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

Date	06 November 2022
Team ID	PNT2022TMID23457
Project Name	IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

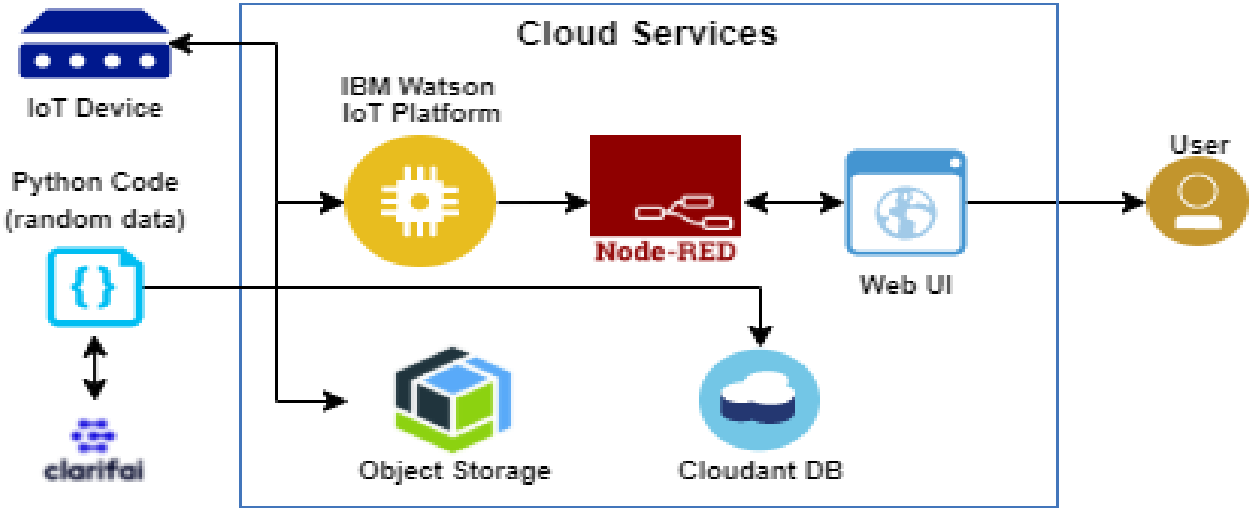

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	Node-RED
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 Cloudant
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-1	Purpose of External API used in the application	IBM Weather API
9.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Cloud Foundry

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Clarifai, Node-RED
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Encryptions, IAM Controls
3.	Scalable Architecture	Justify the scalability of architecture	Cloud is used for storage, so as many parameter can be added according to farmer requirement
4.	Availability	Justify the availability of applications	IBM cloudant
5.	Performance	Design consideration for the performance of the application	Able to detect the weeds and gives prior weather notification to the farmer