AI-Powered Travel Itinerary Generator Project Documentation

1. Project Title

AI-Powered Travel Itinerary Generator using Google Gemini & Streamlit

2. Project Description

This project is a web-based intelligent application that generates personalized day-wise travel itineraries based on user inputs like destination, number of days, and nights.

3. Technologies Used

Python, Streamlit, Google Gemini API, Prompt Engineering

4. Objectives

• Build a working Generative AI application
• Integrate external LLM API
• Provide fast and clean UI
• Make GitHub-ready project

5. System Workflow

User Input → Streamlit UI → Python Backend → Gemini API → AI Response → Output Display

6. Functional Requirements

• Accept destination input
• Generate itinerary
• Display result

7. Non-Functional Requirements

• Fast response
• Simple UI
• Secure API key handling

8. Environment Setup

python -m venv venv
pip install streamlit google-generativeai python-dotenv

9. Project Structure

app.py
requirements.txt
.env (not uploaded)

10. Testing

Tested with multiple destinations and validated output generation.

11. Advantages

• Saves time
• Personalized travel plans
• Easy to use

12. Limitations

• Requires internet connection
• No booking integration

13. Future Enhancements

• Budget-based planning
• Hotel & flight integration
• Map integration

14. Conclusion

This project demonstrates how Generative AI can automate real-world tasks like travel planning and can be extended into a full-scale intelligent travel platform.