



Daffodil
International
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TourGuide – A Tour Planning And Management Platform

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This project report has been submitted in fulfilment of the requirements for the degree
a **Bachelor of Science in Software Engineering**

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APPROVAL

This Project titled on “**TourGuide – A Tour Planning and Management Platform**”, submitted by **Md. Fahim Abdullah Danial (ID: 221-35-864)** 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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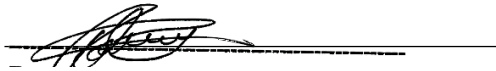


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TourGuide - A Tour Planning and Management Platform

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for the award of the degree of
Bachelor of Science

Department of Software Engineering

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Chapter 1

Introduction

1.1 About the Project

TourGuide is a travel friend that is aimed at making the travelling experience of the tourists visiting various destinations in Bangladesh easier and enjoyable. It combines all you require to plan a great vacation in places to stay, how to travel, what to eat, and fun things to experience around top places in a single dashboard. They are offered an easy control panel where service providers can add rooms, set prices, justify policies, and update availability without having to worry about ambiguous rules or missed email notifications. The concept is to allow travelers to choose a destination, compare actual options, and make a booking very fast without the worry of extra rules or unresponsive emails. TourGuide is in the background to make everything workable with approvals, refunds, and pre-booking reminders. Through the adoption of a modern approach and ensuring the interface remains very user-friendly, the system also simplifies and makes travel planning more reliable and flexible.

1.2 Project Objectives

The system is mainly for:

- Combine all the necessities of traveling in one place: hotels, transport, attractions, restaurants, and entertainment so that they do not need to keep switching applications multiple times.
- Make people discover the most interesting places in Bangladesh and immediately look at what is around such as where to stay, what to do in Bangladesh, and how to get around.
- Get all the information on the site, including prices, services, rooms, and regulations, to avoid any mysterious surprises in the future.
- Provide service providers an easy dashboard to manage their services, update availability, respond to booking, and track requests as the requests arrive.

- Let travelers rate services and leave feedback after their trip so providers can see what worked well and what needs improvement.
- Keep user data, booking details, and service records organized and protected in one secure system.
- Make it easier to find local experiences and transport within the chosen destination, so the whole trip can be planned from one place.
- Offer one smooth platform where people can browse, book, and review services without switching to different apps, making travel planning easier and more enjoyable.

1.3 Project Scope Definition

The TourGuide System is an integrated web-based service that assists travelers to navigate. Top sights locate hotels, restaurants, entertainment locations nearby, and transportation services. It unites planning, booking, and trip management. The project scope is structured around three user groups: travelers, service providers, and system administrators in such a way that each group has features that directly support.

A. For Travelers (Users)

- Compare the best hotels, restaurants, and more.
- Users Reserve rooms, services, and local transportation through a clear, guided booking process.
- Receive notifications for confirmations, updates, and changes related to reservations.
- They can see their booking history and make cancellations with minimal effort.
- Can Submit ratings, reviews, and give feedback after visiting a place or using services.

B. For Service Providers (Hotels, Restaurants, Transport & Entertainment Owners)

- They can manage service availability, pricing, make rules, and modify service descriptions.
- They can track the availability of the services and bookings done by users.
- Update service information, images, and offers whenever needed.
- View customer reviews and use feedback to improve their services.
- Monitor daily and overall booking performance through a simple control panel.

C. For System Administrators

- They can manage users , providers.
- Also maintain system reliability and integrity.
- Can manage booking , refunds , cancellations and provider application in real time.

Deliverables

- A fully functional web-based TourGuide system.
- Admin panel for monitoring, managing, and updating all platform activities.

1.4 Market Research

1.4.1 Market Analysis

The travel and tourism Industry in Bangladesh has been able to expand at an impressive rate over the past few years, particularly in places such as Cox's Bazar, Bandarban, Kuakata, and Sylhet. Every year These places are visited by millions of local and international travelers. They creates a high demand on systematic traveling information, transportation and entertainment services. The majority of systems associated with travel in Bangladesh are still in an old-fashioned manner. Travelers

frequently use Facebook pages, phone calls, website to locate hotels and local services. This causes confusion, misinformation, overpricing while booking a service.

Almost all businesses now depends on below things:

- Manual bookings via phone calls
- Messenger and WhatsApp chats
- Basic info about which hotels have free rooms
- Google Maps for location searches
- Separate websites for hotels, transports, and activities

These sources are often unreliable because they do not offer real-time availability, centralized booking, or verified service details. As a result, travelers actually wastes their time for checking room availability, and finding good local services.

Comparing Current Systems:

Feature	TourGuide	GoZayaan	Airbnb	TripZip / Local Hotel Sites	Google Maps
Main Purpose	All-in-one travel platform for exploring top locations and booking nearby hotels, restaurants, entertainments, & transports	Hotel & flight booking	Homestay and property rental	Hotel-only reservations	Location discovery & navigation
Covers Multiple Travel Services?	✓ Hotels, restaurants, entertainments, transports in one place	✗ Mainly hotels & flights	✗ Only stays	✗ Only hotels	✗ Only shows places, not booking
Nearby Exploration Based on a Location	✓ Yes, complete spot-based discovery	✗ Limited	✗ No	✗ No	✓ Yes, but no booking
Real-Time Availability	✓ Yes, for hotels & services	✓ Yes	✓ Depends on host	✓ Yes	✗ Not available
Local Transport Booking	✓ Included	✗ No	✗ No	✗ No	✗ No
Local Entertainment	✓ Yes	✗ Very limited	✓ Only if host includes info	✗ No	✓ Basic info only
User Booking System	✓ Full booking system for all services	✓ Hotel booking	✓ Property booking	✓ Room booking	✗ No
Centralized Platform for All Travel Needs	✓ Yes	✗ No	✗ No	✗ No	✗ No
Support for Restaurants / Food Spots	✓ Yes	✗ No	✗ No	✗ No	✓ Shows but cannot book
Local Focus (Bangladesh)	✓ Fully local travel ecosystem	✓ Strong presence	✗ No	✓ Yes	✓ General info only

Fig: 1.1

If we consider, some platforms like GoZayaan, ShareTrip websites that exist in Bangladesh mainly:

- Focus mainly on hotels, not a full travel ecosystem
- Do not show nearby activities or localized transport options
- Do not support integrated booking for hotels, restaurants, and entertainment together

This creates a huge gap in the market.

TourGuide will address this gap by providing one, centralized platform where tourists can find out more about a destination and have all the local services immediately available to them, such as hotels, restaurants, entertainment activities, and transportation options.

1.4.2 Market Feasibility Need & Demand

Users are fond of easy, quick and effective trip planning. Tourists visiting such destinations as Cox Bazar refer to the social media content, random blogging, or the word of mouth that may be outdated and inaccurate. The availability, realistic pricing, local transportation, and local attractions should be provided in a dedicated platform that displays the available options in real-time, which can greatly enhance their traveling experience. The centralized and reliable system is advantageous to both the travelers and the service providers.

Competitive Advantage

This project is a full-fledged travel ecosystem unlike general-purpose platforms (Facebook pages, travel blogs, or haphazard hotel websites). People can search, visit, compare hotels, book rooms, find entertainment, and plan local transportation, without having to change applications. The providers also receive a customized dashboard that allows them to control rooms, prices, availability and bookings.

Adoption & Scalability

Though at the moment the market is Cox's Bazar, the platform can be easily extended to other touristic destinations in Bangladesh. Its structure is easily modular so that additional growth in the future can be easily achieved by adding more locations, providers, and services. Over time, it will be able to expand into a countrywide travel solution.

Sustainability & Future Growth

Premium listing, provider subscription based booking models can be long term sustainable. It is also possible to integrate payment gateways, maps and AI.

1.5 System Feasibility Analysis

1.5.1 Feasibility Study Overview

The TourGuide system will undergo a feasibility study to ensure that the project is realistic and can indeed work in real life application. Three key areas are considered in this study and they are, how the system will perform, the appropriateness of the technology and the affordability of the project. Through the analysis of these aspect, we will have a clue whether the platform can indeed assist travelers, providers, and admins without significant problems. This assists us in confirming the fact that the system is useful, and is in a position to be advanced.

1.5.2 Operational Feasibility

The TourGuide system is practically feasible as the system directly addresses most of the travel issues, such as hotel, transport, restaurant, and entertainment services, all under a single roof. Customers are able to explore, compare and book services easily, and providers are able to manage availability and bookings without having to do so manually. The adoption is easy and feasible as both sides gain. The initial feedback indicates that the interest is high, which proves the fact that the system is appropriate to meet the real needs and be effectively implemented.

1.5.3 Technical Feasibility

Section	Details
Technology Availability	TourGuide technologies are also very easy to get and maintain. The development of the system is based on Flask (Python), PostgreSQL, HTML/CSS/JS, and modern UI frameworks technologies, which are stable, secure, and are on the production.
System Capabilities	The site can serve several users simultaneously and it is capable of real time operations such as hotel search, hotel availability, hotel reservation and management of the service providers. PostgreSQL rendered offers a stable storage of data, fast querying, and high scalability with increase in the system.

1.5.4 Development Environment & Technology Stack

Category	Technology / Tools	Purpose
Frontend	HTML, CSS, JavaScript, Jinja2 Templates.	User interface for browsing locations, hotels, entertainment, transport, booking, and navigating the site.
Backend	Flask (Python).	Core server logic, routing, authentication, booking flow, provider management.

Authentication	Flask-Login.	Handles secure login, logout, and session management.
Mail Service	Flask-Mail (SMTP)	Sends provider invitations, booking confirmations, and notifications.

ORM	SQLAlchemy	Manages relationships, queries, and database models.
Database	PostgreSQL (Render)	Stores users, hotels, rooms, bookings, reviews, providers, categories, and availability.

Hosting	Render.com	Hosts the Flask backend, runs the server, and provides managed PostgreSQL
Static Assets Storage	Render static / local storage	Stores images for hotels, rooms, restaurants, entertainment spots, etc.
Platforms	Web (mobile responsive)	Fully accessible on mobile and desktop browsers
System Features	Multi-user access, real-time availability updates, provider dashboards	Ensures smooth booking, service updates, and management tools for all stakeholders.

Category	Free Tier (Render PostgreSQL)	Paid Tier
-----------------	--------------------------------------	------------------

Cost	Free database hosting with limited storage and CPU	Monthly cost depending on plan; more storage and faster CPU.
Development Costs	Development done using open-source technologies: Flask, HTML, CSS, JS → Minimal cost	Same technologies, no additional cost
Database Size	Limited storage (free tier ~0.1 GB – 1 GB depending on plan)	Higher storage options (5–100+ GB)

Performance	May slow down with heavy traffic or large tables	Faster queries, more memory, stable performance
Bandwidth	Basic free bandwidth	Larger bandwidth, more traffic support

Scalability	Basic (best for development)	Auto-scaling suitable for production

Summary	You can run the entire project for free while developing.	Once real users, large traffic, and thousands of records start coming in, upgrading to a paid plan ensures faster performance and reliability.
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1.5.5 Financial Feasibility Analysis

To check whether the project is financially practical, we estimated the development cost, yearly operational cost, and possible revenue. The numbers are based on real-market prices in Bangladesh and common pricing used in travel and booking platforms.

A. Development Cost (One-Time)

Item	Details	Estimated Cost (BDT)
Frontend Development (User Website)	400 hours × ₳734.10/hour	₳ 293,640
Backend Development (Flask APIs)	500 hours × ₳734.10/hour	₳ 367,050
Admin Dashboard Development	150 hours × ₳734.10/hour	₳ 110,115
UI/UX Design	Website + Admin design	₳ 48,940
Testing & QA	Manual + automated testing	₳ 36,705
Total Development Cost		₳ 856,450

B. Operational Cost (Annual)

Item	Details	Annual Cost (BDT)
Cloud Hosting (VPS)	Suitable for Flask apps (~₳ 1,223/month)	₳ 14,682
Database Hosting & Backups	PostgreSQL/MySQL storage	₳ 4,894
Domain Name	.com / .bd domain	₳ 1,468
SSL Certificate	Free from hosting providers	₳ 0
Maintenance & Updates	5 hours/month × ₳734.10/hour × 12 months	₳ 44,046
Total Operational Cost		₳ 65,090

C. Revenue Model

Revenue Stream	Description	Rate / Percent age	Example Scenario (Monthly)	Projected Monthly Revenue (BDT)
Hotel Booking Commission	Earned per room booking	10%	50 bookings × ₳ 2,447 avg. fee	₳ 122,350
Tour Package Commission	Percentage from selling tour packages.	8%	20 packages × ₳ 6,117 fee	₳ 122,340
Transport Booking Commission	Bus/train/car rental commission	5%	40 bookings × ₳ 1,223 fee	₳ 48,920
Featured Listing Fees	Hotels/tour agencies pay for top ranking	Fixed	5 listings × ₳ 1,223	₳ 6,115
Advertisements	Local businesses can promote services	Fixed		₳ 3,670

Total Monthly Revenue (Example)	₳ 34,258
Total Annual Revenue (Example)	₳ 411,300

1.6 Target Users

1.6.1 Target User Roles

User Role	Description	Key Responsibilities / Features
Tourists / Travelers	Main users who search for places to visit, plan trips, and make bookings.	<ul style="list-style-type: none"> • Explore tourist spots, hotels, food places, and transport options. • Book hotels, tours, and vehicles. • Receive booking confirmations and updates. • Save favorite places. • Check reviews and ratings before booking.
Hotel Owners / Accommodation Providers	Businesses that want to list and manage their hotels/resorts on the platform.	<ul style="list-style-type: none"> • Add and update hotel details, room types, prices, and photos. • Manage room availability. • Receive and confirm bookings. • Track reviews and improve services. • View booking statistics.
Tour Agencies / Package Providers	Agencies offering tour packages, adventure trips, and travel experiences.	<ul style="list-style-type: none"> • Create tour packages with pricing and schedules. • Update availability. • Manage customer bookings. • Communicate with travelers. • Track tour performance.
Transport Service Providers	Car rental, bus service, or boat service owners who want online bookings.	<ul style="list-style-type: none"> • Add transport options with pricing and schedules. • Real-time availability of updates. • Accept and verify transport bookings. • See customer demand and analytics.
Admins (System Managers)	System controllers who make sure the platform works smoothly and securely.	<ul style="list-style-type: none"> • Accept or deny hotels, tours and transport listings. • Control users and permissions. Keep track of all reservations and operations. • Attend to reports, complaints and security problems.

1.6.2 USER PROFILES

Tourists

User Class	Notes on characteristics	Requirement implied
Type of user	Tourists / Travelers	Simple user interface, smooth navigation
Age range	16–60+	Accessible design, easy verification
Mandatory	Yes	Essential user group for platform use
Frequency of use	Daily or weekly (especially during travel season)	Strong performance, fast loading, reliable operations
Computer Experience	Not required	Very user-friendly UI, clear instructions
Education	No specific requirement	Simple booking flow, clear content
Goals	To explore locations, find nearby hotels, restaurants, transport, and book them easily in one platform	High performance, secure bookings, good availability, scalability
Language skills	Bangla,English	
Number of users	Many	High performance, system stability, load handling
Training	Not required.	User interface
Other system used	Google Maps, travel websites (optional)	Smooth integration and accurate map-based data
Ways of working	Explore locations → View nearby hotels/transport → Compare → Book → Review	Performance, usability, security, smooth operation

Service Providers

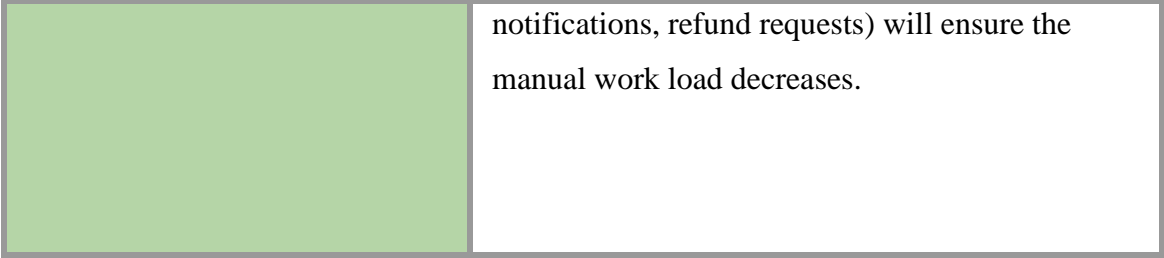
User Class	Notes on characteristics	Requirement implied
Type of user	Business owners offering services	Secure provider dashboard
Age range	22–60	Clear UI for business tasks
Mandatory	Optional but essential for listings	Proper authentication and verification
Frequency of use	Daily or weekly	High uptime, reliable operations
Computer Experience	Moderate	Easy-to-use provider panel
Education	Varies	Clear icons & instructions
Goals	To manage listings, update availability, track bookings, and get payments	Secure data, stable system.
Language skills	Bangla, English	Multi-language provider panel
Number of users	Moderate	Good backened performance
Training	Minimal or none	User interface
Other system used	May use spreadsheets or manual logs	
Ways of working	Add listings → Manage bookings → Update services → View earnings	Performance, usability, security, smooth operation

Admin

User Class	Notes on characteristics	Requirement implied
Type of user	Admin	Full system access & controls
Age range	25-45	Professional UI
Mandatory	Yes	Secure admin authentication
Frequency of use	Daily	High reliability.
Computer Experience	High	Advanced tools & analytics
Education	Bachelor's or higher	Admin-level interfaces
Goals	To monitor system, approve providers, manage listings, handle disputes, oversee data	Performance, resource, security, maintenance, acceptance, scalability.
Language skills	Bangla, English	Multi-language support
Number of users	Very few	Strong access control
Training	required	User interface
Other system used	May use email, payment gateways, monitoring tools	Seamless integration
Ways of working	Review providers → Monitor bookings → Manage content → Handle reports → Maintain system	Performance, operation, resource, security.

1.6.3 Elicitation Technique

Elicitation Source	Key Findings
Traveler / User Interviews	<ul style="list-style-type: none"> •The users have difficulties in getting all their travel requirements (hotels, food places, transport, entertainments) in one platform. •Most of them have issues with the outdated availability, lack of clarity on price, and disjointed reservation systems. •Great demand of a simple search system depending on location, date in/out, number of adults/children, similar to Gozayaan. •Customers want a speedy and mobile-friendly design that will allow them to find the most popular destinations and look up hotel deals and services in their vicinity
Provider Interviews	<ul style="list-style-type: none"> • Availability is now updated by hand or by phone call, which causes confusion and over-booking. Should have a clean dashboard to handle various categories, bookings, cancellations, and refunds. Like to get the booking, cancellations and payments updated in real-time. • Like effortless posting of service details, photos, pricing and policies without being technical.
Admin / System Owner Discussions	<ul style="list-style-type: none"> • Require controlling the users, service providers, listings, cancellations, rules of refunds, and reports centrally. Need a secure system that can be used to handle a lot of booking data comfortably. Automated workflows (availability updates,



notifications, refund requests) will ensure the manual work load decreases.

1.7 System Requirements

Category	User Application (Frontend)	Service Provider & Admin Panels
Hardware Requirements	Any modern smartphone or laptop. Recommended: 2–4 GB RAM and stable performance for smooth browsing.	Any laptop or desktop with at least 4 GB RAM. Designed to work smoothly on mid- range computers.
Internet Connection	A stable Wi-Fi or mobile network. 4G/5G recommended for fast loading of hotels, images, and maps.	Stable broadband or Wi-Fi. Service providers need reliable internet to update room availability and booking status.
Operating System	Works on any OS: Windows, macOS, Android, iOS (accessed through browser).	any OS with modern browser support.
Web Browser	Chrome, Firefox, Edge, Safari (latest versions recommended).	Chrome, Firefox, Edge (latest versions recommended).
Frontend	HTML5, CSS3, JavaScript. Bootstrap / Tailwind for clean responsive UI.	Same frontend stack with additional admin-friendly UI components.
Backend	Flask (Python) - main backend framework.	Shared Flask backend for provider/admin functions like room management, cancellations, refund approvals, etc.)

Database	PostgreSQL (Render Hosted)	Same PostgreSQL instance - admin and providers interact with the same centralized database

Push Notifications	Mail notifications via SMTP API (booking confirmations, cancel updates, refund status).	Automatic notifications for new bookings, cancellations, payment updates.
Additional Libraries	<ul style="list-style-type: none"> • Flask-SQLAlchemy • Flask-Login • Flask-Migrate • Pillow • Jinja2 templates 	Same libraries, plus additional libraries based on chosen framework.
Hosting	Hosted on Render (Backend + Database) Frontend can also be deployed on Render or Netlify/Vercel (if SPA).	Same hosting environment; all panels share the same deployed backend.

1.8 Project Schedule

1.8.1 Project Schedule: June 2025 – November 2025

1. Project Planning & Research (June 2025)

- Tasks:
 - Decide on what does TourGuide do and who does it (travelers, providers, admins).
 - Gazes into the gaps and good ideas on Bangladeshi travel sites.
 - Sketch sketchy site maps on both the public and provider dashboard.
 - Setting the repo, Flask app , Postgres databases.

- Deliverables:
 - Project brief with goals, risks, and timeline.
 - User flows, wireframes, and a light style guide.
 - Working development environment for the whole team.

1.8.2 Data Model & Core Setup – Core Features (July 2025)

- Tasks:
 - Design table place, service, hotel, room, booking, refunds, and policy tables.
 - Produce Alembic migrations and sample data such that anybody can boot the database after a short time
 - Create foundation templates, navigation and structure which can be used everywhere.

Deliverables:

- Approved ER diagram and documented schema.
- Migration scripts plus demo seed data.
- Authentication working end to end with placeholder pages.

1.8.3 Provider & Admin Dashboards (August 2025)

- Tasks:
 - Provide service providers with tools to add services, manage services, set policies, and update schedules.
 - Show quick stats like upcoming bookings, refunds, and top-performing listings.
 - Create an admin view for approvals, manual overrides, and high-level reports.
 - Make sure dashboards respond nicely on laptops, tablets, and phones.
- Deliverables:
 - Provider dashboard MVP with service, room, and policy management.
 - Admin console covering approvals, refunds, and analytics.
 - Reusable components and partials ready for future pages.

1.8.4 Traveler Booking Flow (September 2025)

- **Tasks:**
 - Construct the front facing site where the travelers can select any destination and instantly view the hotels, restaurants, transport and entertainment in the locality.
 - Develop a booking wizard on an individual service: room booking on hotels, number of seats on transport, slot booking on entertainment, and table booking or meal preferences on restaurants.
 - Maintain transparency in prices, total per night, service charges, break down of taxes and any policies by the provider prior to checkout.
 - Ensure that bookings can be generated, confirmed, and followed up on each service including the provision of reminders and cancelation options, depending on the category of service.

Deliverables:

- Public site that supports search and booking across hotels, restaurants, transport, and entertainment.
- Pricing/availability engine that knows how to calculate totals for each service type (rooms, seats, tickets, tables).
- Unified confirmation and reminder templates with service-specific details.
- Traveler booking history showing all upcoming and past services with management actions.

1.8.5 Testing & Debugging (October 2025)

- Tasks:
 - Run full functional tests across public, provider, and admin flows on desktop and mobile browsers.
 - Fix bugs, tighten validation, and add missing edge-case handling.
 - Do security checks (CSRF, session leaks, rate limits, Input cleaning).
 - Load-test booking flows and add error logging plus basic alerts.
- Deliverables:
 - QA reports with resolved issues.
 - Security and performance notes with before/after check.
 - Release candidate tagged for documentation work

1.8.6 Documentation & Final Submission (November 2025)

- Tasks:

Write project documentation:

 - Write developer setup steps, architecture notes, and deployment guide.
 - Create user manuals for providers, travelers, and admins with screenshots.
 - Prepare the defense slide.
 - Bundle the final codebase and documentation for submission.
- Deliverables:
 - Full project records.
 - Presentation.
 - Final submission of the project.

1.9 TourGuide GanttChart

TourGuide

Gantt Chart

PROCESS	QUARTER 1				QUARTER 2				QUARTER 3			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Planning and Research												
Wireframing												
Design Process												
Front-end development												
Back-end development												
Testing and Debugging												
Deployment												

Chapter 2

Design and Implementation

2.1 Functional Requirements

FR01	User Registration
Description	Travelers, service providers, and admins must create an account using their name, email, and phone before accessing the platform. After that, they can access this system.
Stakeholder	Travelers, Service Providers, Admin.

FR02	Provider Onboarding
Description	Hotels, restaurants, transport operators, and entertainment hosts submit business details and supporting documents to gain provider access
Stakeholder	Service Providers, Admin.

FR03	Role-Based Login
Description	After approval, users log in with email/password; dashboards adjust automatically for traveler, provider, or admin roles.
Stakeholder	Travelers, Service Providers, Admin

FR04	Browse Destinations
Description	Travelers view featured spots, filters, and curated cards highlighting top hotels, food, rides, and activities per location.
Stakeholder	Travelers

FR05	Location-Specific Services
Description	Selecting a location shows all connected hotels, restaurants, transport options, and entertainment on a single page.
Stakeholder	Travelers.

FR06	Hotel Booking
Description	Travelers pick rooms, see policies, taxes, discounts, and confirm bookings with real-time availability updates.
Stakeholder	Travelers, Service Providers

FR07	Restaurant Reservations
Description	Travelers reserve tables or meal packages, review menus/policies, and track reservations within their history..
Stakeholder	Travelers, Service Providers.

FR08	Transport Booking
Description	Travelers reserve seats or vehicles (bus, car, boat) with schedules, pickup info, and capacity checks.
Stakeholder	Travelers, Service Providers

FR09	Entertainment Booking
Description	Travelers secure tickets for shows, tours, or experiences, including time slots, duration, and meeting points.
Stakeholder	Travelers, Service Providers

FR10	Booking Overview
Description	Travelers monitor upcoming/past bookings across services, download receipts, request cancellations, or rebooking.
Stakeholder	Travelers

FR11	Cancellation & Refunds
Description	Travelers cancel within policy; providers/admin review refund requests, capture justifications, and update statuses.
Stakeholder	Travelers, Service Providers, Admin

FR12	Provider Service Management
Description	Providers add/edit services (hotels, restaurants, etc.), upload media, update policies/amenities, confirm availability, and toggle visibility
Stakeholder	Service Providers

FR13	Hotel Room Management
Description	Hotel providers manage rooms, categories, tariffs, inventory, policies, imagery, and availability calendars.
Stakeholder	Service Providers

FR14	Policies & Pricing Controls
Description	Providers define cancellation rules, surcharges, extras, and seasonal adjustments per service; travelers see them before booking.
Stakeholder	Service Providers, Travelers

FR15	Admin Oversight & Approvals
Description	Admins certify providers, approve new listings, and interfere on bookings, refunds, or policy violations
Stakeholder	Admin

FR16	Analytics Dashboards
Description	Providers and admins view (revenue, occupancy, top services, cancellation trends) with filters and exports.
Stakeholder	Service Providers, Admin

FR17	Notifications & Alerts
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Description	Email/SMS/app alerts inform users of confirmations, cancellations, policy changes, and upcoming plans.
Stakeholder	Travelers, Service Providers, Admin.

FR18	Search & Filtering
Description	Travelers filter by price range, rating, amenities, cuisine, transport type, or activity category.
Stakeholder	Travelers

FR19	Feedback & Reviews
Description	Travelers review booked services; providers and admins monitor feedback to highlight popular listings and address issues.
Stakeholder	Travelers, Service Providers, Admin.

FR20	Wishlist / Save for Later
Description	Travelers bookmark services and destinations to revisit or book later, synced across sessions.
Stakeholder	Travelers.

FR21	Secure Payments
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Description	Bookings support secure payment gateways (initially placeholder or cash-on- arrival), storing audits and receipts.
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Stakeholder	Travelers, Service Providers
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FR22	Logout
Description	Users sign out safely; sessions expire automatically after inactivity
Stakeholder	Travelers, Service Providers, Admin

FR23	System Admin
Description	Admins manage user accounts, roles, master data (places, categories), and run health checks & backups
Stakeholder	Admin

2.2 Non-Functional Requirements

ID	Requirement	Description	Reason/Justification
NFR-1	Performance & Efficiency	Key pages—destination browse, service details, booking wizard should load in under 2 seconds on a typical broadband or 4G connection.	Travelers expect quick updates while comparing hotels, restaurants, rides, and activities.
NFR-2	Scalability	Handle at least 500 active users (travelers + providers) at the same time without slowing down	Travel seasons bring spikes; the system needs to keep up as more providers and travelers join.
NFR-3	Security & Access Control	Use role-based access and encrypt sensitive data (passwords, booking history, payment) in transit and at rest.	Providers, travelers, and admins see different data. Protecting their info builds trust.
NFR-4	Availability & Reliability	To ensure that it is prepared for any problems, maintain 99% uptime.	People plan trips any time of day; downtime means missed bookings and frustrated users.
NFR-5	Usability & User Experience	Navigation, filters, and booking flows should be obvious without training on desktop and mobile.	Many users are first-time visitors; a clear layout keeps them from dropping off mid-booking.

