PROJECT DESIGN PHASE-II
TECHNOLOGY STACK (ARCHITECTURE & STACK)

Date	16 October 2022
Team ID	PNT2022TMID29654
Project Name	IOT Based smart crop protection system for agriculture
Maximum Marks	4 Marks

Technical Architecture:

Reference: https://www.ijraset.com/research-paper/smart-farming-and-crop-monitoring-technology-in-agriculture-using-iot

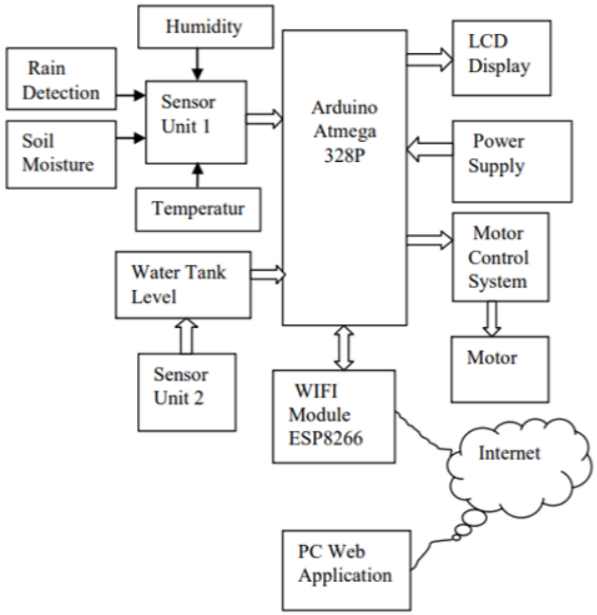

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Arduino	Arduino boards are able to read inputs-sensors	C, JavaScript
2.	Sensors	A device that detects and responds to some type of input from the physical environment	C, JavaScript
3.	Motion detection sensor	Detects motion of the animals and birds as well as unknown persons	C, JavaScript
4.	Soil Moisture sensor	Monitors the humidity and nature of the soil	C, JavaScript
5.	Temperature sensor	Detect the temperature of the soil as well as weather condition	C, JavaScript
6.	Database, Cloud Database	Database Service on Cloud	IBM Cloud, IBM Watson, NODE RED
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service
8.	Motors and sprinklers	Sprinkles the water when the motor is on	—
9.	LCD Display	Display when the motor gets on and off	—
10.	Mobile App	Used to on and off the motor through the mobile application	MIT Inventer
11.	Infrastructure (Server / Cloud)	Application Deployment on Cloud Cloud Server Configuration	Cloud Foundry

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Tinker cad, MIT Inverter
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Encryptionsss
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

Reference:

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