Air and Noise pollution Monitoring System

Problem Statement:- Air and noise pollution can both have serious impacts on humans and the environment.

Air pollution:-

Health effects: When air pollution exceeds 1000 PPM, it can cause headaches, sleepiness, and stagnant air. When it exceeds 2000 PPM, it can cause an increased heart rate and many different diseases.

Environment: Air pollution, especially ozone, has had increasing serious and wide spread impacts on the natural environment and human society.

- **Noise pollution:-**
- **Health effects**: Noise pollution can cause stress- related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity. It can also cause heart disease, sleep disturbances, and stress. These health problems can affect all age groups, especially children.
- Environment: Noise pollution can cause various physical and behavioral issues in animals and increase their stress. For example, road traffic noise can make it difficult for frogs and songbirds to communicate with each other, especially during mating season.

Other effects: Noise pollution is a serious hazard to the environment. It often starts at our own homes, such as with loud music on the roads, loud crackers, and other similar activities.

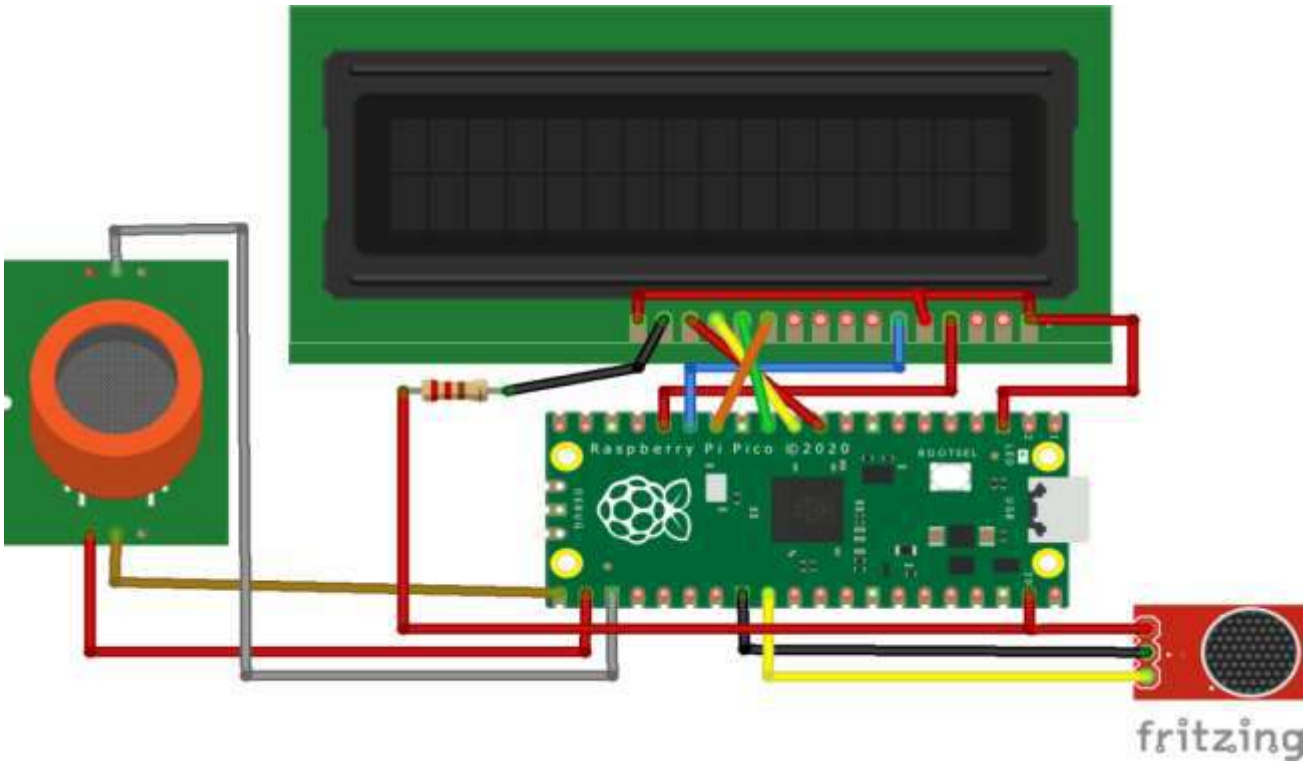
Scope of the solution:- Air and sound pollution is a growing issue these days. It is necessary to monitor air quality and keep it under control for a better future and healthy living for all. Here we propose an air quality as well as sound pollution monitoring system that allows us to monitor and check live air quality as well as sound pollution in a particular areas through IOT. System uses air sensors to sense presence of harmful gases/compounds in the air and constantly transmit this data to microcontroller. Also system keeps measuring sound level and reports it to the online server over IOT. The sensors interact with microcontroller which processes this data and transmits it over internet. 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.

