



Daffodil
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Tour & Travel Management System

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This project is submitted in partial fulfillment of the requirement for the degree
Bachelor of Science in Software Engineering

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APPROVAL

This project titled on “**Travel Assistant**”, submitted by **Rakibul Islam (ID: 191-35-2806)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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I declare that this study document is being presented under the name of Ms. Nusrat Tasnim, a lecturer in the software engineering department at Daffodil International University. Consequently, I acknowledge that this work, or any part of it, is not intended for inclusion in a Bachelor's or Master's degree program.

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ABSTRACT

The Tour & Travel Management System, also known as Travel Assistant, is a comprehensive web-based application designed to streamline the booking and management of travel packages. This project aims to digitize the entire tour booking and payment process, providing users with a seamless and efficient way to plan and book their travel experiences.

By leveraging modern web technologies, including HTML, CSS, Bootstrap, JavaScript, and React for the frontend, and Node.js for the backend, the system offers a user-friendly interface that simplifies user interactions and enhances the overall travel planning experience. The use of a MongoDB database ensures efficient data storage and retrieval, supporting robust booking management functionalities.

The system incorporates key features such as user registration and login, profile management, search capabilities, booking management, payment processing, and the ability to create and join travel packages and events. Additionally, users can leave reviews and feedback, contributing to an interactive and community-driven platform.

To ensure the system meets the evolving needs of users, the Agile development model was adopted, allowing for iterative improvements and continuous feedback integration. This flexible approach has enabled the early identification and mitigation of risks, ensuring the project's success.

The project not only enhances the efficiency of travel planning and booking but also promotes transparency and security through its integrated e-payment system and clear communication of policies and terms. Future enhancements include expanding geographical coverage, developing a mobile application, and incorporating advanced personalization features.

Overall, the Tour & Travel Management System represents a significant advancement in the tour and travel industry, providing a scalable, user-centric solution that meets the demands of modern travelers.

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(No. of Chapter: 1) Introduction

1.1 Project Overview

The Tour & Travel Management System project is user-friendly. This enables the user to understand and book every plan. This project includes a variety of forms, including custom user packages, forms for all package types, and registration pages where users can fill out the forms with their services and requirements before submitting them to the website. With the help of an integrated payment gateway, users can pay from the comfort of their homes thanks to an integrated payment gateway. This development is primarily focused on the use of web apps for tourism and travel. We designed this program to provide top-notch travel services for agents and clients. Visitors can obtain all the information they need about our stunning nation using this web application. They can swiftly travel to any location to get the data. This app offers tours of various places across our country. Through this application, travelers can choose the convenient travel option that best suits their needs at a more affordable price.

Bangladesh possesses a wealth of historical and traditional heritage. Bangladesh is a popular and desirable location for travelers. Travel is an integral part of our life. Traveling exposes you to diverse circumstances and experiences, allowing you to deviate from your typical routine. It rejuvenates both our physical and mental well-being. Bangladesh is a highly sought-after tourism destination in South Asia. Every year, Bangladesh attracts a significant number of both local and foreign tourists. The aristocratic culture and thousands of years of abundant history attract them irresistibly. In this scenario, we would develop a web application that facilitates travel by offering tour packages and hotel booking services and providing knowledgeable tour guides for various tourist destinations. The web application is accessible for utilization by hotel administration. Hotel authorities can provide reservation schedules for hotels. We exerted significant effort and diligently followed all the essential procedures to achieve victory. This application system is anticipated to handle many categories of vacation packages, such as hotel accommodations.

1.2 Purpose of Project

The main objective of the Tour & Travel Management System is to create a complete digital solution that automates and simplifies the tasks related to planning, booking, and overseeing travel and tourism activities. By leveraging modern web technologies, the system aims to enhance user convenience, improve operational efficiency for travel agencies, and promote eco-friendly travel practices. The following specific objectives outline the purpose of this project:

- **Digital Transformation of Travel Services:**

- **Automation:** Transform the traditional manual processes of booking tours, accommodations, and transportation into automated, seamless digital workflows.
- **Accessibility:** Create an online platform that is accessible from anywhere, allowing users to plan and book their travel at any time.

- **Enhanced User Experience:**

- **Intuitive User Interface:** Create a user-friendly and engaging interface that streamlines the process of discovering, reserving, and overseeing travel services.
- **Personalization:** Enable users to create and manage personal profiles, customize travel preferences, and receive tailored recommendations.

- **Efficient Booking and Management:**

- **Comprehensive Booking System:** Provide a one-stop solution for booking hotels, flights, trains, buses, tour packages, and event tickets.
- **Real-Time Updates:** Ensure that users can access real-time information on availability, pricing, and travel itineraries.

- **Cost-Effective Solutions:**

- **Affordable Options:** Offer a range of travel packages and services that cater to different budgets, making travel more affordable for a broader audience.
- **Transparent Pricing:** Maintain transparency in pricing, avoid hidden fees, and ensure users are fully informed about the costs involved.

- **Security and Reliability:**

- **Secure Transactions:** Establish strong security protocols to safeguard user information and guarantee safe online payment transactions.
- **Reliability:** Develop a reliable system that provides consistent performance and is available 24/7.

- **Environmental Sustainability:**

- **Eco-Friendly Travel:** Promote eco-friendly travel options and encourage sustainable tourism practices to reduce the environmental impact of travel.

- **Stakeholder Satisfaction:**

- **Customer Satisfaction:** Enhance customers' overall travel experience by providing a convenient, efficient, and enjoyable booking process.
- **Operational Efficiency:** Automating administrative tasks and reducing manual workloads can improve the efficiency of travel agencies and service providers.

- **Continuous Improvement:**

- **Feedback Mechanism:** Incorporate user feedback to improve the platform and expand its features continually.
- **Scalability:** Ensure the system is scalable to accommodate future growth and the addition of new functionalities.

1.2.1 Proposed System

The suggested Tour & Travel Management System is a complete web-based application aimed at simplifying the processes associated with planning, booking, and overseeing travel and tourism activities. This system aims to provide an efficient, user-friendly, and eco-friendly solution for travelers and travel agencies. The following sections outline the key components and functionalities of the proposed system:

1. System Overview

The Tour & Travel Management System is an integrated platform that offers a wide range of travel-related services, including tour package booking, accommodation reservations, transportation booking, event participation, and user feedback. The system will have a user interface, a back-end server, and a database to manage all travel-related data.

2. Key Features

- **User Registration and Authentication:**

- Users can register by providing personal information and a valid email address.
- Secure login with username/email and password.
- User profile management to customize travel preferences

- **Search and Booking:**

- Advanced search functionality to find events, transportation, shopping malls, restaurants, and tourist places.
- Users can view details of tour packages and make bookings directly through the system.
- Real-time availability and pricing information.

- **Tour Packages:**

- Comprehensive information about various tour packages, including special, regular, overnight, and day trips.
- Users can compare packages and choose the one that best suits their needs.

- **Accommodation Booking:**

- Integration with hotels and other accommodation providers to offer booking services.
- Users can view hotel details, check availability, and make reservations.

- **Transportation Services:**

- Booking options for flights, trains, buses, and car rentals.
- Users can view schedules and prices and book transportation as needed.

- **Event Participation:**

- Users can log in to join events, hire tour guides, and get information about cultural programs and other activities.
- Real-time updates on ongoing and upcoming events.

- **User Reviews and Suggestions:**

- A feedback system allows users to post reviews, complaints, and suggestions.
- Admin can manage and respond to user feedback.

- **Online Payment Gateway:**

- A secure and fast online payment system is integrated for all bookings and transactions.
- Offers a variety of payment methods, such as credit and debit cards, as well as online payment systems.

3. System Architecture

The system architecture will adopt a three-tier framework:

- **Presentation Layer:**

- User interface designed using HTML5, CSS3, Bootstrap, and JavaScript for an intuitive and responsive design.

- **Business Logic Layer:**

- Server-side scripting using PHP to handle business logic and processing.

- **Data Access Layer:**

- MySQL database to manage all travel-related data, including user information, bookings, payments, and reviews.

4. Database Design

The database will include tables for:

- Users (User_ID, Username, Password, Email, Profile Details)
- Admin (Admin_ID, Username, Password, Email)
- Tour Packages (Package_ID, Package_Name, Description, Price, Duration, Type)
- Bookings (Booking_ID, User_ID, Package_ID, Booking_Date, Status)
- Hotels (Hotel_ID, Name, Location, Price, Description)
- Transportation (Transport_ID, Type, Name, Description, Price)
- Events (Event_ID, Name, Date, Location, Description)
- Reviews (Review_ID, User_ID, Comment, Date)
- Payments (Payment_ID, Booking_ID, Amount, Payment_Date, Status)

5. Implementation Plan

- Phase 1: Requirements Analysis and System Design
 - Gather requirements and define system specifications.
 - Design the system architecture and database schema.

- Phase 2: Development
 - Develop the front-end interface and back-end server.
 - Implement the database and integrate it with the server.
 - Develop and integrate the online payment system.
- Phase 3: Testing
 - Conduct unit tests, integration tests, and system tests.
 - Make sure that all features operate correctly and address any identified problems.
- Phase 4: Deployment
 - Install the system on a web server.
 - Set up the system for public accessibility.
- Phase 5: Maintenance and Updates
 - Monitor system performance and user feedback.
 - Regularly update the system with new features and improvements.

6. Security Measures

- Implement SSL encryption for secure data transmission.
- Use secure authentication mechanisms to protect user accounts.
- Regularly update and patch the system to protect against vulnerabilities.

7. Expected Benefits

- Efficiency: Streamlined booking and management processes save users and travel agencies time.
- Convenience: Users can access travel services anytime and from anywhere.
- Cost-Effectiveness: Affordable travel options and transparent pricing.
- User Satisfaction: Enhanced user experience with a user-friendly interface and personalized services.
- Sustainability: Support for eco-friendly travel options and practices.

(No. of Chapter: 2) System Layout

2.1 Feasibility Analysis, Technical Feasibility, Operational Feasibility

Feasibility analysis entails assessing the practicality and viability of the suggested Tour and Travel Management System. Below are the detailed studies of technical and operational feasibility.

1. Technical Feasibility

Hardware and Software Requirements

The proposed system will be a web-based application requiring certain hardware and software components for development, deployment, and usage.

Hardware Requirements:

- Server: A reliable server with sufficient processing power, memory, and storage to host the application and database.
 - Minimum Core i5 Processor
 - 16GB RAM
 - 500GB SSD storage
- Client Devices: Any device that has internet connectivity and a contemporary web browser, such as desktop computers, laptops, tablets, or smartphones.

Software Requirements:

- Web Server: Apache or Nginx
- Database Management Systems: MySQL
- **Programming Languages:**
 - Server-side: PHP, Python, or Node.js
 - Client-side: HTML5, CSS3, JavaScript
- **Frameworks and Libraries:**
 - Front-end: Bootstrap, React.js or Angular.js
 - Back-end: Laravel (for PHP), Django (for Python), or Express (for Node.js)

- Development Tools: IDEs such as Visual Studio Code, NetBeans, or PyCharm
- Version Control: Git and GitHub or GitLab for version control and collaboration

Technical Skills Required

- Web Development: Knowledge of HTML, CSS, JavaScript, and modern front-end frameworks.
- Backend Development: Proficiency in PHP, Python, or Node.js and experience with server-side frameworks.
- Database Management: Skills in SQL and experience with database design and optimization.
- DevOps: Understanding server management, deployment processes, and CI/CD pipelines.

Evaluation

The project's technical feasibility is high, as the required hardware and software are readily available, and the necessary technical skills can be sourced from the development team. Modern web technologies and frameworks ensure the project can be easily developed and maintained.

2. Operational Feasibility

User and Stakeholder Needs

The proposed system aims to serve multiple stakeholders, including customers, travel agency staff, and administrators. It needs to cater to the following operational requirements:

- **Customer Requirements:**
 - Easy registration and login process
 - Intuitive navigation and search functionality
 - Detailed information on tour packages, accommodations, and transportation
 - Secure online booking and payment system
 - Ability to provide feedback and reviews
- **Staff Requirements:**
 - Efficient management of bookings and customer inquiries
 - Tools for adding and updating tour packages, events, and accommodations
 - Access to customer feedback and reviews

- **Admin Requirements:**

- Comprehensive dashboard for monitoring system performance
- User management capabilities (registration approval, user activity monitoring)
- Reporting tools for generating insights on system usage and bookings

Training and Support

- **User Training:** Provide user manuals, video tutorials, and a helpdesk to assist customers in using the system.
- **Staff Training:** Conduct training sessions for travel agency staff and administrators to familiarize them with system functionalities.
- **Technical Support:** Establish a support team to handle technical issues and provide maintenance services.

Organizational Impact

Implementing the Tour & Travel Management System will significantly enhance the operational efficiency of travel agencies by automating manual processes and providing a seamless experience for customers. It will reduce the workload on staff, improve customer satisfaction, and potentially increase bookings and revenue.

