Smart Farmer - IOT Enabled Smart Farming Application - Solution Architecture

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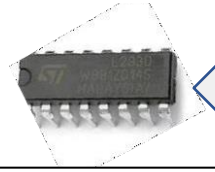
TEMPERATURE AND HUMIDITY SENSOR

Node-RED

MQTT

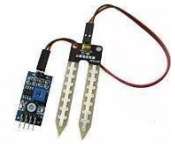
ARDUINO-UNO

L293D (16 PIN IC)

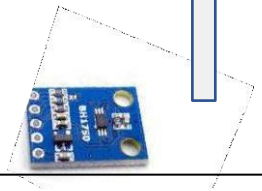


SOIL MOISTURE SENSOR

MOBILE APP



IBM IOT CLOUD



LIGHT INTENSITY SENSOR

pH SENSOR

OPEN WEATHER API

- 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 from sensors 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 sensor values.