

Personalized Travel Plan Generator

Problem Statement

People often struggle with planning their trips. With numerous options for flights, accommodations, and activities, users need a solution that creates a personalized travel plan based on their preferences, budget, and interests.

Business Case

Travel agencies and planning apps struggle with providing a truly **personalized experience**. By automating the itinerary generation process and providing recommendations tailored to user preferences (like activity type, budget, or location), this system can help users create efficient, enjoyable travel plans.

Scope

- **Users:** Tourists, solo travelers, and families.
- **Features:**
 - Personalized travel plans based on preferences.
 - Integration with **Web APIs** for accommodation, flight data, and activities.
 - User authentication and profile management using **JWT**.
 - Suggestions for activities, hotels, and restaurants. Budget
 - management feature.

Goals

- Provide users with a fully personalized travel plan.
- Allow users to input preferences such as budget, location, duration, and activity type. Integrate multiple
- **Web APIs** for real-time travel data (e.g., flights, accommodations, tourist attractions).
Support user login and profile management via **JWT authentication**.

SDLC Model

we are going to use Waterfall because it will give us a **structured, focused approach** to tackle the project, ensuring we complete each phase sequentially and meet deadlines efficiently.

Functional Requirements

1. **User Input:** Allow users to input travel preferences (destination, budget, duration, etc.).
2. **plan Generation:** Based on inputs, generate suggestions for accommodations, flights, activities.
3. **User Authentication:** Implement **JWT authentication** for profile management.
4. **Data Integration:** Use **Web APIs** for real-time data on hotels, flights, etc.
5. **Budget Calculation:** Automatically calculate the estimated cost of the trip based on selections.

System Use Case Diagram

1. **User** (interacts with the system through login).
2. **System** (generates personalized travel plan).
3. **Web APIs** (provide data like flights, accommodations, and activities).

