HACKATHON

BUET CSE FEST 2024

~ AI and API PROBLEM STATEMENT ~

24th October, 2024

Location: Department of Computer Science and Engineering, BUET

Scenario:

Asif, Sadat and Ashraf, three BUET Level-4 Term-2 students, have just completed their final exams and are planning a trip to Saint Martin to relax after the long semester. However, organizing the logistics—finding the best transportation, food, and accommodations—has proven to be quite a hassle. They also worry about potential weather disruptions and want to keep their budget in check. As tech enthusiasts, they realize that an AI-powered platform could make the entire planning process easier. They imagine a platform where they can input their destination, and the system will handle everything from itinerary creation to budget estimation and real-time weather notifications. Could you help them make their post-exam trip stress-free?

The following tasks are suggestions that can be followed throughout the hackathon, but you are free to explore and improve on these ideas.

Task Breakdown:

Task 1: Basic Itinerary Generation

Description: Build a simple interface where users can input a destination (e.g., "Saint Martin"), and the system suggests a basic travel itinerary. The itinerary may include transport options with rough time estimates, along with suggested meal plans, accommodation options tailored to user preferences (budget, mid-range, luxury), estimated total cost of the trip (with its probable breakdown) and many more.

Task 2: Map Integration

Description: Integrate a map feature using a map API to display key itinerary locations like transport, restaurants, and hotels. Ensure the map updates with itinerary changes and allows users to interact with pins for more details. Optionally, add route visualization between stops.

Task 3: Weather Notifications

Description: Integrate a weather API to provide real-time weather updates based on the user's trip dates and locations. Notify users of potential weather events like rain, storms, or extreme temperatures. Display relevant alerts in the platform, allowing users to adjust their plans if needed.

Task 4: Trip Blog Generation

Description: Once the trip is over, create a travel blog for the users by utilizing the existing information from the platform or their profile. The blog should emphasize any notable events or locations from the journey, offering a personalized and memorable recap of the trip.

Task 5: Image Upload and Textual Search

Description: Implement a feature allowing users to upload images, with the option to organize them into albums for each trip. Users should then be able to search for specific images using natural language queries. For instance, if you have a photo of your friends with victory sign in a Sylhet Tea Garden, but can't find it manually, you should be able to type a query such as "A group of friends showing V sign in a tea garden" and the system will retrieve relevant images based on the description. The search functionality should be intuitive and responsive, providing accurate results that match the search terms.

Bonus Task: Automated Travel Vlog Generation

Description: After the tour is completed, users should be able to generate a travel vlog based on the existing itinerary and uploaded images, with the option to add more content if needed. To enhance the user experience, the system can include background music that matches the mood of the trip, such as calm music for beach days or upbeat tunes for city tours. The generation process should be automated, producing a cohesive, visually appealing video that captures the essence of the trip and creates a memorable summary for users to share or keep.

General Instructions:

- You must start a new GitHub repository onsite and submit it at the end of the competition.
- The project must be developed during the hackathon; pre-built components are not allowed.
- If you use publicly available code, you must attribute it properly.
- Participants are free to choose their own technology stack, unless specified otherwise.

Happy Coding😉