Smartfarmer - IoT Enabled Smart Farming Application
SOLUTION ARCHITECTURE

Date	27 October 2022
Team ID	PNT2022TMID34589
Project Name	Smartfarmer - IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

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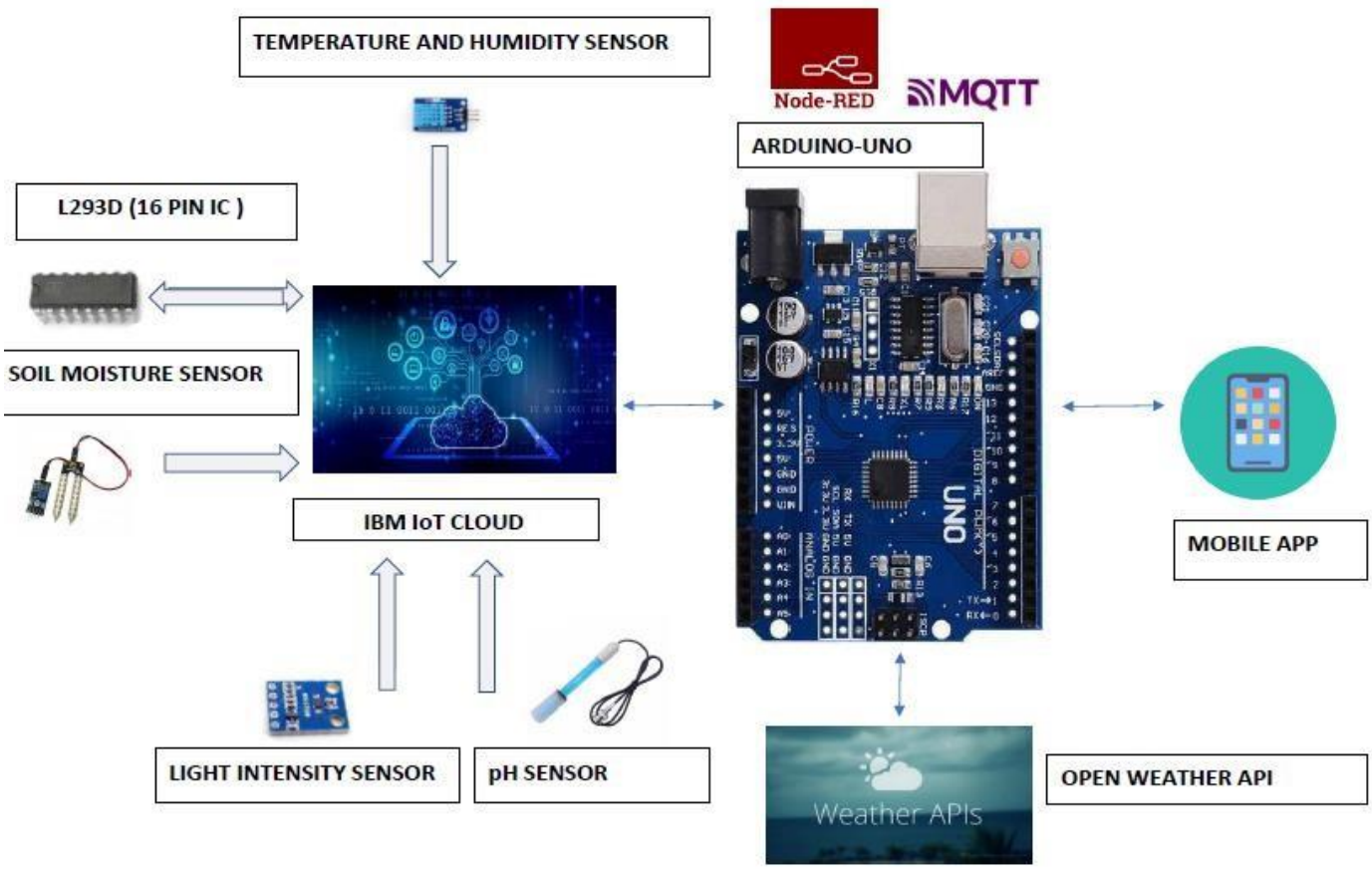
Solution Architecture Diagram:



- The different soil parameters (temperature, humidity, light intensity, pH level) are sensed using different sensors and the obtained value is stored in IBM cloud.

- The L293D is a 16-pin Motor Driver IC which can control a set of two DC motors simultaneously in any direction. The L293D is designed to provide bidirectional drive currents of up to 600 mA (per channel) at voltages from 4.5 V to 36 V (at pin 8!).

- Arduino UNO is used as a processing unit which processes the data obtained from sensors and weather data from weather API.

- Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways. It provides a browser-based editor.

- 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.

- Open Weather provides hyperlocal minute forecast, historical data, current state and from short-term to annual and forecasted weather data. All data is available via industry standard APIs.

- The user could make decision through an app, whether to water the crop or not, depending upon the sensor values.