

A Review on Plant Monitoring System using ESP8266

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Abstract: Every nation has engaged in agriculture for a very long time. The science and skill of growing plants is called agriculture. The main factor in the rise of sedentary human civilization was agriculture. Agriculture has always been done by hand. Since the world is moving toward new technology and applications, it is imperative that agriculture follow suit. However, there are currently obstacles in agriculture as a result of rural-to-urban migration. Therefore, we have suggested an IOT and smart agriculture solution to address this issue. Agriculture, which is considered a science and a skill of plant cultivation, has been practiced throughout history in every nation. Technology is evolving in today's world, and agriculture must likewise keep up with the times. A key component of smart agriculture is IoT. Sensors from the Internet of Things (IoT) are utilized to supply the data that is required for agricultural areas. Using wireless sensor networks to monitor agriculture and gather data from multiple sensors placed at different locations and transmitted over wireless protocols is the primary function of the Internet of Things. Node MCU powers smart agriculture through the use of IoT systems. The increasing demand for effective water management in agriculture in recent years has drawn a lot of attention to smart farming systems. Water use, crop output, and sustainability have all increased as a result of the integration of Internet of Things (IoT) technologies with farming systems, which has created new opportunities for real-time monitoring and control. The farming system uses the PIR (Passive Infrared Sensor) to identify the presence of animals nearby. Determining the soil's water content is mostly dependent on the soil and moisture sensor. By keeping an eye on the outside temperature, the temperature sensor offers important information about the surrounding environment. IoT-based smart agriculture is a cutting-edge method of farming that makes use of technology to maximize agricultural productivity. Manual labor and antiquated methods, which were frequently labor-intensive and ineffective, were key components of the conventional agricultural approach.

Keywords: PIR Sensor, Temperature and Humidity Sensors, Water Level Sensor, Real-Time Data, Crop Yield Improvement, Crop Health Monitoring, Sensor Technology in Agriculture