Evaluation

The operational feasibility is strong because the system is designed to accommodate the requirements of all stakeholders involved. Proper training and support will ensure the system's smooth adoption and operation.

2.2 Functional Requirements Specification

This System's functional requirements outline the particular functions that the system must provide in order to meet the needs of its users, which include customers, travel agency personnel, and administrators. These requirements are categorized based on different user interactions and system capabilities.

ID	Name	Description	Stakeholder
FR-01	Sign Up	User will be able to register with their information with valid mail.	Admin, Customer, Guest
FR-02	Sign In	Users can access their accounts by entering a valid username or email along with the corresponding password.	Admin, Customer, Guest
FR-03	Edit Profile	The user profile allows the user to customize their experience within the system.	Customer
FR-04	Do Search	The "Search" functionality enables users to find their preferred packages, events, Transportation, shopping malls, restaurants, places, etc.	Customer, Guest
FR-05	Manage Booking	Booking typically involves the process of reserving through the system.	Customer
FR-06	Give Review	Users can post their opinions, complaints, and suggestions.	Customer
FR-07	Make Payment	Users can able to payment through the online payment system	Customer
FR-08	Create Package	Users can purchase their preferred package.	Admin, Customer
FR-09	Join Event	Users can log in and join any event and also hire a guide.	Customer
FR-10	Book Transport	Users can buy our transportation services.	Customer
FR-11	Log Out	Users can log out from our system.	Admin, Customer

2.3 System Requirements

The requirements for the Tour & Travel Management System detail the necessary hardware, software, and technical specifications needed to successfully develop, deploy, and operate the application. These are categorized into hardware, software, and network requirements.

1. Hardware Requirements

- **Server-Side**

- Processor: Minimum Core i5 or equivalent
- Memory: At least 16GB RAM
- Storage: Minimum 500GB SSD
- Network: High-speed internet connection for server hosting
- Backup: External backup storage with sufficient capacity for regular backups
- Redundancy: Load balancer and failover server to ensure high availability

- **Client-Side**

- Processor: Minimum Core i3 or equivalent
- Memory: At least 4GB RAM
- Storage: Minimum 50GB HDD or SSD
- Display: Monitor with at least 1366x768 resolution
- Input Devices: Keyboard and mouse or other pointing devices
- Network: Stable internet connection

2. Software Requirements

- **Server-Side**

- Operating System: Linux or Windows Server
- Web Server: Apache or Nginx
- Database : MySQL
- Backend Language: Node.js

- **Client-Side**

- Web Browser: Latest versions of Chrome, Firefox, Safari, or Edge
- Front-End Framework: Bootstrap, React.js, or Angular.js
- Languages: HTML5, CSS3, JavaScript
- Libraries: jQuery (optional), Axios (for HTTP requests)

3. Network Requirements

- Bandwidth: Sufficient bandwidth to handle peak user loads
- Latency: Low latency to ensure fast response times
- Firewall: Properly configured firewall to protect against unauthorized access
- DNS: Reliable DNS service to ensure domain resolution
- Load Balancing: Load balancer to distribute traffic evenly across servers
- Security: Implementation of security protocols like HTTPS and SSH

2.4 Non-Functional Requirements Specification

Non-functional requirements (NFRs) outline the standards for evaluating how a system functions, rather than detailing its specific behaviors. These requirements guarantee that the system operates efficiently, remains dependable, is secure, and provides a positive user experience. Here are the primary non-functional requirements for the Tour & Travel Management System:

ID	Name	Description	Functional/ Non-Functional
NFR-01	Usability	The system must offer an engaging and intuitive interface that is simple for all users to comprehend.	Non-Functional
NFR-02	Maintainability	The system should be designed modularly to facilitate easy updates and maintenance.	Non-Functional
NFR-03	Availability	The system should work 24/7 so users can get access and service.	Non-Functional
NFR-04	Security	Access to the system and the ability to view and modify data must be restricted to authorized users only.	Non-Functional

2.5 Performance

Performance requirements ensure the system operates efficiently under various conditions, providing a seamless user experience. Below are the critical performance requirements for the Tour & Travel Management System:

Response Time

- **User Interactions:** Under typical load circumstances, the system must react to user interactions—such as searches, bookings, and page loads—within a duration of 2 seconds.
- **API Requests:** The system should process API requests and return responses within 1 second for standard operations.
- **Database Queries:** The system should execute database queries and return results within 1 second for standard queries.

Take remote access to the platform from any location worldwide.
Support for many languages such as Bangla and English.

(No. of Chapter: 3) System Design

3.1 Development Framework

Creating a Tour & Travel Management System encompasses several phases of software development, and selecting a suitable development model is vital for the project's success. I opted for the **Agile Model** for this web application. Agile was chosen because it accommodates changes in requirements even in the later stages of development. This flexibility is advantageous for a tour and travel system where the user needs might change, or new features emerge during development. Agile's iterative approach facilitates the early detection and resolution of risks.

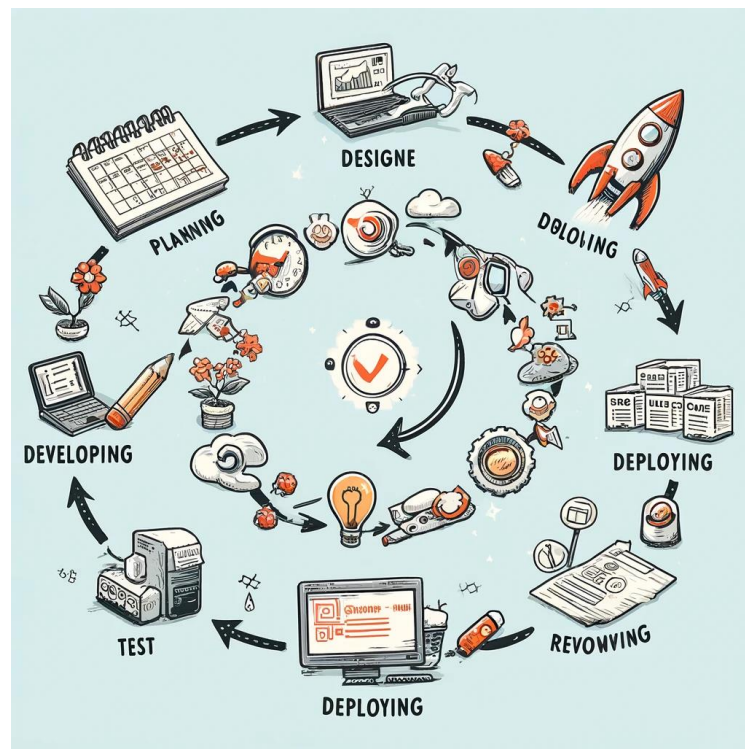


Figure no. 3.1: Agile Model

3.1.1 Use Case Diagram

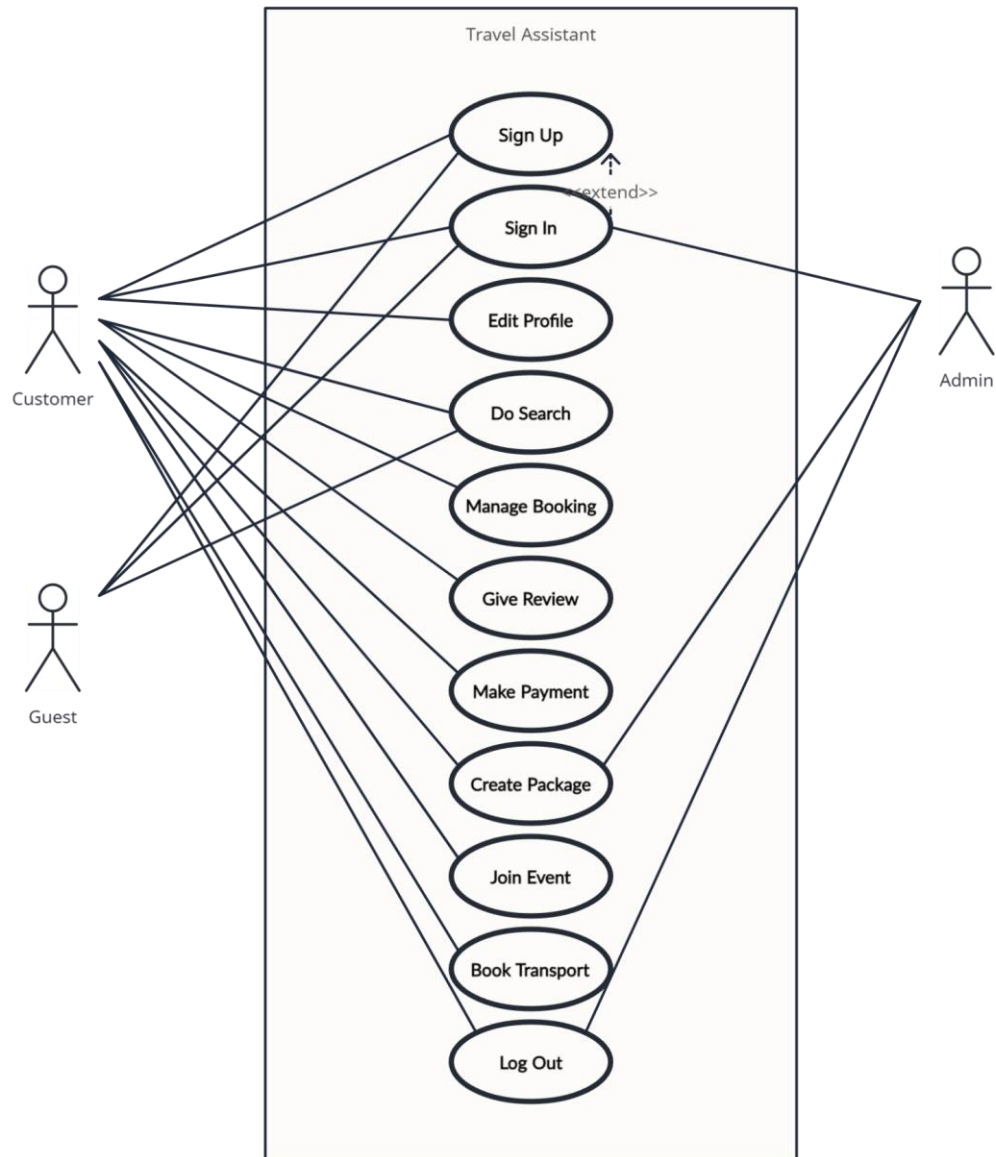


Figure no. 3.1.1: Diagram of Use Cases

3.1.2 Use Case Description

Use Case	Sign Up	
Goal	To create a new account, the user must be able to register themselves using the application.	
Preconditions	No precondition.	
Success End Condition	The user is successfully registered with the system.	
Failed End Condition	Registration cannot be completed. The user might not have filled out the registration form correctly.	
Primary Actors:	Guest	
Secondary Actors:	Admin	
Trigger	The user selects the "Sign Up" option from the main menu.	
Description / Main Success Scenario	Step	Action
	1	The guest selects "Sign Up" from the main menu.
	2	The system displays the registration form.
	3	The guest enters their registration details (name, email, password).
	4	The guest submits the form.
	5	The system validates the information.
	6	The system creates a new user account and sends a confirmation email.
Alternative Flows	Step	Branching Action
	1a	If the combination of registration and password is invalid, the system alerts the guest to amend the information.
Quality Requirements	Step	Requirement
	1	Registration should be completed within 30 seconds.
	2	A confirmation message should be displayed no later than 25 seconds after the registration is submitted.

Figure no. 3.1.2.1: Sign Up

Use Case	Sign In	
Goal	To enable current users to access the system.	
Preconditions	The user needs to possess a registered account.	
Success End Condition	The user is currently signed into the system.	
Failed End Condition	The user is unable to log in because the credentials entered are incorrect.	
Primary Actors:	Customer, Guest.	
Secondary Actors:	Admin	
Trigger	The user chooses the "Sign In" option from the primary menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "Sign In" from the main menu.
	2	Show the login form.
	3	The user inputs their email address and password.
	4	The user sends in the form.
	5	The system verifies the credentials.
	6	The user is logged into the system and taken to the dashboard.
Alternative Flows	Step	Branching Action
	3a	If the email or password is not correct, the system asks the user to input the information again.
Quality Requirements	Step	Requirement
	1	The login process should be completed within 15 seconds.

Figure no. 3.1.2.2: Sign In

Use Case	User Profile	
Goal	Enable users to access and modify their profile details.	
Preconditions	The user needs to be signed in.	
Success End Condition	The user's profile has been updated.	
Failed End Condition	The user's profile has not been updated because of errors.	
Primary Actors: Secondary Actors:	Customer.	
Trigger	The user chooses the "User Profile" option from the main menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "User Profile" from the main menu.
	2	The system shows the profile information of the user.
	3	The user modifies their profile details.
	4	The user submits the modifications.
	5	The information is verified by the system.
	6	The system updates the user's profile.
Alternative Flows	Step	Branching Action
	3a	If the profile information is incorrect, the system will prompt the user to make the necessary corrections.
Quality Requirements	Step	Requirement
	1	Profile updates should be processed within 20 seconds.

