

Air Aware Smart Air Quality Prediction System



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Batch – 7 (Python)

Team – 1

CONTENT

- 1. INTRODUCTION**
- 2. PROBLEM DEFINITION**
- 3. OBJECTIVES**
- 4. PROPOSED SOLUTION**
- 5. TECHNOLOGY STACK**
- 6. PROJECT PREVIEW**
- 7. RESULT & OUTCOMES**

INTRODUCTION

1. Air pollution is one of India's most critical environmental issues.
2. Cities like Delhi, Chennai, and Mumbai frequently record unsafe AQI levels.
3. People lack real-time, easy-to-understand air-quality insights.
4. AirAware provides a modern solution through monitoring, alerts, and visual analytics.

PROBLEM DEFINITION

1. No unified platform that shows real-time AQI + pollutant breakdown.
2. Existing tools are complex, lack trend analytics, or do not provide health guidance.
3. Users cannot make informed decisions about outdoor safety.
4. Need for a simple, accurate, intelligent air quality dashboard.

OBJECTIVES

1. To monitor real-time Air Quality Index (AQI).
2. To display pollutant levels (PM2.5, PM10, NO₂, SO₂, CO, O₃).
3. To visualize pollution trends using interactive charts.
4. To display weather parameters affecting AQI.
5. To provide alerts and health recommendations.

PROPOSED SOLUTION

1. A responsive, user-friendly dashboard for real-time AQI monitoring.
2. Backend APIs fetch pollution and weather data.
3. Trend charts for daily/hourly pollution changes.
4. Color-coded AQI categories with health messages.
5. Alerts when AQI crosses unsafe limits.
6. Downloadable PDF/CSV air-quality reports.

