PROJECT REPORT ON

Air Pollutants Analysis Tools

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING (DATA-SCIENCE)

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TITLE PAGE NO

1.0 INTRODUCTION

Protecting the atmospheric environment involves control of atmospheric emissions as well as an understanding of pollutant dispersion, monitoring emission levels, i.e. concentration in ambient air.

To monitor these levels there are Air Quality Monitoring API’s The main objective of these Networks is to record the concentration levels of atmospheric pollutants in order to define air quality levels and establish action plans if high levels of contamination are detected.

Other objectives are:

- Locating contamination problem areas and understanding their changes to be done.
- Complying with atmospheric air protection legislation
- Obtaining the necessary information to define Action Plans as stipulated by Indian directives or other international regulations if alert thresholds are breached.
- Informing citizens regarding local air quality status.

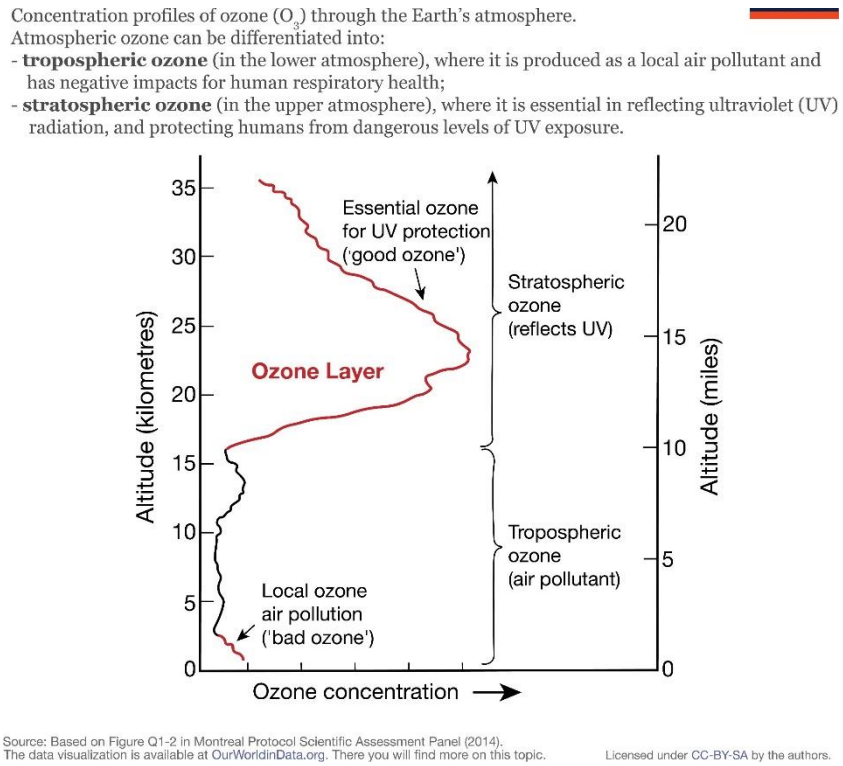
A weather API is an Application Programming Interface that allows weather data to be queried from scripts and code. Good weather APIs provide both historical weather data and forecast data via an easy-to-use, well-defined programming interface.

Here we used the open weather API.
Source: link

Ozone and its impact through the atmosphere.

To understand the importance of the ozone layer, it's crucial to first establish the difference in concentrations of ozone throughout the Earth's atmosphere.

Image source : our world in data



1.1 REQUIREMENTS

- Weather APl's .
- Globe.gl graphics library .
- Space images,gifs,and data from NASA website.

