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NAME : Live Weather Dashboard

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Live Weather Dashboard

1. Problem Statement

Usersoften rely on multiplesources to check weather conditions (temperature, humidity, wind, forecasts). However, this information is often fragmented or not presented in a simple, real-time manner. A Live Weather Dashboard will provide a centralized, easy-to-use platform that fetches real-time weather data and displays it in a clean, interactive way for quick decision-making.

2. Users & Stakeholders

Primary Users

- General public(daily weather updates).
- Travelers (flight/train trip planning).
- Outdoor workers (farmers, construction workers, delivery staff).
- Event organizers (sports, concerts, outdoor gatherings).

Stakeholders

- Developers/Designers building the dashboard.
- Weather API providers (e.g., OpenWeatherMap, WeatherAPI).
- Businesses integrating weather insights (travel, logistics).

3. User Stories

- As a user, I want to view the current temperature and weather conditions so that I can plan my day.
- As a traveler, I want to check weather forecasts for upcoming days to schedule trips.
- As a farmer, I want to see rainfall and humidity updates to make agricultural decisions.
- As a business owner, I want to embed the weather dashboard in my website for customers.
- As a mobile user, I want a responsive and lightweight interface so I can quickly check weather on the go.

4. MVP Features

- Current location weather (temperature, condition, humidity, wind speed).
- Search weather by city/location.
- 5-day weather forecast.

- Responsive UI (desktop + mobile).
- Real-time data refresh via weather API.
- Error handling (e.g., 'city not found').
- (Future enhancements: weather alerts, radar maps, AQI monitoring, dark/light theme, localization.)

5. Wireframes / API Endpoint List

Wireframes (Conceptual)

- Dashboard Page:
- Header: Search bar + Current location button.
- Main Card: Current weather (temp, icon, condition).
- Details: Humidity, Wind Speed, Feels Like, Sunrise/Sunset.
- Forecast Section: 5-day cards with min/max temp + weather icons.

API Endpoints (Example: OpenWeatherMap API)

- Current Weather: GET https://api.openweathermap.org/data/2.5/weather?q={city}&appid;={API_KEY}&units;=metric
- 5-Day Forecast: GET https://api.openweathermap.org/data/2.5/forecast?q={city}&appid;={API_KEY}&units;=metric
- Geolocation-based Weather: GET https://api.openweathermap.org/data/2.5/weather?lat={lat}&lon;={lon}&appid;={API_KEY}

6. Acceptance Criteria

- User can search for a city and view current weather data.
- Weather data updates in real-time (or at least every API refresh cycle).
- User can view a 5-day forecast with daily temperature and condition.
- Dashboard is responsive across devices (mobile, tablet, desktop).
- If an invalid city is entered, an error message is shown.
- Data is fetched from a trusted weather API and displayed in user-friendly format.