TECHNOLOGY STACK

➤ Frontend

1. React.js
2. Tailwind CSS

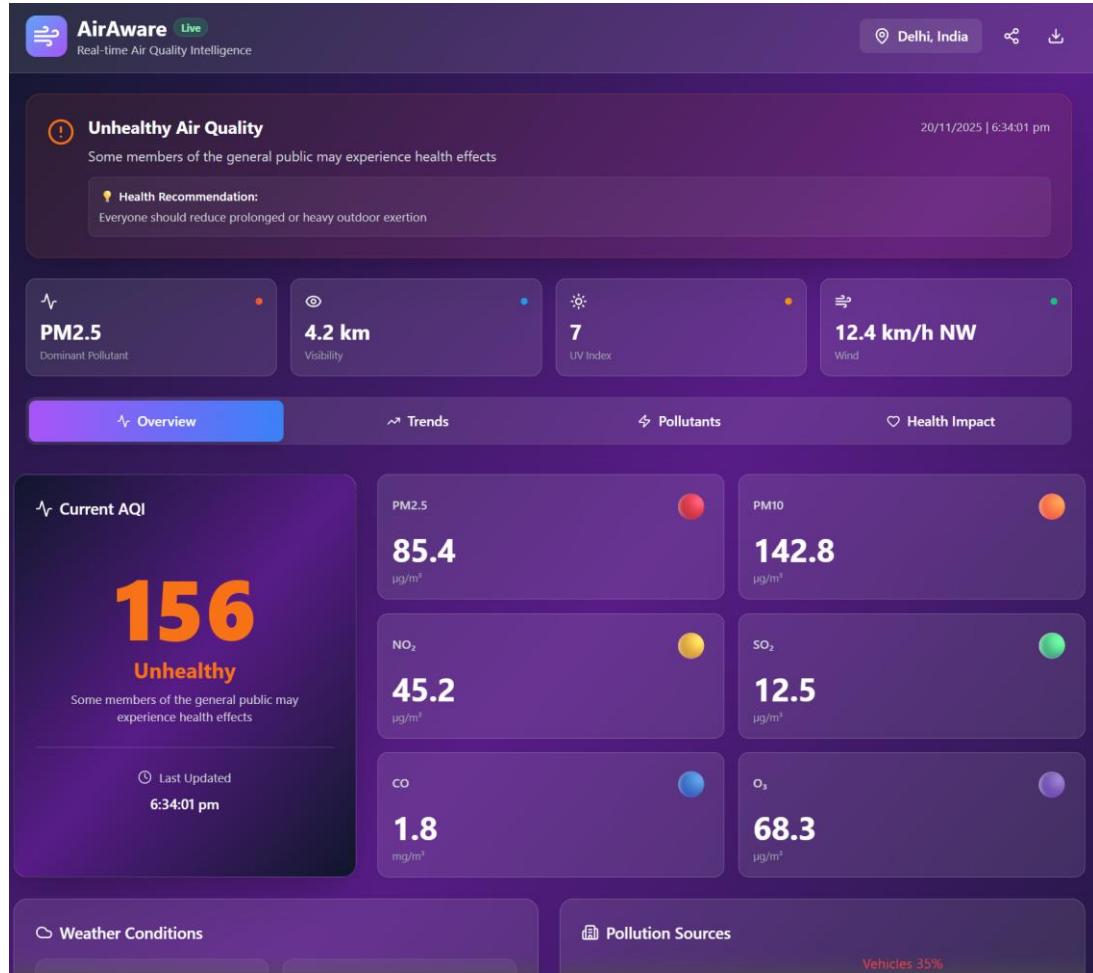
➤ Backend

1. Python
2. Node.js

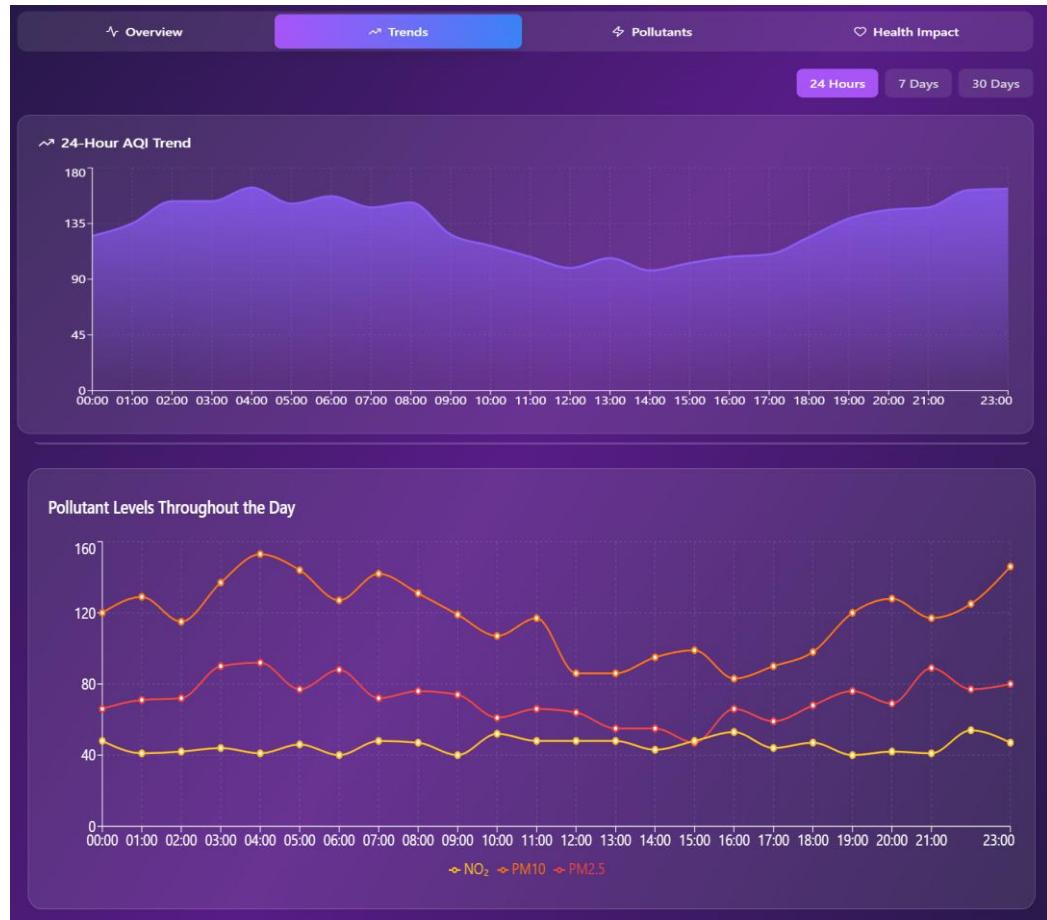
➤ Chart & Visualizations

1. Line Chart
2. Bar Chart
3. Area Chart
4. Radar Chart
5. Pie Chart

PROJECT REVIEW



PROJECT REVIEW



RESULT & OUTCOMES

1. Users get real-time pollution insights.
2. Enables safer decisions about outdoor activities.
3. Helps students/researchers analyze air-quality trends.
4. Easy, modern dashboard improves public awareness.
5. Solves the need for transparent environmental data.

THANKYOU