

AI Engineer Home Assignment: Travel Planning Workflow

Background Story

Our client serves a unique community of travelers who are deeply inspired by Mark Twain's classic travel memoir "The Innocents Abroad." This passionate group of literary travelers frequently discusses the book and draws travel inspiration from Twain's 19th-century European and Middle Eastern adventures.

However, our client has identified a problem: their community members don't always have time for lengthy group discussions about travel plans. They want a solution that allows individual travelers to explore ideas privately and get instant, intelligent responses to their travel-related questions.

The community needs an AI-powered system that can:

- Answer questions about locations, experiences, and insights from "The Innocents Abroad"
- Provide current weather information for destinations they're considering
- Intelligently combine both sources when needed to give comprehensive travel advice

Your Task

Create an **AI Workflow-based application** that processes user queries and intelligently decides which data source(s) to use for generating responses

Document Source

- **Book:** "The Innocents Abroad" by Mark Twain
- **Source:** [Project Gutenberg](#)

API Source

- **API:** OpenWeatherMap API
- **Documentation:** <https://openweathermap.org/api>

Example Queries

Your system should handle queries like these:

```
"What's the current weather in Paris?"  
"What did Mark Twain think about the Sphinx?"  
"I want to visit the places Twain went to in Italy – what's the weather  
like there now?"  
"Explain quantum physics" – extremely important topic for travelers
```

Requirements

Solution Submission

Please provide a link to your GitHub repository containing the complete solution.

Required Components

1. **Python Project:** Well-structured codebase with self-documented code
2. **README File:** Complete setup instructions, API documentation, usage examples
3. **Working Code:** Functional application that processes example queries
4. **AI Framework:** Use any AI framework

Optional Components (Bonus Points)

1. **Dockerized Application:** Complete Docker setup
2. **User Interface:** Web UI using any framework (Flask, FastAPI, React, etc.)
3. **Unit Tests:** Meaningful test cases covering main functionality
4. **Performance Analysis:** Written thoughts on latency and cost optimization strategies
5. **Live Deployment:** Deploy the application to a cloud platform and provide a public URL for testing and demonstration

Good luck, and remember: like Mark Twain's travelers, the journey of building this system should be as enlightening as the destination!