NFR-6	Maintainability & Upgradability	For new features and bug fixes to be introduced with the least amount of downtime, the code must be modular and well-commented.	Make that the system is robust, dependable, and adaptable to changing requirements.
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NFR-7	Data Integrity & Accuracy	Prevent duplicate bookings, sync availability in real time, and log every change to policies or pricing.	Travelers depend on accurate totals and availability; providers depend on clean records.
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NFR-8	Compliance & Compatibility	Support modern browsers and mobile screens, follow basic accessibility guidelines (contrast, keyboard navigation).	Travelers browse on phones, laptops, even tablets on the go; everyone should have a smooth experience.
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2.3 Use Case Diagram

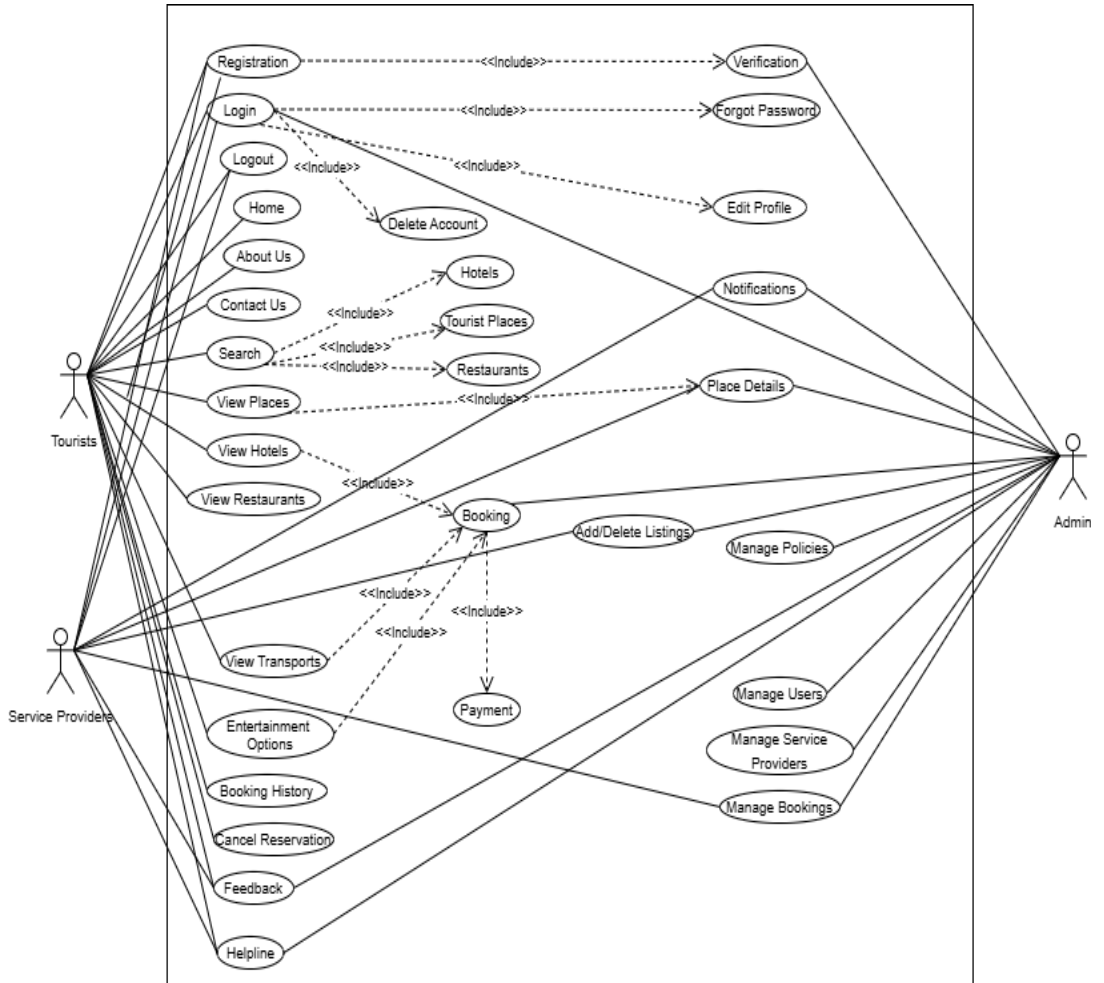


Fig 1.3

2.4 CASE DESCRIPTIONS

Use Case	Registration											
Goal	Complete account registration for any new user (traveler, provider, admin).											
Precondition	User is not yet registered; required details (name, email, password, role) are available.											
Success End Condition	The message "You are registered successfully" appears.											
Failed End Condition	"Registration Failed" notification.											
Primary Actors	Traveler, Service											
Secondary Actors	Provider Admin											
Trigger	Actor initiates registration from the sign-up page or invite link.											
Description/Main success scenario	<table border="1"> <tr> <td>1.</td> <td>Actor opens the registration form</td> </tr> <tr> <td>2.</td> <td>Actor enters mandatory personal and login details.</td> </tr> <tr> <td>3.</td> <td>Actor selects intended role (traveler by default , invited provider via token)</td> </tr> <tr> <td>4.</td> <td>System validates the inputs and role token</td> </tr> <tr> <td>5.</td> <td>Registration Done</td> </tr> </table>		1.	Actor opens the registration form	2.	Actor enters mandatory personal and login details.	3.	Actor selects intended role (traveler by default , invited provider via token)	4.	System validates the inputs and role token	5.	Registration Done
1.	Actor opens the registration form											
2.	Actor enters mandatory personal and login details.											
3.	Actor selects intended role (traveler by default , invited provider via token)											
4.	System validates the inputs and role token											
5.	Registration Done											
Alternative Flows	4.1	Invite token invalid/expired → System shows "Invalid invite" and blocks provider registration										
	5.1	Registration Failed.										
		5.1.a All fields are required to fill.										
Quality Requirements	Registration should be done within 30 minutes.											

Use Case	Log in
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Goal	Authenticate an existing traveler, provider, or administrator.
Precondition	Actor already has a registered account and valid credentials.
Success End Condition	“Successful Login” notification.

Failed End Condition	“Something went wrong, Please give it another go.” notification.	
Primary Actors Secondary Actors	Traveler, Service Provider, Administrator Session Service (for token issuance).	
Trigger	Actor submits credentials on the login page	
Description/Main success scenario	1.	Actor provides username/email and password
	2.	System verifies credentials and role status.
	3.	System generates a session token
	4.	Actor is redirected to role-specific home screen.
Alternative Flows	2.1	Credentials invalid → System shows error, allows retry
	2.2	Provider pending approval → System blocks access, displays “Account pending review”.
Quality Requirements	Login should be done within 10 minutes.	

Use Case	Verification
Goal	Confirm ownership of email/phone for a pending registration
Precondition	Registration submitted and account marked pending verification.

Success End Condition	Account status switches to “verified”.
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Failed End Condition	Verification failed. Account stays pending
Primary Actors	Tourists, Service Provider applicant
Secondary Actors	Notification service, Admin (can override failures)

Trigger	System issues verification token/code.	
Description/Main scenario	1.	System sends verification link/OTP
	2.	Actor activates link or enters OTP
	3.	System validates token
	4.	System marks the account verified.

Alternative Flows	2.1	Token expired → system offers resend.
	3.1	Too many failed attempts → system locks verification and alerts admin.
Quality Requirements	Token valid 48 hours; verification response time ≤5 seconds.	

Use Case	Forgot Password
Goal	Let actors reset access when credentials are forgotten
Precondition	Actor requests password reset from login screen.
Success End Condition	Password reset completed and confirmation sent.
Failed End Condition	Password reset failed.” message.

Primary Actors	Tourists, Service Provider, Admin
Secondary Actors	Notification service

Trigger	Actor selects “Forgot Password”.	
Description / Main success scenario	1.	Actor enters registered email
	2.	System sends reset link/OTP.
	3.	Actor follows link, enters new password.
	4.	System validates and confirms update.

Alternative Flows	2.1	Email not found → system advises registration.
	2.2	Token expired → system prompts to request a new reset link..
Quality Requirements	Reset link delivered ≤60 seconds; completion within 5 minutes..	

Use Case	Edit Profile
Goal	Allow logged-in users to update profile details.
Precondition	Actor is authenticated.

Success End Condition	Updated profile saved successfully.
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Failed End Condition	Profile update failed.” message.								
Primary Actors	Profile update failed.” message.								
Secondary Actors	Admin (reviews flagged provider changes)								
Trigger	Actor chooses “Edit Profile” from dashboard.								
Description/ Main success scenario	<table border="1"> <tr> <td>1.</td> <td>Actor updates fields (contact info, preferences).</td> </tr> <tr> <td>2.</td> <td>System validates data</td> </tr> <tr> <td>3.</td> <td>System saves changes and acknowledges success.</td> </tr> <tr> <td>4.</td> <td>Students can look through events and see more information about them.</td> </tr> </table>	1.	Actor updates fields (contact info, preferences).	2.	System validates data	3.	System saves changes and acknowledges success.	4.	Students can look through events and see more information about them.
1.	Actor updates fields (contact info, preferences).								
2.	System validates data								
3.	System saves changes and acknowledges success.								
4.	Students can look through events and see more information about them.								
Alternative Flows	<table border="1"> <tr> <td>2.1</td> <td>Invalid input → system prompts correction.</td> </tr> <tr> <td>3.1</td> <td>Provider edits requiring approval → status set to pending until admin review completes.</td> </tr> </table>	2.1	Invalid input → system prompts correction.	3.1	Provider edits requiring approval → status set to pending until admin review completes.				
2.1	Invalid input → system prompts correction.								
3.1	Provider edits requiring approval → status set to pending until admin review completes.								
Quality Requirements	1. Save action ≤3 seconds; history of changes retained								
Use Case	Delete Account								

Goal	Let a user permanently remove their account	
Precondition	Actor logged in; no unresolved bookings/listings.	
Success End Condition	Account deactivated/deleted and session terminated	
Failed End Condition	Account deletion failed.” Message	
Primary Actors	Tourists	
Secondary Actors	Admin (must confirm provider deletions)	
Trigger	Actor selects “Delete Account	
Description/Steps in success scenario	1.	Actor requests deletion.
	2.	System checks for active bookings/listings
	3.	Actor confirms irreversible action
	4.	System removes access, anonymizes personal data, logs outcome.
Alternative Flows	2.1	Active commitments found → system blocks deletion and advises cancellation first
	4.1	Provider deletion queued for admin approval → actor notified of pending status

Quality Requirements	Deletion processed ≤ 10 seconds; audit trail recorded.
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Use Case	Home
Goal	Display landing page with quick links and featured content.
Precondition	The content for the home page is already prepared in the system
Success End Condition	The home page loads properly and shows the main sections, menus, and navigation links
Failed End Condition	Home content unavailable.” message.
Primary Actors	Tourist / User
Secondary Actors	CMS (Content Management System) – provides home page content.
Trigger	The user opens the website by typing the URL or clicking “Home”.

Description/ Main success scenario	1.	The user visits the home page.
	2.	The system loads featured areas like top destinations, hotels, restaurants, transport, or tours.
	3.	The system also loads navigation options so the user can browse the site easily.
	4.	The user clicks a section to explore more.
Alternative Flows	1.1	CMS service unavailable
		1.1.a If the CMS fails, the system shows a simple fallback message or static content.
		1.1.b The page still loads without crashing.
Quality Requirem ents		Home page should load within 2 seconds to ensure a smooth user experience.

Use Case	About Us
Goal	Show background information about the platform..
Precondition	About page content available.
Success End Condition	The About Us page loads normally and displays the background information.

Failed End Condition	The system shows: “Unable to load About information.”
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Primary Actors	Tourist / User	
Secondary Actors	Content Management System	
Trigger	The user clicks the “About Us” button or opens the About page.	
Description/Main success scenario	1.	The user selects the About Us page.
	2.	The system fetches the prepared content from the CMS.
	3.	The page loads and displays everything clearly.
	2.1	
Alternative Flows	1.1	Content is missing
		1.1.a The system cannot load the About information
		1.1.b Instead, it shows a simple fallback message, possibly asking the user to contact support if needed.
Quality Requirements	The About Us page should load within 2 seconds for a smooth experience	

Use Case	Contact Us
Goal	Allow visitors to easily send questions or messages to the support team
Precondition	The contact form must be active and working.
Success End Condition	The inquiry is saved, and the user sees a confirmation message.
Failed End	The system shows: "Submission failed."

Condition	
Primary Actors	Tourist / User
Secondary Actors	<ul style="list-style-type: none"> • Admin (receives the inquiry) • Notification system (sends alert to admin)
Trigger	The user submits the contact form.
Description/ Main success scenario	1. The user fills in the required fields (name, email, message).
	2. The system checks if the information is valid.
	3. If everything is correct, the system saves the inquiry
	4. A confirmation message appears, and the admin gets a notification.

Alternative Flows	2.1	If the system detects spam or suspicious inputs
		2.1.a The submission is blocked.
		2.1.b User is asked to complete a captcha.
Quality Requirements	<ul style="list-style-type: none"> • Submission should complete within 3 seconds. • Admin should get the notification within 1 minute. 	

Use Case	Search
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Goal	Let users search for hotels, tourist spots, or restaurants easily
Precondition	The search index must be ready and updated.
Success End Condition	Search results are shown in categories.
Failed End Condition	<p>The system shows:</p> <ul style="list-style-type: none"> • “No results found.”
Primary Actors	Tourist
Secondary Actors	Search service
Trigger	The user types a search keyword.

Description/Main success scenario	1.	User enters keywords.
	2.	The system searches across Hotels, Restaurants, Entertainments and Tourist Places.
	3.	Results appear with filters (price, rating, location) and links to details.
Alternative Flows	1.1	Keyword empty “ system asks the user to type something”.

Quality Requirements	<ul style="list-style-type: none"> • Results must appear within 1.5 seconds. • Must support 100+ users searching at the same time.
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Use Case	View Places
Goal	Show users a list of popular tourist places.
Precondition	Places database must be available.
Success End Condition	All places load correctly, and users can open details.
Failed End Condition	The system shows: “Unable to load places.”

Primary Actors	Tourist	
Secondary Actors	Admin	
Trigger	User clicks “View Places”.	
Description/Main success scenario	1.	System loads the active tourist places.
	2.	Places appear as cards with images and highlights.
	3.	User clicks on any place to view full details

Alternative Flows	1.	No places available “a friendly “No places yet” message appears”.
Quality Requirements	List should load within 2 seconds and support 500+ places.	

Use Case	View Hotels
Goal	Display hotels available for booking.
Precondition	Hotel listings must exist and be active.
Success End Condition	Hotels load with prices and availability.
Failed End Condition	error message: Shows “Unable to load hotels”

Primary Actors	Tourist	
Secondary Actors	Service Provider (who added the hotel)	
Trigger	User clicks “View Hotels”.	
Description/Main success scenario	1.	System loads hotel listings according to filters.
	2.	Each card shows price, short policy preview, and rating.
	3.	User can proceed to booking or view full details
Alternative Flows	1.1	No hotels match filters “system suggests adjusting filters”.
Quality Requirements	Load within 2 seconds, support 1000+ hotels.	

Use Case	View Restaurants
Goal	Show restaurants with menus and contact info.
Precondition	Restaurant listings must be active.
Success End Condition	Restaurants appear with details.

Failed End Condition	Shows “Unable to load restaurants”.	
Primary Actors	Tourist	
Secondary Actors	Service Provider	
Trigger	User selects “View Restaurants”.	
Description/Main success scenario	1.	System loads all restaurant entries.
	2.	Each card shows price range, location, and menu info
	3.	User can open details or contact the provider
Alternative Flows	1.1	If no restaurants exist “show helpful suggestions”
Quality Requirements	Load within 2 seconds.	
Use Case	View Transports	
Goal	Show available transport services (cars, buses, bikes, jeeps etc.)	
Precondition	Transport listings available.	
Success End Condition	Transport options load with schedules.	
Failed End Condition	Shows “Unable to load transports.”	
Primary Actors	Tourist	
Secondary Actors	Service Provider	
Trigger	User clicks “View Transports”.	
Description/Main success scenario	1.	System fetches transport entries
	2.	Cards show schedule, origin, destination, and cost.
	3.	User can continue to booking

Alternative Flows		No transports “ message suggesting to contact support”
Quality Requirements	Load within 2 seconds, support 500 listings.	

Use Case	Entertainment Options	
Goal	Show available activities.	
Precondition	Entertainment services set up.	
Success End Condition	List appears with availability.	
Failed End Condition	Shows: “Entertainment options unavailable.”	
Primary Actors	Tourist	
Secondary Actors	Service Provider	
Trigger	User selects “Entertainment Options”.	
Description/Map in success scenario	1.	System fetches entertainment services.
	2.	Cards show type, price, and available slots.
	3.	User can begin booking.

Alternative Flows	No entertainment available “Check back later”
Quality Requirements	You have 03 seconds to load the data.

Use Case	Booking
Goal	Allow the user to book a hotel, transport, or entertainment service.
Precondition	User must be logged in, and availability must be confirmed.
Success End Condition	Booking is created and displayed on the screen.
Failed End Condition	Shows “Booking failed.”
Primary Actors	Tourist
Secondary Actors	<ul style="list-style-type: none"> • Service Provider • Inventory Manager
Trigger	User clicks “Book Now”.

Description/Main success scenario	1.	User selects date, time, or quantity.
	2.	System checks availability and pricing
	3.	User confirms the booking details.
	4.	Booking is saved, and user is directed to Payment.
Alternative Flows	1.1	Invalid input “ask user to correct information”.
	2.1	Availability conflict “suggest alternate times”.
Quality Requirements	Booking saved within 5 seconds, supports 200 bookings/min.	

Use Case	Payment
Goal	Process payment for a booking.
Precondition	Booking must exist and be waiting for payment.
Success End Condition	Payment completes; booking marked as paid.”

Failed End Condition	Shows “Payment unsuccessful.”	
Primary Actors	Tourist	
Secondary Actors	<ul style="list-style-type: none"> • Payment Gateway • Admin (for settlement) 	
Trigger	User selects “Pay Now”.	
Description/Main success scenario	1.	User picks a payment method
	2.	Payment gateway processes it.
	3.	If successful, system updates booking
	4.	Receipt is sent.

Alternative Flows	<ul style="list-style-type: none"> • User cancels payment “booking stays pending”.
	<ul style="list-style-type: none"> • Gateway error “retry option”.
Quality Requirements	<ul style="list-style-type: none"> • Payment must complete within 15 seconds. • Retry allowed 3 times.

Use Case	Place Details
Goal	Show complete details about a selected place/hotel/restaurant/transport.
Precondition	User clicked a listing.
Success End Condition	Detail page loads successfully.
Failed End Condition	Shows “Unable to load details.”

Primary Actors	Tourist	
Secondary Actors	Service Provider Admin	
Trigger	User opens a listing item.	
Description/Main success scenario	1.	System loads all details: images, location, policies, ratings.
	2.	Page shows booking or contact options.
Alternative Flows	If details missing “display fallback message”.	
Quality Requirements	Load within 2 seconds, optimized media.	

Use Case	Booking History
Goal	Let users review their past and future bookings.
Precondition	User logged in with bookings in the system
Success End Condition	History list appears.
Failed End Condition	Shows “Unable to load booking history.”

Primary Actors	Tourist	
Secondary Actors	Service Provider Admin	
Trigger	User clicks “Booking History”	
Description/Main success scenario	1.	System loads bookings by date.
	2.	List displays statuses with actions like Confirmed, Cancel, Refund, View Receipt.
	3.	User can open booking details.
Alternative Flows	No history “show a friendly empty state”.	
Quality Requirements	Load within 2 seconds, receipt download within 5 seconds.	

Use Case	Cancel Reservation
Goal	Allow users to cancel a booking.
Precondition	Booking must be inside the cancellation window
Success End Condition	Booking is cancelled, and user gets confirmation.
Failed End Condition	Shows “Cancellation failed.”

Primary Actors	Tourist	
Secondary Actors	Service Provider Admin	
Trigger	User selects “Cancel Reservation”	
Description/Main success scenario	1.	System checks if cancellation is still allowed.
	2.	User confirms cancellation.
	3.	System updates booking, refunds if needed, and sends notifications.
	4.	Inventory restored.
Alternative Flows	<ul style="list-style-type: none"> • Cancellation window passed “deny with explanation”. • Refund failure “ask user to contact support”. 	
Quality Requirements	Process within 3 seconds; notifications within 5 seconds.	

Use Case	Feedback
Goal	Allow tourists to give ratings and comments after using a service.
Precondition	User must have a completed booking.
Success End Condition	Feedback saved with a “Thank you” message
Failed End Condition	Shows “Feedback submission failed.”

Primary Actors	Tourist	
Secondary Actors	Service Provider Admin	
Trigger	User chooses “Give Feedback”.	
Description/Main success scenario	1.	User opens the feedback form.
	2.	Enters rating and comments.
	3.	System saves the feedback.
	4.	Confirmation message shown.
Alternative Flows	<ul style="list-style-type: none"> • Incomplete form “ask user to fill required fields”. • Duplicate submission “show warning”. 	
Quality Requirements	Save within 2 seconds, confirmation in 3 seconds.	

Use Case	Add/Delete Listings
Goal	Let service providers or admins add or remove services.
Precondition	Provider must be approved.
Success End Condition	Listing added or removed successfully.
Failed End Condition	Shows “Unable to update listings”.

Primary Actors	Service Provider/Admin	
Secondary Actors	Tourist	
Trigger	Actor clicks Add or Delete.	
Description/Main success scenario	1.	Actor selects add or delete.
	2.	For Add: enter details → system validates → listing saved.
	3.	For Delete: system asks for confirmation → listing disabled.
	4.	Catalog updates automatically.
Alternative Flows	<ul style="list-style-type: none"> • Invalid details “show correction prompts”. • Cannot delete due to active bookings “show reason”. 	
Quality Requirements	Operations complete within 5 seconds, logged in audit.	

Use Case	Manage Policies	
Goal	Let providers update room/service policies, with admin reviewing when needed.	
Precondition	A listing must already exist.	
Success End Condition	Policy saved and visible to users.	
Failed End Condition	Shows “Policy update failed.”	
Primary Actors	Service Provider	
Secondary Actors	Admin(reviewer) Tourist(viewer)	
Trigger	Provider clicks “Manage Policies”.	
Description/Main success scenario	1.	Provider edits or adds policy text.
	2.	System validates wording and length.
	3.	Policy is saved and shown to users.
	4.	Confirmation message appears.
Alternative Flows	<ul style="list-style-type: none"> • Prohibited terms detected “flagged for admin review”. • Admin rejects policy “provider is notified”. 	
Quality Requirements	Save within 2 seconds	

Use Case	Manage Users	
Goal	Allow admins to manage tourist and provider accounts such as suspending or reactivating them.	
Precondition	The admin is logged in.	
Success End Condition	The user's account status is updated and the admin sees a confirmation message	
Failed End Condition	The system shows: "Unable to update user"	
Primary Actors	Admin	
Secondary Actors	Tourist Service Provider	
Trigger	Admin opens the "Manage Users" page.	
Description/Main success scenario	1.	The admin searches for the user they want to manage.
	2.	The system shows their profile and activity history.
	3.	The admin chooses what action to take
	4.	The system applies the change and notifies the user about it.
Alternative Flows	<ul style="list-style-type: none"> Admin tries to delete another admin: The system blocks it and shows a warning. Notification can't be sent: System retries sending and informs the admin 	
Quality Requirements	<ul style="list-style-type: none"> Search results within 2 seconds Status changes finished within 3 seconds All actions must be saved in an audit log 	

Use Case	Manage Service Providers	
Goal	Allow admins to approve, suspend, or remove service provider accounts.	
Precondition	Provider accounts exist (active or pending approval).	
Success End Condition	Provider status is updated and they are notified.	
Failed End Condition	System shows: “Unable to update provider”.	
Primary Actors	Admin	
Secondary Actors	Service Provider	
Trigger	Admin enters the “Manage Service Providers” section.	
Description/Main success scenario	1.	Admin opens a provider’s profile.
	2.	Admin chooses an action: approve, suspend, reinstate, or remove.
	3.	The system updates the provider’s status, updates their listings, and sends them a notification.
Alternative Flows	<ul style="list-style-type: none"> Admin needs more information: The provider is marked as “pending info” with instructions. Notification fails: System queues it for retry and alerts the admin. 	
Quality Requirements	<ul style="list-style-type: none"> Status update within 3 seconds All actions must be recorded for compliance 	

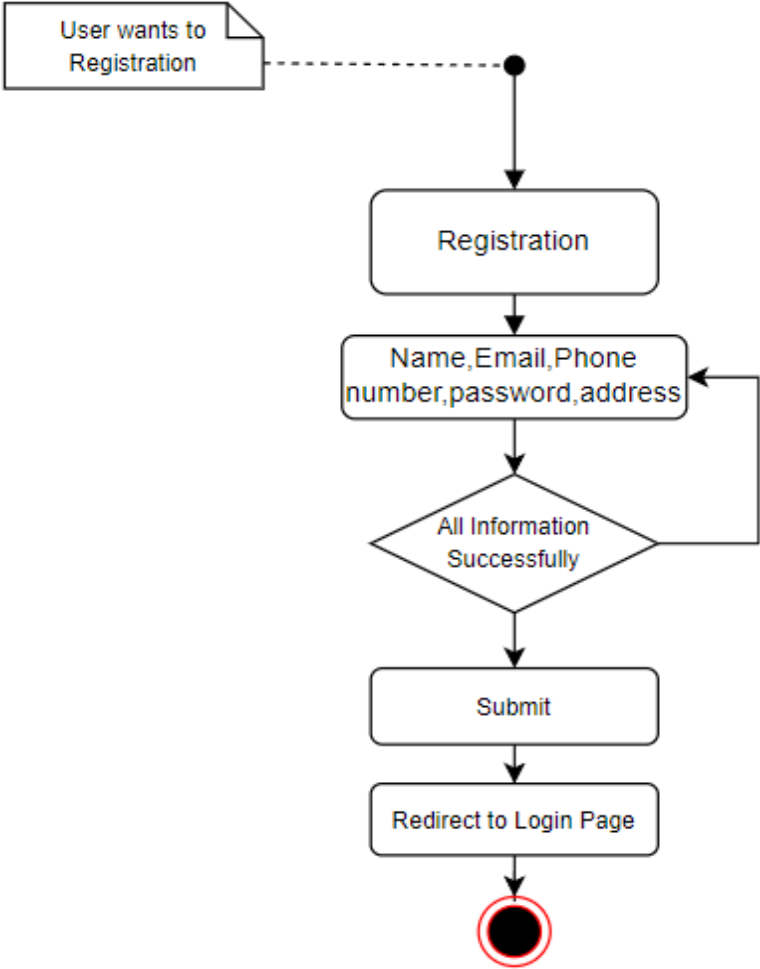
Use Case	Manage Bookings	
Goal	Allow admins or providers to view and update bookings.	
Precondition	Bookings exist and the actor has permission to manage them.	
Success End Condition	Booking is updated correctly	
Failed End Condition	System shows: “Unable to update booking.”	
Primary Actors	Admin Service Provider	
Secondary Actors	Tourist	
Trigger	Actor opens “Manage Bookings”.	
Description/Main success scenario	1.	The actor views the full list of bookings.
	2.	They select one and choose an action.
	3.	The system checks the booking rules, updates the booking, and informs the tourist
Alternative Flows	<ul style="list-style-type: none"> • Action not allowed: Example: trying to adjust a booking after the stay “system blocks it with an explanation”. • Notification cannot be sent: System retries and marks the issue. 	
Quality Requirements	<ul style="list-style-type: none"> • Updates processed within 5 seconds • System must support 500 simultaneous booking actions 	

Use Case	Notifications	
Goal	Send alerts and messages to users about bookings, approvals, or updates.	
Precondition	Some event occurs that needs a notification.	
Success End Condition	Notification is delivered successfully.	
Failed End Condition	System shows: “Notification delivery failed”.	
Primary Actors	Admin Service Provider	
Secondary Actors	Tourists Notification Service	
Trigger	<ul style="list-style-type: none"> • Notification delivery failed • Admin or provider sends a manual notification 	
Description/Main success scenario	1.	Admin/provider chooses the audience or the system auto-selects users.
	2.	They write the message or choose a pre-made template
	3.	The system sends the message via email, push notification, or in- app alert.
	4.	Users receive it and the sender sees confirmation.
Alternative Flows	Notification channel down: System queues messages and informs admin of delays.	
Quality Requirements	<ul style="list-style-type: none"> • Updates processed within 5 seconds • System must support 500 simultaneous booking actions 	

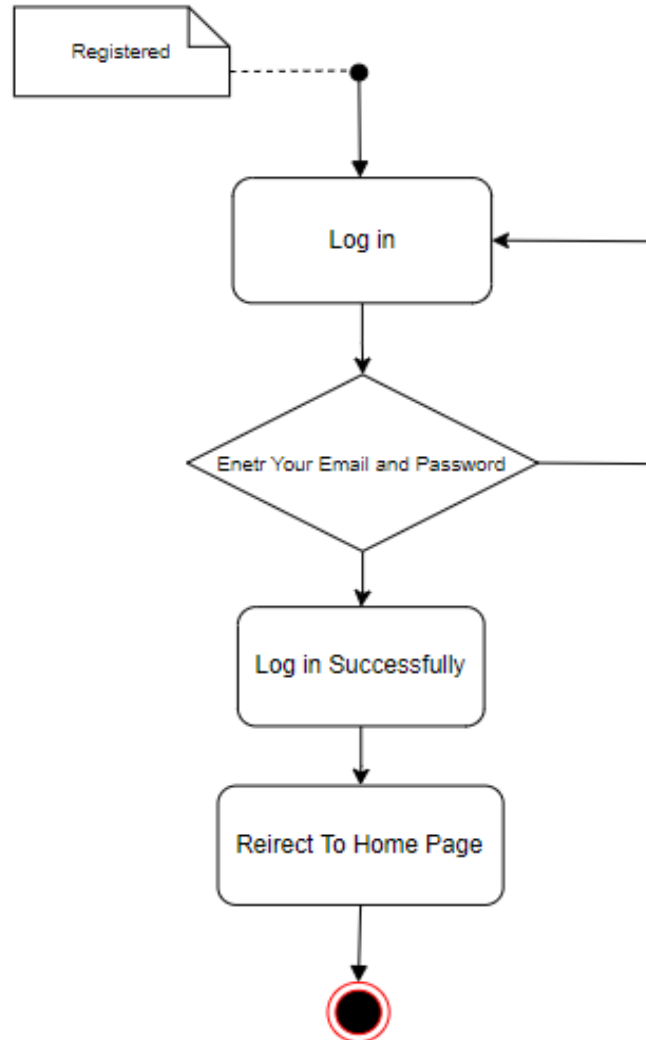
Use Case	Logout	
Goal	Allow the user to safely end their session and return to the login page.	
Precondition	The user must already be logged in.	
Success End Condition	The system logs the user out and shows a message like “You have logged out successfully.”	
Failed End Condition	The logout does not happen, and the user sees “Logout failed. Please try again.”	
Primary Actors	Tourist Service Provider Admin	
Secondary Actors	Session Manager (handles login/logout tokens)	
Trigger	The user clicks the Logout button.	
Description/Main success scenario	1.	The system removes the user’s session token (so they cannot access protected pages anymore).
	2.	Any temporary data stored for that session gets cleared
	3.	The user is redirected to the login page with a confirmation message.
Alternative Flows	<ul style="list-style-type: none"> • Session system is down: The logout cannot be completed. The system tells the user and asks them to try again. 	
Quality Requirements	<ul style="list-style-type: none"> • Logout must finish within 2 seconds. • Confirmation message must appear within 3 seconds. 	

