Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	25-10-2022
Team ID	PNT2022TMID34532
Project Name	Real-Time River Water Quality Monitoring and Control System
Marks	

Technical Architecture

The following figure represents the flow of technical architecture of the designed project phase.

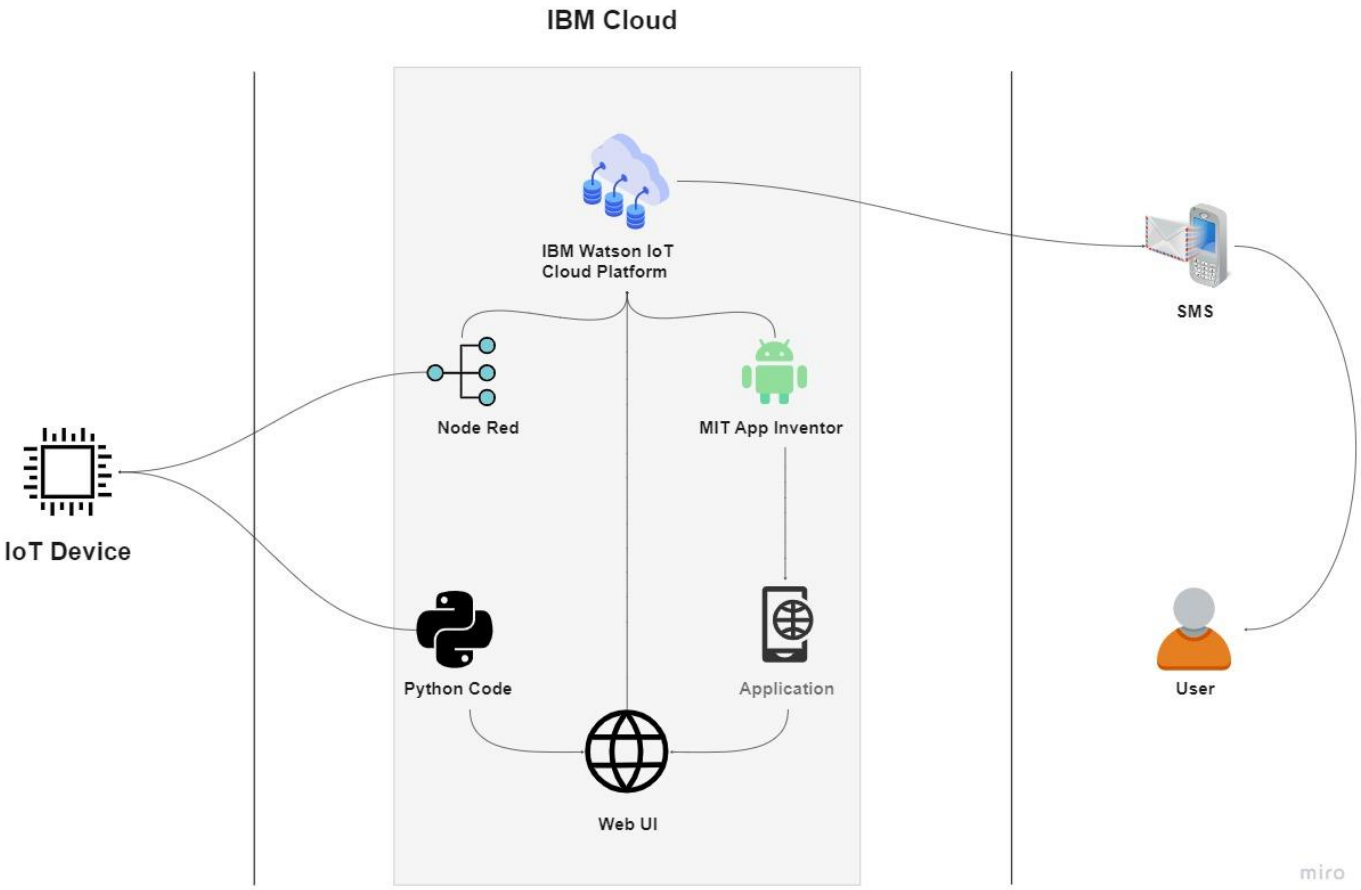

Table-1: Components & Technologies

S.No	Component	Description	Technology
1.	User Interface	Mobile App	Python
2.	Application Logic-1	Get the data form the sensor	Python
3.	Application Logic-2	Analysis and give the result of the water by sensing	IBM Watson IoT Platform
4.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant, etc.
6.	File Storage	File storage requirements	IBM Block Storage, Local Filesystem
7.	External API-1	To the knowledge of the water like impurities, level of the pH of the water	IBM Weather API, etc.
8.	Machine Learning Model	To identify or to recognize the object	Object Recognition Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Local host Cloud Server Configuration : Local host, Firebase	Local, Cloud Foundry, Kubernetes,

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Pythonscript, IBM simulator	IOT
2.	Security Implementations	Temperature sensor are connect to the device	IOT
3.	Scalable Architecture	Accurate measurement of temperature, humidity, dew point, atmospheric pressure, two-state events and CO2 ● Various type of output such 4 – 20 mA, 0-10 V, RS232/485, Ethernet (PoE on selected models), Radio (Sigfox) ● Industrial design with integrated sensors, external probe and duct mount design	IOT

S.No	Characteristics	Description	Technology
4.	Availability	A temperature sensor is a device that detects and measures hotness and coolness and converts it into an electrical signal**.** At TE Connectivity (TE), we design and manufacture a broad portfolio of temperature sensors – including our NTC	IOT
5.	Performance	Help monitor the temperature and pH value of the represented river water and to find the quality of the water	IOT