PROJECT OBJECTIVE

Remote monitoring and Internet of Things (IoT) technology may be used to access real-time data. With the support of Spark streaming analysis through Spark MLlib, Deep learning neural network models, the belief rule based (BRB) system, and standard values evaluation, data collected at the different website can be seen in a visual format on a server PC. Moreover, it enables low-cost and efficient river water quality monitoring and management. Since the system is lithium ion, it is significantly safer for the community and its population to use river water that has a low rate of electrical shocks because the battery is entirely insulated and renewable. With the use of this technology, consumers can predict and analyse water hardness in conjunction with temperature and turbidity for safer drinking and improved water for household applications. Water is an essential element of our daily lives, therefore it is necessary than we use it in a healthy manner. Our economy, expense quality monitoring and control system ensures this, as well as substantially protects the lives of the people who use river water. There must be five major components of the environment: soil, water, climate, native vegetation, and landforms. The most essential of these elements for human life is water. Further, it is essential to the survival of other living environments. Water that really is safe and easily available is critical for maintaining public health, whether it is employed for drinking, household use, food production, or leisure activities.

So, it is essential for us to maintain the balance in water quality. Otherwise, it would significantly affect human health while also breaking the ecological balance among other species. Water pollution is a major global issue that necessitates continual assessment and adaption of the guiding principles for managing water resources from the global level down to individual wells. According to studies, water contamination is the main global cause of deaths and diseases.

Documents show that water pollution did cause more than 14,000 mass killings each day worldwide. In many developing nations, contaminated water that's also contaminated or impure is being consumed for drinking. One of the factors of this is the public and bureaucratic awareness, in addition to the unavailability of a system to evaluate the quality of the water, which poses major health risks.

In this research, we present the architecture of a Wireless Sensor Network (WSN) that enables the monitoring of water quality by using data collected by sensors submerged in the water. This system can monitor a number of variables in water, including pH, dissolved oxygen, turbidity, conductivity, temperature, and others, using a wide range of sensors. WSN's strong development technology provides an innovative technique for capturing, transferring, and processing real-time data.

Clients can access speed information on water quality from a range. An Internet of Things (IoT) is a current technological innovation. It is altering our world of today and is utilized to the many fields to collect, monitor, and analyze the data from different areas. IoT integrated network if everywhere starting from smart cities, smart power grids, and smart supply chain to smart wearable . IoT has a great deal of potential, although it is generally neglected in the environmental sector. It has the potential to reduce earthquakes and rock slides, limit air pollution, monitor flood levels, and anticipate wild fires and early disasters. Additionally, it is able to be implemented in the domain of monitoring and monitoring systems for water quality.

Researchers' interest in water quality monitoring has developed in the twenty-first century. Numerous works on this domain, emphasizing on various aspects of it, are either finished or in process. The development of an effective, economical, real-time system for monitoring water quality that incorporates wireless sensor networks and the internet of things was the ultimate purpose of all the initiatives.

In this investigation, we use an IoT-based sensor network to continuously monitor the chemical and physical properties of water bodies inside Chittagong city.