WEATHER.IO:WEATHER APP

Project Based Experiential Learning Program

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Weather App

INTRODUCTION

OVER VIEW

The Weather.io is a web application that provides real-time weather information for a specified location. It utilizes the OpenWeatherMap API to fetch weather data and displays it in a user-friendly interface. Users can search for a location by city name and receive detailed weather information, including temperature, humidity, wind speed, and weather conditions.

It typically uses location data to deliver personalized weather updates. Users can access radar maps, severe weather alerts, and other features to stay informed about the weather in their area. Some weather apps may also offer additional functionalities like UV index, air quality, and pollen count. The app's interface is user-friendly and visually appealing, making it easy to check weather details at a glance.

Weather apps are a convenient way to stay up-to-date on the latest weather conditions. They can provide information on current conditions, as well as forecasts for the next few days or even weeks. Some weather apps also offer features such as radar maps, severe weather alerts, and air quality reports.

Here are some of the most common features of weather apps:

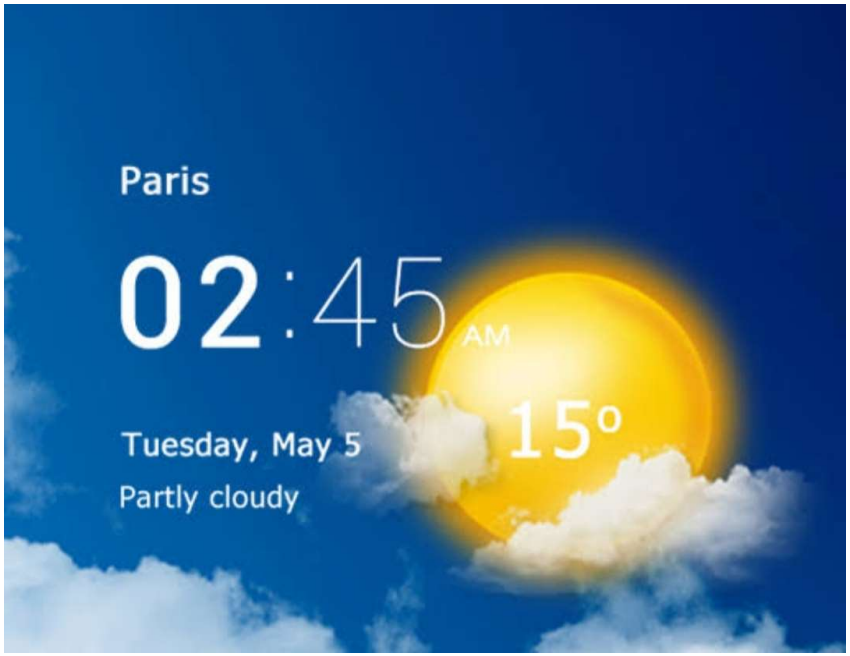
Current weather conditions: This includes information such as the temperature, humidity, wind speed and direction, precipitation, and cloud cover.

Forecasts: Weather apps typically offer forecasts for the next few days or weeks. This information can be displayed in a variety of ways, such as hourly, daily, or weekly forecasts.

Radar maps: Radar maps can be used to see where precipitation is currently falling or is expected to fall. This can be helpful for planning outdoor activities or for staying safe during severe weather events.

Severe weather alerts: Weather apps can send notifications when there is a risk of severe weather in your area. This can help you to stay safe and informed.

Air quality reports: Some weather apps offer air quality reports. This information can be helpful for people who are sensitive to air pollution or who have respiratory problems.Weather apps can be a valuable tool for staying informed about the weather. They can help you to plan your day, stay safe during severe weather events, and protect your health.


