

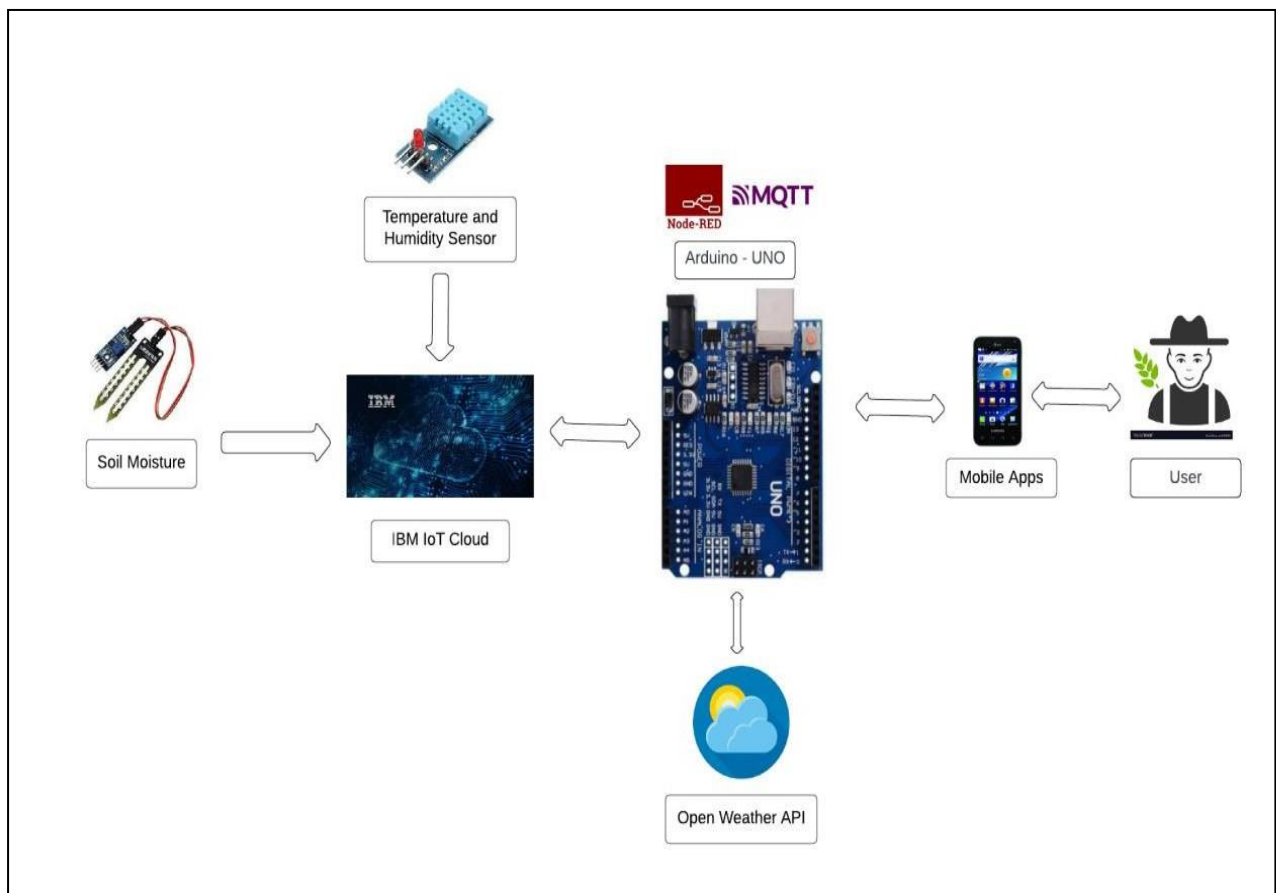
Project Design Phase-I Solution Architecture

Date	09 NOVEMBER 2022
Team ID	PNT2022TMID14846
Project Name	Project – 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, behavior, 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.



- ❖ 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.