Frontend Developer Technical Challenge 🌦️

Overview

Your task is to build a beautiful **Weather Analytics Dashboard** that fetches real-time and forecasted weather data from the **OpenWeather API** and presents it using interactive charts and visualizations.

This challenge evaluates your ability to:
✅ Work with external APIs.
✅ Implement dynamic, interactive UI components.
✅ Create meaningful **data visualizations**.
✅ Build a clean and responsive user interface.

Requirements

1. **Weather Search & Selection**:
    - Allow users to **search for a city** and display its current weather data.
    - Display essential weather info: **temperature, humidity, wind speed, and weather conditions (e.g., Clear, Rainy, Snowy, etc.).**
2. **Data Visualizations**:
   Use a charting library (**Chart.js, Recharts, D3.js, etc.**) to create for cities/locations. We want to see a beautiful display of the data that includes at least the following charts. What specific data is displayed is up to you but here are some suggestions. At least one of these charts should have an accompanying component that allows the user to select/filter what data is shown:
    - **Line Chart** 📈 → Hourly temperature forecast (next 24 hours)
    - **Bar Chart** 📊 → Rain probability, humidity levels, wind speed/direction over the next few days
    - **Pie Chart** 🥧 → Breakdown of weather conditions (e.g., % of sunny vs. rainy hours)
3. **Weather History**:
    - Store **recent searches** so users can quickly check past cities.
    - Allow users to **compare multiple cities** on the same chart.
4. **UI & UX Considerations**:
    - Responsive design (works on desktop & mobile).
    - Display **loading states** while fetching data.
    - Show error messages for **invalid cities or API failures**.

Tech Stack & Tools

- **Frontend Framework**: You can use **React.js, Vue.js or another modern JavaScript framework** of your choice.
- **Charting Library**: Chart.js, Recharts, D3.js, or any visualization library.
- **API**: OpenWeather API (https://openweathermap.org/api below endpoints just require a free api key)
    - **Endpoints**:
        - **Current Weather**: `https://api.openweathermap.org/data/2.5/weather?q={city}&appid={API_KEY}`
        - **5-Day Forecast**: `https://api.openweathermap.org/data/2.5/forecast?q={city}&appid={API_KEY}`

Bonus Features ✨ (Optional, but impressive)

💡 **Dark Mode** – Add a theme switcher for dark/light mode.
👤 **User Profiles** – Add user auth/profiles to save information like favorite cities and settings
📍 **Geolocation** – Auto-detect user's location and show weather for their city.
🎨 **Any other creative features you can think of!**

Deliverables & Submission

- **GitHub Repo** with clear README instructions on running the project.
- **Deployed App (optional)** – Host it on Firebase, Vercel, Netlify, etc. for bonus points!

Questions?

Please feel free to reach out with any questions or issues that arise during your implementation.