

# Air quality monitoring system

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*Abstract* : The combination of gas sensor (CO<sub>2</sub>, CO, LPG, and CH<sub>4</sub>) to sense air quality of the environment it shows the present condition of air. Solving the limits of air quality sensor this device are be used to monitor more gasses at a time. This system will give indication of air quality and based on given parameter the user know how much air is polluted or safe in the environment.

## I. INTRODUCTION

Fast development of urbanization and industrialization pollution is very common. Pollutant substance present in air affect the human health. The pollution level is minimize if the quantity pollutant in air is known. The major gas sensor used in the system to know the best result of the whole condition of air. CO<sub>2</sub>, CO, LPG, gases are most responsible for pollution in air and in this system all gas sensors are used.

## II. KEYWORDS

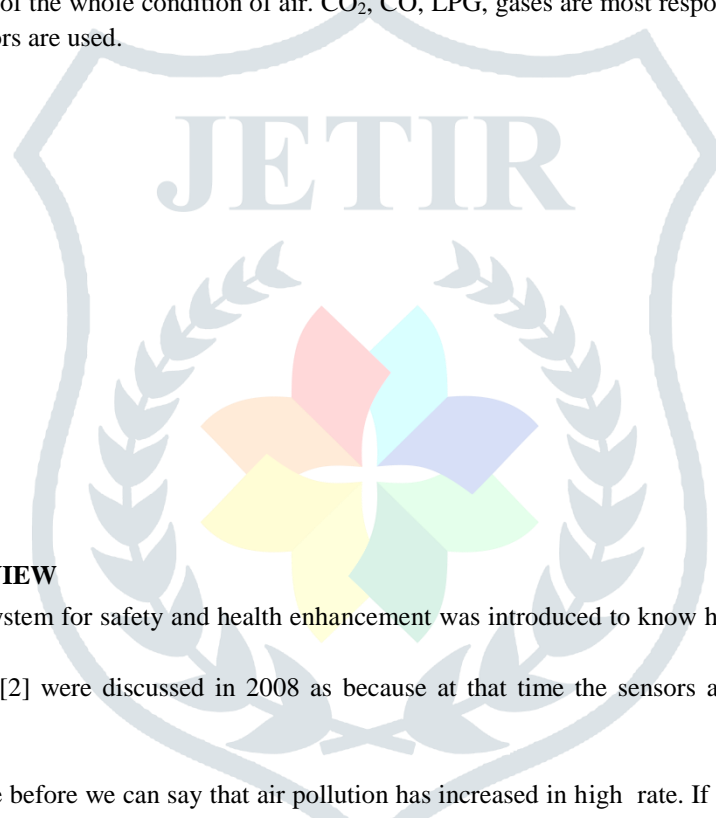
1. Air pollution
2. Sensors
3. Sound monitoring
4. Pie charts
5. Real time graph
6. Pollution parameter
7. Real time data.

## III. LITERATURE REVIEW

Air pollution [1] monitoring system for safety and health enhancement was introduced to know harmful gasses and the impact of gases.

Low cost air quality systems [2] were discussed in 2008 as because at that time the sensors and the system were quiet expensive.

The researches which has done before we can say that air pollution has increased in high rate. If it is not stopped the whole world have to face a filthy and extreme weather in the future. In the world have more number of pollutions e.g. noise pollution, water pollution, plastic pollution, soil contamination but air pollution is the most dangerous pollution according to future studies and this should be studied for the sake of saving the world.



