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

Date	15 October 2022
Team ID	PNT2022TMID49552
Project Name	Project – Real-Time River Water Quality Monitoring and Control system
Maximum Marks	4 Marks

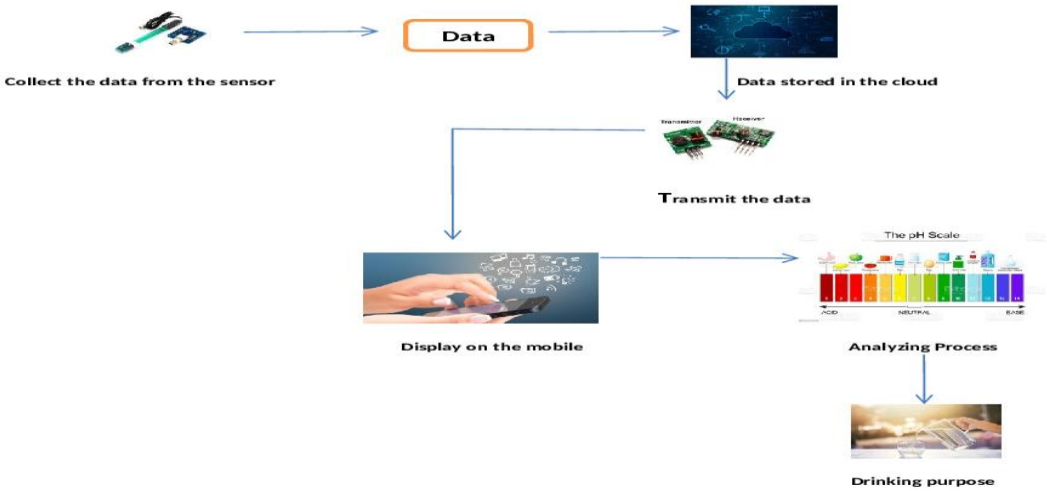
Data
Collect the data from the sensor
Data stored in the cloud
Transmit the data
The pH Scale
Display on the mobile
Analyzing Process
Drinking purpose

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	User had to install the required application in their respective mobile to control the device. It will display the pH level of river water.	HTML, CSS, JavaScript
2.	IOT Application Logic-1	It is used for the daily purposes such as bathing, drinking, and cooking	Python
3.	IOT Application Logic-2	Water is used to grow plants, vegetables and crops	IBM Watson Assistant
4.	Sensor	The sensor is used to find the pH level of the river water	IBM Watson STT service
5.	Database	Data types can be any formal such as graphical and range of pH level.	SQlite, InFluxDB
6.	File Storage	The Storage or data will store in their respective mobile	IBM Block Storage or Local Filesystem
7.	Drone	To monitor the device everytime	Aadhar API, etc.
8.	Detector	Used to detect location of the device and to detect the river water	City Geo-Fencing location lookup API etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python Flask Framework is used.	Mainflux, Thinger,Iot Zetta for non stop streaming of child condition, Openremote.

S. No	Characteristics	Description	Technology
2.	Security Implementations	We are using detector and drone for monitoring the device.	e.g. SHA-256, Encryptions of data regarding child condition, firewalls, Antivirus, data loss prevention etc.
3.	Scalable Architecture	.High Scalability.	Multiple Data store Technologies , Reliable, Micro services Automated Bootstrapping.
4.	Availability	The device is find out the pH range of the river water.	Temperature, pulse sensor GPS,GSM, Pie camera, Raspberry pi, microprocessor.
5.	Performance	When the device detects the pH level, the result will immediately send to the users mobile.	GSM tracker, High durable device battery