LITERATURE SURVEY

IOT ENABLED SMART FARMING APPLICATION SYSTEM

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ABSTRACT

The agriculture industry has just become smarter and data oriented. Today world the IOT is most important for Farming side due to the following reasons. The recent lively growth in IOT based technologies has redesigned the way many industries start to work. This revolutionary change in Farming has generated various opportunities as well as new disputes. India is agriculture sector, on either side, is losing ground every day, affecting the ecosystem's output capacity. In order to restore vitality and put agriculture back on a path of higher growth, there is a growing need to resolve the issue. A large-scale agricultural system necessitates a great deal of upkeep, knowledge, and oversight. The IoT is a network of interconnected devices that can transmit and receive data over the internet and carry out tasks without human involvement. Smart farming based on IoT technologies will enable growers and farmers to reduce waste and enhance productivity ranging from the quantity of fertilizer utilized to the number of journeys the farm vehicles have made. So, what is smart farming? Smart farming is a capital-intensive and hi-tech system of growing food cleanly and sustainable for the masses. It is the application of modern ICT (Information and Communication Technologies) into agriculture. In this paper, the hardware and software of the IoT for smart farming will be presented besides sharing the successful results.

Author: Jayakumar R, Karthikeyan S N, Naveen Perumal M, Methini M Published Year: June, 2019

The main objective of this project is to improve the crop yield and thereby meet the demand. This project remotely measures and monitor water moisture levels in the soil to ensure that crops are getting optimal water resources and automatically trigger sprinkler systems to address low moisture levels in the soil to prevent crop damage or loss. This idea will improve the crop yield and manage them.

Author: Dweepayan Mishra, Arzeena Khan, Rajeev Tiwari, Shuchi Upadhaye

Agriculture is a substantial source of revenue for Indians and has a huge impact on the Indian economy. Crop development is essential for enhanced yield and higher-quality delivery. As a result, crop beds with ideal conditions and appropriate moisture can have a big influence on output. Traditional irrigation systems, such as stream flows from one end to the other, are usually used. As a result of this delivery, the moisture levels in the fields can alter. A designed watering system can help to enhance the management of the water system. This research proposes a terrain-specific programmable water system that will save human work while simultaneously improving water efficiency and agricultural productivity. The setup is made up of an Arduino kit, a moisture sensor, and a Wi-Fi module. Data is acquired by connecting our experimental system to a cloud framework. After then, cloud services analyse the data and take the necessary actions.

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The growth of the global population coupled with a decline in natural resources, farmland,and the increase in unpredictable environmental conditions leads to food security is becomingamajor concern for all nations worldwide. These problems are motivators that are driving the agricultural industry to transition to smart agriculture with the application of the Internet of Things (IoT) and big data solutions to improve operational efficiency and productivity. The IoT integrates a series of existing state-ofthe-art solutions and technologies, such as wireless sensor networks, cognitive radio ad hoc networks, cloud computing, big data, and end-user applications. This study presents a survey of IoT solutions and demonstrates how IoT can be integrated into the smart agriculture sector. To achieve this objective, we discuss the vision of IoT-enabled smart agriculture ecosystems by evaluating their architecture (IoT devices,communication,technologies.In addition,we discuss trends and opportunities of IoT applications for smart agriculture and also indicate the open issues and challenges of IoT application in smart agriculture.

Author: Mr.N.Sivakumar, Mr.P.Thiyagarajan, Ms.R.Sandhiya

This paper is proposed for the IoT-based Smart Agriculture system which is to be used by farmers in their agricultural lands. This system monitors and maintains the desired soil moisture content via automatic water supply. The system gets information about environmental conditions such as light, dust, humidity or sudden changes in temperature. The setup uses soil moisture sensors which measure the exact moisture level in soil. The value active the systems to use appropriate quantity of water avoids over/under irrigation. Usually, the farmer pumps the water more or less to cultivate the land. This may result in wastage of water or insufficiency to the crops. The motion sensors in this system will send alert SMS/Text messages.

Author: Ritika Srivastava, Vandana Sharma, Vishal Jaiswal, Sumit Raj

This paper proposes a system which can monitor temperature, level of water, moisture and even the movement, if any, happens in the field which may destroy the crops in agricultural field through sensors using Arduino UNO board. Smart agriculture is an emerging concept, because IOT sensors can provide information about agriculture fields and then act upon based on the user input. The project aims at making use of evolving technology i.e., IOT and smart agriculture using automation. Once hardware has been developed depending on the change in requirements and technology the software needs the updating.