Air Pollution In Odisha

Prepared under Supervision of Prof. Pabitra Mohan Khilar, NIT, Rourkela

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10th August, 2021

Acknowledgment

I would like to sincerely thank my supervisor and guide Prof. Pabitra Mohan Khilar sir, HOD of Computer Science Department, National Institute of Technology, Rourkela, who guided my path to build a website for air pollution.

Content

Introduction

Air pollution is contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere.

Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution. Pollutants of major public health concern include particulate matter, carbon monoxide, ozone, nitrogen dioxide and sulphur dioxide. Outdoor and indoor air pollution cause respiratory and other diseases and are important sources of morbidity and mortality.

This project aims on keeping track of some of the components on air, temperature and humidity of a city on a particular date.

The front page of the website gives information about current weather data and the arranged data will provide a table of data holding number of molecules and temperature and humidity of a particular city.

Motivation for this project

In this world of evolution of industries, there is a point where we are affecting the earth's atmosphere. These industries release many harmful and toxic wastes in form of gas and liquid that pollutes our natural resources like air and water.

In this project we have concentrated on the pollution in air. This project idea is motivated and guided by Prof. Pabitra Mohan Khilar sir, who is presently Head of the Dept. of CS at Nation Institute of Technology, Rourkela.

Air Pollution website have a basic concept of collecting and estimating the pollution in air and the molecules that are responsible for it.

Methodology

Languages used in this website:

- **HTML5**
- **CSS**
- **JavaScript**
- **PHP**
- **MySQL**

Software used:

- **VS Code**
- **XAMPP Control Panel**

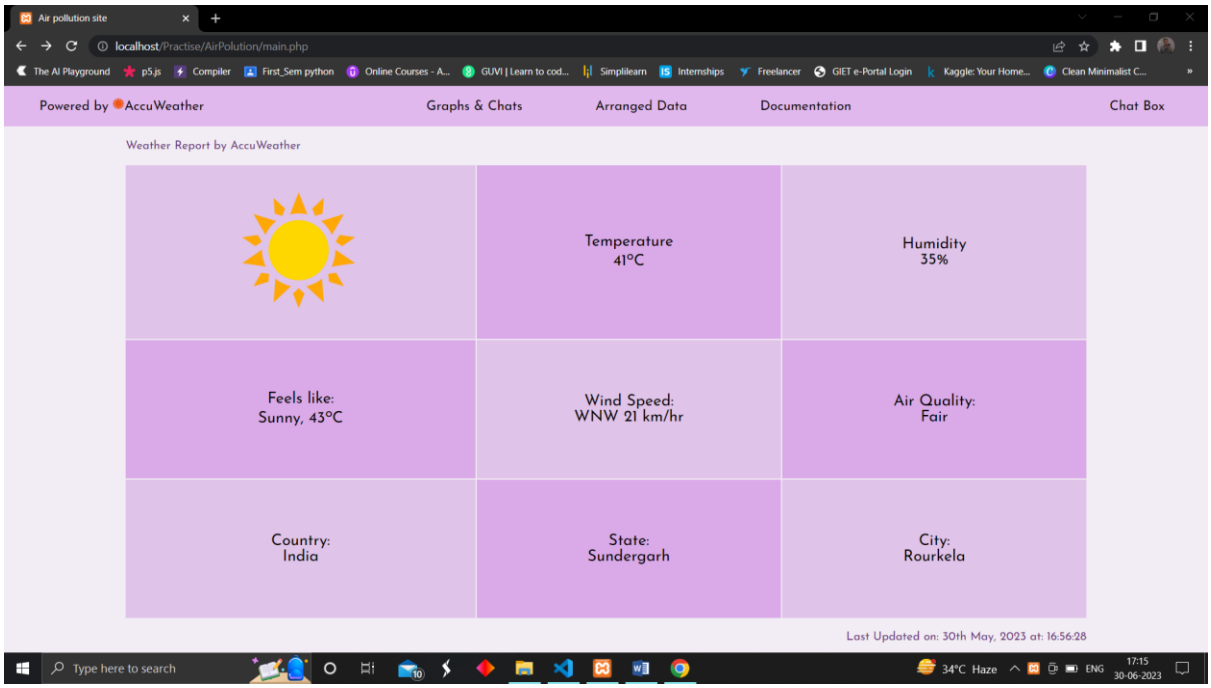
First we built a basic skeleton of the website with HTML5 and then added some styling to make interface interesting using CSS. We used JavaScript for fetching data and to guide and control features of website.

