

CSE 326
Information System Design Sessional

ExploreMate: Your Ultimate Travel Guide

Section - A1
Group - 01

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1 Introduction

In an era where the world is at our digital fingertips, a new era of exploration and connection beckons through "Exploremate: Your Ultimate Travel Guide." This pioneering travel web application transcends geographical boundaries, crafting a unique avenue for both seasoned globetrotters and curious souls to embark on journeys that ignite the spirit and forge lasting connections.

At the heart of "Exploremate" lies a dual gateway – one that warmly welcomes guest users and extends an even more comprehensive invitation to registered users, unlocking a treasure trove of features designed to enhance the journey from aspiration to realization. Seamlessly blending cutting-edge technology with an innate understanding of the wanderlust-fueled human heart, "Exploremate" is poised to redefine the way we experience the world.

For those embarking on their maiden voyage into the realm of exploration, "Exploremate" is a guiding light, illuminating a path to discovery. Guest users are invited to traverse a digital terrain that allows them to search, peruse, and plan with ease. From scrutinizing diverse destinations to estimating budgets and diving into preliminary tour plans, the platform offers a glimpse into the limitless horizons of travel possibilities.

However, for those who wish to unveil the full spectrum of exploration, registered users find themselves equipped with an array of tools to shape their journeys. Beyond being passive observers, they assume the role of contributors, suggesting uncharted gems by harnessing the power of Google Maps data. This empowerment extends further, enabling the meticulous creation of tour plans that consider every nuance, from the must-see landmarks to the subtlest of local nuances.

Venturing beyond individual voyages, registered users can blend their travel aspirations with the desire for camaraderie. Through the creation of tour events inspired by the essence of Facebook events, kindred spirits unite. A symphony of laughter, discovery, and shared experiences comes to life as travelers find themselves in the company of like-minded adventurers. Each tour event, a chapter of connection within the grand narrative of exploration.

Yet, "Exploremate" isn't merely a facilitator; it's an ingenious guide that understands the language of your travel dreams. The intelligent travel recommender system, a crowning achievement, merges technology with intuition. By inputting preferences for places, duration, and budget, users awaken a digital oracle that crafts a dynamic symphony of exploration. The melody encompasses intricately woven tour plans, flanked by suggestions of nearby accommodations and delectable dining options.

"Exploremate: Your Ultimate Travel Guide" isn't just a digital platform; it's a testament to the spirit of human curiosity and the art of adventure. Whether you're a seeker of the unknown, a creator of memories, or a connector of hearts across continents, "Exploremate" is the vessel through which dreams become destinations and aspirations become experiences. As we embark on this exploration of exploration itself, let us immerse ourselves in the tapestry of "Exploremate," a tapestry woven with innovation, discovery, and the joy of shared journeys.

2 Notable Changes

2.1 Requirement Analysis Using BPMN Diagram

- Blogging removed
- Plan Tour functionality added

2.2 Mock UI

- Interface for dynamic plan generation added

2.3 ERD

- Attribute for transportation cost added

2.4 Class Diagram

- Country, State and City entity classes are added
- Attribute for transportation cost added

2.5 Collaboration Diagram

- 'Actor' is replaced with the name of actor (i.e. User)

2.6 State Diagram

- Tour cancellation is shown

3 Requirement Analysis Using BPMN Diagram

3.1 Feedbacks Acknowledged

- Blogging Removed (from both User and System pool)
- Plan Tour added (to both User and System pool)