2.5 ACTIVITY DIAGRAMS

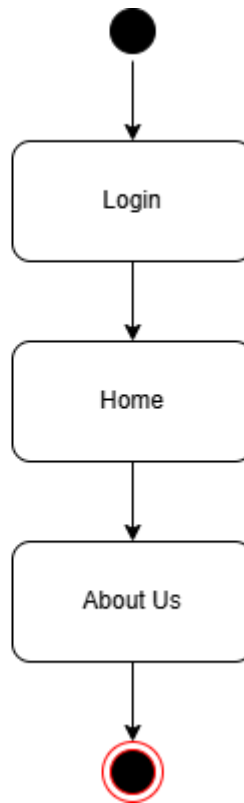
Registration



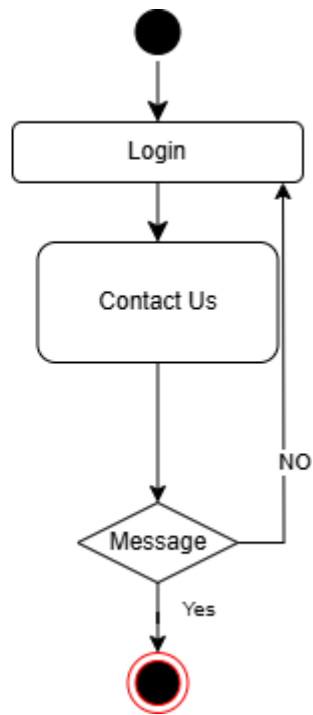
LogIn



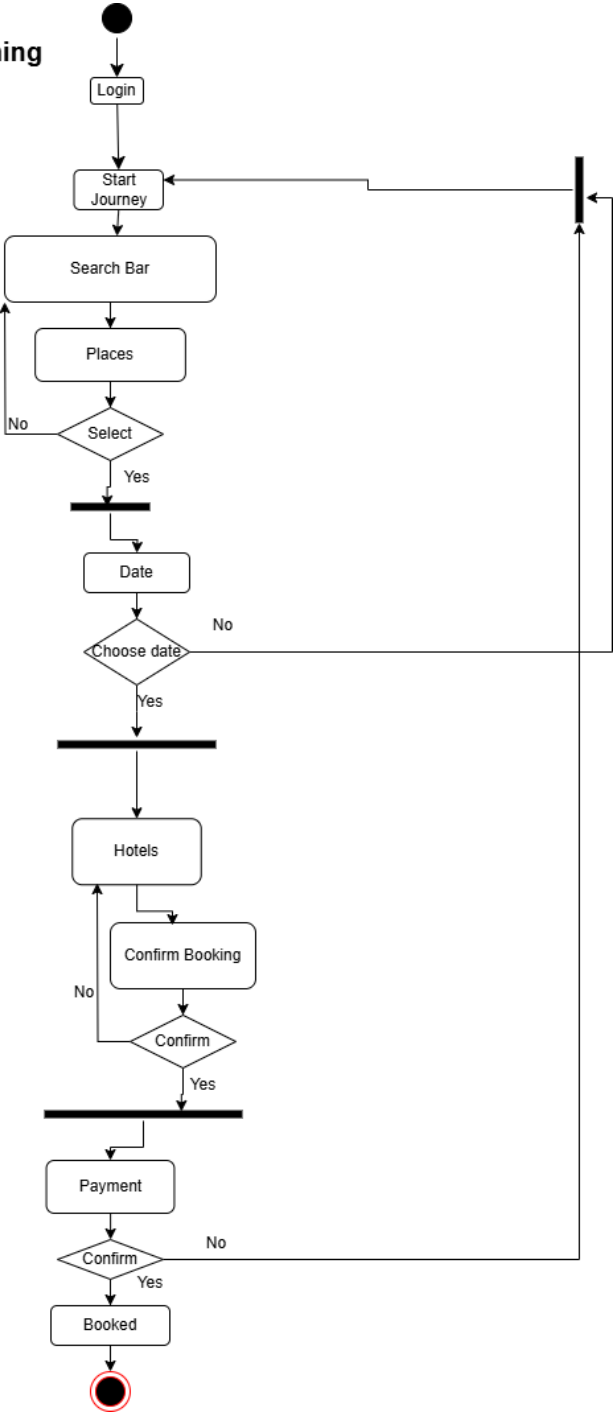
About Us



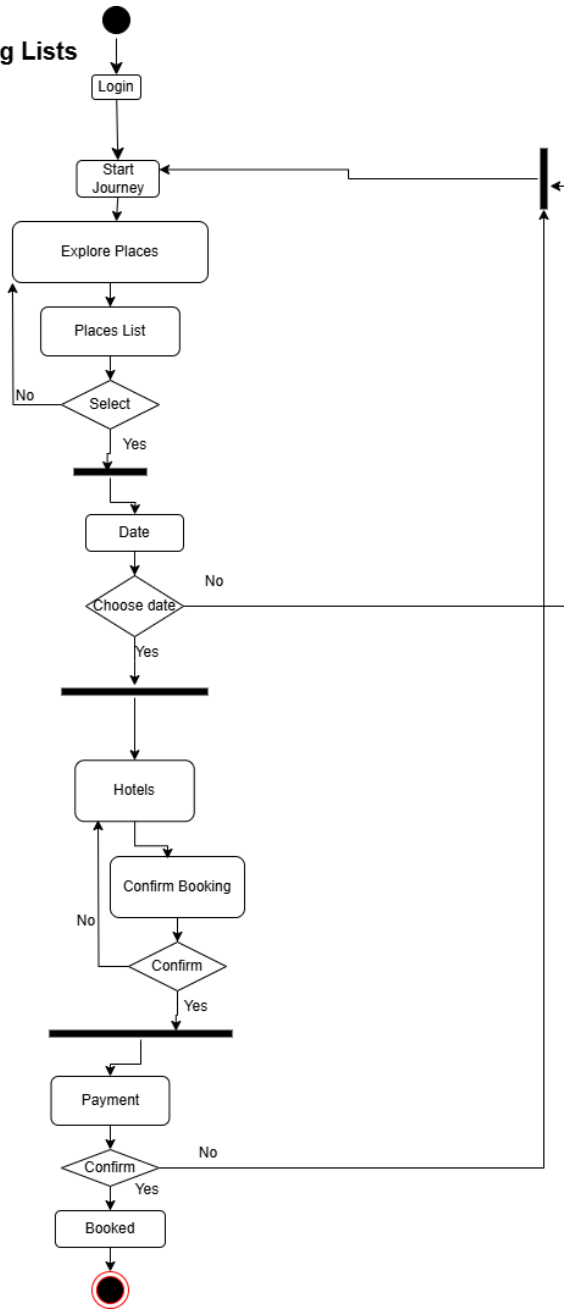
Contact Us



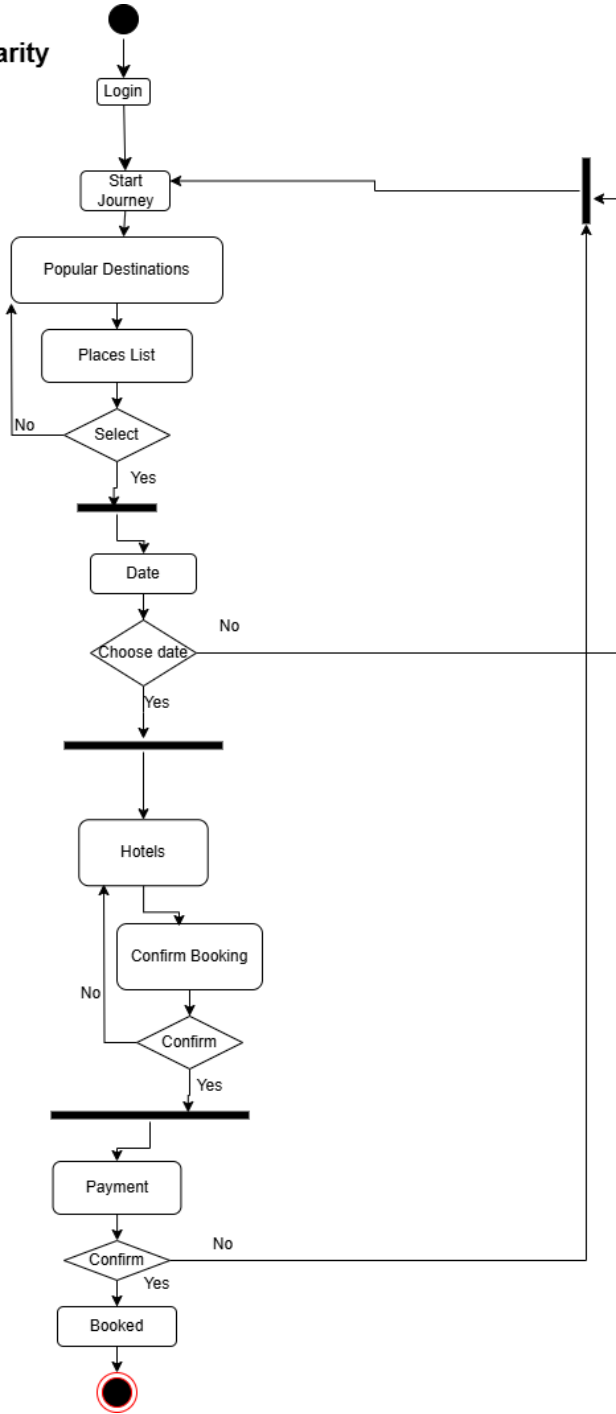
Hotel Booking By searching



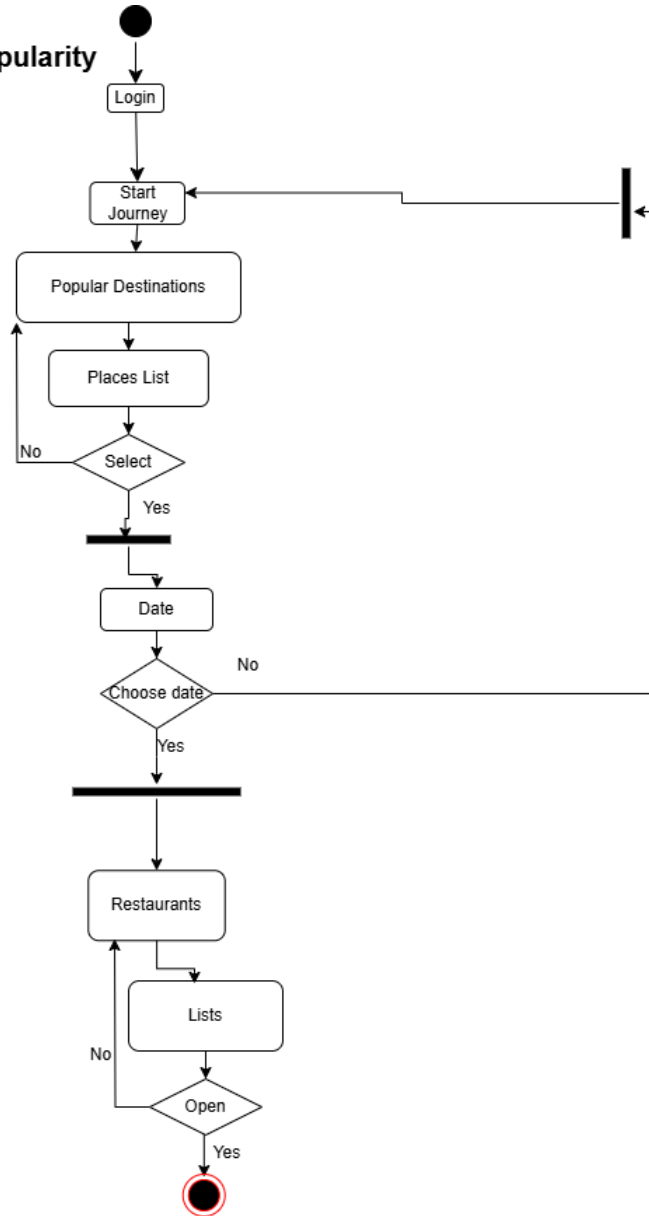
Hotel Booking By Exploring Lists



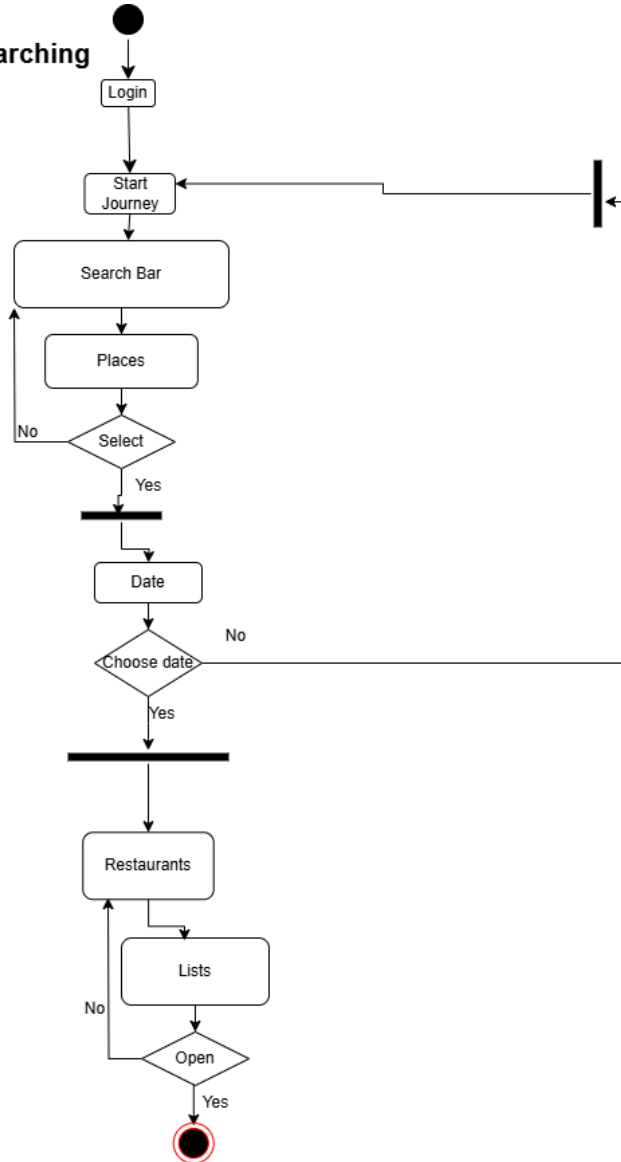
Hotel Booking by Popularity



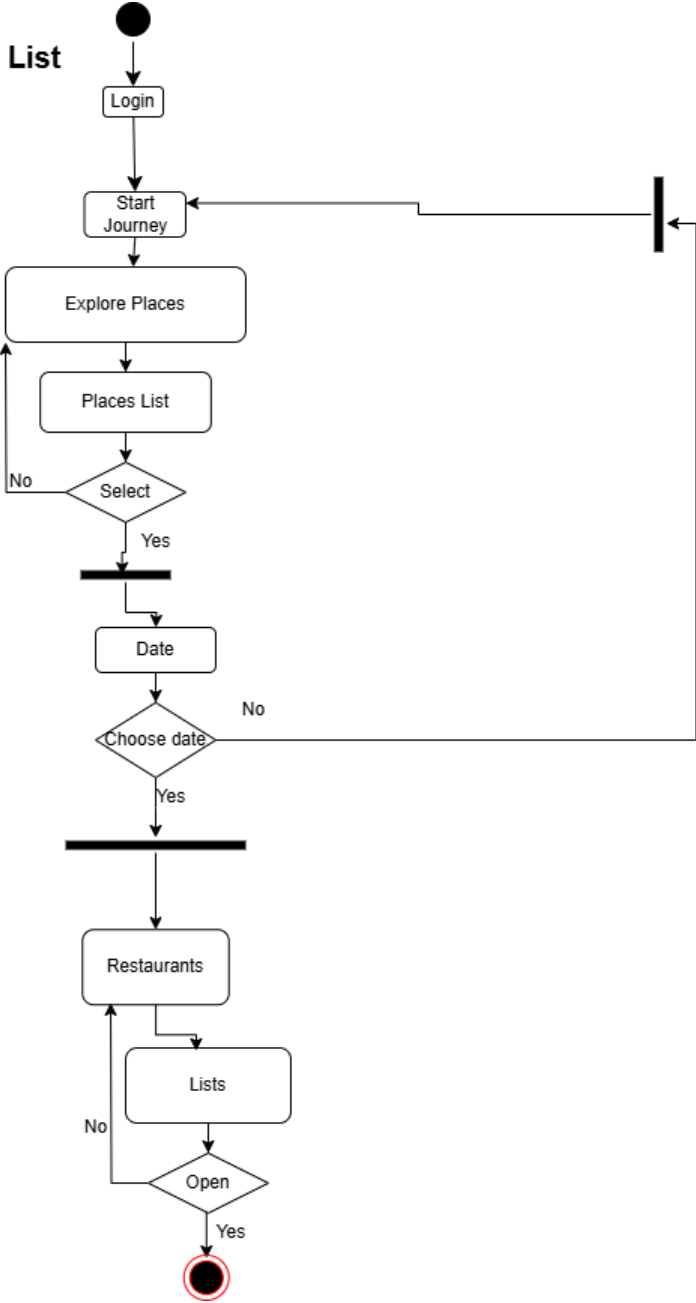
Restaurants explore by Popularity

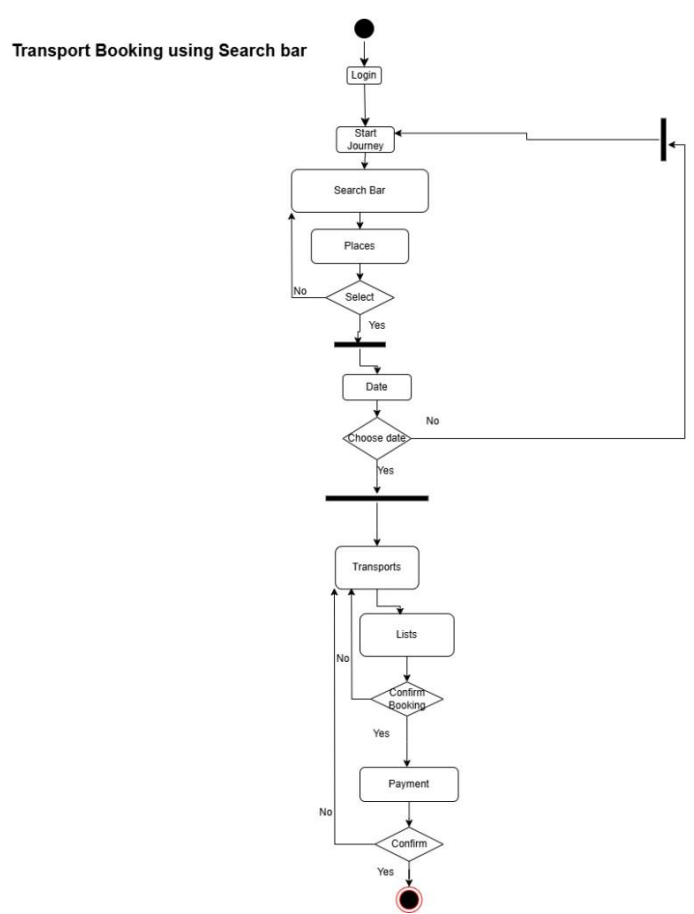
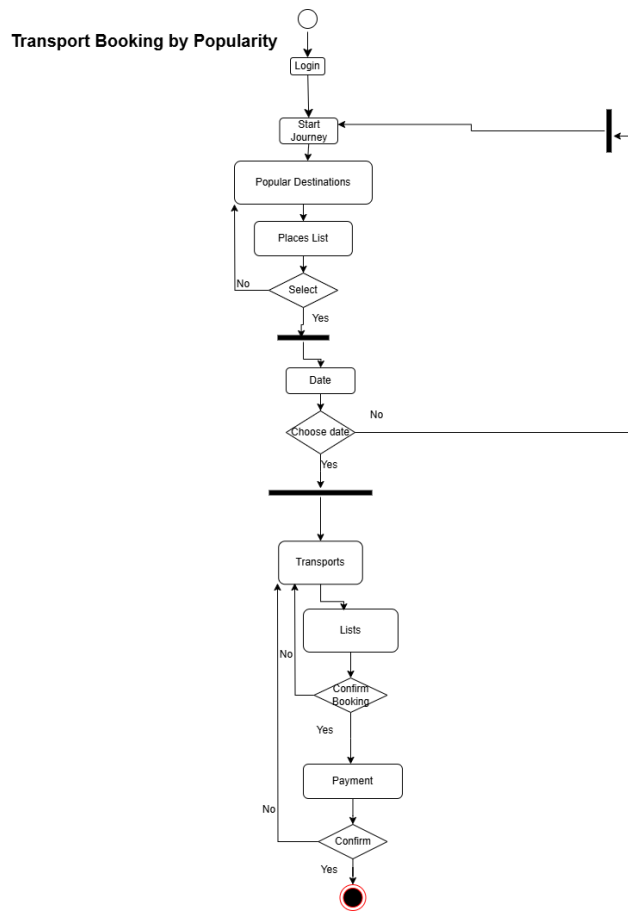


Restaurants explore by Searching

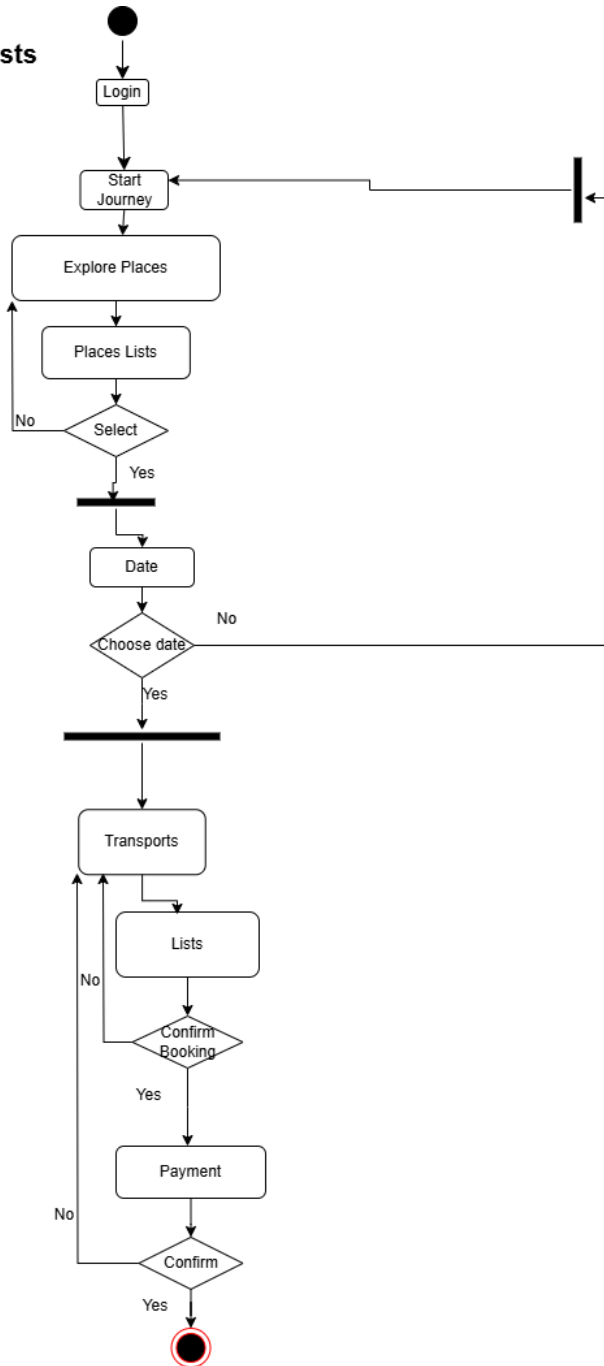


Restaurants explore from List

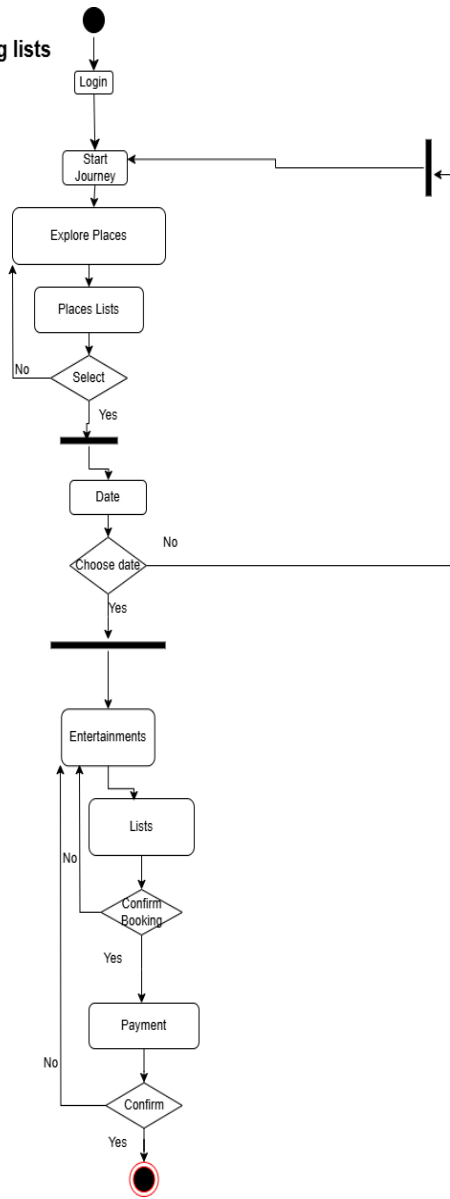




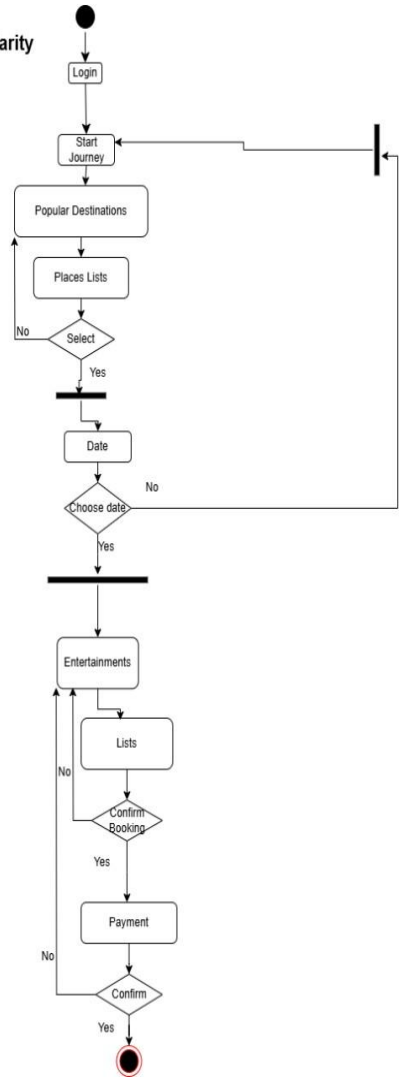
Transport Booking by checking lists



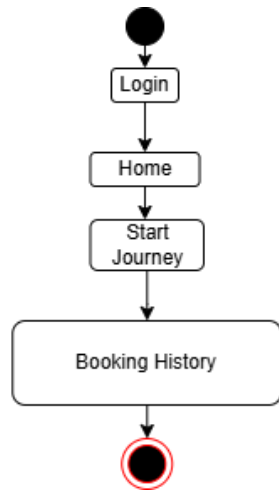
Entertainment Booking by checking lists



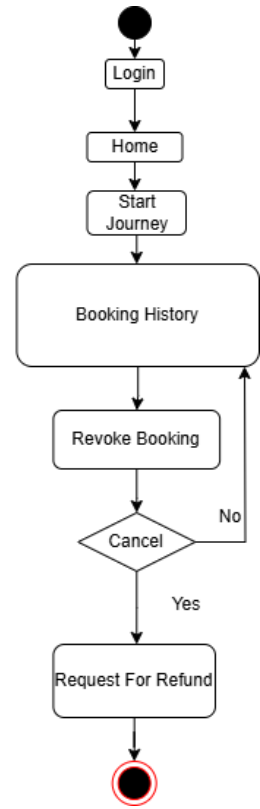
Entertainment Booking by Popularity



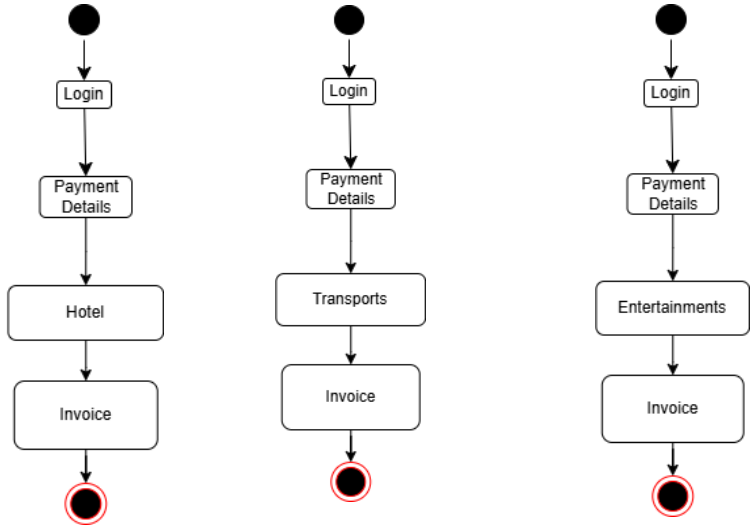
Booking History



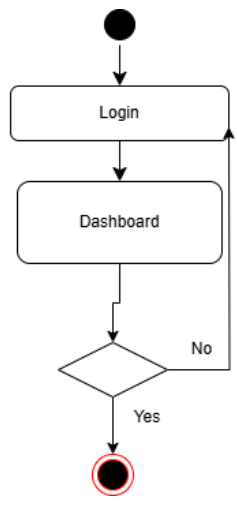
Refund



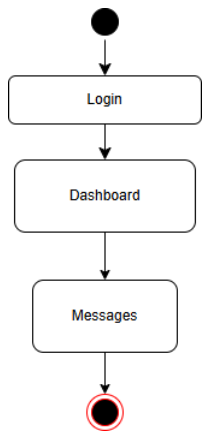
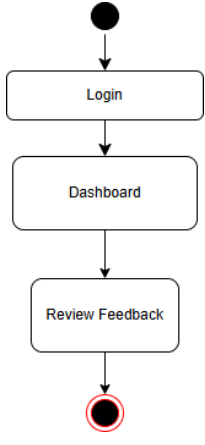
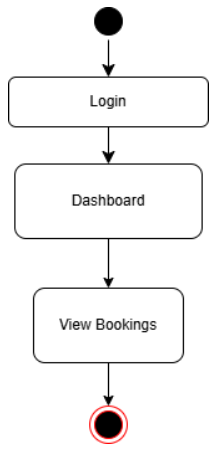
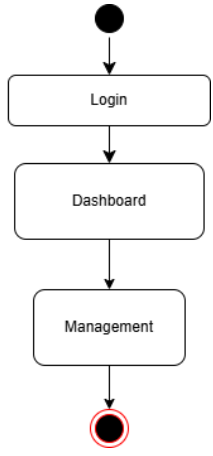
Payment Details



