

IoT based Water purifier

Abstract:

Water contamination has been a long-standing problem in the country. That rapidly increases population and again infrastructure of water distribution system in the country increase the water contamination. The older method was unable to monitor the water quality in real time and notify the users about the contamination. So, it is necessary to develop a real time water quality monitoring and a notification system which gives effective result and save the precious health of human being by alerting them in real time. Water quality depends on PH, turbidity, temperature along with some other factors are significant. A traditional method consists of collecting water sample manually and then send to laboratory for testing. It takes so much time without providing result in real-time. The existing system has a mechanism which are semi-automated or manually controlled devices which are to be handled by a person responsible for monitoring the water quality. The instruction or tools are used either putting or inserting a water sensing part into water and seeing the result on small display device or by directly inserting a portable device in water and observing the output on the display. The objective of this system is to develop a real time system for assessment of fully automated portable water quality. It reduces human effort, covers a large area efficiently. This system consists of different type of sensors, notification module consists of LCD display, Wi-Fi device and Arduino. The portable and automatic water quality monitoring and

notification system saves time and human resources. The notification will be sent to the authorized person when sensor will detect bad water quality and if any user wants to know the current status of the water.

Introduction:

With rapidly rising population in India, Fresh Water Management is very much essential which demands an increase in agricultural, industrial and other requirements. The Quality of Fresh Water is characterized by “chemical, physical and biological” content. Monitoring the water quality helps in detecting the pollution in water, toxic chemical and contamination. The traditional method still in vogue entails collection of water samples, analyzing it in lab and advice for any water treatment and so forth. This project is considered beneficial for the development of water quality measuring devices for the measurement and analysis of water used for living things, for example, human beings, animals as well as marine fishes and plants. All of us consume water every day, so it is indispensable for us. Therefore, water should be checked in real time. Since water has a direct effect on life on earth; it has become crucial to check whether the water is in good condition to use. Checking the quality of water requires much hard work. Most of the things that exist in the earth dissolve in water, and it is very hard to determine the amount of the material mixed in it. For determining the number of materials in water requires much hard work and is time-consuming. It has become necessary with the evolving technology a quick and efficient method to determine the quality of water. This project focuses on checking the TDS,

pH value, Turbidity and Temperature, which can be verified on a daily basis. It includes the description of the needed sensors and its specifications. It is possible to make the device either from the starting phase, or you can select the parts and combine it. Therefore, it has two ways to make the device. It is quite a new step in developing water quality measuring device, which will be helpful for the new researchers to go through the development of a new improved device for the quality check of water. This project focuses on the present requirement for the development of sanitation in water. There are many other factors which could be found in water, but these three factors like pH, TDS, Turbidity and Temperature are crucial to determine the quality. It helps to determine either water is basic or acidic as well as to determine the number of solid particles dissolved in water.

Block Diagram:

