Project Design Phase-I
Solution Architecture
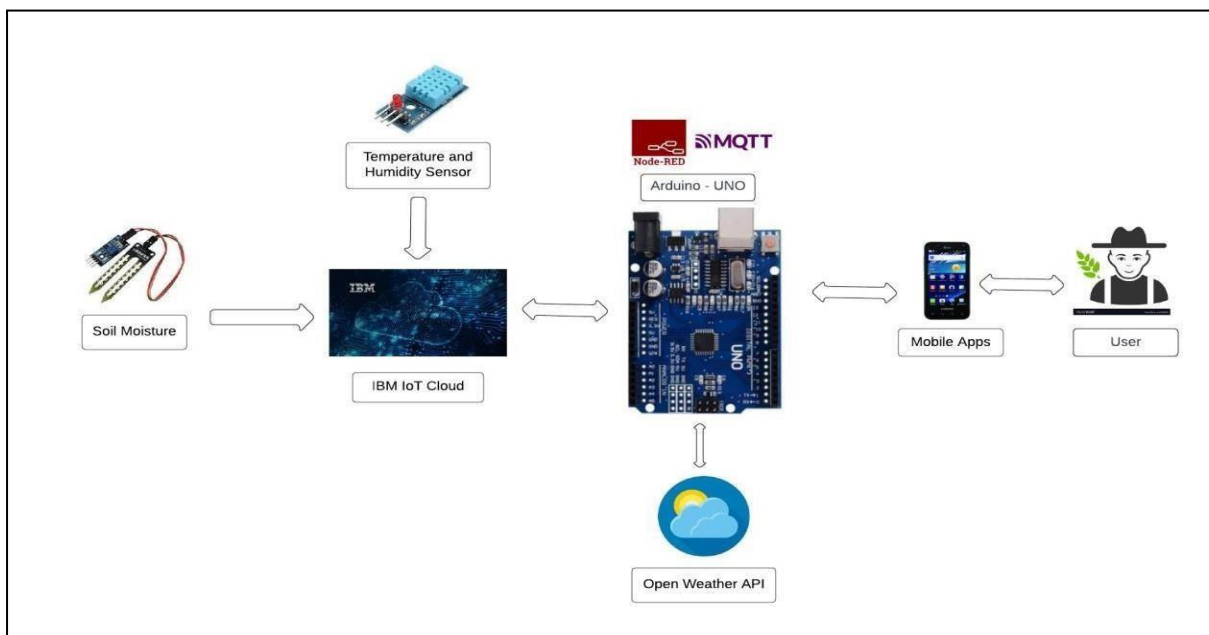
Date	30 September 2022
Team ID	PNT2022TMID46404
Project Name	Smart Farmer - IOT Enabled Smart Farming Application
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.

- Describe the structure, characteristics, behaviour, and other aspects of the software to project stakeholders.

- Define features, development phases, and solution requirements.

- Provide specifications according to which the solution is defined, managed, and delivered.

Example - Solution Architecture Diagram:

❖ 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 used as a processing unit that 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.