WanderTales: AI-Powered Travel Stories & Recommendations

Team Name: The WanderCoders

Dharani Thakkallapally (AI & NLP Engineer)

- Develop AI-based dynamic storytelling features using NLP models (Hugging Face, GPT-based
  models).
- Fine-tune pre-trained NLP models for travel-specific content generation.
- Implement algorithms for personalized travel recommendations.
- Ensure integration between AI-generated narratives and travel plans.

Skillset: Data Science, Machine learning, Deep learning, Python & Libraries, Cloud Platforms

Banu Teja Jampani (AI-Powered Recommendation Engineer)

- Design and implement the personalized recommendation engine based on user preferences and
- reviews.
- Utilize machine learning models or rule-based filtering to tailor travel plans.
- Ensure recommendations adapt dynamically to real-time factors (weather, delays).
- Document the project workflow, methodologies, and results.

Skillset: Data Science, Machine learning, Deep learning, Python & Libraries, Blockchain Technologies

Pavan Sundar Reddy Guthikonda (Backend & API Integration Developer)

- Design and implement the backend architecture using Flask/FastAPI.
- Integrate APIs (Google Places, OpenWeatherMap, Amadeus API, SerpAPI) to fetch real-time
- data.
- Develop RESTful APIs for frontend-backend communication.
- Manage local storage for user data and preferences.

Skillset: Data Science, Machine learning, Deep learning, Python & Libraries, Node JS, SQL Databases

Viswanth Tammana (Frontend Developer) (Team Lead)

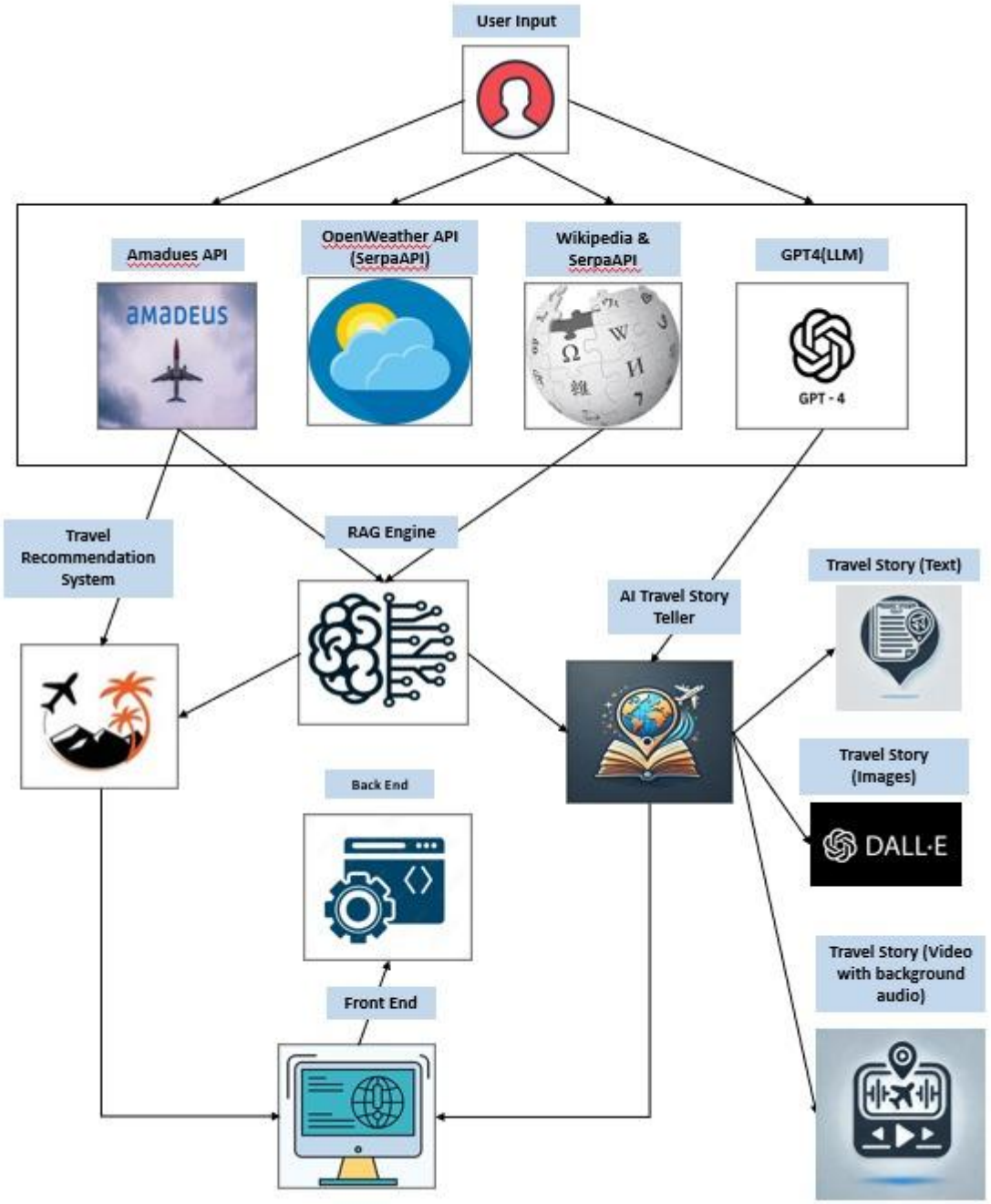
- Build an interactive user interface in Streamlit.
- Ensure smooth real-time updates from backend to frontend.
- Implement UI components for travel recommendations and dynamic storytelling.
- Work with Banu to properly display personalized recommendations in the UI.

