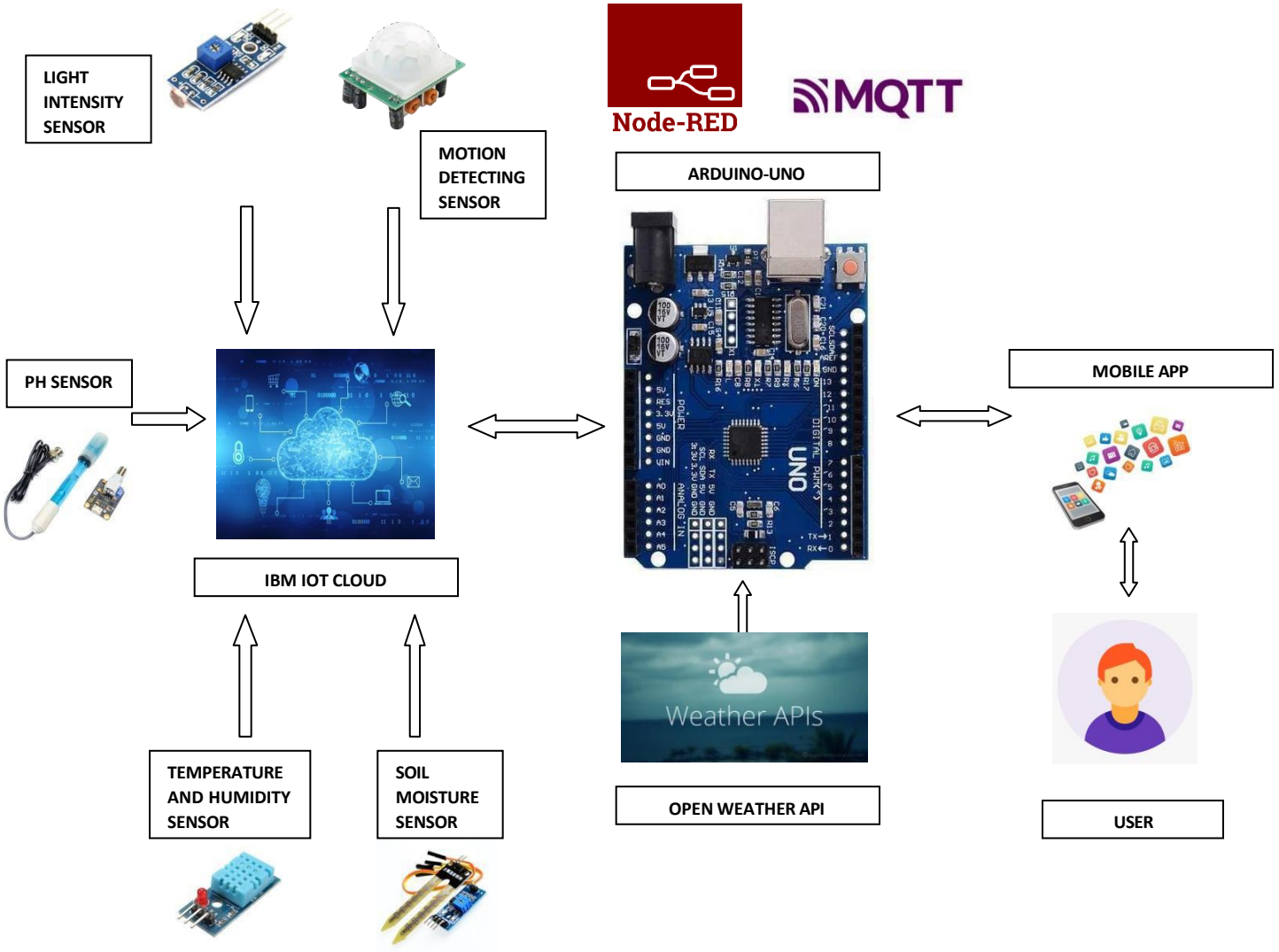
# Project Design Phase-I
# Solution Architecture

| | |
|---|---|
| Team ID | PNT2022TMID22476 |
| Project Name | Smart Farmer - IoT Enabled Smart Farming Application |

## SOLUTION ARCHITECTURE:



- The different soil parameters (Temperature, Humidity, Light Intensity, pH level, Soil Moisture and Motion) 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.

- Increased control over production allows for better cost management. In addition, being alerted early to any anomalies in crop growth or livestock health allows farmers to mitigate costly risks.

- With more control (even remotely), farmers can reduce risks and plan better. For example, If you know exactly how large your yield is going to be, you can ensure that you find enough buyers and your product won’t lie around unsold.