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

Date	16 October 2022
Team ID	PNT2022TMID27109
Project Name	Smart Farming- IoT Enabled Smart Farming Application.
Maximum Marks	4 Marks

Technical Architecture:

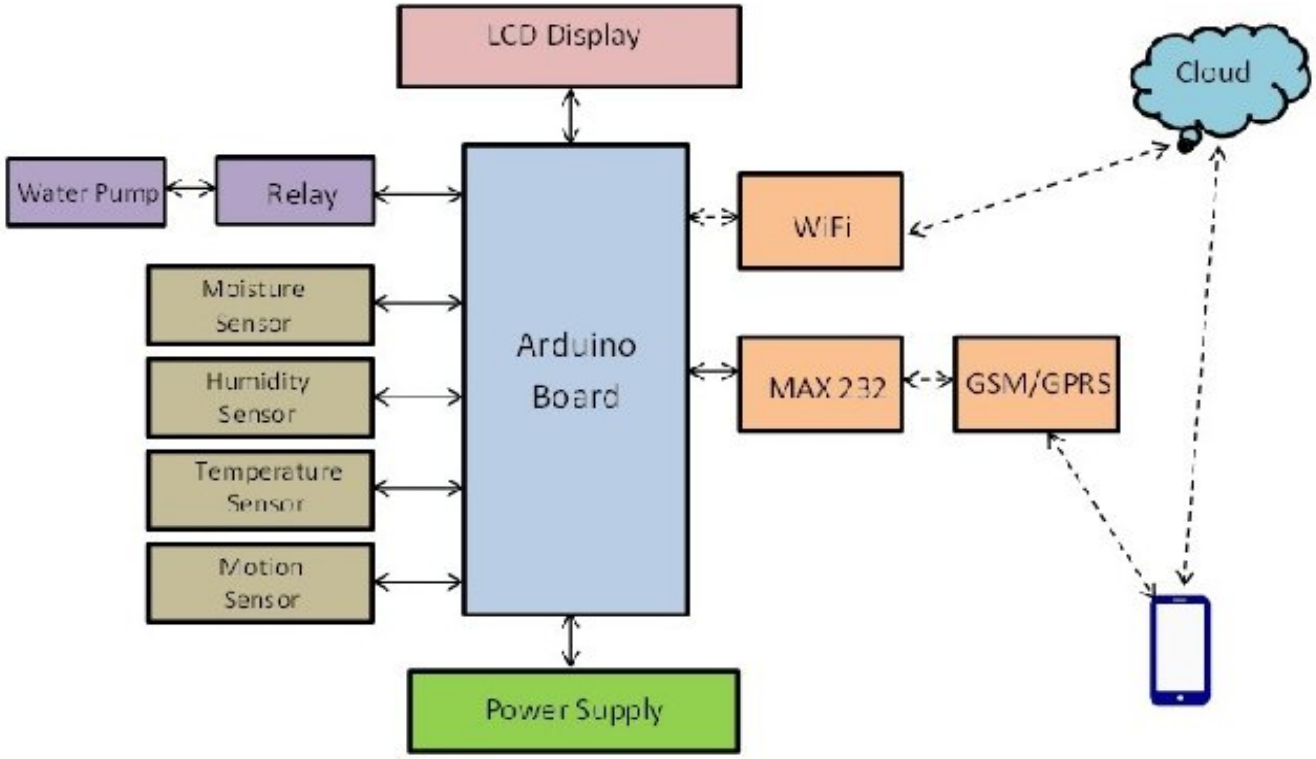

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App.	HTML, CSS, JavaScript.
2.	Application Logic-1	Code development phase	Python
3.	Application Logic-2	Interfacing purpose	IBM Watson
4.	Cloud Database	Database Service on Cloud	IBM Cloudant
5.	File Storage	Usage of IBM Cloud Storage	IBM Block Storage
6.	Browser based flow editor	Visual programming	Node Red
7.	Infrastructure (Server / Cloud)	Application Deployment on Local System	Cloud Platform

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	A template for software development that is designed by social network	IBM Watson Platform, Node Red
2.	Security Implementations	The adoption of sensor based technologies and cloud supported smart applications in agriculture has unleashed opportunities for adversaries to orchestrate Cyber attack. In a smart Farm,an enormous amount of complex, dynamic and spatial data gets generated from many heterogeneous sensors, devices and equipment. Leakage of such information either through unauthorized access or by an insider can cause potential threats.	Notifications and alerts
3.	Scalable Architecture	In smart farming is authentication of connected devices. Devices need to be authenticated first in order to get connected to various services on a smart farming system. If any issues arises the system alerts the user or farmer through notification and suggest required action to be taken.	Implementation using Software

S.No	Characteristics	Description	Technology
4.	Scalable Architecture	If any issues arises the system alerts the user or farmer through notification and suggest required action to be taken. The challenges of a smart farming system include the integration o these sensors and trying the sensor data to to the analytics driving automation and response activities.	Implementation using Software
5.	Performance	The optimisation of all the processes related to agriculture and livestock-rearing increases production rates. Water saving by weather forecasts and sensors that measure soil moisture mean watering only when necessary and for the right length of time. Smart farming can make agriculture more profitable for the farmer. Decreasing resource inputs will save the farmer money and labor and reduce risk.	Using Sensors , cloud and devices