Figure no. 3.1.2.3: User Profile

Use Case	Search	
Goal	To allow users and guests to search for tour packages, accommodations, transportation options, events, shopping malls, and restaurants.	
Preconditions	None	
Success End Condition	The search results are now shown.	
Failed End Condition	No results were found in the search.	
Primary Actors: Secondary Actors:	Customer, Guest.	
Trigger	The user or guest chooses the "Search" option from the main menu.	
Description / Main Success Scenario	Step	Action
	1	The user or guest chooses "Search" from the main menu.
	2	The search form is presented by the system.
	3	The user or guest inputs the search parameters.
	4	The user or guest submits the search form.
	5	The search request is processed by the system.
	6	Show the search result.
Alternative Flows	Step	Branching Action
	4a	If there are no results, the system shows a message stating that no matches were found.
Quality Requirements	Step	Requirement
	1	Search results should be displayed within 10 seconds.

Figure no. 3.1.2.4: Search

Use Case	Manage Booking	
Goal	To enable users to view, change, or cancel their current reservations.	
Preconditions	The user needs to be logged in and should have a confirmed booking.	
Success End Condition	The reservation has been modified or canceled.	
Failed End Condition	The reservation stays the same due to mistakes.	
Primary Actors: Secondary Actors:	Customer.	
Trigger	The user chooses the "Manage Booking" option from the primary menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "Manage Booking" from the primary menu.
	2	The system shows the bookings made by the user.
	3	The user chooses a reservation to examine, alter, or cancel.
	4	The user submits the modifications.
	5	The system verifies the modifications.
	6	The system modifies or nullifies the reservation.
Alternative Flows	Step	Branching Action
	3a	If the changes are not valid, the system alerts the user to revise the information.
Quality Requirements	Step	Requirement
	1	Booking updates should be processed within 15 seconds.

Figure no. 3.1.2.5: Manage Booking

Use Case	Give Review	
Goal	To allow users to post reviews and ratings for tour packages, accommodations, transportation services, and events.	
Preconditions	The user needs to be logged in and must have utilized the service.	
Success End Condition	The review has been published.	
Failed End Condition	The review has not been published because of errors.	
Primary Actors: Secondary Actors:	Customer	
Trigger	The user chooses the "Give Review" option from the main menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "Give Review" from the primary menu.
	2	The review form is presented by the system.
	3	The review form is completed by the user.
	4	The user fills out and submits the review form.
	5	The system verifies the review.
	6	The review is published by the system.
Alternative Flows	Step	Branching Action
	3a	If the review is deemed invalid, the system alerts the user to amend the information.
Quality Requirements	Step	Requirement
	1	Reviews should be posted within 10 seconds.

Figure no. 3.1.2.6: Give Review

Use Case	Make Payment	
Goal	To allow users to make online payments for bookings.	
Preconditions	The user needs to be logged in and possess a booking.	
Success End Condition	The payment has been processed and verified.	
Failed End Condition	The payment was unsuccessful because of errors.	
Primary Actors: Secondary Actors:	Customer	
Trigger	The user chooses the "Make Payment" option from the primary menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "Make Payment" from the primary menu.
	2	The payment form is displayed by the system.
	3	The user inputs their payment information.
	4	The user completes and sends the payment form.
	5	The payment is being processed by the system.
	6	The payment is verified by the system, which then updates the status of the booking.
Alternative Flows	Step	Branching Action
	3a	If the payment information is not valid, the system will ask the user to rectify the details.
Quality Requirements	Step	Requirement
	1	Payments should be processed within 15 seconds.

Figure no. 3.1.2.7: Make Payment

Use Case	Create Package	
Goal	To allow administrators to create new tour packages.	
Preconditions	The administrator needs to be logged in.	
Success End Condition	A new tour package is created.	
Failed End Condition	The tour package is not created due to errors.	
Primary Actors:	Admin.	
Secondary Actors:	Customer.	
Trigger	The user chooses the "User Profile" option from the main menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "User Profile" from the main menu.
	2	The system showcases the user's profile details.
	3	The user updates their profile details.
	4	The user sends in the modifications.
	5	The information is validated by the system.
	6	Refresh the profile page.
Alternative Flows	Step	Branching Action
	3a	If the profile details are not valid, the system will alert the user to rectify the information.
Quality Requirements	Step	Requirement
	1	Profile updates should be processed within 20 seconds.

Figure no. 3.1.2.8: Create Package

Use Case	Join Event	
Goal	To allow users to register for events and hire tour guides.	
Preconditions	The user needs to be signed in.	
Success End Condition	The user has completed their registration for the event.	
Failed End Condition	The registration was unsuccessful because of errors.	
Primary Actors: Secondary Actors:	Customer.	
Trigger	The user chooses the "Join Event" option from the primary menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "Join Event" from the main menu.
	2	The system shows events that are currently available.
	3	The user chooses an event to participate in.
	4	The user registers for the event.
	5	The registration has been verified.
Alternative Flows	step	Branching Action
	3a	If the event registration details are invalid, the system prompts the user to correct the information.
Quality Requirements	Step	Requirement
	1	Event registrations should be processed within 15 seconds.

Figure no. 3.1.2.9: Join Event

Use Case	Book Transport	
Goal	To allow users to book transportation options like flights, trains, buses, and car rentals.	
Preconditions	The user needs to be logged in.	
Success End Condition	The transport has been arranged.	
Failed End Condition	The reservation could not be completed because of mistakes.	
Primary Actors: Secondary Actors:	Customer.	
Trigger	The user chooses the "Book Transport" option from the main menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses the "Book Transport" option from the main menu.
	2	The system shows the available transportation choices.
	3	The user chooses a mode of transportation.
	4	The user submits the booking information.
	5	The user fills out and submits the booking form.
	6	The system handles the reservation and verifies it.
Alternative Flows	Step	Branching Action
	3a	If the booking information is incorrect, the system alerts the user to make the necessary corrections.
Quality Requirements	Step	Requirement
	1	Transport bookings should be processed within 20 seconds.

Figure no. 3.1.2.10: Book Transport

Use Case	Log Out	
Goal	To enable users to sign out of the system.	
Preconditions	The user needs to be signed in.	
Success End Condition	The user has been signed out.	
Failed End Condition	The user stays logged in because of errors.	
Primary Actors:	Customer.	
Secondary Actors:	Admin.	
Trigger	The user chooses the "Log Out" option from the primary menu.	
Description / Main Success Scenario	Step	Action
	1	The user chooses "Log Out" from the main menu.
	2	The system terminates the user's session.
	3	The user is redirected to the home page by the system.
Alternative Flows	Step	Branching Action
	0a	None.
Quality Requirements	Step	Requirement
	1	Logout should be processed within 5 seconds.

