IOT SMART AGRICULTURE MONITORING SYSTEM

ABSTRACT

India is one of the largest agricultural countries with a population of 1.3 billion, making farming in India labour-intensive and absolute with one-third of the nations' funds coming from agriculture. Even after decades of cultivation practice, the country is lagging behind in maximizing the yield thereby hampering the progress of the nation. In order to overcome this, there is a need for promoting cultivation practices for producing a high yield of crops. With the availability of IT and the internet, the Internet of Things is proliferating at an unprecedented rate. The perception of agricultural IoT (Internet of things) utilizes networking equipment in farming construction. The hardware part of this project includes processors with data processing capability and sensors which are used to measure various parameters like temperature, humidity, and water level. In this project, the sensor node is designed to monitor the environmental conditions that are vital for the proper growth of crops. The collected data received are analyzed for proper monitoring and improving the yield of the crop.

PROBLEM STATEMENT

To devise a smart agricultural monitoring system that can collect crucial relevant data, directing it to an IoT platform- Thingspeak in real-time where it can be logged and analyzed. The logged data on Thingspeak is in a graphical format so that a botanist or a reasonably knowledgeable farmer can analyze the data to make sensible changes in the supplied resources producing a high-quality yield.

LIST OF COMPONENTS

- Arduino Uno
- GSM module sim 800/900
- LCD display 16x2
- I2c convertor
- Temperature and Humidity sensor (DHT11)
- Air Quality (MQ7) and Gas sensor (MQ135)
- Light sensor
- Soil moisture sensor
- Barometric pressure sensor (BMP180)
- Voltage Regulator IC 7805

SOFTWARE

- Arduino IDE
- ThingSpeak