

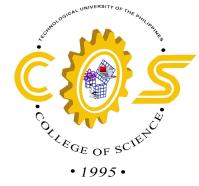


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Web Development

CC311L/CC312

KNI Travels

Web Application - Project Documentation

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I. Introduction

KNI Travels is a travel service website designed to make planning and booking trips easier, faster, and more enjoyable. The platform helps travelers discover amazing destinations, featuring both famous international landmarks and hidden local spots in the Philippines. Our goal is to solve the common problem of cluttered and confusing travel sites by offering a clean, organized space where users can find inspiration and manage their bookings all in one place.

To provide a smooth user experience, the website is built as a Single Page Application, which means users can browse content and book trips instantly without annoying page reloads. The system is secure, allowing users to create accounts and safely save their trip details directly to our database. We also included a dedicated dashboard for administrators, making it easy to manage travel packages, update pricing, and assist customers in real-time.

Beyond just functionality, our mission is to encourage people to explore the world safely and stress-free. By highlighting local destinations alongside global favorites, we aim to support local tourism and help travelers find meaningful new adventures. KNI Travels strives to be a reliable and innovative platform that connects users to unforgettable journeys.

II. Objectives

1. **To provide a seamless user experience** where customers can browse, search, and book travel packages instantly.
2. **To implement a secure account management system** that allows users to track their booked trips via a persistent database.
3. **To empower administrators** with a dedicated panel to manage destination content, monitor bookings, and resolve customer inquiries efficiently.
4. **To ensure accessibility and usability** across all devices by implementing a responsive, mobile-first design that adapts seamlessly to phones, tablets, and desktops.

5. **To promote tourism growth** by bridging the gap between travelers and "hidden gem" destinations, providing a platform that gives equal visibility to local Philippine spots and international landmarks.

III. Scope

In Scope:

- **User Modules:** Account Registration/Login, Destination Catalog, Search Functionality, Booking System, "My Trips" Dashboard, Profile Management.
- **Admin Modules:** Dashboard for adding/editing/deleting destinations, viewing all user bookings, and managing customer support messages.
- **Database Integration:** Persistent storage for users, bookings, and content using MySQL.
- **Secure Authentication System:** Implementation of password hashing for user security and prepared SQL statements to prevent database injection attacks.
- **Password Recovery:** A dedicated account recovery system using unique, one-time-use backup codes generated upon registration.
- **Role-Based Navigation:** Automatic redirection and interface customization based on the logged-in user's role.
- **Interactive Frontend:** Dynamic Hero Slideshow, Modal-based Login/Registration forms, and 'Single Page Application' tab switching for a smooth user experience.

Out of Scope:

- Real-time payment gateway integration (Credit Card/Gcash processing).
- Live chat support (current system uses a message ticket system).
- The system stores messages in the database but does not currently send actual emails to users for booking confirmations.

IV. Target Audience

- **Demographics:** Tech-savvy young adults and working professionals who value efficient digital solutions.

- **Location:** Primarily travelers based in the Philippines seeking both domestic "hidden gem" getaways and popular international vacations.
- **Needs:** Users looking for a convenient, "one-stop-shop" platform to visually discover destinations, plan itineraries, and manage secure bookings without the hassle of visiting physical travel agencies.

V. Technology Stack

- **Frontend:** HTML5 (Semantic Structure), CSS3 (Flexbox/Grid Layouts), JavaScript (DOM Manipulation & Fetch API)
- **Backend:** PHP (Server-side logic, API endpoints)
- **Database:** MySQL (Relational database management)
- **Tools:** Visual Studio Code, XAMPP (Local Server), phpMyAdmin, GitHub

VI. Expected Features

- **Role-Based Access Control:** Distinct interfaces for "Users" (Booking) and "Admins" (Management)
- **Dynamic Content Loading:** Destinations and bookings are fetched from the database, not hard-coded
- **Responsive Design:** Optimized for Desktop and Mobile (using CSS Media Queries)
- **Secure Authentication:** Password hashing for user security

