Mitchell Cootauco, Evan Yu
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Professor Farzindar
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Urban Explorer Project Overview

This project integrates two APIs—OpenWeatherMap and Foursquare—with web scraping techniques to create a comprehensive app that assists users in planning outings while considering weather conditions. The app provides users with a seamless decision-making tool by utilizing real-time data from APIs and scraped event information. Collected data includes weather forecasts, location-specific information for venues, and local events in Los Angeles, enhancing user convenience and planning accuracy.

The OpenWeatherMap API provides detailed weather forecasts for the next five days, including temperature, humidity, wind speed, and a brief weather description. For example, the collected data indicates clear skies with temperatures ranging from 14.77°C to 18.3°C over the next five days in Los Angeles. This real-time weather information allows users to determine whether to visit specific locations or attend events while ensuring they are dressed appropriately for the forecasted conditions.

The Foursquare API powers the app's location-based search functionality, offering users tailored results for their queries. For instance, data collected on coffee shops in Los Angeles includes names, addresses, categories, and geographical coordinates. This information enables users to explore venues efficiently while benefiting from the integrated weather forecast for informed planning.

The app scrapes event data from AllEvents.in to cater to users seeking inspiration, specifically targeting Los Angeles. Details of events such as titles, locations, and dates are extracted, providing users with various options for leisure activities. This data is coupled with the OpenWeatherMap API forecast, helping users decide which events to attend based on weather conditions. Example events include art exhibitions and concerts, each paired with relevant weather details.

This app effectively combines data from APIs and web scraping to offer a user-friendly solution for outings and clothing planning. By merging weather forecasts, venue details, and event suggestions, it provides a holistic approach to decision-making. Future improvements could involve expanding event coverage to other cities or enhancing user interaction with features like personalized recommendations based on preferences or historical behavior.

This project aligns with SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation, by leveraging data-driven solutions to improve decision-making and enhance user experience. Integrating APIs and web scraping demonstrates the potential of innovative technologies to create practical tools for everyday challenges, such as planning outings while considering environmental factors. The app's ability to provide tailored recommendations fosters resilience and inclusivity by making informed choices accessible to a wide audience. Furthermore, the project exemplifies sustainable innovation by promoting the use of digital infrastructure to reduce inefficiencies and minimize resource wastage in personal planning and leisure activities. Through its scalable design, this initiative has the potential to expand into broader applications, fostering innovation that supports sustainable and inclusive growth.