Figure no. 3.1.2.11: Log Out

3.2 Activity Diagram

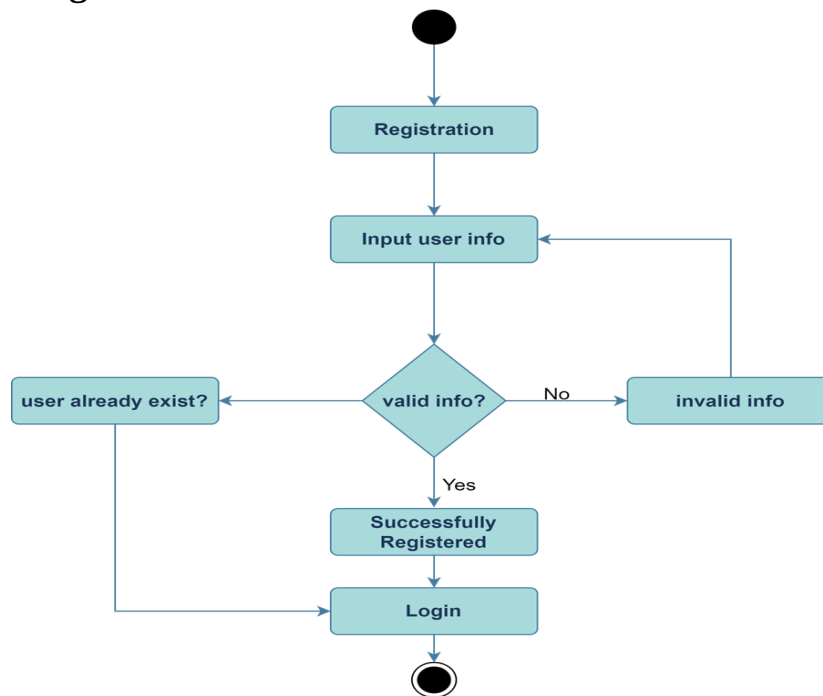


Figure no. 3.2.1: Sign Up

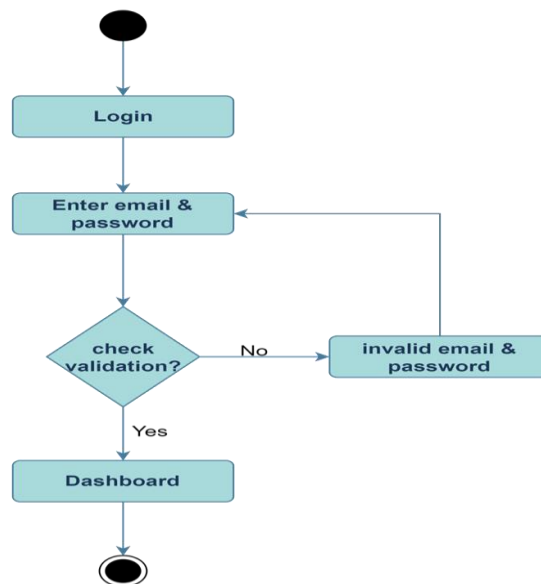


Figure no. 3.2.1: Sign Up

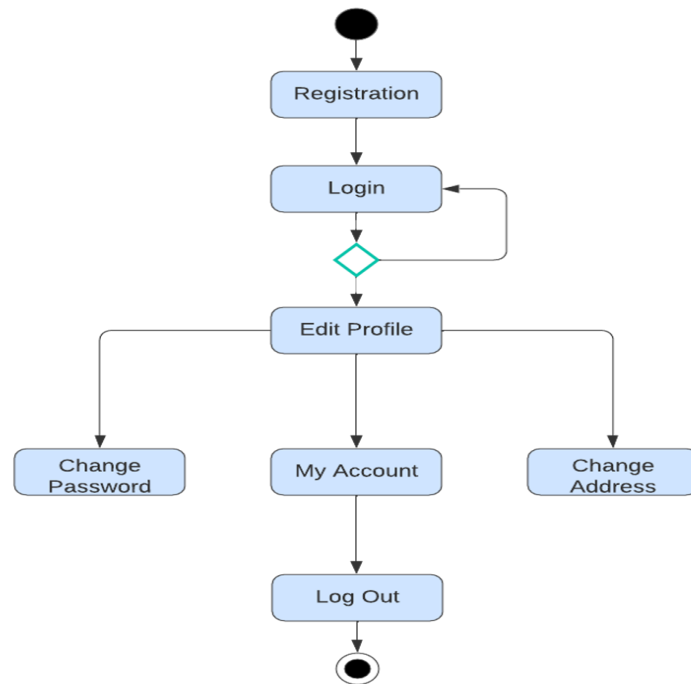


Figure no. 3.2.3: Edit Profile

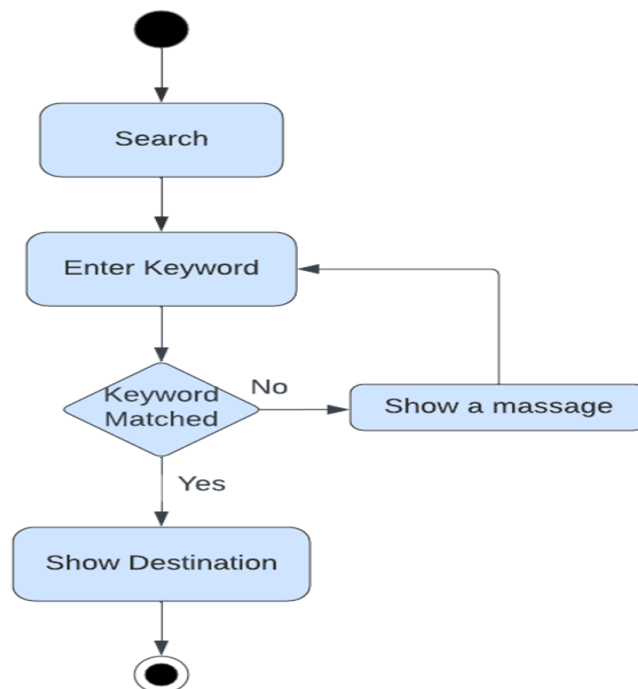


Figure no. 3.2.4: Search

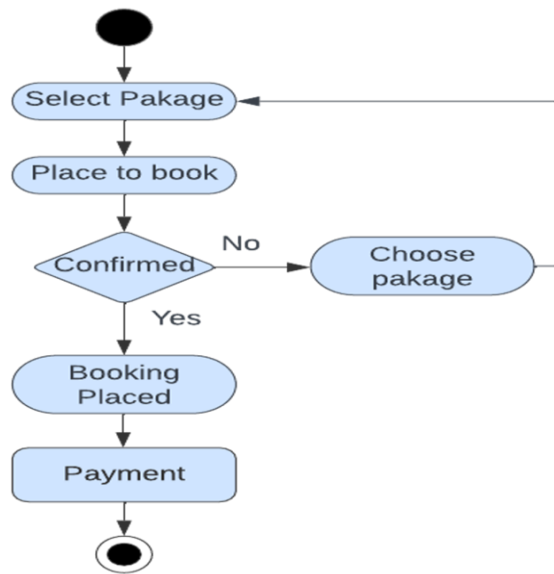


Figure no. 3.2.5: Booking

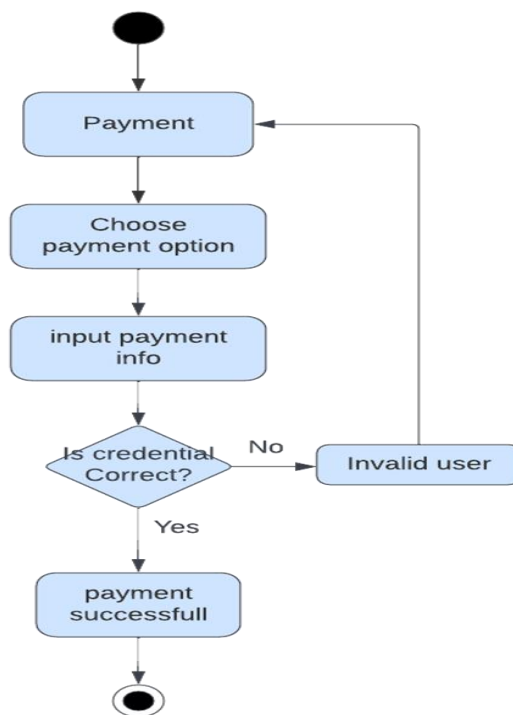


Figure no. 3.2.6: Payment

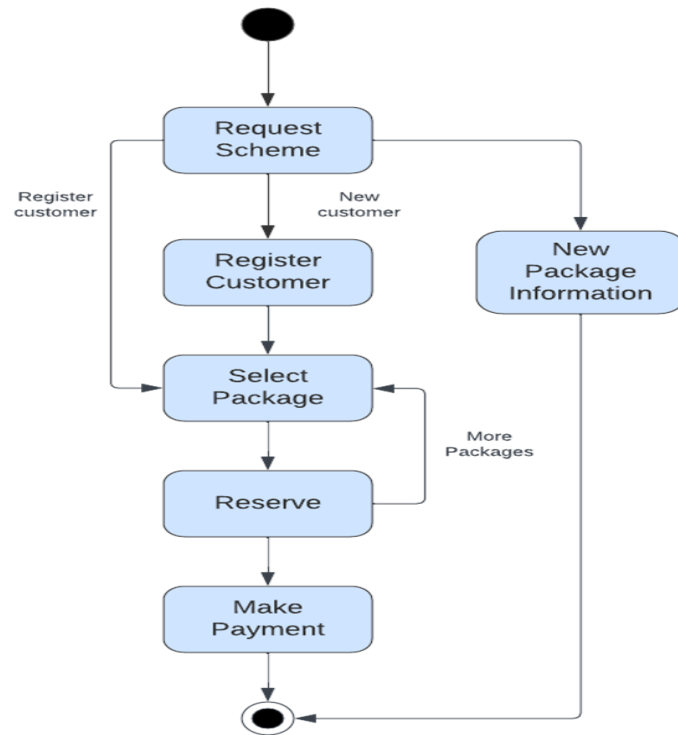


Figure no. 3.2.7: Package

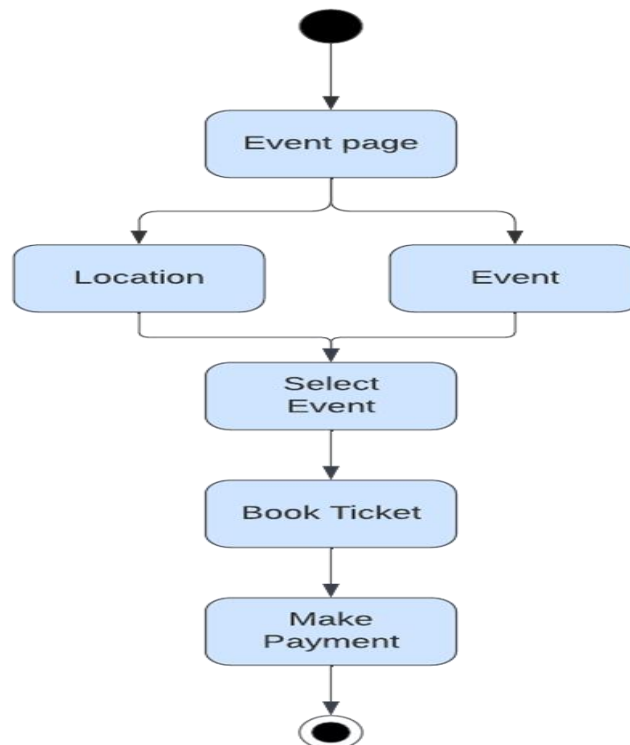


Figure no. 3.2.8: Event

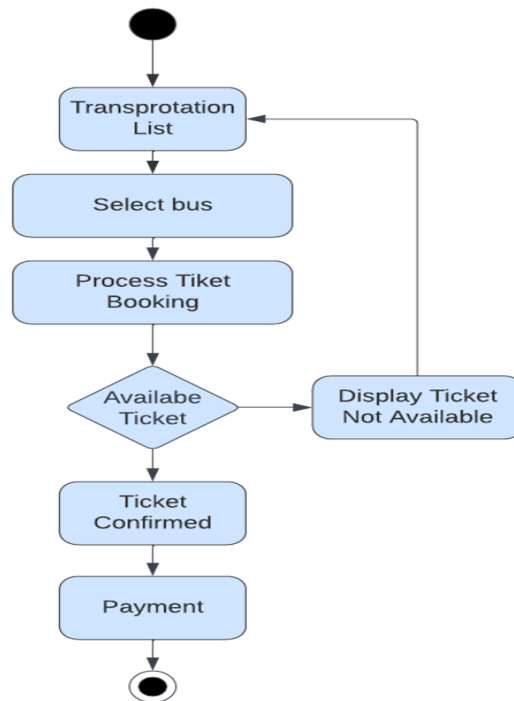


Figure no. 3.2.9: Transport

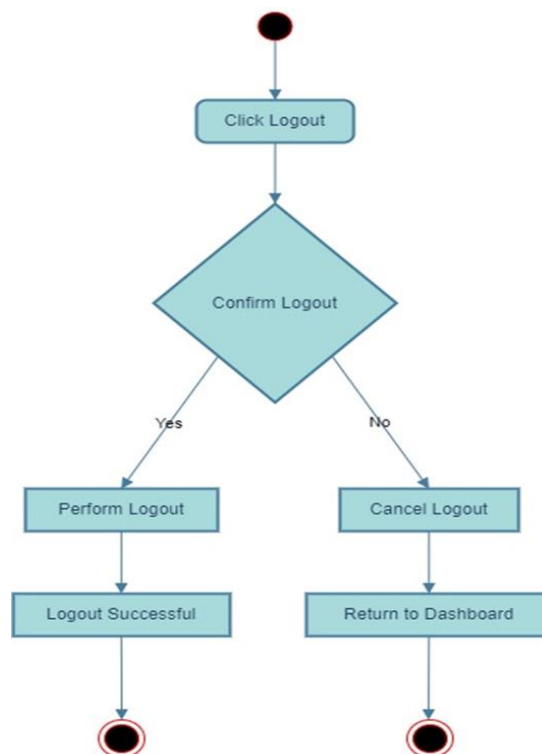


Figure no. 3.2.10: Log Out

3.3 Sequence Diagram

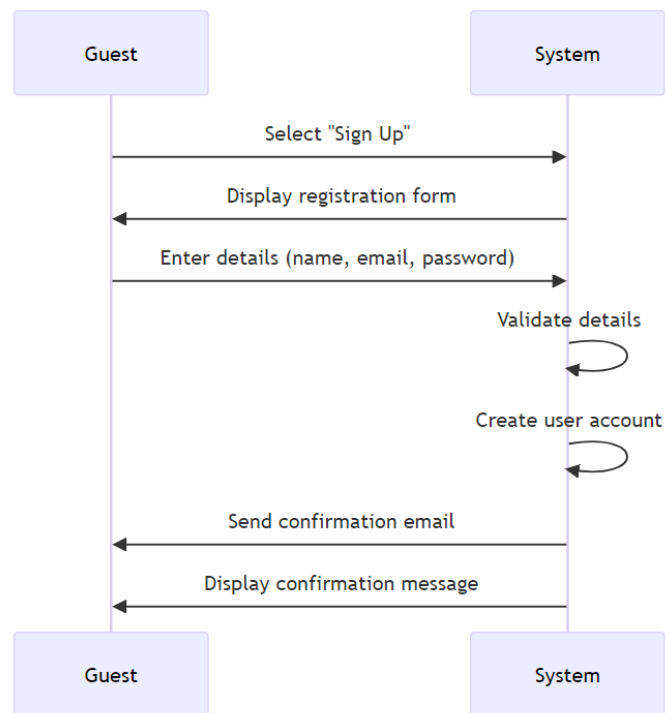


Figure no. 3.3.1: Sign Up

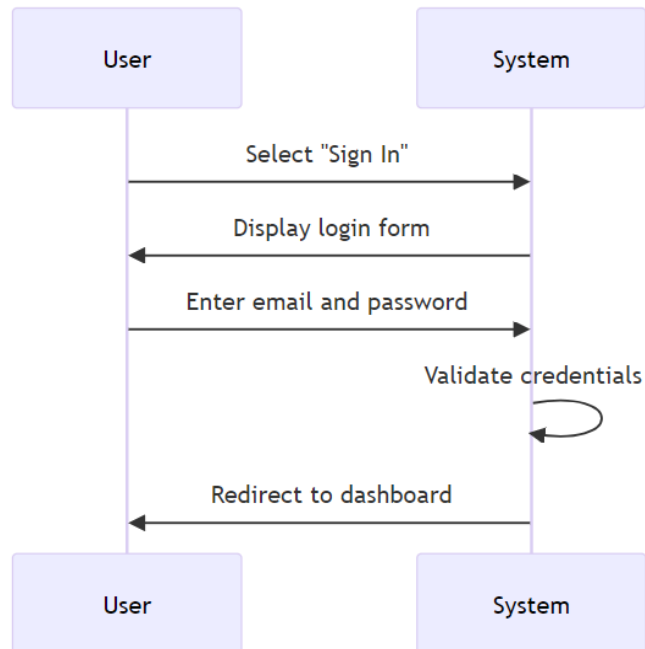


Figure no. 3.3.2: Sign In

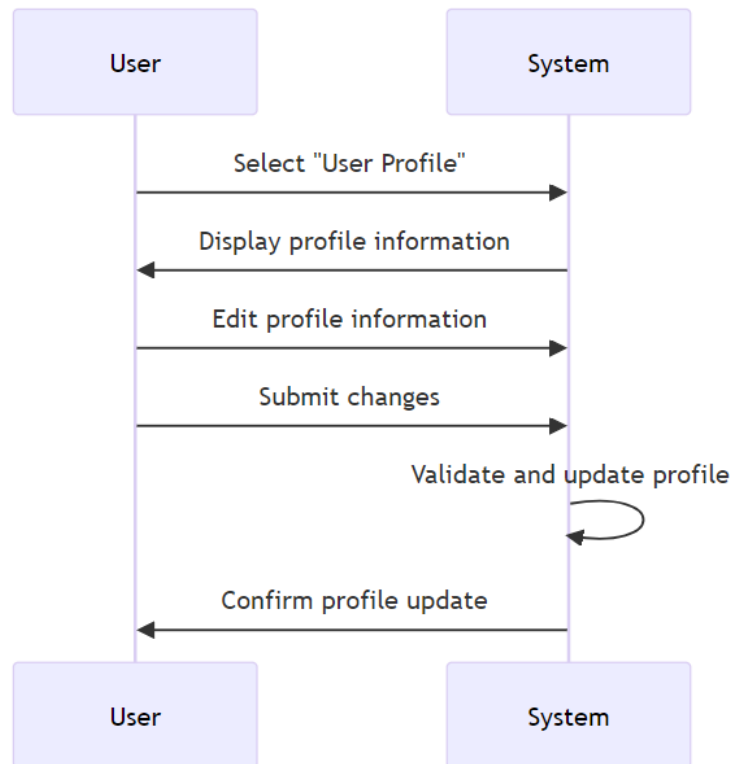


Figure no. 3.3.3: Edit Profile

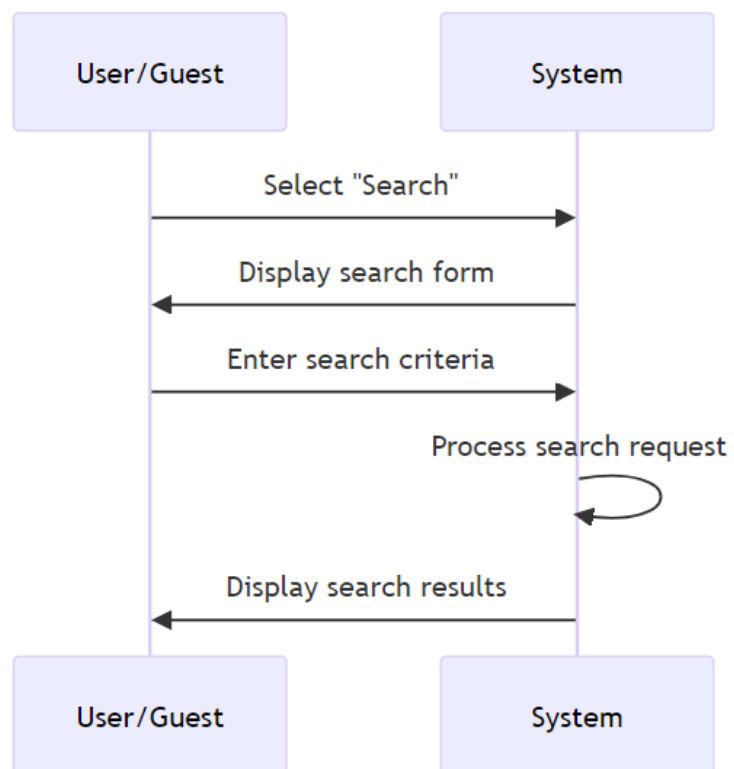


Figure no. 3.3.4: Search

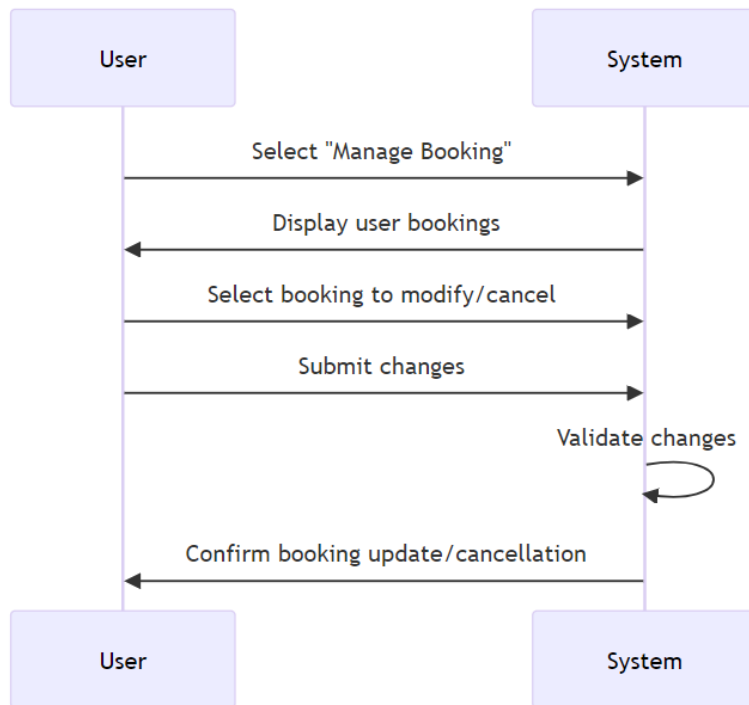


Figure no. 3.3.5: Manage Booking

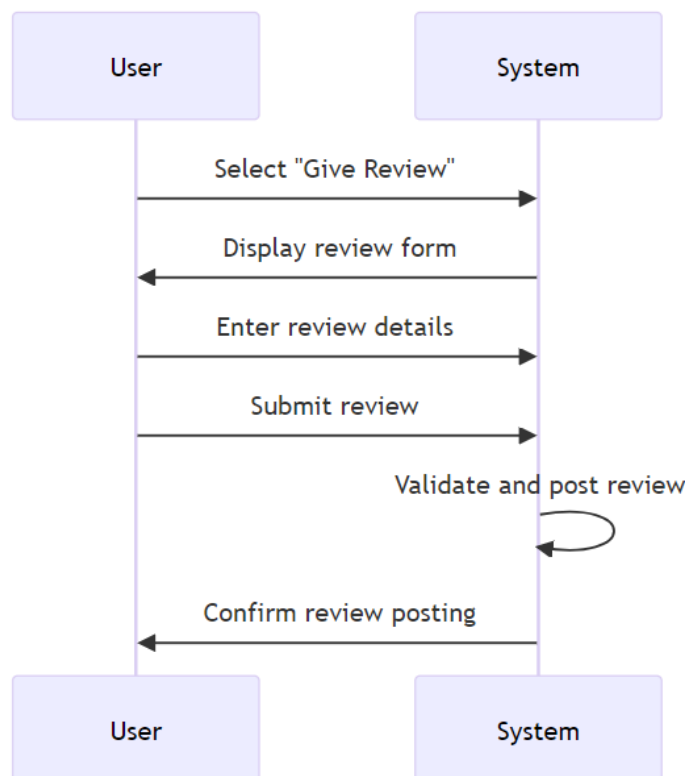


Figure no. 3.3.6: Give Review

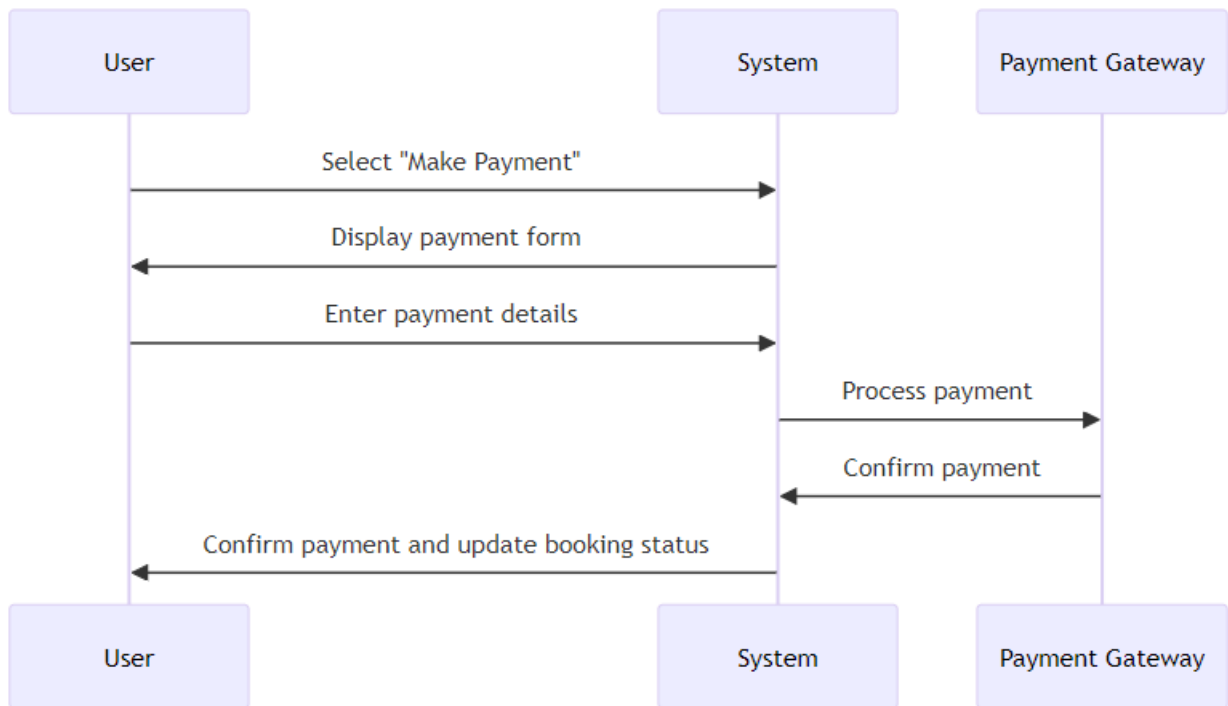


Figure no. 3.3.7: Make Payment

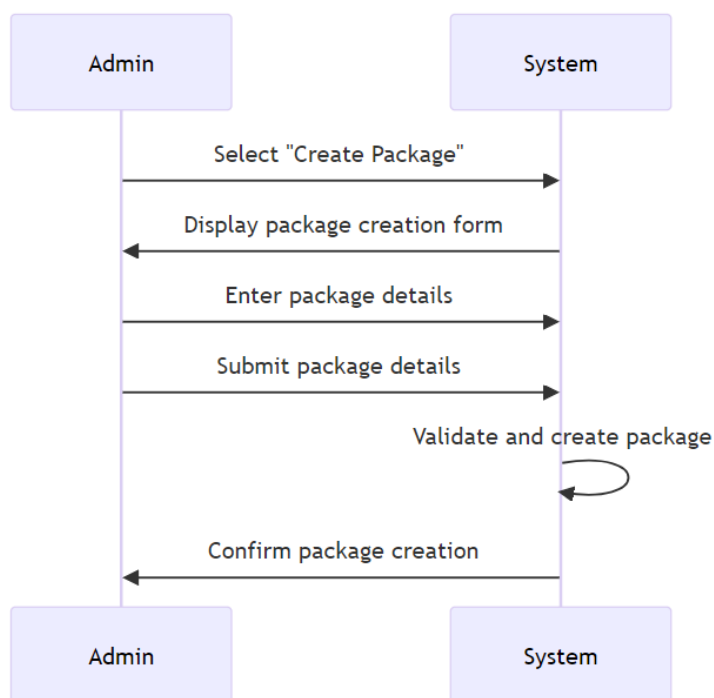


Figure no. 3.3.8: Create Package

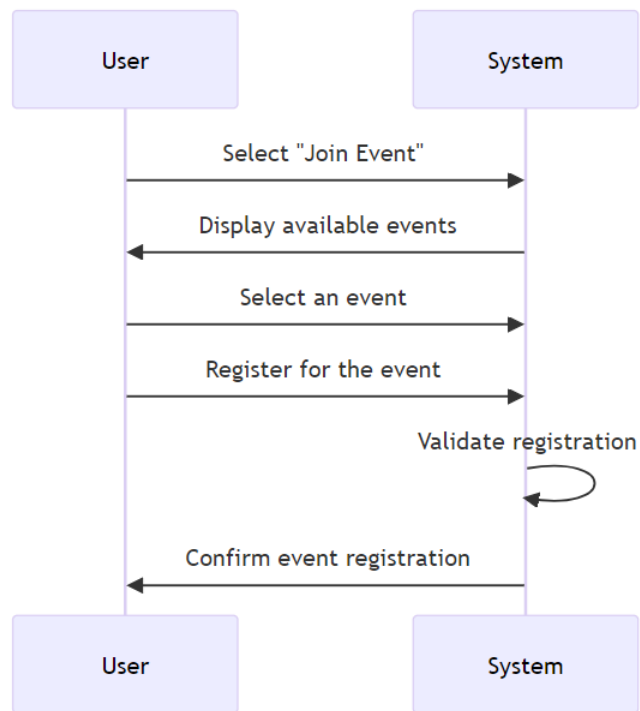


Figure no. 3.3.9: Join Event

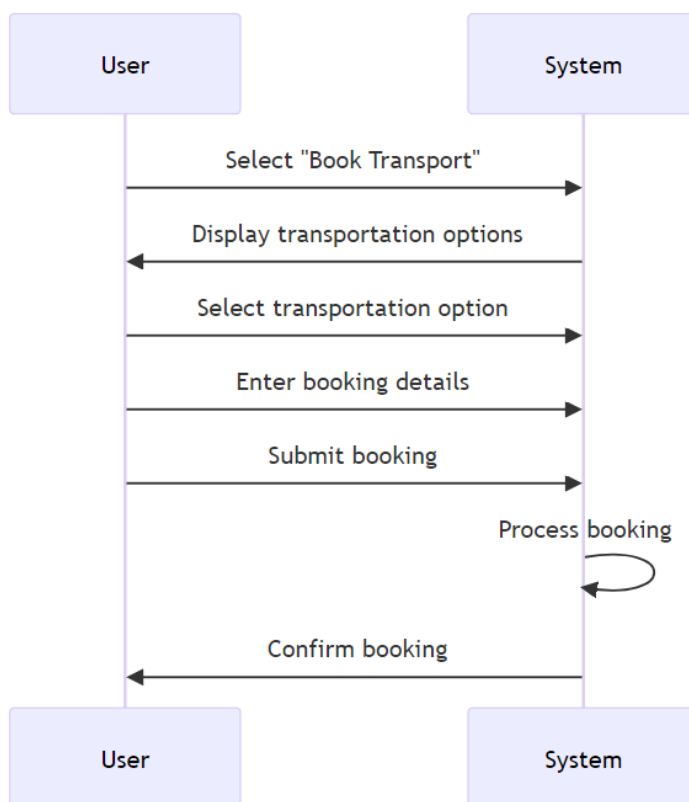


Figure no. 3.3.10: Book Transport

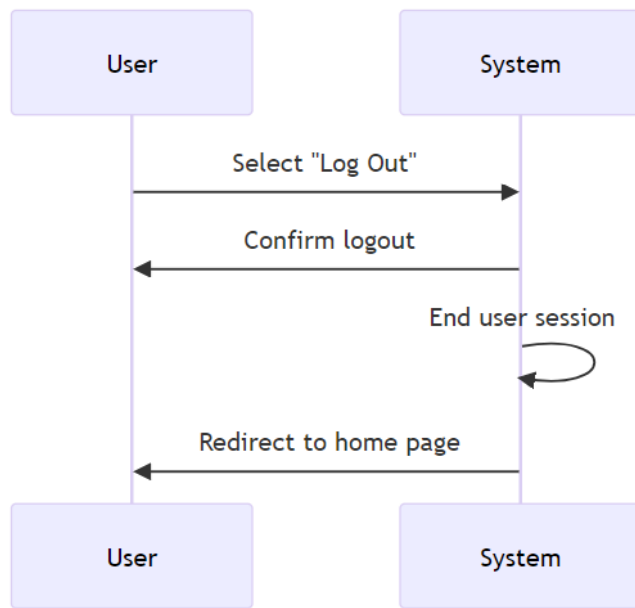


Figure no. 3.3.11: Log Out

3.4 ERD Diagram

An entity-relationship diagram (ERD) provides a visual representation of the various entities within a system and how they relate to each other. Additionally, the ERD signifies the entities of the system.

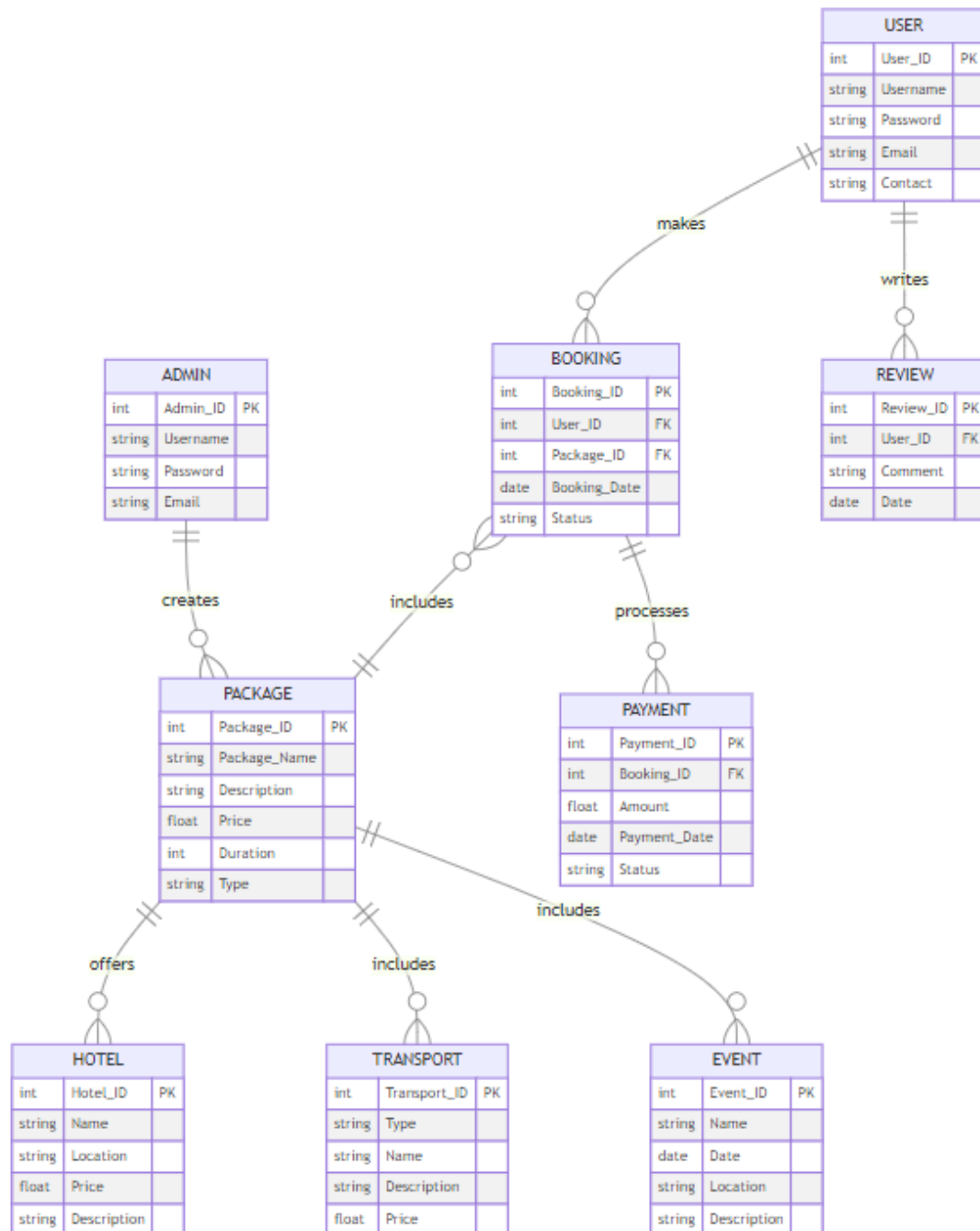


Figure no. 3.4: Utilize the ERD Diagram.

3.5 Class Diagram

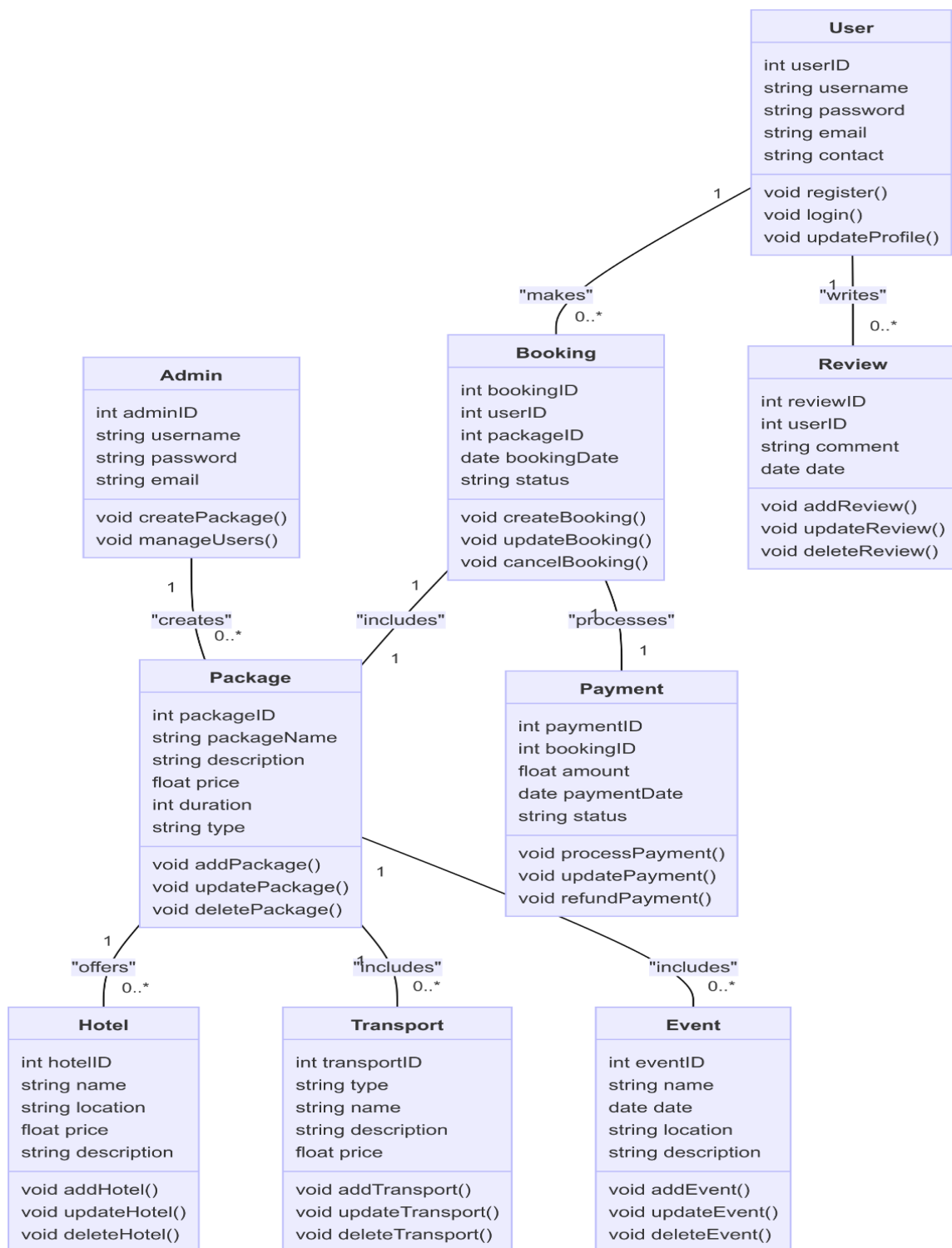


Figure no. 3.5: Class Diagram

(No. of Chapter: 4) Tools and Technologies for Development

4.1 Development Interface