VII. Timeline

- **Week 1:** Project Proposal, Sitemap creation, and UI Wireframing
- **Week 2:** Frontend Development (HTML Structure and CSS Styling)
- **Week 3:** JavaScript Implementation (Interactivity and Modal Logic)
- **Week 4:** Backend Development (PHP API creation and Database connection)
- **Week 5:** Integration, Testing, and Documentation

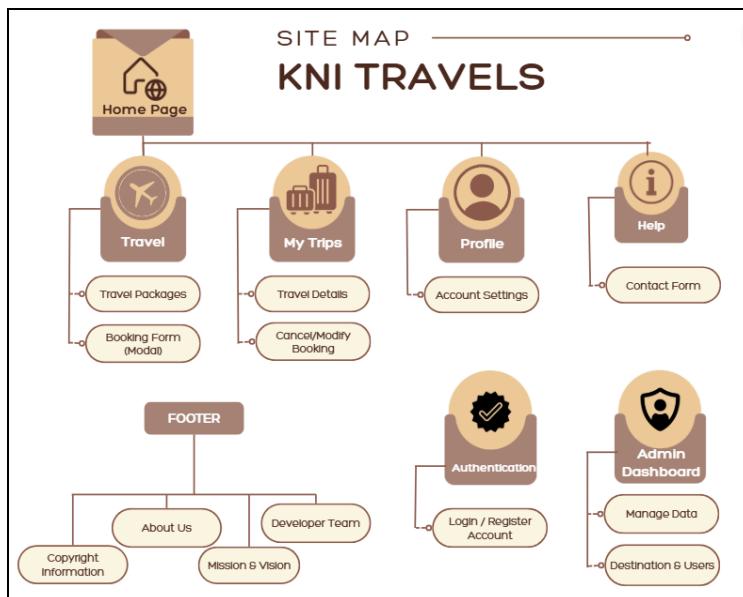
PHASE 1: Planning

A. Requirements Gathering

Functional Requirements: The project requires a secure user system for registration and login, alongside a comprehensive booking engine where travelers can search for destinations, reserve trips, and view their booking history. Additionally, the system must include an administrative dashboard that allows managers to update destination content and oversee customer bookings in real-time.

Non-Functional Requirements: We prioritized a responsive design that adapts seamlessly to both mobile and desktop screens. Performance requirements focus on fast data loading using asynchronous requests to prevent page reloads, while security protocols mandate password encryption and strict database protection to ensure user information remains safe.

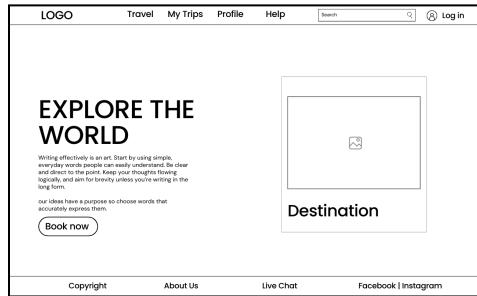
B. Site Map



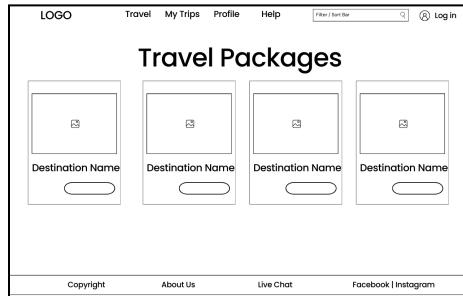
During the development process, the site hierarchy was streamlined to improve User Experience (UX). Originally, the Administrator Panel might have been considered a separate external link. However, to enhance security and usability, it was implemented as a Conditional Redirect. The system now detects the user's role upon login and

dynamically reveals the "Admin Panel" link only to authorized personnel, keeping the interface clean for regular users.

B. Wireframes/Mockups



Hero Section



Travel Catalog



Mobile View

The final website design closely follows the initial concept but evolved to accommodate dynamic data.

