

Application Overview: Weather Information and City Activities

This application provides users with real-time weather information and highlights popular activities in a given city. The user inputs a city name, and the application retrieves and displays the current weather, population, and notable activities in the specified location.

Design:

User Input:

The application accepts a city name as a command-line argument. The user can enter a single city or multiple words separated by spaces (e.g., Los Angeles).

Retry Logic:

The application incorporates a retry mechanism with exponential backoff to handle potential failures in API requests. If an error occurs during data retrieval, the application retries the request with increasing delays.

Weather Information:

Utilizing the OpenWeatherMap API, the application fetches the current weather data for the specified city, including temperature in Fahrenheit. It also provides a brief comment on whether the day is considered cold, mild, warm, hot, or very hot.

City Population:

The application uses the OpenTripMap API to obtain the estimated population of the city.

Geolocation:

The Radar API is employed to retrieve the state and country information based on the latitude and longitude obtained from the weather API.

City Activities:

The Amadeus API is utilized to fetch popular activities within a 10-mile radius of the specified city. The top three activities, along with their descriptions, are presented to the user.

*******Note: API Key Update during Testing:**

If you encounter issues with data retrieval through the `getCityActivites()` function, that means the Amadeus API is not properly working as it needed to be constantly updated during testing. If you encounter issues with it, please contact me ASAP so it can be resolved.

Furthermore, it is common in this program that the OpenWeatherAPI doesn't work the first time. No worries, just run it again and it should work just fine

Usage:

Run the application with the desired city name as a command-line argument.

To make the class:

```
javac -cp "gson-2.10.1.jar": Weather.java
```

To run the program:

```
java -cp gson-2.10.1.jar: Weather <city name>
```

Explore weather details, city population, and popular activities.

The application offers the option to enter another city, and the process can be repeated as desired.