Mini Project Id: 2025-MPJ-CSDS26
CLIMAVIEW

Department of Computer Science & Engineering (DS)

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Climate Indicators Shape Our Daily Decisions

Daily Planning

Weather metrics influences every decision, from outfit choices to commute planning and daily schedules.

Safety & Productivity

Real-time meteorological data ensures safety during severe conditions and optimizes outdoor activities.

Our Website will deliver instant access to reliable meteorological data, empowering users to make informed decisions quickly and efficiently.

Project Objectives

Open-Meteo API Integration

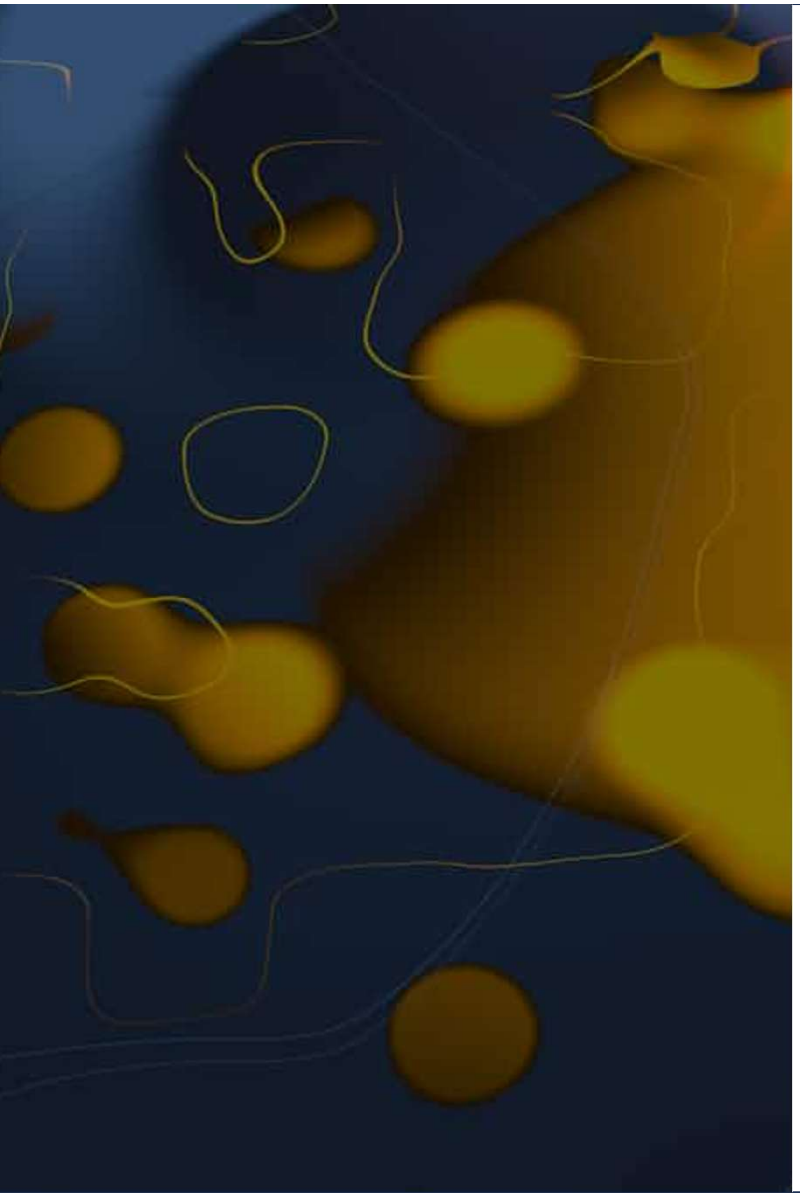
Demonstrate seamless real-time data fetching from professional meteorological services with robust error handling and efficient data parsing.

Intuitive Data Display

Present complex atmospheric conditions in user-friendly formats including temperature, precipitation, wind speed, AQI (Air Quality Index), and visibility metrics.

Technical Proficiency

Showcase API integration expertise, JSON data handling, and responsive UI design within a modern web application framework.