- Card Layouts:** The Destination cards were standardized to a fixed height to ensure alignment regardless of the text length pulled from the database.
- Modal Integration:** Instead of separate pages for login and booking, we implemented pop-up modals. This reduces page loads and keeps the user focused on the task at hand, which significantly improves the flow of the application.

PHASE 2: Design

A. UI/UX Design Principles

Visual Hierarchy: We established a clear order of importance using distinct font weights and sizes. "Montserrat" headings command attention for major sections, while "Poppins" body text guides the user through detailed content.

Alignment & Spacing: A grid-based layout ensures elements are perfectly aligned. We utilized consistent padding and generic margins to prevent clutter, allowing the destination images to serve as the main focal point.

Consistency: The interface maintains a uniform look and feel by reusing component styles such as rounded buttons, hover effects, and card shadows across all pages

B. Color Scheme & Typography

Color Palette:

- **Primary Blue (#38b6ff):** Represents the sky and ocean. This color evokes feelings of calmness, trust, and freedom.
- **Accent Orange (#F2994A):** A high-energy color used for Call-to-Action buttons like Book Now and Log In.
- **Neutral Background (#f2f3f4):** A clean, off-white backdrop that ensures high readability and a modern aesthetic

Typography:

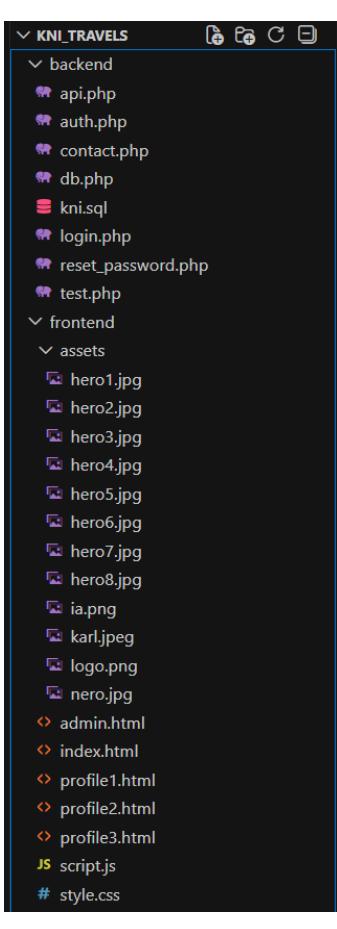
- **Headings (Montserrat):** A geometric sans-serif font chosen for its bold structure, giving headers a modern and authoritative feel.
- **Body Text (Poppins):** Selected for its geometric simplicity and excellent legibility on digital screens, ensuring users can easily read trip details on any device

C. Responsive Design Approach

- Hybrid Layout & Responsiveness: Utilized CSS Flexbox for structural alignment (Navigation/Hero) and CSS Grid for content catalogs, integrated with a 768px mobile breakpoint to ensure a seamless transition from horizontal desktop views to vertical mobile layouts.

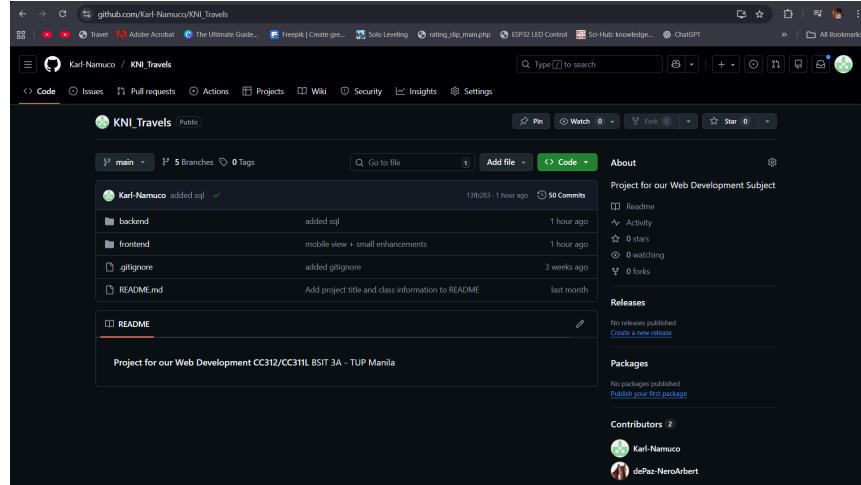
PHASE 3: Development

File Architecture

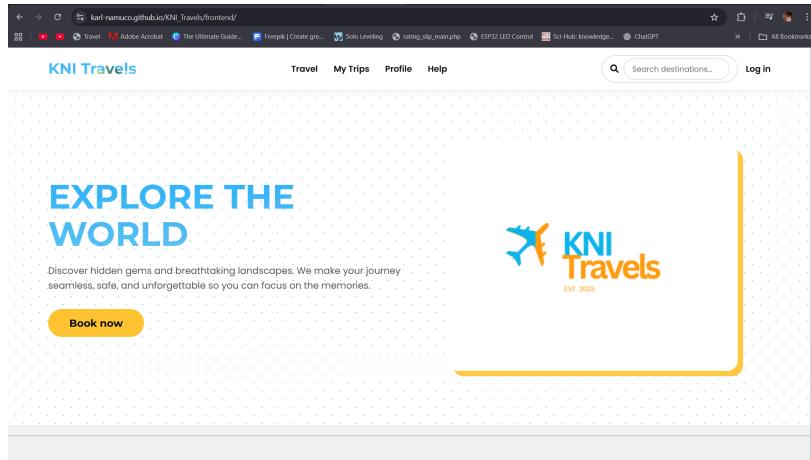


KNI_TRAVELS/	
backend/	(Server-Side Logic (PHP))
api.php	(Registration & Recovery Code (CRUD))
auth.php	(Generation)
login.php	(User Authentication)
contact.php	(Message Handling)
reset_password.php	(Password Recovery Logic)
db.php	(Database Connection Configuration)
kni.sql	(Database Export (Structure & Data))
frontend/	
assets/	(Image Resources)
hero1.jpg	
hero2.jpg	
etc...	
index.html	(Main Single Page Application)
admin.html	(Administrator Dashboard)
profile1.html	(profile pages of the developers)
profile2.html	
profile3.html	
script.js	(Frontend Logic (Fetch API, DOM Manipulation))
style.css	(Global Stylesheet (Responsive Design))

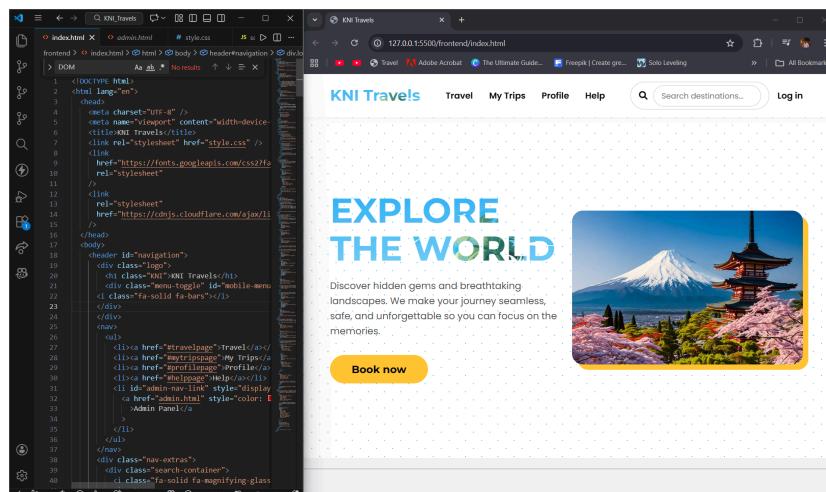
Development Environment & Repository



GitHub Repository - https://github.com/Karl-Namuco/KNI_Travels



Github pages - https://karl-namuco.github.io/KNI_Travels/frontend/



Local Deployment in VS Code (Live server)