Paris
02:45 AM
Tuesday, May 5
Partly cloudy
15°


New York
Tuesday - May 22
13:24
27°C
31°
20°
Wind: N 5mhp
Sunrise: 05:55AM
Sunset: 06:35PM
TUE
WED
22°/13°
THU
31°/22°
FRI
28°/24°
SAT
25°/22°
Weather
Alert
Time
City

WHY WE NEED WEATHER APP

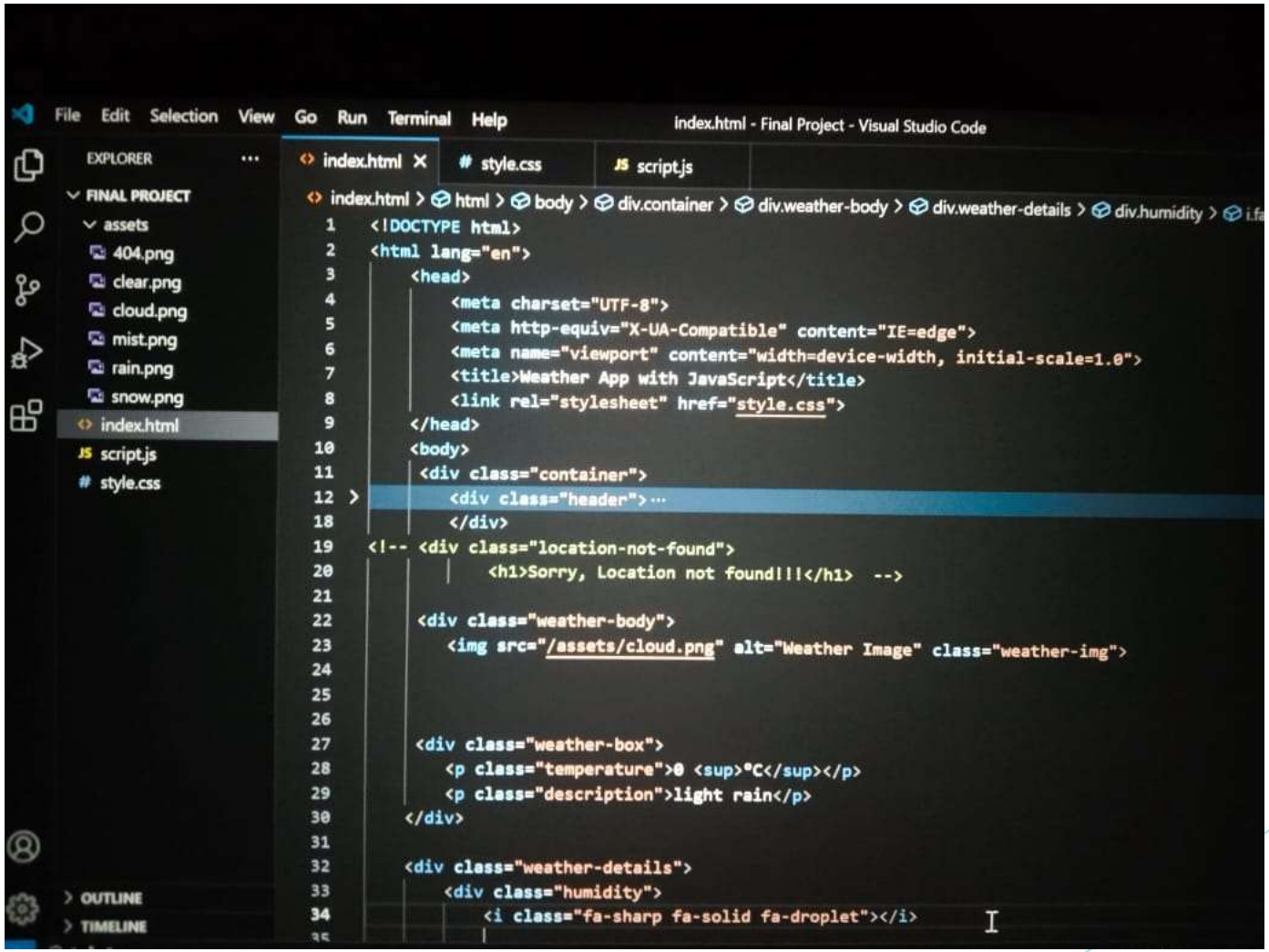
There are many reasons why we need weather apps. Here are a few of the most common:

