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Abstract:

Water is one of the major compounds that profoundly influence ecosystem. But, nowadays it is been

exploited heavily due to rapid industrialization, human waste and random use of pesticides and chemical fertilizers in agriculture, which leads to wate contamination. Thus, a water monitoring system is necessary to observe the water quality in a large area such as lake, river, and aquaculture. As per the current world situation, Internet of Things (IoT) and remote sensing techniques are used in heterogeneous areas of research for supervising, congregate and analyzing data from the remote locations. In this paper, the suggested system is a minimal price real time water quality monitoring system in IoT environment. This system comprise of numerous sensors for assessing the physical and chemical parameter. The factors of water that can be assessed using these sensors are pH, turbidity, conductivity, dissolved oxygen. Using this system the real time quality of water bodies can be determined and the data uploaded over the Internet are analyzed.

PROJECT EXPLANATION

India is facing a major issue of natural resource exiguity, especially in case of water due to populationgrowth and economic development . Most of the water bodies are contaminated due to the superfluouspollutants, which are mostly human-made. Thus certify the cleanliness of water is a major challenge. Rapid industrialization and greater emphasis on agriculture growth with latest technology, usage of more fertilizers and pesticides caused large impurity in aquatic surroundings directing to debasement of water quality and depletion of aquatic life . Water bodies are contaminated due to point and non-point sources of pollution, which include sewage discharge, discharge from industries, run-off from agricultural fields, urban run-off and even due to floods, droughts and lack of education and awareness amid users . THE involvement of users in looking at the aspects likehygiene, environment sanitation, storage and disposal are exceptive elements to uphold the quality of water bodies.The tonicity of lakes, rivers and other water bodies and their biological diversification are directly linked with the health of nearly every element of the ecosystem. Due to the use of befouled water by ecosystem components, the waterborne diseases are spreading over surroundings causing death and slowing down socio-economic progress. About 5 million people have died because of waterborne diseases all over the world (Water Resource Information System of India, 2017) . Fertilizers and pesticides used for agriculture purpose can be washed by rain through soil, which ends up in water bodies. Industrial effluents are also washed into water bodies. These pollutants go into the food chain and gather till they reach noxious levels, ultimately killing birds, fish quality whereas for agriculture and industries the quality can be flexible. Industries use water from rivers to power machinery and for Increment in water temperature diminishes the broke down oxygen level in water which influences the biotic life. (CentralGround Water Board, 2017). The large portion of the above variables makes water quality checking more paramount in our biological system Water quality observing is the gathering of data from the suggested framework dispatched at the set areas at a standard interim of time, with a precise goal to give the constant information which will be utilized to characterize the ebb and flow conditions. The primary point of constant water quality observing framework incorporates the valuation of water quality parameters, for example, physical, substance properties, with a definite goal to recognize the varieties in water parameters and to give an early cautioning of the dangers.

The framework additionally gives a constant examination of the gathered information recommends reasonable medicinal measures to slackenthe water pollution. The aim of this paper is to deliver survey of functions held in smart water quality monitoring system with respect to application, communication technology used, sensors used etc. and to portrayal minimal price periodic smart water quality monitoring system using a arduino microcontroller with Wi-Fi module to examine parameters like pH, turbidity, temperature, water level, conductivity. The system also takes account facility to inform the user and the concerned authorities on variation of parameters in water bodies.