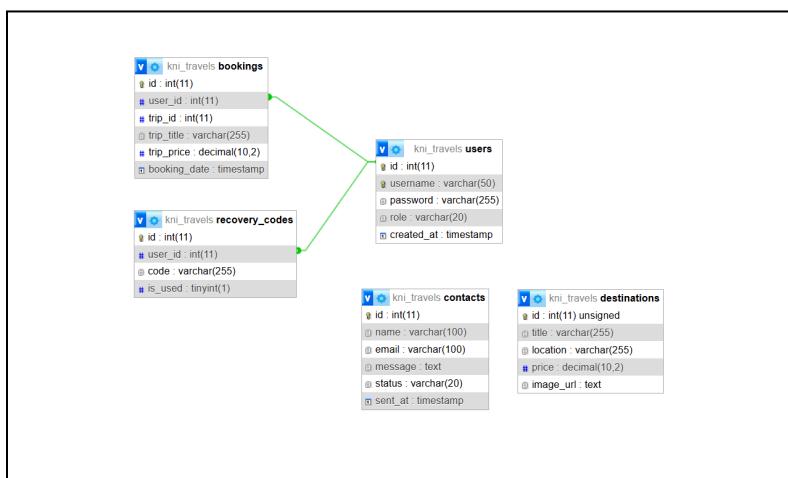
A. Frontend Development

The frontend is constructed using Semantic HTML5 for accessibility and SEO, styled with a hybrid layout of CSS flexbox (for navigation) and CSS grid. We used vanilla javascript and the Fetch API to enable asynchronous communication with the backend, allowing for dynamic content updates without page reloads. The user experience is further enhanced by custom interactive components, including a hero image slideshow and modal-based forms for secure login and booking, all wrapped in a fully responsive, mobile-first design.

B. Backend Development

The backend infrastructure is powered by PHP, utilizing a RESTful-style architecture where a centralized api.php controller routes requests via specific action parameters. We prioritized security and scalability by implementing password hashing for credential protection, prepared statements to prevent SQL injection, and session-based role management to dynamically differentiate between standard users and administrators.

C. Database Design



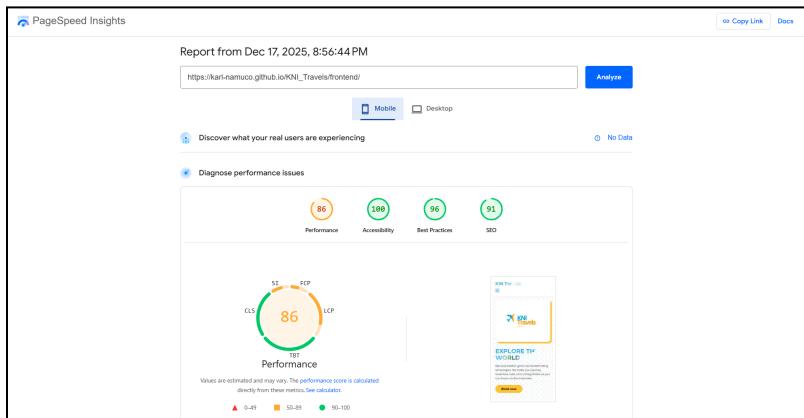
Data persistence is managed through a MySQL relational database, structured with normalized tables for users, destinations, bookings, and contacts. The schema enforces data integrity through primary and foreign key constraints, efficiently linking

user accounts to their specific booking history while keeping static destination content separate from dynamic transactional data.

