Project Design Phase-I

Solution Architecture

Date	13 October 2022
Team ID	PNT2022TMID40641
Project Name	Project – Smart Farmer-IoT Enabled smart Farming Application
Maximum Marks	4 Marks

Solution Architecture:

➢ The different soil parameters (temperature, humidity, light intensity, pH level) are sensed using different sensors and the obtained value is stored in IBM cloud.

➢ Arduino uno is used as a processing unit which processes the data obtained fromsensors and weather data from weather API.

➢ Node red is used as a programming tool to wire the hardware, software and APIs.The MQTT protocol is followed for communication.

➢ All the collected data are provided to the user through a mobile application which was developed using MIT app inventor. The user could make decision through an app, whether to water the crop or not depending upon the sensorvalues.

Solution Architecture Diagram:

TEMPERATURE AND HUMIDITY SENSOR

Node-RED MQTT

ARDUINO-UNO

L293D (16 PIN IC)

SOIL MOISTURE SENSOR

IBM IoT CLOUD

MOBILE APP

LIGHT INTENSITY SENSOR

pH SENSOR

OPEN WEATHER API

Weather APIs