3.2 Full BPMN Diagram

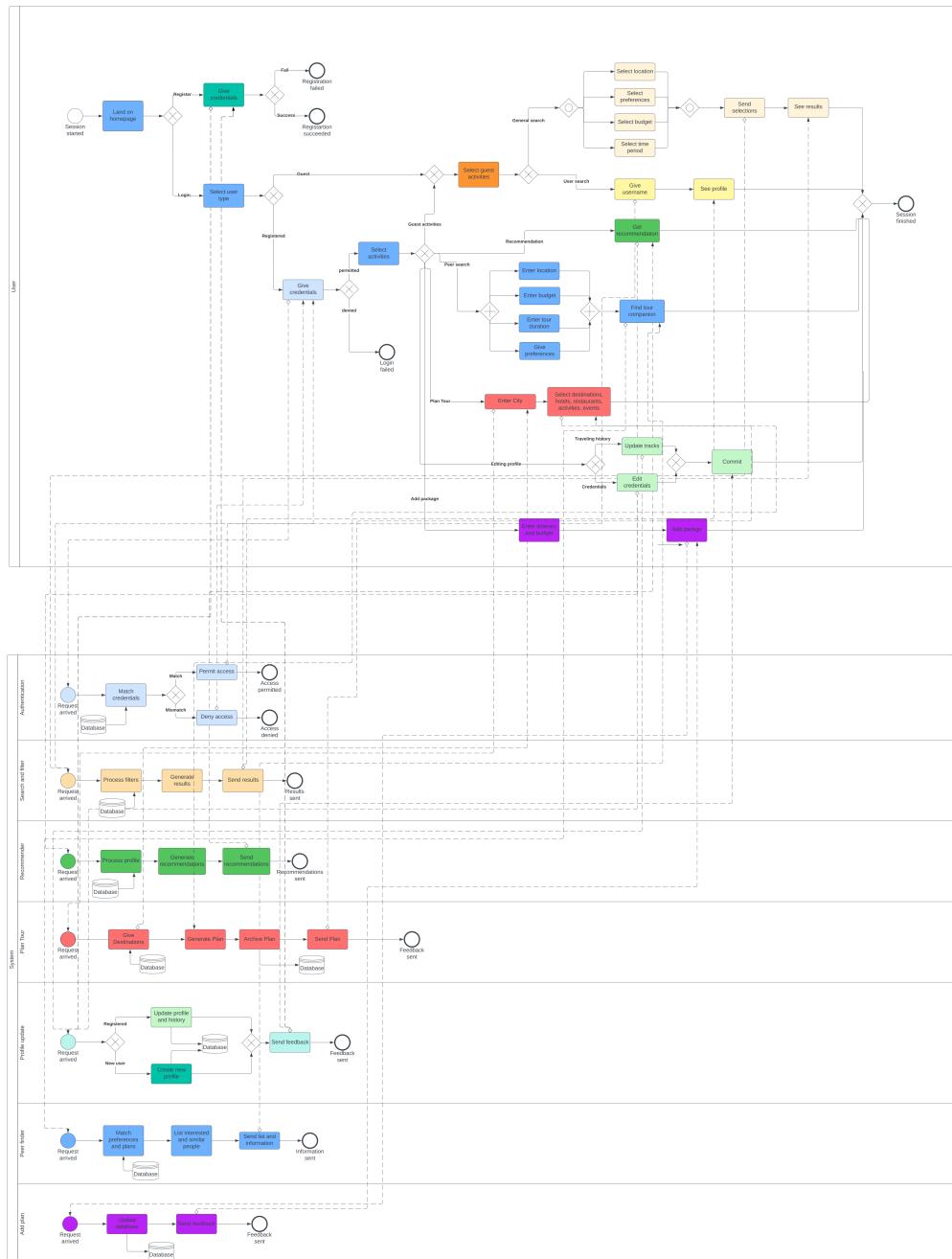


Figure 1: The BPMN Diagram

3.3 Pools

- User
- System

3.3.1 User Pool

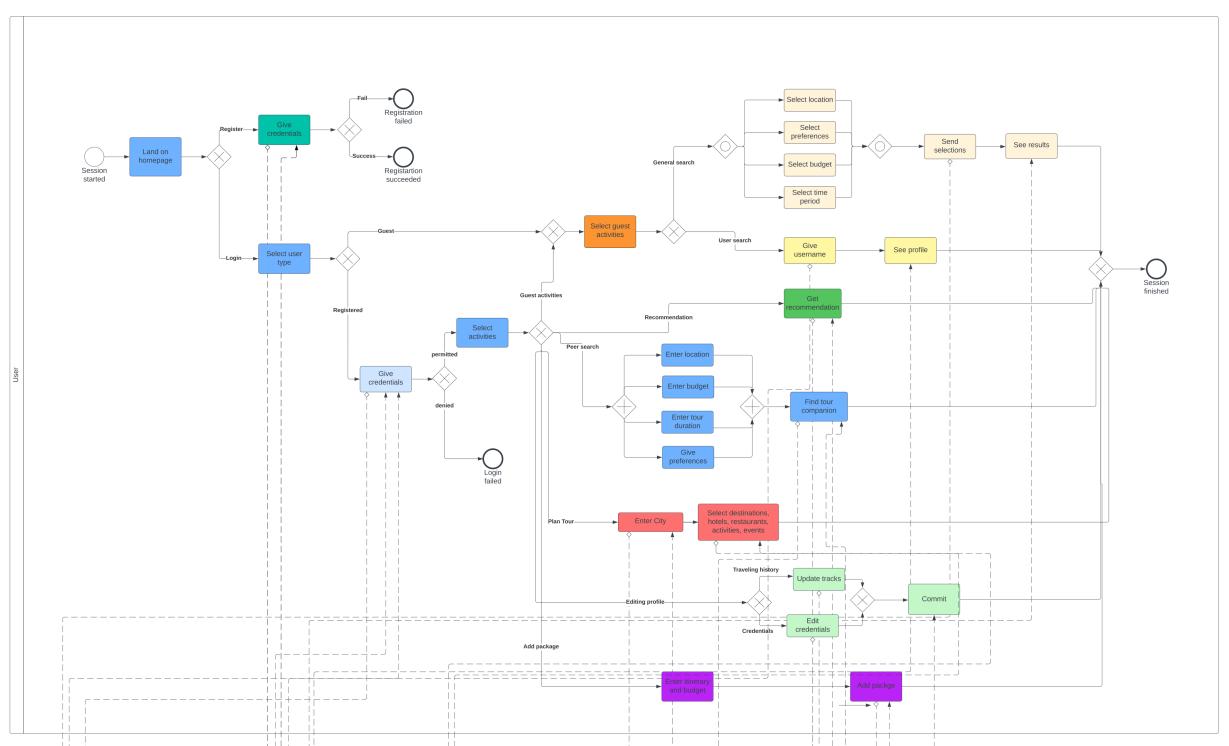


Figure 2: User Pool

3.3.2 System Pool

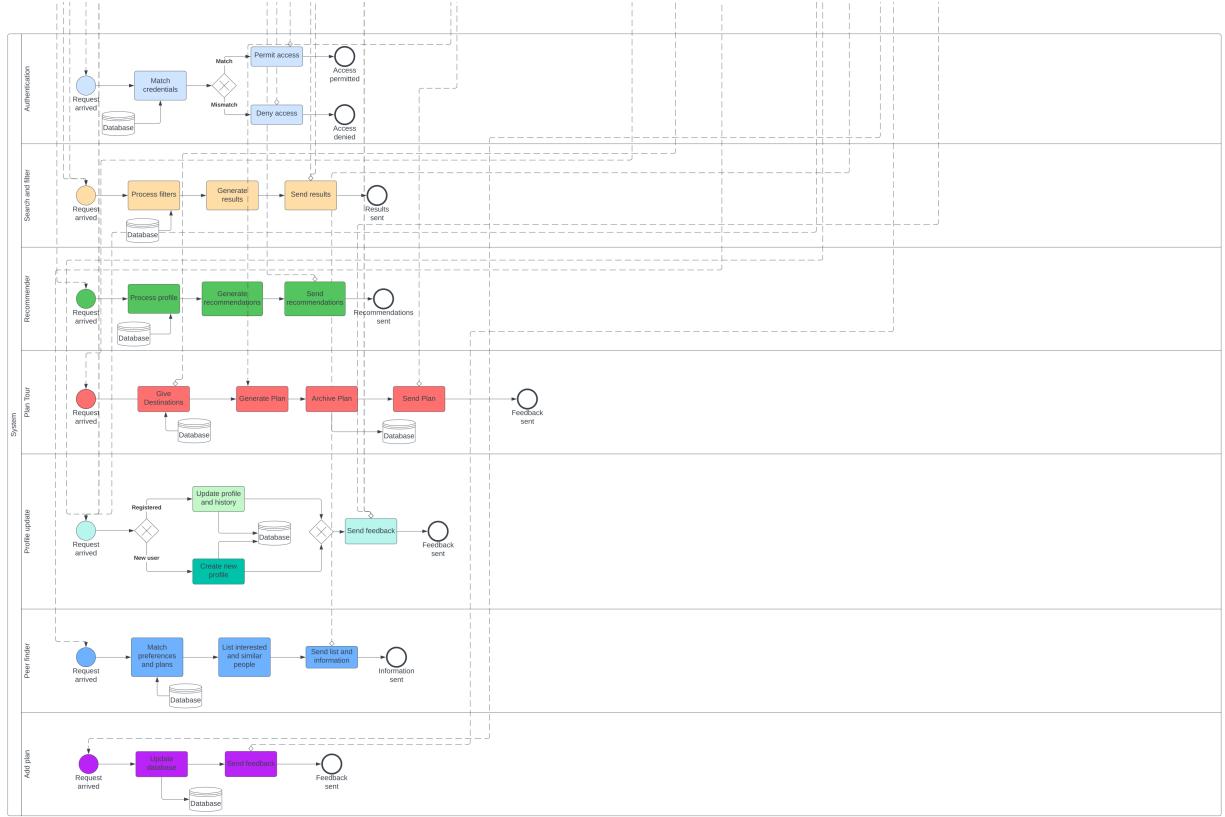


Figure 3: System Pool

4 Mock UI

4.1 Login Page

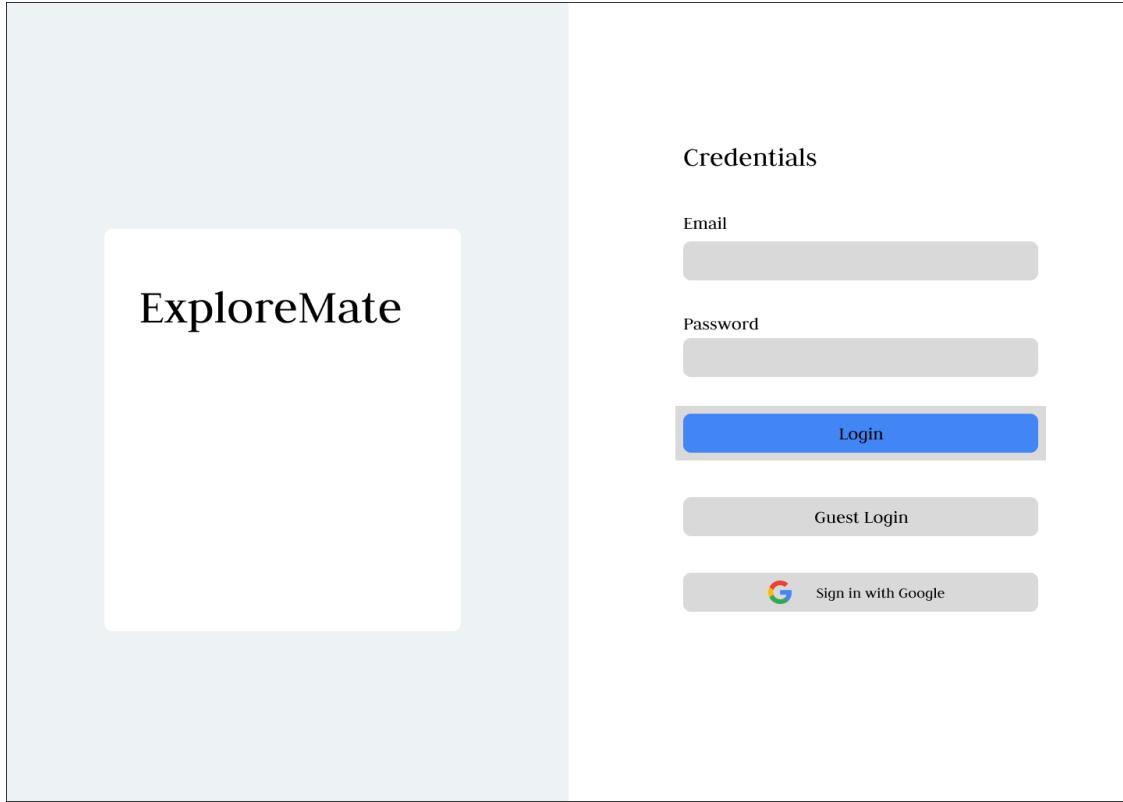


Figure 4: Login Page

4.2 Home Page

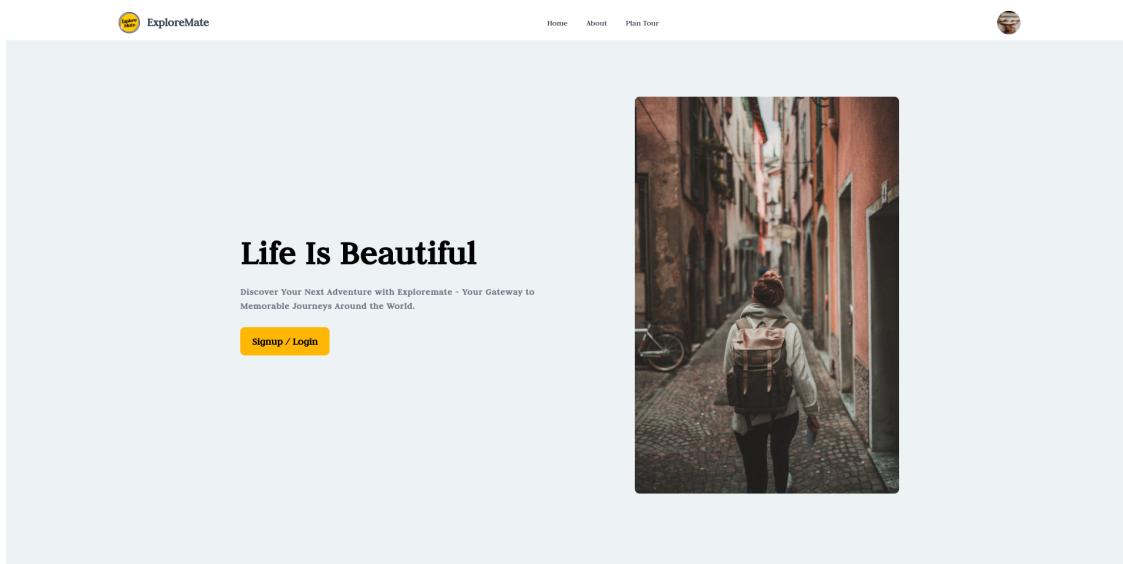


Figure 5: Home Page

4.3 Dashboard