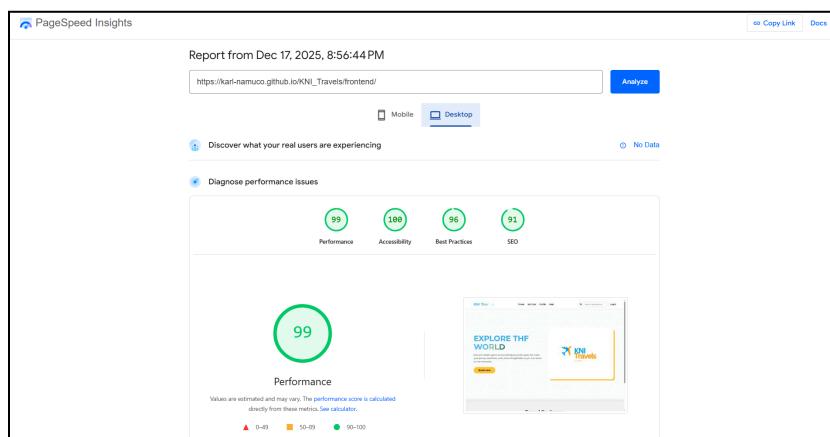
D. Integration Details

The frontend and backend connect using the JavaScript Fetch API. This tool sends data back and forth in the background, which allows users to book trips or log in instantly without the page reloading. This makes the website feel fast and smooth like a mobile app.

VIII. Testing & Performance Validation (Lighthouse Report)



Mobile



Desktop

https://pagespeed.web.dev/analysis/https-karl-namuco-github-io-KNI_Travels-frontend/8Ii2yhq1y?form_factor=desktop

IX. Conclusion

Summary of Learnings

This project taught us how to build a complete website that actually works, not just one that looks good. We learned how to design layouts that adjust automatically to fit both phone screens and computer monitors, ensuring the site is easy to use for everyone. Instead of creating just a static display, we used code to make the pages interactive which makes the buttons respond and update contents instantly so the user experience feels smooth and modern.

Most importantly, we learned how to connect the frontend of the website with the backend. We figured out how to send information like a trip booking or a login password to the server and get a response back without the whole page blinking or reloading. This gave us a real understanding of how modern web apps authenticate, store your data safely, and communicate behind the scenes.

Challenges & Solutions

1. **Challenge:** *Database Connection Errors.* We faced issues where the frontend couldn't communicate with the MySQL database (Error 404/500).

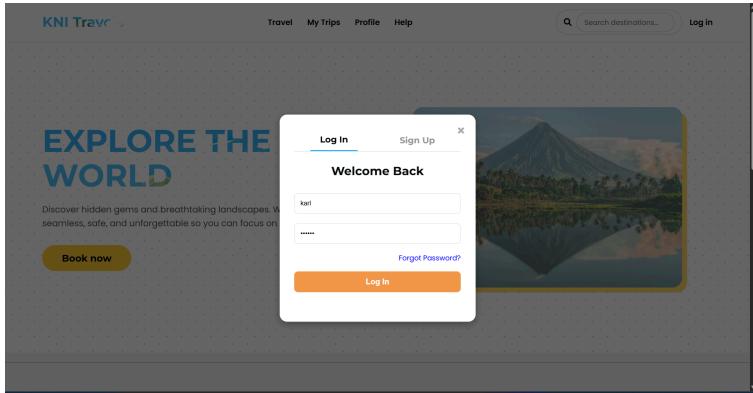
Solution: We debugged the file paths in script.js and ensured the db.php credentials matched our local XAMPP settings. We also added error_reporting(0) in PHP to prevent warnings from breaking the JSON response.

2. **Challenge:** *Persistent Data Display.* The "My Trips" section initially used LocalStorage, which disappeared if the user changed devices.

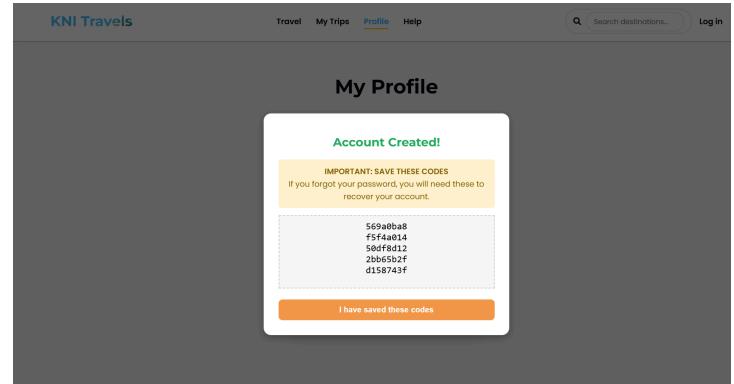
Solution: We migrated the logic to the database. We created a specific SQL query (SELECT * FROM bookings WHERE user_id = ?) to ensure users only see their own trips, regardless of where they log in.

