

ISSN(Online): 2320-9801 ISSN (Print): 2320-9798

# International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 10, October 2016

# Smart Environmental Monitoring System using Internet of Things

Prof. N. M. Shivale<sup>1</sup>, Omkar R. Shete<sup>2</sup>, Ashish D. Walke<sup>3</sup>, Sumet P. Yeotekar<sup>4</sup>, Amogh B. Kulkarni<sup>5</sup> Professor, Department of Computer Engineering, JSPM BSIOTR, Pune University, JSPM Wagholi, Pune, India<sup>1</sup> Student, Department of Computer Engineering, JSPM BSIOTR, Pune University, JSPM Wagholi, Pune, India<sup>2,3,4,5</sup>

**ABSTRACT**: This system consists of pollution sensors array, world Positioning system of mobile phone, single chip microcontroller, Bluetooth electronic equipment. Sensors are hardware devices that manufacture measurable response to a modification in a very healthiness of air pollution. The analog signal send by the sensors is digitized by an analog to digital converter and send to controller for additional process. CO, N, smoke and worker sensor senses the gas and communicate the info with microcontroller. Bluetooth modem is employed for transmission the info to mobile, the most objective of this method is to incessantly monitor the pollution level provided by the various detector via Bluetooth electronic equipment at the management section, hence explicit set up of action ought to be taken to manage the pollution

**KEYWORDS:** Microcontroller,CO, Detector,Converter.

### I. INTRODUCTION

Indeed, with the increasing variety of vehicles on our roads and fast urbanization pollution has significantly increased within the last decades. For the past thirty years the economic development it has been based on industrial activities and therefore the business enterprise trade. Hence, there has been the growth of industries and infrastructure works over the island. Industrial combustion processes and stone crushing plants had contributed to the deterioration of the standard of the air. Further, the economic success it has diode to a serious increase within the variety of vehicles on the roads, making additional pollution downside with smoke emission and alternative pollutants. Air pollution watching is taken into account as a advanced task however nonetheless it is very necessary. historically knowledge loggers were wont to collect knowledge periodically and this was terribly time overwhelming and quite big-ticket. The use of WSN will create pollution watching less advanced and a lot of fast readings are often obtained.

#### II. EXISTING SYSTEM

A wireless device network (WSN is an infrastructure comprised of sensing, computing and communication elements that permits the administrator to monitor Pollution management of the specified parameters in the network. Typical application of WSN includes knowledge assortment, monitoring, surveillance and Pollution . All Sensor are deployed over the specified area and the pollution related information is captured from all available sensor.

## III. PROPOSED SYSTEM

All sensor are deployed over an specified path after that we collect all information related to pollution and we try to find out the trust information of particular sensor .All the sensor that are deployed over the network we try get all pollution related information from the available sensor this pollution related information is major and it transferred to appropriate smartphone that are connect in sensor network .It will display all air pollution related information of specific area that will display area wise information of air pollution in particular city .

Copyright to IJIRCCE DOI: 10.15680/IJIRCCE.2016. 0410191 19018



ISSN(Online): 2320-9801 ISSN (Print): 2320-9798

# International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 10, October 2016

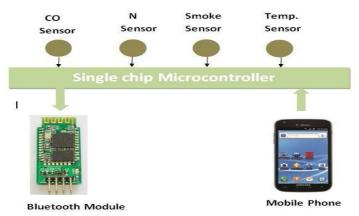


Fig.1.Proposed System.

#### IV. CONCLUSION

The system utilizes detector to gather waste gases like CO, N, smoke and temperature. the information shows the waste levels and their to native air quality standards. Here with success application that shows the important time air pollution knowledge /air pollutants are often accessible from anyplace here have designed circuit which takes corrective action on the rise of pollution on the actual threshold value.

## REFERENCES

- [1] A. R. Al-Ali, Imran Zualkernan and Fadi Aloul, —A Mobile GPRS-Sensors Array for Air Pollution Monitoringl IEEE SENSORS JOURNAL, VOL. 10, NO. 10, OCTOBER 2010
- [2] Shashikant U.Suryawanshi, Deepganga Dhang ,Ashish A. Chougule Shailendra B. Mote , Implementation Of Embedded Wireless Air Pollution Monitoring System IOSR Journal of Electronics and Communication Engineering (IOSR-JMCE) ISSN: 2278-2834-, ISBN: 2278-8735, PP: 27-30.
- [3] Aruljothi.R , —Air Pollution Measuring System with Mobile Sensor Arraysl International Journal of Scientific and Engineering Research, Volume 4, Issue 5,May-2013 ISSN 2229-5518 .
- [4] Rakesh Kumar Giri, —An Itinerant GPRS-GPS and Sensors Integration for Atmospheric Effluence Screeningl International Journal of Technology And Engineering System(IJTES): Jan –March 2011-Vol.2.No.2.
- [5] N. Kularatna and B. H. Sudantha, —An environmental air pollution monitoring system based on the IEEE 1451 standard for low cost requirements,1
- [6] IEEE Sensors J., vol. 8, pp. 415–422, Apr. 2008.
- [7] F. Tsow, E Forzani, A. Rai, R. Wang, R. Tsui, S. Mastroianni, C. Knobbe, A. J. Gandolfi, and N. J. Tao, A wearable and wireless sensor system for real-time monitoring of toxic environmental volatile organiccompounds, IEEE Sensors J., vol. 9, pp. 1734–1740, Dec. 2009.
- [8] Y. J. Jung, Y. K. Lee, D. G. Lee, K. H. Ryu, and S. Nittel, —Air pollution monitoring system based on geosensor network, I in Proc. IEEE Int. Geoscience Remote Sensing Symp., 2008, vol. 3, pp. 1370–1373.
- [9] C. J. Wong, M. Z. MatJafri, K. Abdullah, H. S. Lim, and K. L. Low, —Temporal air quality monitoring using surveillance camera, I in Proc. IEEE Int. Geoscience and Remote Sensing Symp., 2007, pp. 2864–2868.
- [10]M. Gao, F. Zhang, and J. Tian, —Environmental monitoring system with wireless mesh network based on embedded system, in Proc. 5th IEEE Int. Symp. Embedded Computing, 2008, pp. 174–179. Paper ID: NOV161795 268
- [11] W. Chung and C. H. Yang, —Remote monitoring system with wireless sensors module for room environment, Sens. Actuators B, vol. 113, no. 1, pp. 35–42, 2009.
- [12]J. W. Kwon, Y. M. Park, S. J. Koo, and H. Kim, Design of air pollution monitoring system using ZigBee networks for ubiquitous-city, in Proc. Int. Conf. Convergence Information Technology, 2007, pp.1024–1031.
- [13]M. AbuJayyab, S. Al Ahdab, M. Taji, Z. Al Hamdani, and F. Aloul, —Pollumap: A pollution mapper for cities, in Proc. IEEE Innovations in Information Technology Conf., Dubai, UAE, Nov. 2006, pp. 1–5.
- [14]H. W. Huang, The HCS12/9S12: An Introduction to Hardware and Software Interfacing, 1st ed. Florence, KY: Thomson Delmar Learning, 2006.

Copyright to IJIRCCE DOI: 10.15680/IJIRCCE.2016. 0410191 19019