Literature Survey: Existing Solutions

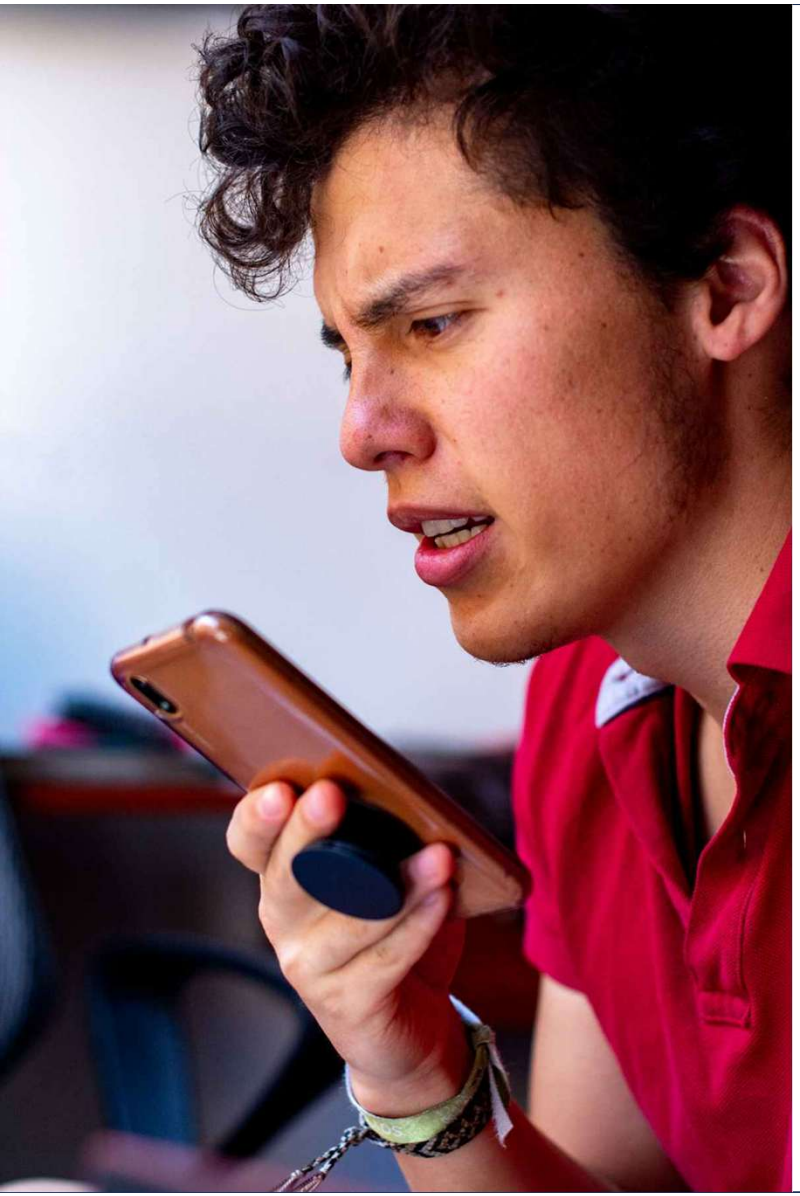
Market Leaders

- Weather Channel: In-depth features but ad-heavy
- AccuWeather: Detailed forecasts only with premium model
- Apple Weather: Clean iOS-design but limited customization

Common Dependencies

- National Weather Service APIs
- Satellite imagery integration
- Crowdsourced atmospheric data

Our Focus: *To prioritize speed and simplicity, delivering extensive meteorological data without unnecessary complexity or intrusive advertisements.*



Problem Statement

Why Fast Access to Meteorological Data Matters?

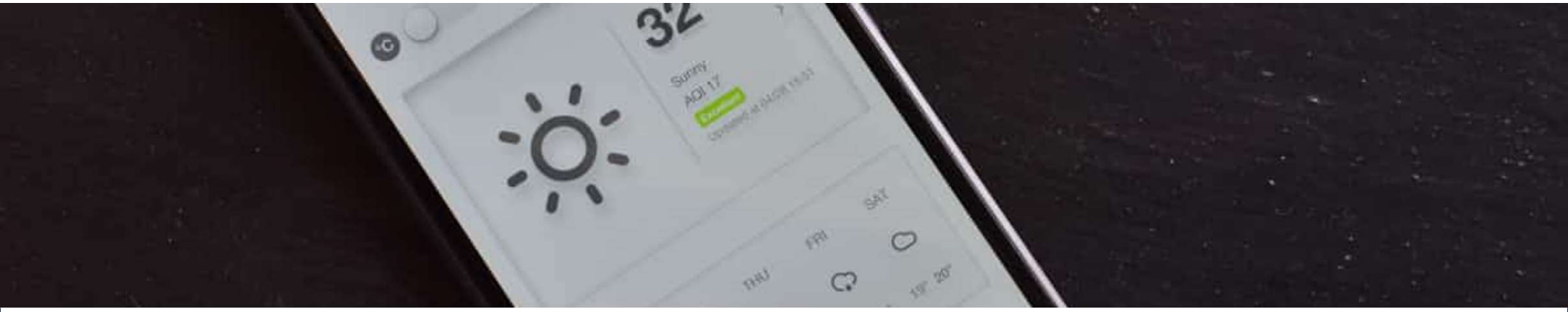
Speed vs. Features

Existing applications prioritize extensive features over loading speed, causing delays when users need immediate atmospheric information.

