**Project 3: City Weather Status Canada**

# Team 10

# A Simple Weather app using React and OpenWeatherMap API 🔥 - DEV Community 👩‍💻👨‍💻

# Abstract:

An API (Application Programming Interface) provides an interface for various programming languages that allows developers and programmers to integrate the data directly into their systems in the desired format in just a few steps. A weather data API is an Application Programming Interface that allows you to integrate real-time weather data and weather forecast data into your apps and websites.

The project's objective is to provide both an overview and details confirming this assumption. The overarching question focuses on how weather changes as related to factors affecting it.

The following steps will be undertaken:

* Collection of data from a validated source
* Cleaning of the data to extract only useful information in accordance with our project questions.
* Construction of valuable analytics and visualizations
* Measurement of the trends using statistical tools
* Validation (or rejection) of our hypothesis based on the evaluating results from analytical tools.

## Built with:

* HTML
* JavaScript
* Jupyter Notebook
* CSS
* Python Flask-powered API - API weather
* SQL database
* Flask powered API
* d3js
* leaflet

### Prerequisites:

* browser (e.g., Google Chrome, Firefox)
* text editor (e.g., VS Code)
* terminal / CLI
* your own API key (<https://openweathermap.org/api>)
* Webpack / libraries / API usage
* basic understanding of HTML/CSS
* intermediate JavaScript knowledge
  + asynchronous flow
  + async/await functions / promises / error handling
  + modular JS

# Research Parameters:

1. Is there any difference in temperature of various cities and what factors affect them?
2. Does weather Parameters like pressure, humidity, rainfall Pressure, wind etc. affects the temperature of cities in Canada?
3. Showcasing the population of each city in the form of bar graph.
4. Is there any relation between latitude and Pressure.
5. Weather Forecast of coming 5 days of each city in Canada.
6. Dashboard of Weather showing Temperature by putting the cites name.
7. Observing the weather data for past 7 days of each cities.

# Observations:

# Mapping- The map distribution of cities in Canada using the weather elements as markers.

# Map Description automatically generated

# App – develop an app to check current weather conditions.

# Graphical user interface, application Description automatically generated

# Interactive – Visualization for cities’ populations.

# Timeline Description automatically generated

# Interactive – top ten cities temperature.

# Chart, pie chart Description automatically generated

# Initializing the SQL database with Flask powered API.

# Graphical user interface, chart Description automatically generated

# Data Sources:

[1. https://api.weather.gc.ca/](https://worldpopulationreview.com/countries/cities/canada)

[2. https://worldpopulationreview.com/countries/cities/canada](https://worldpopulationreview.com/countries/cities/canada)

3. <https://api.weather.gc.ca/openapi?f=html3>

4. <https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/how-we-use-observation-site/understanding-current-conditions-on-website.html>

5. <https://en.wikipedia.org/wiki/Temperature_in_Canada>

6. <https://www.kaggle.com/datasets/hemil26/canada-weather>

7. <https://benjamin-libor.medium.com/a-curated-collection-of-over-150-apis-to-build-great-products-fdcfa0f361bc>