Admin Dashboard

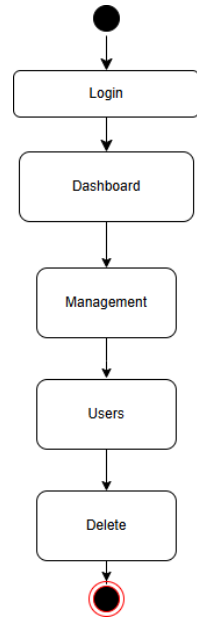
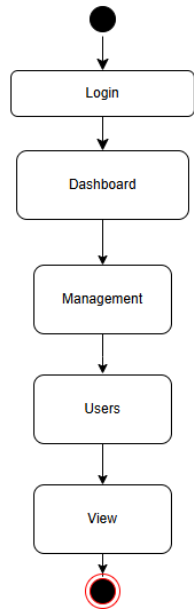


Login Admin View

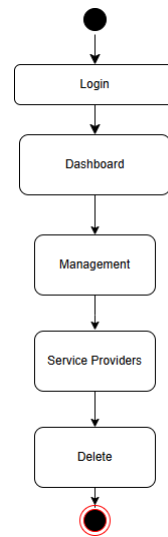
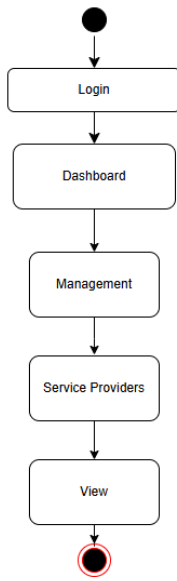
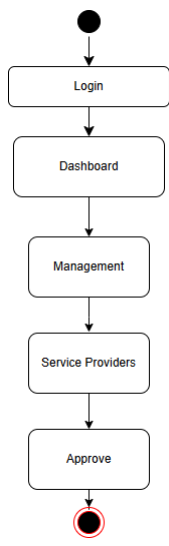


Admin Management →

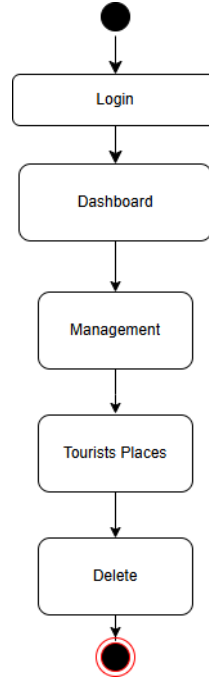
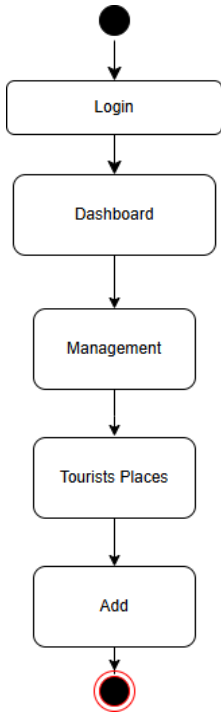
(USERS)



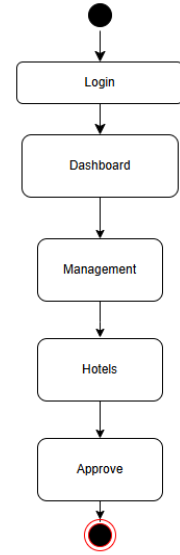
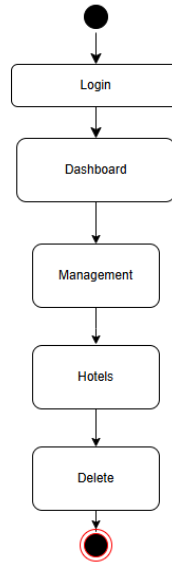
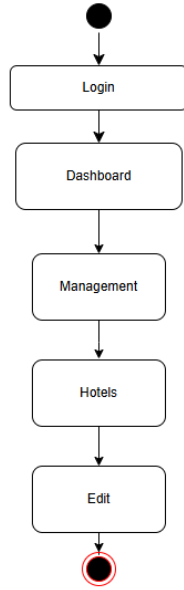
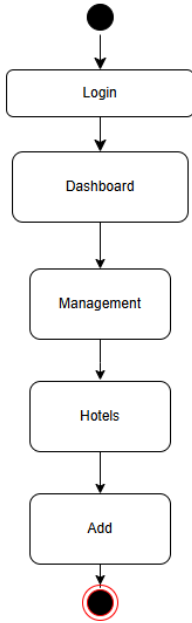
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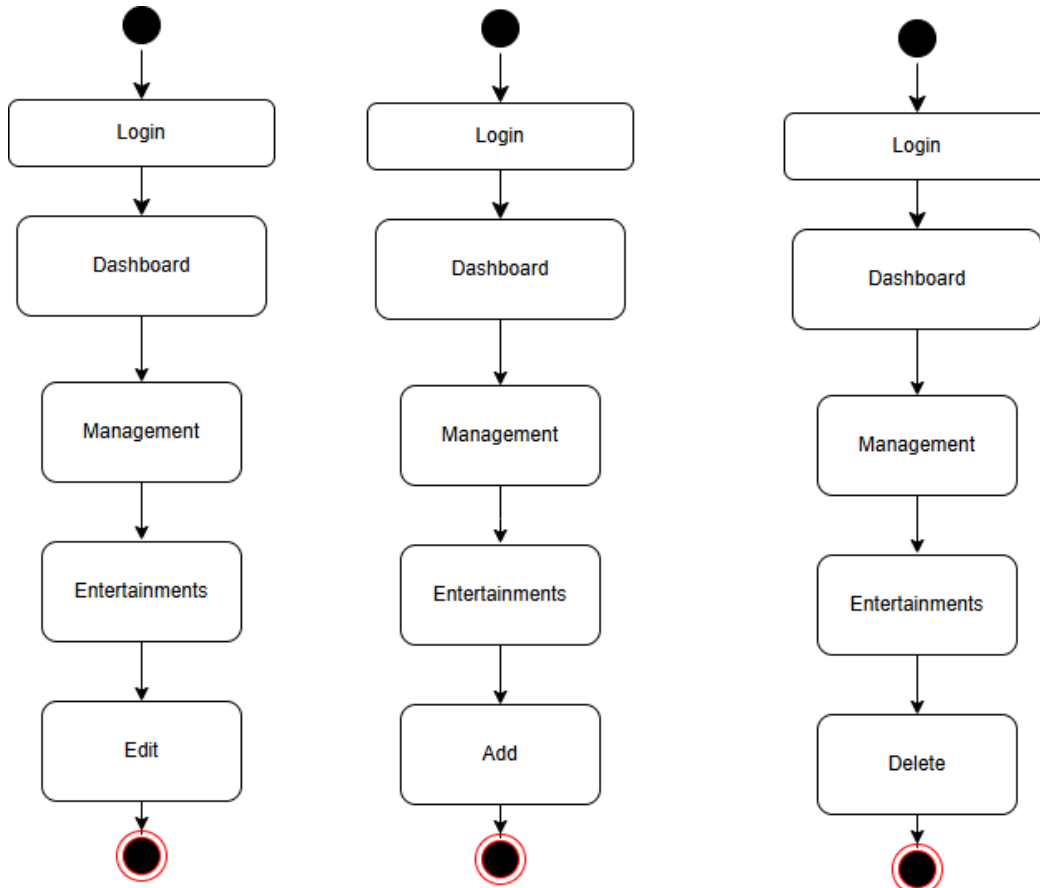
(TOURISTS PLACES)



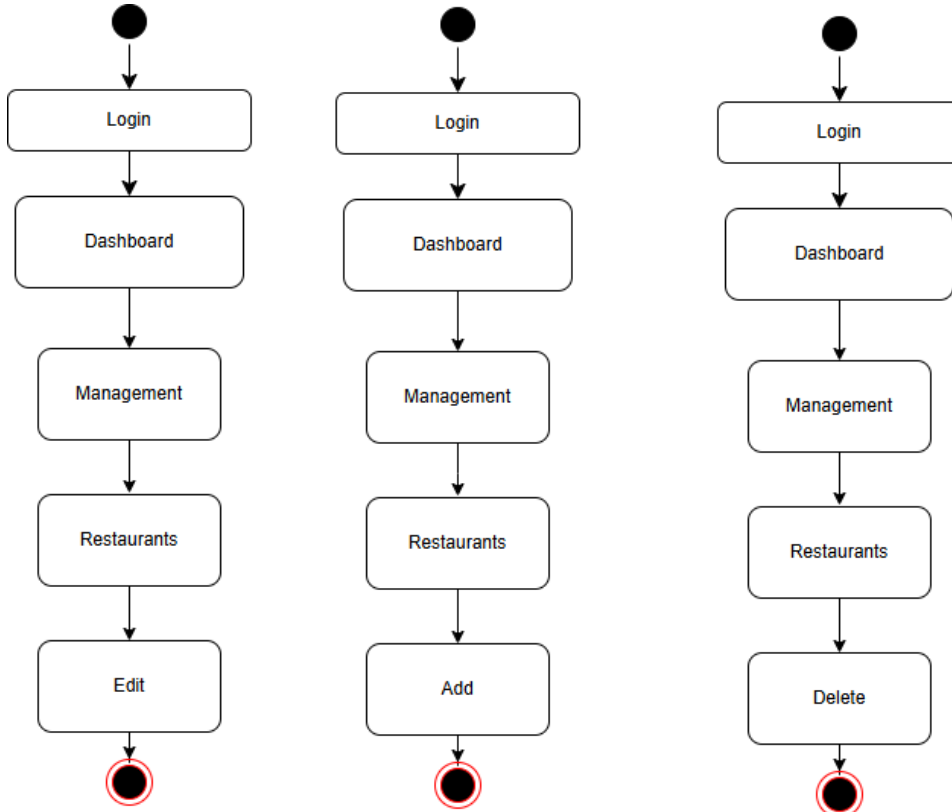
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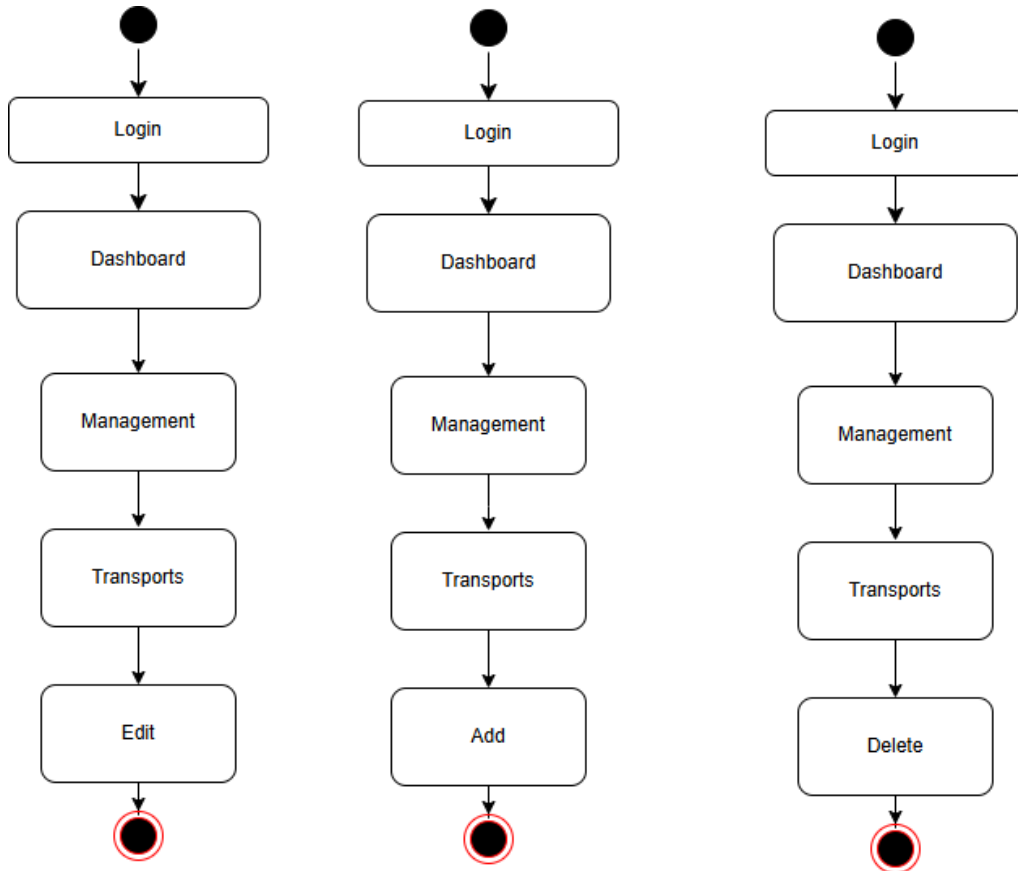
ENTERTAINMENTS

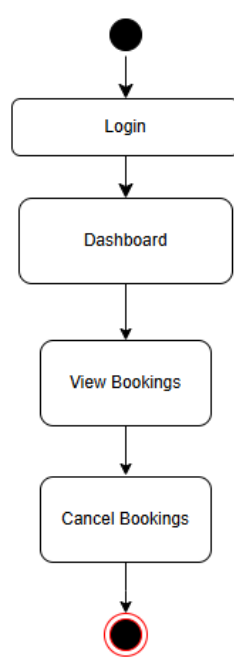
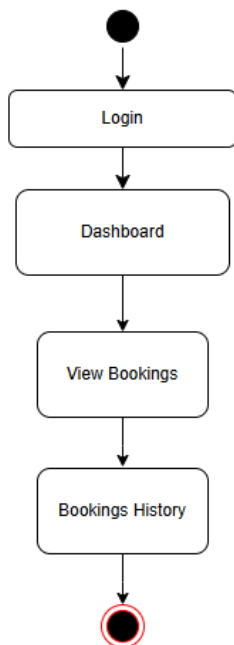
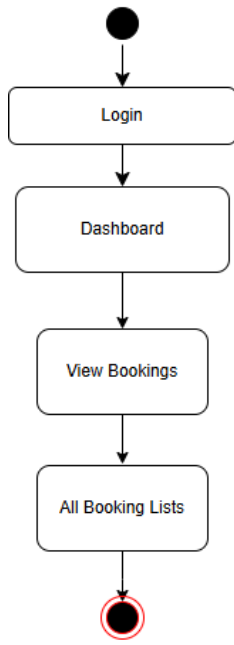


RESTAURANTS

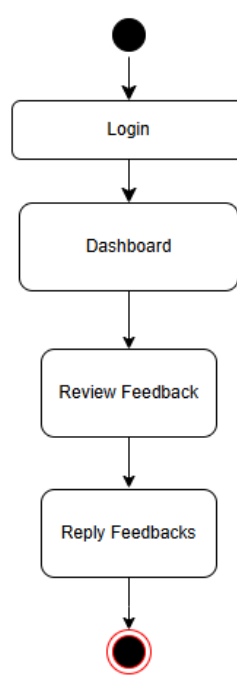
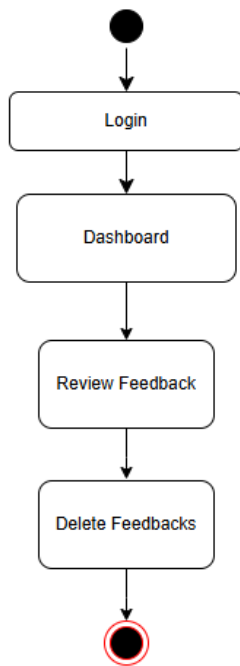
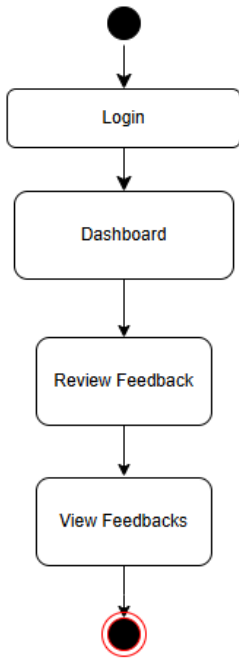


TRANSPORTS



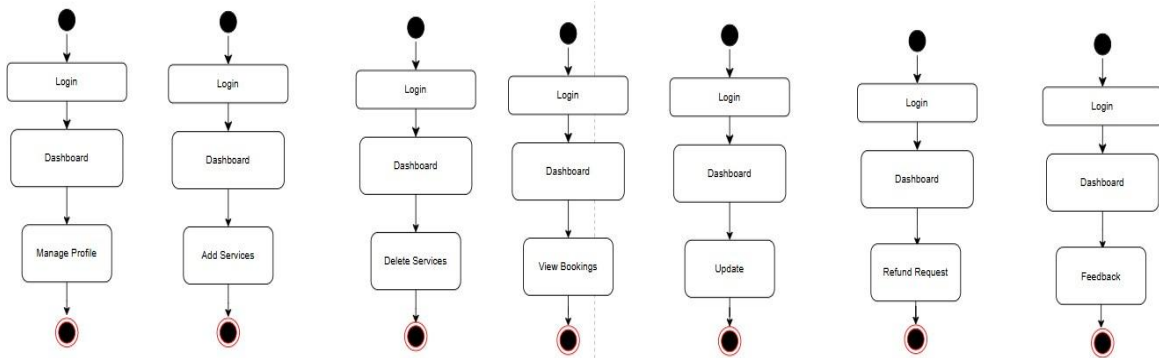
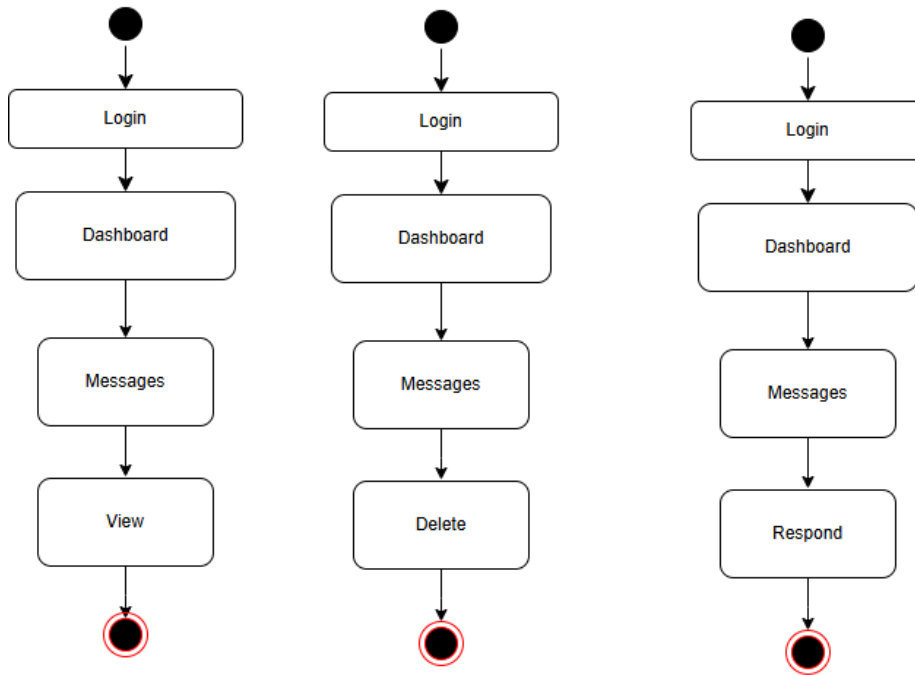


View Bookings



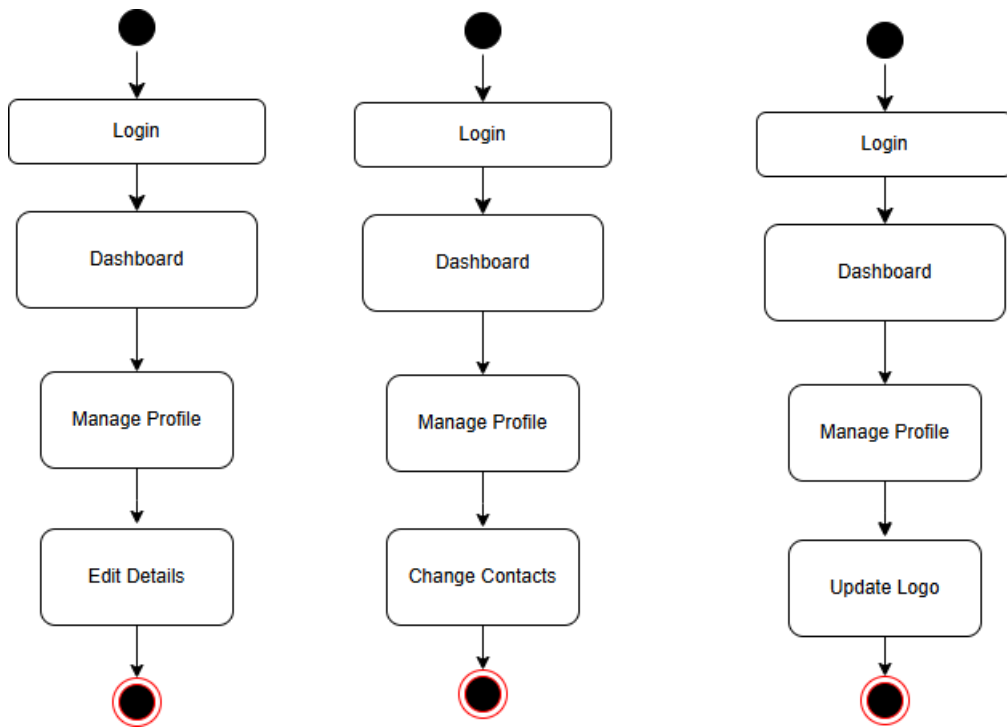
Review Feedback

Messages

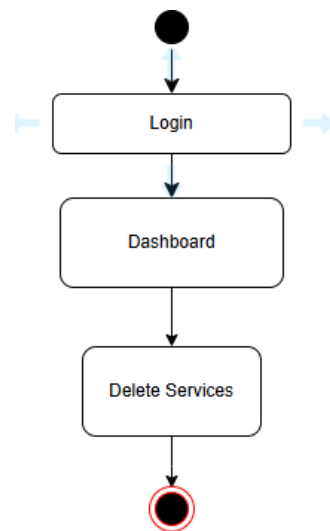


Login Service Provider View

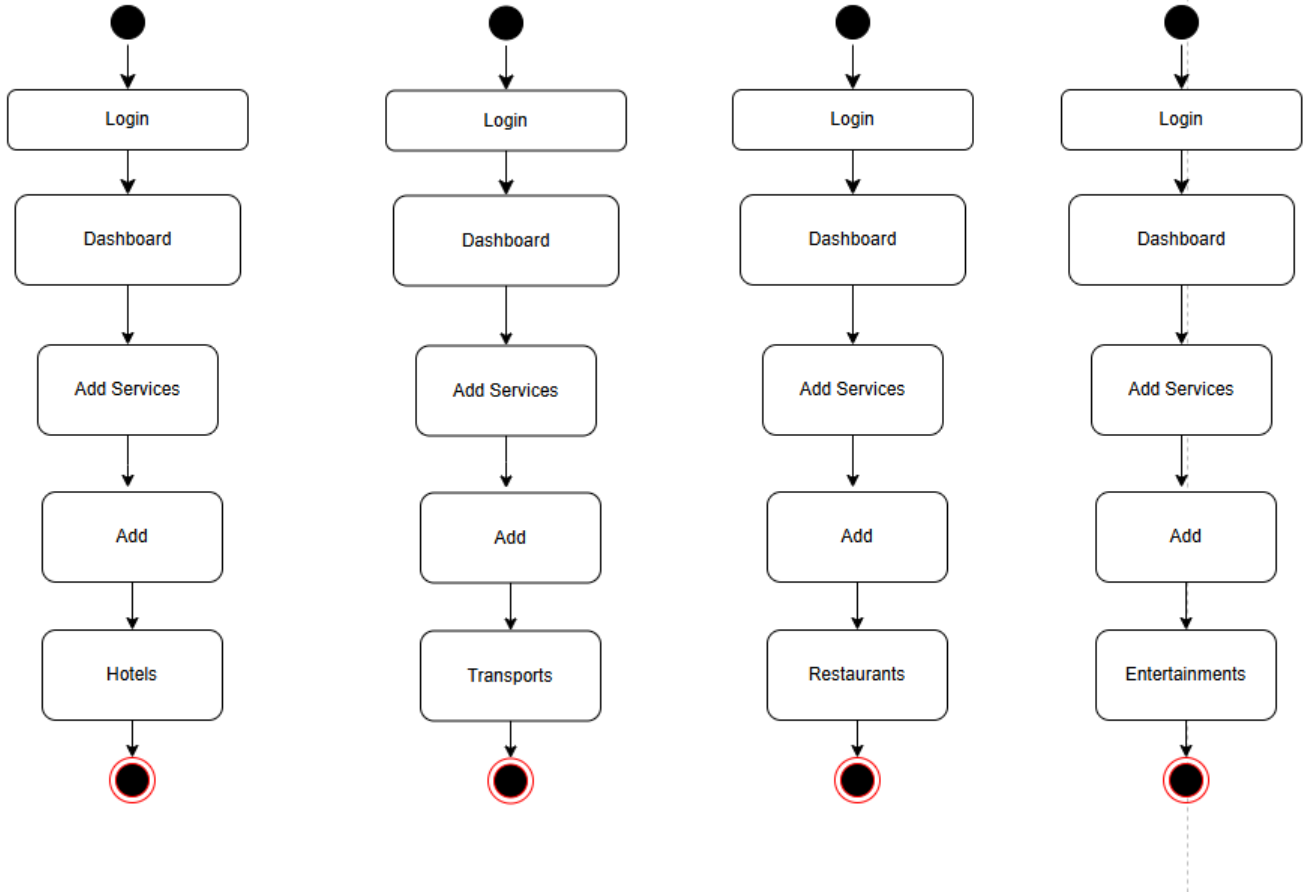
MANAGE PROFILE



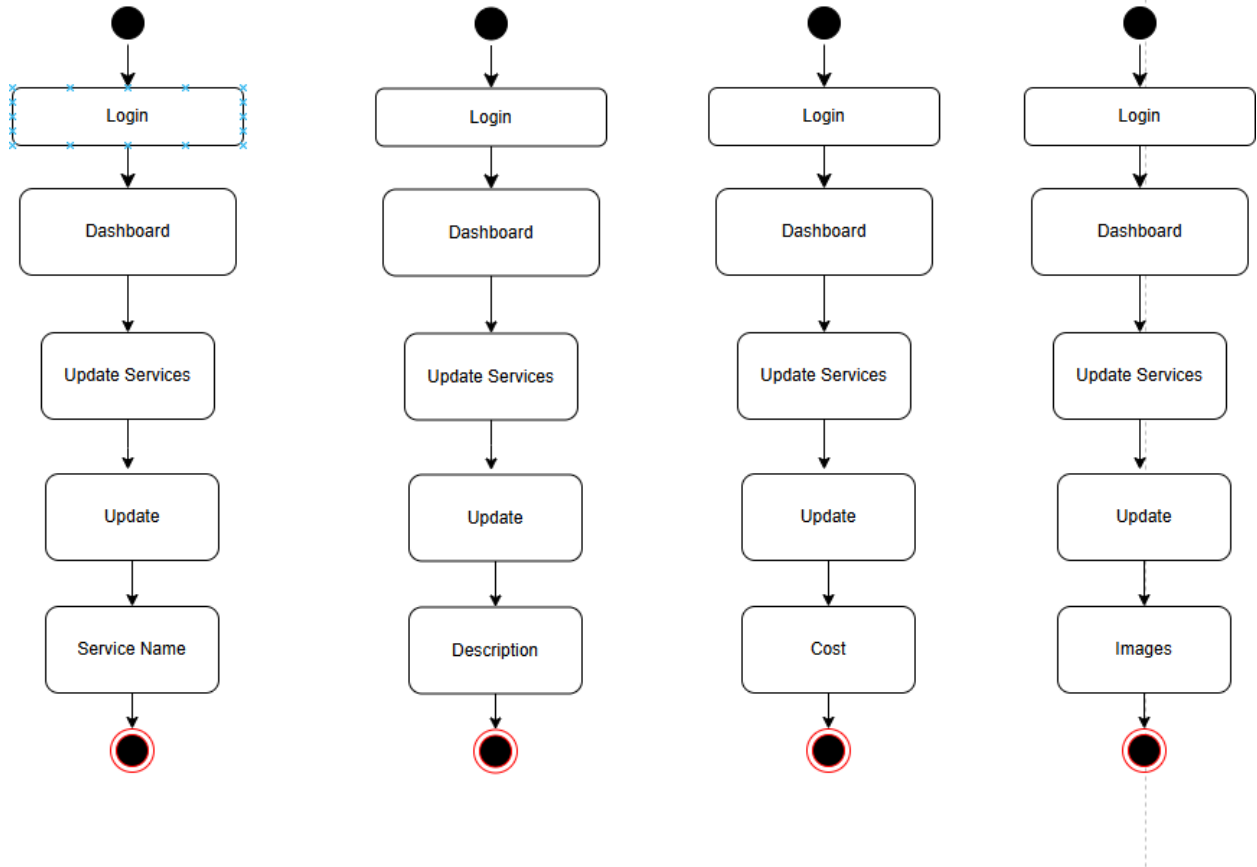
DELETE SERVICES



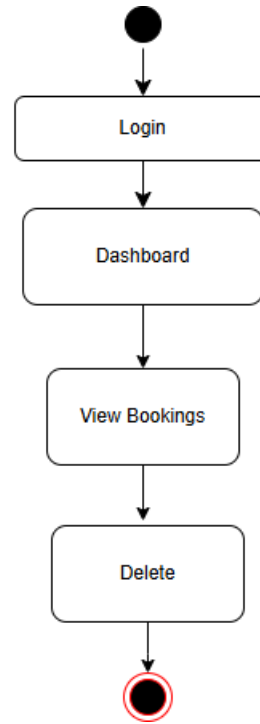
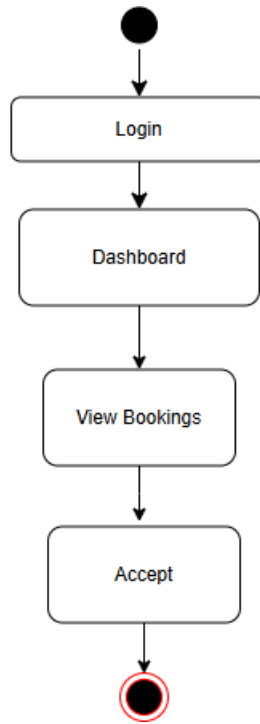
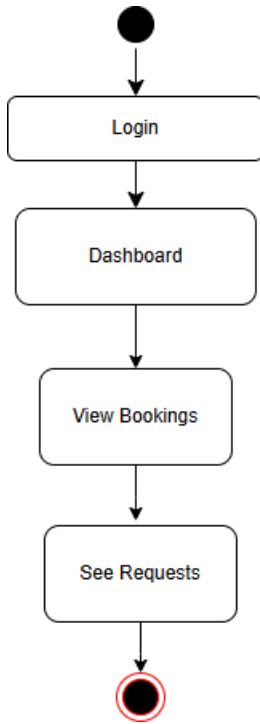
(ADD SERVICES)



