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NOISE POLLUTION MONITORING SYSTEM USING IOT

1. Problem statement understanding:

- Noise pollution, also known as environmental noise or sound pollution, is the propagation of noise with ranging impacts on the activity of human or animal life, most of them harmful to a degree.
- The source of outdoor noise worldwide is mainly caused by machines, transport, and propagation systems.
- Poor urban planning may give rise to noise disintegration or pollution, side-by-side industrial and residential buildings can result in noise pollution in the residential areas.
- Some of the main sources of noise in residential areas include loud music, transportation (traffic, rail, airplanes, etc.), lawn care maintenance, construction, electrical generators, explosions, and people.

- To control and monitor different activities focused by Present innovations in technology. To reach the human needs these are increasingly emerging.
- Most of this technology is focused on efficient monitoring and controlling different activities.
- To monitor and assess the conditions in case of exceeding the prescribed level of parameters an efficient environmental monitoring system is needed.
- In an environment when an object is equipped with sensor devices, then in this case microcontrollers and various software applications become self-defending.
- In such an environment when LED alerts automatically or some event occurs the alarm.

- Noise pollution is a growing issue these days. It is necessary to monitor noise levels and keep it under control for a better future .
- Here is a proposed noise pollution monitoring system that allows sound pollution in a particular area through IOT. System uses noise sensors to sense noise levels and constantly transmit this data to the microcontroller.
- A solution for monitoring the noise i.e., any parameter value crossing its threshold value ranges.
- In the environment using wireless embedded computing system is proposed in this paper.

2. Software and Hardware requirement:

1. Arduino - with sound sensor , an LCD.
2. Proteus software
3. Cloud system to transfer data over wireless network.
4. Android application for monitoring the levels.
5. Database software , Html , CSS, Js - programming languages.

3. Addition/Updates:

1. The system should send an instant alert when noise goes above a certain level and a penalty should be applied according to that.

4. Applications:

a. Noise detector system in parties / get togethers.
b. To lessen the noise during public speeches or political rallies.
c. Can be used in a vehicle to detect the noise level
d. Can be used in electrical circuits for detecting noise.

5. Conclusion:

a. By keeping the embedded devices in the environment for monitoring enables self protection to the environment.
b. To implement this, we need to deploy the sensor devices in the environment for collecting the data and analysis.
c. By deploying sensor devices in the environment, we can bring the environment into real life i.e. it can interact with other objects through the network. Then the collected data and analysis results will be available to the end user through the Wi-Fi.
d. The data will be helpful for future analysis and it can be easily shared to other end users.
e. With the help of IoT this project can play a pivotal role in helping concerned authorities to limit Noise pollution.

6. References:

a. **https://www.ijareeie.com/upload/2017/march/49_IOT.pdf**
b. **https://www.ijcaonline.org/archives/volume178/number7/joshi-2017-ijca-915840.pdf**
c. **https://ijarcce.com/upload/2017/march-17/IJARCCE%2097.pdf**