

Weather Application using Javascript and API

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React

- ❖ React is a declarative, efficient, and flexible JavaScript library for building user interfaces.
- ❖ It is a Model-View-Controller (MVC) architecture-based library that plays the role of “V” which means view.
- ❖ It designs simple views for each state in your application, and React will efficiently update and render just the right component when your data changes.
- ❖ The declarative view makes your code more predictable and easier to debug.

React Features

- **Use JSX:** is faster than normal JavaScript as it performs optimizations while translating to regular JavaScript. It makes it easier for us to create templates.
- **Virtual DOM:** Exists which is like a lightweight copy of the actual DOM. So for every object that exists in the original DOM, there is an object for that in React Virtual DOM. It is exactly the same, but it does not have the power to directly change the layout of the document. Manipulating DOM is slow, but manipulating Virtual DOM is fast as nothing gets drawn on the screen.
- **One-way Data Binding:** gives you better view over your application.
- **Component:** A Component is one of the core building blocks of React. In other words, we can say that every application you will develop in React will be made up of pieces called components. Components make the task of building UIs much easier.
- **Performance:** ReactJS use JSX, which is faster compared to normal JavaScript and HTML.

- ❖ **In computer programming, an application programming Interface (API) is a set of routines, protocols, and tools for building software applications. An API expresses a software component in terms of its operations, inputs, outputs, and underlying types.**

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- ❖ APIs are the defined interfaces through which interactions happen between an enterprise and applications that use its assets. Usually in Extensible Markup Language (XML) or JavaScript Object Notation (JSON) format.

Decalering a structure

- ❖ API is typically defined as a set of Hypertext Transfer Protocol (HTTP) request messages

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- Web API receives requests from different types of client devices like
 - mobile, laptop, etc, and then sends those requests to the webserver to process those requests and returns the desired output to the client.
- Web API is a system to system interaction, in which the data or information from one system can be accessed by another system, after the completion of execution the resultant data or we can say as output is shown to the viewer.

Popular API Examples:

1.Google Maps API's: Google Maps APIs allows developers to use Google Maps on Webpages using a JavaScript or Flash interface.

2.YouTube API's: Google's API lets developers integrate YouTube and functionality into websites or applications. YouTube APIs include the YouTube analytics API, YouTube Data API, YouTube live streaming API, YouTube Player APIs and others.

Tailwind

- Tailwind CSS is basically a Utility first CSS framework for building rapid custom UI.
- It is a highly customizable, low-level CSS framework that gives you all of the building blocks that you need.
- Also, it is a cool way to write inline styling and achieve an awesome interface without writing a single line of your own CSS.

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Advantages:

- Highly Customizable.
- Enables building complex responsive layout.
- Responsive and development is easy.
- Components creation is easy.

Disadvantages:

- There are missing headers, and navigation components.
- It takes time to learn how to implement inbuilt classes.

Library	Framework
Library is a set of reusable functions used by computer programs	Framework is a reusable code that can be modified according to the need.
You are in full control when you call a method from a library and the control is then returned.	Framework make request call to the code instead of calling itself in the code.
It is incorporated seemlessly into existing projects to add functionality that you can access using an API	It cannot be incorporated seemlessly into an exisitng project.
They are important in program linking and binding processes.	They provide a standard way to build and deploy applications.
Example: jQuery is a javaScript library that simplifies DOM manipulation	Example : Django is a Python framework used of backedd development of applications.

Mausam:- Weather Application using Javascript and API

- **Problem Statement**
- **Issue**
- **Solution**
- **Tools and technology**
- **Functionalities**
- **Future Plans**
- **Output**
- **Literature Review**

Mausam

➤ Problem Statement

- Many of the free weather software or websites programs have too many popups and unwanted software tied to them like weather bug
- Getting confusing information on weather warnings and watches from inaccurate sources
- Sometimes using these apps become complex due to lots of advertisement

➤ Issue

- The conversion feature of changing temperature in Celsius and Fahrenheit is not working properly some error in API call
- The background change according to the temperature constraints
- Improving UI to make it more subtle
- Improving dynamic properties of the application

➤ **Solution**

- we will add more media Queries
- By adding a constraint function to check the current temperature and updating the background accordingly
- Checking the fetching method to see the issue in units while calling the API