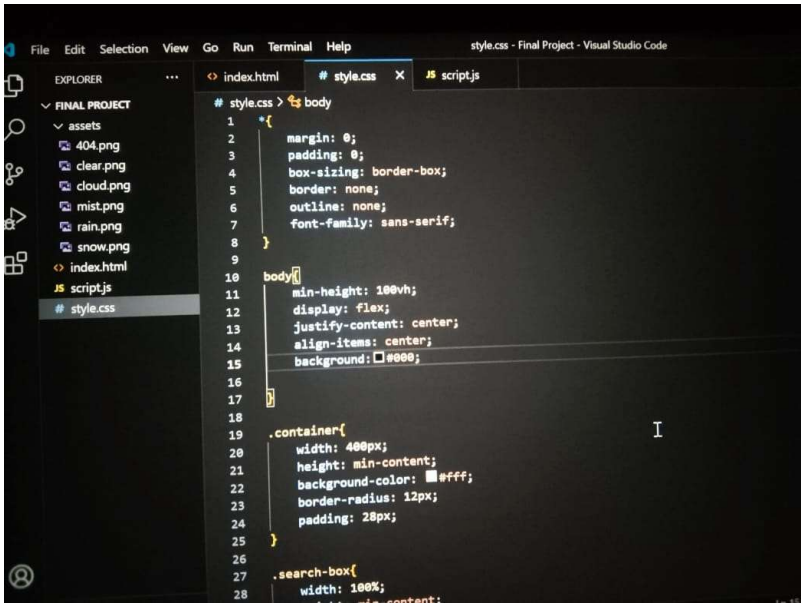
Planning our day. Weather apps can help us plan our day by letting us know what the weather will be like. This is especially important if we have outdoor activities planned, such as a picnic, hike, or bike ride.

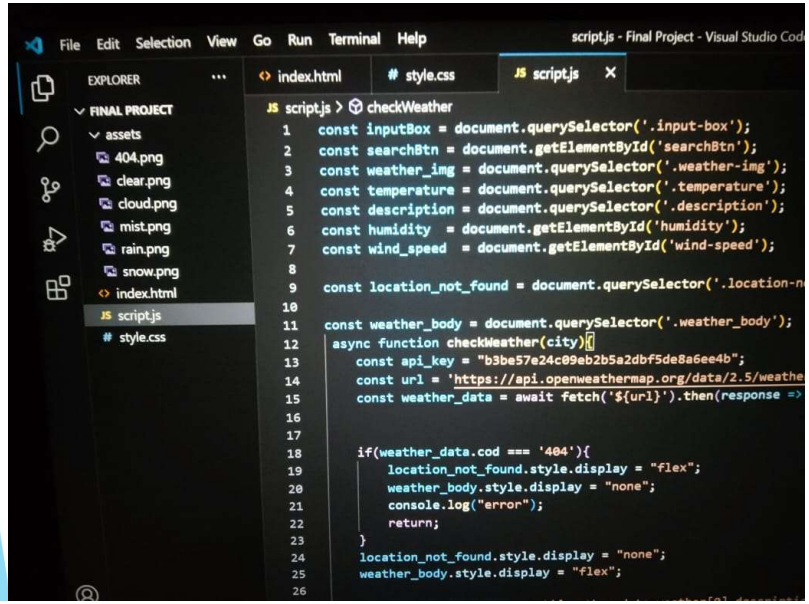
Staying safe. Weather apps can also help us stay safe by providing us with alerts about severe weather conditions, such as thunderstorms, tornadoes, and floods. This information can help us take steps to protect ourselves and our property.Enjoying the outdoors. Weather apps can also help us enjoy the outdoors by letting us know when the best time to go hiking, fishing, or camping is. They can also provide us with information about the current conditions, such as the wind speed and humidity, so that we can dress appropriately.

