NOISE POLLUTION MONITORING

Phase 1 : Problem Definition and Design Thinking

Project Definition: Noise pollution monitoring refers to the systematic process of measuring, recording, and assessing sound levels in various environments to understand the extent of noise pollution and its potential impact on human health and the surrounding ecosystem.

Design Thinking:

1. **Project Objectives**: This allows authorities to monitor air pollution in different areas and take action against it. Also authorities can keep a watch on the noise pollution near schools, hospitals and no honking areas, and if system detects air quality and noise issues it alerts authorities so they can take measures to control the issue.

Creating a noise pollution monitoring :

Creating a noise pollution monitoring using Arduino UNO involves integrating various sensors and connectivity options to enhance functionality and provide real-time monitoring. Here's a high-level overview of the components and steps involved:

Components:

1. ArduinoUNO

2. LM393 (Noisesensor)

3. ESP8266 WIFIModule

4. 16*2 LCDDisplay

5. LED

6. Buzzer

Sensors:

1. Noise Sensor: To detect the noise and display the noise level observed by an sensor

ALGORITHM

1. Start Arduino UNO.

2. initialize LCD, noise sensor

3. Establish WITI connections.

4. If connection successful. next step else go to step 1

5. Read sensor values.

6. If Sensor value available establish TCP connection

else read values again.

7. Establish TCP connection

8. If TCP connections successful. send data to server

(Thingspeak). else set go to step 7

9. If TCP connections successful. send data to server

(ThingSpeak). else set gob to step 7

10. Check for acknowledgement.

11. If acknowledgement received. go to step some time

& else wait for go to step no 5.

Display/Interface:

1.An LCD display or LED matrix to provide information to users (e.g., noiselevel, noise cancelling tips, etc.)

FUTURE SCOPE

In future we modify the system to notify a user about noise level it reaches beyond permissible level through sms or app. We sound pollution level at any place of the world.

CONCLUSION

By using this project each and every variation we can analyze and inform nearby people in time. We can also analyze data form home using thingspeak. The most important factor of this system is that it is small, cost efficient and portable. Sensors are available easily anywhere.

This system fully helpful to save the lives and overcome all the problem related to environment.