

## IOT BASED AIR POLLUTION CONTROL SYSTEM

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### Abstract

The paper focuses on using the Internet of Things (IoT) to find the pollutants in nature. An ultraviolet light sensor is the UVI-01 sensor. The UV Sensor delivers an analog signal of how much UV light it detects. The two in one PH sensor and Temperature sensor is used for controlling water quality, water level monitoring interns, water and adjacent temperature, water turbidity (how clean the water is) and water PH levels. This system therefore tracks all these results and sends the information or data to the cloud once all data is obtained.

**Key words:** Internet of Things, UV Sensor, PH level, cloud.

### Introduction

To control air pollution[1], [2], we need to assess air pressure, temperature, ultraviolet radiation, air quality, smoke, airborne nitrogen dioxide and airborne carbon monoxide. We need BMP085-Air Quality Sensor, UVI-01 Ultra Violet Radiation Sensor, LDR Light Dependent Sensor, TGS 2600 General Air Quality Sensor, MICS-2710 NO2 Concentration Sensor, MICS-5525 CO Concentration Sensor for controlling the level of air pollution. It will connect the raspberry pi to a monitor. The monitor shows the outcomes of the instantaneous. If any outcome crosses secure concentrations[3], the pollution control room will be alerted by an alarm. All information will be uploaded to the cloud at the interval of 5 minutes. In order to achieve a certain conclusion for a scenario, the pollution control room will analyze the information for transformation and remodeling.

### Methodology

#### 1. Wireless sensor node

A network of wireless sensors is associated with the infrastructure consisting of computing, sensing and communication parts, which allows the administrator to monitor and control the desired parameters within the network.

## 2. Sensors

Sensors produce measurable response to the unhealthiness of pollution. The analog signal sent by the sensors is digitized analog to the digital device and sent for any processing to the controller.

## 3. Bluetooth Module HC-06

These small size Bluetooth TTL transceiver modules are intended for serial communication. It enables Target machine to use Bluetooth technology to send or obtain TTL information while not connecting a serial cable to your computer.

## 4. Microcontroller unit

Microcontroller such as ARM (LPC2138)[4] processes knowledge, performs tasks and manages practicality within the detector node with various components.

## 5. GPS

GPS receivers are used by non-public individuals and corporations to navigate, position, survey, locate and determine the time.

## 6. Display

The display[5] is the easiest interface between man and machine with amazing visual information showing icons, symbols, numeric, alphabets and characters.

## Conclusion

The challenge to be confronted is to integrate intelligence into common electrical objects by allowing this equipment to know and become more independent by exchanging and exchanging data and information with other objects, and by maintaining reliability after the volatility that tends to be introduced owing to real-world dynamics. Pollution is one of humanity's biggest headache. The society gets infected with illnesses, viruses, bacteria, etc. due to pollution. We need to take some measures in order to maintain ourselves secure.

## References

- [1] Z. Wang, "Energy and Air Pollution," in *Comprehensive Energy Systems*, 2018.
- [2] H. Riojas-Rodríguez, I. Romieu, and M. Hernández-Ávila, "Air pollution," in *Occupational and Environmental Health*, 2017.
- [3] R. A. Rohde and R. A. Muller, "Air pollution in China: Mapping of concentrations and

sources,” *PLoS One*, 2015.

- [4] J. Xiaolin, M. Yu, G. Xuemai, and Z. Yang, “Wireless communications network design based on the LPC2138,” in *2010 WRI International Conference on Communications and Mobile Computing, CMC 2010*, 2010.
- [5] D. K. Yang and S. T. Wu, *Fundamentals of Liquid Crystal Devices*. 2014.