An Integrated Development Environment (IDE) is a software application that offers programmers the necessary tools and features for software development.

IDEs are created to simplify coding, testing, and debugging by integrating features like a source code editor, debugger, build automation tools, and various other utilities.

4.2 Programming Framework

This web project's front-end development uses HTML, CSS, Bootstrap, JavaScript, and React. The back-end is developed using Node.js.

4.3 Designing User-Centric Interfaces

The front-end of this web project is designed using Tailwind CSS and the React JS JavaScript library.

4.4 Database

A database is an organized collection of structured data designed to facilitate efficient administration, retrieval, storage, and manipulation. For this project, I have utilized the MongoDB database.

4.5 Implement and Host

For deployment and hosting, I have utilized Netlify and GitHub.

(No. of Chapter: 5) System Testing

5.1 Functionality Testing

The project includes a range of testing features to guarantee its robustness and reliability, such as unit testing, integration testing, end-to-end testing, performance testing, security testing, usability testing, regression testing, and acceptance testing. These tests help validate individual components, interactions between modules, overall user experience, performance under load, security, and overall system functionality.

5.1.1 Feature to be tested

01: Sign Up
02: Sign In
03: Edit Profile
04: Do Search
05: Manage Booking
06: Give Review
07: Make Payment
08: Create Package
09: Join Event
10: Book Transport
11: Log Out

5.2 Testing Strategies

A testing strategy comprises a set of organized methods and techniques aimed at efficiently carrying out software testing activities. It provides a summary of the project's goals, fundamental approach, and the extent of the initial testing phase.

5.2.1 Test Approach

We have utilized two different testing approaches to guarantee quality, with functional and structural testing.

- Black box testing is a method that enables system users to conduct tests without the need for coding knowledge from the tester.