IV. SYSTEM ARCHITECTURE

a. PROPOSED MODEL

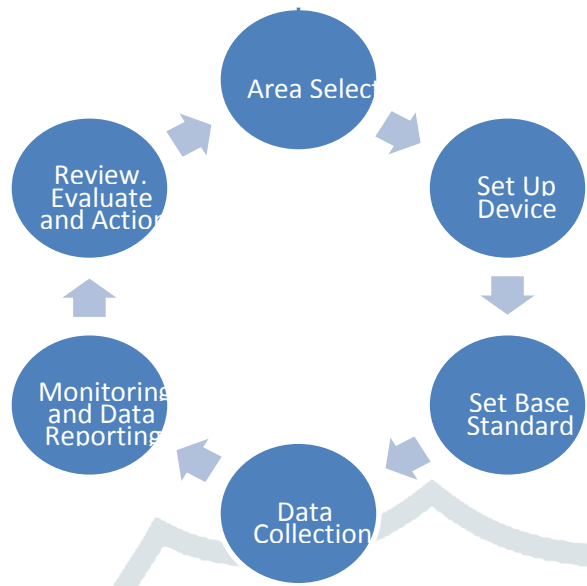


Fig 1. Block Diagram of Proposed model

b. PROPOSED MODEL BLOCK DIAGRAM

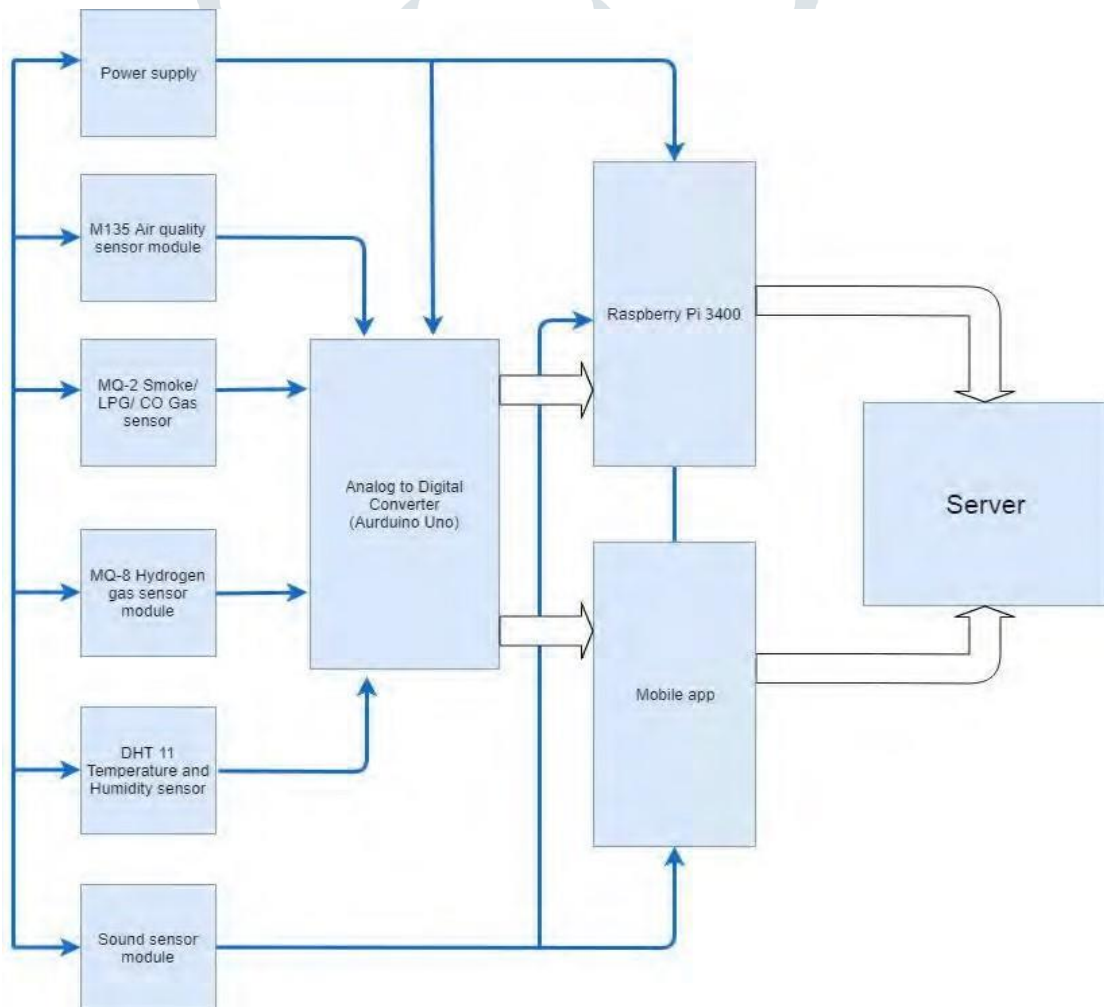


Fig 2. Block Diagram of the monitoring system.

