COLLEGE NAME: PRIYADARSHINI ENGINEERING COLLEGE

COLLEGE CODE: 5119

COURSE NAME: INTERNET OF THINGS

GROUP NUMBER:2

PROJECT TITLE: NOISE POLLUTION MONITORING

PROJECT SUBMITTED TO:SKILL UP ONLINE

YEAR: 3

DEPARTMENT:ECE

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Noise pollution monitoring

Problem statement

Noise pollution can have various adverse effects on individuals, communities, and the environment. Here are some ways in which noise pollution can affect different aspects of our lives:

1. **Health Effects:**
   - **Hearing Damage:** Prolonged exposure to high levels of noise can lead to permanent hearing damage or loss.
   - **Stress and Anxiety:** Constant noise can increase stress levels, leading to anxiety, sleep disturbances, and even cardiovascular problems.
   - **Sleep Disruption:** Loud noise at night can disrupt sleep patterns, causing fatigue and affecting overall health.

2. **Mental Health:**
   - **Increased Stress:** Noise pollution can contribute to increased stress and irritability, impacting mental well-being.
   - **Cognitive Impairment:** Concentration and cognitive abilities may be impaired in noisy environments, affecting productivity and learning.

3. **Social and Community Impact:**
   - **Disturbance:** Excessive noise can disrupt social interactions, affect community cohesion, and lead to conflicts among neighbors.
   - **Reduced Quality of Life:** Noise pollution can decrease the overall quality of life in affected areas.

4. **Environmental Effects:**
   - **Harm to Wildlife:** Loud noises can disrupt wildlife habitats, leading to stress, displacement, and changes in animal behavior.
   - **Ecosystem Disruption:** Noise pollution can interfere with the normal functioning of ecosystems and affect species diversity.

5. **Safety Concerns:**
   - **Auditory Masking:** Noise pollution can mask important sounds, such as emergency sirens or alarms, posing safety risks.
   - **Reduced Awareness:** Pedestrians and drivers may be less aware of their surroundings in noisy areas, leading to accidents.

6. **Workplace Impact:**
   - **Reduced Productivity:** Excessive noise in workplaces can reduce productivity and increase errors among employees.

7. **Learning and Education:**
   - **Negative Impact on Learning:** Noisy classrooms can hinder learning and comprehension in students.

8. **Cardiovascular Health:**
   - **Increased Risk:** Chronic exposure to noise pollution has been linked to an increased risk of heart diseases and hypertension.

9. **Overall Well-being:**
    - **Quality of Life:** Noise pollution can diminish the overall quality of life in urban areas and affect property values.

It's Important to recognize that the impact of noise pollution can vary depending on the duration, intensity, and frequency of exposure, as well as individual sensitivity. Efforts to mitigate noise pollution include the use of noise barriers, soundproofing, urban planning, and public awareness campaigns to promote quieter environments and reduce the adverse effects of noise on health and well-being.

Solution

Deploy loT sensors to measure noise pollution in public areas, providing real-time noise level data accessible to the public through a platform or mobile app.

Sound meter is connected with Arduino board to detect the sound and noise in the locality. This data is fed to cloud using esp8266 module. This data is analyzed for noise pollution levels and the result is made available in a mobile app.

"Less Noise, More Peace – The Earth's Release!"