Wiindy – The Weather App

https://wiindy.netlify.app

About the project

Problem

Individuals can get weather information at their tips. But there are a lot of parameters which are not provided by a lot of websites and sources.

Solution

A website than can give power to users to get detailed information regarding a website by just a single search.

Objective

Provide people a tool that will give them freedom to access weather details of a location just by a single page.

My Role

Research, design and create a website that will solve this problem that individual face.

Technologies Used:

- **React JS**: Front end library used for making this very single page application. Wiindy – The Weather App.
  - Functional Components: Functional components are just simple functions which are used to pass data and props, and export data from one component to another while working with react.
  - React Props: React props are used in this project to pass data among components which define their on-screen values, and styles such as size, colour etc.
  - useState Hook: useState hook is used to store the initial state/value and changed/updated state/value of data.

  - useEffect Hook: useEffect hook is used to verify if the data/component has been changed, and if the data is added to the variable.
  - useContext Hook: useContext is used to pass data among components which can be accessed throughout the component hierarchy without passing data through the props.

- **React Icons** (react-icons.github.io): Icons utilized as ES6 imports for the project. I used React Icons because they offer various icons for free, and most importantly, we can import those icons only which are needed by us as ES6 imports.

- **Axios:** Axios is a library used to make requests to the API, return data from API, and do something when data is received. I used axios in addition to async await method to make the API request to Weatherstack and Accuweather endpoints Asynchronously.
  - Axios.Get: This command performs HTTP request.
  - Axios.Spread: This command is used to spread the array of received arguments into multiple arguments.
  - Axios.All: This command is used to make concurrent HTTP requests.

- **HTML, CSS, Javascript**

- **SASS**
  - Skeleton CSS: A pseudonym for the animation used in pre-loading the content.
  - Nesting: A feature of SASS where elements can be nested inside one another in order to justify which child belongs to which parent.
  - Variables: A variable can be made by using $-Dollar sign which can be of any name. This variable can be then used over and over again in different parts of the document to apply styles to different elements. (It needs to be at least a parent of element where the style is going to apply)

Research

I have used applications and API in order to get the weather details of a location directly. There is no competition between the products.

Weatherstack

Real time and historical World weather data API. Retrieve instant, accurate weather information for any location in the world in lightweight JSON format.

Accuweather

Get your accurate live forecast and severe weather alerts with Accuweather – superior accuracy you can count on.

Parameters Used

Weatherstack

- Name of City
- Country
- Latitude (Degrees)
- Longitude (Degrees)
- Current Temperature (Celsius)
- Feels Like (Celsius)
- Cloud Cover (Percentage)
- Humidity (Percentage)
- UV Index (Degree)
- Visibility (Kilometres)
- Wind Direction (Degrees)
- Wind Speed (Kilometres per Hour)
- Atmospheric Pressure (Millibars)
- Precipitation (Millimetres)

