Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	16 November 2022
Team ID	PNT2022TMID05914
Project Name	REAL TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM
Maximum Marks	4 Marks

Technical Architecture:

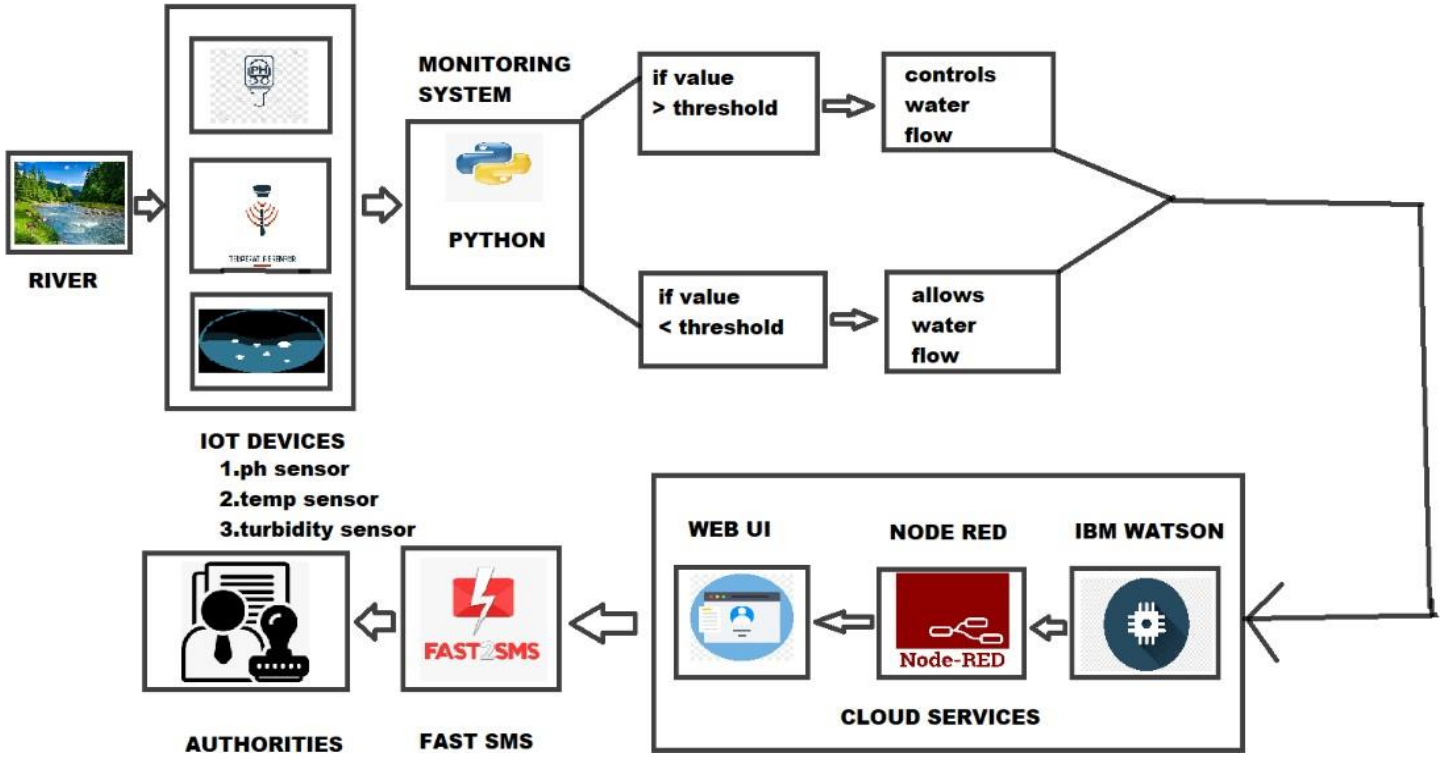

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	The UI is the point of human computer interaction and communication in a device	WEB UI.
2.	Application Logic-1	Logic for a process in the software application	Python.
3.	Application Logic-2	Logic for a process in the sensor application	IBM Watson STT service.
4.	Application Logic-3	Logic for checking the accurate water quality	Quality monitoring system.
5.	Database	The PH, temperature, turbidity values are stored.	MySQL, NoSQL.
6.	Cloud Database	A cloud database helps to store, organize and manage data.	IBM Cloudant
7.	File Storage	File storage requirements	IBM Cloudant DB Storage
8.	External API-1	It is used to get depth data and climate, environment weather for analysis	IBM Weather API.
9.	Machine Learning Model	It allows the user to feed a computer algorithm an immune amount of data and have the computer analyse the make data-driven recommendation	Recognize model.
10.	Infrastructure (Server / Cloud)	Application Deployment on IBM cloud	Node RED.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Online software tools	Tinkercad, wokwi, etc.
2.	Security Implementations	The system uses cloud storage for security purpose and backup the data any time	IBM Cloud services.
3.	Scalable Architecture	This project is scalable because it covers a particular zone	IBM Watson IOT.
4.	Availability	The system is availability for 24/7 for the regular supply of quality water	Rechargeable sensors.
5.	Performance	This system works in low power and highly efficient	IOT, Node RED, WIFI module sensors.