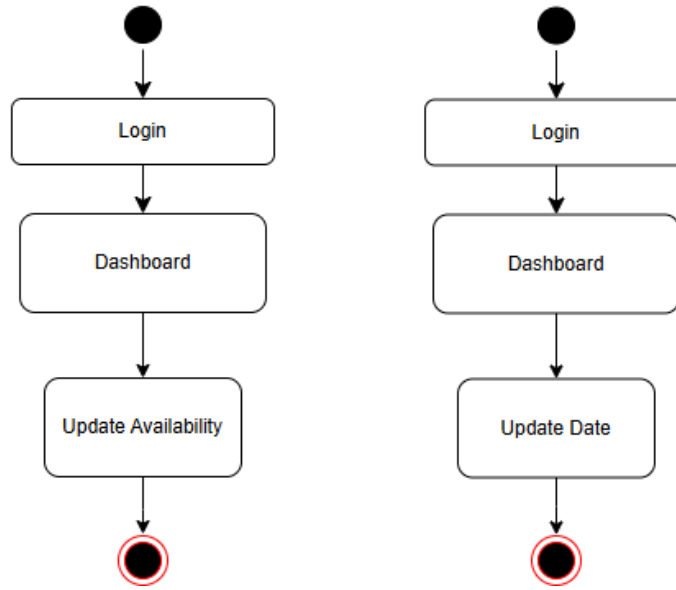
UPDATE SERVICES



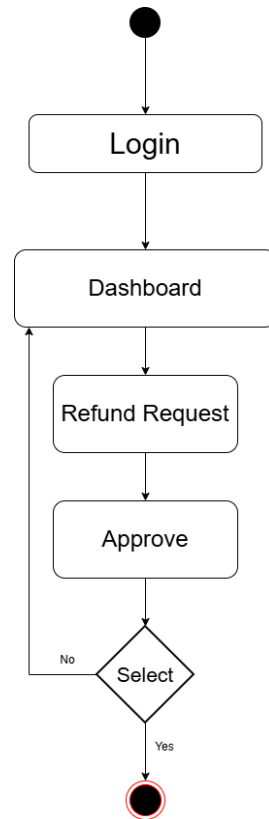
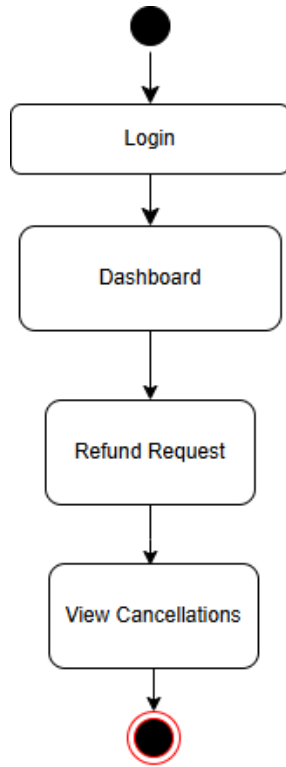
(VIEW BOOKINGS)