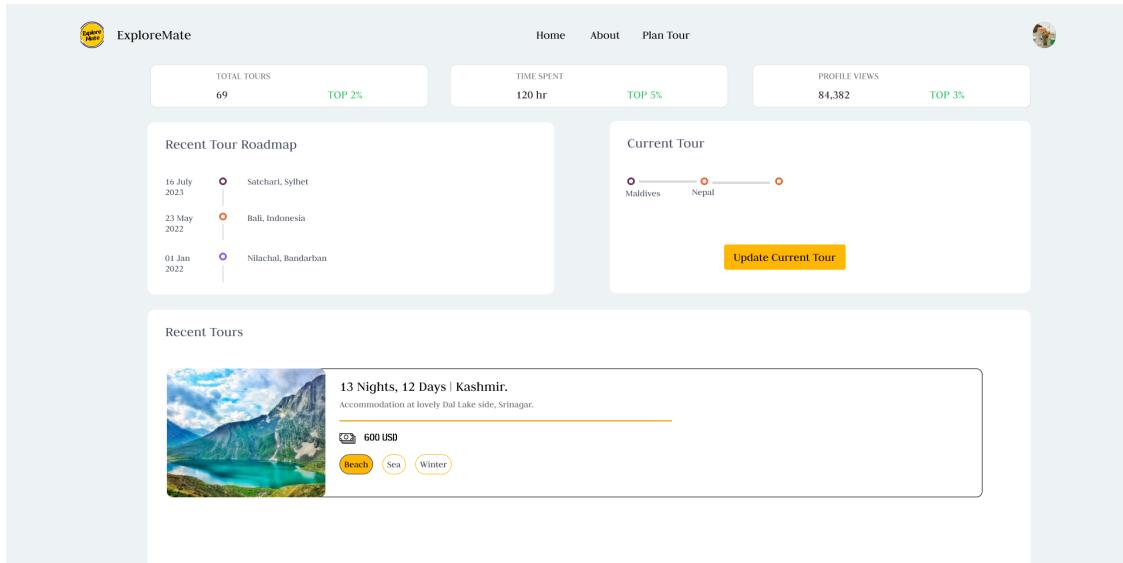


Figure 6: Dashboard

4.4 Public Profile

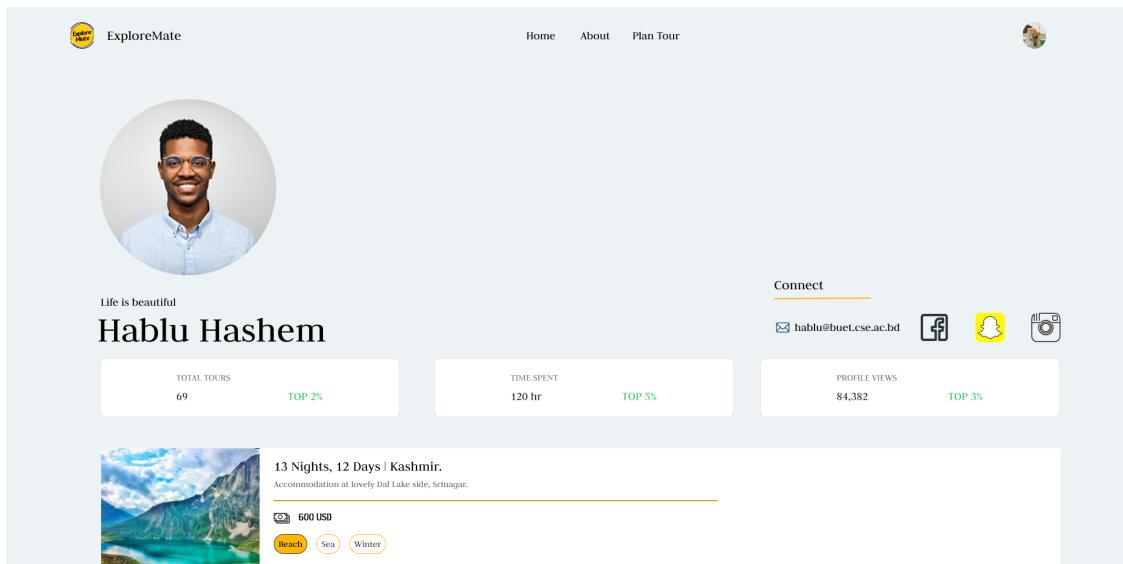


Figure 7: Public Profile

4.5 City Choice Page

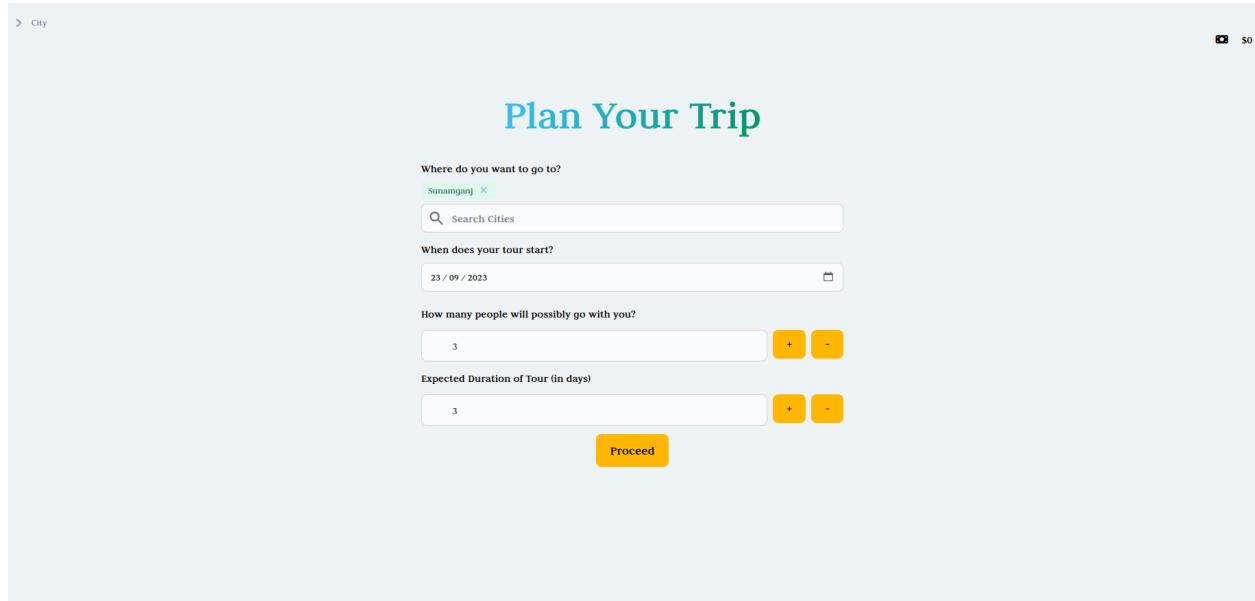


Figure 8: City Choice Page

4.6 Destination Choice

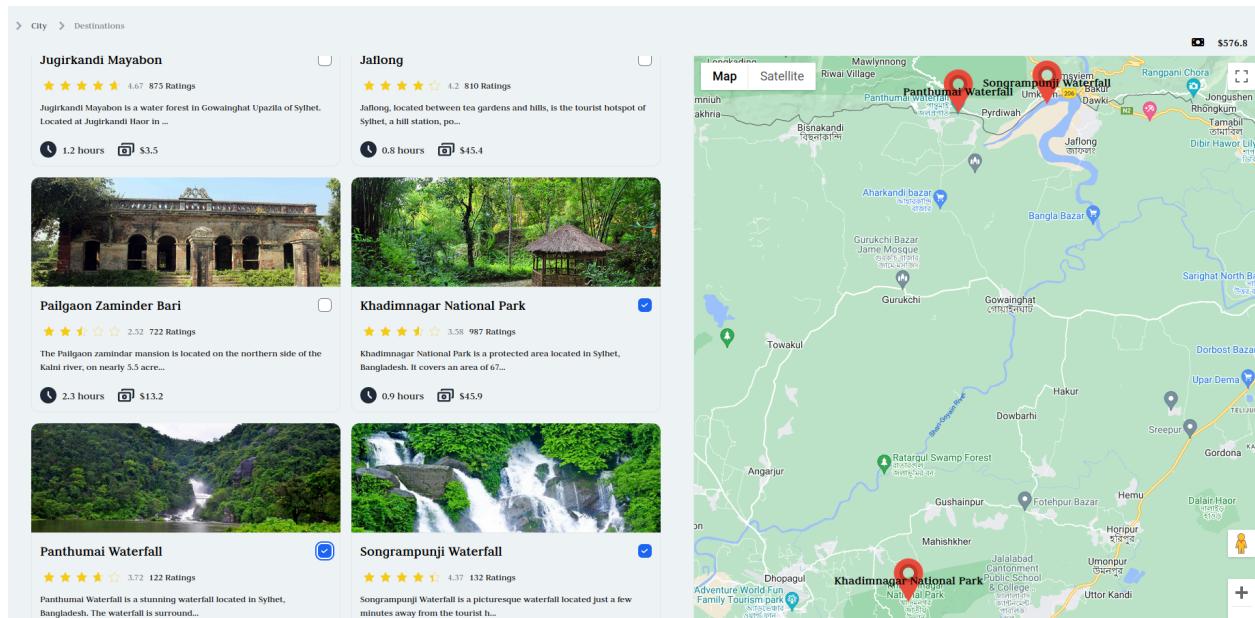


Figure 9: Destination Choice Page

4.7 Final Plan

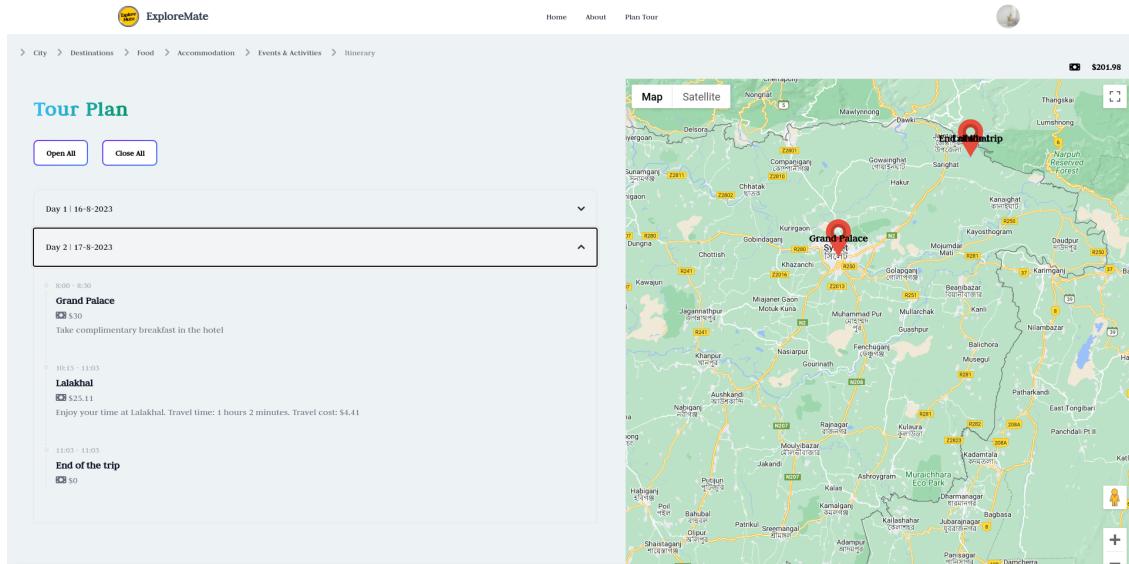


Figure 10: Final Plan

4.8 Destination Detail

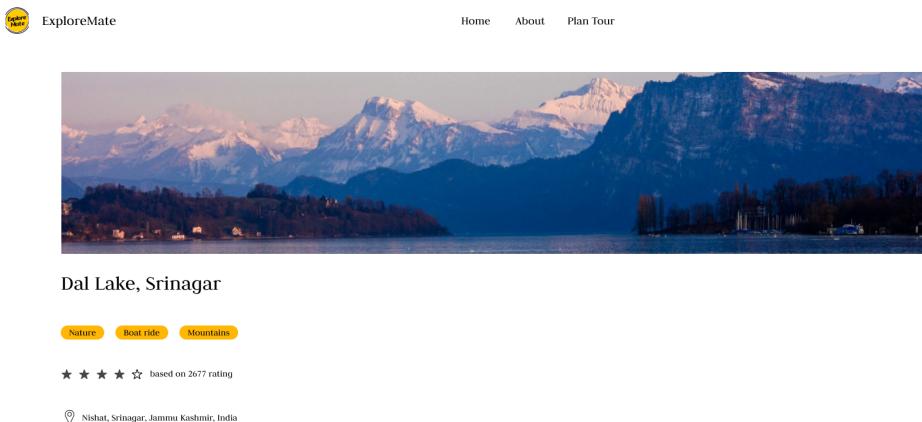


