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Introduction to Web Programming Course Project

SupperWeather App

The goal of this project was to build a browser-based weather application that uses multiple forecast data providers and gives real-time as well as near future weather forecast for location that user has selected.

For this project the chosen development environment was VS Code and the frontend was developed using HTML, CSS, and JavaScript. For charts, Frappe Charts library and for geocoding Nominatim(OpenStreetMap) service were used. Also, for efficient asynchronous data loading I used fetch() and async/await functions.

Next, the application uses three different weather data providers. It uses Open-Meteo API to give current, next 24 hours and next 7 days weather data (temperature, wind, precipitation, humidity, and day or night information). Other two APIs: OpenWeatherMap and 7Timer! provide next 24 hours temperature forecast for comparison in a chart. Only OpenWeatherMap API uses API key.

Features that were implemented in the Weather application:

- A user can search for any city using OpenStreetMap (Nominatim) geocoding service.
- If a user allows, the app can fetch his current coordinates automatically and display local weather.
- 3 different sources: Open-Meteo, 7Timer!, and OpenWeatherMap, were used to gather forecast data.
- The app shows current temperature, humidity, wind speed, humidity and precipitation.
- The app displays hourly forecast with temperature, wind speed, and humidity; everything is formatted with icons and separated rows.
- The app displays next 7 days forecast with maximum/minimum temperature, wind speed, and humidity, also formatted with icons and separated rows.
- SVG Icons from the project assets folder are shown for all weather conditions, and varies depending if it's day or night.
- In Frappe chart temperature forecasts for next 24 hours from OpenWeatherMap and 7Timer! are compared.
- A user can save locations to a favourites list and easily reload them later. Also, he can delete a location from favourites list.

- On the top bar there is a dropdown button where user can switch between Celsius, Fahrenheit, and Kelvin.

All the required features were implemented in the project and are working correctly, so I would like to get a maximum points for each of the feature. Also, the general requirements are fulfilled: a PDF report is submitted, application is responsive on desktop and on mobile phone, although the header on mobile phone has slight visual defect that could deduct a point for this criteria. Apart from that application works well on different browsers and has clear directory structure. Therefore, I think this project is worth to get most of the points (37-39).

AI usage

I have not used AI for writing this document, but I used ChatGpt for debugging the code.