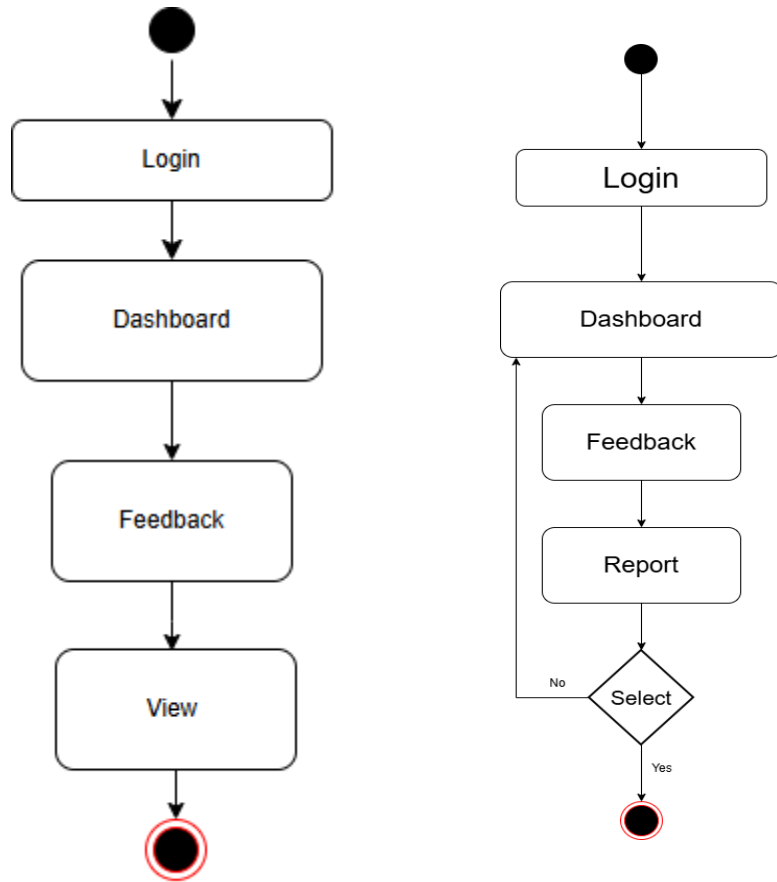
UPDATE AVAILABILITY



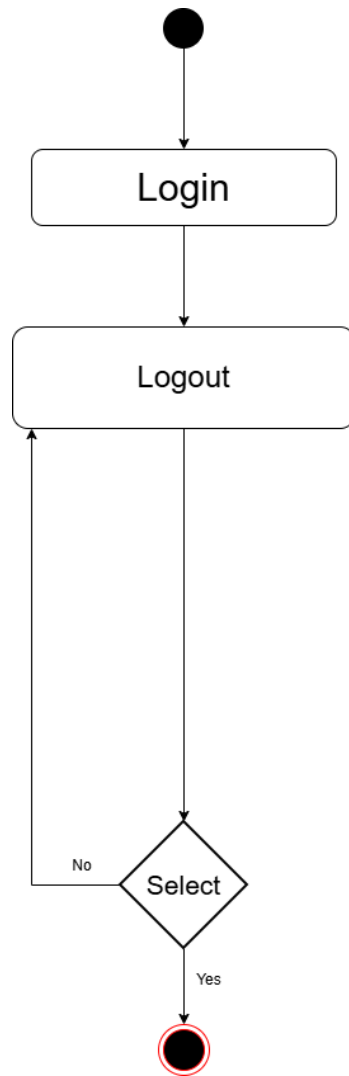
REFUND REQUEST



FEEDBACK

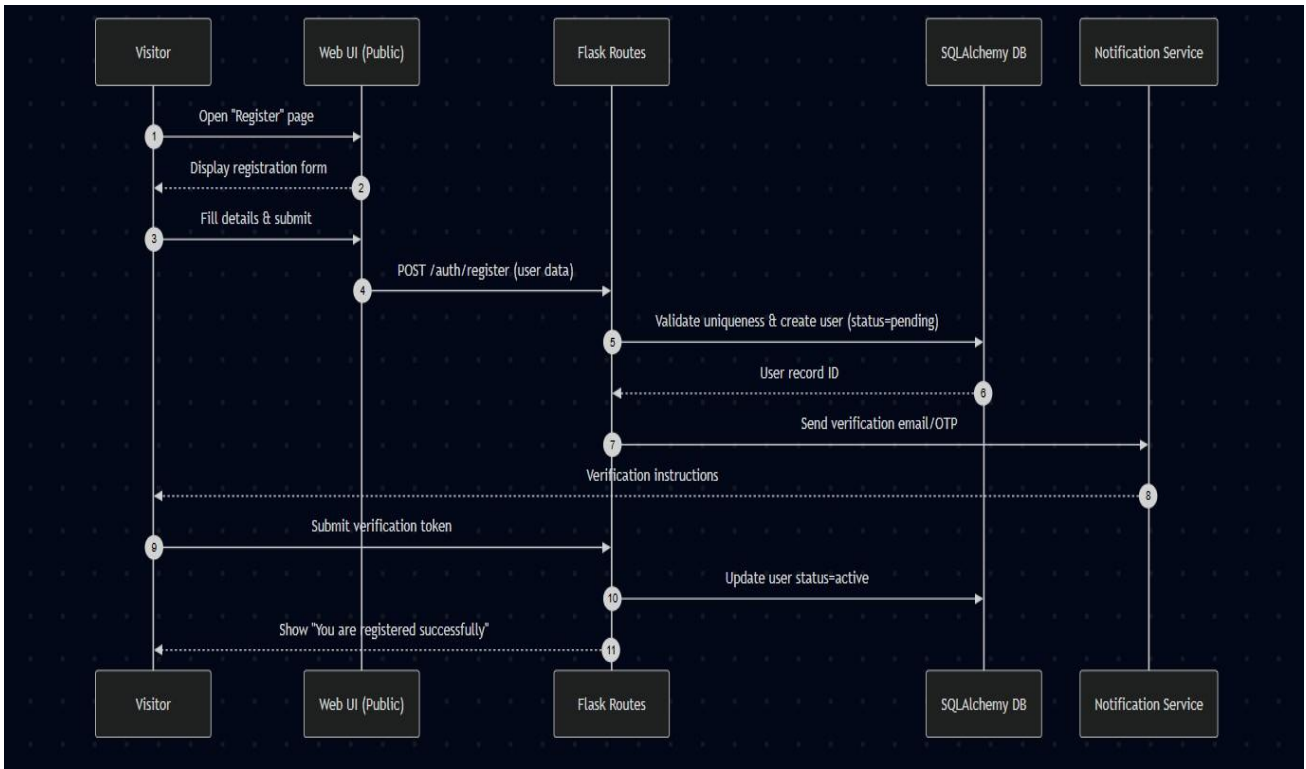


LOGOUT

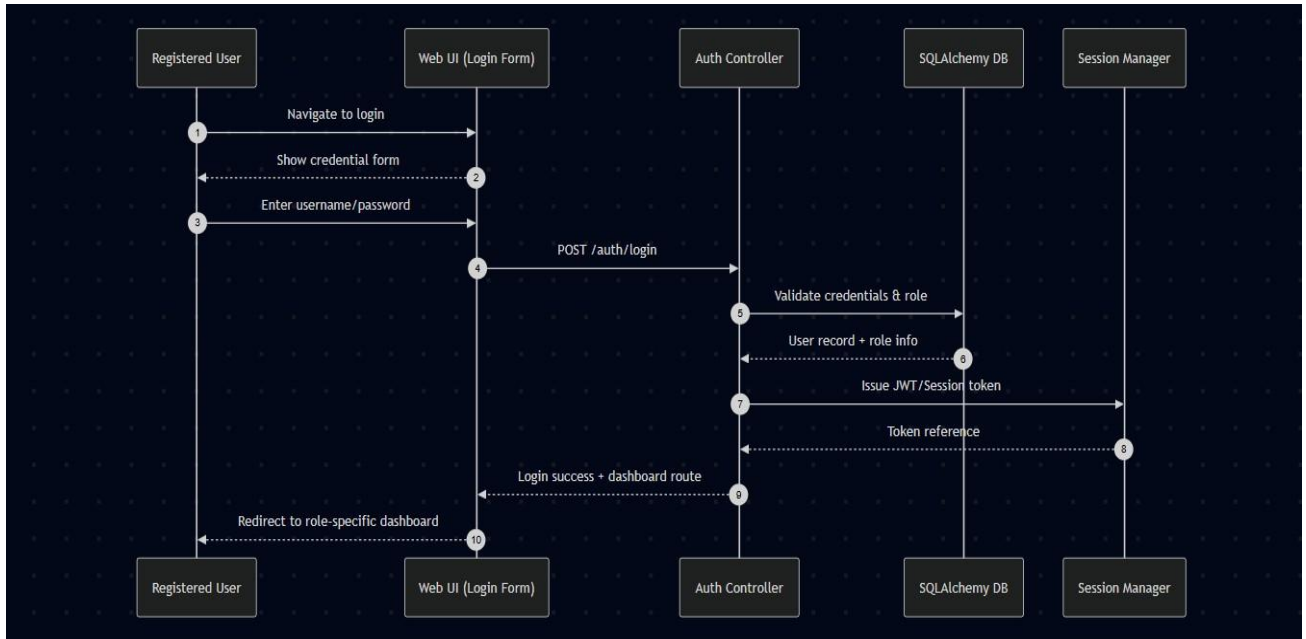


2.6 SEQUENCE DIAGRAMS

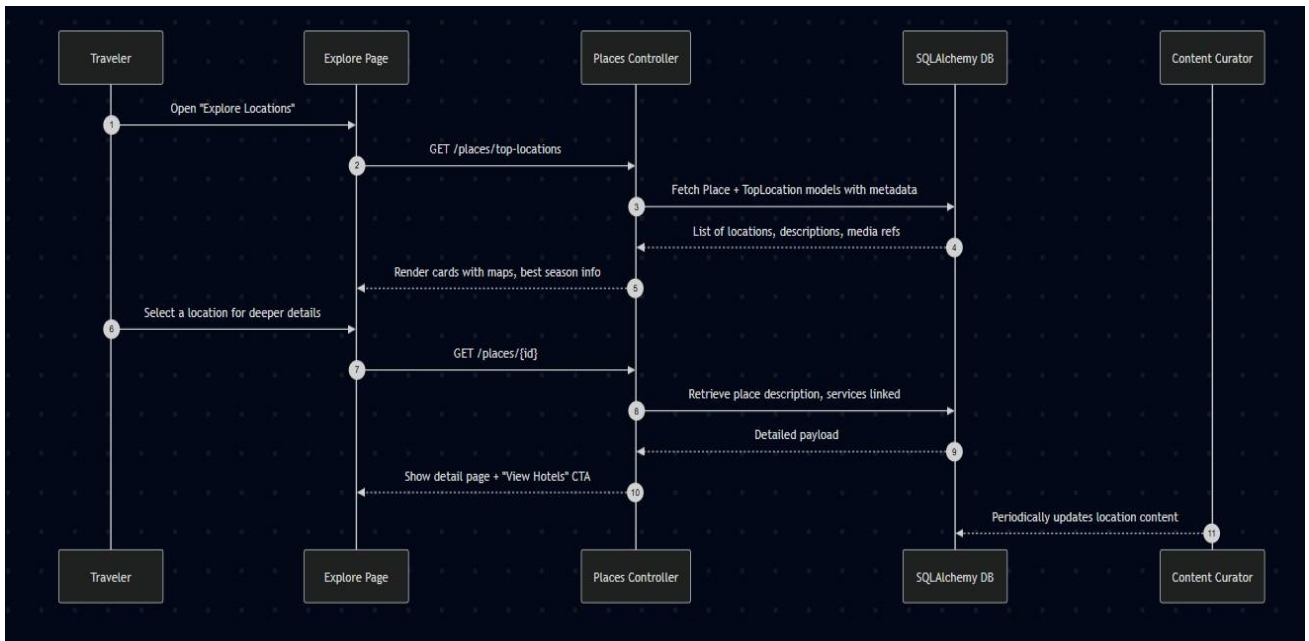
User (Traveler) Registration



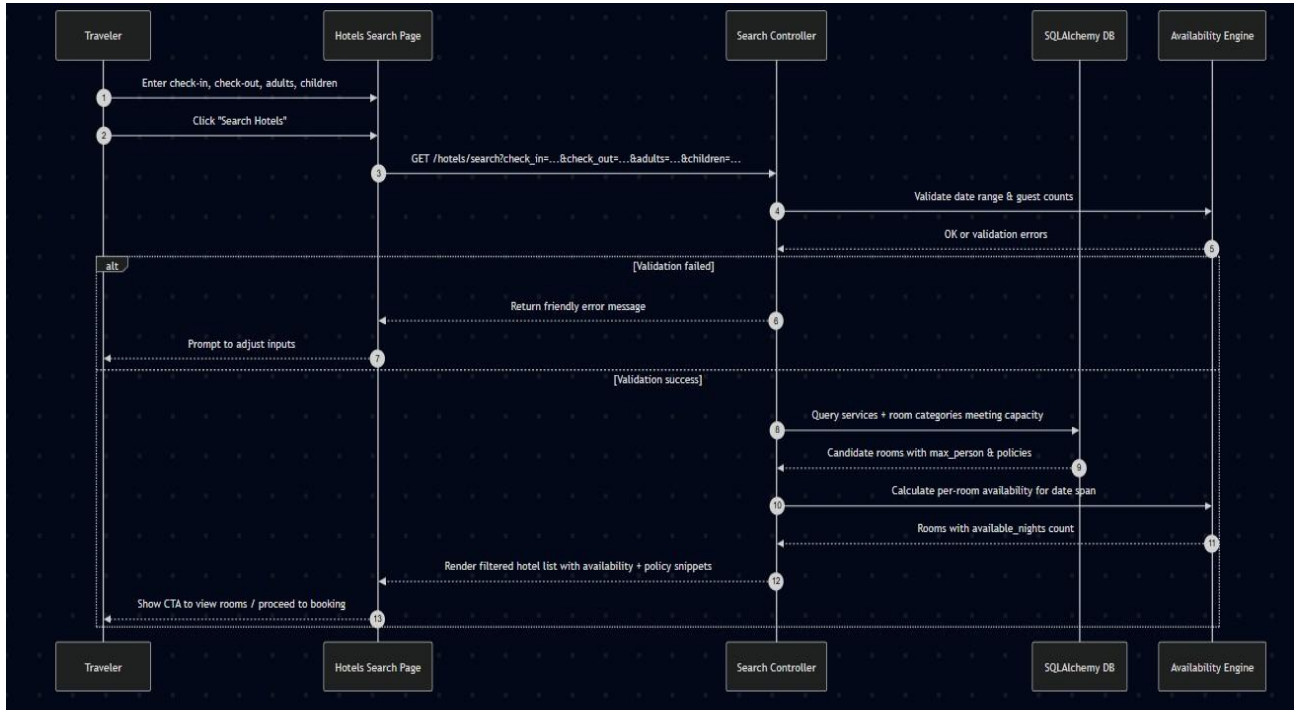
User (Traveler) Login



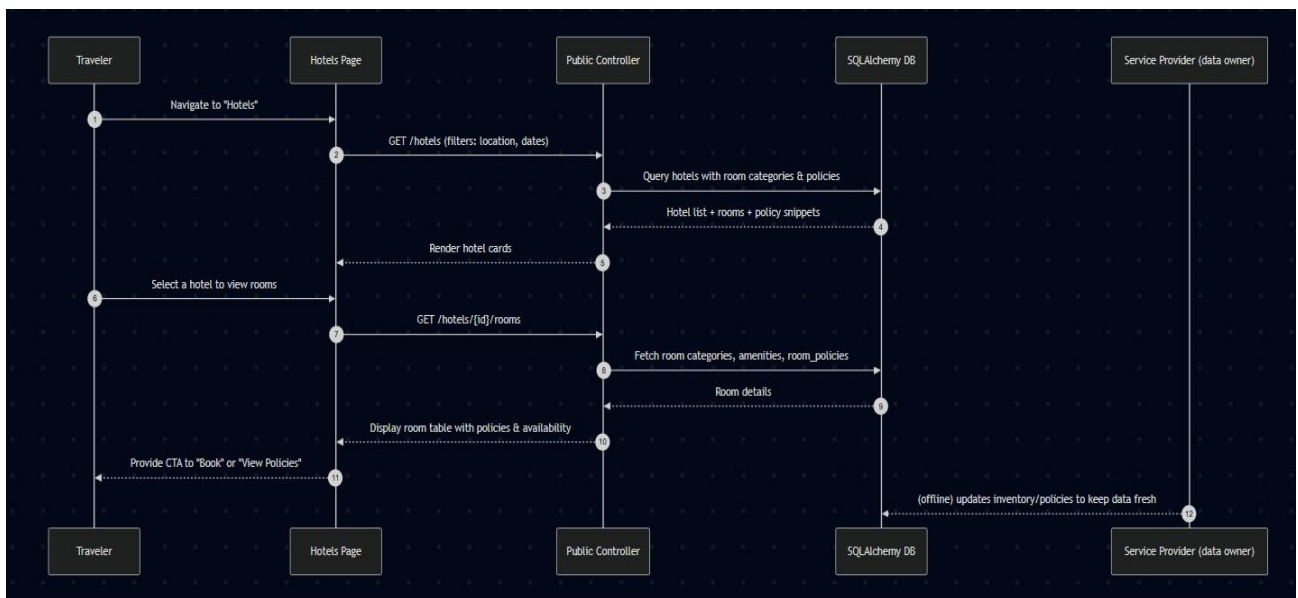
Explore Location



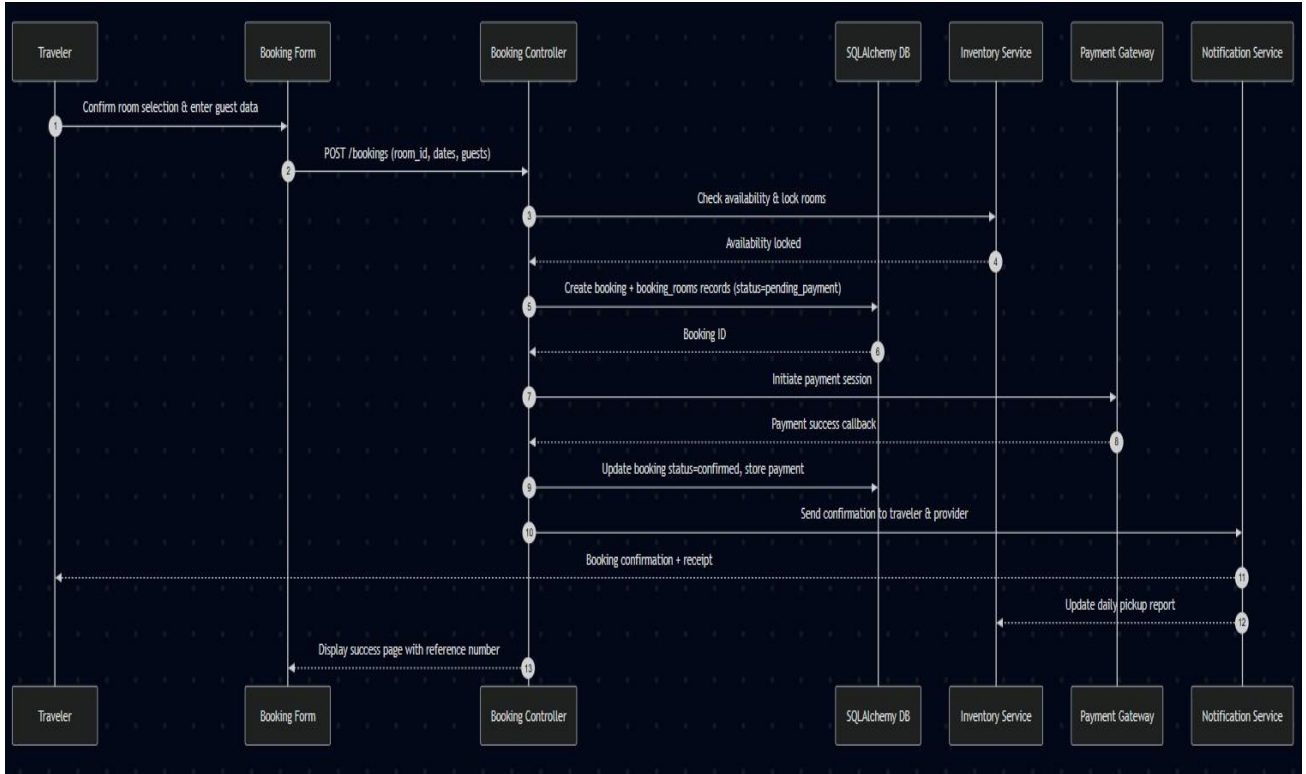
Search Hotels by Date



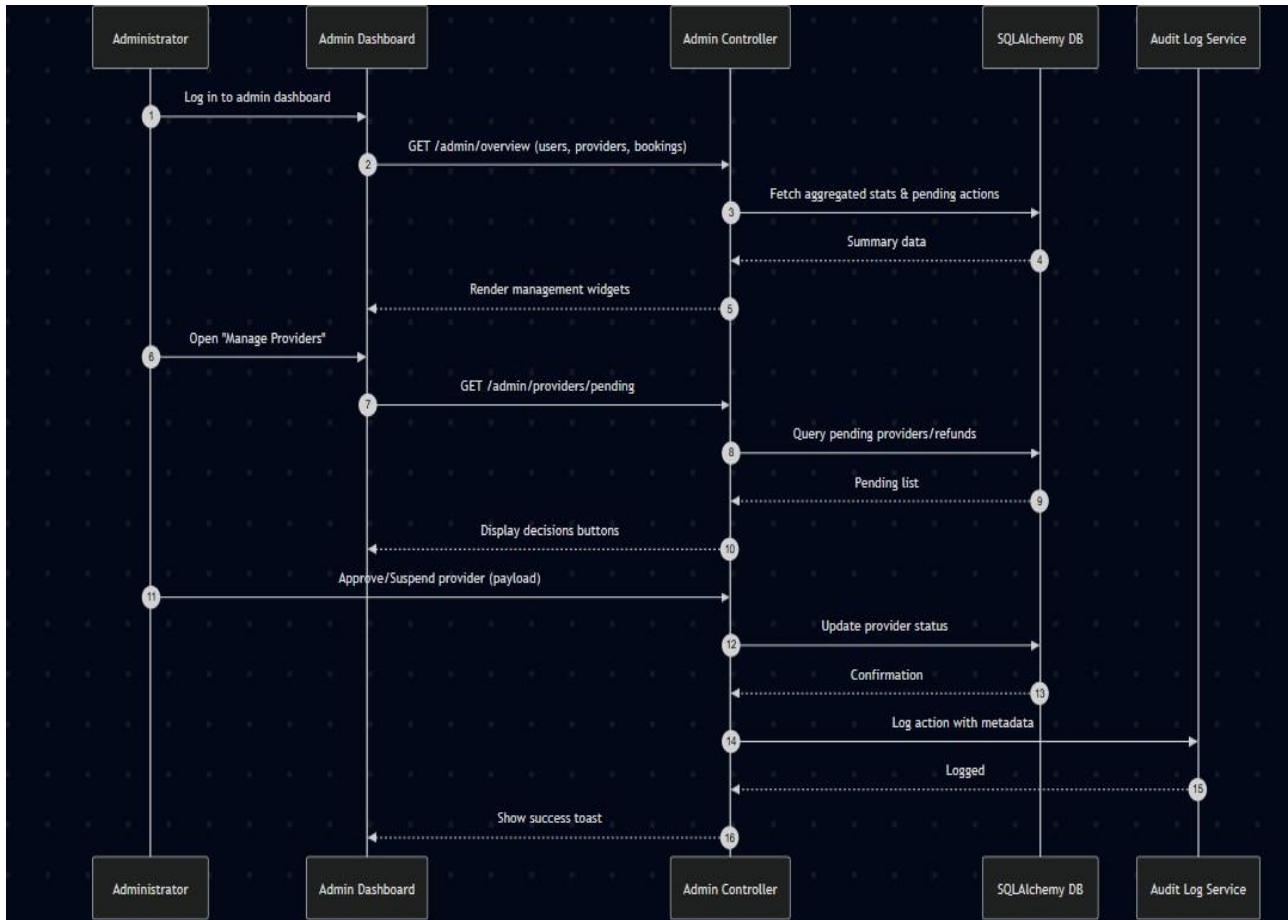
View Hotel Rooms



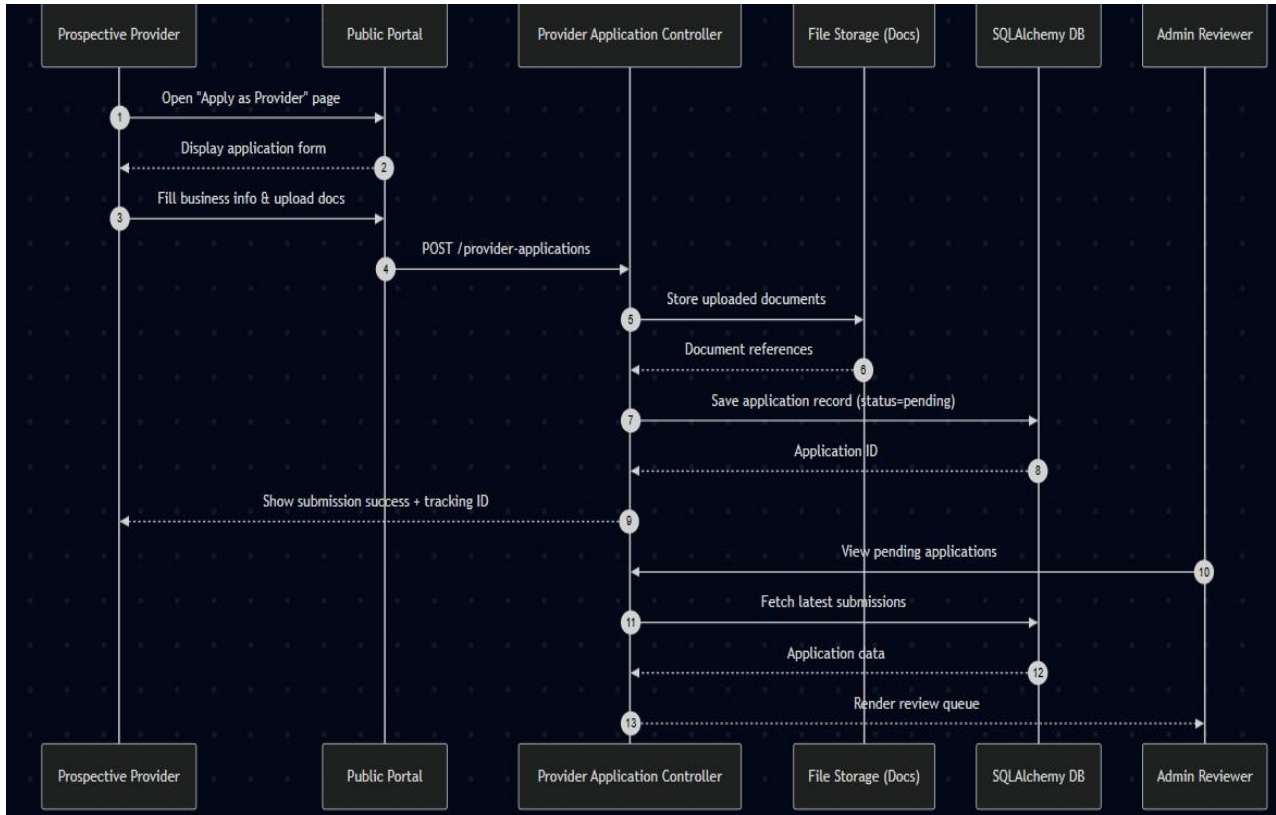
Book Hotel Rooms



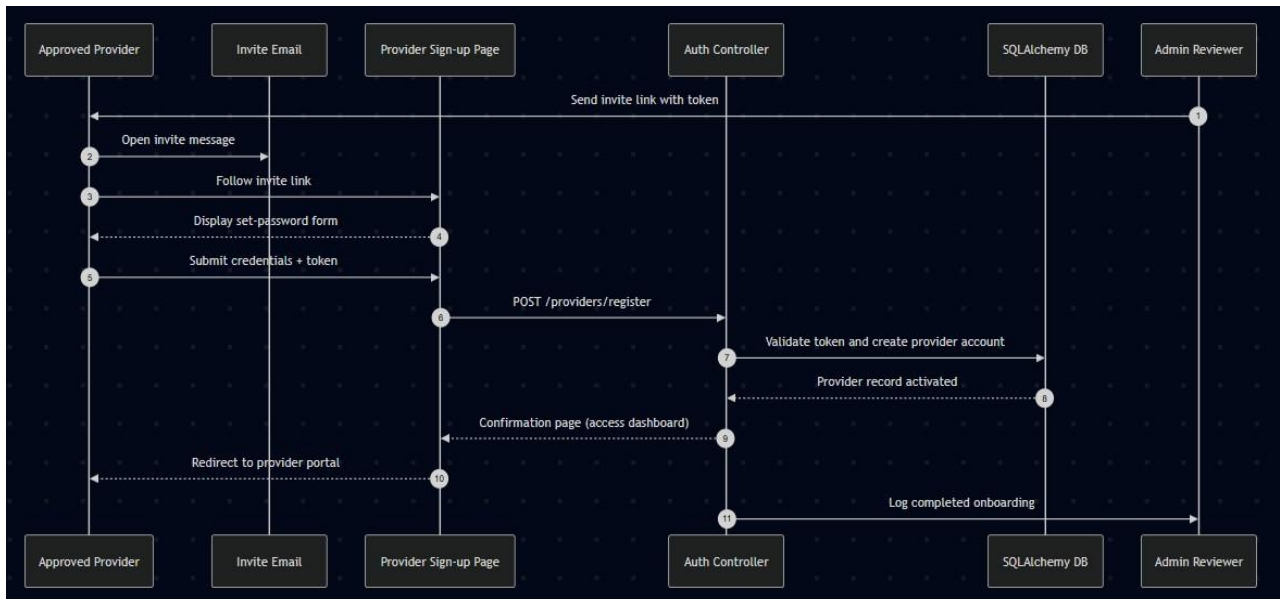
Admin Management



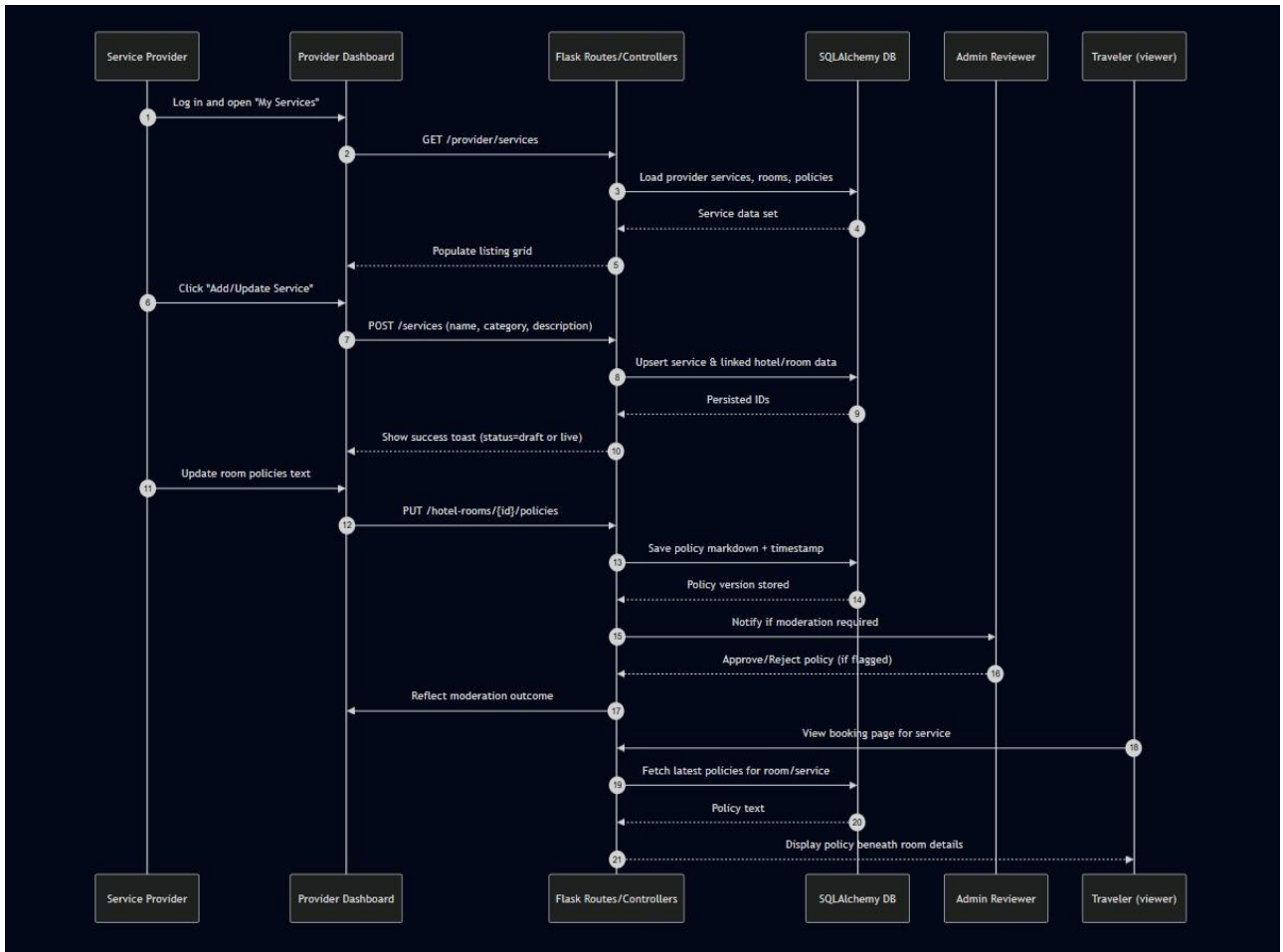
Provider Application



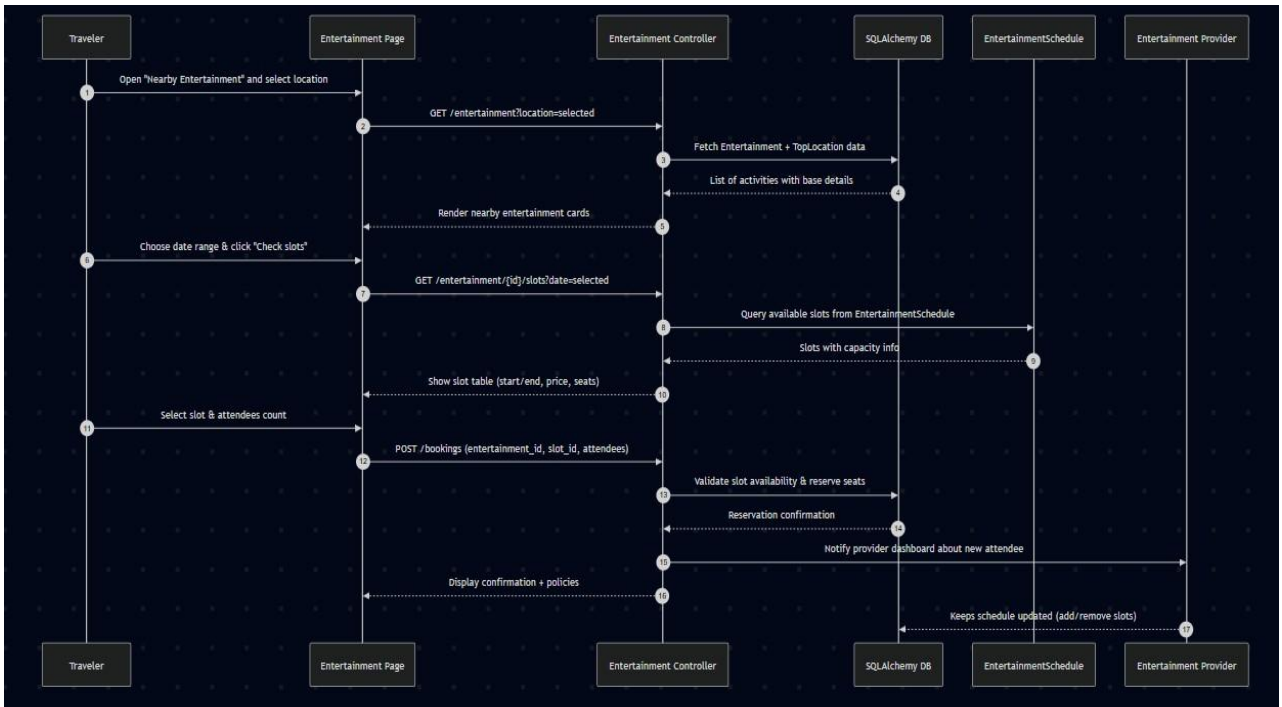
Provider Registration



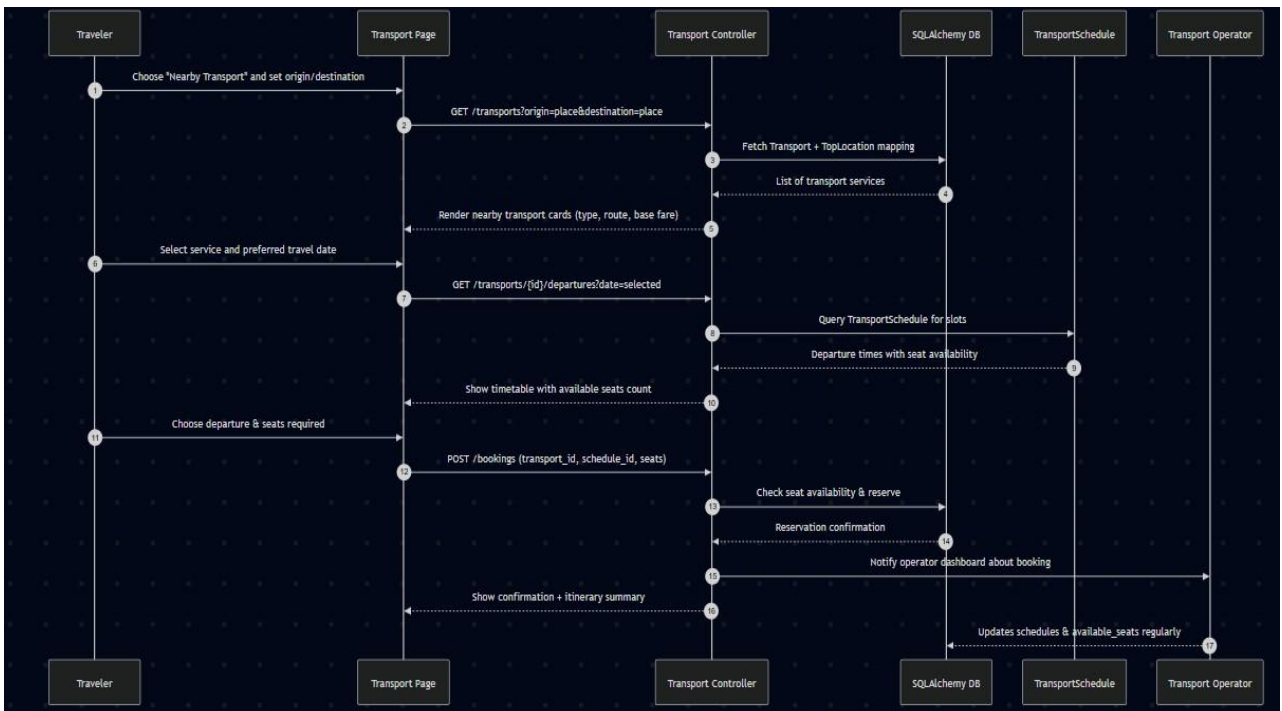
Provider Manage Listing



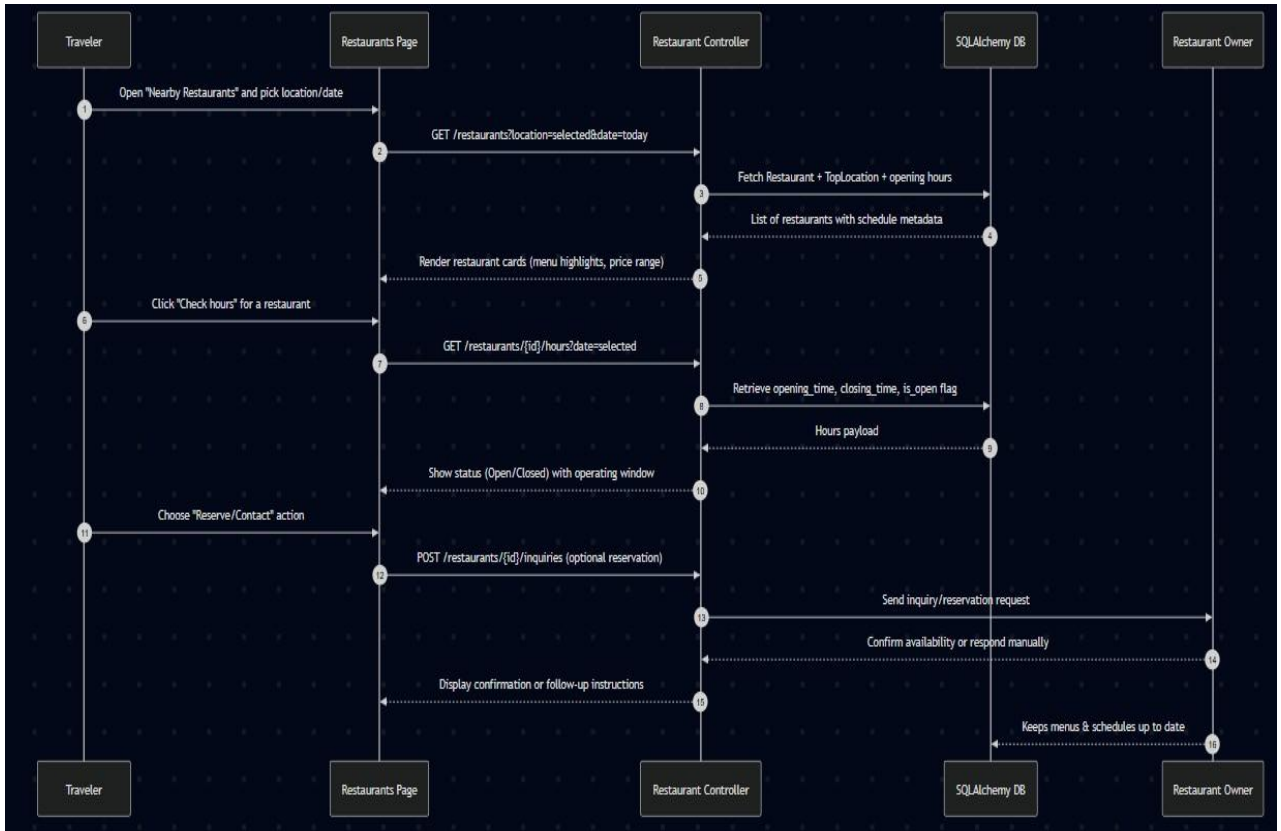
Find Nearby Entertainments



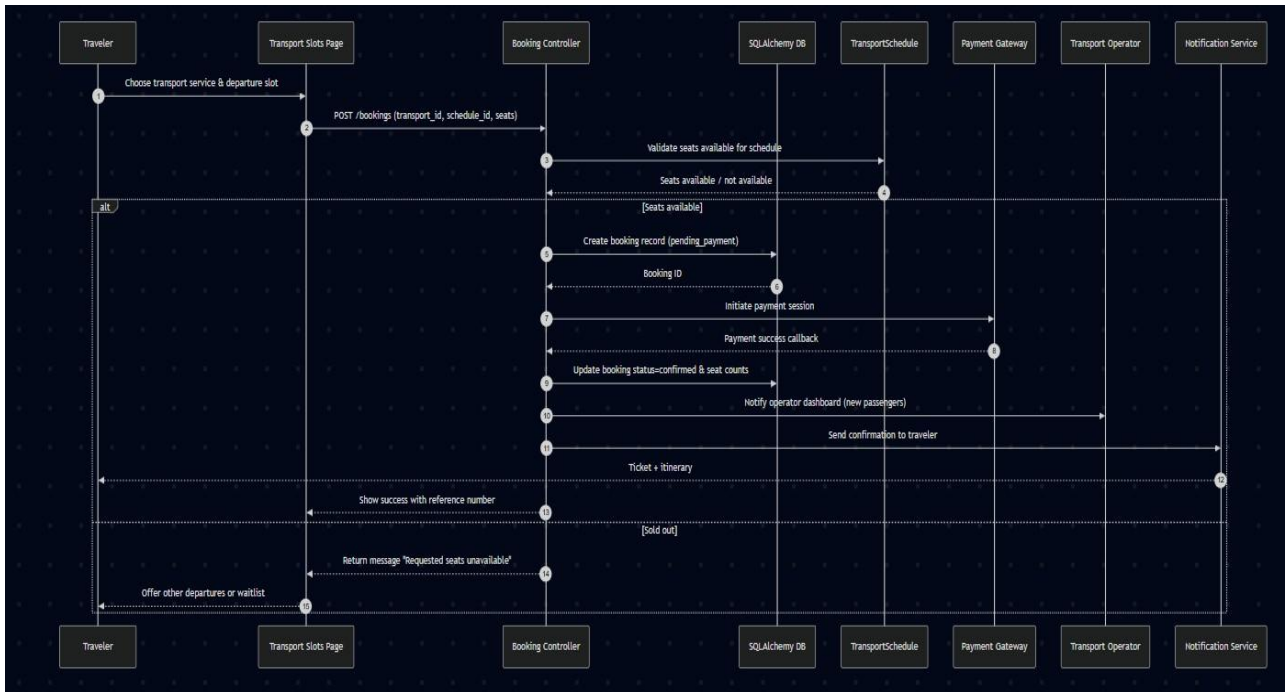
Find Nearby Transports



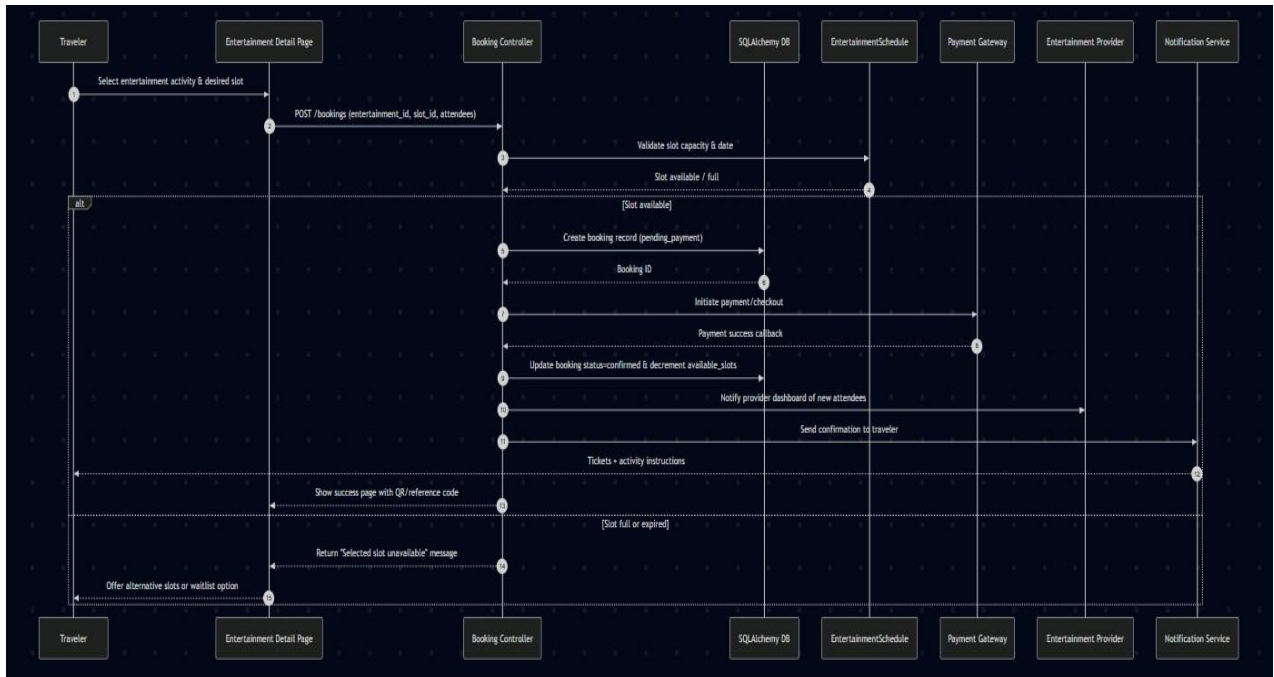
Find Nearby Restaurants



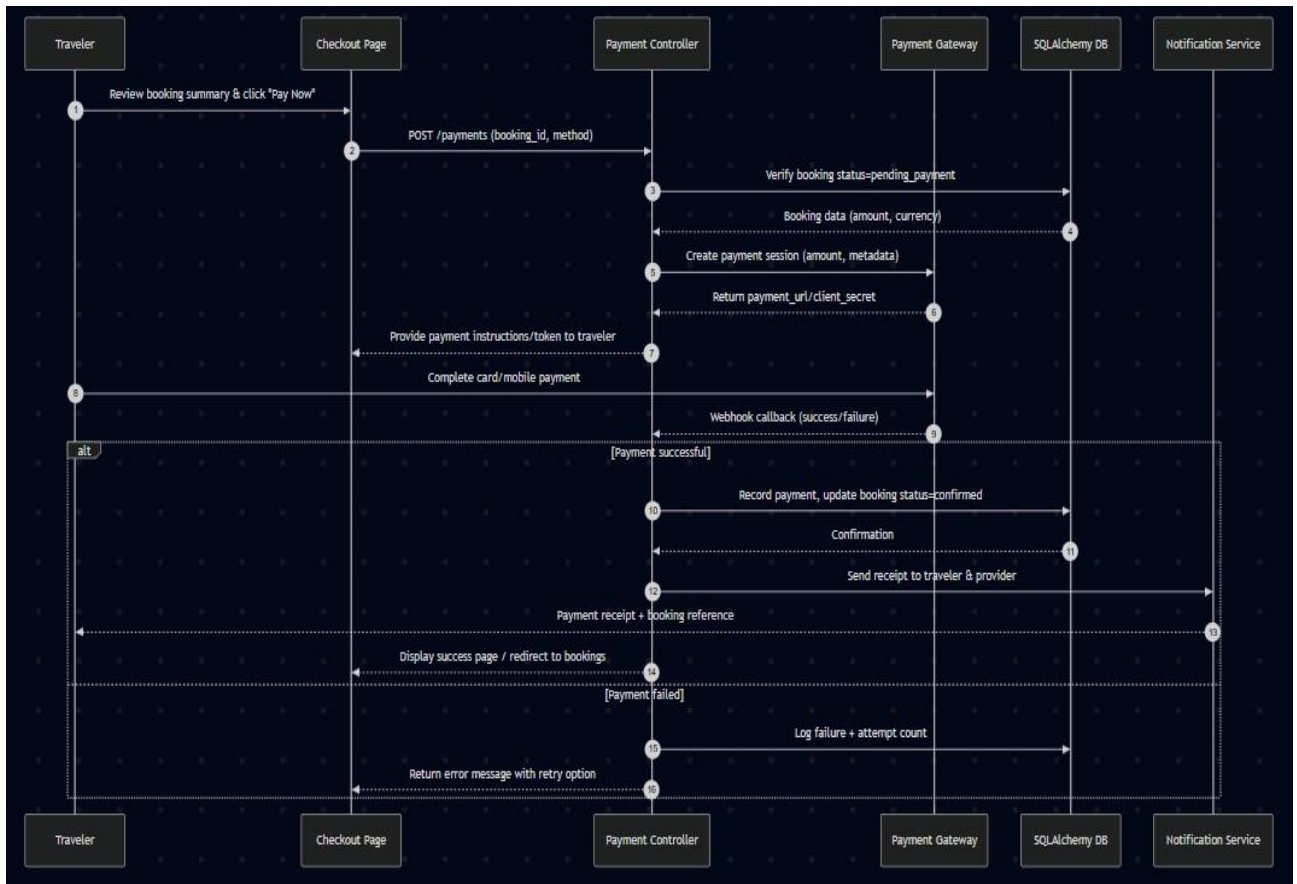
Transport Booking



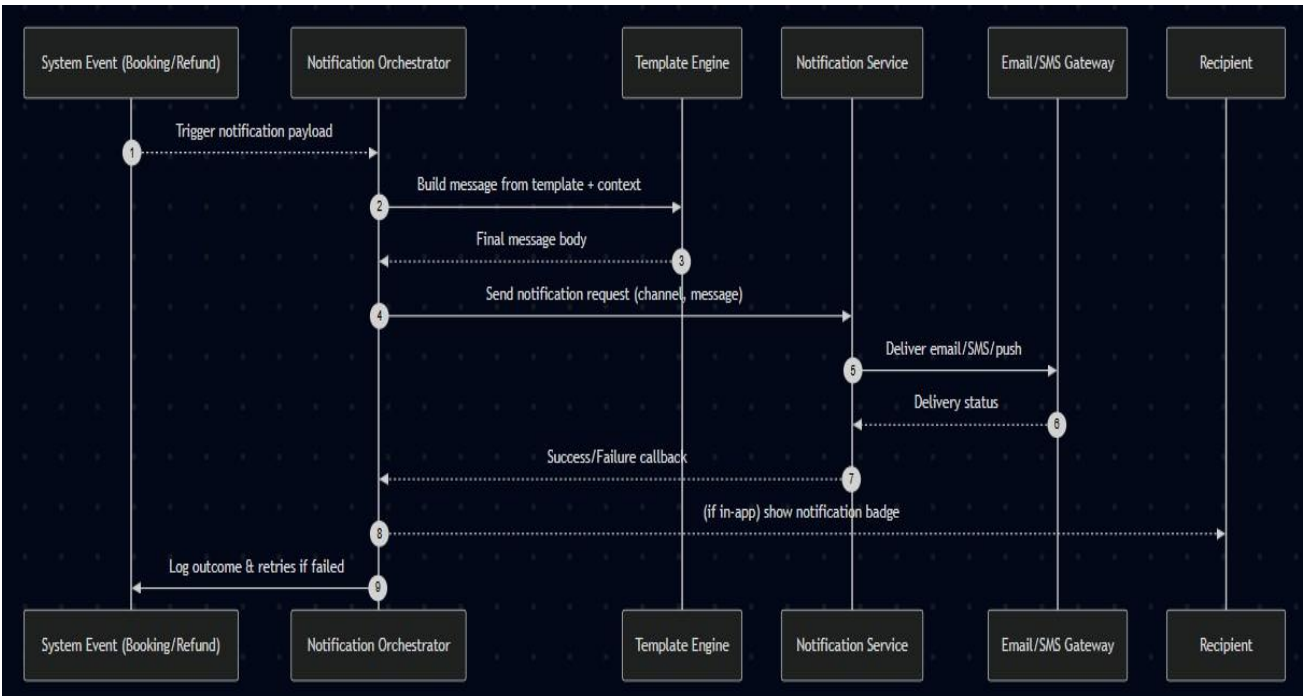
Entertainment Booking



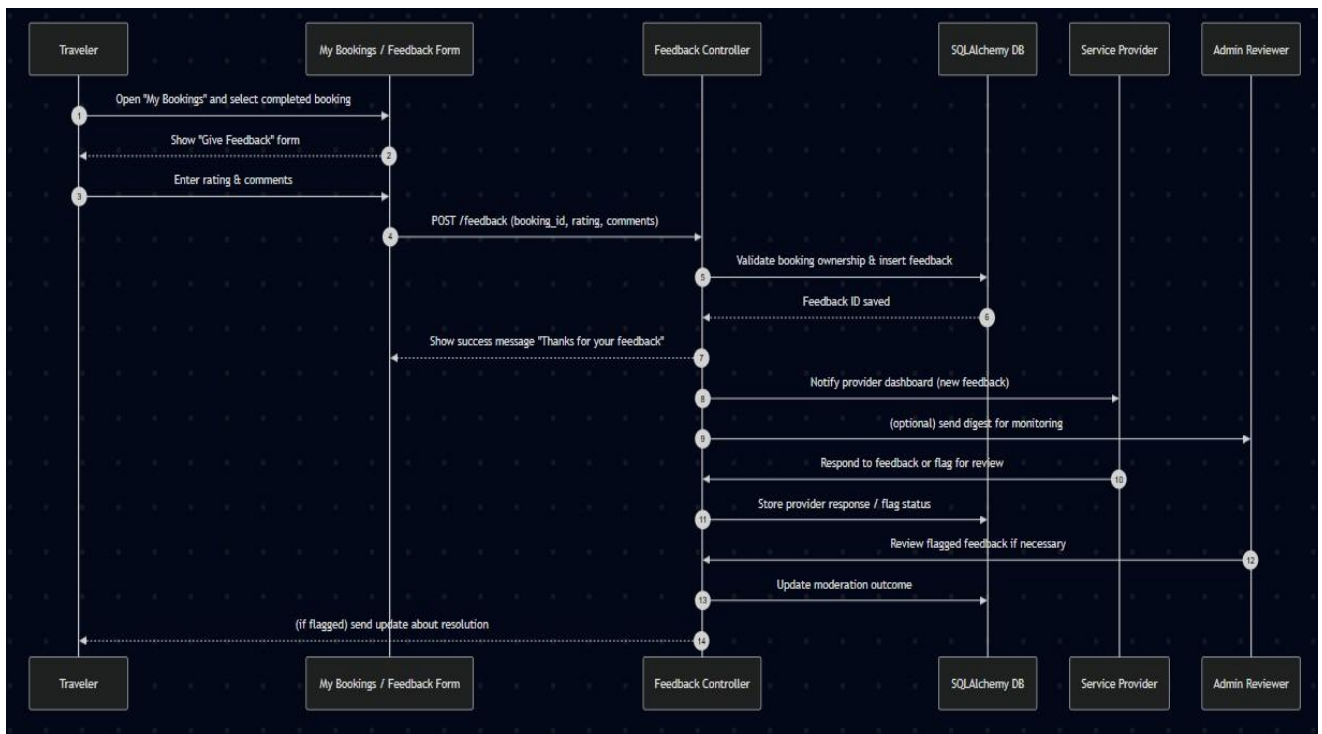
Payment Flow



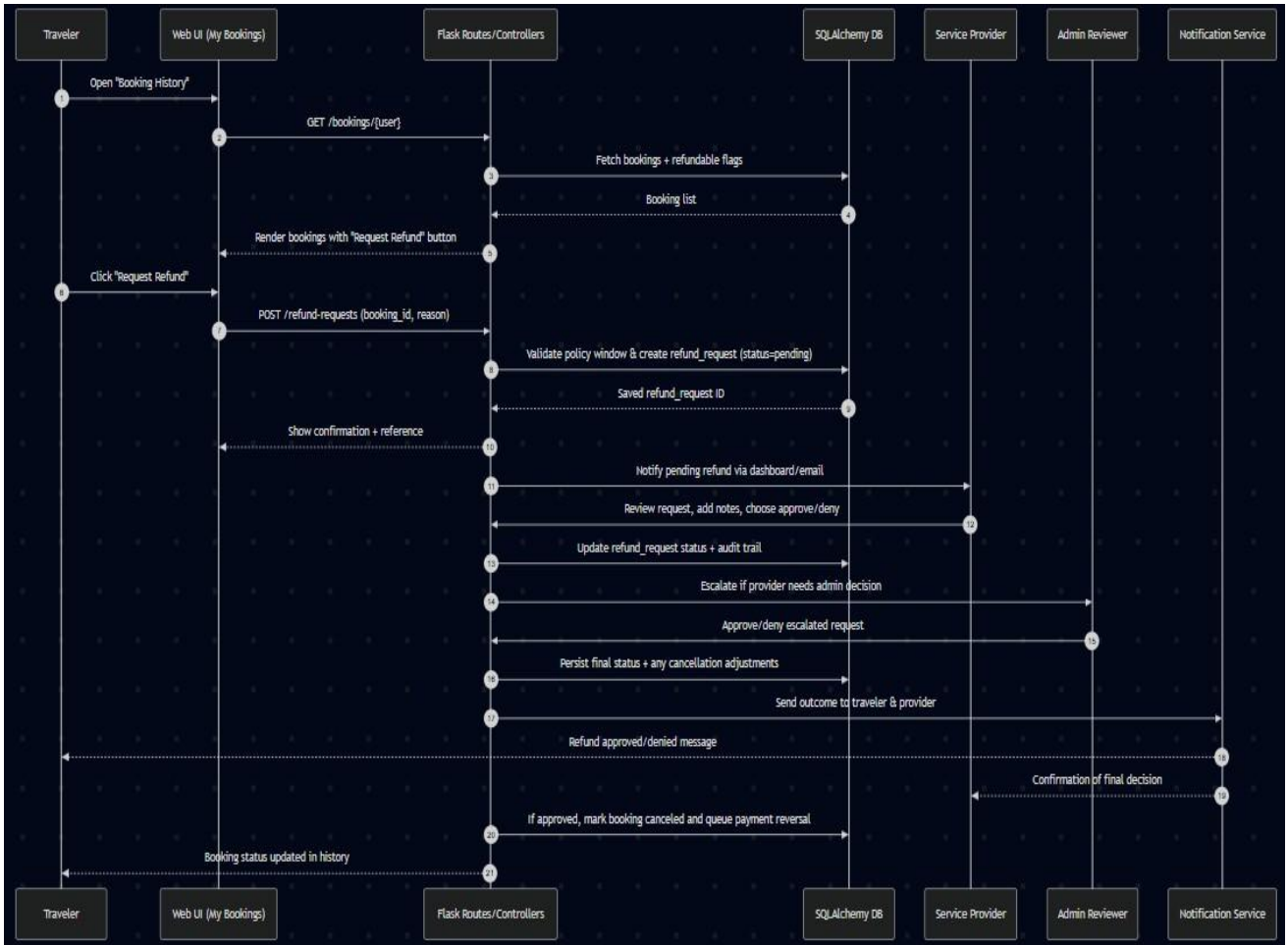
Get Notifications



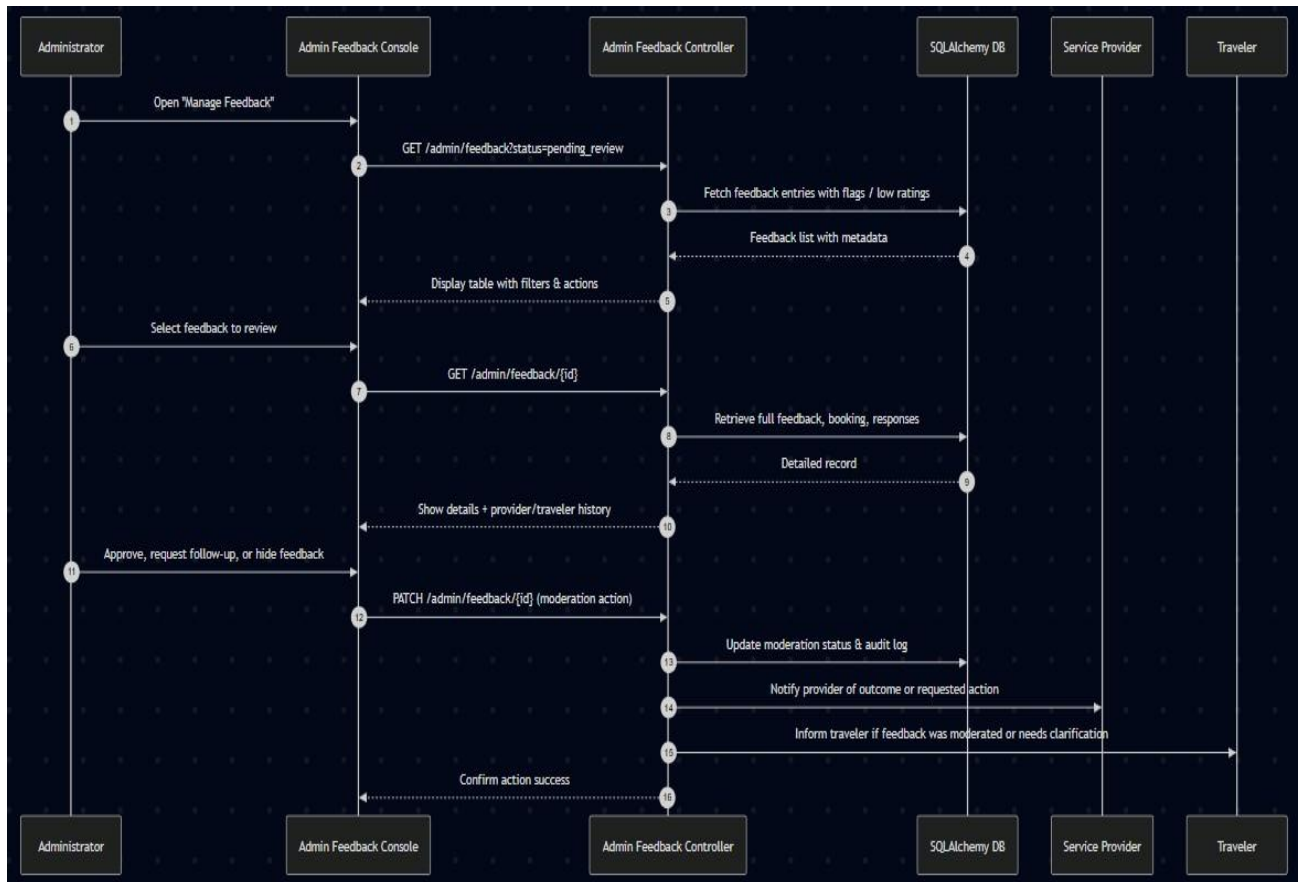
Give Feedback



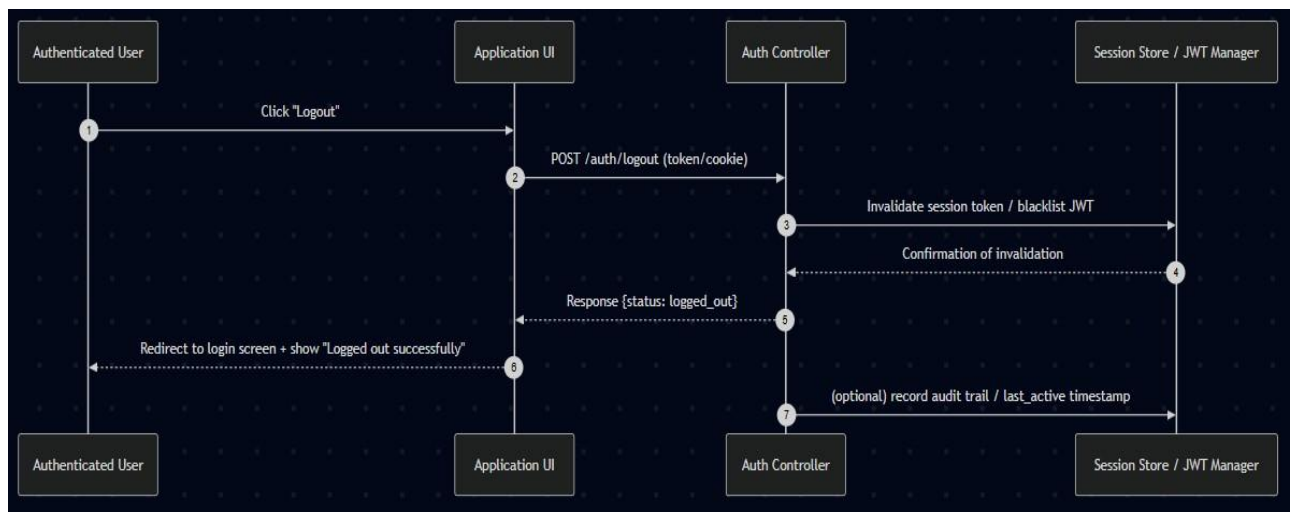
Refund & Cancellation



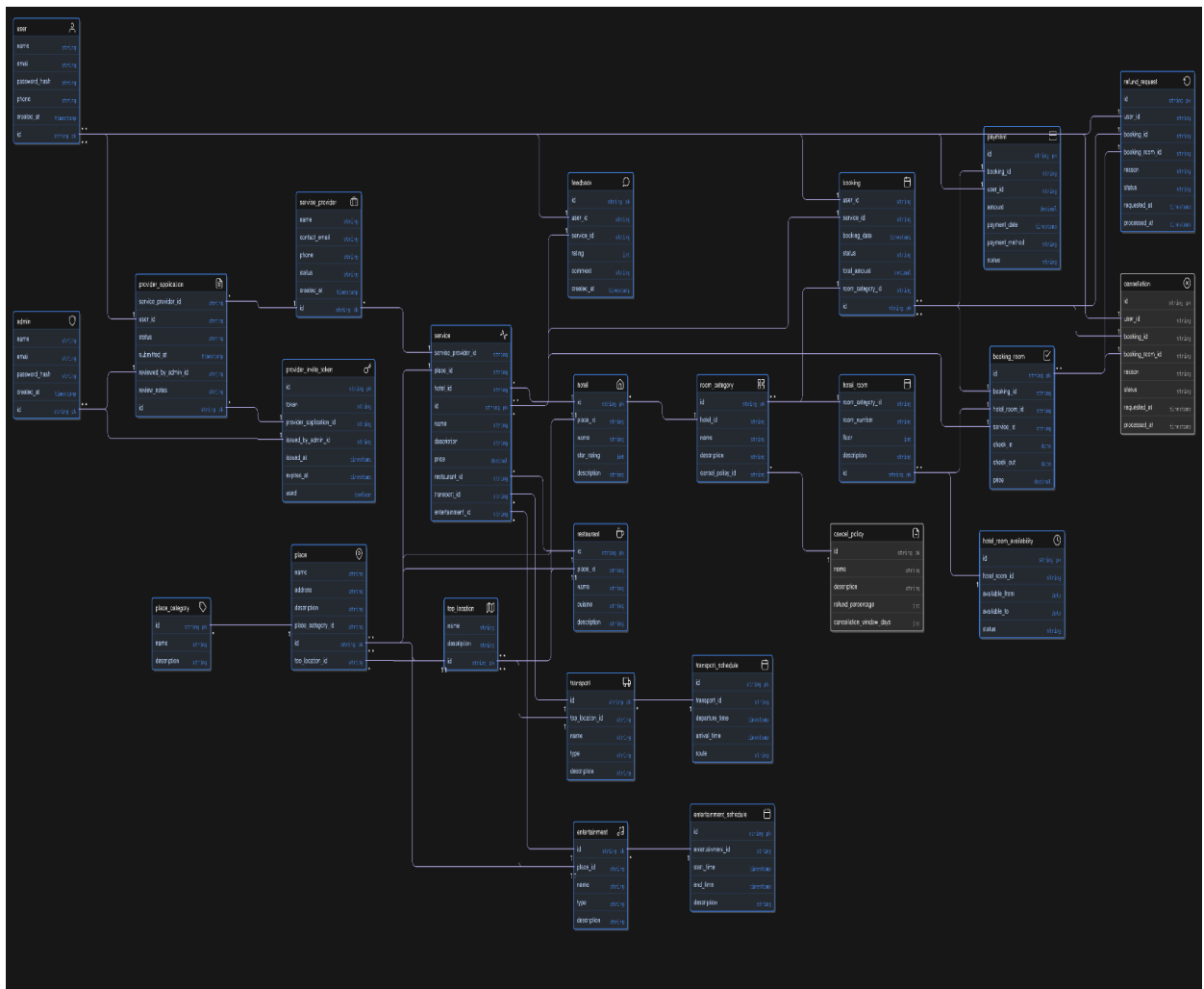
Manage Feedback



Logout



2.8 ER DIAGRAM



Chapter 3

Software Testing

3.1 Testing Features

Feature Area	Specific Functionality Tested
User Authentication	Creating user accounts, logging users in and out, Role-Based Access Unauthorized Access
Hotel Search	<ul style="list-style-type: none">• Search hotels by location• Show nearby hotels correctly
Hotel Details	<ul style="list-style-type: none">• Show correct room availability• Show basic hotel info (price, photos, rating)
Hotel Booking	<ul style="list-style-type: none">• Check-in/check-out date validation• Booking submission works without errors
Booking Confirmation	<ul style="list-style-type: none">• Booking ID generated• Confirmation page displays correct details
Error Handling	<ul style="list-style-type: none">• No hotels found → friendly message• Invalid date → clear warning

3.2 Testing Strategies

Unit Testing: We tested each small part of the system separately, such as:

- Hotel search function
- User login screen
- Booking form validation

This ensures each part works correctly on its own.

Integration Testing: We tested how different parts work together, such as:

- Search → Hotel Details → Booking

- Login → Dashboard → Reservations

This confirms that data moves correctly between pages and modules.

Manual End-to-End (E2E) Testing: We followed complete real user journeys for:

- Tourists
- Service Providers
- Admins

Example workflows tested:

- Tourist searches a hotel → sees rooms → books it
- Provider manages their hotel listings
- Admin approves/blocks providers

This ensures the full system works from start to finish.

3.3 System Testing

A more comprehensive list of test cases for key system functions is provided in this section to ensure that they function as intended under various conditions.

3.3.1 System Test Specification (STS)

Project Name: TourGuide – A Tour Planning and Management Platform Document

Type: IEEE 829 System Test Specification

Prepared By: Md. Fahim Abdullah Danial Date: 29/11/2025

1. Test Objectives

The main goal of system testing is to make sure that the TourGuide - A Tour Planning and Management Platform as a whole meets all functional and non-functional criteria and functions as planned in practical situations.

The goals are:

- Verify that the system satisfies all of the functional requirements listed.
 - Test the functionality of the system in heavy traffic and in normal conditions.

Ensure that mistakes are properly handled. Also illegal access and connectivity issue should be handled.

2. Scope

The scope of this testing includes:

- **Functional Tests:** This testing includes User Authentication, Hotel and Tourist spot Searching, Hotel Details, Hotels Booking, Reservations Management, Provider Management, Admin Controls and Notifications.
- **Non-Functional Tests:** Some of the non-functional tests includes performance, scalability, usability, security, and dependability.
- **Negative Handling & Exception Handling:** Authorization Bypass, Bad inputs, server errors, Booking with no check in- check out dates and network outages.

3. Test Environment

Component	Details
Client Devices	Android , IOS, Laptops
Operating Systems	Android 12+, iOS 15+,Windows10+
Network	Stable broadband connection (5 Mbps) + simulated 3G & offline modes
Backend	Flask (Python) + PostgreSQL Database
Frontend	HTML, CSS, JavaScript
Testing Tools	Manual Testing.

4. Test Data

4.1 Sample User Accounts

Role	Email	Password
User	b@gmail.com	bbbb
Service Provider	shalakruhan1996@gmail.com	rrrrrrr
Admin	fahimabdullahdaniel@gmail.com	danialtms

5. Pass/ Fail Criteria

Condition	Pass Criteria	Fail Criteria
Functional Test	Output matches expected result exactly	Output deviates from expected result
Non-Functional Test	Meets performance/security benchmarks	Fails benchmarks or causes errors
Negative Test	System rejects invalid input or unauthorized actions correctly	System accepts invalid input or grants unauthorized access
Reliability Test	System recovers from error conditions	System crashes or becomes unresponsive

6. Detailed Test Cases

Test Case ID	Feature Area	User role	Scenario Type	Pre-Conditionss	Test Steps	Expected Result
Authentication & Access Control						
TC-AUTH-001	User Registration	Tourist	Positive	Not logged in	1. Go to the registration page. 2. Enter valid information. 3. Send it	Email delivered, confirmation displayed, account setup.
TC-AUTH-002	User Registration	Tourist	Negative – Invalid Email	Not logged in	1. Enter an incorrect email format. 2. Send it in.	"Invalid email address" is the error.
TC-AUTH-003	User Login	All	Positive	There is a legitimate account.	1. Put in your password and email address. 2. Login.	Redirect to correct dashboard.