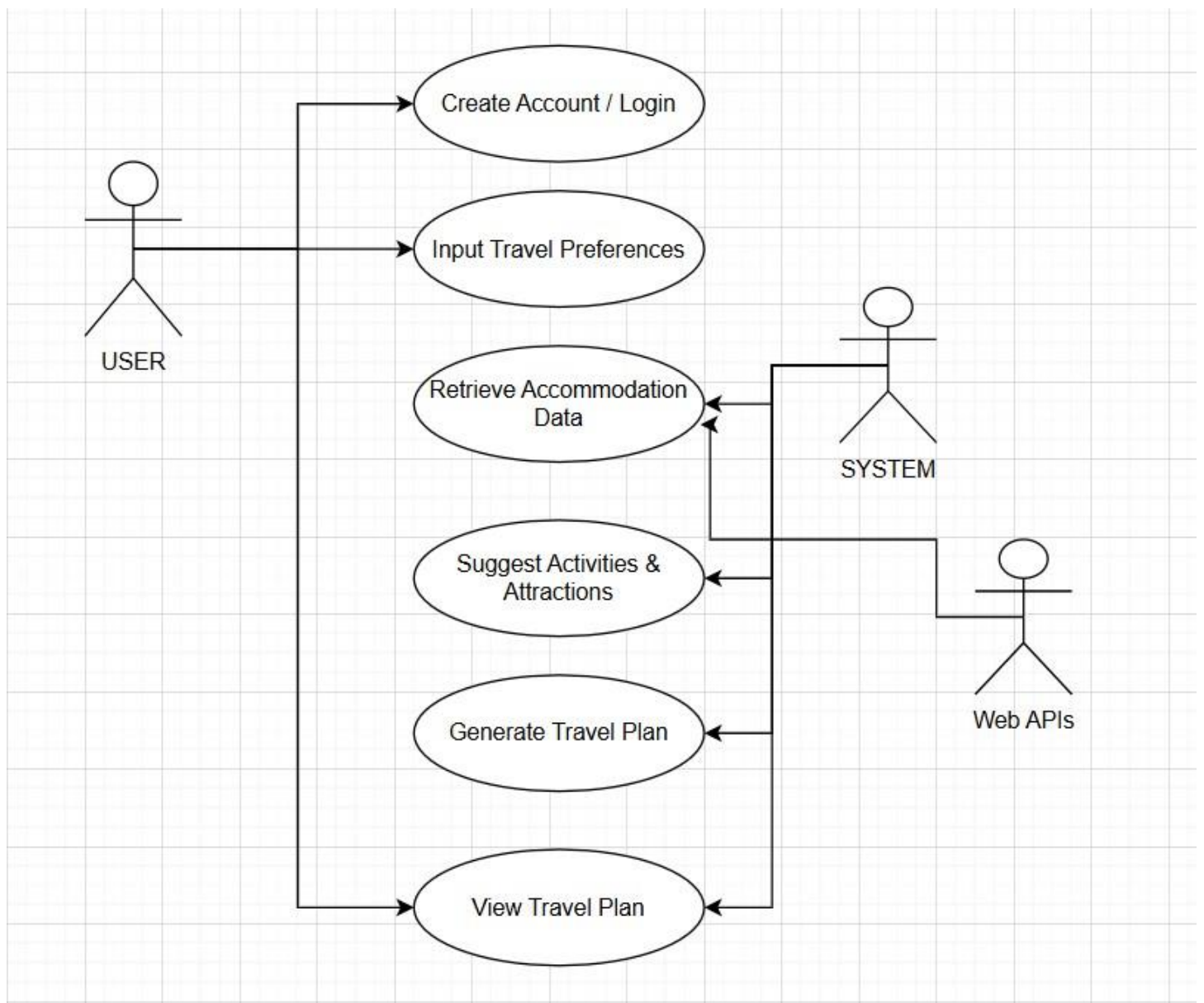


figure 1: Use case for the travel plan generater

UI Mockup

- **Home Page:** Where users input their preferences.
- **Result Page:** Display generated travel plan with accommodations, activities, and budget breakdown.

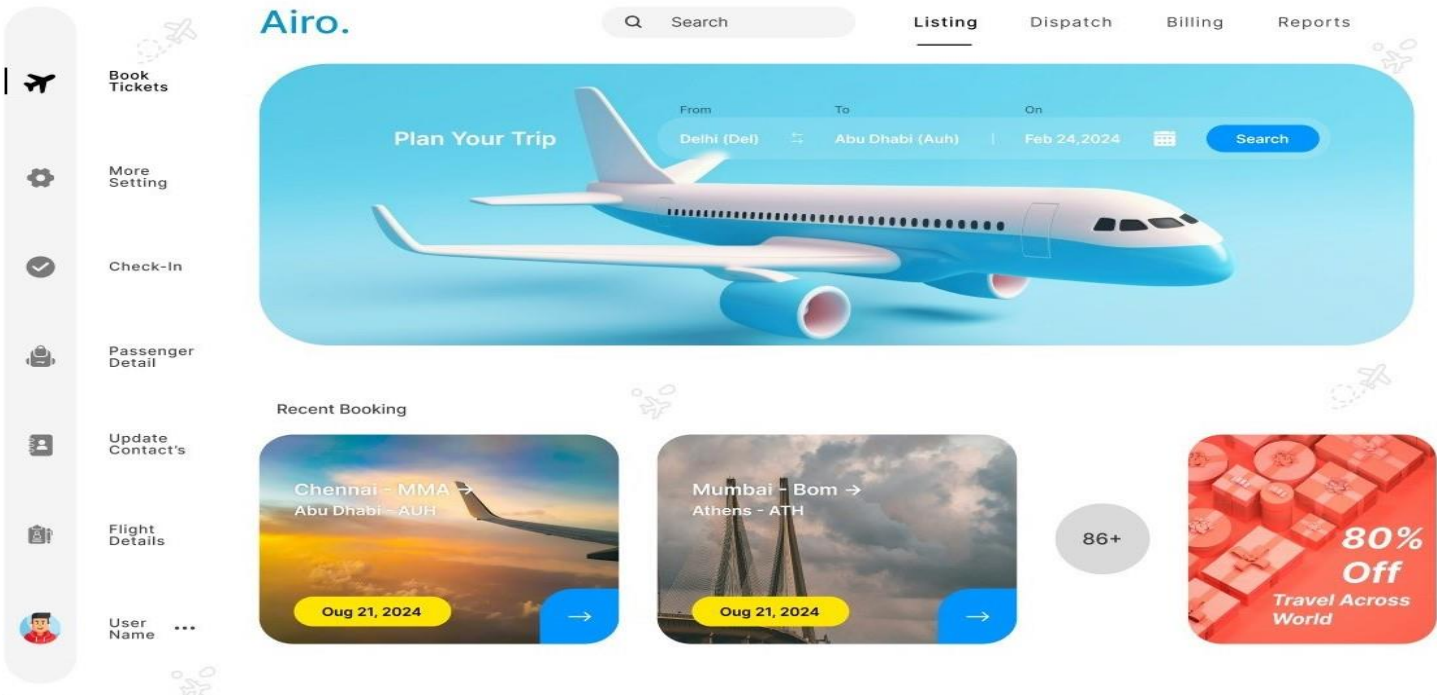


figure 2: UI mock up for the travel plan generater

Gantt Chart

Break down the project into manageable tasks (e.g., setup, API integration, UI development, testing) and assign timelines for each.



figure 3: Gantt Chart for the travel plan generater

