**Lab 3 Report**

* **Overview**

My choice of API is the OpenWeatherMap API which gives the user the weather information for either a set of coordinates or a zip code. The API gives a whole lot of weather data on the specified region such as the temperature, temp min and max, pressure, humidity, wind speed, etc. I know my API is pretty boring but hey, it’s free.

* **Using API**

The default URL for the API uses latitude and longitude for the location parameter. There are alternative parameters which can either take the zip code for the city/town or the city name and the state. These non-coordinate options use the API’s built in geocoding API to get the coordinates for a specified zip code or city name. The default unit measurement is in kelvin which is why the ‘units’ parameter is set to imperial to get Fahrenheit results.

Lat and long URL

https://api.openweathermap.org/data/2.5/weather?lat={lat}&lon={lon}&units=impetial&appid={API\_KEY}

Zip code URL

https://api.openweathermap.org/data/2.5/weather?zip={zipcode},{country}&units=imperial&appid={API\_KEY}

City and State URL

https://api.openweathermap.org/data/2.5/weather?q={city},{state},{country}&units=imperial&appid={API\_KEY}

* **API Responses**

**Get Weather by Zip Code**

[https://api.openweathermap.org/data/2.5/weather?zip=37601&units=imperial&appid={API\_KEY}](https://api.openweathermap.org/data/2.5/weather?zip=37601&units=imperial&appid=%7bAPI_KEY%7d)

A screen shot of a computer code

Description automatically generated

This endpoint uses a specified zip code to get the weather for a specific city. The response includes everything from the current temperature to the sunrise and sunset times. This one uses the US as the default country and uses the API’s built in geocoding API. Users can alternatively use the city name or the coordinates.

**Get Weather by Coordinates**

[https://api.openweathermap.org/data/2.5/weather?lat=36.3134&lon=82.3535&units=imperial&appid={API\_KEY}](https://api.openweathermap.org/data/2.5/weather?lat=36.3134&lon=82.3535&units=imperial&appid=%7bAPI_KEY%7d)

A screen shot of a computer program

Description automatically generated

This endpoint gives the weather for a specific set of coordinates. This is the default option for using the weather API, but it isn’t the most streamlined experience.

**Get Weather by City**

https://api.openweathermap.org/data/2.5/weather?q=Johnson%20City,TN,US&units=imperial&appid={API\_KEY}

A screen shot of a computer code

Description automatically generated

This endpoint gives the weather based on what city and state is entered. The default country is the US.