TC-AUTH-004	User Login	All	Negative – Wrong Password	Valid account exists	1. You entered the incorrect password. 2. Submit.	Error: "Invalid credentials."

TC-AUTH-005	User Login	All	Network Connectivity Issues	Internet disconnected	1. Enter valid credentials. 2. Submit.	Error: "No internet Connection".
TC-AUTH-006	Role-Based Access	Tourist	Unauthorized	Tourist logged in	1. Access admin dashboard.	Error: "Unauthorized Access."
TC-AUTH-007	Role-Based Access	Provider	Unauthorized	Provider	1. Access system settings.	Error: "Unauthorized Access."

				logged in		Access."
TC-AUTH-008	Session Timeout	All	Negative	Logged in, idle for session limit	1. Stay inactive for 1 hour. 2. Try an action.	Systems logout, redirected to login page.

Test Case ID	Feature Area	User role	Scenario Type	Pre-Conditions	Test Steps	Expected Result
Tourist – Hotel Search and Booking						
TC-SRCH-001	Search	Tourist	Positive	Logged in	1. Type "Cox's Bazar". 2. Press search.	List of hotels in Cox's Bazar displayed.
TC-SRCH-002	Search	Tourist	Negative-Empty Query	Logged in	1. Press search with blank field.	Please enter a search keyword

TC-SRCH-003	Search	Tourist	System Error	DB down	1. Enter query. 2. Search.	Error: "Search unavailable right now."
TC-VW-004	View Hotels	Tourist	Positive	Hotels available	1. Click "View Hotels"	All active hotels displayed with price & rating
TC-VW-005	View Hotels	Tourist	Negative - No Hotels	No listings	1. Open hotels page.	Friendly message: "No hotels available right now."
TC-VW-006	View Hotels	Tourist	Connectivity Issue	Offline	1. Open hotels	Error: "Please check your internet connection."

TC-BKG-007	Booking	Tourist	Positive	Logged in, room available	1. Select hotel. 2. Choose date. 3. Choose Room category 3. Click "Book Now".	Booking created and summary displayed.
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TC-BKG-008	Booking	Tourist	Negative - No Availability	Fully booked	1. Select unavailable date. 2. Book.	Room not available for selected date.
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TC-BKG-009	Booking	Tourist	Invalid Input	Logged In	1. Enter invalid dates (checkout < check-in).	Error: "Invalid date selection."
TC-BKG-010	Booking	Tourist	Connectivity Issue	Offline	Click "Book Now".	Error: "No Internet connection".
TC-PAY-011	Payment	Tourist	Positive	Booking created	1. Click "Pay Now". 2. Choose card/mobile payment.	Payment successful; receipt displayed.
TC-PAY-012	Payment	Tourist	Negative - Cancelled	Booking pending	1. Start payment. 2. Cancel.	Booking stays "Pending Payment"

Test Case ID	Feature Area	User role	Scenario Type	Pre-Conditions	Test Steps	Expected Result
Tourist- Booking History and Cancel Reservation						
TC-HIST-001	Booking History	Tourist	Positive	Logged in	1. Open Booking History.	All past & upcoming bookings shown.
TC-HIST-002	Booking History	Tourist	Negative – None Found	No bookings	1. Open history.	“No bookings yet”.
TC-CAN-003	Cancel Booking	Tourist	Positive	Booking eligible for cancellation	1. Open booking. 2. Click “Cancel”.	Booking cancelled ; confirmation shown.
TC-CAN-004	Cancel Booking	Tourist	Negative – Policy Restricts	Cancellation window passed	1. Try to cancel.	Cancellation not allowed for this booking.
TC-CAN-005	Cancel Booking	Tourist	Connectivity Issue	Offline	1. Click cancel.	Check connection and try again.

Chapter 4

Deployment and Maintenance

TourGuide: Deployment and Maintenance Plan

1. Deployment Strategy

1.1 Web Application

- Platform:
 - Web server (it is advisable to use Ubuntu/Linux)
 - Hosting : Render, Railway.
 - Domain + HTTPS (SSL Certificate)
- Technology Stack:
 - Backend: Flask (Python)
 - Database: PostgreSQL
 - Frontend: HTML, CSS, JavaScript, Bootstrap
 - APIs: Hotel search, location search, Entertainment search, Transport search.
- Deployment Steps:

1. Build Optimization

- Remove unused Python packages by using pip freeze.
- Enable the Flask production mode:
- Compress static files (CSS/JS)
- Enable browser caching
- Use gunicorn or uwsgi as production WSGI server

2. Testing & QA

- Use UI tests and unit tests on different screen sizes and devices.
- Just in case you do not want to break any of the existing functionality, do some regression testing.
- Cross-browser testing: Chrome, Firefox, Edge.
- Mobile responsive testing of the UI.

3. Database Configuration (PostgreSQL)

- Prepare special DB user with little access.
- The migrations need to be applied.
- Remote Aπiate poolconnectivity (pgbouncer-recommended);

4. Server Deployment

- Push project to GitHub
- Install dependencies:
- Start server by using gunicorn.
- Use Nginx as a reverse proxy
- Enable HTTPS with Certbot SSL

5. Post-Deployment Verification

- Check logs for server error
- Check every endpoint responses.
- Confirm:
 - search works
 - Booking perfectly working
 - Location fetching working OK

2. Maintenance Plan

2.1 Routine Monitoring

- Monitoring of error logs is done through:
 - Flask logging
 - (Nginx)
- Monitoring the performance Database:
 - Differentiate very slow queries and enhance them.
 - Check Connection spikes

2.2 Scheduled Maintenance

Monthly:

- Update Python dependencies safely
- Clean unused database records
- Optimize database indexes
- Security review (SQL injection, CORS headers, HTTPS enforcement)

Quarterly:

- Load testing for high traffic
- Check compatibility with new browser versions
- UI/UX improvements
- Review backup strategy and restore testing

2.3 Incident Management

Bug Fix Protocol:

- Report about the problem and open a ticket
- Replicate in the test env.
- Apply the fixes
- Get the tests of the regression and run to death.

Downtime Protocol:

- Temporary Maintenance Mode page Garbage page
- Notify users by banners
- Record all of the downtimes in incident report

2.4 User Feedback Loop

- Gather user feedback using contact form, feedback and email
- Analyze common issues
- Respond within 48 hours to significant comments.
- Prioritize fixes based on impact

3. Versioning & Release Policy

Version Type: Major, Minor, Patch that is 1.2.8

Major: The occurrence of significant new features results sometimes huge errors.

Minor: It is a software that is compatible with older software versions

Patch: Increase performance & fixing bugs.

Release Frequency:

- Patches and various updates: every two weeks or regularly with a need.

