

Final Project Proposal

Proposal:

Project Participants:

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Title:

Vacation Planner

Executive Summary:

The Vacation Planner is an online tool that helps people plan their holidays. It uses a RESTful Web API and lets users look through many vacation spots, get details about them, and choose their favorites. They can then make a custom vacation plan that includes many spots and the dates they want to visit.

This project uses Spring Boot and MySQL to save and manage data. It lets users make, read, edit, and delete data, giving them a smooth and easy experience. It supports both one-to-many and many-to-many relationships between data, making the system more powerful. Overall, the Vacation Planner is aimed at making holiday planning easy and fun.

Planned Features

- User Registration & Login: Users can create an account and log into the system.
- User Profile Management: Users can update their details and delete their account.
- Destination Management: Users can browse all destinations, view details of a single destination, and mark destinations as favorites.
- Itinerary Creation: Users can create, view, update, and delete itineraries.
- Itinerary-Destination Association: Users can add or remove destinations from their itineraries.

API Endpoints

1. User Registration & Login:

- **POST** /users: create a new user.
- **POST** /login: authenticate a user.

2. User Profile Management:

- **GET** /users/{id}: get user details.
- **PUT** /users/{id}: update user details.
- **DELETE** /users/{id}: delete a user account.

3. Destination Management:

- **GET** /destinations: retrieve all destinations.
- **GET** /destinations/{id}: retrieve a single destination.
- **POST** /users/{id}/destinations: mark a destination as a favorite for a user.

4. Itinerary Creation:

- **POST** /users/{id}/itineraries: create a new itinerary for a user.
- **GET** /users/{id}/itineraries: retrieve all itineraries for a user.
- **GET** /users/{id}/itineraries/{itineraryId}: get details of a single itinerary.
- **PUT** /users/{id}/itineraries/{itineraryId}: update a user's itinerary.
- **DELETE** /users/{id}/itineraries/{itineraryId}: delete a user's itinerary.

5. Itinerary-Destination Association:

- **POST** /users/{id}/itineraries/{itineraryId}/destinations: add a destination to a user's itinerary.
- **DELETE** /users/{id}/itineraries/{itineraryId}/destinations/{destinationId}: remove a destination from a user's itinerary.

Stretch Goals (to be completed if time allows, or after graduation):

1. Recommendation System: You could add a recommendation system that suggests destinations to users based on their previous itineraries or favorite destinations. This could use a simple rule-based approach or more complex machine learning techniques, which would likely require some research.
2. User Reviews and Ratings: Enable users to rate and review destinations. This feature would involve adding a new entity for Reviews, linked to both Users and Destinations, and could include functionality to browse reviews by user or destination, add a new review, or update or delete a user's own reviews.
3. Social Features: You could allow users to share their itineraries with others, follow other users, or see others' shared itineraries. This would involve significant updates to the user and itinerary entities and potentially the creation of new entities for following/followers and shared itineraries.