Angular Weather App - Requirements Document

1. Project Overview

The Angular Weather App will fetch real-time weather data from an external API and display it in a user-friendly interface. Users will be able to search for cities, view current weather conditions, and see a five-day forecast.

2. Features

a) Basic Features

- Search for a city to get weather details.
- Display current weather (temperature, humidity, wind speed, etc.).
- Show a 5-day weather forecast.
- Responsive UI for mobile and desktop.

b) Advanced Features

- Save favorite cities for quick access.
- Dark mode toggle.
- Show weather alerts (if available from API).
- Display sunrise & sunset timings.
- Auto-detect user location (using browser geolocation API).

3. Tech Stack

- **Frontend**: Angular 17, TypeScript, HTML, SCSS
- **API**: OpenWeatherMap API or WeatherAPI
- **State Management**: RxJS (optional for managing async data)
- **Styling**: Bootstrap/Tailwind CSS

4. API Integration

- Use OpenWeatherMap API (https://openweathermap.org/api) for weather data.
- Fetch current weather & forecast using HTTP requests in Angular services.
- Use environment variables to store API keys securely.

5. UI Components

- **Search Bar**: Allow users to enter a city name.
- **Weather Display**: Show current weather details with icons.
- **Forecast Section**: List upcoming weather conditions.
- **Favorites Section**: Store user-selected cities for easy access.

6. User Experience Enhancements

- Display loading animations when fetching data.
- Show error messages if the city is not found.
- Implement caching to reduce API calls.

7. Deployment

- Host the application using GitHub Pages, Vercel, or Firebase Hosting.