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IoT Irrigation Monitoring and Controller System

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Abstract: *Every region of India has a significant agricultural sector. The scope of agriculture is reduced across all of India due to a rapid shift in climate and lesser rainfall. The most productive farming should be done without wasting any water. In the conventional technique, more water than what is required by the crop is used to irrigate the area. Modern irrigation systems like drip irrigation, sprinkle irrigation, etc. can reduce water waste. A sophisticated irrigation device's execution and design are widely accepted in a variety of settings, with the electric device offering the most dependable pricing performance. This paper proposes an IOT based smart irrigation tracking and management system using Arduino Uno microcontroller. The low-cost dependable gadget is designed to irrigate areas when there is a need for water and to provide data. This paper uses Node-Microcontroller ESP8266, DHT11 sensor and soil moisture sensor. The DHT11 sensor has a humidity measuring component and a NTC temperature component. The soil moisture sensor used for measuring the volumetric water content in the soil. The proposed smart irrigation system reduces wastage of water than the traditional process. The information is sent to the farmers by using cloud website called Blynk app. All the data is uploaded by Wi-Fi module inbuilt in microcontroller to Blynk app cloud database.*

Keywords: IOT, Node-Microcontroller ESP8266, DHT11 Sensor, Voltage Sensor, Soil Moisture Sensor, Blynk App