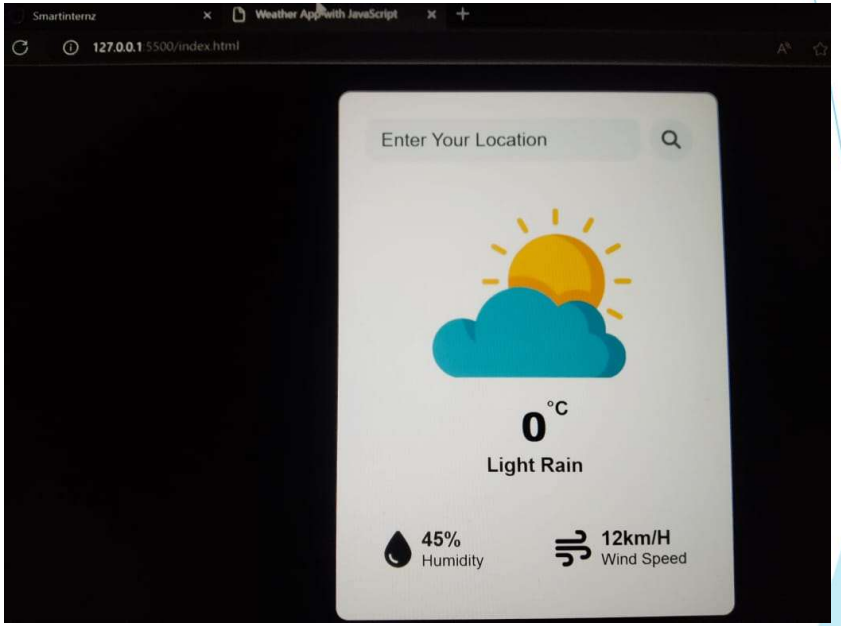
Making informed decisions. Weather apps can also help us make informed decisions by providing us with information about the weather. For example, if we are planning a trip, we can use a weather app to see what the weather will be like at our destination. This information can help us pack the right clothes and make other necessary arrangements..

HOW DID WE BUILD WEATHER APP




File Edit Selection View Go Run Terminal Help
style.css - Final Project - Visual Studio Code
EXPLORER
index.html
style.css
script.js
FINAL PROJECT
assets
404.png
clear.png
cloud.png
mist.png
rain.png
snow.png
index.html
script.js
style.css
style.css > body
*{
margin: 0;
padding: 0;
box-sizing: border-box;
border: none;
outline: none;
font-family: sans-serif;
}
body{
min-height: 100vh;
display: flex;
justify-content: center;
align-items: center;
background: #000;
}
.container{
width: 400px;
height: min-content;
background-color: #fff;
border-radius: 12px;
padding: 28px;
}
.search-box{
width: 100%;


File Edit Selection View Go Run Terminal Help
script.js - Final Project - Visual Studio Cod
EXPLORER
index.html
style.css
script.js
FINAL PROJECT
assets
404.png
clear.png
cloud.png
mist.png
rain.png
snow.png
index.html
script.js
style.css
script.js > checkWeather
const inputBox = document.querySelector('.input-box');
const searchBtn = document.getElementById('searchBtn');
const weather_img = document.querySelector('.weather-img');
const temperature = document.querySelector('.temperature');
const description = document.querySelector('.description');
const humidity = document.getElementById('humidity');
const wind_speed = document.getElementById('wind-speed');
const location_not_found = document.querySelector('.location-n
const weather_body = document.querySelector('.weather_body');
async function checkWeather(city){
const api_key = "b3be57e24c09eb2b5a2dbf5de8a6ee4b";
const url = 'https://api.openweathermap.org/data/2.5/weathe
const weather_data = await fetch(`${url}`).then(response =>
if(weather_data.cod === '404'){
location_not_found.style.display = "flex";
weather_body.style.display = "none";
console.log("error");
return;
}
location_not_found.style.display = "none";
weather_body.style.display = "flex";


Smartinternz
Weather App with JavaScript
127.0.0.1:5500/index.html
Enter Your Location
0 °C
Light Rain
45%
Humidity
12km/H
Wind Speed

Milestone 1: Set up the project structure

Create a new project folder for the Weather App.

Inside the project folder, create the following files/folders:

index.html

style.css

script.js

Next, put css and js files in static folder while index.html file in templates folder as you have to render it through flask.