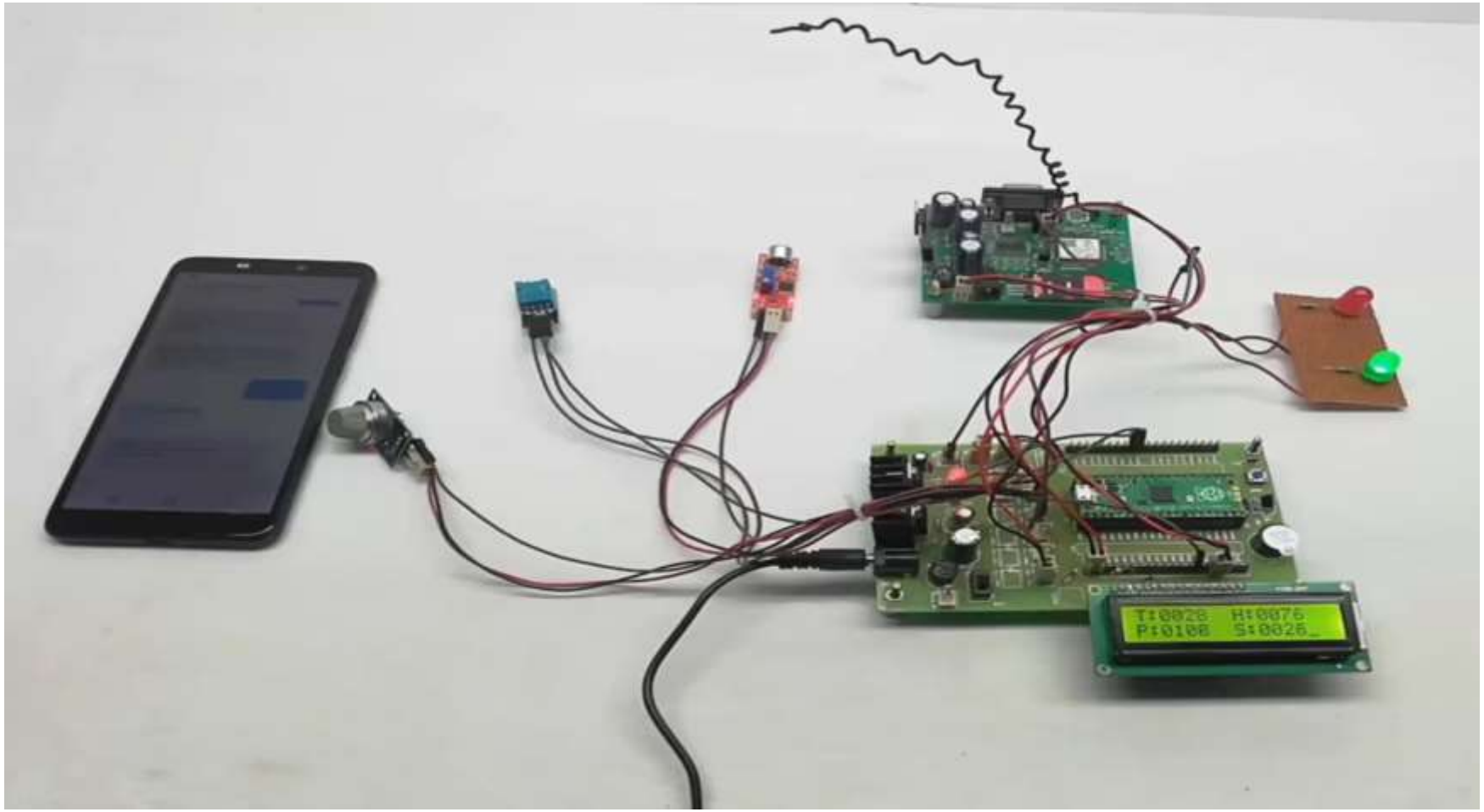
Requred Component To Develop solution :-

Software- Fritzing

Hardware:- Raspberry pi pico, Gas Sensor(MQ135), Resistor, Microphone, LCD(16X2).

Simulation circuit

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