

IoT Based Water Quality Management System using ESP32

Y. Sreeja¹, B. Bhavani², S. Ramya³, T. Praveen Kumar⁴, M. Raj Shekar⁵

Assistant Professor, Department of Electronics & Communication Engineering¹

UG Student, Department of Electronics & Communication Engineering^{2,3,4,5}

Christu Jyothi Institute of Technology & Science, Jangaon, Telangana, India

Abstract: *Water pollution is one of the biggest fears for the green globalization. In order to ensure the safe supply of the drinking water the quality needs to be monitor in real time. In this paper we present a design and development of a low cost system for real time monitoring of the water quality in IOT(internet of things).The system consist of several sensors is used to measuring physical and chemical parameters of the water. The parameters such as temperature, PH, turbidity of the water can be measured. The measured values from the sensors can be processed by the core controller. The Arduino model can be used as a core controller. Finally, the sensor data can be viewed on internet using WI-FI system.*

The objective of this water quality monitoring system using internet of things is to find the quality of the water i.e. how the pH content varies and sending message to the corresponding authorities. We are going to implement this project at municipal water tanks and drinking water reservoir. For that we are using an Arduino board for finding pH value and GSM module for message technique. We use a led display to have continuous observation on water parameters. Finally the user gets message of pH value of water Further we extend this project by sending the sensor data to cloud for global monitoring of water quality.

Keywords: Water pollution

REFERENCES

- [1] Nikhil Kedia, Water Quality Monitoring for Rural Areas- A Sensor Cloud Based Economical Project,in 1st International Conference on Next Generation Computing Technologies (NGCT-2015) Dehradun,India, 4-5 September 2015. 978-1-4673-6809-4/15/\$31.00 ©2015 IEEE.
- [2] Jayti Bhatt, Jignesh Patoliya, IoT Based Water Quality Monitoring System, IRFIC, 21feb,2016.
- [3] (SECON), 978-1-4673-1905-8/12/\$31.00 ©2012 IEEE
- [4] Zhanwei Sun, Chi Harold Liu, ChatschikBisdikia_, Joel W. Branch and Bo Yang, 2012 9th AnnualIEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications andNetworks
- [5] User Manual Arm7-LPC2148 Development kit-Pantech Solutions.
- [6] Chuanzhen, S. (2015, June). Applications of Wireless Sensor Network in the Field of Production and Distribution. In 2015 8th International Conference on Intelligent Computation Technology and Automation(ICICTA) (pp. 225-227). IEEE.
- [7] Sung, W. T., Chen, J. H., Huang, D. C., & Ju, Y. H. (2014, October). Multisensory real-time data fusion optimization for IOT systems. In 2014 IEEE International Conference on Systems, Man, and Cybernetics(SMC) (pp. 2299-2304). IEEE.
- [8] Sneha S. Phadatare, Prof. Sagar Gawande. Review Paper on Development of Water Quality Index in International Journal of Engineering and Technical Research, May 2016.