1.2 SOFTWARE REQUIREMENTS

Operating System : WINDOWS 11
BIG SUR
FEDORA(LINUX DISTRIBUTION)

Platform : VS CODE

Softwares : html,css,java script

1.3 HARDWARE REQUIREMENTS

Processor : Intel i7
RAM : 8GB
HDD : 1TB
SSD : 512GB

3.0 PROPOSED SYSTEM

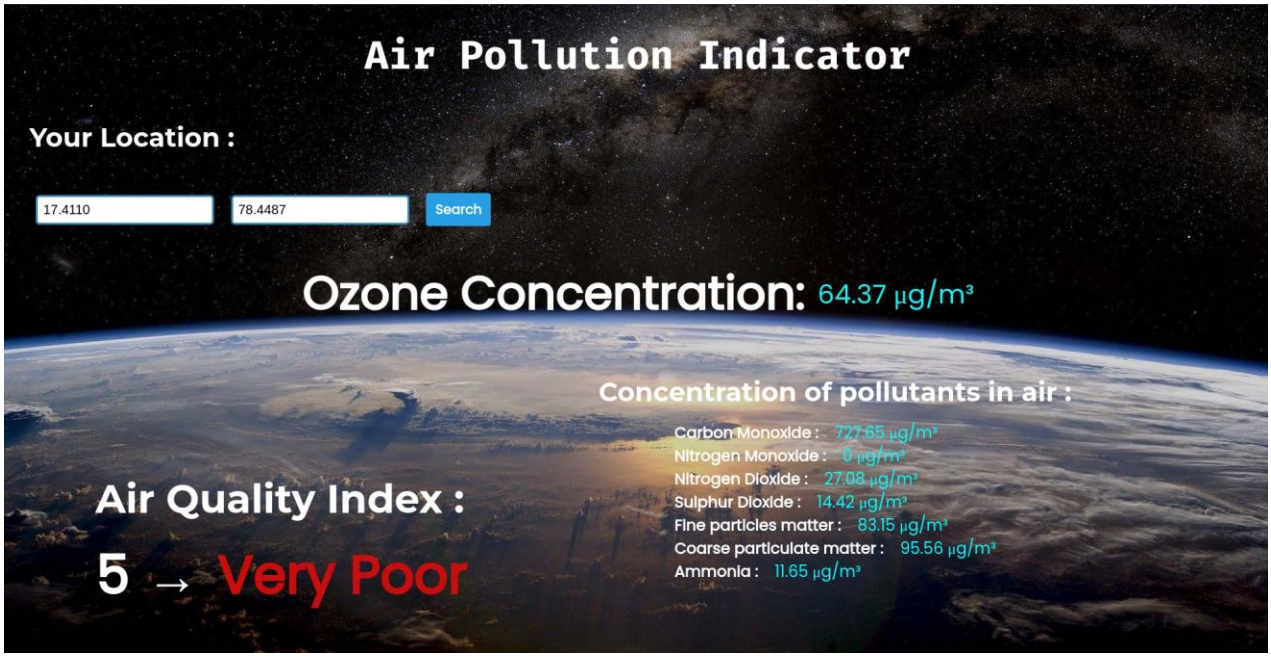
Our proposed website will lead to the accomplishment of the following results :

