SI 206 Final Project Plan Update

a. What is your group's name?

Popcorn

b. Who are the people in the group (first name, last name, umich email)?

Alexandra Washington, wasnalex@umich.edu
Olga Hamilton, holga@umich.edu

c. What APIs/websites will you be gathering data from? The base URLs for the APIs/websites must be different for them to count as different APIs

> ❖ Planed
- Spotipy: https://spotipy.readthedocs.io/en/2.24.0/Gmail: https://developers.google.com/gmail/api/guides

> ❖ Changed to:
- Weather: https://www.weatherapi.com/docs/
- AirQuality : https://api-docs.iqair.com/?version=latest#get-started

d. What data will you collect from each API/website and store in a database? Be specific.

1. Weather API:
   - Id
   - Date and time
   - Temperature (°C)
   - Weather condition (e.g., sunny, cloudy, rainy)
   - Humidity
   - Wind speed
   - Location (city, region, country)

2. AirQuality
- Id
- Date and time
- Air Quality Index (AQI)
- Main pollutant (e.g., PM2.5 and PM10)
- Location (city, region, country)

e. What data will you be calculating from the data in the database? Be specific.

1 Weather
- Average temperature by day
- Most common weather condition in a given time period
- Correlation between temperature and weather condition (e.g., rain vs. temperature drop)

2 AirQuality
- Daily average AQI
- Trends in air pollution levels over time
- Correlation between AQI and main pollutant levels (e.g., PM2.5 and PM10)

f. What visualization package will you be using (Matplotlib, Plotly, Seaborn, etc)?

We will use **Matplotlib** for creating graphs and charts.

g. What graphs/charts will you be creating?

1. Weather

- Line Chart: Temperature over time
- Bar Chart: Average temperature by weather condition

2. AirQuality

- Histogram: Distribution of AQI levels
- Line Chart: AQI trends over time

h. Who is responsible for what? Please note that all team members should do an equal amount of programming and total work.

Olga:

- Set up data libraries and handle API authentication.
- Write functions to retrieve and store weather data.
- Data Collection: Gather weather and air quality data, save to the database.
- Visualizations: Create graphs for weather data.

Alexandra:

- Perform preliminary analysis of air quality data.
- Write functions for data aggregation and trend analysis.
- Visualizations: Create graphs for air quality data.
- Project management and final report writing.

Project Management and Report Writing

- Both members contribute equally to documentation, report writing, and final presentation.