- In contrast, white box testing is a structural or code-based approach to verifying the software's internal logic and flows.

5.2.2 Pass or Fail Criteria

Functional Requirements:

- Pass: The system fulfills all functional requirements outlined in the requirements document, operating as intended and performing its designated functions accurately.
- Fail: One or more functional requirements are unmet, or the system does not perform the intended functions correctly.

Non-Functional Requirements:

- Pass: All non-functional requirements, including performance, usability, reliability, and security, have been met.
- Fail: One or more non-functional requirements are not satisfied.

Bug and Defect Reporting:

- Pass: No critical or significant bugs are found during testing. All identified bugs are either fixed or have acceptable workarounds.
- Fail: Critical or major bugs are found that impede the system's functionality or performance, and no acceptable workarounds are available.

5.2.3 Schedule for Testing

Phase of Testing	Duration
Make a testing plan	One week
Unit testing	Throughout the development period.
Component testing	Throughout the development period.
Evaluating user interfaces	One week
Testing for performance	One week
Test Phase Duration	One week
Evaluating accessibility	One week

5.3 Test Criteria

Test Case ID:	TCI - 001
Description:	Ensure that a new user can complete the registration process without issues.
Preconditions:	The user is currently on the registration page.
Test Procedures:	1. Proceed to the registration page.
	2. Choose a unique username.
	3. Provide a valid email address.
	4. Input a password.
	5. Verify the password.
	6. Press the "Register" button.
Anticipated Outcome:	The user should receive a confirmation message, and their account must be successfully established.
Actual Result:	To be completed after execution.
Status:	Pass or Fail

Figure no. 5.3.1: Sign Up

Test Case ID:	TCI - 002
Description:	Confirm that a registered user is able to log in without issues.
Preconditions:	Registration is required for the user.
Test Procedures:	1. Go to the login page.
	2. Provide the registered email address.
	3. Input the correct password.