X. Screenshots of Output

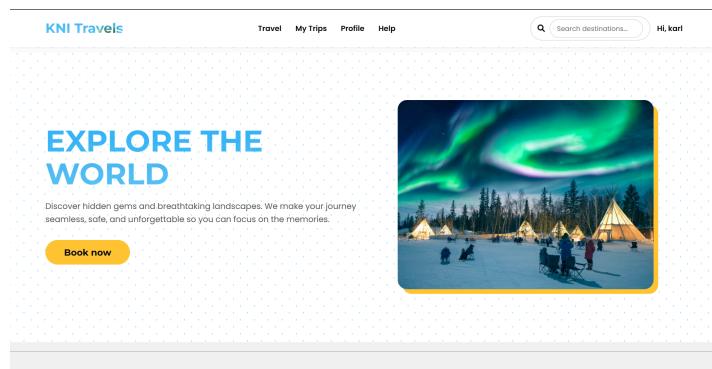
(The following screenshots present the full output of the system when executed on the local host)



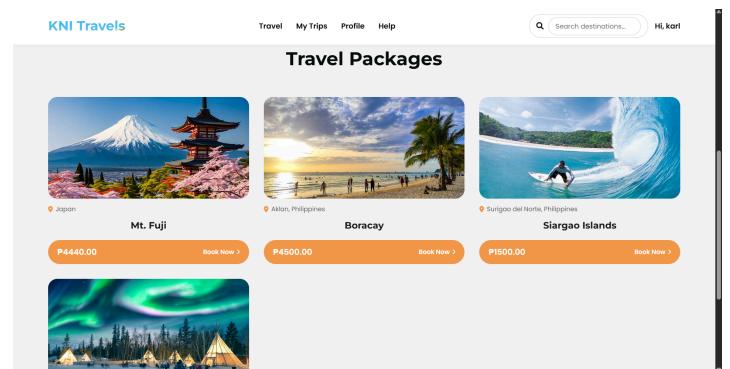
login/signup form



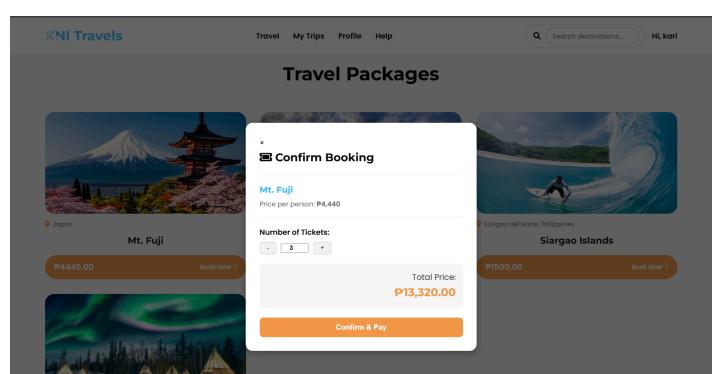
Account and code creation for password change



