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

Date	15 October 2022
Team ID	PNT2022TMID23211
Project Name	Project – 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 the Web UI.	App Development
2.	Application Logic-1	Logic for a process in the application	Python objectives
3.	Application Logic-2	Logic for a process in the application	Raspberry pi4 Technology
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.	IoT Cloud	Massive network supports IoT devices and applications	Cloud object store services.
9.	Machine Learning Model	The model has the capability to detect the objects like animals, birds and strangers	Object Recognition Model, etc.
10.	Power Supply	Electrical devices supplies electrical power. [Approximately 2.7W]	Power system technology.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open - source frameworks used	SAN-SAF
2.	Security Implementations	Sensitive and private data must be protected from their production until the decision and storage stages.	Node-Red, Open weather app API, MIT App Inventor, etc.
3.	Scalable Architecture	Scalability is a major concern for IoT platforms. It has been shown that different architectural choices of IoT platforms affect system scalability and that automatic real time decision making is feasible in an environment composed of dozens of thousands.	IBM cloud Architecture

S.No	Characteristics	Description	Technology
4.	Availability	Automatic adjustment of farming equipment is made possible by linking information like temperature, humidity, etc.	Web Application can even be used by the farmers in the Horticulture.
5.	Performance	The idea of implementing sensors with crop protection will be more efficient for monitoring.	Since the Web Application is high Efficient, it can be used by the farmers irrespective of time.

FLOW:-{BLOCK DIAGRAM}