For database we used MySQL and for connecting database with website we used PHP.

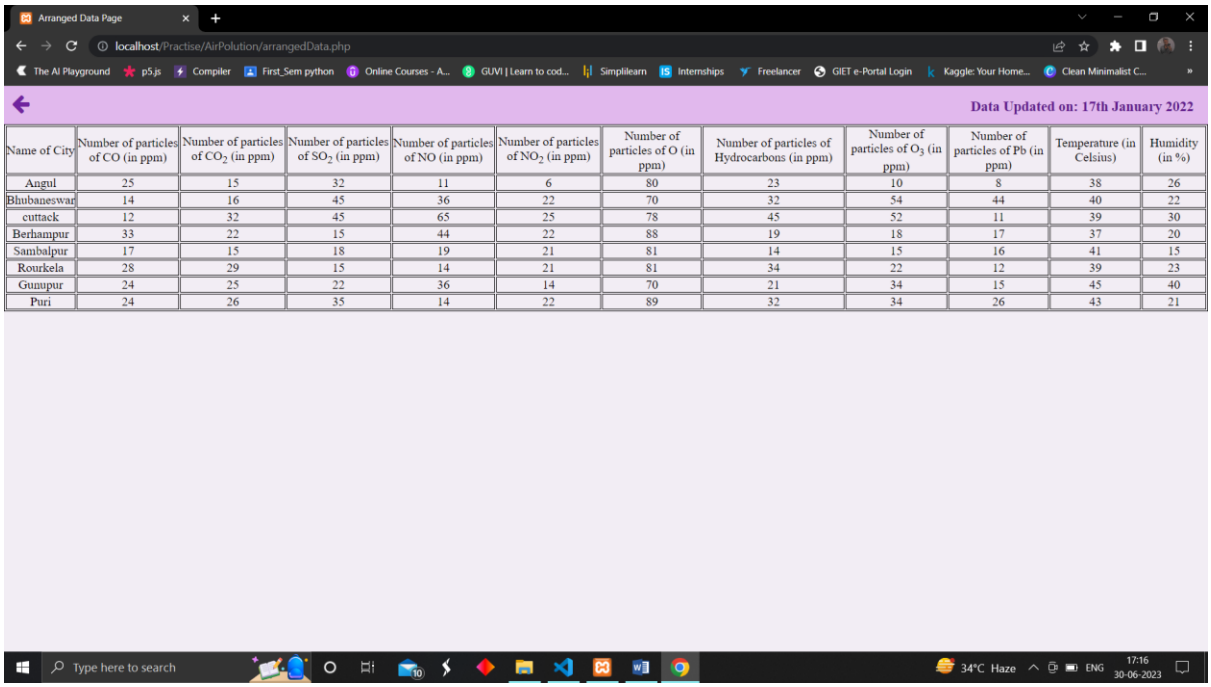
We used API provided by AccuWeather for fetching data of weather forecast. And the data in 'Arranged Data' are just test data.

