Weather Now - Project Documentation

Overview

Weather Now is a simple web application that allows users to fetch real-time weather information for any city. It uses the OpenWeatherMap API to retrieve weather data and displays it in an intuitive interface.

Features

- Search for weather information by city name.
- Displays temperature, humidity, and weather conditions.
- Responsive design with a visually appealing UI.
- Loading indicator while fetching data.
- Handles errors such as invalid city names and network issues.

Technologies Used

- **HTML**: Structure of the web page.
- **CSS**: Styling and UI enhancements (including responsiveness and animations).
- **JavaScript**: Fetching and displaying weather data.
- **OpenWeatherMap API**: Provides weather data.

File Structure

```
Weather-Now/
|— index.html        # Main HTML file
|— styles.css        # Styling file
|— script.js         # JavaScript logic
|— sky.jpg           # Background image
```

How It Works

1. The user enters a city name in the input field.

2. Clicking the "Get Weather" button or pressing Enter triggers the API request.
3. A loading indicator appears while fetching data.
4. If the city is found, the weather details are displayed.
5. If the city is not found, an error message is shown.

API Integration

- The application uses the OpenWeatherMap API to fetch weather data.
- API Endpoint:
  `https://api.openweathermap.org/data/2.5/weather?q={city}&appid={apiKey}&units=metric`
- The `apiKey` is required for authentication.

Code Breakdown

HTML

The main structure consists of:

- A search box (input field and button)
- A loading indicator
- A weather information display area

CSS

- Uses a background image for visual appeal.
- Includes transitions and animations for smooth interactions.
- Uses media queries for responsiveness.

JavaScript

- Listens for user input and triggers API calls.
- Handles loading states and error messages.
- Updates the DOM dynamically to display results.

Setup & Deployment

Prerequisites

- A modern web browser
- An API key from OpenWeatherMap

Steps to Run Locally

1. Clone the repository.
2. Open `index.html` in a browser.
3. Replace `apiKey` in `script.js` with your OpenWeatherMap API key.
4. Enter a city name and get the weather information.

Deployment

I can deploy this project using GitHub Pages.

Conclusion

This project is a beginner-friendly web application demonstrating how to fetch and display real-time weather data using JavaScript and APIs. It also highlights UI/UX design principles with CSS animations and responsiveness.