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

Date	15 October 2022
Team ID	PNT2022TMID30034
Project Name	Smart Farmer-IOT Enabled Smart Farming Application
Maximum Marks	4 Marks

Technical Architecture

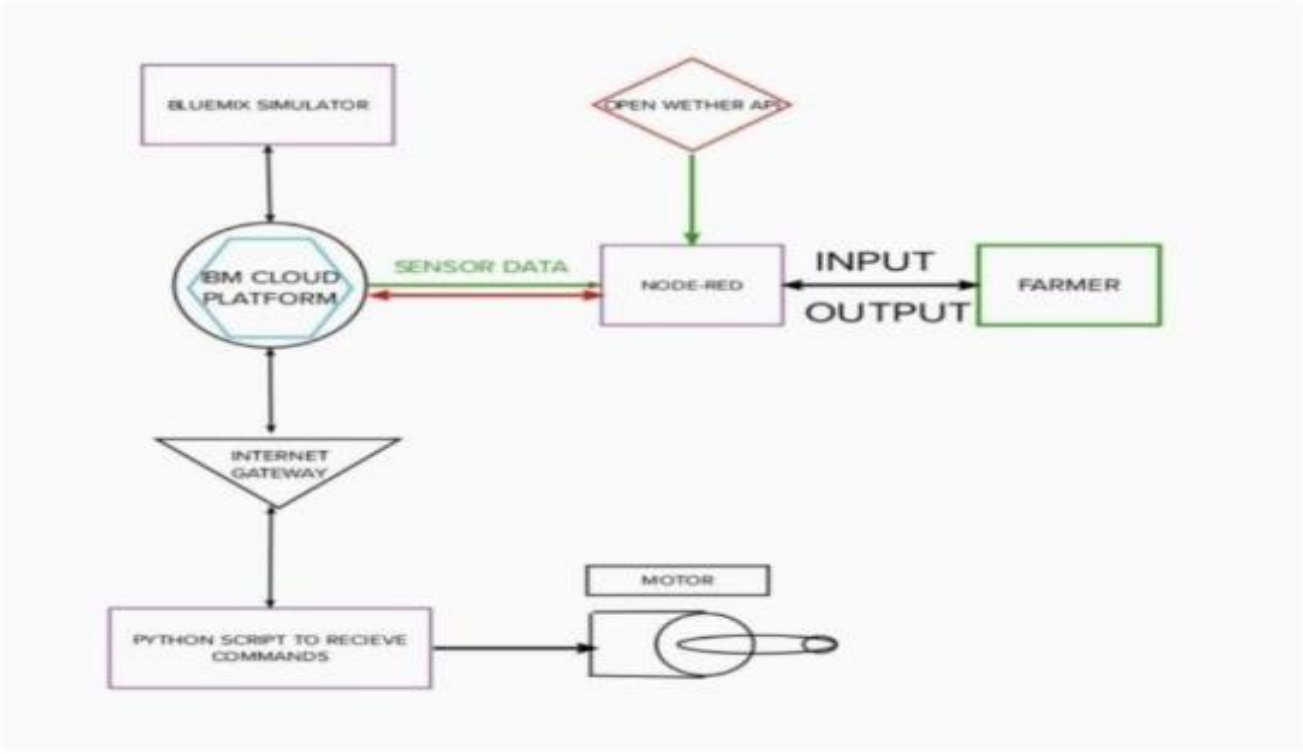

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	IBM Cloud, Node-RED, LoRa WAN
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.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	Purpose of External API used in the application	IBM Weather API
8.	External API-2	Purpose of External API used in the application	Open Weather API
9.	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	MIT Inventor Application, MIT AI2 Companion
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture	IIOT, 3-tier
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Sensors, Motor, LoRa-WAN
5.	Performance	Design consideration for the performance of the application.	DNS, CDNs, Apache Ignite