CS-344: Web Engineering

<u>Assignment # 3:</u> <u>Building Dynamic Web Application with Laravel</u>

Class: BESE-13-B

Instructor: Dr. Ayesha Hakim

Submitted by:

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GitHub repo: https://github.com/Ali-Amar/Assignment-3_Group-10_SE13B

PK Guides & Tours Website

Overview

We successfully implemented a dynamic web application for PK Guides & Tours using Laravel PHP framework. The application showcases a comprehensive tour booking system with core Laravel features including MVC architecture, routing, Blade templates, middleware, and Eloquent ORM.

<u>Task 1</u>: **Routing, Controllers, and Middleware**

   i. Implemented route definitions for all key features including tours, services, and bookings

   ii. Created controllers for handling business logic:

- HomeController for main landing page

- TourController for tour listings and details

- BookingController for managing user bookings

- ServiceController for service offerings

   iii. Implemented authentication middleware to protect booking-related routes

   iv. Configured user authentication system using Laravel's built-in features

<u>Task 2</u>: **Blade Templates and Layouts**

   i. Created a master layout (`app.blade.php`) with consistent header and footer

   ii. Utilized Blade directives effectively:

- ✓ @yield for content sections

- ✓ @section/@extends for template inheritance

- ✓ @include for reusable components

- ✓ @auth/@guest for conditional rendering

   iii. Implemented dynamic pages extending the master layout:

- ✓ Home page with featured tours and services

- ✓ Tours listing with filtering capabilities

✓ Booking management interface

✓ Service showcase pages

Task 3: Eloquent ORM and Database Operations

i. Created and implemented database migrations for:

- Users table for authentication

- Tours table for tour packages

- Bookings table for user bookings

- Services table for available services

ii. Implemented Eloquent relationships:

- User hasMany Bookings

- Booking belongsTo User and Tour

iii. Implemented CRUD operations:

- Create: New booking functionality

- Read: Tour and service listings

- Update: Booking status management

- Delete: Booking cancellation feature

Technical Highlights

- Responsive design using Tailwind CSS

- Interactive UI elements with JavaScript

- Secure form handling and validation

- Efficient database queries using Eloquent

- Clean and maintainable code structure