Figure 11: Destination Detail

4.9 Tour Detail

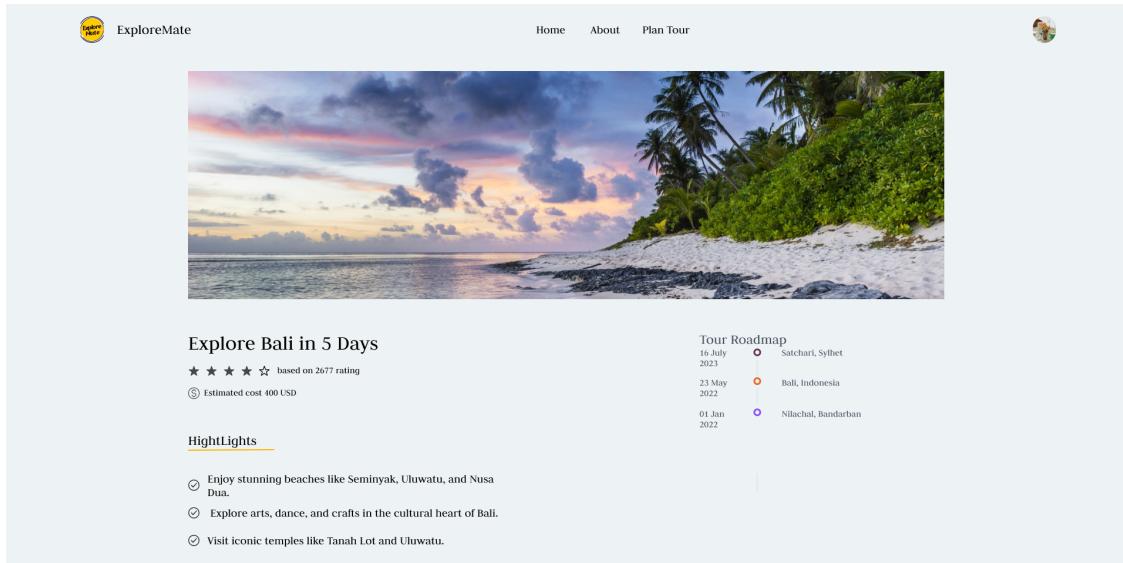


Figure 12: Tour Detail

4.10 Travel Buddy

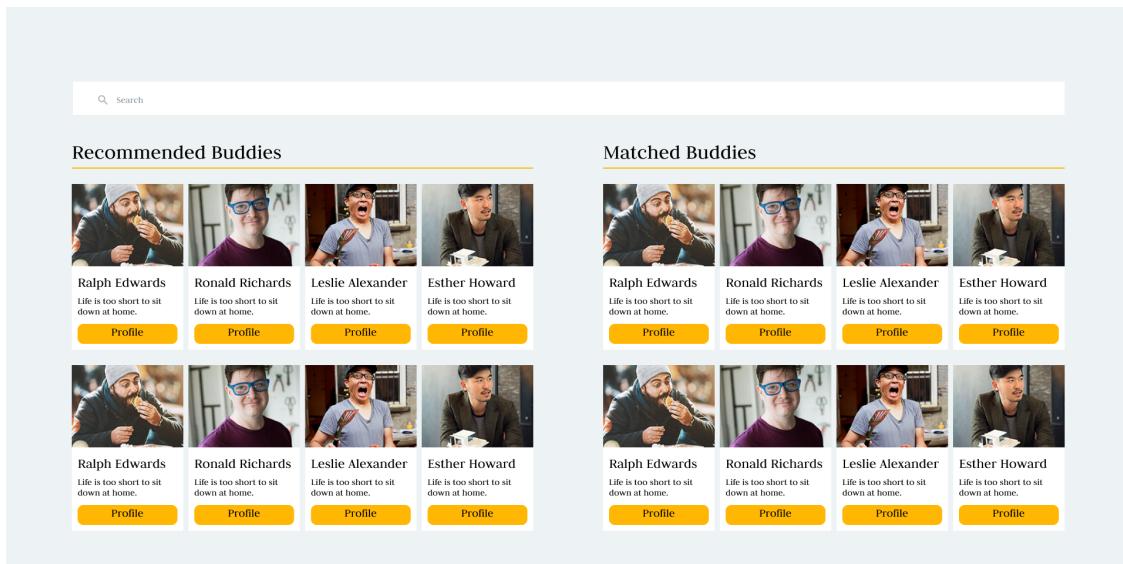


Figure 13: Travel Buddy

5 ERD

5.1 Feedbacks Acknowledged

- Attribute for transportation cost added

5.2 Full ERD

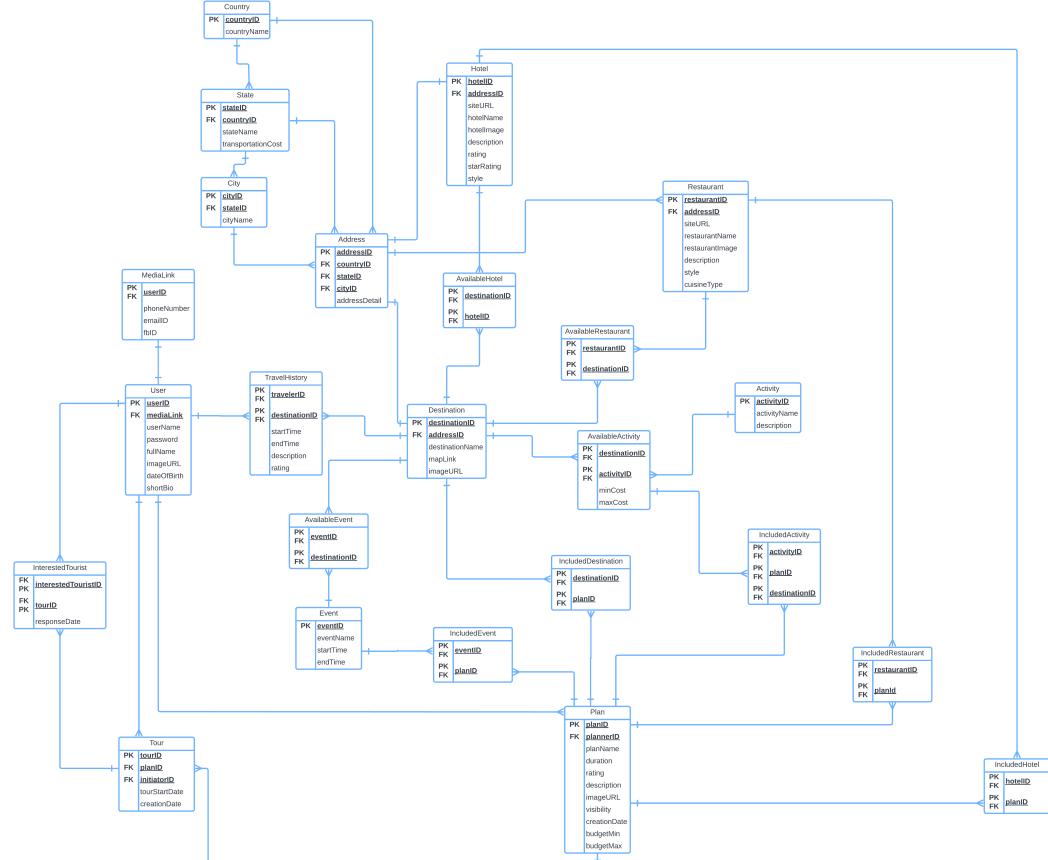


Figure 14: ERD

6 Class Diagrams

6.1 Feedbacks Acknowledged

- Country, State and City entity classes are added
- Attribute for transportation cost added

