Project Idea:

- To build a machine learning powered web-app
- Main objective is to classify air pollution levels
- Use clustering to group pollution data levels
- Categorise the data based on patterns
- Make the tool accessible to users through a web interface

Main Objectives:

- Train and use clustering models to predict air pollution levels
- Develop a streamlit based web app to give the model to the users
- Allow users to upload csv datasets for prediction
- Provide quick and easy to understand results in the browser
- Make air pollution analysis more accessible to non technical users

Methodology:

- Supervised Machine Learning
- Unsupervised Machine Learning
- Input data: Accepts csv files via Streamlit's file uploader
- Uses a pre-trained model for clustering using joblib
- Uses the model on the uploaded dataset to create the clusters
- Libraries Used:
    - Pandas
    - Numpy
    - Seaborn
    - Matplotlib.pyplot
    - Joblib
    - Streamlit

Conclusion:

- Fully functional web app for predicting air pollution levels from data uploaded by users.
- Users can analyze the air pollution levels without having to know how to code or have Machine learning knowledge.
- Useful for:
    - Analyzing air quality patterns
    - Evaluating pollution zones
    - For students and teachers to use as a learning tool