

Water Management System for Smart City Using IoT

Prof. M. Asalmol Sir, Mangesh Datar, Mayur Gawade , Akshay Patil,
Tanuja Gulve

Department Of Computer Engineering, Keystone School Of Engineering, Pune
Savatribai Phule Pune University, Pune, India

Abstract: Sustainability of available water resource in many reason of the word is now a dominant issue. This problem is quietly related to poor water allocation, inefficient use, and lack of adequate and integrated water management. Water is commonly used for agriculture, industry, and domestic consumption. Therefore, efficient use and water monitoring are potential constraint for home or office water management system. In Our project a Ultrasonic sensor is the basic component for the water level indicator. Our Project is helps to indicate the level of water available in the tank, to check the quality of water , To identify the Water Leakage in tank. With the help of an website we can see all the level of the water contained in a tank or in any other vessels. A Ultrasonic sensor (transistor circuit) detects the present level of the water in the tank and feeds it to the arduino board and the arduino generates a corresponding output text which in then displayed on the webpage. If the water level is low, then the circuits displays the message through the display notifying that the water level is low and switch On the motor. If the water level is full, then the circuits displays the mes-sage through the display notifying that the water level is full and switch off the motor.

1 Introduction

Emerging Internet of Things technology enables electronic devices to communicate with each other. A simple and easy to implement technology was developed, devices to exchange data through the internet in any place. Based upon this technology a Smart water management system for Smart City is implemented .

Finding the leakage is the biggest problem in existing system, also managing real time water supply is very difficult. There are lot's of water wastage in existing water management system. There is not proper water management system to control and manage our available water ..

2 Related Work

Water is commonly used for agriculture, industry, and domestic consumption. Therefore, efficient use and water monitoring are potential constraint for home or office water management system, In Our project a Ultrasonic sensor is the basic component for the water level indicator.

[1] Our Project is helps to indicate the level of water available in the tank, to check the quality of water,

[2] To identify the Water Leakage in tank. With the help of an website we can see all the level of the water contained in a tank or in any other vessels. A Ultrasonic sensor (transistor circuit) detects the present level of the water in the tank and feeds it to the arduino board and the arduino generates a corresponding output text which in then displayed on the webpage.

[3] If the water level is low, then the circuits displays the message through the display notifying that the water level is low and switch On the motor. If the water level is full, then the circuits displays the message through the display notifying that the water level is full and switch off the motor.

[4] Find out leakage pipeline. To find out the leakage of a pipeline we use algorithm and sensor (**Rotobotix Water Flow Sensor YF-S201**). In algorithm we implement that when the flow of water is not normal it is less than the normal flow then there is any problem there is pipe line leakage because there are no water level increases.

Rotobotix Water Flow Sensor YF-S201 it checks the water flow. measure how much liquid has moved through it.

[5] To Find out water Quality we use the **Turbidity** sensor in that turbidity sensor checks or detects the particle in the water. When sensor detects any particle like an soil its sends the

notification to the web that water is polluted please clean the water. In this way we maintain the quality of water.

[6] Area wise water supply There are some areas where water is not supplied many days in these situation water will be supply those areas. Now how we calculate that, on daily basis there is calculation of water supply how many water was supplied on the areas .When there is found for eg. In Area 1 water is not supplied from many days . Then firstly it supplies water over there .There is measurement of water how many water was supplied in different areas and how many water will have area needed on these basis water is supply. **Rotobotix sensor** also used over there.

3 Comparative Study

Problem With GSM module-

- Range Of GSM card over Geometric location
- Data sending in critical geometric environment.

Overall disadvantages associated with the existing system.

- In given infrastructure it needs more man power to handle the system.
- It needs more time for execution of process.
- More cost is required in existing system.
- Error in accuracy of water leakages .
- Existing system takes more time for water supply.

The Advantages of our proposed system to overcome this drawback.

- It does not requires more man power for proposed sytem.
- It does not takes more time for execution of process ,it uses GSM module for data sending.
- In less cost proposed system is required with less man power.
- Water leakage is detected with accuracy. Also pipeline leakage is detected.
- Proposed system does not takes more time for water supply .and it distribute water in time.

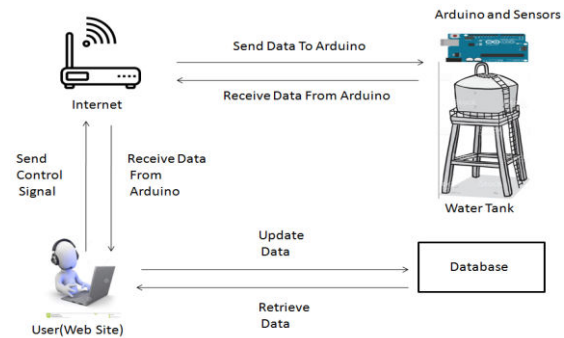


Fig. Block Diagram

4 Conclusion:

On the basis of comparative of system used for Water Management Sytem For Smart City Using IoT, Our system is efficient in term of cost accuracy, time. And it needs less man power

5 Acknowledgment

This project wouldn't have had been resulted into successful completion without the valuable guidance of our project guide Prof. Mayur Asalmol Sir.

6. References

- [1] T. Robles, R. Alcarria, D. Mart'ın, and A. Morales, "An Internet of Things-based model for smart water management," in Proc. of the 8th International Conference on Advanced Information Networking and Applications Workshops (WAINA'14), Victoria, Canada. IEEE, May 2014, pp. 821–826.
- [2] International Journal of Advanced Research in Computer and Communication Engineering ISO 3297:2007 Certified Vol. 6, Issue 1, January 2017 Copyright to IJARCCCE DOI 10.17148/IJARCCCE.2017.6157 297 IOT based Smart Water Supply management System Kiran M. Dhobale1, Sangmeshwar P. Gorgile1, Pradnya J. Gunjal1, Krushna A. Hirve1, Prof. U. A. Mandel Department of Computer Engineering, Sinhgad College of Engineering Pune.
- [3] International Journal of Innovative Research in Science, Engineering and Technology (An ISO 3297: 2007 Certified Organization) Website: www.ijirset.com Vol. 6, Issue 3, March 2017 Copyright to IJRSET DOI:10.15680/IJRSET.2017.0603074 3446 An Internet of Things Based Model for Smart Water Distribution with Quality Monitoring Joy Shah