6.2 User Authentication

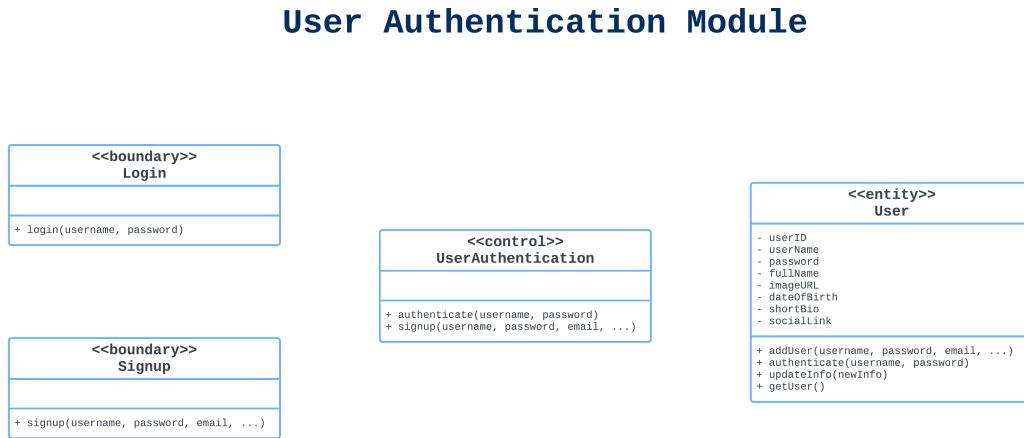


Figure 15: Class Diagram - User Authentication

6.3 Profile Dashboard

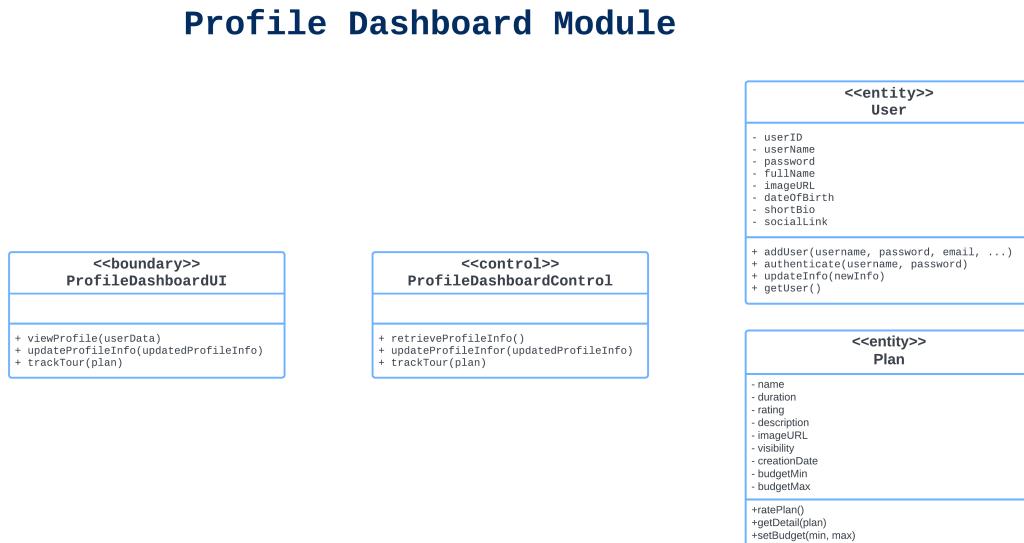


Figure 16: Class Diagram - Profile Dashboard

6.4 Destinations

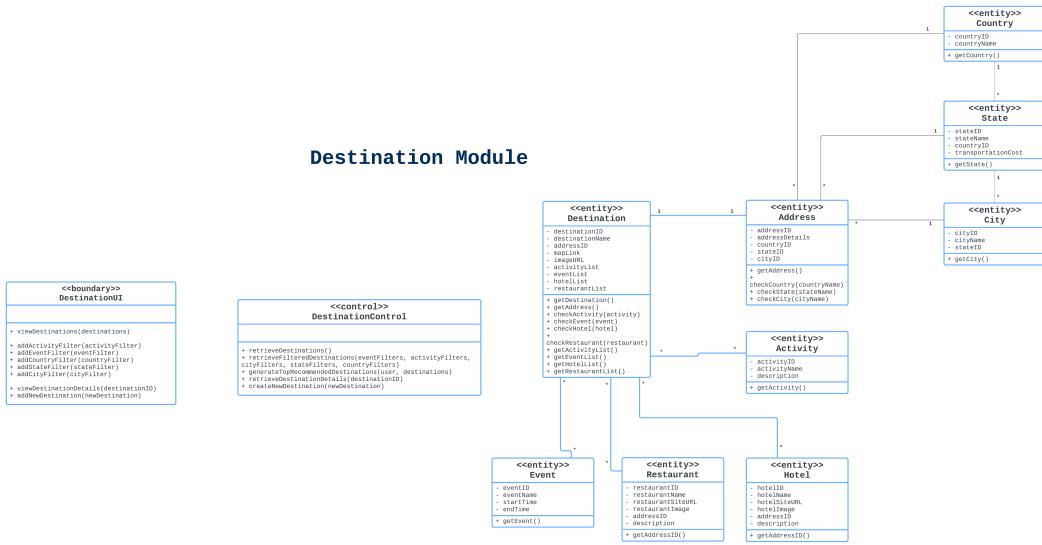


Figure 17: Class Diagram - Destinations

6.5 Destination Details

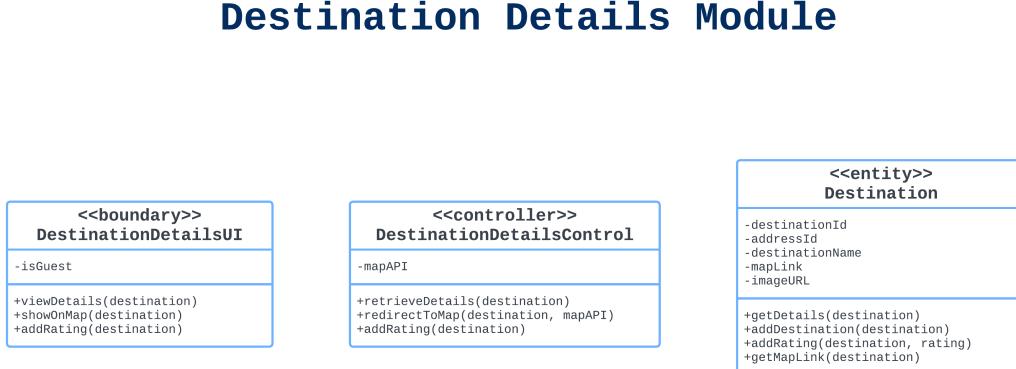


Figure 18: Class Diagram - Destination Details

6.6 Plans

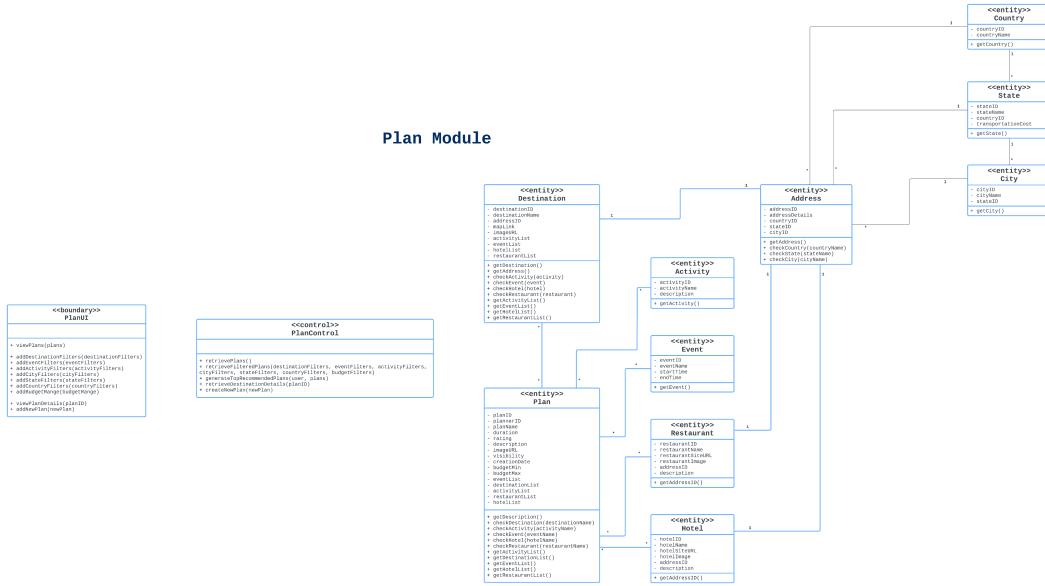


Figure 19: Class Diagram - Plans

6.7 Plan Details

Plan Details Module



Figure 20: Class Diagram - Plan Details

6.8 Customize Plan

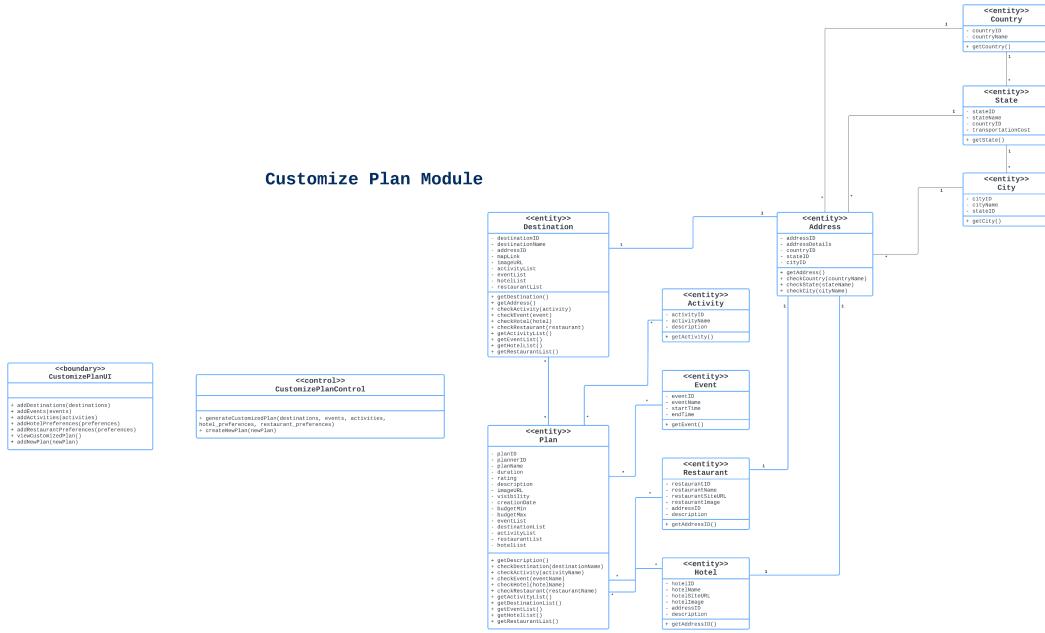


Figure 21: Class Diagram - Customize Plan

6.9 Tours

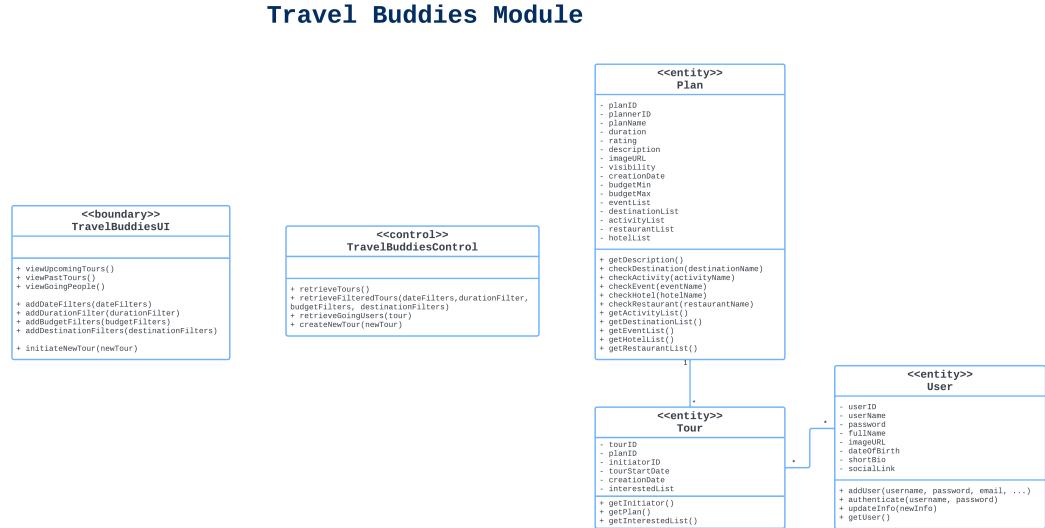


Figure 22: Class Diagram - Tours

7 Sequence Diagrams

7.1 Sign Up

User Sign-Up Module

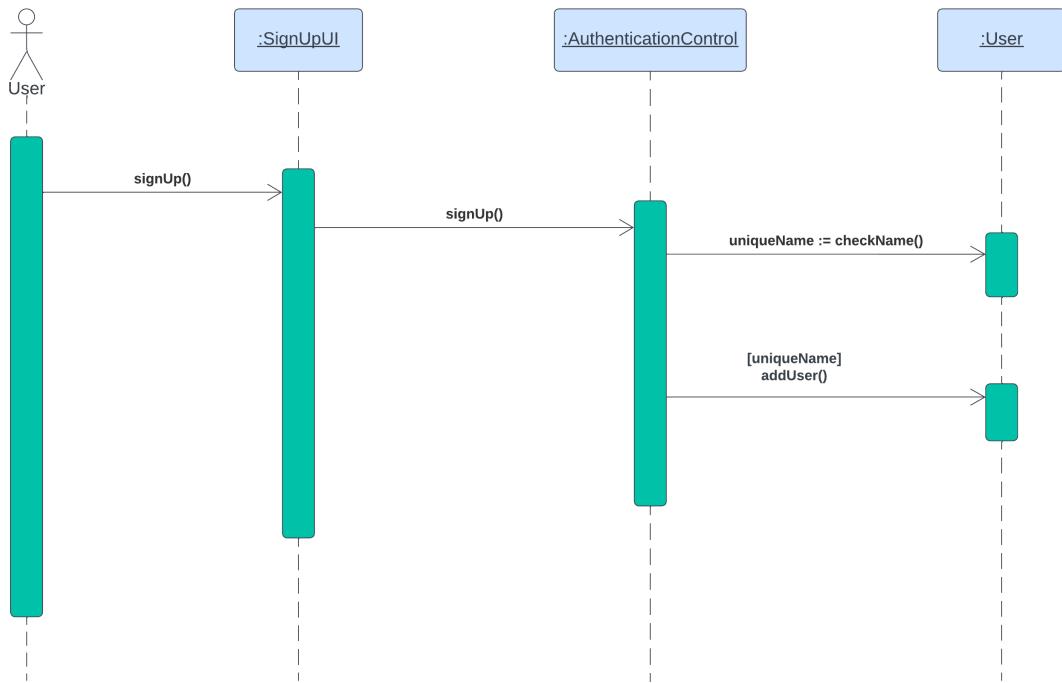


Figure 23: Sequence Diagram - Sign Up

7.2 User Login

User Login Module