Chapter 5

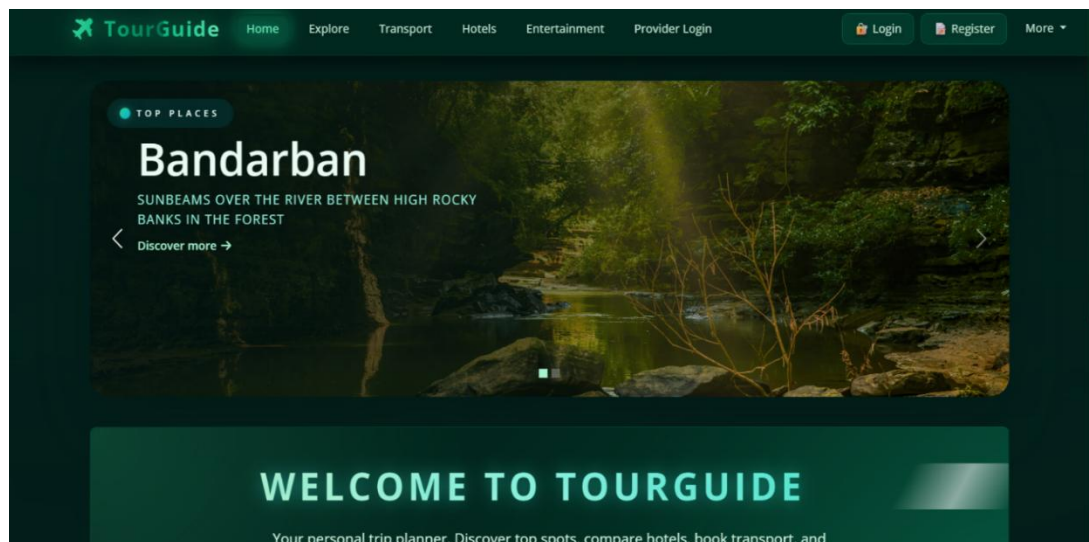
User Manual

5.1 Introduction

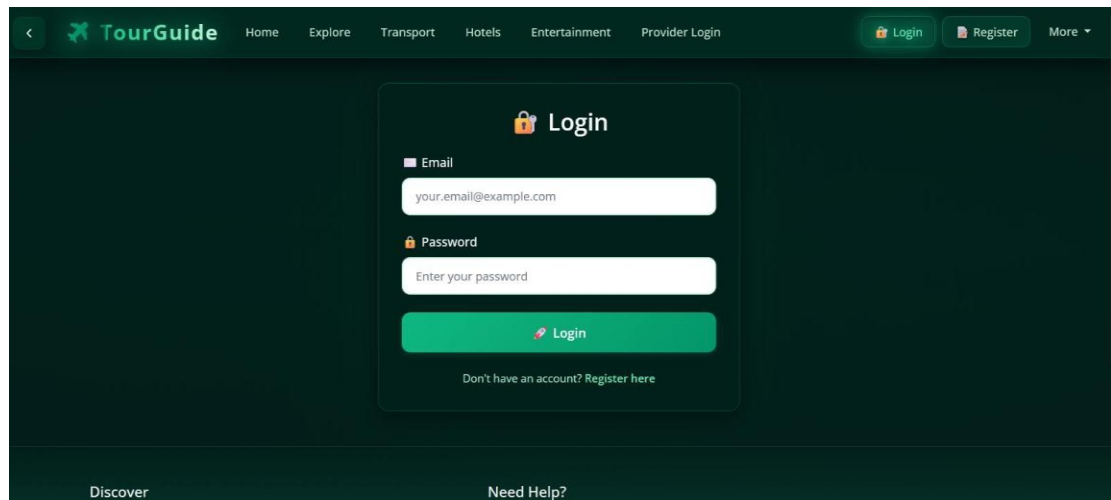
The purpose of the application TourGuide is to make the traveler quickly explore the main places, find the available services and go on a journey without hesitation. This User Manual is a basic step-by-step guide on the use of the main features of the app, that is searching the tourist spots, viewing the details, maps, and navigating the interface. The user, being a tourist, or a regular traveler, this manual is positioned in such a way so that it can be easily grasped how the TourGuide system operates and allows the user to take advantage of all its capabilities.

5.2 Project Functionalities

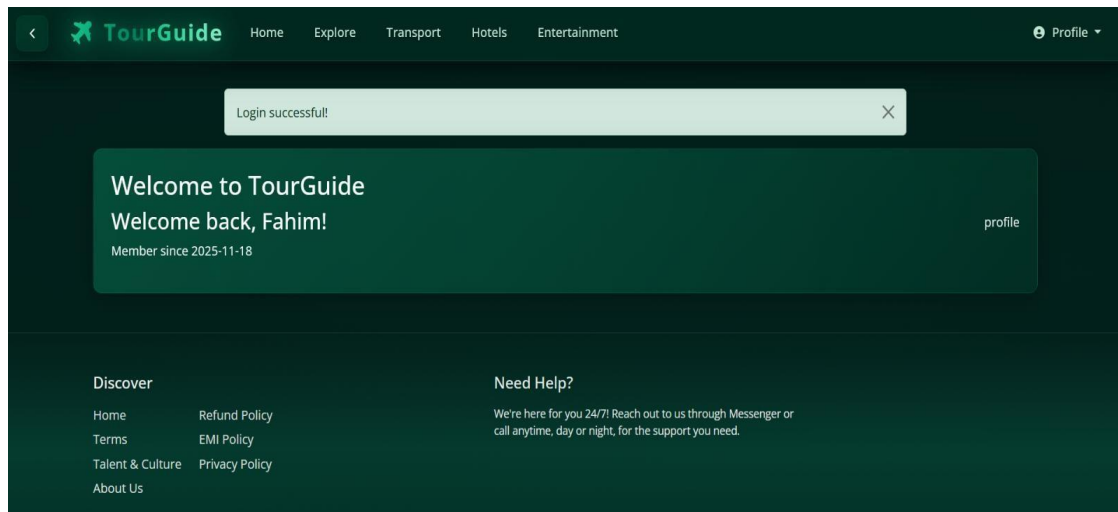
Home Page:



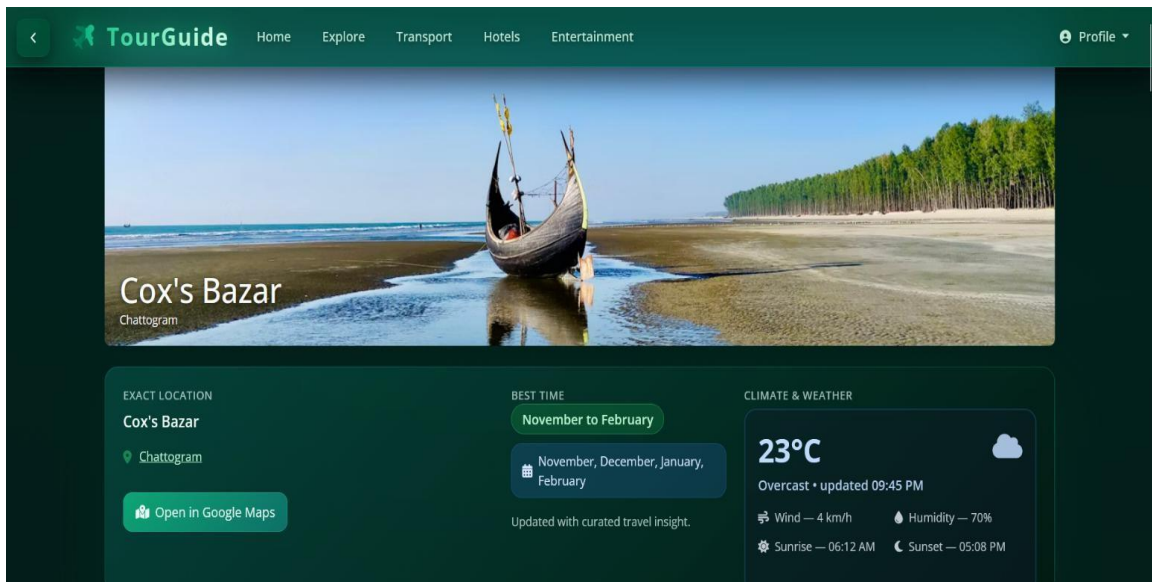
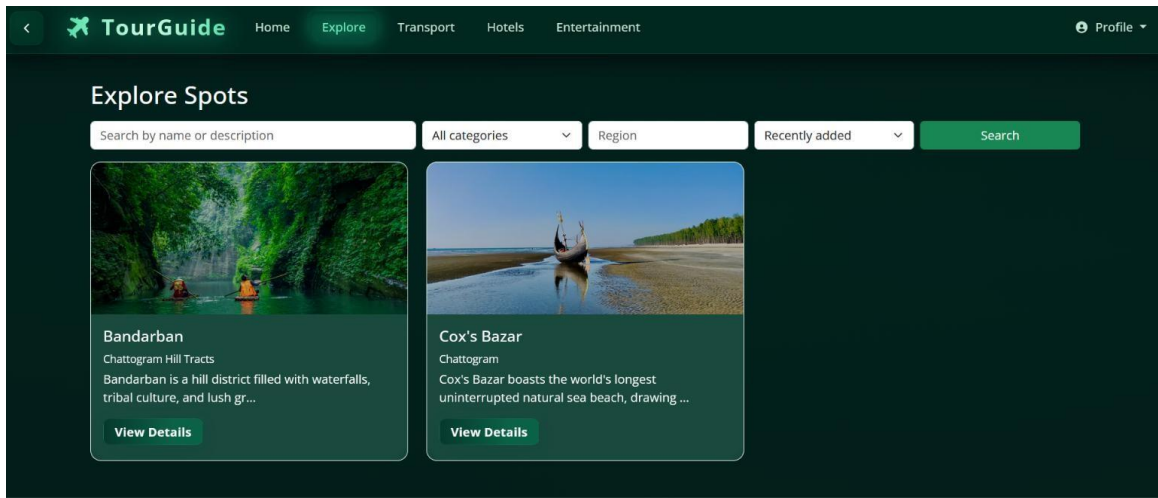
Login page:



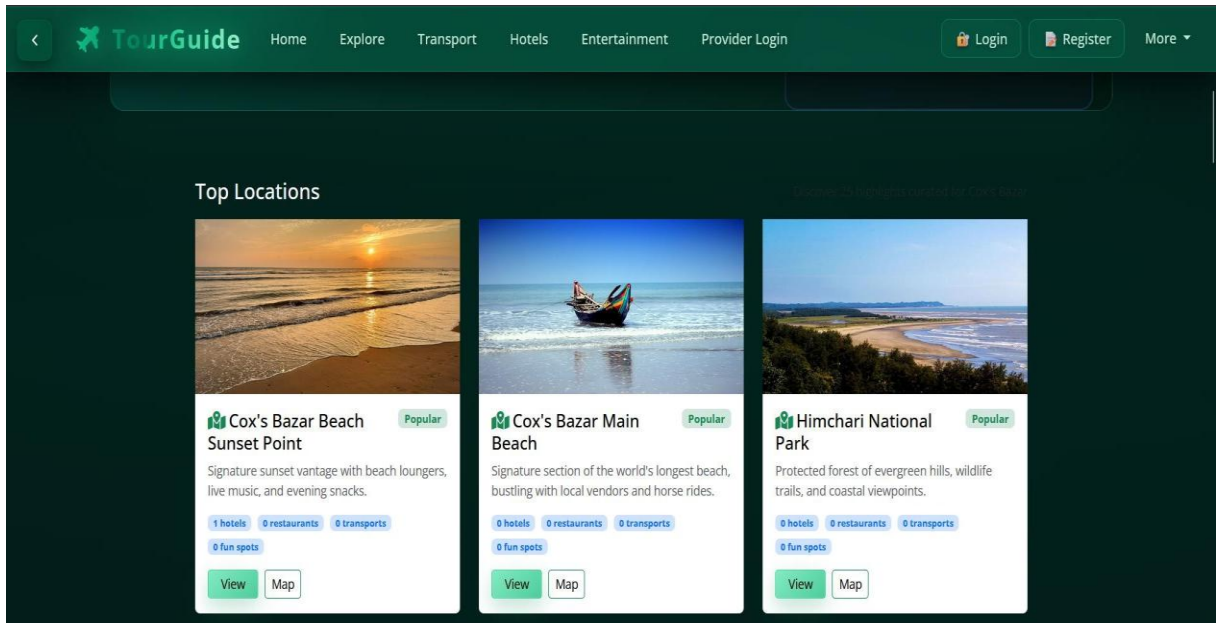
Logged in as Traveler:



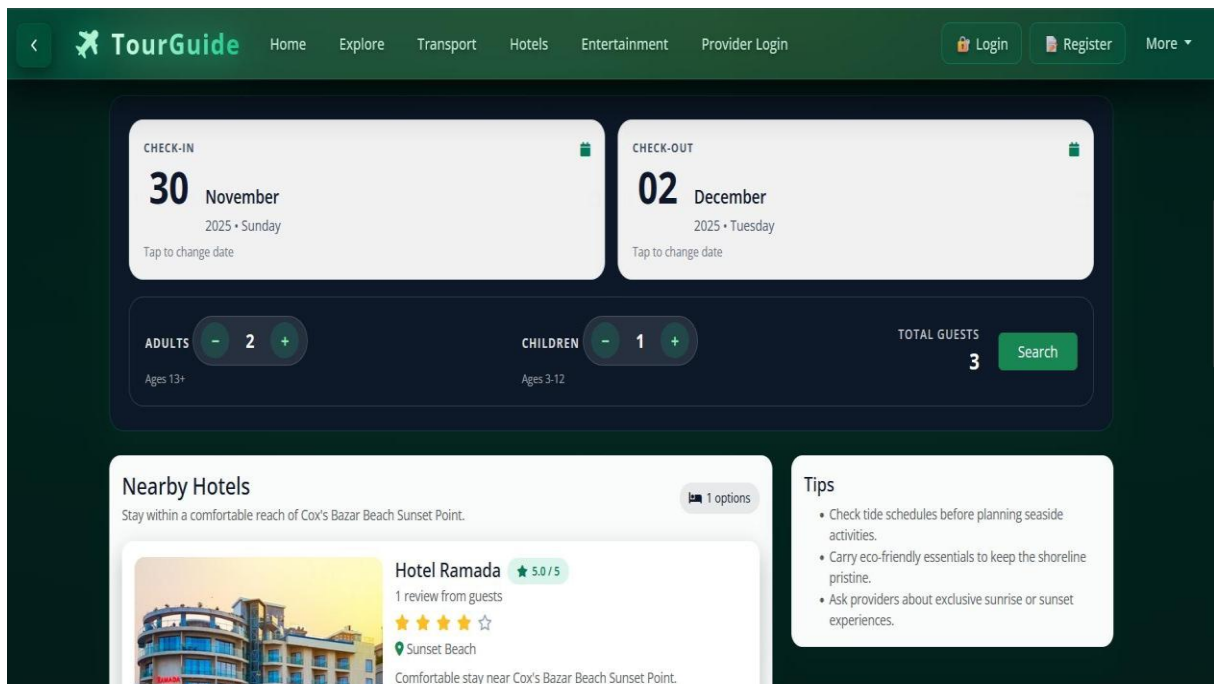
Explore spots:



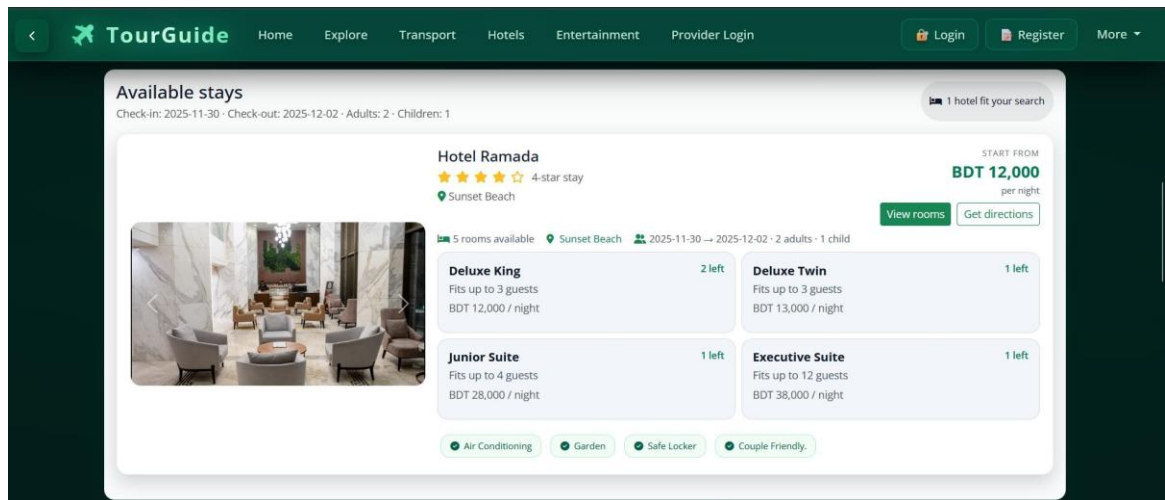
Top Locations:



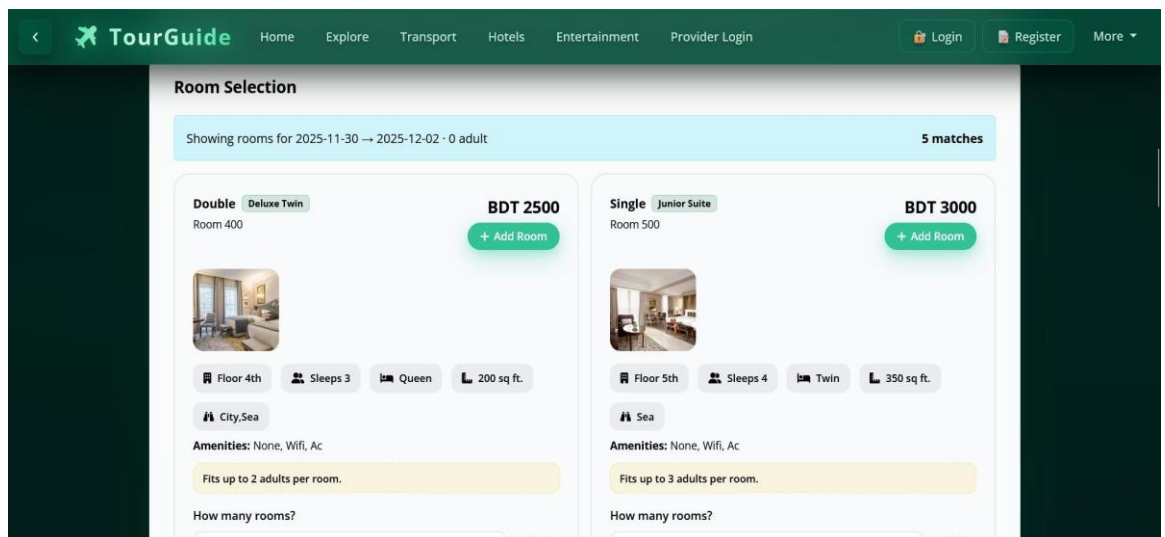
Location and Select dates and then tap search button:



Hotels are available such as hotel rooms:



Select favorite hotel rooms:



The Pricing summary and Payment Section:

The screenshot displays the TourGuide website's pricing summary and payment section. The top navigation bar includes links for Home, Explore, Transport, Hotels, Entertainment, and Provider Login, along with Login and Register buttons. The main content area is divided into two sections: ROOM SUMMARY and PRICING BREAKDOWN.

ROOM SUMMARY

1 x Deluxe Twin	BDT 5,000.00
1 x Junior Suite	BDT 6,000.00

PRICING BREAKDOWN

Total Nights	2
Total Rooms	2
Subtotal	BDT 11,000.00
Tax 15%	BDT 1,650.00
Service Fee 10%	BDT 1,100.00
GRAND TOTAL	BDT 13,750.00

The screenshot displays the Payment & Confirmation section. It features a "SECURE RESERVATION" header and a confirmation message: "Click confirm to reserve your room instantly. We will hold the room for 30 minutes while you complete payment." Below this, there is a note: "Free cancellation within provider policy. Taxes may vary based on check-in date." The section also includes logos for VISA, Mastercard, and American Express. A prominent green button labeled "Confirm and Continue to Payment" is located at the bottom of the section.

Selection of Payment Method and payment:

CHOOSE PAYMENT METHOD
Once paid, our system confirms the booking automatically.

Credit / Debit Card
Visa, Mastercard, Amex

bKash
Mobile wallet (Bangladesh)

PayPal
Global wallets and balance

Record payment (manual fallback)

Simulate instant payment

Pay securely with Stripe

Choose a method above and click "Simulate" to mirror a real gateway response.

PRICE BREAKDOWN

Room subtotal	BDT 11000.00
Taxes & fees	BDT 1650.00
Service fee	BDT 1100.00
Total	BDT 13750.00
Amount due	BDT 13750.00

ROOM DETAILS

Double (Deluxe Twin) #400	BDT 6250.00
Queen 2 night(s) 1 room(s)	
Rate/Night: BDT 2500.00	Subtotal: BDT 5000.00
Single (Junior Suite) #500	BDT 7500.00
Twin 2 night(s) 1 room(s)	
Rate/Night: BDT 3000.00	Subtotal: BDT 6000.00

PAYMENT HISTORY

BDT 13750.00	Pending
Nov 30, 2025 04:32 PM	

See Booking History:

Your Bookings Track hotel info, rooms, and refund status at a glance.

SERVICE & HOTEL	DATES	ROOM DETAILS	COST	ACTIONS
Hotel Ramada Hotel: Hotel Ramada CONFIRMED	BOOKED ON Nov 30, 2025 Stay: Nov 30 → Dec 02, 2025	Double (Deluxe Twin) #400 1 room, 2 nights, Queen Rate: 2500.00 Single (Junior Suite) #500 1 room, 2 nights, Twin Rate: 3000.00	13750.00 Total cost	CANCEL POLICY Check-in has started; cancellations are no longer allowed. Free cancellation within 3 hours of booking. 50% refund until check-in. No cancellations once check-in begins. CONFIRMED View details / pay

Admin Dashboard:

TourGuide Admin Home Dashboard Manage Users Manage Providers Provider Applications Monitor Bookings Handle Cancellations & Refunds Feedback & Messages System Settings Fahim Abdullah

Total Users
1

Service Providers
3

Active Bookings
0

Pending Refunds
0

Pending Applications
0

Awaiting Onboarding
0

Recent Provider Applications [Manage all](#)

ID	Applicant	Business	Status	Submitted
#3	Abu Shalak Ruhan	Hotel Sea view	Registered	2025-11-22
#2	Rabbi	Hotel spc	Registered	2025-11-21
#1	Md.Fahim Abdullah Danial	Hotel Sea Moon	Registered	2025-11-20

Recent Feedback [View all](#)

Feedback #11
Nov 25, 2025
Awesome Hotel , Services are quite premium 5 ★

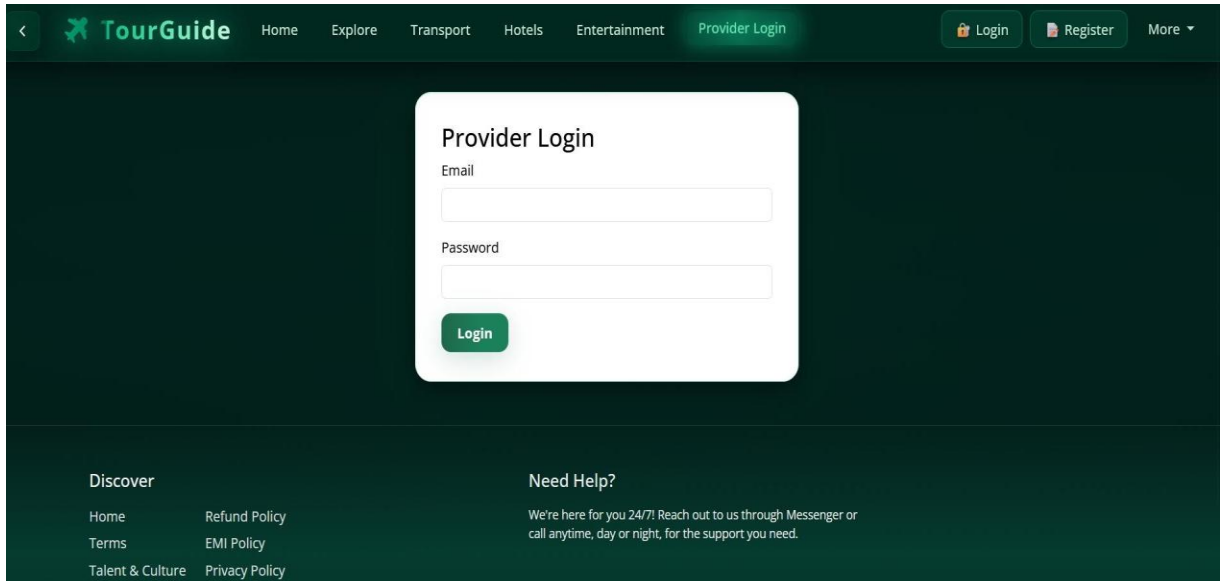
System Alerts

3 providers pending approval

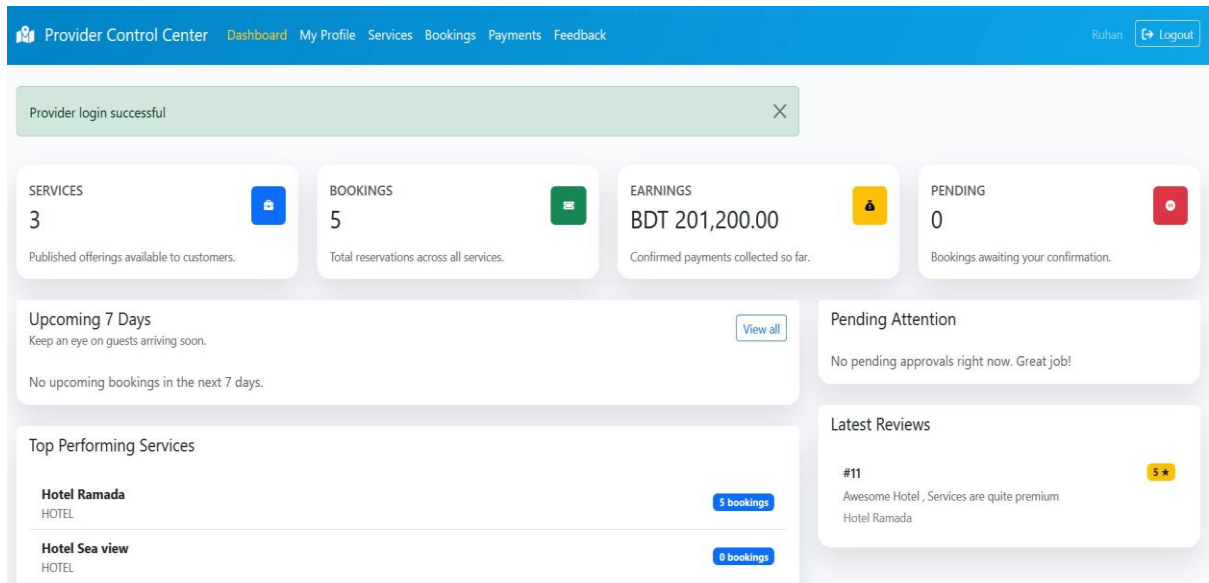
Recent Users

Fahim Nov 18

Login as Service provider:



Provider Dashboard:



Chapter 6

Project Summary

6.1 Project Overview

TourGuide is an online travel guide product that is meant to simplify the process of planning a trip to Bangladesh. The system assists users to find out which hotels, restaurants, travel destinations, and means of transportation are nearby in an easy and user-friendly interface. It links the tourists to the service providers and provides them with precise information according to the location of choice. It is aimed at eliminating the inconvenience of using different websites to find information about traveling and provide it on the same platform.

6.2 Purpose

The key aim of TourGuide is to enable the tourists to make fast and informed decisions when they are on leave. Whether one is going to a new city or a surrounding.

6.3 Key Features

- **Role-Based Access:** Different features with separated accesses of tourists, service providers, and admins.
- **Hotel & Spot Search:** The consumers are able to find out the local hotels, tourist destinations and restaurants, as well as transport services by location.
- **Booking & Inquiry:** Users can check details and contact service providers easily.
- **Provider Management:** Admins can approve, suspend, or manage service provider accounts.
- **Notifications:** Users receive updates about bookings, approvals, or changes in services.
- **Multi-Device Access** Work seamlessly in mobile and desktops.

6.4 Technology Stack

Frontend: HTML, CSS, JavaScript,

Bootstrap Backend: Flask (Python)

Database: PostgreSQL

Hosting: Cloud-based server (Render, Railway, ..)

Factor: Hotel Listing and Location-based search.

6.5 Expected Impact

TourGuide is going to enhance the travel experience of tourists significantly by giving them a reliable and location based information in real time. It saves the hassle of visiting many locations in search of hotels, food, or other traveling locations and give the visiting persons an opportunity to make better choices within a short time. With the service providers, the platform provides increased visibility to their business. To admins, it saves on manual work through automation of approvals and management. Altogether, TourGuide will make the process of travelling within Bangladesh easier, quicker, and more pleasant.

APPENDIX A: Source Code & Live Website Link

1.Source Code:

https://github.com/AbdullahDanial/Tour_planning_management_system-A-Complete-Tour-Guide

REFERENCES

- Grinberg, M. (2018). *Flask Web Development: Developing Web Applications with Python* (2nd ed.). O'Reilly Media.
- Bayer, M. (2025). SQLAlchemy documentation. *SQLAlchemy.org*.
<https://docs.sqlalchemy.org>
- PostgreSQL Global Development Group. (2025). *PostgreSQL documentation*.
<https://www.postgresql.org/docs/>
- Google Maps Platform. (2025). Maps, Routes & Places APIs. *Google Developers*.
<https://developers.google.com/maps/>
- OpenWeather. (2025). Weather API documentation. *OpenWeatherMap.org*.
<https://openweathermap.org/api>
- draw.io. (2025). draw.io – Online diagramming tool.
<https://app.diagrams.net>

