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

Date	03 October 2022
Team ID	PNT2022TMID51485
Project Name	Project – IOT based smart crop protection system
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

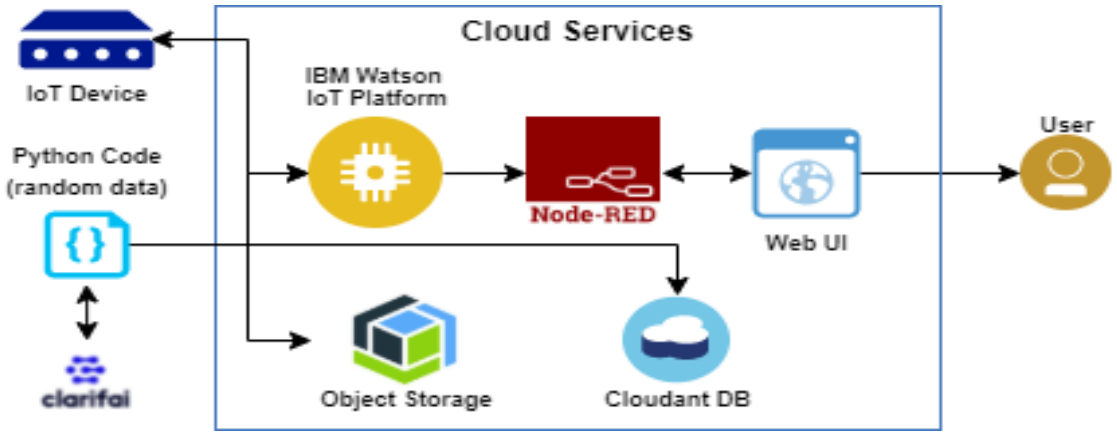

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Arduino Uno	The Arduino Uno is an open-source microcontroller board based on the Microchip ATmega328P microcontroller	Arduino programming done in **C++.**
2.	Application Logic-1	Logic for PIR sensor data	C++/Python
3.	Application Logic-2	Logic for Temperature sensor data	C++/Python
4.	Application Logic-3	Logic for fire sensor data	C++/Python
5.	GSM	The Arduino GSM shield allows an Arduino board to connect to the internet, send and receive SMS, and make voice calls using the GSM library.	C++/Python
6.	Cloud Database	Database Service on Cloud	IBM Watson IoT platform,Cloudant DB
7.	Cloud Server	Application deployment on Local System /Cloud	IBM Watson IoT Platform, NodeRed
8.	User Interface	How user interacts with application toalert the Farmer	HTML, CSS, JavaScript Python etc.
9.	External API-1	Purpose of External API used in theapplication to locate the crops.	Google Maps Geolocation API

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Microcontroller	Arduino Uno is used to make the IoT device	C++/Python
2.	Security	Encryption/Decryption used for securitypurpose	GSM, Python
3.	Scalable Architecture	New features can be added.	Node Red
4.	Availability	Web application can be accessed fromanywhere	IBM Watson IoT Platform,HTML, CSS, Java Script
5.	Performance	All Farmers can access the application atsame time.	Cloudant DB, IBM Watson IoT Platform