

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

Team ID	PNT2022TMID29705
Project Name	Project – Real Time River Water Quality Monitoring and Control System
Maximum Marks	4 Marks

Technical Architecture:

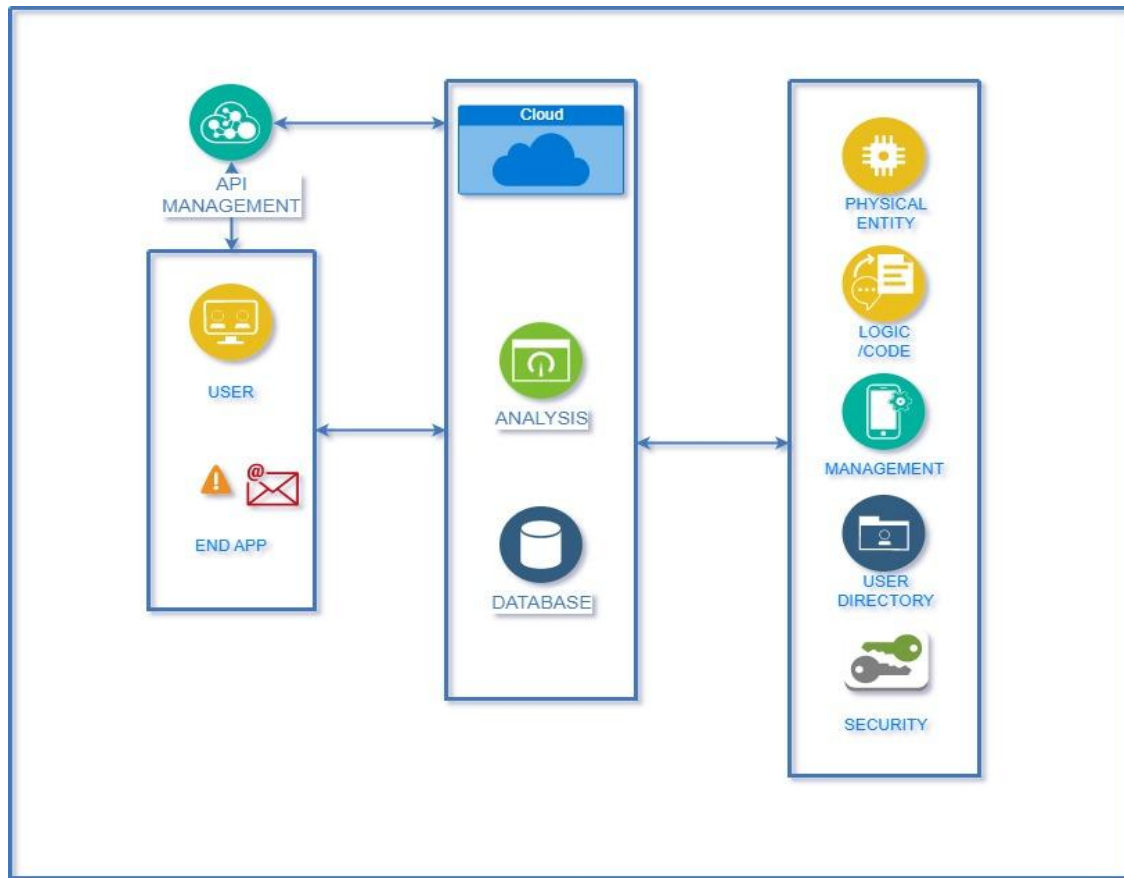


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, MIT App Inventor
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Device/Sensor API.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Detection model, Object Tracking model.
11.	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	List the open-source frameworks used	Django, Pytorch

S.No	Characteristics	Description	Technology
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP,CAA, 6LoWPAN,Bluetooth
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	MQTT,LwM2M
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	VMware, IBM Cloud Load Balancer , Kubernetes
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	IBM Watson IoT Platform