Create app.py and write the python code for running your application

Milestone 2: Design and implement the user interface

Open index.html in your code editor.

Set up the basic HTML structure.

Design the layout and structure of the user interface using HTML elements and CSS classes.

Apply styles to the UI elements using CSS in style.css.

Milestone 3: Connect to the OpenWeatherMap API

In script.js, define a constant variable to store your OpenWeatherMap API key.

Create a function to handle API calls and fetch weather data from the OpenWeatherMap API.

Use the fetch() function or an AJAX library to make a GET request to the OpenWeatherMap API, passing the necessary parameters (e.g. city name).

Handle the API response and extract the relevant weather data.

```
async function fetchWeatherData(city) {
  try {
    const response = await fetch(
      `${baseUrl}?q=${city}&appid=${apiKey}&units=${units}`
    );
    if (!response.ok) {
      throw new Error("Weather data not available.");
    }
    const data = await response.json();
    updateWeatherInfo(data);
  } catch (error) {
    console.log(error);
  }
}
```

```
function updateWeatherInfo(data) {
  cityElement.textContent = data.name;
  datetimeElement.textContent = getCurrentTime();
  forecastElement.textContent = data.weather[0].description;
  iconElement.innerHTML = `<img src="http://openweathermap.org/img/wn/${data.weather[0].icon}.png" alt="Weath
  temperatureElement.innerHTML = `${Math.round(data.main.temp)}&#176;${
    units === "metric" ? "C" : "F"
  }`;
  minMaxElement.innerHTML = `<p>Min: ${Math.round(data.main.temp_min)}&#176;${
    units === "metric" ? "C" : "F"
  }</p><p>Max: ${Math.round(data.main.temp_max)}&#176;${
    units === "metric" ? "C" : "F"
  }</p>`;
  realFeelElement.innerHTML = `<p>${Math.round(data.main.feels_like)}&#176;${
    units === "metric" ? "C" : "F"
  }</p>`;
  humidityElement.textContent = `${data.main.humidity}%`;
  windElement.textContent = `${data.wind.speed} ${
    units === "imperial" ? "mph" : "m/s"
  }`;
  pressureElement.textContent = `${data.main.pressure} hPa`;
}
```

Milestone 4: Fetch weather data based on user input

Add an input field and a button to the UI to allow users to enter a city name or zip code.
Add an event listener to the button to trigger the weather data fetch function when clicked.
Retrieve the user input from the input field.

Milestone 5: Update the UI with the fetched weather data

Create functions to update the UI with the fetched weather data.
Select the necessary UI elements using JavaScript DOM manipulation methods.Modify the UI elements' content or styles to display the weather information dynamically.

When we input a name of a city ,we can easily see

1) Current Temperature

2) Humidity

3) Pressure

4) Wind Speed

BENEFITS OF WEATHER APP

Weather apps can provide you with information about the current conditions, such as the temperature, humidity, and wind speed. This information can help you dress appropriately for the weather and avoid getting sick.

They can help you track your favorite weather conditions. Many weather apps allow you to track your favorite weather conditions, such as the temperature, humidity, and rainfall. This information can help you stay informed about the weather and make informed decisions about your activities.

They can help you learn about the weather. Some weather apps include educational features that can help you learn about the weather. This information can be helpful for students, teachers, and anyone who is interested in learning more about the weather

APPLICATIONS

- Here are some additional applications of weather apps:Agriculture. Weather apps can be used to track crop growth and development, as well as to predict weather conditions that could damage crops.
- Transportation. Weather apps can be used to track road conditions and to predict traffic delays. This information can help drivers plan their routes and avoid accidents.
- Construction. Weather apps can be used to track weather conditions that could impact construction projects. This information can help project managers plan their schedules and avoid delays.
- Emergency management. Weather apps can be used to track severe weather events and to provide alerts to emergency personnel. This information can help emergency managers respond to disasters more effectively.
- Overall, weather apps are a valuable tool that can be used for a variety of purposes. They can help you stay informed about the weather, stay safe, and make informed decisions about your activities.

