## LITERATURE SURVEY:

Project: Real-Time River Water Quality Monitoring and Control System

Team Leader : S.SEETHALAKSHMI

Team Member 1: K.SUBIKSHA

Team Member 2: S.SATHIYA

Team Member 3: K.SNEHA

Abstract:

Current water quality monitoring system may be a manual system with an uneventful process and is extremely time-consuming. This paper

proposes a sensor-based water quality monitoring system. the most components of Wireless Sensor Network (WSN) include a

microcontroller for processing the system, communication system for inter and intra node communication and a number of other sensors.

Real-time data access is done by using remote monitoring and Internet of Things (IoT) technology. Data collected at the

apart site are often displayed during a visual format on a server PC with the assistance of Spark streaming analysis through Spark MLlib,

Deep learning neural network models, Belief Rule Based (BRB) system and is additionally compared with standard values. If the

acquired value is above the brink value automated warning SMS alert are sent to the agent. the distinctiveness of our

proposed paper is to get the water monitoring system with high frequency, high mobility, and low powered. Therefore, our

proposed system will immensely help Bangladeshi populations to become conscious against contaminated water further on

stop polluting the water.

In this paper, we depict the look of Wireless Sensor Network (WSN) that assists to observe the standard of

water with the support of knowledge sensed by the sensors dipped in water. Using different sensors, this method can

collect various parameters from water, such as pH, dissolved oxygen, turbidity, conductivity, temperature, and so on.

The rapid development of WSN technology provides a completely unique approach to real-time data acquisition, transmission,

and processing. The clients can get ongoing water quality information from distant.

Now a day's Internet of things (IoT) is an innovative technological phenomenon. it's shaping today's world and

is used in several fields for collecting, monitoring and analysis of knowledge from remote locations. IoT integrated

network if everywhere ranging from smart cities, smart power grids, and smart supply chain to smart wearable

Though IoT continues to be under applied within the field of environment it's huge potential. It is applied to detect

forest fire and early earthquake, reduce air population, monitor snow level, prevent landslide, and avalanche etc.

Moreover, it will be implemented within the field of water quality monitoring and controlling system.

Water quality monitoring has gained more interest among researchers during this twenty-first century. Numerous

works are either done or ongoing during this topic that specialize in various aspects of it. The key theme of all the projects was

to develop an efficient, cost-effective, real-time water quality monitoring system which is able to integrate wireless sensor

network and internet of things . during this research, we monitor the physical and chemical

parameters of water bodies.

SENSORS:

pH Meter:

The pH of thing is a useful constant to display because graduate and low pH levels can hump large effects on the

author. The pH of a statement can grasp from 1 to 14. A pH sensor is an instrumentation that measures the

hydrogen-ion density in a bleach, indicating its tartness or alkalinity. Its constitute varies from 0 to 14 p

Turbidity sensor

Turbidity train sensor is victimised to live the clarity of element or muddiness utter within the water. The

muddiness of the open cut food is ordinarily between 255 NTU. Irrigate is visibly at levels above 80 NTU. The

standards for intemperance liquid is 130 NTU to 250 NTU. The turbidity device consists of soppy sender and acquirer,

the transmitter must transmit unsubtle bright, it's said to be turbid. The consequence of turbidity may be a reduction in

water clarity, aesthetically unpleasant, decreases the speed of photosynthesis, increases water temperature.

Temperature sensor

Here DS18B20 is old because the temperature device. Usually, its present use to perceive the temperature of the life, if

we site the device wrong the conductor electrode and placed into the H2O, it can discover the temperature of H2O

also. the conventional temperature of the people is (25 -30)°C.

LCD display

LCD (Liquid Crystal Display) impede could be a flat brace electronic exhibit power and finds during a countywide orbit of

applications. A 16x2 LCD demo is that the really fundamental power and is rattling commonly victimised in varied

devices and circuits. These modules are desirable over heptad segments and otherwise multi-segment LEDs.

Wi-Fi module

Wi-Fi or Wi-Fi may be a subject for wireless localized area scheme with devices. Devices that may use Wi-Fi study

permit private computers, video-game consoles, smartphones, digital cameras, paper computers, digital frequency

players and ultramodern printers. Wi-Fi matched devices can insert to the Cyberspace via a LAN web and wireless

make a bushel. Much a reach quantity (or point) includes a capableness of around 20 meters (66 feet) indoors and a

greater compass outdoors. Wi-Fi subject could also be utilised to render the net reach to devices that are within the

capability of a wireless meshwork that's connected to the net.

**Iot Platform:**

The quality parameters are labeled datasets including desired outputs of specific combination of inputs. The

neural network will produce output to classify water quality as dangerous, be careful, and good. The classification

layer will run on top of Hadoop cluster. the benefits of using neural network based analytics are like

Artificial Neural Networks (ANNs) are good in learning and modeling non-linear relationships, and high volatile

data . Though neural networks are vulnerable to over fitting, the neural network model employed in water quality

monitoring system isn't complex enough to cause over fitting problem. Also, there are many

countermeasures to

avoid over fitting. Also, computation overload isn't visiting delay the response of system as there are only some

water quality parameters.

## CONCLUSION:

Real-time monitoring of water quality by using IoT integrated Big Data Analytics will immensely help people to

become conscious against using contaminated water in addition on stop polluting the water. The research is conducted

focusing on monitoring river water quality in real-time. Therefore, IoT integrated big data analytics is gave the impression to

be a higher solution as reliability, scalability, speed, and persistence are often provided.