Air Quality Monitoring

Submitted by:
V. Arthi

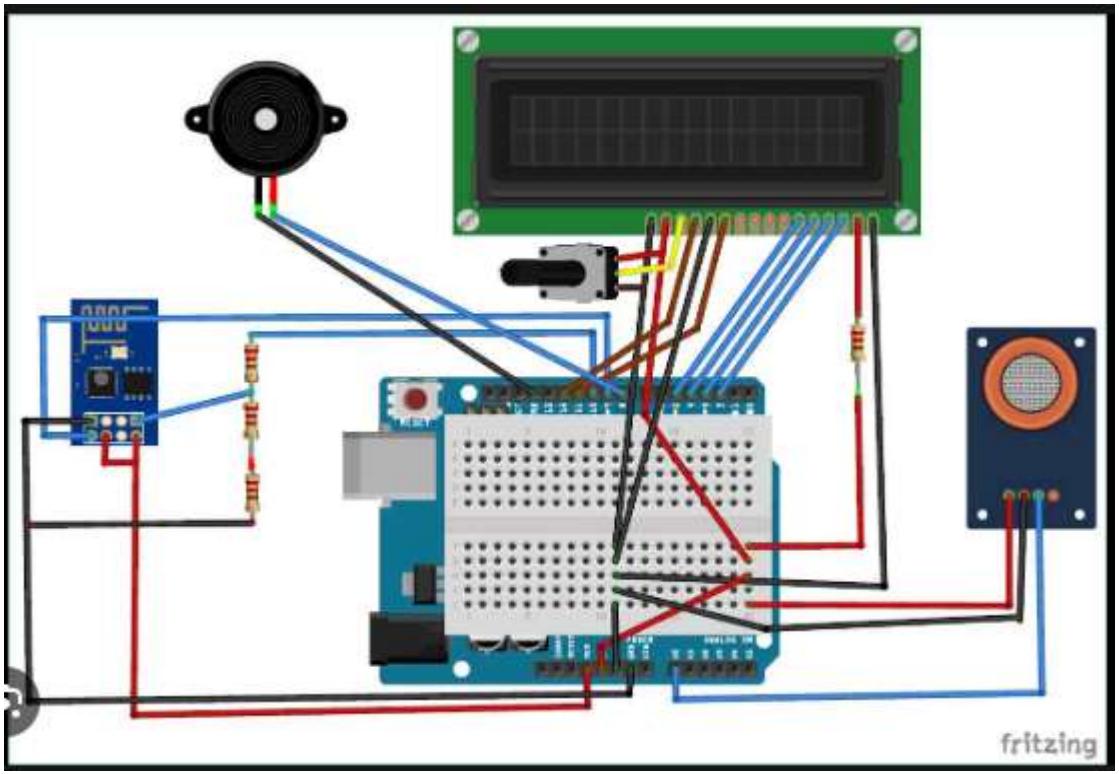
Introduction

Provides a combination of process of sensing several gas levels in the air and also the ambient temperature and humidity, thus sensing the quality of the air.

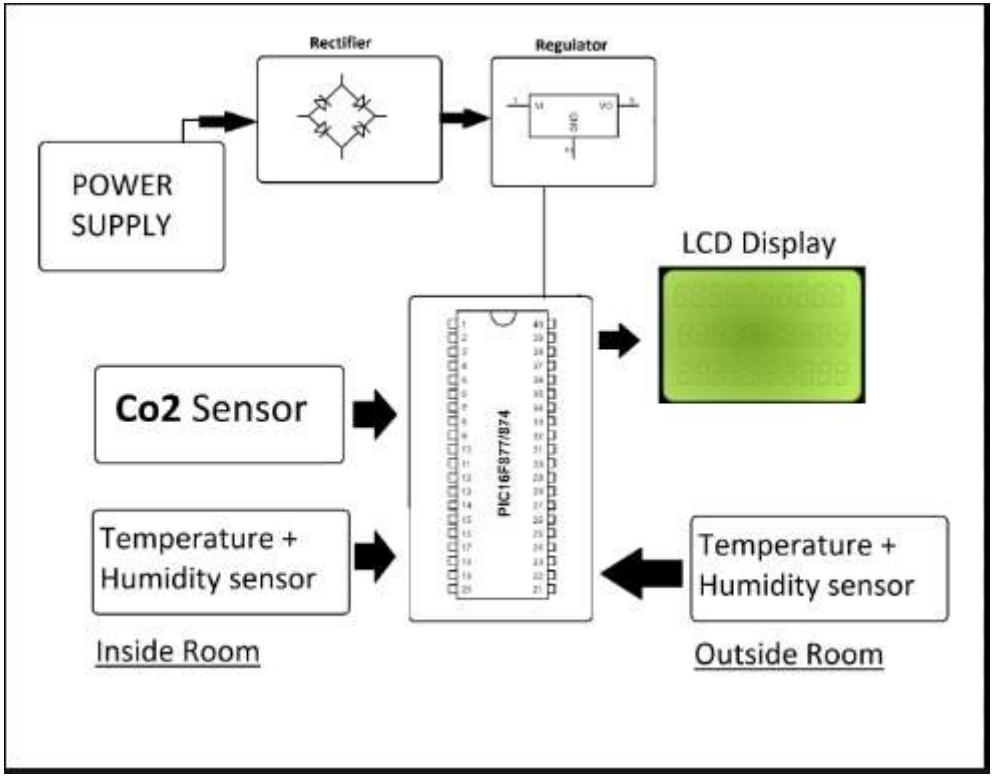
Objective

- To record the concentration levels of atmospheric pollutions in order to define air quality levels and establish action plans if high levels of contamination are detected.

Sensor picture



Sensor picture



Inside room

- CO2 sensors are used to monitor fermentation, respiration, photosynthesis, and other carbon dioxide consuming or producing processes.

Outside room

- LCD display:

- LCD (Liquid Crystal Display) is a type of flat panel display which uses liquid crystals in its primary form of operation.

Pollution monitoring & controller

Air Pollution- Monitoring & Control

- Monitoring is done to keep a track on quality of air with a view to collect information & improve it.
- The best indicators are – SO_2, smoke & suspended particles.
- These are monitored on a daily basis and the results are collected by a central agency

Project definition:

- The project involves setting up IoT devices to measure air quality parameters like
- temperature,humidity,CO2,O2 ,PM2.5,PM 10 and more. And to make the data publicly available for
- raising awareness about air quality an its impact on public health. The air quality system provides real
- time air quality information to the public

Design thinking

- 1. Project Objectives :
- i) It measures air pollution using sensors.
- ii) Sent data to the internet for analysis.
- iii) Give real time information about air quality.
- 2) IoT Devices designs :
- a) Sensors that detect things like dust and harmful gases in the air. The sensors like gas sensors and
- temperature sensors.
- b) Select a microcontroller , like Arduino or ESP32. Ensure it has enough input pins for sensors and
- supports the chosen communication method.
- 3) Data sharing Platform :
- a) The online storage where the data is kept and analysed. Using platform like AWS IoT or Google
- cloud IoT.
- 4) Integration Approach ;
- a) Depending on the chosen data sharing platform to configure IoT devices to communicate with
- that platform specifically.
- b) Integration might also involves setting up SDKs or libraries specific to the platform on IoT
- devices to streamline communication.

Conclusion:

- The proposed air pollution monitoring system provides real-time information about the level of air pollution in. as well as provides alerts in case of drastic change in quality of air.
- This information can be used by authorities to take prompt actions such as evacuating people or sending emegency response team.


Thank
you