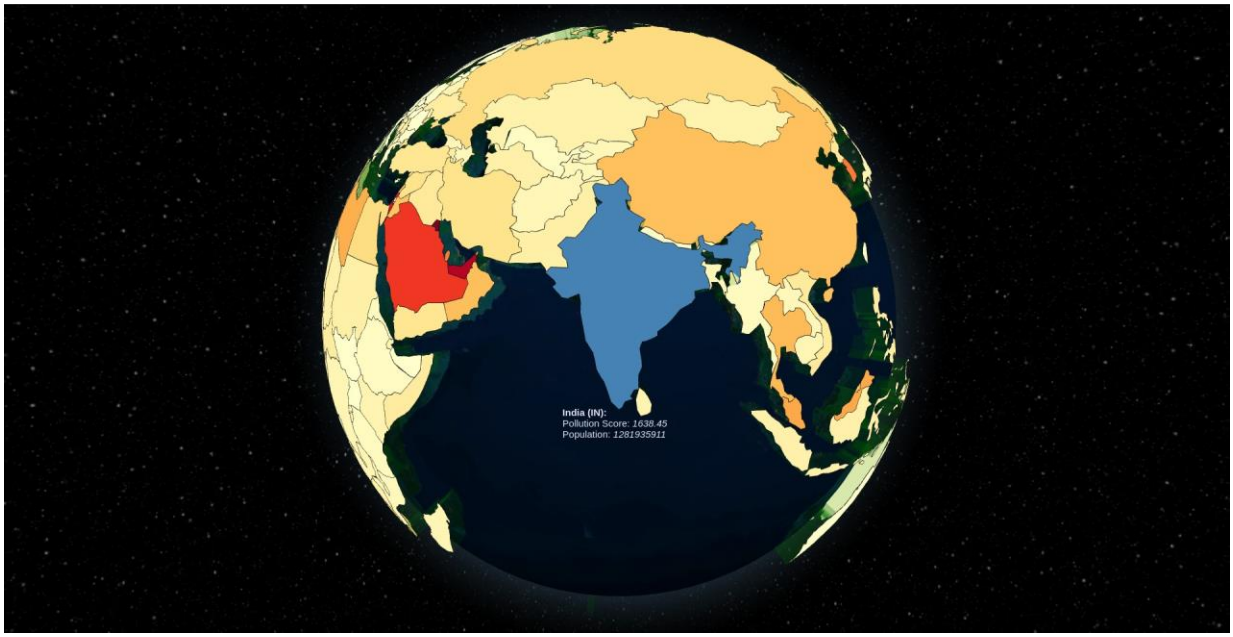
- Aims to classify air pollutants.
- Ozone pollutants in the stratosphere.
- Live monitoring of the data in nature.
- Realistic Earth Visualizer by data regarding ozone.

3.0 Source Code:

link to source code

Output:


Air Pollution Indicator
Your Location :
17.4110
78.4487
Search
Ozone Concentration: 64.37 µg/m³
Concentration of pollutants in air :
Carbon Monoxide : 727.65 µg/m³
Nitrogen Monoxide : 0 µg/m³
Nitrogen Dioxide : 27.08 µg/m³
Sulphur Dioxide : 14.42 µg/m³
Fine particles matter : 83.15 µg/m³
Coarse particulate matter : 95.56 µg/m³
Ammonia : 11.65 µg/m³
Air Quality Index :
5 → Very Poor


India (IN):
Pollution Score: 1638.45
Population: 1281935911

4.0 ADVANTAGES

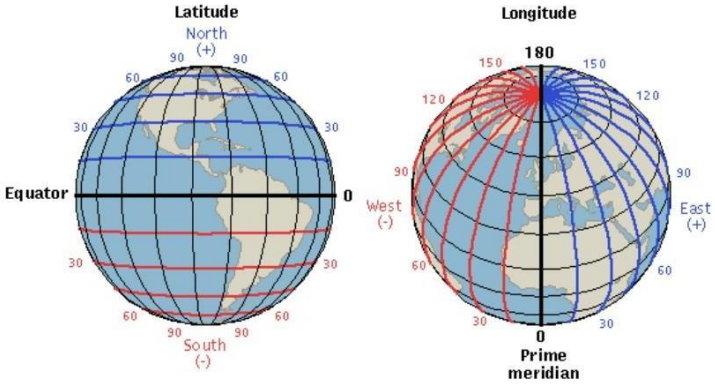
MONITORING STATIONS:

- Air Quality Monitoring Networks allow the measurement, operation and predictive analysis of the evolution of air pollution in different areas (urban areas, industrial areas, special nature conservation areas, etc.)

- Monitoring of the measure the following parameters: • NOx, SO2, CO, O3, BTX, etc.

- Nowadays the data is being used across the world so there is more scope in future need to know by humans.
- People can easily access the live data from any latitude and longitude on earth.

By combining latitude and longitude, any location can be pinpointed



- This data makes it easy for many necessities like industrial areas,public places..etc.

5.0 FUTURE SCOPE

The future work is as follows :

Not only website,
we are trying to develop the application for android user

With more accuracy.

As we made our website using github pages
We want a custom domain for our website and make it open to all the users.

6.0 CONCLUSION :

- To monitor the air in the environment using API’s
- the process of monitoring various aspects of the environment such as the air quality monitoring issue.
- This system has features for people to monitor the amount of pollution on their mobile phones using the application.
- This measures the air quality in real-time .