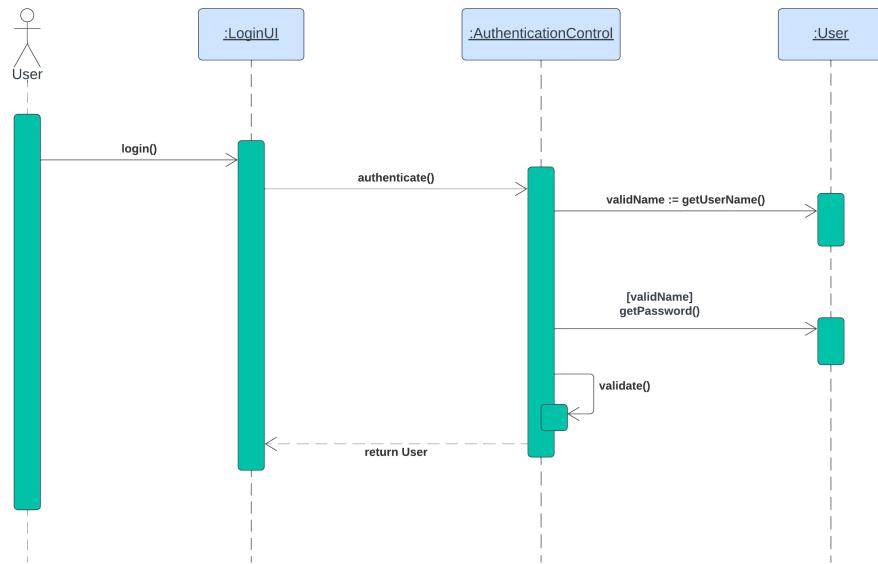


Figure 24: Sequence Diagram - User Login

7.3 Profile Dashboard

Profile Dashboard Module

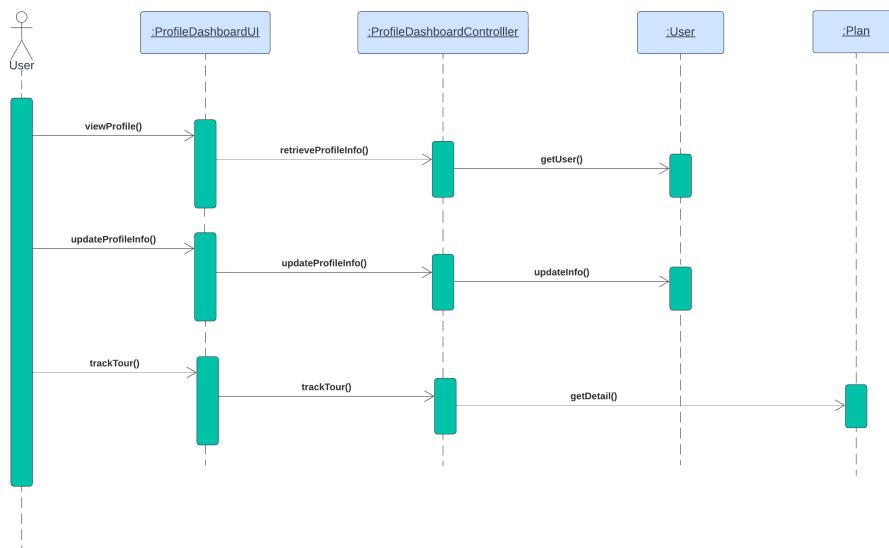


Figure 25: Sequence Diagram - Profile Dashboard

7.4 Destinations

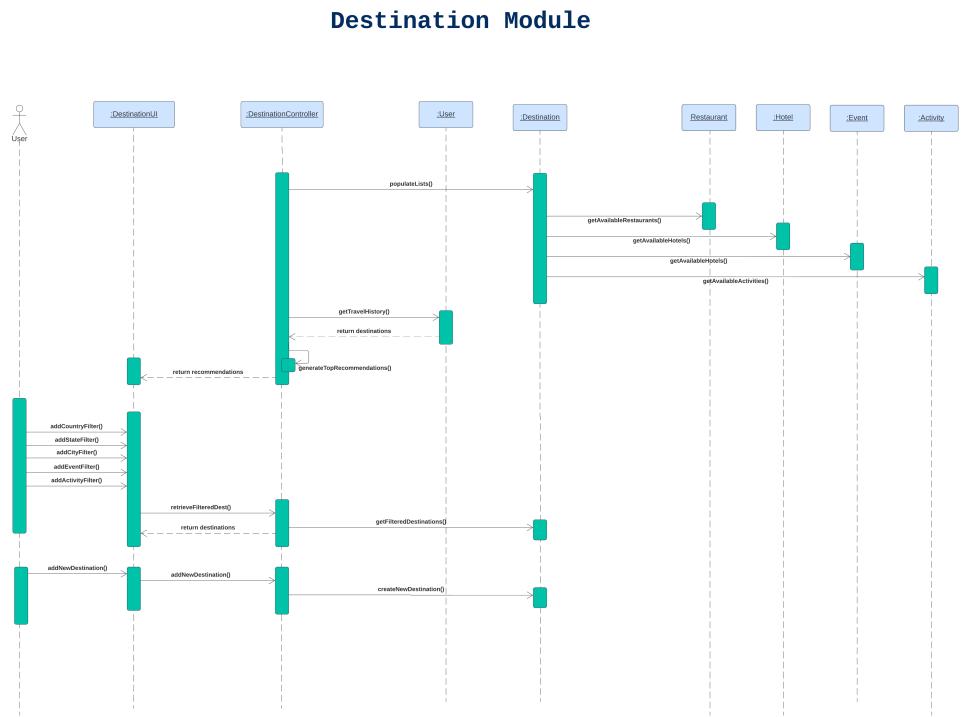


Figure 26: Sequence Diagram - Destinations

7.5 Destination Details

Destination Details Module

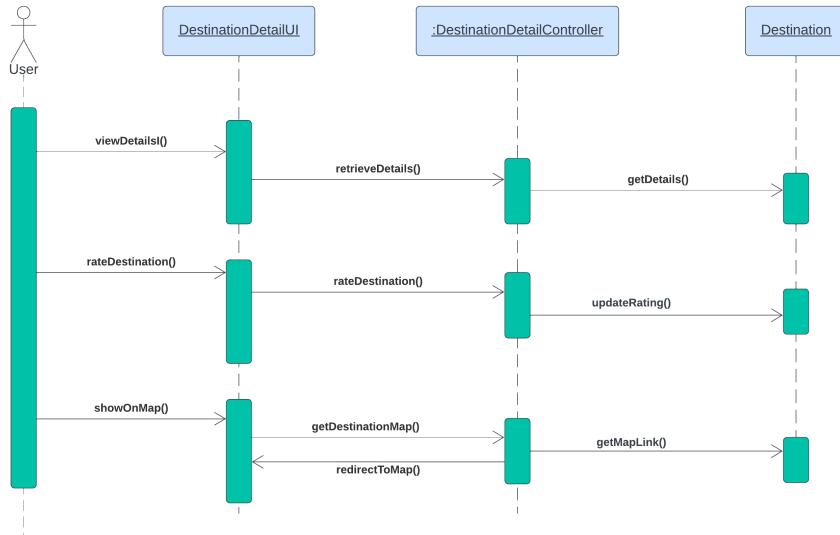


Figure 27: Sequence Diagram - Destination Details

7.6 Plans

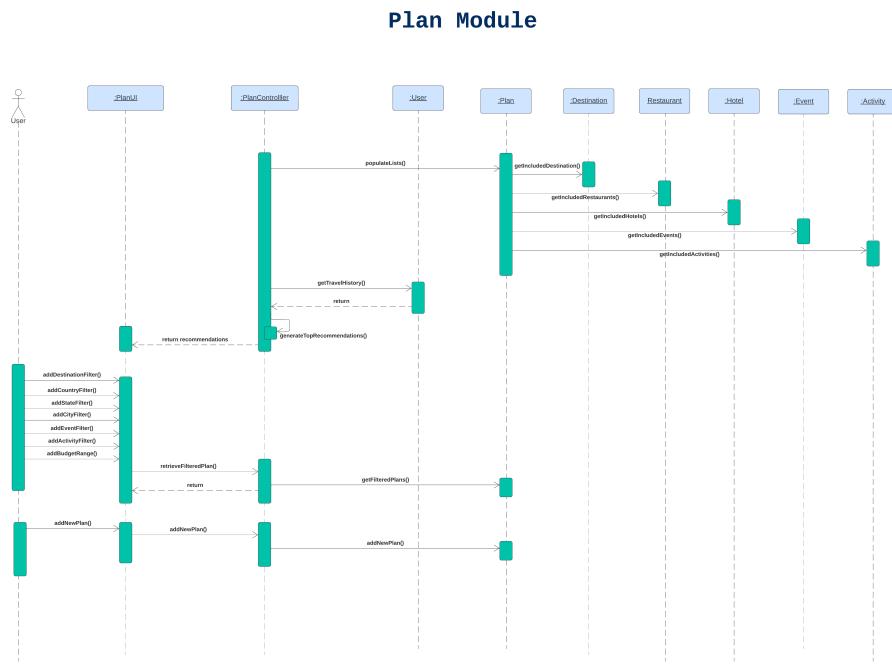


Figure 28: Sequence Diagram - Plans

7.7 Plan Details

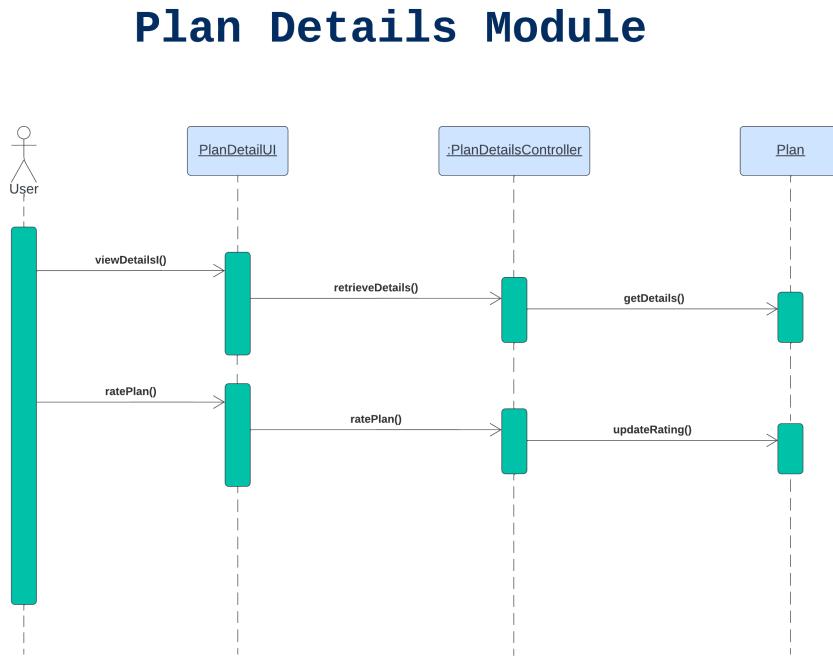


Figure 29: Sequence Diagram - Plan Details

7.8 Customize Plans

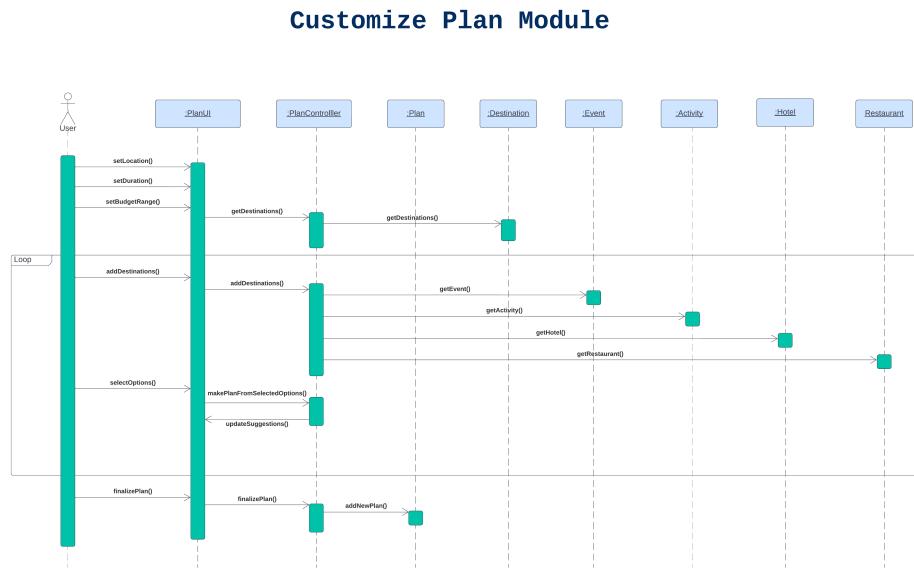


Figure 30: Sequence Diagram - Customize Plans

7.9 Tours

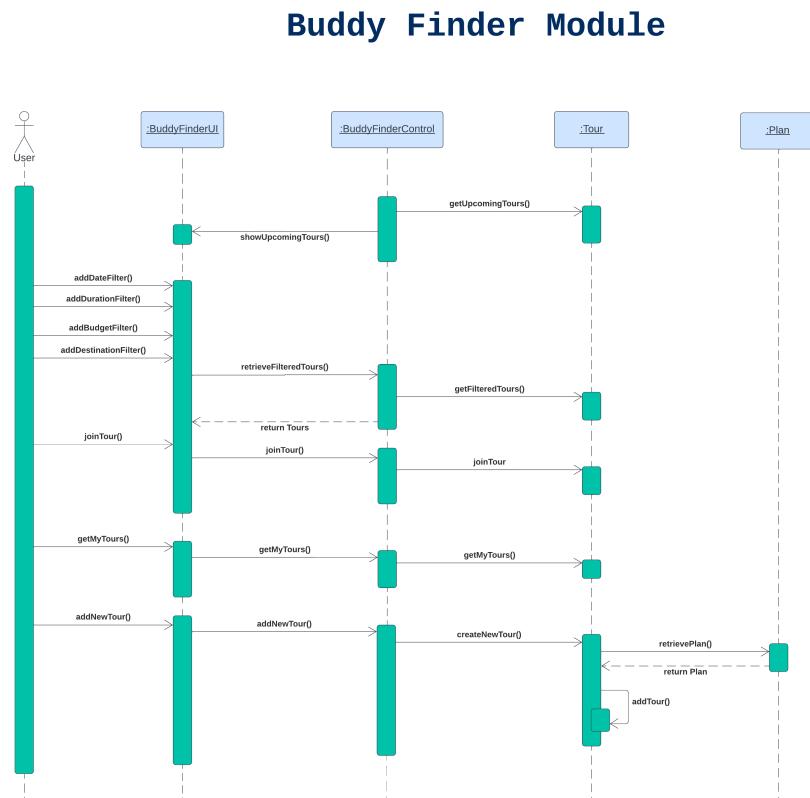


Figure 31: Sequence Diagram - Tours

8 Collaboration Diagrams

8.1 Feedbacks Acknowledged

- 'Actor' is replaced with the name of actor (i.e. User)