Result

SS of Main Page

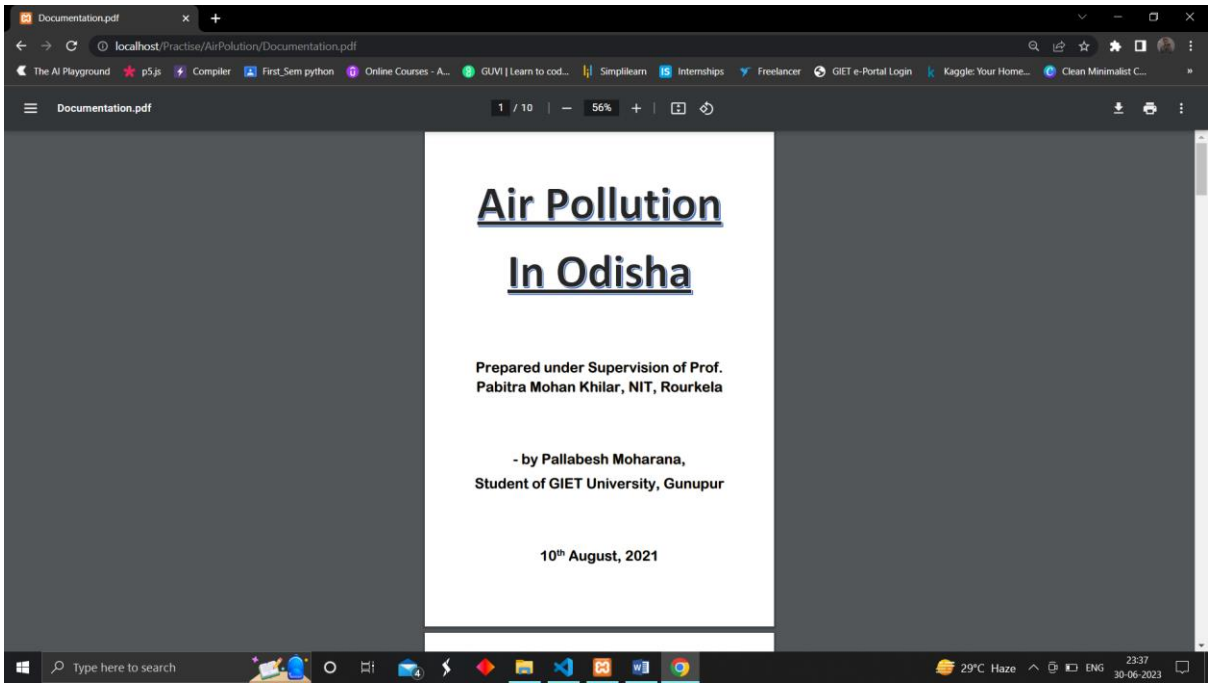


SS of Arranged Data Page



Name of City	Number of particles of CO (in ppm)	Number of particles of CO_2 (in ppm)	Number of particles of SO_2 (in ppm)	Number of particles of NO (in ppm)	Number of particles of NO_2 (in ppm)	Number of particles of O (in ppm)	Number of particles of Hydrocarbons (in ppm)	Number of particles of O_3 (in ppm)	Number of particles of Pb (in ppm)	Temperature (in Celsius)	Humidity (in %)
Angul	25	15	32	11	6	80	23	10	8	38	26
Bhubaneswar	14	16	45	36	22	70	32	54	44	40	22
cuttack	12	32	45	65	25	78	45	52	11	39	30
Berhampur	33	22	15	44	22	88	19	18	17	37	20
Sambalpur	17	15	18	19	21	81	14	15	16	41	15
Rourkela	28	29	15	14	21	81	34	22	12	39	23
Gunupur	24	25	22	36	14	70	21	34	15	45	40
Puri	24	26	35	14	22	89	32	34	26	43	21

Documentation Page containing the report of the website.



Conclusion & Future Scope

Air pollution can result in poor air quality. Some air pollutants make people sick, causing breathing problems and increasing likelihood of cancer. Some air pollutants are harmful to plants, animals and the ecosystems in which they live.

This site provides you with the information and data like nnumber of molecules present in air on a particular day, on a particular time and on a particular location.

Further this project may be modified to show data of a desired city. It may take a query and show its result with the help of an AI Chat Bot.

The data may be used to check and control the emission of bad molecules in air to minimize air pollution.

This main page containing weather forecast may be designed in such a way that it will take a query from a customer and show the desired result.

Further we may add features like weather prediction using machine learning and algorithms.

Graphical representation of concentration of molecules will may also be added for better explanation and studying. Further graphs representing changes in concentration of molecules over a period of time can also be added.

Related Websites

We used AccuWeather API to fetch data.

So we first registered on AccuWeather APIs. And then generated an app to get the key that will help us fetch the data.

Link for AccuWeather APIs:

https://developer.accuweather.com/