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

Date	16 October 2022
Team ID	PNT2022TMID18045
Project Name	Project - IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

Technical Architecture:

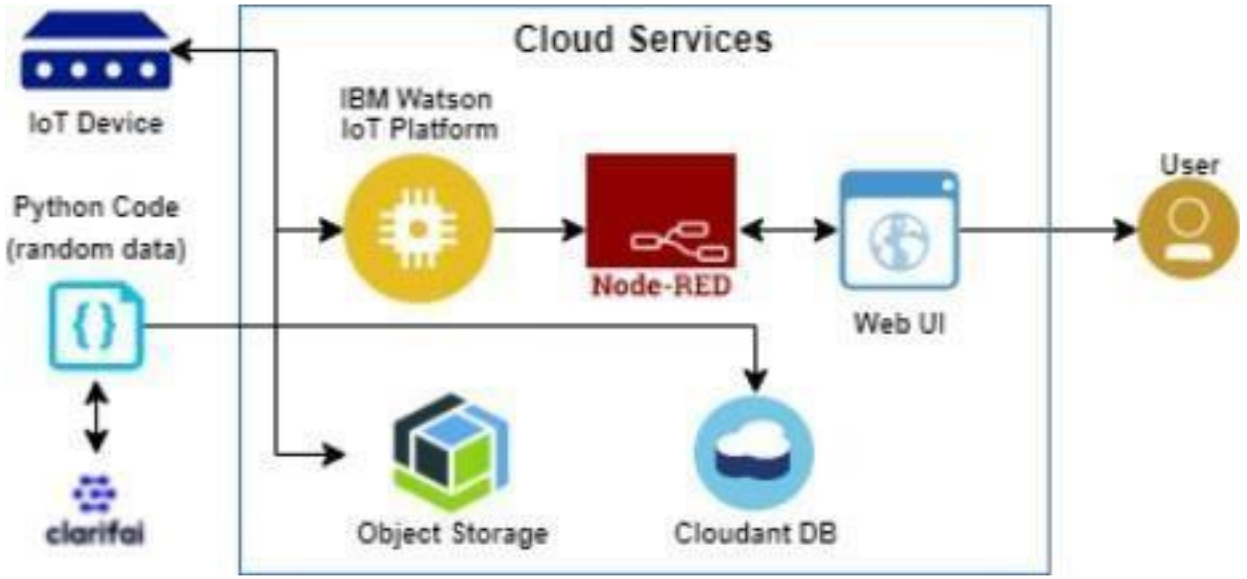

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App.	Node-red, Kubernetes, MIT mobile app inventor.
2.	Application Logic-1	Generating random sensor data	Python, IBM Watson IoT platform
3.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant.
4.	External API-1	Sending SMS to customer.	Twilli SMS API, etc.
5.	Infrastructure (Server / Cloud)	Application Deployment on Cloud	Kubernetes.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	open-source frameworks used to develop our project	Node – Red, IBM Cloudant, IBM Watson IOT Platform
2.	Security Implementations	Use of Login facility for individual user	Password protection in MIT App, User login for web application.
3.	Scalable Architecture	Web Ui designed for easy access and usage.	Node – Red (Web UI)
4.	Availability	Web application can be accessed from anywhere	Node–Red(Web UI).
5.	Performance	All Farmers can access the application at same time	Cloudant DB, IBM Watson IoT Platform