8.2 User Authentication

User Authentication Module

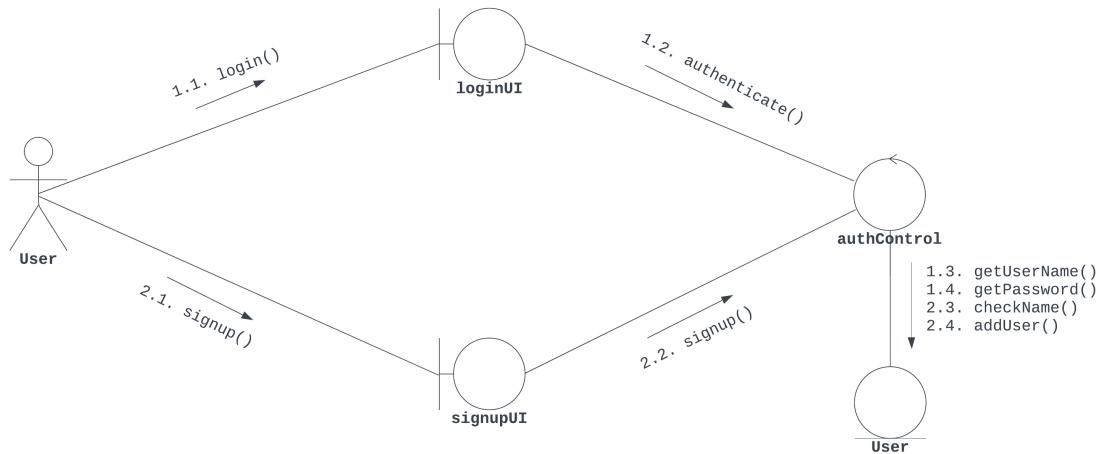


Figure 32: Collaboration Diagram - User Authentication

8.3 Profile Dashboard

Profile Dashboard Module

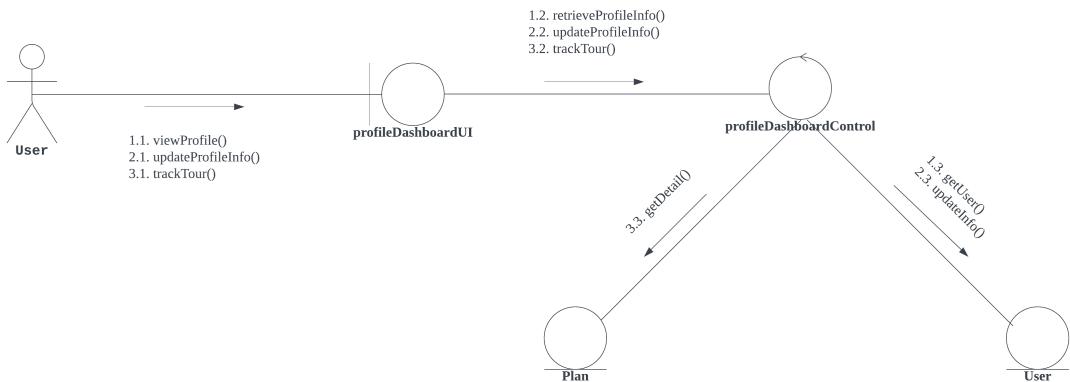


Figure 33: Collaboration Diagram - Profile Dashboard

8.4 Destinations

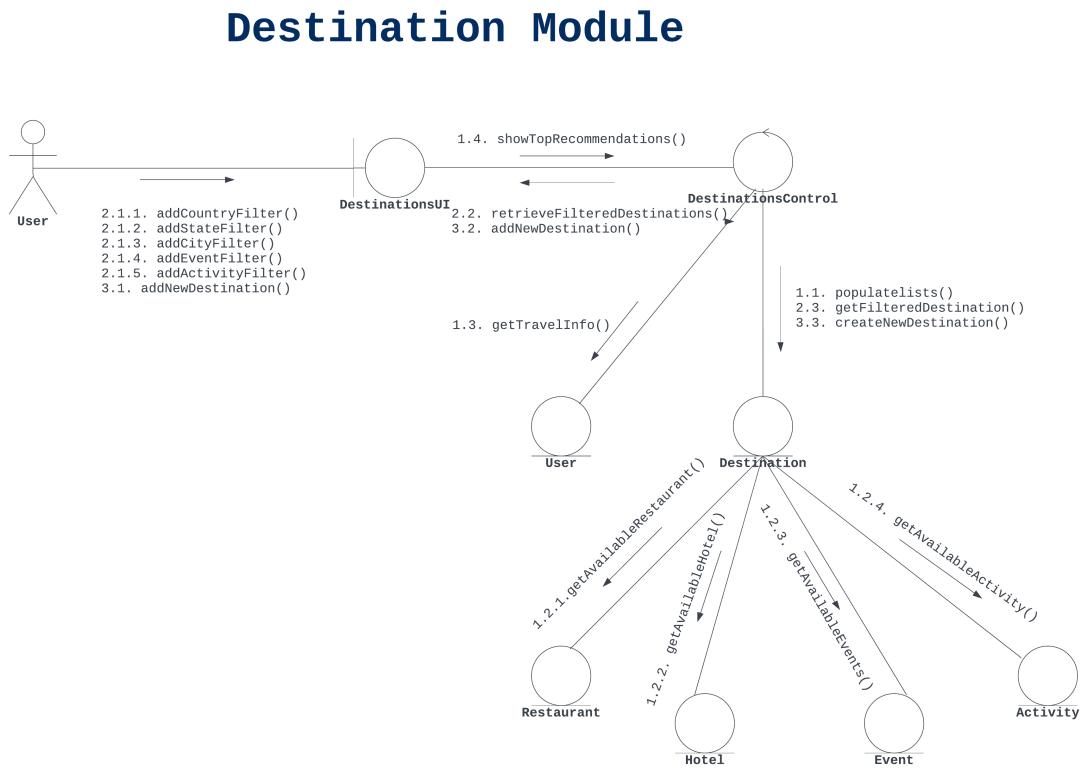


Figure 34: Collaboration Diagram - Destinations

8.5 Destination Details

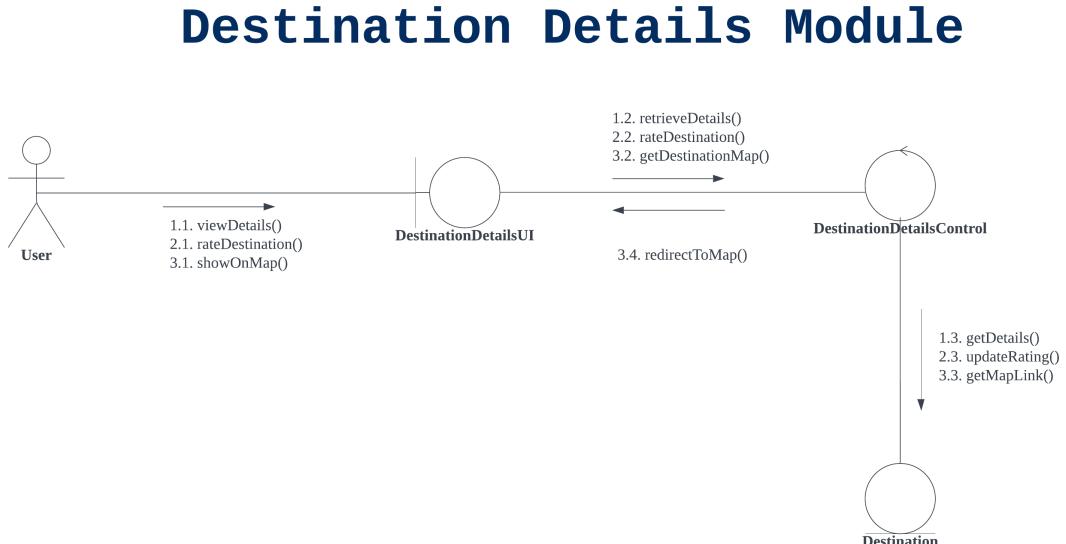


Figure 35: Collaboration Diagram - Destination Details

8.6 Plans

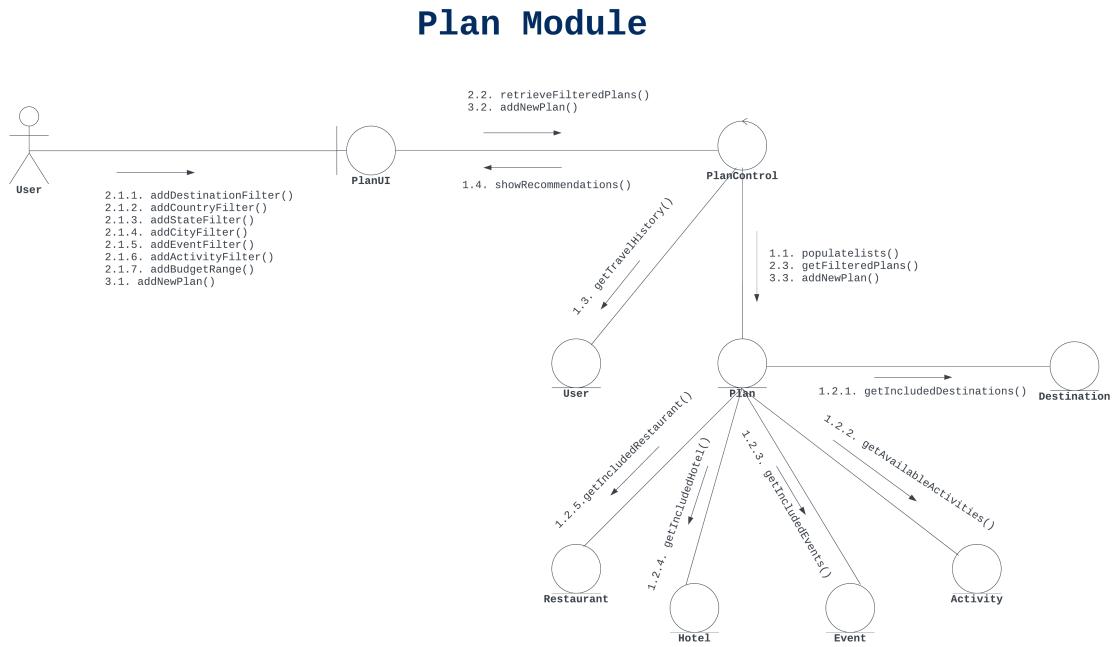


Figure 36: Collaboration Diagram - Plans

8.7 Plan Details

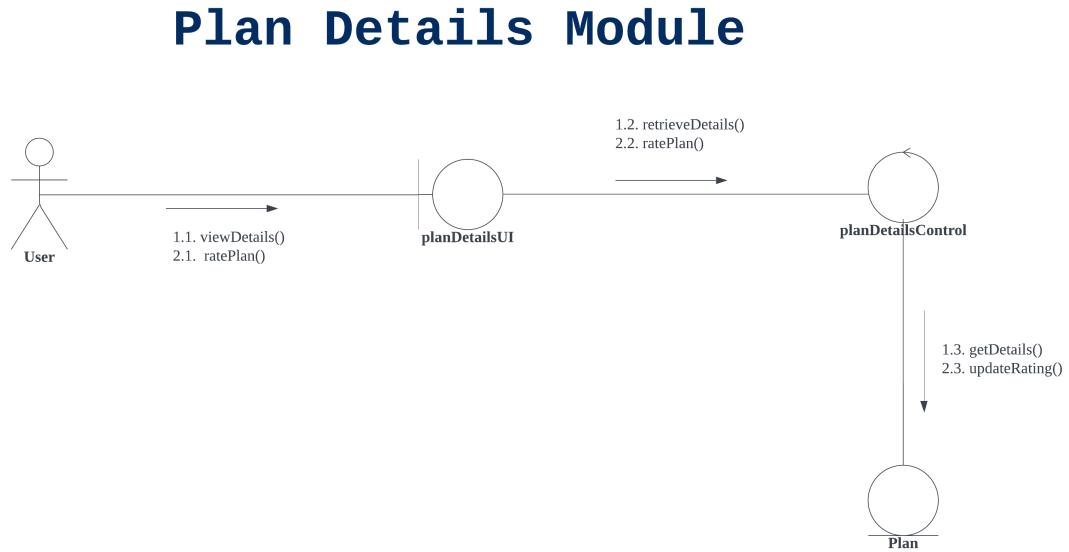


Figure 37: Collaboration Diagram - Plan Details

8.8 Customize Plan

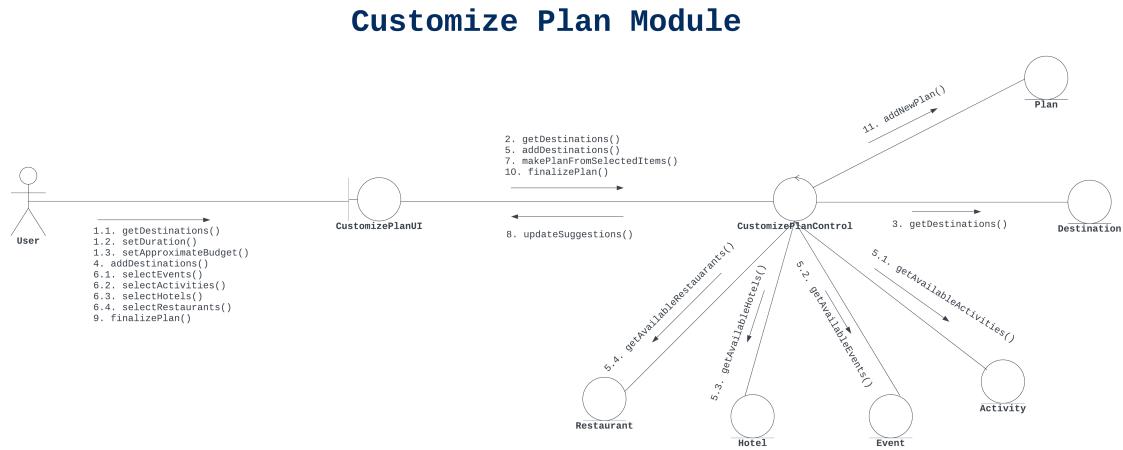


Figure 38: Collaboration Diagram - Customize Plan

8.9 Tours

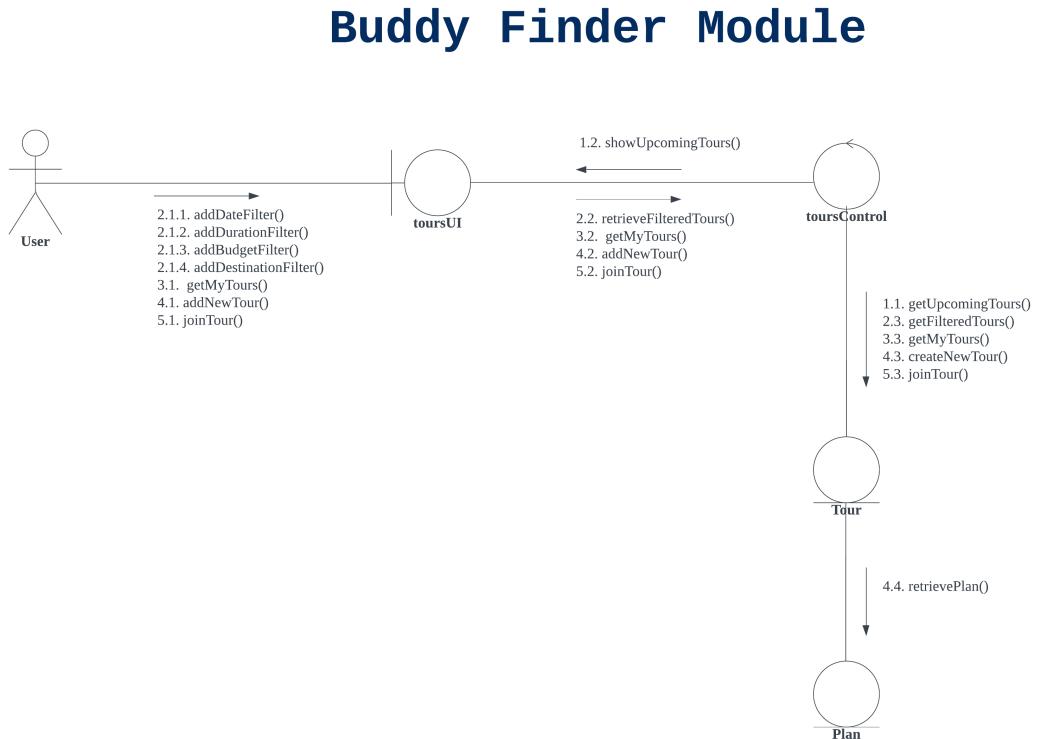


Figure 39: Collaboration Diagram - Tours

9 State Diagrams

9.1 Feedbacks Acknowledged

- Tour cancellation is shown

9.2 State Diagram for *Plan* Class

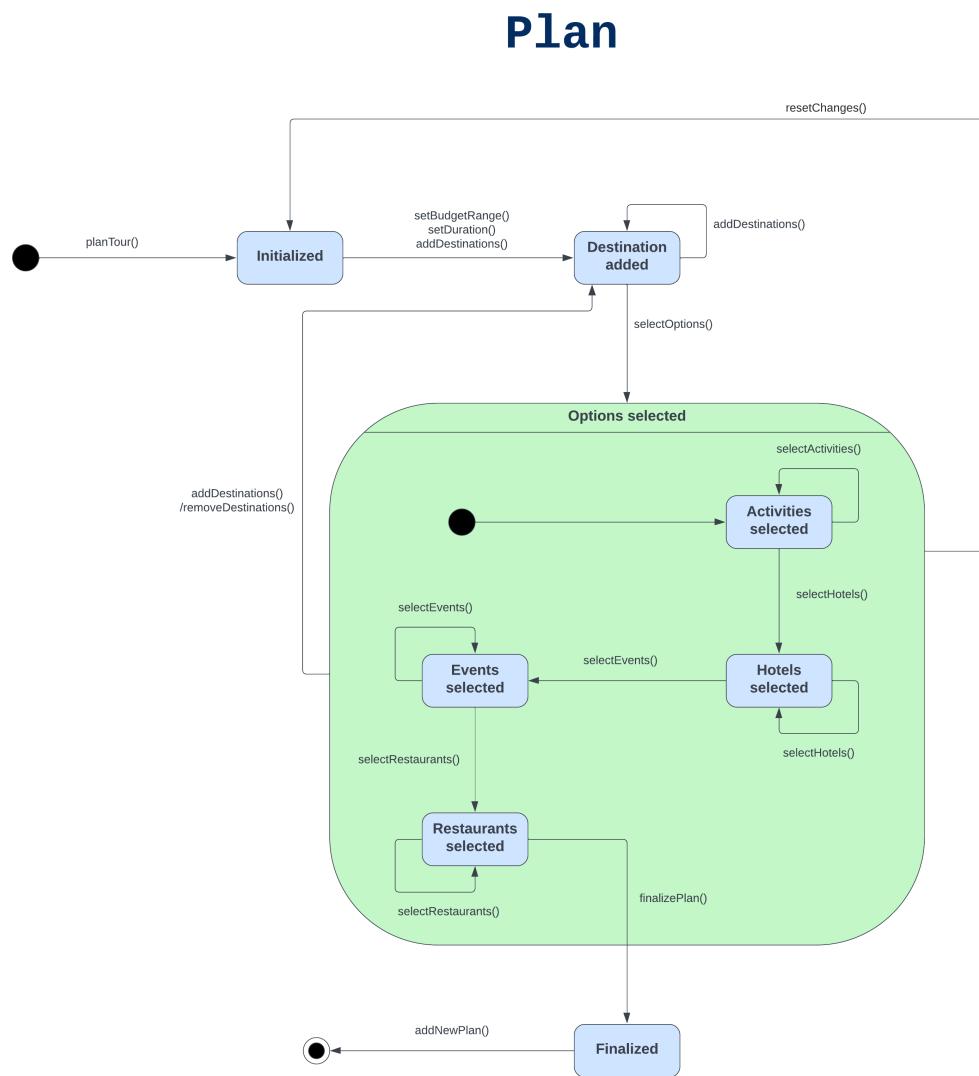


Figure 40: State Diagram for Plan Class

9.3 State Diagram for *Tour* Class

Tour

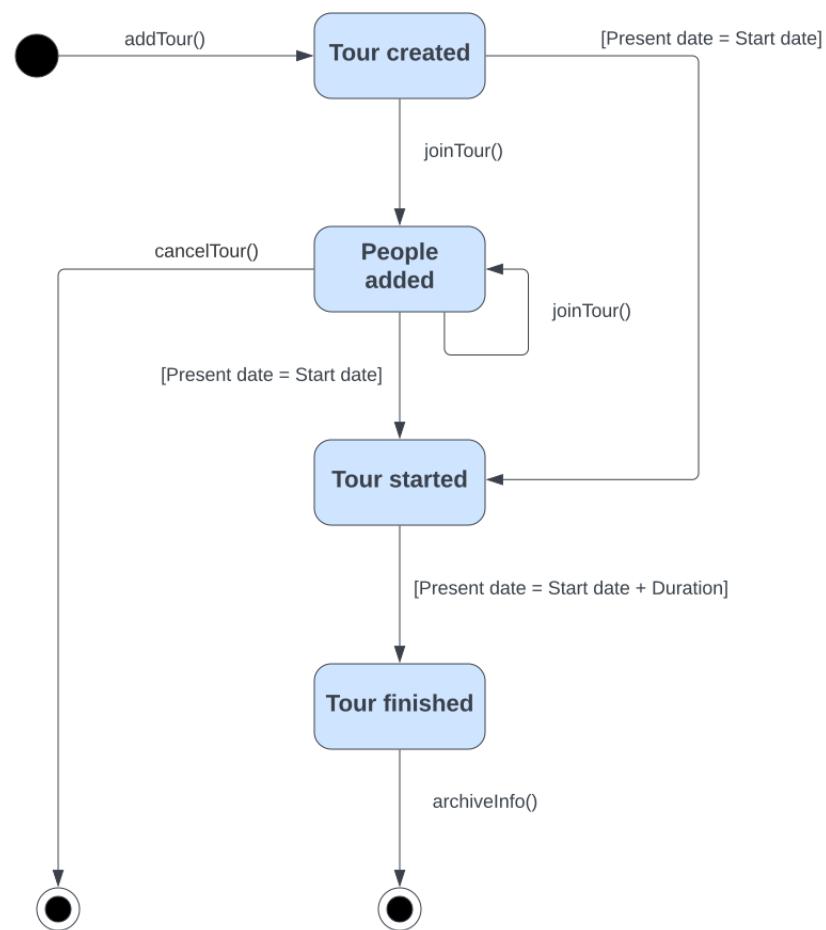


Figure 41: State Diagram for Tour Class

10 Partial Implementation

10.1 Implemented Use Case

- Dynamic Plan Generation

10.2 Snippets of the Implemented Pages

10.2.1 Home Page

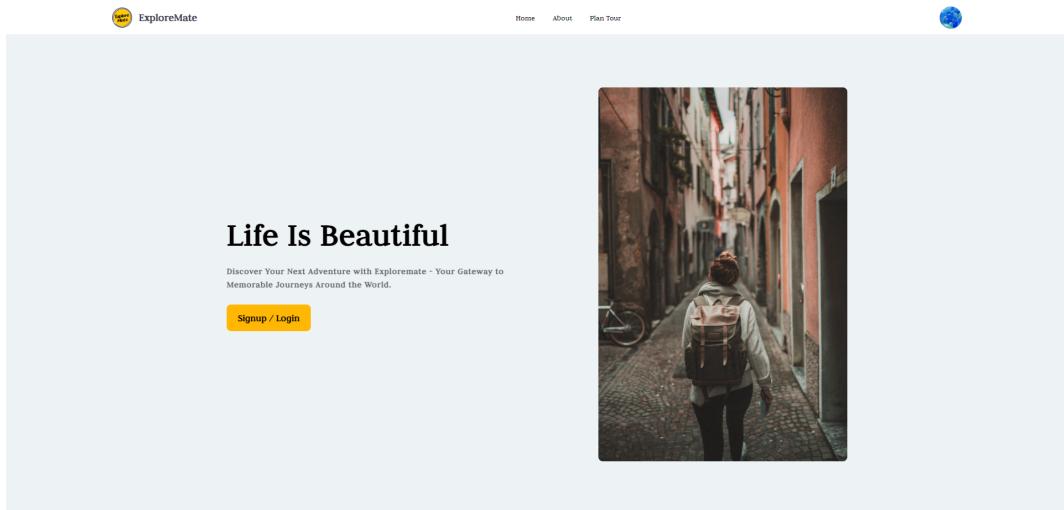


Figure 42: Home Page

10.2.2 Plan Initialization

A screenshot of a 'Plan Your Trip' form. The title 'Plan Your Trip' is centered at the top in a large, teal font. Below the title, there is a section for 'Where do you want to go to?' with two input fields containing 'Sylhet' and 'Sunamganj', each with a delete icon. Below these fields is a search bar with a magnifying glass icon and the placeholder text 'Search Cities'. Next, there is a section for 'When does your tour start?' with a date input field showing '09/23/2023'. Following this is a section for 'How many people will possibly go with you?' with a numeric input field set to '3' and two yellow '+' and '-' buttons. Finally, there is a section for 'Expected Duration of Tour (in days)' with a numeric input field set to '3' and two yellow '+' and '-' buttons. At the bottom center of the form is a large yellow 'Proceed' button.

Figure 43: Plan Initialization

10.2.3 Destination Page

The screenshot shows a destination page for various locations in Sylhet, Bangladesh. It includes a map of the region, a list of destinations with their details, and a search bar.

Map: Shows the location of Jaintia Hills, Jating, Umiam, and Umiam Lake in Meghalaya, India, relative to Sylhet and other nearby areas.

Destinations:

- Jugirkandi Mayabon**: Water forest in Gowainghat Upazila of Sylhet. Rating: 4.67, 873 Ratings. Duration: 0.8 hours, Cost: \$3.5.
- Jaintia Hills**: Located between tea gardens and hills, tourist hotspot of Sylhet. Rating: 4.2, 810 Ratings. Duration: 1.2 hours, Cost: \$30.
- Jaintia Hills**: Hill station, po... Rating: 4.2, 810 Ratings. Duration: 0.8 hours, Cost: \$30.
- Pailgaon Zaminder Bari**: Mansion located on the northern side of the Kalna river, on nearly 3.5 acre... Rating: 3.52, 722 Ratings. Duration: 1.2 hours, Cost: \$13.2.
- Khadimnagar National Park**: A protected area located in Sylhet, Bangladesh. It covers an area of 67... Rating: 3.58, 987 Ratings. Duration: 0.9 hours, Cost: \$45.4.

Search Bar: Search Destinations Show Suggestions

Figure 44: Destination Page

The screenshot shows a destination page for Jaintia Hills with its street view.

Top Destinations

Select the destinations you would like to include for your visit

Search Bar: Search Destinations Show Suggestions

Jaintia Hills: Located between tea gardens and hills, tourist hotspot of Sylhet. Rating: 4.2, 810 Ratings. Duration: 0.8 hours, Cost: \$45.4.

Proceed

Street View: Shows a person in a small boat navigating a rocky riverbank with lush green hills in the background.

Figure 45: A Destination with its Street View

10.2.4 Food Page

