IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.67
Volume 5, Issue 2, March 2025

IoT Based Air and Sound Pollution Monitoring System

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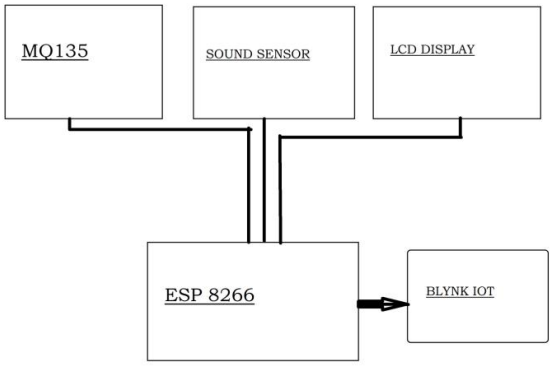
Abstract: *The system proposed in this is an advanced solution for monitoring the environmental conditions at a particular place and make the information visible anywhere in the world. The technology behind this is Internet of Things (IOT), which is an advanced and efficient solution for connecting the things to the internet and to connect the entire world of things in a network. Here things might be whatever like electronic gadgets, sensors and automotive electronic equipment. The system deals with monitoring and detection of air and sound pollution and sends sensor data to the computer and android phone using IOT link. The data updated from the implemented system can be accessible in the internet from anywhere in the world using think speak plate form.*

Keywords: Internet of Things

I. INTRODUCTION

A weather station is a facility, either on land or sea, with instruments and equipment for measuring atmospheric conditions to provide information for weather forecasts and to study the weather and climate. The measurements taken include temperature, atmospheric pressure, humidity, wind speed, wind direction, and precipitation amountsWind measurements are taken with as few other obstructions as possible, while temperature and humidity measurements are kept free from direct solar radiation, or insolation. Manual observations are taken at least once daily, while automated measurements are taken at least once an hour. Weather conditions out at sea are taken by ships and buoys, which measure slightly different meteorological quantities such as sea surface temperature (SST), wave height, and wave period. Drifting weather buoys outnumber their moored versions by a significant amount

Block Diagram:



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www.ijarsct.co.in
DOI: 10.48175/IJARSCT-23756

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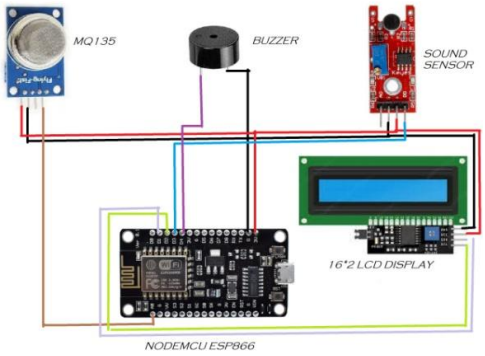
Working

- Air quality sensor for monitoring air quality.
- Condenser mic for sound monitoring.
- All the sensors are attached to the microcontroller.
- Microcontroller will do some calculation and send data to microcontroller.
- We will set the limit of every sensor if limit exceeded it will alert the user by displaying limit crossed.

Circuit Diagram:



IOT BASED AIR & SOUND POLLUTION MONITORING

Main Component

- Node-MCU
- LCD Display
- Power supply
- Connecting wires
- Sound Sensor
- MQ135 Sensor
- Buzzer

Advantages

- The system can be used to monitor air quality and sound.
- Data can used in researches and data mining.
- It is easy to use safe and reliable.
- Sensors are easily available.
- Sensors are effortlessly accessible.
- Detecting of wide range of gases.
- Simple, compact and easy to handle.
- Sensors have long life time.
- Low cost
- Data can be used to control pollution.

Disadvantage:

- The device is not water resistant keep away from moisture.
- System may not work during extreme weather condition of IOT.

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Future scope:

- In future we will add more accurate sensors for accurate analysis of data.
- We will work on the power supply and replace existing system with solar based power supply.

II. CONCLUSION

- By using this project each and every variation we can analyze and inform nearby people in time.
- 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.

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