

<https://www.youtube.com/watch?v=p6M4JMDaJJY>

Plant Watering System with the NodeMCU

Connect to a mini up because the system consumes only less power or once the power reconnects; Water management systems to be efficient are a major concern in many agricultural fields. This project deals with the control of an irrigation system by designing the variable rate irrigation with the help of a wireless sensor network, and software for real-time in-field sensing are implemented. This plant watering system with the NodeMCU system is made of two various sensors and a micro-controller unit with an embedded cloud communication module. The communication among the sensors, microcontroller, and farmer is established by their respective Login ID using Internet of Things (IoT). In this project the farmer can communicate to this irrigation system through android mobile application. The farmer can check the status of their land at any time using the app.

The implementation of a sensible irrigation system in a very land is simple and therefore the value to put in is additionally less. In this system we need of soil sensors, according to the size of the agriculture land. Equally irrigated land is monitored by remote location system. The various modes of operations can be achieved through the android mobile application. The user interface is provided to them by the utilization of Android Mobile Application. The most contribution of this project is to develop hardware and software for the farmer's irrigation system.

By the implementation of this system, the farmers can able to know about their crops health in all seasons by login with their respective user ID into the mobile app to check the status of their irrigation system. In case of power cut, the system can the system will automatically connect to the Wi-Fi and starts operating automatically.

The main controlling device of the whole system is NodeMCU. Soil moisture sensor, water motor and LED are fed to the Node MCU. The Node MCU continuously read the data from sensors and updates them into Blynk mobile application. The status of the project will display on LCD. To perform this task, NodeMCU is programmed using embedded C language and Software is Arduino IDE.

Features:

- Monitoring and controlling of irrigation field.
- Using Blynk IOT technology.

The main blocks of this project are:

1. Regulated power supply.
2. Microcontroller (NodeMCU).
3. Water Motor with Relay driver.
4. Soil moisture sensor.
5. LCD display.
6. LED indicator.

Software used:

- ARDUINO IDE STUDIO Compiler.
- Embedded C Language.

BLOCK DIAGRAM

