SRI ESHWAR COLLEGE OF ENGINEERING
COIMBATORE

- **Project Design Phase-1**
- **Solution Architecture**

- **Team Members:**

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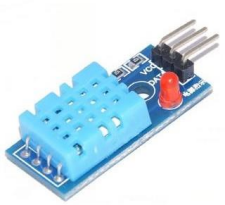
Solution Architecture:

- The different soil parameters (temperature, humidity, Soil Moisture) are sensed using different sensors, and the obtained value is stored in the IBM cloud.
- Arduino UNO is a microcontroller which used to 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 that was developed using the MIT app inventor. The user could make a decision through an app, whether to water the crop or not depending upon the sensor values. By using the app they can remotely operate the motor switch.

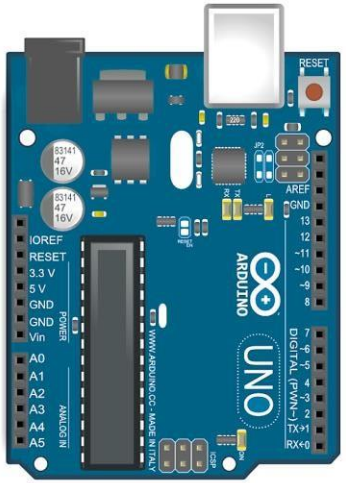
Solution Architecture Diagram:

Soil Moisture Sensor



DHT11 Sensor

Motor



Open Weather API

IBM Cloud

Cloud

Node-RED

Node Red

Application

User