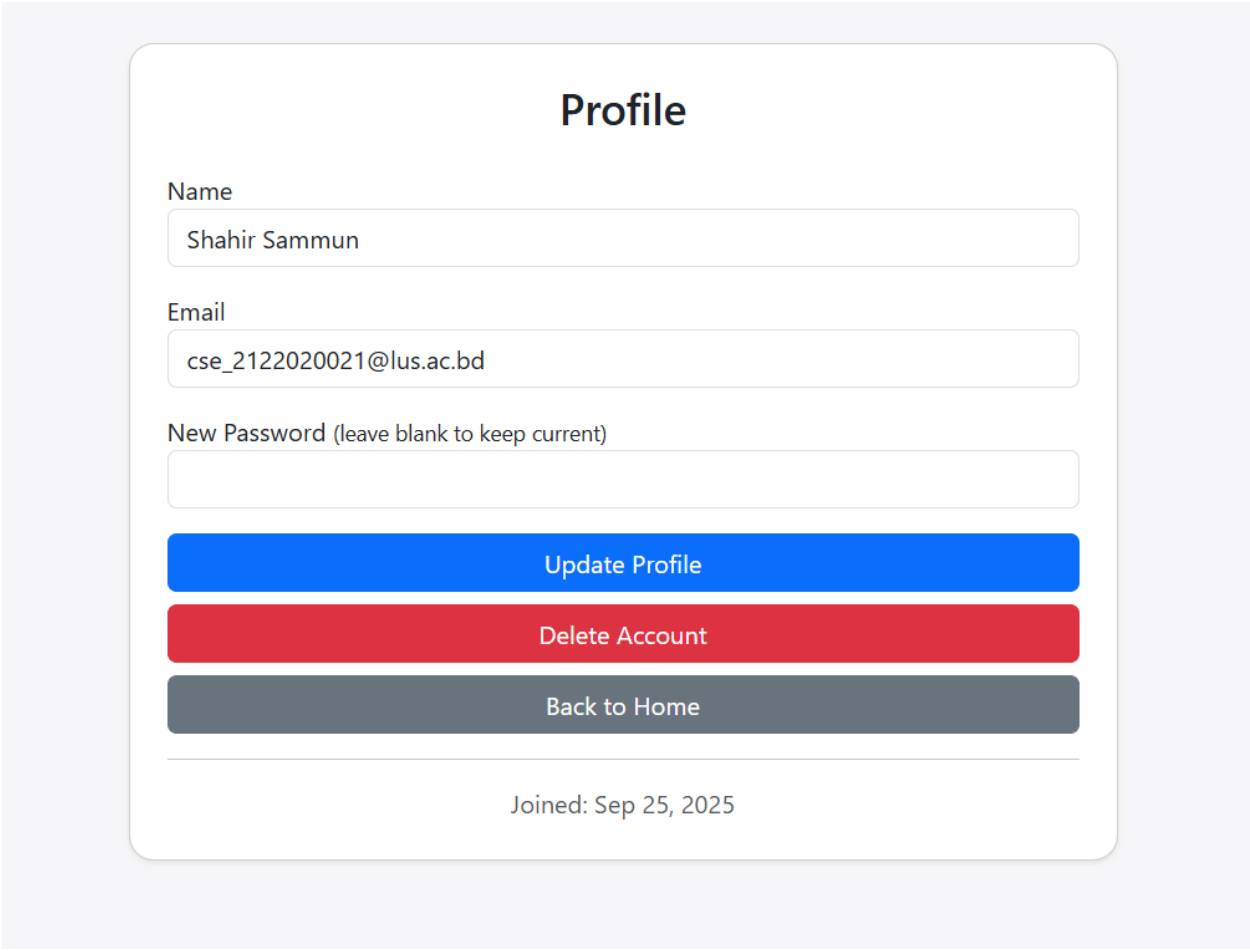


Fig 08: Page 8

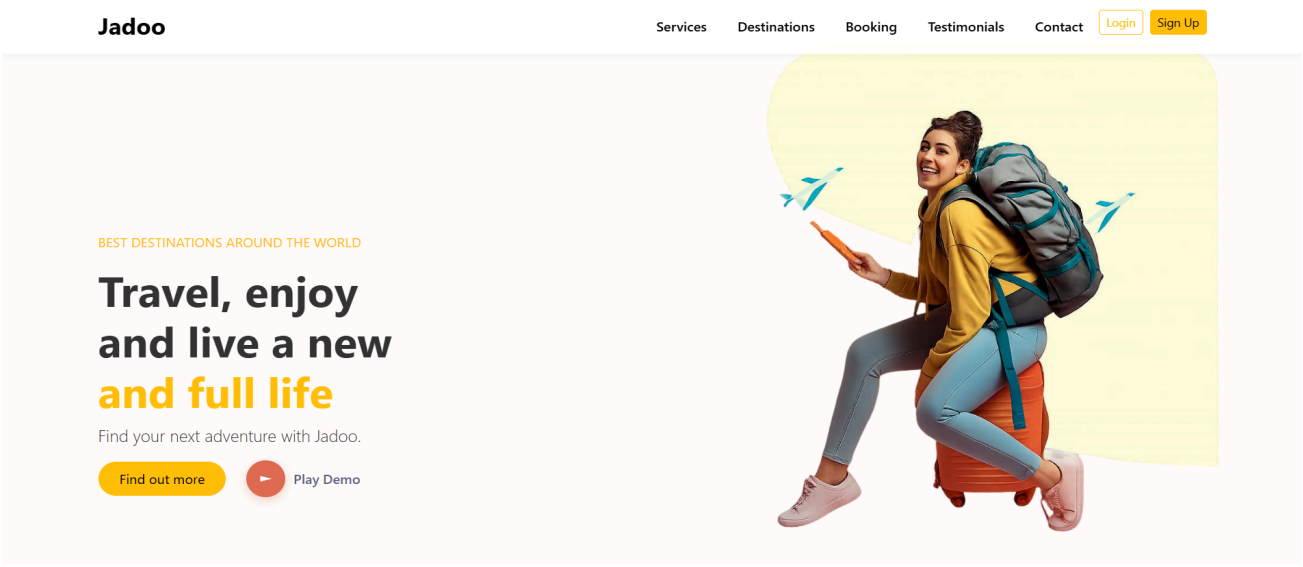


Fig 09: Page 9

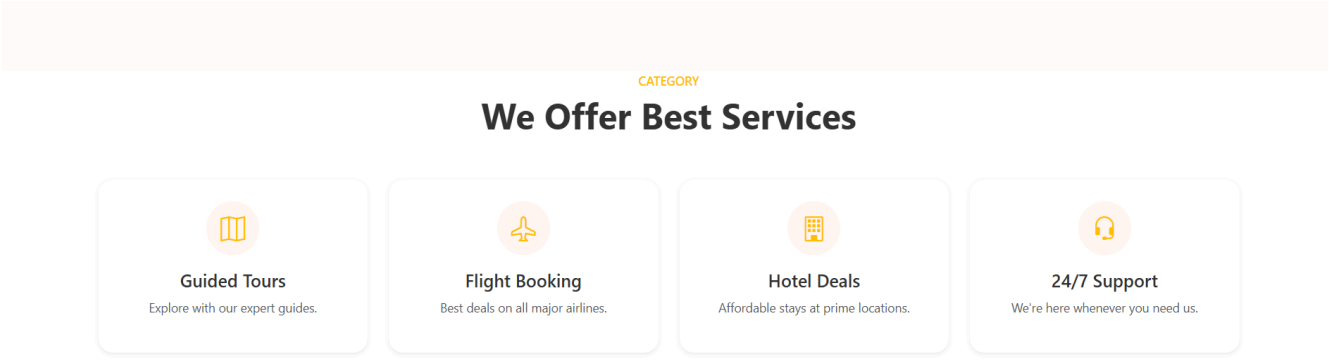


Fig 10: Page 10

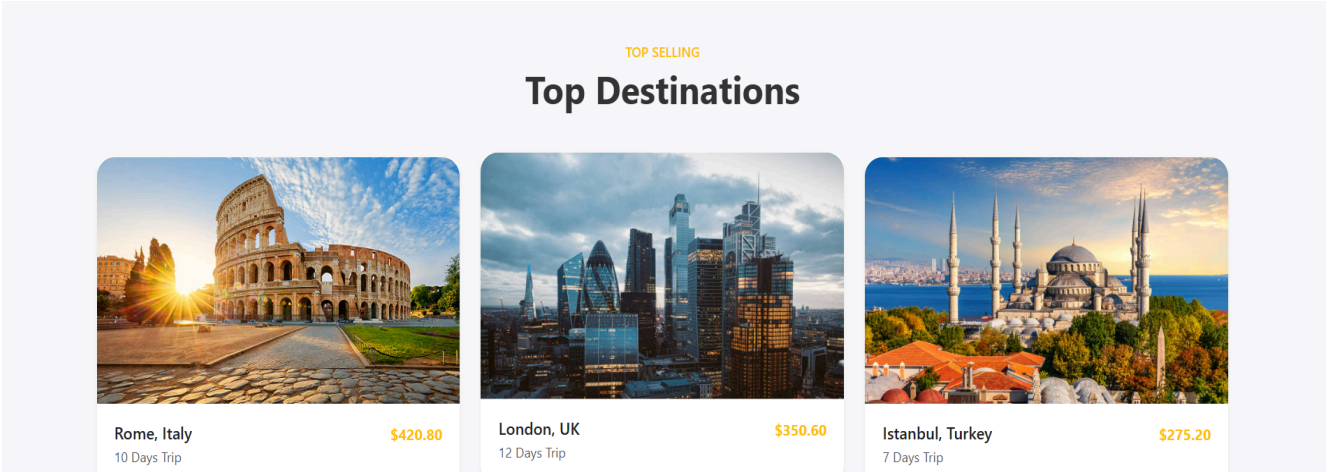


Fig 11: Page 11