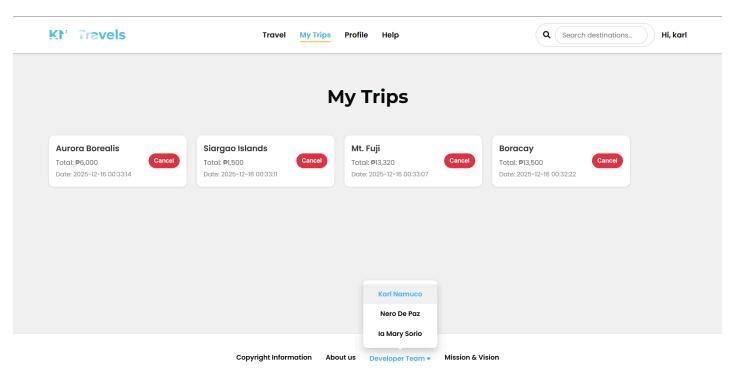
Hero section



Travel section



Booking Travels



My Trips and Footer Section

KNI Travels

Travel My Trips **Profile** Help

Search destinations... Hi, karl

My Profile

karl
EXPLORER

4 Active
Trips Booked Account Status

[Log Out]

Profile Section

KNI Travels

Travel My Trips Profile **Help**

Search destinations... Hi, karl

Help & Support

Clock Melodics
karl@gmail.com
Can we help me with this and that I have a ~~prob~~, thank you

[Send Message]

Copyright Information About us Developer Team Mission & Vision

Customer Inquiry section

KNI Travels

EXPLORE THE WORLD

Discover hidden gems and breathtaking landscapes. We make your journey seamless, safe, and unforgettable so you can focus on the memories.

Book now

Mobile View

KNI Travels

Travel Packages

Japan

Mt. Fuji

P4440.00 Book Now >

Mobile View

KNI Travels

Home Page Add Destination Manage Bookings Messages Administrator Mode Logout

Add New Destination

Destination Title (e.g. Hidden Valley) Location (e.g. Palawan, PH)

Price (P) Image URL (<https://>)

Add to Database

Manage Destinations

Mt. Fuji	Japan	P 4440.00	[Update] [Delete]
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Admin dashboard (Add Destinations)

KNI Travels

Home Page Add Destination Manage Bookings Messages Administrator Mode Logout

Manage Destinations

Mt. Fuji	Japan	P 4440.00	[Update] [Delete]
Boracay	Aklan, Philippines	P 4900.00	[Update] [Delete]
Siargao Islands	Surigao del Norte, Philippines	P 1500.00	[Update] [Delete]
Aurora Borealis	Nayjark, Iceland	P 6000.00	[Update] [Delete]

Recent Bookings

Aurora Borealis (karl)	[Cancel]
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Admin dashboard (Manage Destination)

The screenshot shows the 'Recent Bookings' section of the KNI Travels admin panel. It lists six recent bookings with details like destination, price, date, and user. Each booking has a red 'Cancel' button.

Booking Details	Action
Aurora Borealis (karl) Price: ₱6,000 Date: 2025-12-16 00:33:14	<input type="button" value="Cancel"/>
Siargao Islands (karl) Price: ₱5,500 Date: 2025-12-16 00:33:11	<input type="button" value="Cancel"/>
Mt. Fuji (karl) Price: ₱12,000 Date: 2025-12-16 00:33:07	<input type="button" value="Cancel"/>
Boracay (karl) Price: ₱13,500 Date: 2025-12-16 00:32:22	<input type="button" value="Cancel"/>
Mt. Fuji (admin) Price: ₱17,500 Date: 2025-12-15 22:29:27	<input type="button" value="Cancel"/>
Boracay (admin) Price: ₱4,500 Date: 2025-12-15 22:29:21	<input type="button" value="Cancel"/>

Admin dashboard (Customer Bookings)

The screenshot shows the 'Customer Messages' section of the KNI Travels admin panel. It displays a single message from 'Grock Mendoza' with the subject 'Pending'. The message content is "Can we help me with this and that i have a proble, thank you". There is a green button to 'Mark as Resolved'.

Admin dashboard (Review customer Inquiries)

XI. References

Practical Web Dev. (2025, August 20). Build a Full Stack To-Do App with PHP & MySQL (Beginner Friendly) [Video]. YouTube. <https://www.youtube.com/watch?v=cWfVVqOAM4I>

David G Tech. (2022, February 15). Create a simple modal popup login form using HTML, CSS & JavaScript [Video]. YouTube. <https://www.youtube.com/watch?v=LHDWpPHyf0A>