

AI Trip Planner - Project Documentation

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1. Introduction

The AI Trip Planner is a web application that helps users plan trips by selecting their destination, duration, budget, and travel companions. The AI then generates a detailed itinerary, including recommended hotels, attractions, and estimated costs. This application is built using React.js, with Google Cloud's Mini API for AI-driven trip recommendations.

2. Features

✓ **Personalized Trip Planning** – Users can input their preferences, and the AI generates a custom itinerary. ✓ **AI-Powered Recommendations** – Provides hotel, attraction, and budget suggestions. ✓ **Real-time Data Fetching** – Uses APIs for dynamic travel recommendations. ✓ **User-friendly Interface** – Built with a clean UI using Tailwind CSS. ✓ **Secure Data Storage** – Firebase is used to store trip details.

3. Tech Stack

- **Frontend:** React.js (Vite)

- **Backend:** Google Cloud's Mini API (AI-powered recommendations)
- **Database:** Firebase
- **Styling:** Tailwind CSS

4. Installation Guide

Prerequisites:

- **Node.js** installed
- **Firebase** account setup
- **Google Cloud API** access

Steps:

1. **Clone the repository:**
2. **git clone https://github.com/your-repo/ai-trip-planner.git**
3. **cd ai-trip-planner**
4. **Install dependencies:**
5. **npm install**
6. **Configure Firebase:**
 - **Create a Firebase project.**
 - **Set up Firestore Database.**
 - **Add Firebase config to .env.**
7. **Start the development server:**
8. **npm run dev**

5. Project Structure

ai-trip-planner/

```
|— public/    # Static assets
|— src/      # Source code
```

- | |— components/ # Reusable UI components
- | |— pages/ # App pages (Home, Planner, Results)
- | |— hooks/ # Custom React hooks
- | |— services/ # API handling logic
- | |— styles/ # Tailwind CSS configurations
- | |— App.js # Main application file
- |— .env # Environment variables
- |— package.json # Dependencies

6. API Integration

The app integrates Google Cloud's Mini API to fetch AI-powered recommendations:

- Endpoint: <https://api.googlecloud.com/trip-planner>
- Request Format:
 - {
 - "destination": "Paris",
 - "days": 5,
 - "budget": 1000,
 - "companions": 2
 - }
- Response Format:
 - {
 - "hotels": ["Hotel A", "Hotel B"],
 - "places_to_visit": ["Eiffel Tower", "Louvre Museum"],
 - "estimated_cost": 900

- }

7. Usage Guide

- 1. Select a Destination:** Enter the city or country you want to visit.
- 2. Customize Your Plan:** Choose the duration, budget, and number of travelers.
- 3. AI Generates Itinerary:** The app will display recommended hotels, attractions, and estimated costs.
- 4. Save & Share:** Users can save the plan in Firebase and share it with friends.

8. Future Enhancements

- **Flight Booking Integration** – Connect with Skyscanner API for real-time flight deals.
- **Multi-Destination Support** – Plan trips with multiple cities.
- **User Reviews & Ratings** – Allow users to rate recommendations.
- **Offline Mode** – Enable trip access without internet.

9. Conclusion

The AI Trip Planner is an innovative tool that simplifies travel planning using AI and automation. Built with React.js, Google Cloud APIs, and Firebase, it offers a seamless experience for travelers looking for optimized and AI-curated itineraries.