

Internship Project Details: AI Trip Planner

Project Title:

"AI-Powered Trip Planner with Generative AI Integration"

Project Objective:

To develop an intelligent trip planning application using generative AI models, capable of creating personalized travel itineraries based on user preferences, while leveraging advanced natural language processing (NLP) capabilities.

Project Description:

Context:

Travel planning is often a time-consuming task for users. The goal of this project is to create a robust AI-powered solution to generate detailed trip itineraries based on user inputs such as destination, duration, budget, and travel style. The project focuses on enhancing user experience by integrating generative AI for itinerary generation and ensuring scalability and efficiency in the system's design.

Key Features:

- Personalized trip plans based on user preferences.
 - Flexible input options for travel styles, including predefined and custom styles.
 - Suggestions for daily activities, attractions, and accommodations.
 - Real-time and interactive interface for user engagement.
-

Project Tasks:

1. Data Input and User Interaction:

- Create an intuitive UI using Streamlit for users to input trip details:
 - Duration: Number of days for the trip.
 - Destination: Location the user wants to visit.
 - Travel Style: Options include predefined categories (Adventure, Relaxation, Cultural) or a user-defined style.
 - Budget: Total estimated trip budget.

2. Generative AI Integration:

- Use generative AI models to create travel itineraries based on user inputs.
- Develop prompts dynamically using input parameters to ensure accurate and personalized outputs.

3. Trip Plan Evaluation and Display:

- Validate AI-generated outputs for:
 - Relevance of suggestions.
 - Diversity of activities and attractions.
 - Budget alignment.
- Display results in a structured format using Streamlit.

4. Deployment and Scalability:

- Optimize the Streamlit app for smooth performance and user engagement.
- Deploy the application on a cloud platform (e.g., AWS, Heroku, or Streamlit Sharing).

5. Documentation and Presentation:

- Document the workflow, including:
 - Input-output mapping for generative AI models.
 - Key challenges and their solutions (e.g., handling vague user inputs).
 - Present findings and results in a comprehensive report.
-

Technologies to Use:

Programming Language:

- Python

Tools and Libraries:

- Streamlit: For the web application interface.
 - Google Generative AI API(Gemini-Pro): To generate trip itineraries.
-

Expected Deliverables:

1. Codebase:

- A well-structured repository containing the application code.

2. Streamlit Application:

- A user-friendly interface deployed on the web for public access.

3. Documentation:

- User inputs and AI outputs.
- Challenges faced and how they were solved.
- Insights and recommendations for improving AI-generated itineraries.

4. AI Integration Logs:

- Prompts used and responses generated by the AI.
- Evaluation of the AI's performance in generating relevant outputs.

Learning Outcomes:

- Understand the workflow of integrating generative AI into user-facing applications.
- Learn to handle user inputs dynamically for customized outputs.
- Gain experience in deploying web applications with Streamlit.
- Enhance problem-solving skills in generating and evaluating personalised outputs.