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

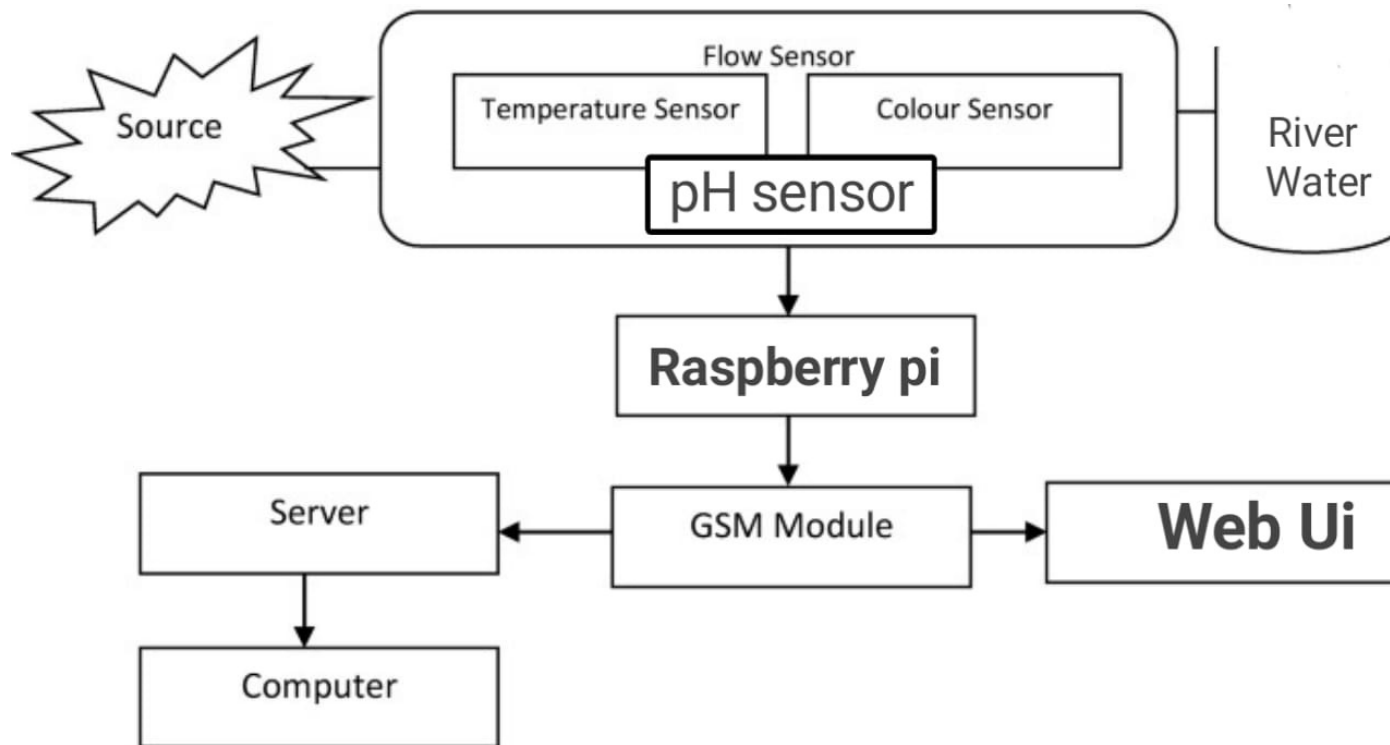| Date	16 October 2022
Team ID	PNT2022TMID38365
Project Name	Real-Time River Water Quality Monitoring and Control System
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user access the system functionality by using the web ui.	HTML and CSS used in the system.
2.	Application Logic-1	Python code is used to function the system.	Python
3.	Application Logic-2	Datas are stored in the cloud.	IBM Watson STT service
4.	Application Logic-3	Message are transmit to the user.	IBM Watson Assistant
5.	Database	Datas are stored into the system for future references.	MySQL, NoSQL, etc.
6.	Cloud Database	Database stored on Cloud because the datas are huge we need store and data analyse it.	IBM DB2, IBM Cloudant etc.
7.	File Storage	Files are get stored into the system.	IBM Block Storage and Local File system is used.
8.	External API	Weather will change the quality and increase the amount of river water so we need to look out the weather also.	IBM Weather API, Google Weather API.
9.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration Cloud Server Configuration	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Web user interface is access the datas.	Technology of Opensource framework
2.	Security Implementations	Only the authorised users can able to access the data.	Encryptions technology used in it.

S.No	Characteristics	Description	Technology
3.	Scalable Architecture	This system is more scalable to use. Coding is used to process all the data.	Python code
4.	Availability	The system can store and process the more number of datas.	Cloud
5.	Performance	Real time temperature, ph, turbidity of water is monitored and shared.	Raspberry pi and GSM module