CS411 Project Idea

Idea 1: Fitness and Nutrition Tracker

Overview:

Our web application will help users track their fitness and nutrition goals. Users can create profiles and input their fitness goals, dietary preferences, and exercise routines. The application will utilize publicly available APIs related to nutrition and fitness data, such as the USDA Food Database and fitness tracking APIs like Strava or Fitbit. Users will receive personalized nutrition recommendations and exercise routines based on their goals and dietary preferences. The application will also track their progress and allow them to visualize their fitness journey. Third-party authentication, such as OAuth with Google, will be implemented for user login. The application will have a decoupled architecture with a RESTful API for communication between the front end (JavaScript-based) and back end (Python, Java, PHP, etc.). Maybe recommend nearby restaurants for nutrition goals.

Idea 2: Weather-Based Event Recommender

Overview: Create a web application that uses weather data to recommend outdoor events and activities to users based on their preferences and the current weather conditions. This application will correlate weather data from a public API like NOAA with event data from sources like Eventbrite or Meetup. Users will be able to log in via OAuth with their social media accounts to receive personalized recommendations.

Goal: Users can enjoy their free time more effectively by choosing activities that align with the current weather conditions, making it a valuable tool for planning leisure time.

Location Detection: Use geolocation or allow users to input their location to fetch local weather data.

Weather Integration: Fetch current weather data (temperature, precipitation, humidity, etc.) from a weather API like NOAA for the user's location.

Event Data Integration: Correlate the weather data with event data from Eventbrite to find events happening in the user's area.

Recommendations: Recommend events that align with the user's preferences and the current weather conditions. For example, if it's a sunny day, recommend outdoor festivals or sports events; if it's raining, suggest indoor activities like art exhibitions.

User Profiles: Allow users to create profiles and save their favorite events or activities.

Third-Party Authentication: Implement OAuth authentication with Google for user login.

Weather Forecast: Provide users with a weather forecast for the next few days to help them plan ahead.

2 API:

NOAA API site: https://www.ncdc.noaa.gov/cdo-web/webservices/v2

Eventbrite API site: https://www.eventbrite.com/platform/api#/introduction/about-our-api