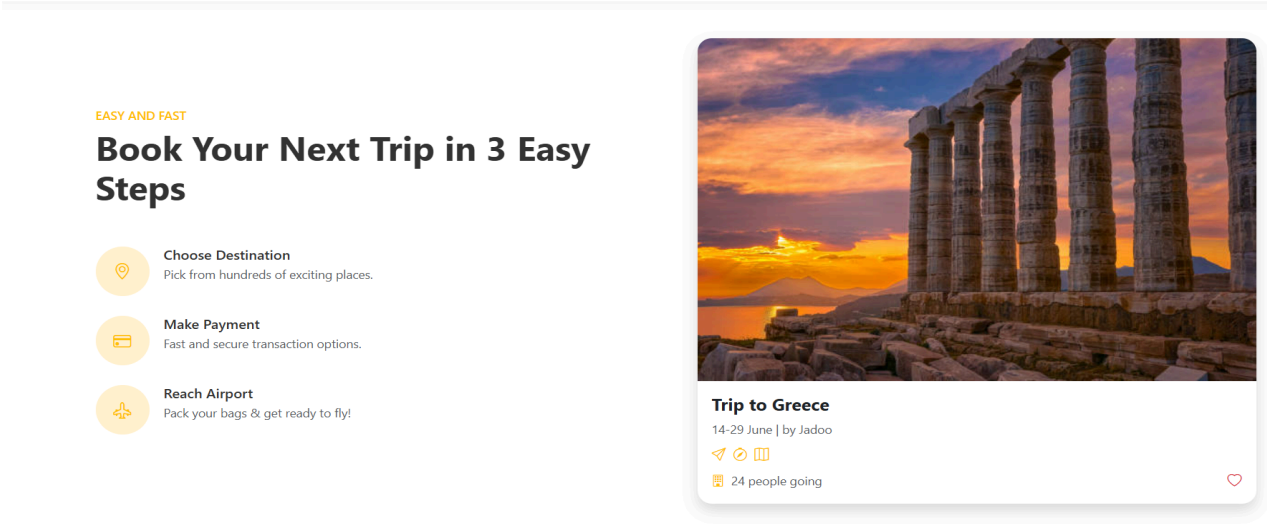


Fig 12: Page 12

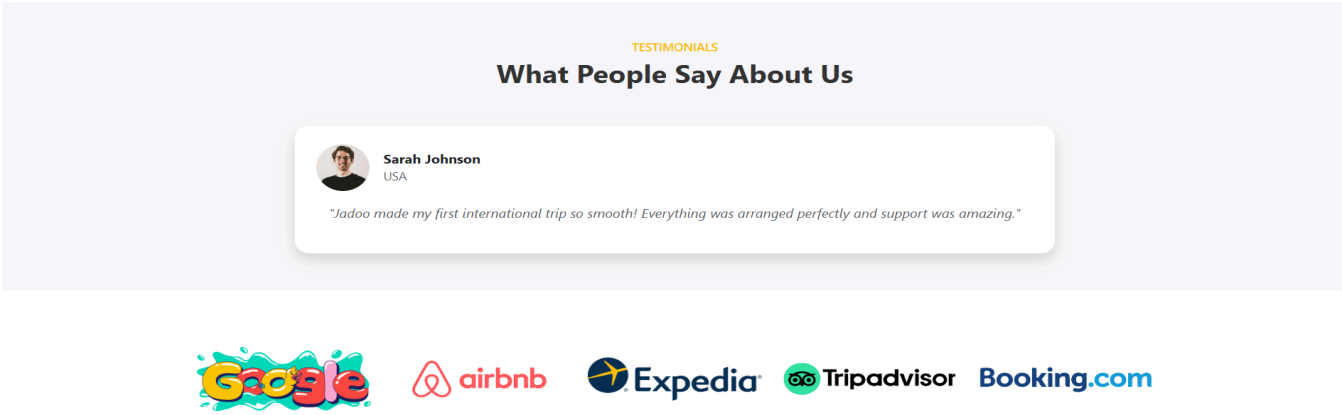


Fig 13: Page 13

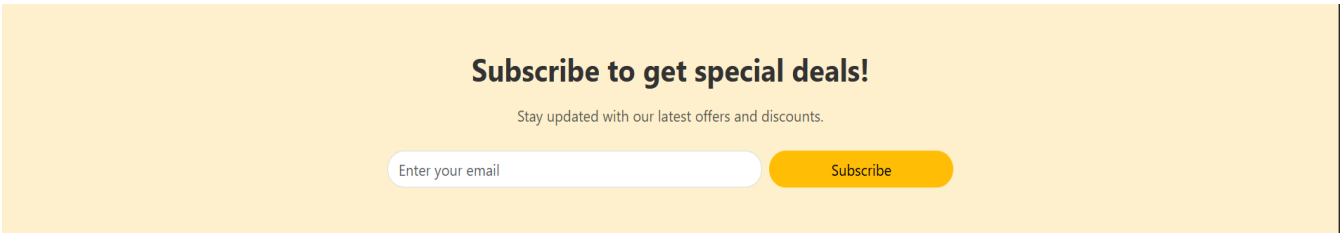


Fig 14: Page 14

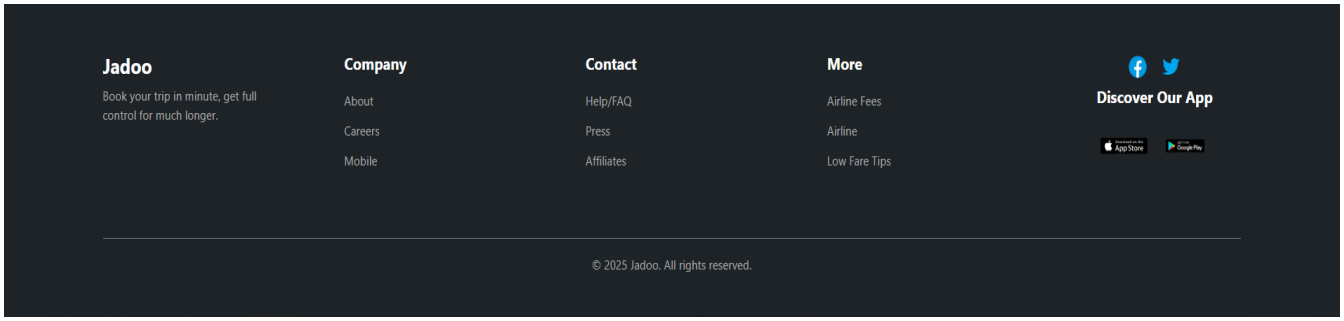


Fig 15: Page 15

Chapter 7

Limitations and Future Work

7.1 Limitations

While the Jadoo landing page project successfully met its design and responsiveness goals, a few limitations were observed during development:

- **Partial Interactivity:** The page remains mostly static. Although Bootstrap handles layout and responsiveness, there is minimal JavaScript functionality, so features like animated scrolls, sliders, popups, and dynamic content are not fully implemented.