## c. PROPOSED MODEL FLOW CHART

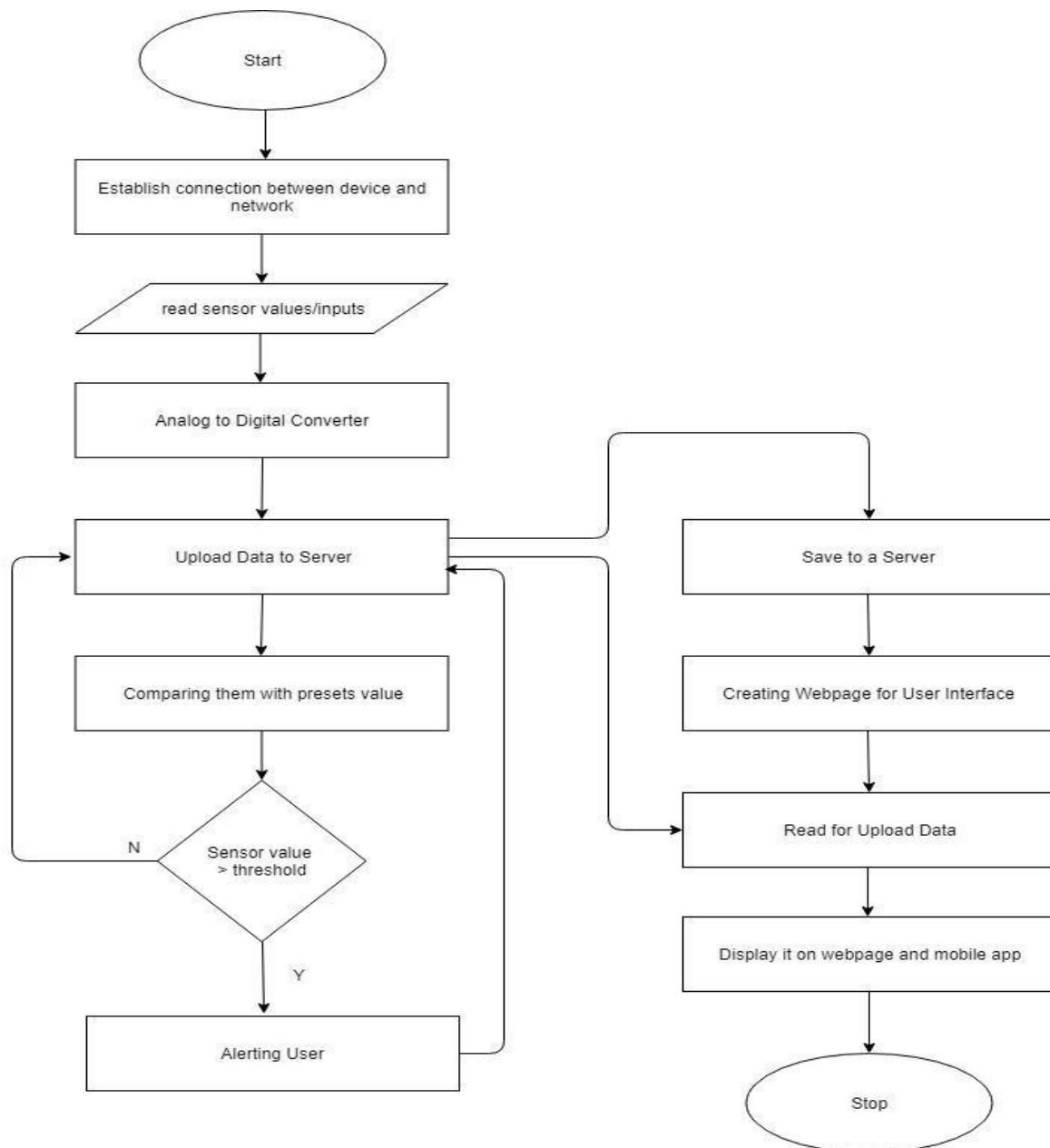


Fig 3. Flow chart of proposed model

## V. COMPONENTS

1. Raspberry Pi 3400
2. DHT 11 Temperature and Humidity sensor
3. MQ-2 Smoke/ LPG/ CO Gas sensor
4. M135 Air quality sensor module
5. MQ-8 Hydrogen gas sensor module
6. Sound sensor module
7. TP4056 Charger Module
8. 3.7V 3800 mAh
9. Android charger
10. Potentiometer/Buck Booster
11. Wire
12. Breadboard

13. Push Buttons
14. LED

## VI. FUTURE SCOPE

- More number of sensor should be added to get more detail content of all the gases present in air .
- SD card should be added to store data .
- Design webpage and upload data with date and time on the webpage .

## VII. CONCLUSION

The smart way to monitor air quality as well as sound quality in atmosphere at a low cost. The functions of different sensor and their working procedure were discussed in this proposed model.

## VIII. ACKNOWLEDGMENT

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## IX. REFERENCES

1. Yusof, M.Z.M. (2010). The development of air pollution monitoring system for safety and health enhancement and a sustainable work environment using QFD approach
2. Kularatna,N. (2008). An Environmental Air Pollution Monitoring System Based on the IEEE 1451 Standard for Low Cost Requirements