Skillset: Data Science, Machine learning, Deep learning, Python & Libraries, React JS, REST API

Diagrams and Descriptions

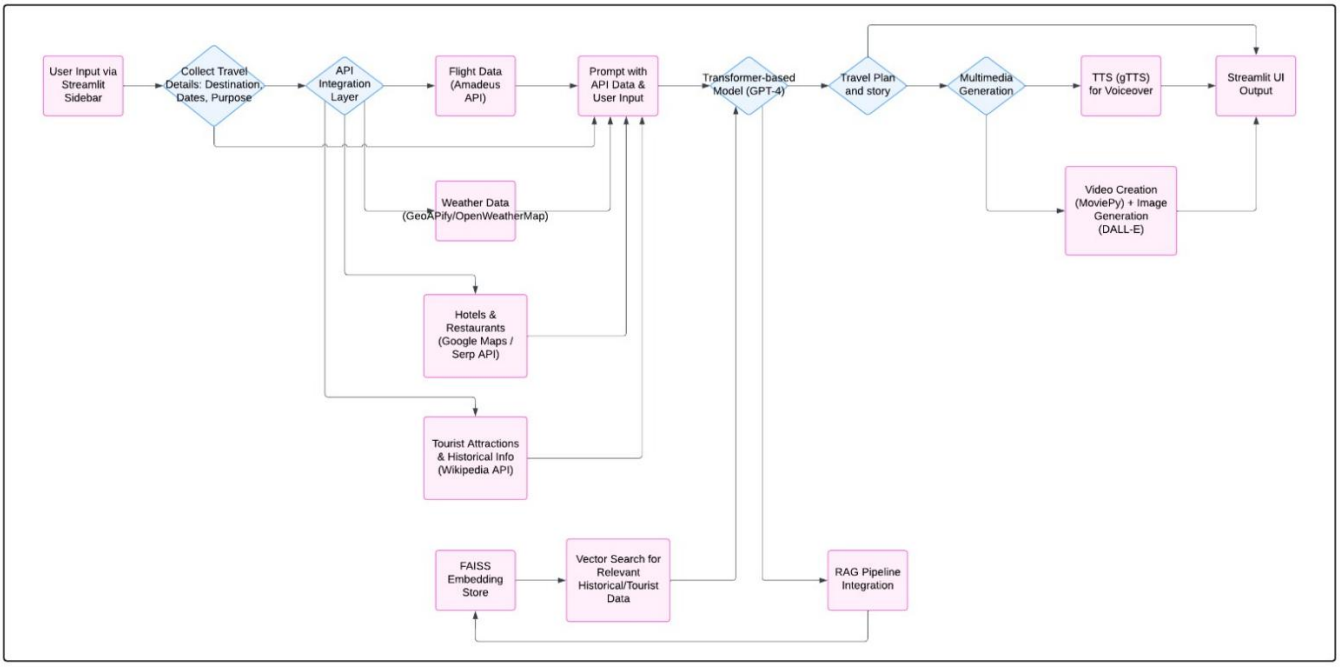
Architecture Diagram

The flow of the project begins with the user providing inputs, which are then passed to various APIs like Amadeus (flights), OpenWeather (weather), and Wikipedia/SerpAPI (background info). Next, the aggregated data is fed to GPT-4 (LLM) and the RAG engine, which collaborate to generate a detailed travel story and recommendations. Finally, the AI outputs are enriched with images from DALL-E and compiled into a video with background audio, completing the travel planning architecture