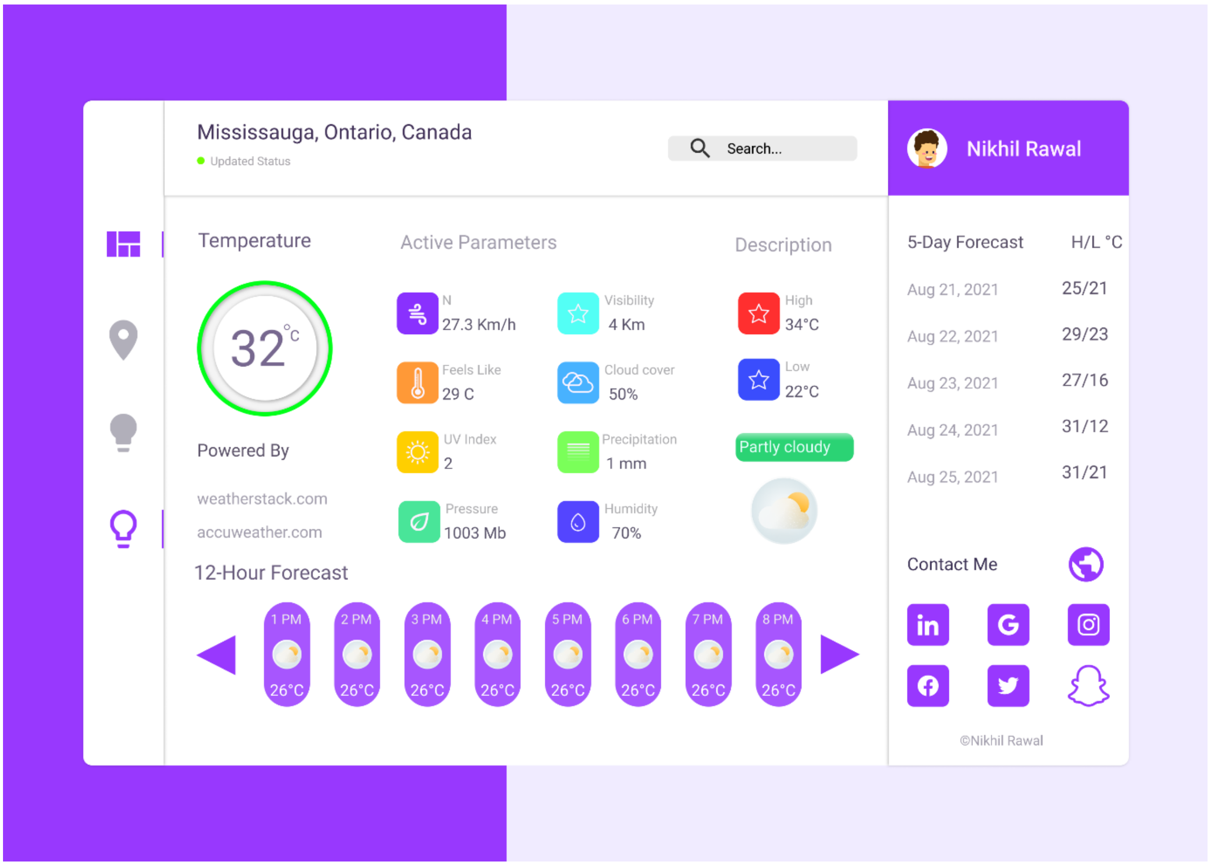
Accuweather

- 12 Hour Forecast (Celsius)
- 5 Days Forecast (Celsius)

Conclusion

These applications/websites contain interactions/information that we can use for our website to show the retrieved accessed weather information.

