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St. MOTHER THERESA ENGINEERING COLLEGE

COMPUTER SCIENCE ENGINEERING

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Completed the project named as

Phase 1

FRONT END TECHNOLOGY

Live Wheather Dashboard

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Phase 1 – Problem Understanding & Requirements

1. Problem Statement

Weather affects daily life, travel, outdoor work, and health. Many people rely on weather apps, but existing solutions often have: Too many ads that reduce user experience. Complex dashboards with unnecessary details. Lack of real-time accuracy and lightweight design. **Hence, the problem** is to build a **Live Weather Dashboard** that provides: Real-time weather updates, Simple, minimal, and ad-free interface, Quick city search with accurate forecasts, Cross-device (mobile & desktop) responsive design.

2. Users & Stakeholders

Users: Students – to plan college travel. Travelers – to check destination weather. Working Professionals – for daily planning. Outdoor Workers (farmers, delivery staff) – for weather-based work adjustments. **Stakeholders:** End-users (beneficiaries of the app). Developers (project team building the dashboard). API Provider (e.g., OpenWeatherMap for weather data). Educational Institution / Evaluators (who will assess the project).

3. User Stories

- As a user, I want to check the current temperature in my city so I can plan my day.
- As a user, I want to see the humidity, wind speed, and conditions (rain, sunny, cloudy).
- As a user, I want a search option to get weather of any city worldwide.
- As a user, I want to view a 5-day weather forecast to plan upcoming activities.
- As a user, I want the dashboard to be responsive, so I can access it from both my laptop and mobile.

4. MVP Features

- Fetch and display current weather data (temperature, humidity, wind, condition).
- City search bar for global weather lookup.
- Display a 5-day forecast (temperature + condition).
- Simple, clean dashboard UI.
- Error handling for invalid city input.
- Responsive layout (desktop + mobile).

5. Wireframes / API Endpoint List

Wireframe (Basic Idea):
Header: App title + search bar. Main Section: Current weather card (temperature, humidity, wind) + forecast cards (next 5 days). Footer: API credit (e.g., "Powered by OpenWeatherMap"). **API Endpoints (Example – OpenWeatherMap):**
GET /weather?q={city name}&appid;={API key} → Current weather data GET /forecast?q={city name}&appid;={API key} → 5-day forecast data

6. Acceptance Criteria

- The dashboard must fetch and display weather details for any valid city.

- Current weather data must be shown within 3 seconds after search.
- The 5-day forecast must display at least temperature and conditions (sunny, cloudy, rainy).
- The dashboard should be responsive on mobile and desktop.
- Invalid inputs (like wrong city names) should display an error message, not crash the app.
- Data should be updated live from the API, not stored manually.