

# ABSTRACT

When detection of water quality is conventionally performed, water samples will be obtained and sent for laboratory examinations which costs for time, financial aid and human resources. Such techniques do not provide data in real-time.

The proposed water quality monitoring system is consisting of a microcontroller and basic sensors, which is compact and very useful for pH, turbidity, water level detection, temperature and humidity of the atmosphere, continuous and real-time data sending via wireless technology to the monitoring station. This projected the water quality observation interface sensors with quality observation with IOT setting.

WQM selects parameters of water like temperature, pH level, water level and CO<sub>2</sub> by multiple different device nodes. This methodology sends the information to the web server.

The data updated at intervals within the server may be retrieved or accessed from anyplace within the world. If the sensors do not work or get into abnormal conditions, then a buzzer will go ON. So for this project we are going to effectively analyze the two components involved in a real time quality monitoring system.

For the hardware part we are going to take sensors to analyze the river water and a ping it to a controller used to control the sensor nodes. For the software part we are going to use Node RED in IOT Watson platform. So after we develop the software code we are going to load in the hardware component and a bigger data storage is needed for all those temperature, turbidity, and pH values of river water.

An IOT Watson platform inter-connected to Node RED acts as a directive to Web UI forming the cloud services and storage.

Python language which is Simple in nature, Highly Compatible and Object-Oriented it performs easy compilation and Increases Speed and Productivity employing Lots of Libraries and Built-in Data Structures for which it greatly accounts for our data storage issue.

In our project we use WSN technology to perform a low and consistent energy management for wireless connection of sensor nodes. Thus creating a much efficient product that we present to people which is beneficial and both Safe and Affordable.