CT30A2910 Introduction to Web Programming

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Project Work

For this course project, I have chosen to do Project 3: Weather App. Visual Studio Code programming software has been used to code the programming languages HTML, CSS, and JavaScript. The repository attached includes the index.html file, script.js file, styles.css file, and the assets folder, which has the background images, weather icons, and message interface, all of which are essentials for the website. In creating this weather application, I have used external tools such as YouTube tutorials, Udemy videos, websites like geeksforgeeks, w3schools, tutorialspoint, and other resources to help me further understand the concepts of the application. In the making of this application, I have utilized Artificial Intelligence tools such as ChatGPT, Microsoft Copilot, and GitHub Copilot as a precise search engine, for proofreading, debugging, and generating ideas in the code.

Justification for the points

The application has been tested to be functional in Firefox, Safari, and Chrome (3 points).

The application directory structure should be clear and organized well for the user (2 points).

Users can input locations of cities or countries they desire (1 point).

Users can use their location GPS coordinates (Geolocation API) by pressing the person-location icon in the search bar. Through this, the page would be redirected to the person's geolocation through longitude and latitude access (2 points).

Using the search button, the user interface allows the user to see the current weather at a specific location with descriptions of the weather (2 points).

To enhance the user experience, I have attached weather icon elements such as thunderstorm, drizzle, rain, snow, atmosphere, clear, and cloudy for every weather forecast and current weather (3 points).

I have also programmed the application to review the current weather conditions and change the background accordingly, setting the ambience of the application according to the searched weather location (2 points). Thus, if the weather is sunny, the background would change into an orange hue sunset, if the weather is cloudy, a pastel blue cloudy sky would be shown. As for rainy weather conditions, the background would show a dark rainy sky. This has been implemented for every weather icon element, making 7 different background changes.

The user is able to access the weather forecast for the next 5 days, equipped with icons, and the temperature of the day, extracted from a forecast API (2 points).

The humidity and wind speed are also integrated into the applications to further improve the weather-related information presented to the user (1 point).

If a user presses the bookmark button next to the location name, they will be notified by an alert that says, ‘Location has been saved!’, which in turn will add the location name to the bookmark icon in the search bar. The bookmark icon would show a dropdown of all the locations saved. Henceforth, the plus sign on the bookmark icon next to the location name would change into a minus sign, identifying that the location has been saved. Users can unsaved the location name by pressing the button again, which will remove the city from the dropdown list (3 points).

I have added an autocomplete search button that would assist users with searching for location names while typing in real-time. Thus, if the user types in a city name, the autocomplete would assist with suggesting locations similar to the keyword alongside with the country name (1 point).

Two data providers are used in this program. This includes OpenWeather API for the current weather and the weather forecast data and WeatherAPI.com for the location data incorporated in the autocomplete search button (3 points).

Overall, the application should be responsive and accessible despite being adjusted into different widths and lengths, thus it can be used on both desktop and mobile environments (4 points).

These are all based on my judgements, I have provided the features I have implemented and the points I consider to be deserving of these features. The final decisions shall be made by the grader. I have tried to make the user interface of the application as manageable as possible to heighten the user experience. I hope the application has integrated enough of the features mentioned and that the user interface is clear to the grader.

Resources:

OpenWeatherMap.org. (n.d.). *Current weather and forecast - OpenWeatherMap*. https://openweathermap.org/

Weather and Geolocation API - Weather and Geolocation API JSON and XML - WeatherAPI.com. (n.d.). https://www.weatherapi.com/docs/#