Epic Spec Sheet: Collaborative Itinerary Feature

1. Introduction

The **Collaborative Itinerary Feature** in Google Travel aims to streamline group trip planning by allowing users to create, share, and collaboratively edit itineraries within a single platform. The feature will reduce reliance on multiple apps for trip planning, enabling seamless integration with Google Travel. Users will be able to **share** and **invite** others to contribute to the itinerary, **drag and drop** travel components (flights, stays, activities), and eventually leverage **Gemini AI** to generate and refine trip plans. The goal is to enhance efficiency, reduce friction in group coordination, and improve overall travel planning experience.

2. Product Requirements

Phase 1: Core Collaboration Features

Share & Invite:

- Users can **invite** others (via email, link, or Google contacts) to collaborate on a shared itinerary.
- Permissions: **Owner, Editor, Viewer** roles.
- Live **real-time updates** for changes made by any collaborator.
- Version history to track and restore previous itinerary states.

Drag & Drop Functionality:

- Users can **drag** elements such as flight details, hotel bookings, and activities from the **Explore page** to the itinerary **split-screen view**.
- Users can **reorder** and **categorize** itinerary items (e.g., Day 1, Day 2, etc.).
- Items from different Google Travel services (Flights, Hotels, Maps, Recommendations) should be **interoperable** in the itinerary page.

Phase 2: AI Assistance (Future Implementation)

- Gemini AI **suggests** optimized itineraries based on user preferences, past trips, and real-time data (weather, events, price changes).
- AI-powered **auto-fill** feature that populates itineraries with suggested activities and timelines.
- AI adjusts recommendations based on group preferences and real-time constraints.

3. Design Requirements

User Flow:

1. **Access Itinerary:** Users navigate to the "Itinerary" section within Google Travel.
2. **Share & Invite:** Users click “Invite Collaborators” and select sharing method (email, link, contacts).
3. **Split-Screen View:**
    - **Left Panel:** Google Travel Explore page with search results for flights, hotels, and activities.
    - **Right Panel:** Interactive itinerary where users drag and drop elements.
4. **Drag & Drop Mechanics:**
    - Flights, hotels, and activities **snap into predefined sections** (Morning, Afternoon, Evening).
    - Items can be **reordered** or deleted with a long press.
5. **Collaboration UI:**
    - Profile pictures of collaborators show in real-time.
    - Color-coded indicators display **who made changes**.
    - Undo/redo button for quick modifications.
6. **Finalization & Sharing:** Users can **export** itineraries (PDF, Google Docs, Calendar Sync) or continue to modify collaboratively.

4. Engineering Requirements

(To be further detailed by the technical team)

Backend:

- Cloud-based architecture to enable **real-time collaboration**.
- Google Accounts integration for **authentication and sharing**.
- **Data sync across devices** to ensure itinerary updates persist.

Frontend:

- **Drag-and-drop UI framework** compatible with both web and mobile.
- Split-screen interface for smooth **cross-page interactions**.
- Real-time event listeners for **live updates** on shared itineraries.

AI Integration (Future Phase)

- APIs for **Gemini AI recommendations** and itinerary auto-fill.
- Machine learning model to **analyze past user behavior** for trip suggestions.
- NLP-powered chatbot for **conversational itinerary modifications**.