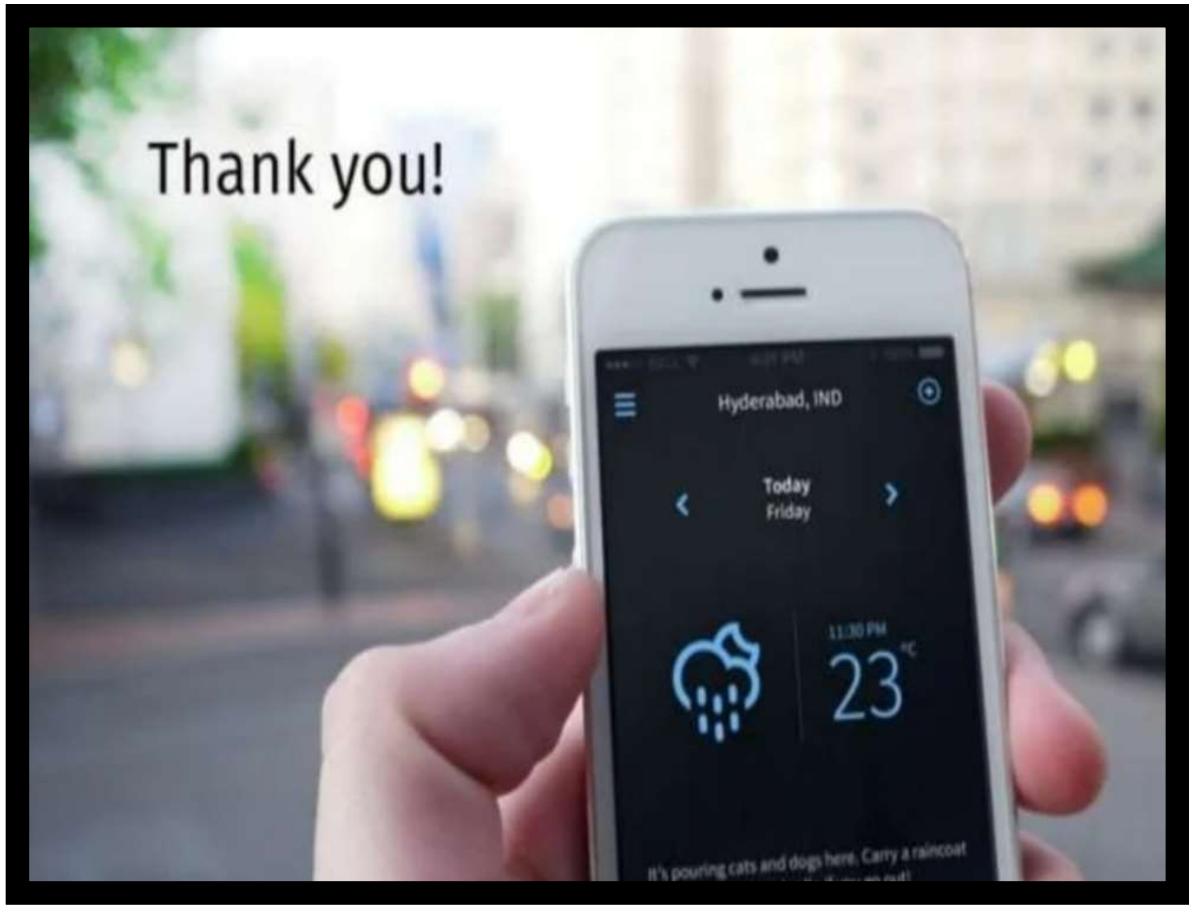
CONCLUSION

The Weather App is a web application that provides real-time weather information to users. By integrating the OpenWeatherMap API and implementing an intaitive user interface, users can easily retrieve weather data for a specific location. The project's modular structure allows for easy maintenance and further enhancements, such as adding additional features or optimizing the UI.

LINKS

Github Link: https://github.com/vasantha18/project.git

Website Link : https://vasantha18.github.io/project/


Thank you!
Hyderabad, IND
Today
Friday
11:30 PM
23
It's pouring cats and dogs here. Carry a raincoat