➤ **Tools and technology**

- React for creating structure of the application
- CSS framework Tailwind for styling the application
- Google Font – to use different fonts in our application
- Toastify – to add loading animations
- Back-end Technology
- Openweathermap API to get the required data

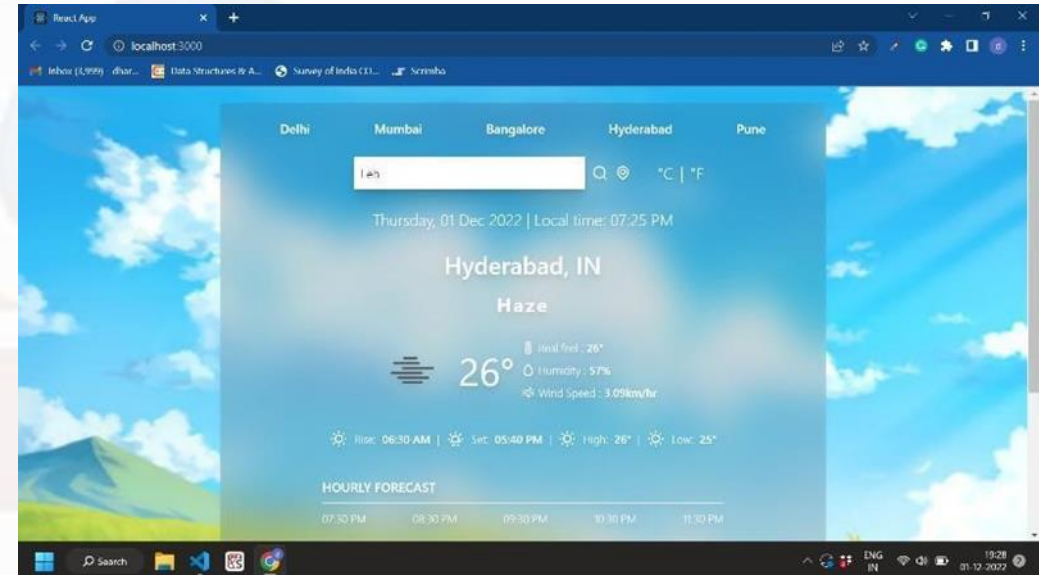
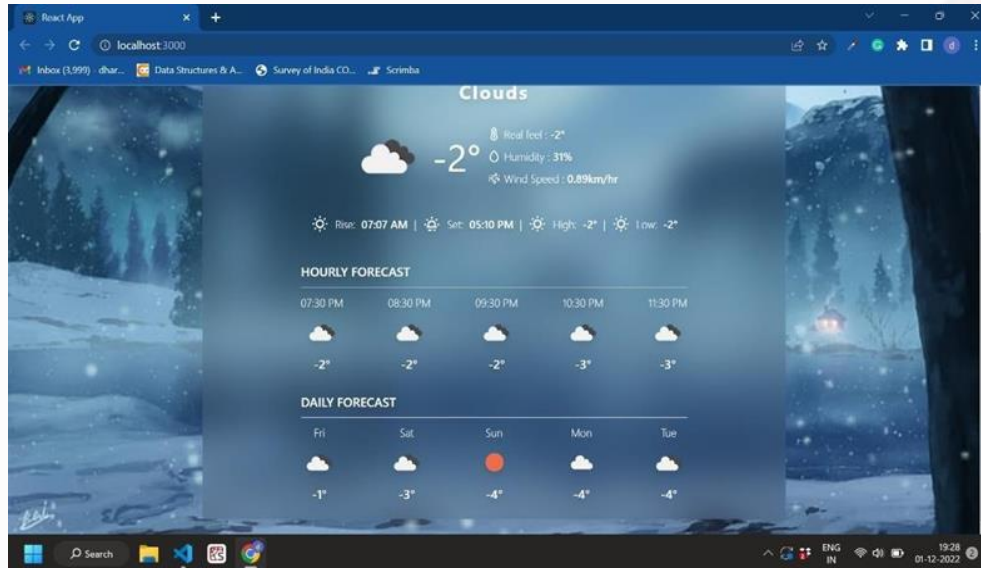
➤ Functionalities