- **Mode Toggle Half-Implemented:** A light/dark mode toggle was added, but its functionality is only partially working. Some sections or elements do not fully respond to the mode change.

- **Placeholder Content:** Some sections contain sample text and images, as the project was built without a real client or dataset. This may affect how the final version reflects actual branding or messaging.

- **Limited Cross-Browser Testing:** Most testing was performed using Google Chrome. Compatibility with browsers such as Firefox, Safari, or Edge was not extensively verified due to time constraints.

- **Accessibility Limitations:** Although semantic HTML was used, advanced accessibility standards like ARIA roles, keyboard navigation support, and color contrast optimization were not fully implemented.

- **Backend Scope Limitations:** While **users can register, update their profile, and delete their account** through the implemented CRUD system, additional features such as multi-user roles, analytics, and enhanced backend functionality were not included.

7.2 Future Work

To improve and expand this landing page and system, the following tasks are recommended:

- **Add Interactivity:** Integrate JavaScript or frontend frameworks to enable collapsible menus, sliders, modals, and other dynamic components.
- **Complete Mode Toggle:** Fully implement light/dark mode so all sections, icons, and text respond correctly.
- **Responsive Polishing:** Fine-tune responsiveness for edge cases such as ultra-wide screens or very small devices.
- **Form Integration:** Add working contact or subscription forms, linked with a backend system or email API, to collect user data and enhance functionality.
- **Enhance Accessibility:** Implement ARIA labels, improve keyboard navigation, and ensure proper color contrast for better accessibility.
- **Expand Backend Features:** Add multi-role access control, activity logs, and analytics to strengthen the platform's backend capabilities.
- **Cross-Browser Testing:** Conduct extensive testing across multiple browsers to ensure consistent layout, functionality, and responsiveness.

Chapter 8

Conclusion

The creation of the Jadoo travel website was a fulfilling endeavor that offered practical experience with both front-end and back-end technologies. For the front end, HTML, CSS, and Bootstrap were utilized to design a modern, clean, and responsive landing page that visually aligned with a reference screenshot and functioned effectively across various devices. The grid system and prebuilt utilities of Bootstrap facilitated layout management, while custom CSS enhanced spacing, typography, and individual components for a refined look.

On the back end, PHP and MySQL were employed to establish secure user authentication, which included registration with OTP verification, login, password reset through email tokens, and session management. A comprehensive CRUD system was created within the user profile, enabling users to securely view, update, and delete their account information. PHPMailer was implemented to manage email functionalities, while XAMPP offered a local development environment for testing PHP scripts and database interactions prior to deployment.

This project bolstered full-stack development capabilities, encompassing layout planning, responsiveness, secure backend integration, database design, and meticulous attention to visual detail. Although certain features, such as advanced JavaScript interactivity and enhancements for accessibility, were not incorporated due to the project's limitations, the final outcome achieved all primary goals and functioned as a practical and visually accurate prototype.

In summary, the project illustrated how front-end and back-end technologies can be effectively integrated to produce a professional, secure, user-friendly, and visually appealing travel website, while establishing a foundation for future improvements such as dynamic features, enhanced accessibility, and expanded backend functionality.

References

- Apache Friends. (n.d.). **XAMPP – Apache + MySQL + PHP + Perl**. Retrieved from https://www.apachefriends.org/index.html
- Bootstrap. (n.d.). **Introduction – Bootstrap v5.0**. Retrieved from https://getbootstrap.com/docs/5.0/getting-started/introduction/
- Google. (n.d.). **Chrome DevTools Overview**. Retrieved from https://developer.chrome.com/docs/devtools/
- Microsoft. (n.d.). **Visual Studio Code**. Retrieved from https://code.visualstudio.com/
- PHP. (n.d.). **PHP Manual**. Retrieved from https://www.php.net/manual/en/
- PHPMailer. (n.d.). **PHPMailer GitHub Repository**. Retrieved from https://github.com/PHPMailer/PHPMailer
- W3Schools. (n.d.). **CSS Tutorial**. W3Schools. Retrieved from https://www.w3schools.com/css/
- W3Schools. (n.d.). **HTML Tutorial**. W3Schools. Retrieved from https://www.w3schools.com/html/