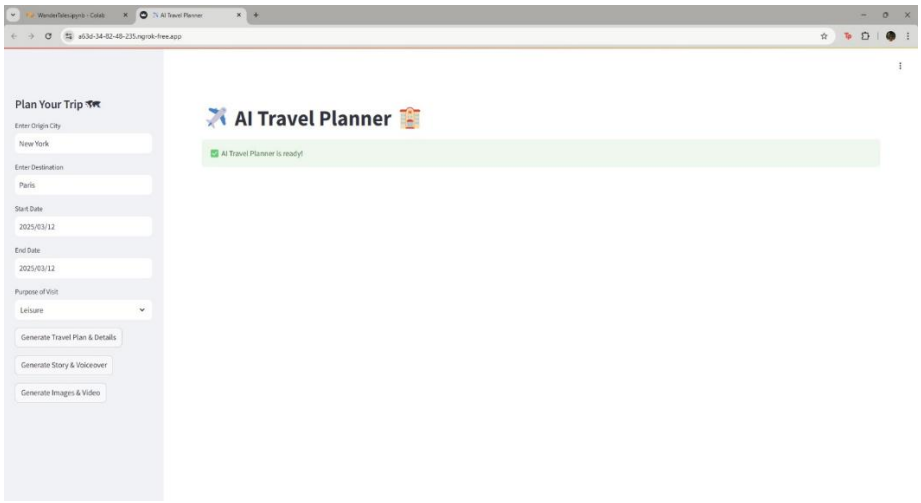
AI/ML Model Diagram

The flow of the project begins with user input through a Streamlit sidebar, which gathers trip details like destination and dates. This information, along with real-time data from flight, weather, and tourist APIs, is then fed into a GPT-4 based story generation module enhanced by a Retrieval-Augmented Generation (RAG) pipeline. Finally, the AI-produced travel story and multimedia elements are output to the user interface, providing a comprehensive and dynamic travel experience.

