Date	11 February 2026
Team ID	LTVIP2026TMIDS77372
Project Name	Explore with AI: Custom for Your Next Journey
Maximum Marks	2 Marks

Solution Architecture:
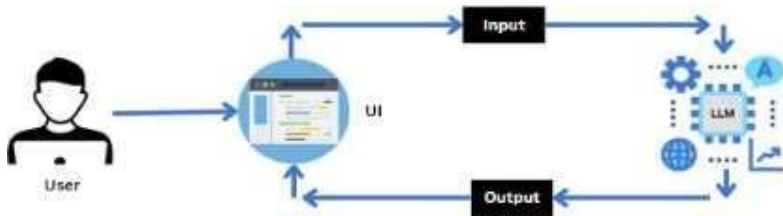
1. Overview

Explore with AI is a web and mobile-based platform that allows users to enter travel preferences (destination, duration, interests) and receive a **personalized, AI-generated travel itinerary**. The system is designed for simplicity, speed, and scalability.

2. High-Level Components

A. User Interface (Frontend)

- **Technology:** Streamlit (Python) or React.js for web/mobile interface
- **Functionality:**
    - Input fields for destination, trip duration, and preferences/interests
    - Submit button to generate itinerary
    - Display of AI-generated itinerary in a structured, day-wise format
    - Options to review, customize, or export itinerary (PDF/Text)
    - Display user-friendly error messages

B. API Layer / Backend

- **Technology:** Python (Flask/FastAPI)
- **Functionality:**
    - Receives user input from frontend

- o Validates inputs (destination, dates, preferences)
- o Handles requests to the AI model
- o Returns structured itinerary results to frontend

C. AI Engine

- **Technology:** Gemini Pro LLM / OpenAI GPT / other generative AI model
- **Functionality:**
  - o Processes input parameters (destination, duration, interests)
  - o Generates detailed day-wise itinerary including:
    - ▪ Attractions and sightseeing
    - ▪ Local dining recommendations
    - ▪ Suggested activities and timing
    - ▪ Travel tips and optional hidden gems
  - o Ensures structured output for easy rendering on frontend

D. Data Layer (Optional)

- **Technology:** Cloud database (MongoDB/PostgreSQL)
- **Functionality:**
  - o Stores predefined destination data (optional)
  - o Stores user-generated itineraries (if history/export feature is implemented)
  - o Logs analytics for system monitoring

E. Export & Reporting Module

- **Functionality:**
  - o Convert itinerary to PDF or downloadable formats
  - o Copy/export to clipboard
  - o Optional integration with email or messaging for sharing

3. Key Features of Architecture

- **Modular Design:** Frontend, backend, AI engine, and data layer are loosely coupled.
- **Scalable:** Can handle more destinations, multiple users, and AI requests simultaneously.
- **Extensible:** Future features can include multi-destination planning, travel booking integrations, or content generation for blogs.
- **Simple Workflow:** Focused on **input → AI processing → output**, minimizing user friction.