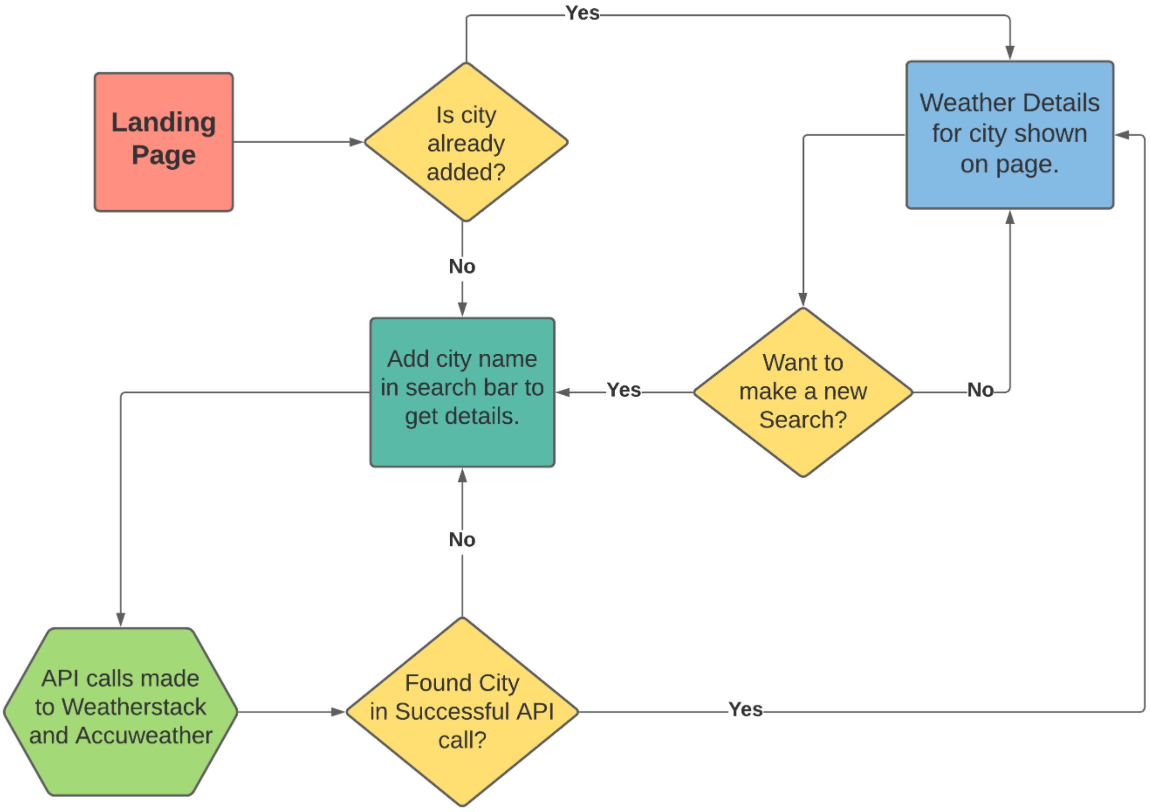
Prototype



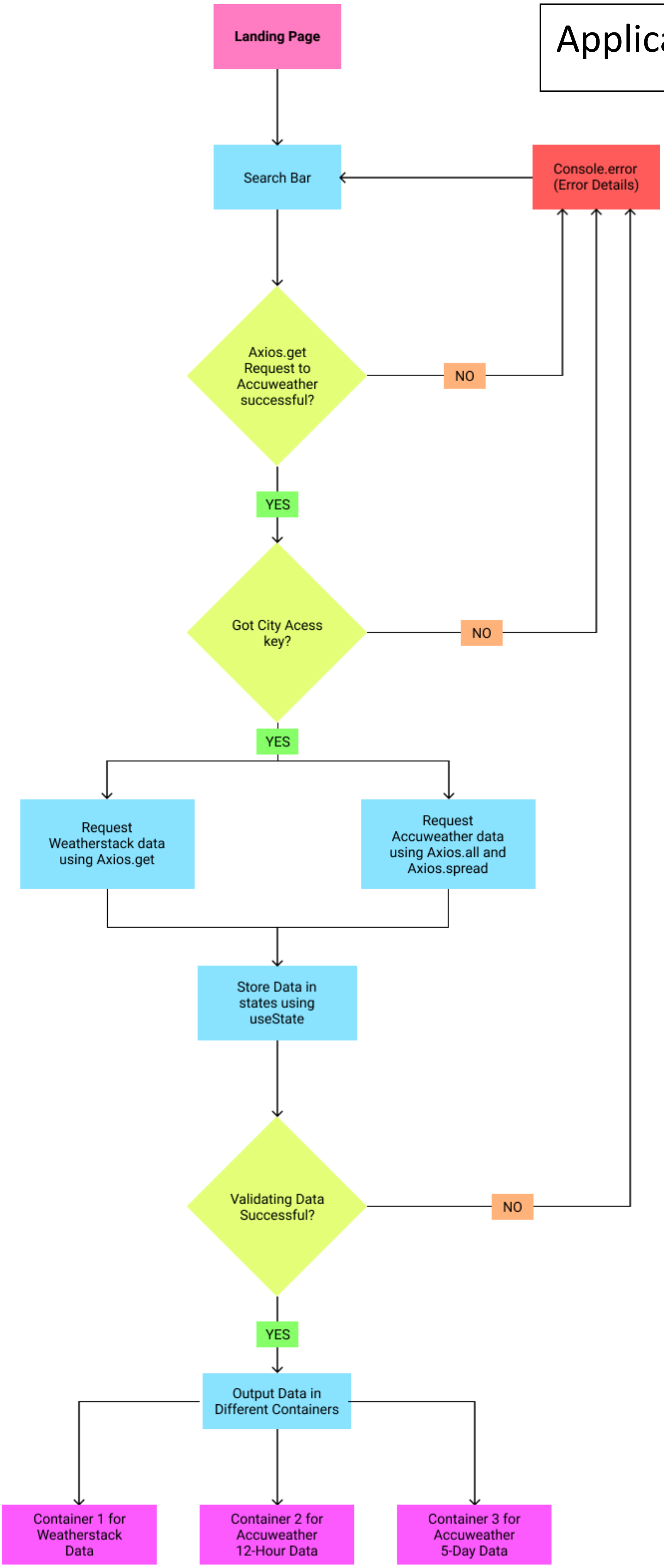
5-Day Forecast	H/L °C
Aug 21, 2021	25/21
Aug 22, 2021	29/23
Aug 23, 2021	27/16
Aug 24, 2021	31/12
Aug 25, 2021	31/21

This is not the final website design. Some changes to **User Interface (UI)** can be made depending on the API endpoint results and errors. *

User Flow


Landing Page
Is city already added?
Yes
No
Weather Details for city shown on page.
Add city name in search bar to get details.
Yes
Want to make a new Search?
No
No
API calls made to Weatherstack and Accuweather
Found City in Successful API call?
Yes

Application Flow


Landing Page
Search Bar
Console.error (Error Details)
Axios.get Request to Accuweather successful?
NO
YES
Got City Acess key?
NO
YES
Request Weatherstack data using Axios.get
Request Accuweather data using Axios.all and Axios.spread
Store Data in states using useState
Validating Data Successful?
NO
YES
Output Data in Different Containers
Container 1 for Weatherstack Data
Container 2 for Accuweather 12-Hour Data
Container 3 for Accuweather 5-Day Data