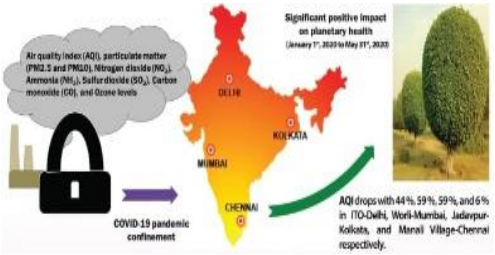
AIR QUALITY ANALYSIS IN TAMILNADU

Phase 1:Problem statement and Design thinking



Team leader-Yogeshwari.S

Team member-Abinaya.M

Team member-Aarthi.M

Team member-Abinaya.D

"Air quality analysis refers to the process of monitoring and assessing the composition of the air in a specific area or region to determine the concentration of various pollutants and contaminants present. This analysis is conducted to evaluate the overall quality of the air, identify potential health hazards, and assess compliance with environmental regulations. Air quality analysis typically involves measuring pollutants such as particulate matter, gases (e.g., nitrogen dioxide, sulfur dioxide), volatile organic compounds, and more, with the goal of understanding the impact on human health and the environment."

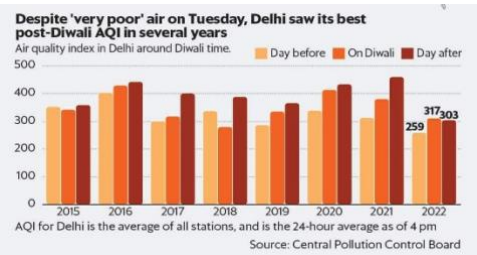
Problem statement:

A problem statement is a concise description of an issue or challenge that needs to be addressed. It typically includes details about the current situation, the specific problem or obstacle, its significance or impact, and sometimes hints at possible solutions. Problem statements are often used in research, project management, and problem-solving processes to clearly define the problem that needs to be solved. They serve as a foundation for devising strategies and solutions.

For example, a problem statement might look like this:

"Many residents in City X are experiencing health issues due to poor air quality caused by high levels of industrial emissions and vehicular pollution. This problem is significant because it leads to a higher incidence of respiratory diseases and decreases the overall quality of life in the community. The problem statement aims to find effective strategies to reduce air pollution and improve public health in City X."

The problem statement sets the stage for further investigation and action to address the identified problem.



Design thinking:

Design thinking is a problem-solving approach and mindset that places a strong emphasis on understanding the needs and perspectives of the end users or customers. It is a creative and iterative process that is often used in fields like product design, innovation, and problem-solving. Here are the key principles and stages of design thinking:

1. Empathize: In this stage, you seek to understand the problem from the user's perspective. This involves empathizing with the end users, observing their behaviors, and conducting interviews to gain insights into their needs, motivations, and pain points.

2. Define: Once you have gathered insights, you define the problem statement in a way that focuses on the user's needs. This step involves synthesizing the information you've gathered and identifying the core issues to address.

3. Ideate: This stage encourages brainstorming and generating creative ideas for solving the defined problem. It's about thinking outside the box, encouraging innovation, and considering a wide range of potential solutions.

4. Prototype: Prototyping involves creating tangible representations of your ideas. These can be low-fidelity models, sketches, or even interactive prototypes, depending on the context. The goal is to quickly test and iterate on your ideas.

5. Test: Testing involves gathering feedback from users by putting your prototypes in front of them. This step helps you assess how well your solutions meet user needs and identify areas for improvement.

6. Iterate: Based on the feedback and insights gained from testing, you refine your ideas and prototypes. This process of iteration may involve going back to previous stages to make necessary adjustments. Design thinking is a flexible approach that encourages collaboration and a user-centric mindset.