

ONLINE SYSTEM FOR MONITORING WATER QUALITY TURBIDITY AND MANAGING PIPELINE NETWORKS

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College : *Bearys Institute Of Technology, Mangaluru*
Branch : *Department of Electronics and Communication Engineering*
Guide(s) : *Ms. Rashmi A V*
Student(S) : *Ms. Sushmitha K*
Ms. B Reshmi
Ms. Maneesha
Ms. Fathimath Haseeba

Introduction:

In the 21st century, there were lots of inventions, but at the same time pollutions, global warming and so on are being formed, because of this there is no safe drinking water for the world's pollution. Nowadays, water quality monitoring in real time faces challenges because of global warming limited water resources, growing population, etc. Hence there is need of developing better methodologies to monitor the water quality parameters in real time.

People now a days always want something that can make their life easier. To fulfill the requirements of the people we develop the smart water monitoring system for home or office. In this the water monitoring systems are water quality monitoring and water contamination detection. This system is used to avoid the huge amount of water is being wasted by uncontrolled use of home/offices. In this system we use the sensors to check the water quality and contaminants.

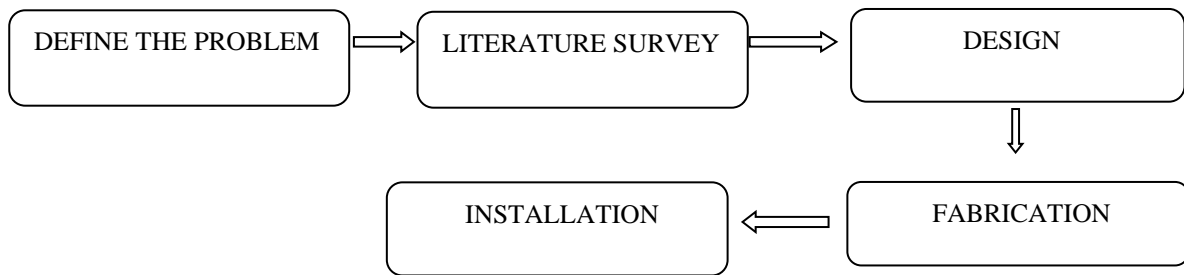
Turbidity measures the large number of suspended particles in water that is invisible. Higher the turbidity higher the risk of diarrhoea, collera. Lower the turbidity then the water is clean. Temperature sensor measures how the water is, hot or cold. Flow sensor measures the flow of water through flow sensor. Mineral sensor will detect the contaminants like NaCl. The traditional methods of water quality monitor involve the manual collection of water samples from different locations. The values are continuously updated to cloud server and is displayed on app.

Objectives:

The objectives of this project are to

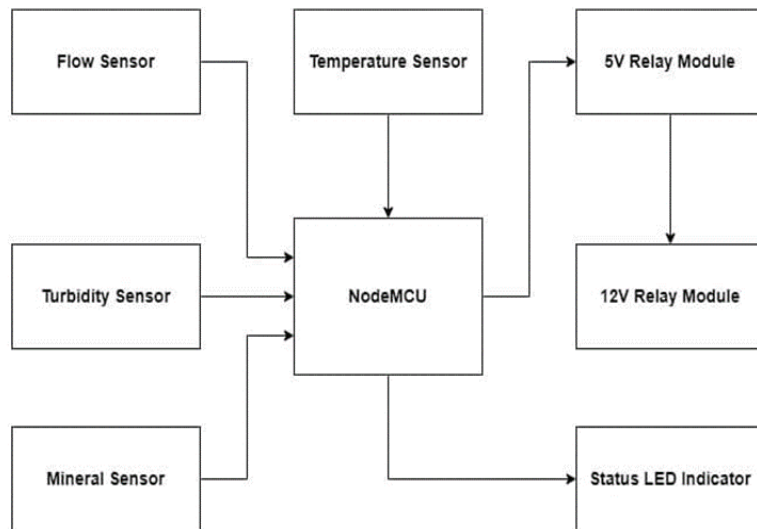
- (i) To implement a fully automated irrigation system
- (ii) To measure the accurate amount of water consumed by each client
- (iii) To calculate the amount client need to pay
- (iv) To detect the contamination and quality of water
- (v) To stop the supply if the water doesn't meet the minimum quality
- (vi) To stop the supply of client who haven't paid the bill yet

Methodology:

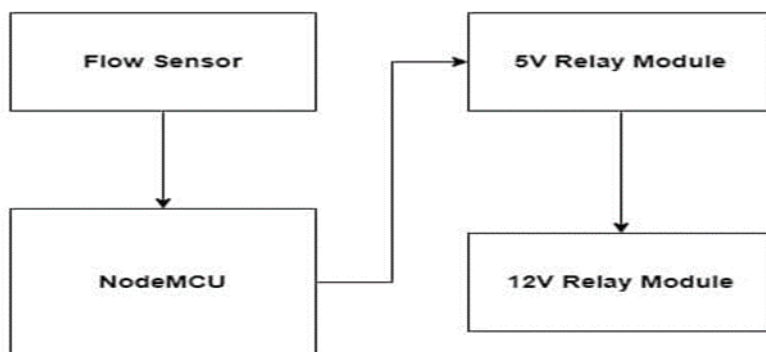


Block diagram:

Server



Client:



Results and conclusion:

We have identified a suitable implementation model that consist of different sensor device and other modules. In this implementation we used NODEMCU controller with wifi module. This project help us to find the water quality before supplying it to the clients. Server node can detect the temperature and mineral quantities of water. And here we controlled individual clients by server node. Server node can also detect the leakage of water. Here clients can automatically pay the water bill through app. Monitoring of Turbidity, Mineral and Temperature of Water makes use of water detection sensor with

unique advantages. The system can monitor water quality automatically, and it is low in cost and does not require people on duty. So the water quality testing is likely to be more economical, convenient and fast. The system has good flexibility. Only by replacing the corresponding sensors and changing the relevant software programs, this system can be used to monitor other water quality parameters.

Scope for Future Work:

- We can add pH sensor.
- Adding more features for most secure purpose.
- In app we can include camera facility for monitoring the water flow.
- In future we can include water purifier.