

Data Checkpoint & Interactive Presentation Design

Data Checkpoint

Data:

I use 2 source data:

1. Historical Weather API (daily) needs an API key I have not used before. Nearly 4-month (120 records) for daily weather data, including wind, rain, sunshine.....

```
1  [
2    "timezone": "America/New_York",
3    "state_code": "NC",
4    "country_code": "US",
5    "lat": 35.7721,
6    "lon": -78.63861,
7    "city_name": "Raleigh",
8    "station_id": "723060-13722",
9    "data": [
10     {
11       "rh": 89.7,
12       "max_wind_spd_ts": 1629140400,
13       "t_ghi": 7641.4,
14       "max_wind_spd": 4.6,
15       "solar_rad": 125.4,
16       "wind_gust_spd": 4.6,
17       "max_temp_ts": 1629140400,
18       "min_temp_ts": 1629097200,
19       "clouds": 97,
20       "max_dni": 921.7,
21       "precip_gpm": 4,
22       "wind_spd": 1.8,
23       "slp": 1019.5,
24       "ts": 1629086400,
25       "max_ghi": 963,
26       "temp": 25.1,
27       "pres": 1004.2,
28       "dni": 409.6,
29       "dewpt": 23,
30       "snow": 0,
31       "dhi": 51.4,
32       "precip": 4,
33       "wind_dir": 121,
34       "max_dhi": 122.1,
35       "ghi": 318.4,
36       "max_temp": 31.7,
37       "t_dni": 9830.8,
38       "max_uv": 4.1,
39       "t_dhi": 1232.7,
40       "datetime": "2021-08-16",
41       "t_solar_rad": 3010.6,
42       "min_temp": 22.2,
43       "max_wind_dir": 121,
44       "snow_depth": null
45     },
46     {
47       "rh": 91,
```

Capture of a record of Historical Weather data

2. AirVisual API needs an API key I have not used before. Nearly 323 records for air quality data for cities in the US.

```

{
  "Alabama": [
    "Birmingham",
    "Cuba",
    "Decatur",
    "Empire",
    "Homewood",
    "Hoover",
    "Huntsville",
    "Irondale",
    "Madison",
    "McCalla",
    "Mobile",
    "Montgomery",
    "Tillmans Corner",
    "Uniontown"
  ],
  "Alaska": [
    "Anchor Point",
    "Anchorage",
    "Barrow",
    "College",
    "Dillingham",
    "Eagle River",
    "Ester",
    "Fairbanks",
    "Farmers Loop",
    "Haines",
    "Healy",
    "Homer",
    "Juneau",
    "Ketchikan",
    "Knik-Fairview",
    "Kotzebue",
    "Nome",
    "North Pole",
    "Palmer",
    "Tok",
    "Valdez",
    "Willow"
  ],
  "Arizona": [
    "Ajo",
    "Apache Junction",
    "Avondale",
    "Buckeye",
    "Casa Grande",
    "Chandler",
    "Flagstaff",
    "Gilbert",
    "Glendale",
    "Goodyear",
    "Hendersonville",
    "Kingman",
    "Maricopa",
    "Mesa",
    "Mountain View",
    "Oro Valley",
    "Peoria",
    "Phoenix",
    "Prescott",
    "Prescott Valley",
    "Queen Creek",
    "Scottsdale",
    "Tempe",
    "Tucson",
    "Tulsa",
    "Yuma"
  ]
}

```

Air quality data-city

```

{
  "status": "success",
  "data": {
    "city": "Ann Arbor",
    "state": "Michigan",
    "country": "USA",
    "location": {
      "type": "Point",
      "coordinates": [
        -83.738751,
        42.296027
      ]
    },
    "current": {
      "weather": {
        "ts": "2021-12-17T07:00:00.000Z",
        "tp": 1,
        "pr": 1016,
        "hu": 67,
        "ws": 0.89,
        "wd": 275,
        "ic": "01n"
      },
      "pollution": {
        "ts": "2021-12-17T07:00:00.000Z",
        "aqius": 17,
        "mainus": "p2",
        "aqicn": 6,
        "maincn": "p2"
      }
    }
  }
}

```

Air quality data-one city detailed data

I attached the json.file to submit to this check point.

Interactive Presentation Design:

Describing your plans for implementing interactive presentation capabilities, including user options supported and presentation types.

I will present data by using both 1) userCommand Line interface 2) plotly visualization graph

When users input some input and answer the question asked by the Tree I defined, our interface will automatically show them ≥ 4 visualization pics/graphs/plots about the different categories of weather and the Air quality according to the user's answer/position/yes or no input.