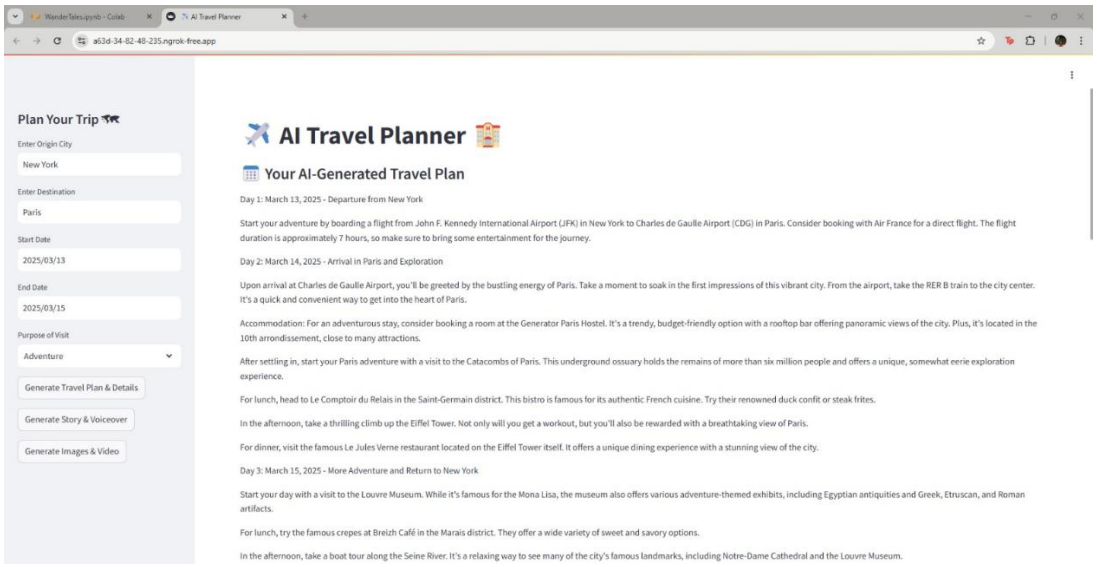


Application Interface (UI/UX) Wireframe

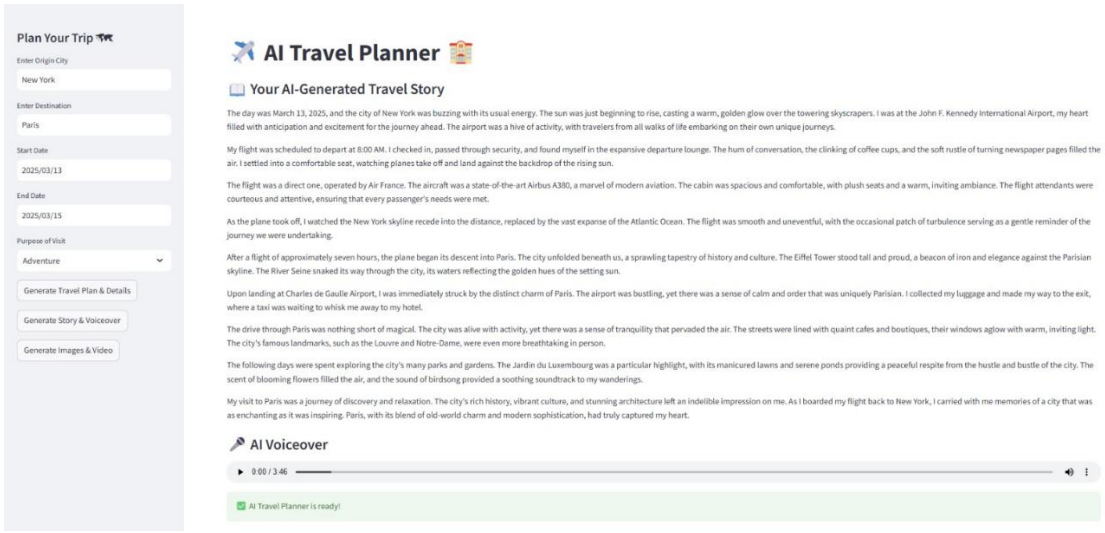
On the left sidebar, user gets the options to fill details like origin, destination, start date, end date and purpose of travel and user gets option to generate travel plan, travel story, images and videos.



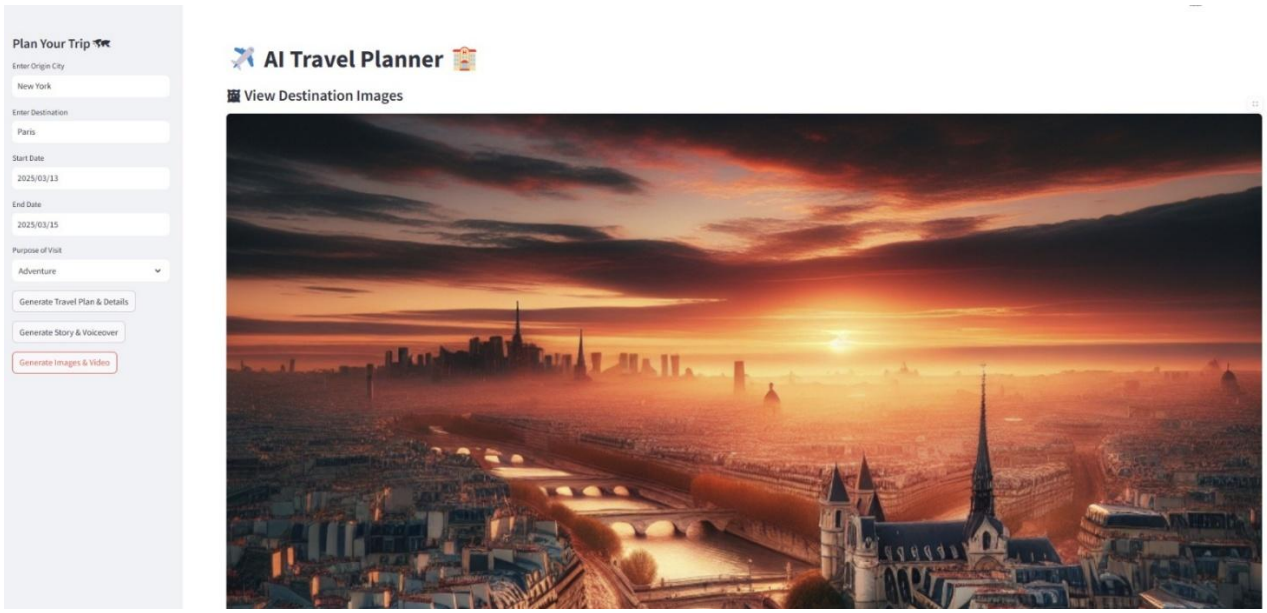
Upon generating travel, a comprehensive plan is displayed to the user.



Travel story alongwith voice over



Images of the destination according to the purpose of visit



Github Repo Link

https://github.com/pavan7357/WanderTales_Week7HandsOn

Future works

- We are able to generate a video with the images and voice over in the background, we need to display it in the UI and present it well.
- The application is running locally, we are currently facing few issues in deployment and shall rectify the errors as soon as possible.