Unnecessary Complexity

Many weather apps include extra features, news feeds, and advertisements that distract from the core purpose: quick access to weather metrics.

The Gap: Users need a light, fast-loading climate application that provides accurate environmental data without bloated features or distracting elements.



Our Solution: ClimaView

Current Conditions

Instant live data of temperature, humidity, AQI, and key atmospheric metrics

Extended Forecasts

6-day environmental data with hourly breakdowns for future planning

Location Services

Current Location-based atmospheric data, plus global city search

ClimaView Workflow

Location Detection

GPS positioning or the manual city search

API Request

Fetch data from Open-Meteo API with optimized queries

User Display

Present clean, readable atmospheric conditions instantly

Data Processing

Parse JSON response and format for user display

Alignment with SDG Goals

SDG 9: Industry & Innovation

Leverages APIs and modern web technologies for impactful, real-world applications in environmental data forecasting.

SDG 11: Sustainable Cities

Improves urban planning and daily decisions by delivering accessible climate indicators to residents.

SDG 13: Climate Action

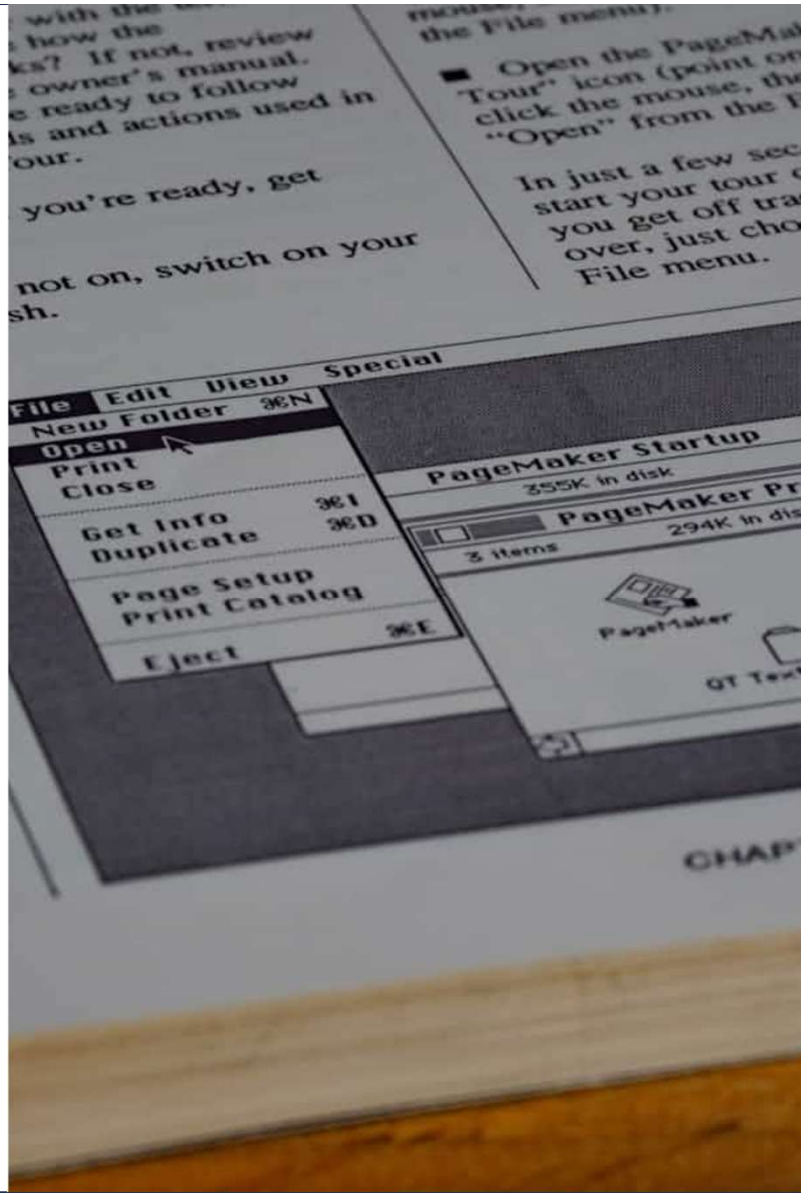
Strengthens public climate awareness by making atmospheric patterns and environmental changes easily understandable.

References

Key Resources :

- Open-Meteo API Documentation (2024)
- "RESTful Web APIs" by Richardson & Ruby
- MDN Web Docs: JavaScript Fetch API
- UN Sustainable Development Goals Framework

> *"The most effective website empowers you to find precise data instantly, without unnecessary steps or clutter."*



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Thank You!