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**Weather Dashboard**

A dynamic and interactive weather dashboard web application for displaying weather data, visualizations, and providing responses to user queries via a chatbot.

**Project Description**

The **Weather Dashboard** is designed to provide users with weather data based on city or coordinates (latitude and longitude). It visualizes the information through various charts, displays a forecast table, and includes an interactive chatbot for answering questions.

**Features**

* **Weather Search:** Input city name or latitude/longitude to fetch and display weather information.
* **Dynamic Charts:** Show temperature trends and weather condition distribution using bar, doughnut, and line charts.
* **Forecast Table:** Provides a detailed weather forecast table with options to sort, filter, and paginate the data.
* **Interactive Chatbot:** Users can chat with the bot to get weather updates or ask general questions.
* **Responsive Design:** The layout adapts smoothly to different screen sizes.

**Technologies Used**

* **Frontend:** HTML5, CSS3 (Flexbox, Grid), JavaScript (Vanilla), Chart.js
* **AJAX & Fetch API:** For sending asynchronous HTTP requests.
* **External APIs:** OpenWeatherMap API and a Generative Language API.
* **CSS Preprocessing:** Custom styling using best practices for layout and responsiveness.

**Usage**

* **Weather Search:** Enter a city name or coordinates (latitude & longitude) in the provided input fields. Press the "Enter" key or use a search button to fetch the weather data.
* **Forecast Table:** Interact with the controls above the table to sort, filter, and navigate through the forecast.
* **Chatbot:** Type in the chatbot input box and press "Enter" to submit your question.
* **APIs Used**
* **OpenWeatherMap API:** Used to fetch weather data based on city name or geographic coordinates.
* **Generative Language API:** Provides responses to general user queries in the chatbot.