	4. Press the "Login" button.
Anticipated Outcome:	The user needs to be directed to the dashboard.
Actual Result:	To be completed following execution.
Status:	Pass or Fail

Figure no. 5.3.2: Sign In

Test Case ID:	TCI - 003
Description:	Ensure that users are able to search for tour packages.
Preconditions:	The user has successfully logged in.
Test Procedures:	1. Go to the search page.
	2. Input your search parameters (such as location and dates).
	3. Press the "Search" button.
Anticipated Outcome:	Search results ought to showcase pertinent packages.
Actual Result:	To be completed after execution.
Status:	Pass or Fail

Figure no. 5.3.3: Search for Packages

Test Case ID:	TCI - 004
Description:	Confirm that users have the ability to reserve a tour package.
Preconditions:	The user is currently logged in and has chosen a package.
Test Procedures:	1. Go to the page displaying the package details.
	2. Press the "Book Now" button.

	3. Enter the reservation information, such as the number of guests and the dates.
	4. Press the "Confirm Booking" button.
Anticipated Outcome:	The booking must be successfully completed, and a confirmation message ought to appear.
Actual Result:	To be completed following execution.
Status:	Pass or Fail

Figure no. 5.3.4: Book a Package

Test Case ID:	TCI - 005
Description:	Ensure that users have the ability to view, edit, or cancel their reservations.
Preconditions:	The user is currently logged in and has active bookings.
Test Procedures:	1. Go to the "Manage Bookings" page.
	2. Choose a reservation to see the details.
	3. Edit the booking information or select "Cancel Booking."
	1. verify the modifications or cancellations.
Anticipated Outcome:	Modifications must be saved; otherwise, the booking should be canceled with a confirmation notification.
Actual Result:	To be completed following execution.
Status:	Pass or Fail

Figure no. 5.3.5: Manage Bookings

Test Case ID:	TCI - 006
Description:	Confirm that users are able to leave reviews for the packages they have reserved.
Preconditions:	The user is currently logged in and has

	successfully finalized a booking.
Test Procedures:	1. Go to the "My Reviews" section.
	2. Choose the package for evaluation.
	3. Provide the details and rating for the review.
	4. Press the "Submit Review" button.
Anticipated Outcome:	The review must be successfully submitted and shown.
Actual Result:	To be completed following the execution.
Status:	Pass or Fail

Figure no. 5.3.6: Submit a Review

Test Case ID:	TCI - 007
Description:	Confirm that users are able to complete payments for their reservations.
Preconditions:	The user is currently logged in and has an outstanding reservation.
Test Procedures:	1. Go to the "Payments" page.
	2. Choose a reservation that is awaiting confirmation.
	3. Provide your payment information.
	4. Press the "Pay Now" button.
Anticipated Outcome:	The payment must be processed successfully, and a confirmation message needs to be shown.
Actual Result:	To be completed after execution.
Status:	Pass or Fail

Figure no. 5.3.7: Make a Payment

Test Case ID:	TCI - 008
Description:	Ensure that you are able to create new tour packages.
Preconditions:	The user or administrator is currently logged in.
Test Procedures:	1. Go to the "Create Package" page.
	2. Provide the details of the package, including the name, description, price, and duration.
	3. Click on the "Create" button.
Anticipated Outcome:	The package must be successfully created and displayed among the packages.
Actual Result:	To be completed after execution.
Status:	Pass or Fail

Figure no. 5.3.8: Create Package

Test Case ID:	TCI - 009
Description:	Ensure that users are able to log out of the system.
Preconditions:	The user has successfully signed in.
Test Procedures:	1. Select the "Log Out" button.
Anticipated Outcome:	The user needs to be logged out and redirected to the homepage.
Actual Result:	To be completed after implementation.
Status:	Pass or Fail

Figure no. 5.3.9: Log Out

(No. of Chapter: 6) User Manual

6.1 Landing Page

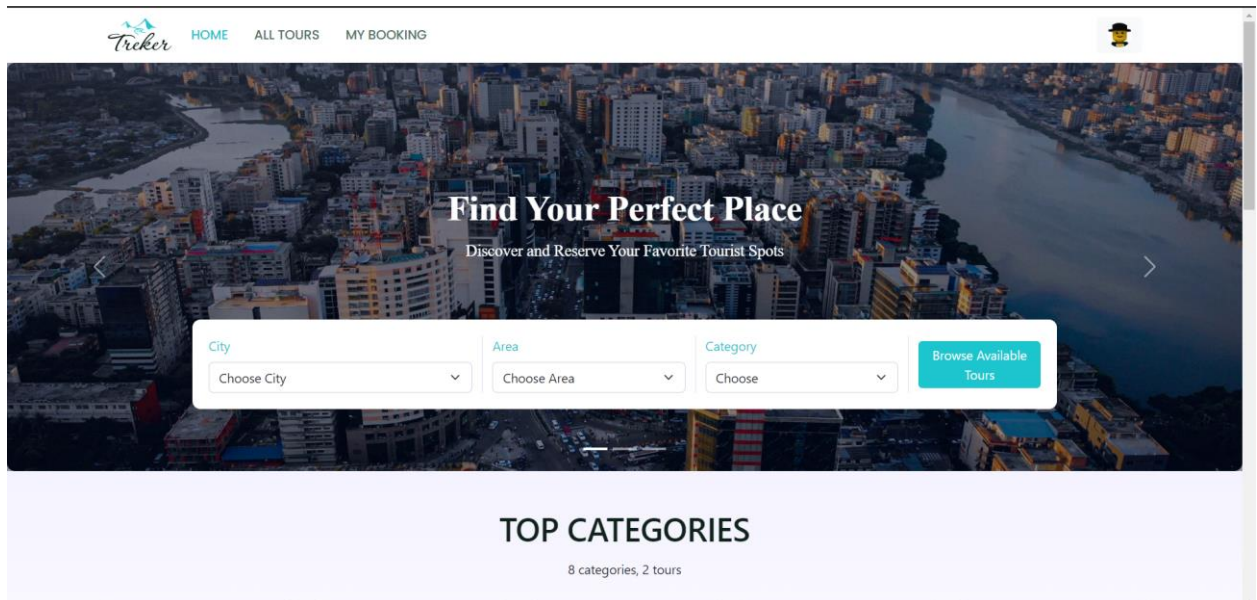


Figure no. 6.1.1: Home Page

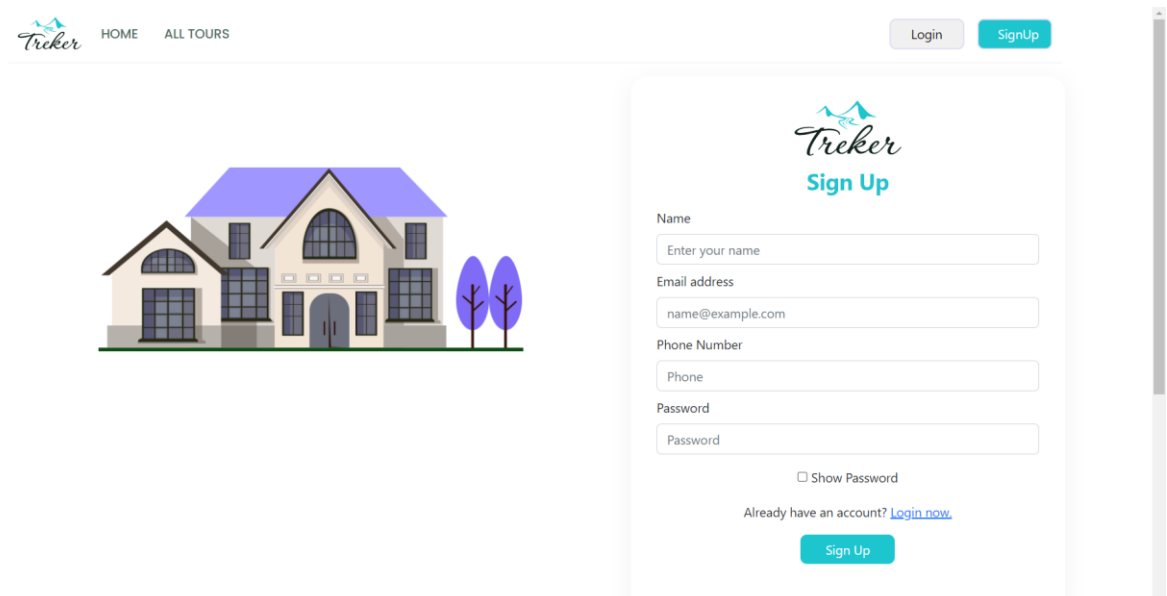


Figure no. 6.1.2: Registration

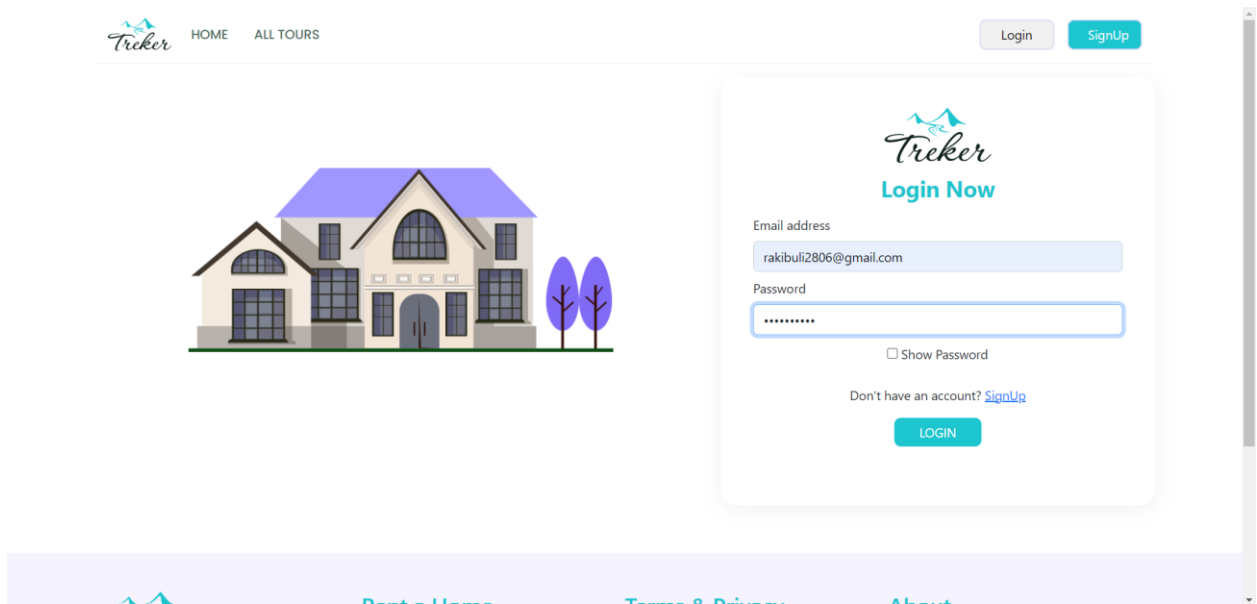


Figure no. 6.1.3: Login

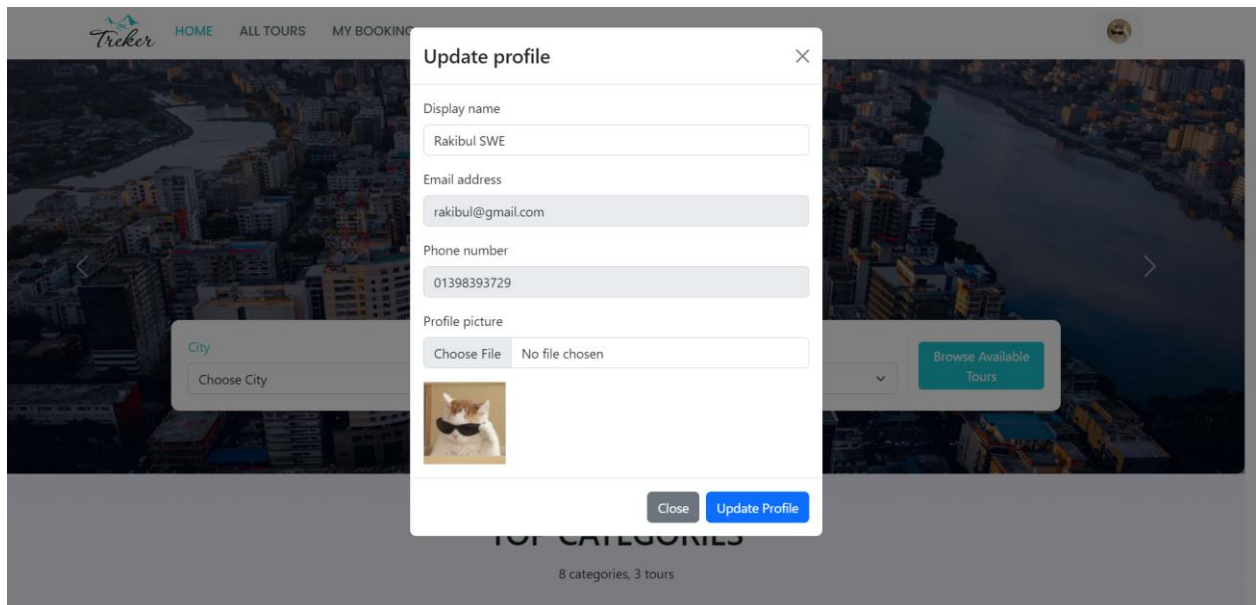


Figure no. 6.1.4: Edit Profile


[HOME](#)
[ALL TOURS](#)

[Login](#)
[SignUp](#)

City

Chattogram

Area

Cox's Bazar

Category

Beach & Marine

Browse Available
Tours

Search results:-

Sort by

Sort by price

Choose city...

