Weather Tracking App

Phase 1: Problem Understanding & Industry Analysis

The Real-Time Weather Tracking App is a Salesforce solution built using Lightning Web Components (LWC), Apex, and API integration. It enables users to fetch and display live weather data for any city using the OpenWeather API. The application showcases Salesforce's capability to integrate with third-party APIs while providing a user-friendly interface for real-time insights.

1. Requirement Gathering

Requirement gathering focused on understanding how weather data could be seamlessly accessed within Salesforce for business and user needs. Key requirements included:

- Ability to fetch real-time weather details (temperature, humidity, and conditions).
- User-friendly input for searching weather by city name.
- API integration with OpenWeather to retrieve accurate data.
- Display of results in a clean LWC interface.
- Error handling for invalid city inputs or API failures.

Mapped to Salesforce, these requirements led to using Remote Site Settings, Apex callouts, and LWC front-end components.

2. Stakeholder Analysis

The success of the Real-Time Weather Tracking App depends on understanding and addressing the needs of multiple stakeholders. Each group interacts with the system differently and contributes to its effectiveness:

- **End Users (Employees/Managers/Students)** – Search for city weather and view results directly in Salesforce.
- **Developers** – Build LWC components, Apex callouts, and handle JSON responses.
- **Administrators** – Configure API access, remote site settings, and deployments.
- **Business Teams** – Use the weather app for planning events, travel, or operations.

By analyzing these stakeholders, the app ensures usability, security, and alignment with organizational needs.

3. Business Process Mapping

The weather app workflow was mapped to Salesforce with the following steps:

- User enters a city name in the LWC input field.
- LWC calls an Apex method, which makes an HTTP request to the OpenWeather API.
- JSON response is parsed, extracting weather details like temperature, humidity, and conditions.
- LWC dynamically updates the UI to display results.
- Error messages are shown for invalid inputs or failed API responses.

This end-to-end flow integrates third-party data into Salesforce efficiently.

4. Industry-specific Use Case Analysis

Real-time weather data integration has practical applications across industries. Use cases include:

- Travel & Logistics – Plan routes and deliveries based on weather conditions.
- Event Management – Schedule outdoor events with weather awareness.
- Education/Training – Demonstrate Salesforce API integration and LWC skills.
- Corporate Dashboards – Provide live weather updates for teams in different regions.

This project highlights how Salesforce can enhance decision-making by incorporating external data.

5. AppExchange Exploration

AppExchange exploration included reviewing weather and integration-related apps to benchmark best practices. Key considerations:

- Evaluating existing weather-tracking apps for design inspiration.
- Exploring integration apps for broader APIs beyond weather.
- Checking compatibility, scalability, and security of third-party solutions.
- Ensuring API-based apps follow Salesforce compliance for external data handling.

This analysis supports building a custom app while learning from existing AppExchange solutions.