The screenshot shows a search interface for food preferences. A horizontal slider allows users to choose a price range from Low to High. Below the slider, a note says "Select the restaurants you would like to include in your trip. (Possibly None)". A search bar labeled "Search Restaurants" is followed by a "Show Suggestions" button. The results section displays ten restaurant cards, each with a thumbnail, name, website link, average rating (from 3.0 to 4.8 stars), and a note indicating "No description available". The restaurants listed are: Pach Bhai Restaurant, The Mad Grill, Inayah's Cafe, Kazi Asparagus Food Island, Arcadia Food Court, Palki Restaurant, Woondal, Cremo Coffee, and two unnamed entries with star ratings of 3.25 and 3.875.

Figure 46: Food Page

10.2.5 Accommodation Page

The screenshot shows a search interface for accommodation choices. A horizontal slider allows users to choose a room quality preference from 1 to 5. Below the slider, a note says "Depending on this, we will show you suggestions". The results section displays eight hotel cards, each with a thumbnail, name, website link, average rating (from 3.0 to 4.8 stars), and a note indicating "No description available". The hotels listed are: Grand Palace, Hotel Rose View, Nazimgarh Garden Resort, Nirvana Inn, Richmond Hotel, Britannia Hotel & Restaurant, Bottom Hill Palace Hotel, and All Season Lodge.

Figure 47: Accommodation Page

10.2.6 Event and Activity Page

The screenshot shows a travel planning interface. At the top, a navigation bar includes links for City, Destinations, Food, Accommodation, Events & Activities, and a user icon with '\$716'. Below the navigation, there are two main sections:

- Top Events to Attend:** A search bar labeled 'Search Events' and a 'Show Selections' button. Below is a thumbnail for the 'Manipuri raash festival' with a description: 'A significant number of Manipuri indigenous people live in both Syhet city and Moulvibazaar district...', a price range '\$1 - \$3', and dates from Thursday, November 30, 2023, to Thursday, November 30, 2023. It also indicates a duration of 1 hour.
- Top Activities to Explore:** A search bar labeled 'Search Activities' and a 'Show Selections' button. Below is a thumbnail for 'Boat Ride' with a description: 'Jadukata River, Sunamganj -- Embarking on a boat ride along the meandering waters of the Jadukata Ri...', a price range '\$0.5 - \$1.25', and a duration of 0.75 hours.

A large yellow 'Finalize' button is located at the bottom center of the page.

Figure 48: Event and Activity Page

10.2.7 Final Plan Page

The screenshot shows a 'Tour Plan' section on the left and a map on the right.

Tour Plan:

- Day 1: 22-8-2023**
 - 08:00 - 08:30**: **Britannia Hotel & Restaurant** (\$48). Description: Take complimentary breakfast in the hotel.
 - 09:52 - 12:16**: **Sadapather** (\$6.01). Description: Enjoy your time at Sadapather and complete Boat Ride. Travel time: 1 hours 20 minutes. Travel cost: \$3.66.
 - 13:40 - 14:40**: **Woondal** (\$8.99). Description: Take lunch in Woondal. Travel time: 1 hours 56 minutes. Travel cost: \$3.79.
 - 16:22 - 17:10**: **Lalakhali** (\$25.06). Description: Enjoy your time at Lalakhali. Travel time: 1 hours 51 minutes. Travel cost: \$4.36.

Map: A detailed map of the region showing various locations, roads, and landmarks. Red dots mark the starting point ('Sadapather') and ending point ('End of the trip'). The total cost for the trip is listed as '\$148.06'.

Figure 49: Final Plan Page

10.3 Technology Stack

- **Database:** PostgreSQL
- **Database Hosting:** SupaBase
- **Backend:** ExpressJS
- **Frontend:** SvelteKit and Tailwind CSS
- **Hosting for Frontend and Backend:** Vercel
- **External APIs:** Google Maps API, Mapbox

10.4 Links

- [Site link](#)
- [Frontend Repository](#)
- [Backend Repository \(Local\)](#)
- [Backend Repository \(Hosted\)](#)

10.5 Feedbacks for Future Modifications

- Giving alternative options for users to choose on different decision points
- Adding scope for personalized plans (e.g. according to user's age, medical condition etc.)