Opening Time

Closing Time

All Filtered Tours for You

1 results, Jun 06, 2024



Visit in Cox's Bazar

Cox's Bazar, Chattogram

Figure no. 6.1.5: Search



DESCRIPTION

Hanging Bridge (Jhulonto Bridge in Bengali) is the landmark icon of Rangamati. It's a popular tourist spot and a must go destination. If you don't visit Rangamati you will not discover a big portion of natural beauties of Bangladesh. From Chittagong a 77 km, road amidst green fields and winding hills will take you to Rangamati. It is also connected by waterway from Kaptai.

Tour city Chattogram	Tour area Kaptai Lake	Tour category Nature & Wildlife
Tour fee 3500 BDT	Transportation train, car, foot	Best Month October
Opening time 08:00	Closing time 21:00	Zip code 4500

AVAILABLE PACKAGES

 GOLD (1.5x) 7 days tour 24/7 guide includes - All meals included - Private transportation - Luxury accommodation - Free entrance to all attractions - Travel insurance - Personal photographer	 SILVER (1.2x) 5 days tour 12/7 guide includes - Shared transportation - Breakfast and dinner included - Discounted entrance to attractions - Group activities - Travel insurance	 BRONZE (1x) 3 days tour - On-call guide support - Public transportation - Breakfast included - Basic travel insurance
--	---	--

Contact With organizer for more information and further query.

Contact us:

[Call](#)
[Email](#)

7300 TK

Order name
Rakibul Islam

Country
Bangladesh

Time
--:--

Date From
07/09/2024

Number of Guests
1

Number of Children
+1

Package
Bronze (default)

Tour Duration
3

Number of Room
1

Transportation
Car (+800tk)

Calculate price
7300/- BDT

Paid Amount (7300/- BDT)
7300

Transaction ID
fsdfdsfgdsg

Payment number: +8801340004004

Book Now

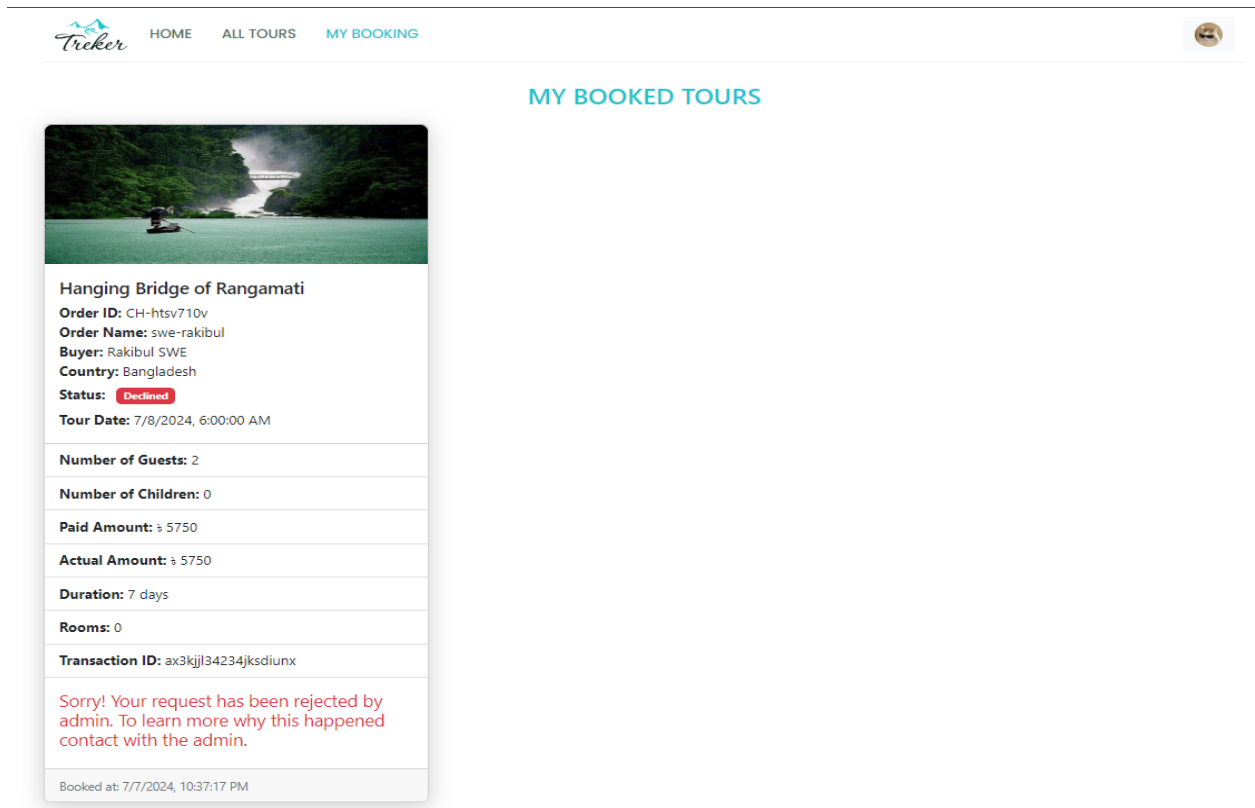


Figure no. 6.1.6: Booking

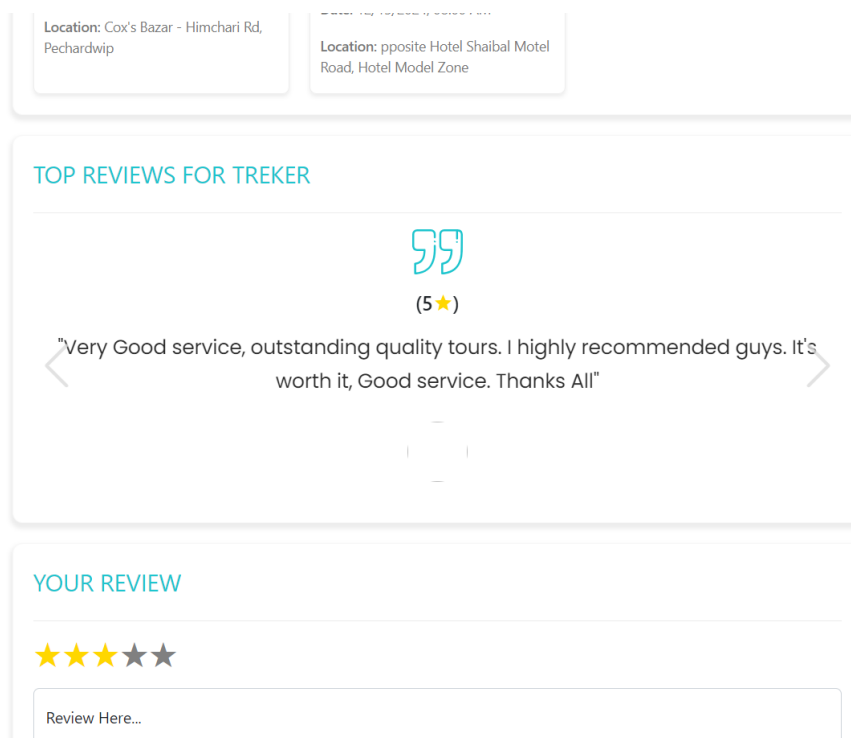


Figure no. 6.1.7: Review

AVAILABLE PACKAGES

GOLD (1.5x)	SILVER (1.2x)	BRONZE (1x)
✓ 7 days tour ✓ 24/7 guide includes ✓ All meals included ✓ Private transportation ✓ Luxury accommodation ✓ Free entrance to all attractions ✓ Travel insurance ✓ Personal photographer	✓ 5 days tour ✓ 12/7 guide includes ✓ Shared transportation ✓ Breakfast and dinner included ✓ Discounted entrance to attractions ✓ Group activities ✓ Travel insurance	✓ 3 days tour ✓ On-call guide support ✓ Public transportation ✓ Breakfast included ✓ Basic travel insurance

Tour Duration

3

Number of Room

0

Transportation

Select a transportation

Calculate price

Paid Amount

0

Transaction ID

nagad/bkash/rocket or upay

Payment number: +8801340004004

Book Now

Calculate the overall price to proceed

AVAILABLE SHOPPING MALL

Figure no. 6.1.8: Payment

Address: N 106, Rangamati

Address: 4500, Rangamati 4500

AVAILABLE EVENTS



CHATTOGRAM BEACH FESTIVAL

Date: 06/02/2024, 04:00 PM

Location: Patenga Beach, Chattogram



CHATTOGRAM BOOK FAIR

Date: 05/17/2024, 05:00 PM

Location: Chittagong University Campus, Chattogram

TOP REVIEWS FOR TREKER

Figure no. 6.1.9: Join Event

(No. of Chapter: 7) Conclusion

The Tour & Travel Management System project represents a comprehensive solution designed to enhance the user experience for both travelers and administrators. By integrating robust functionalities such as user registration, login, search for packages, booking management, review submissions, and secure payment processing, the system provides a seamless and efficient platform for managing tour and travel activities.

Throughout this project, we have utilized a range of modern technologies and tools to guarantee the creation of a high-quality system. The front end is constructed with HTML, CSS, Bootstrap, and React JS, providing a responsive and interactive user interface. For the backend, we have employed Node.js, which offers a reliable and scalable foundation for managing user requests and data processing. MongoDB serves as our database, ensuring efficient data management and retrieval.

A comprehensive testing strategy was established to guarantee the system's reliability. This encompassed unit testing, integration testing, system testing, performance testing, security testing, usability testing, regression testing, and acceptance testing. Each phase of testing was carefully organized and carried out to detect and address any issues, ensuring that the system fulfills the defined requirements and delivers a quality user experience.

Additionally, deployment and hosting were managed using Netlify and GitHub, enabling seamless deployment and version control. This setup ensures that updates can be easily managed and the system remains accessible and stable for users.

The development process followed the Agile model, allowing for flexibility and iterative improvements. This approach facilitated continuous feedback and adjustments, ensuring the final product aligned with user needs and expectations.

In conclusion, the Tour & Travel Management System project successfully combines modern web technologies with a user-centric design and robust backend infrastructure. It provides a comprehensive platform for managing tour and travel services, ensuring efficiency, security, and user satisfaction. This project not only meets the current needs of users but also lays a strong foundation for future enhancements and scalability.

7.1 Project Link

7.2 Limitations

Despite the comprehensive design and development efforts, the Tour & Travel Management System project has some limitations that need to be addressed for future improvements:

Scalability:

While the system is designed to handle moderate traffic, it may face performance issues as the user base grows significantly.

Limited Geographical Coverage:

The system may initially support only a limited number of geographical regions or countries.

Third-Party Integration:

Integration with third-party services such as payment gateways, travel APIs, and social media platforms may be limited or have initial setup complexities.

Advanced Security Measures:

Although basic security measures are in place, the system may lack advanced features such as multi-factor authentication, advanced encryption, and intrusion detection systems.

7.3 Future Scope

The Tour & Travel Management System has a promising future scope, with numerous opportunities for enhancements and expansion to meet evolving user needs and technological advancements.

Enhanced Scalability:

Implementing advanced load balancing, cloud-based infrastructure, and database optimization techniques to handle a more extensive user base and increased traffic without compromising performance.

Expanded Geographical Coverage:

Integrating additional regions and countries to support international travel bookings and services. Partnering with global travel service providers to offer a comprehensive range of options.

Mobile Application Development:

Creating specialized mobile applications for iOS and Android to deliver a smooth and optimized user experience on smartphones and tablets, while also incorporating offline functionality for essential features.

Integration with Emerging Technologies:

Exploring integration with emerging technologies such as virtual reality (VR) for virtual tours, blockchain for secure transactions, and IoT for real-time tracking of travel services.

Appendix

Plagiarism Test