- Sunrise time
- Sunset time
- Wind speed
- Humidity

➤ Future Plans

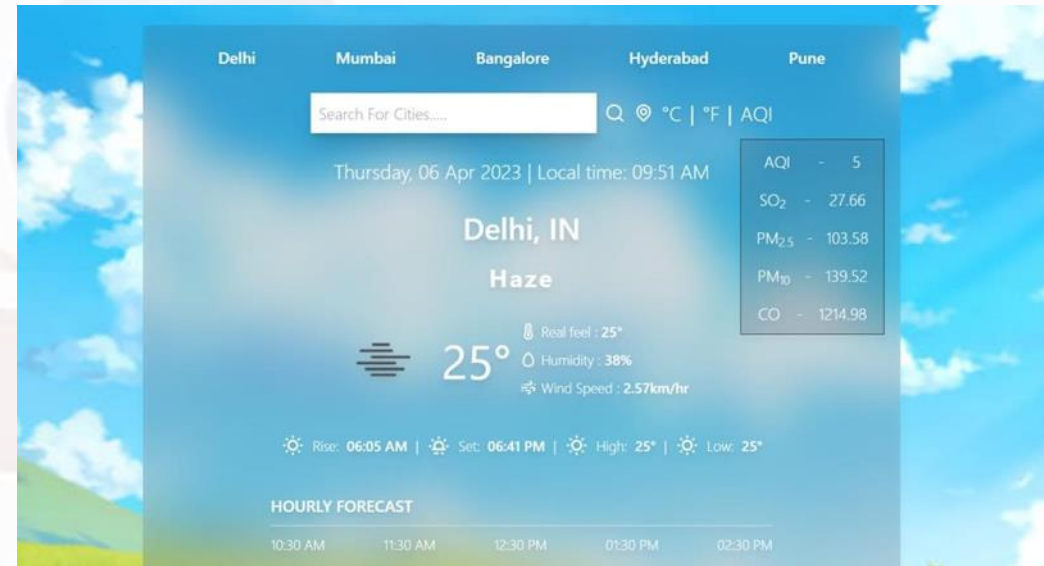
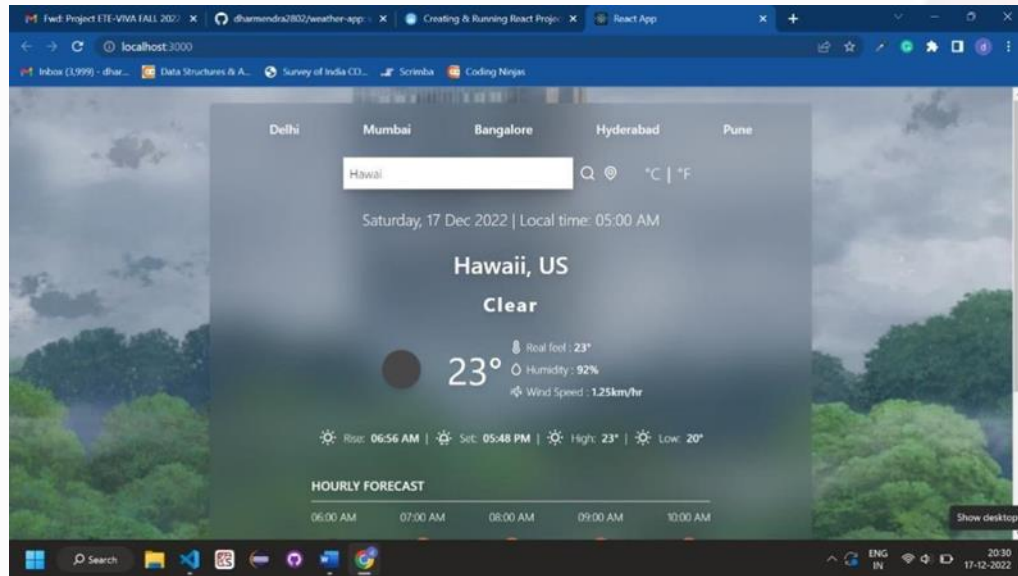
- We want to add more animation so it will become more accurate and also to brush up the current existing animations to make it more smooth
- Make it more dynamic so it can also provide a good UI on different mobile devices as well
- Map feature – to give a satellite image of the city

➤ output



Introduction

➤ Updated





Thank You