Literature Survey on "Smart Farmer - IOT Enabled Smart Farming Application"

1.Smart Agriculture Using Internet of Things (Ibrahim Mat, Mohamed Rawidean Mohd Kassim, Ahmad Nizar Harun, Ismail Mat Yusoff MIMOS Berhad, Kuala Lumpur, MALAYSIA {ibm, dean, nizar.harun, ismail} @mimos.my)

Recent studies have suggested that the Internet of Things (IoT) has the potential to transform important industries for a better world, including the impact it will have on the agriculture sector. For agriculture to feed 9.6 billion people worldwide, IoT must be embraced. By the year 2050. challenges like severe weather and a warming climate.

2.Design and Implementation of a Smart Farm System

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Most nations around the world depend on farming for their way of life, and it also affects their economies. In dry or rain-scarce places, irrigation becomes challenging; as a result, it must be managed remotely for farmer safety, Agro-resource protection, and productivity preservation. Farmers frequently over-irrigate their fields .Various irrigation regimens were required for various types of soil, and the irrigation also depends on a variety of parameters, including temperature, wind speed, and moisture levels at the time, season, crop growth stage, etc. This study proposes that a smart farm would include configurable scheduling and automatic tank level detection for an automated watering system regulating for irrigation water storage and farm-based.

3.IoT-Enabled Smart Agriculture: Architecture, Applications, and Challenge (Vu Khanh Quy 1, Nguyen Van Hau 1, Dang Van Anh 1, Nguyen Minh Quy , Nguyen Tien Ban 2, Stefania Lanza 3, Giovanni Randazzo 4 and Anselme Muzirafuti 4,*)

Food security is becoming a serious worry for all countries in the globe due to the development of the global population, the depletion of natural resources, the loss of farmland, and the rise in unpredictable environmental conditions. These difficulties are factors influencing the agricultural sector's shift to smart agriculture include the use of big data and Internet of Things (IoT) technologies to enhance operational productivity and effectiveness. Wireless sensor networks, cognitive radio, and other cutting-edge technologies are all integrated into the Internet of Things (IoT). Big data, ad hoc networks, cloud computing, and user applications. This research provides a IoT solutions study and shows how IoT may be included into the smart agricultural industry. We address the idea of IoT-enabled smart cities in order to accomplish this goal.

4.Internet of things for smart agriculture: Technologies, practices and future direction (Partha Pratim Ray Department of Computer Applications, Sikkim University, 6th Mile, PO Tadong, Gangtok, Sikkim 737102, India)

The emergence of the Internet of Things (IoT) has revealed a new line of cutting-edge agriculture research. IoT needs to be extensively experimented because it is still in its early stages before it can be widely used in a variety of agricultural applications. That is I,n this presentation, I examine a number of prospective IoT applications as well as the unique problems and difficulties related with the use of IoT in agriculture. to pay attention to details IoT devices and wireless communication technologies have certain needs. Applications in agriculture and farming are carefully examined. There are inquiries made on those sensor-enabled Internet of Things technologies that offer smart and intelligent services approaching intelligent agriculture. Numerous case studies are provided to examine the IoT currently in using based solutions carried out by different groups, individuals, and categories based on how they are deployed.

5.IoT Applications in Smart Agriculture: Issues and Challenges (Mohamed Rawidean Mohd Kassim, SMIEEE Kuala Lumpur, Malaysia dean@mimos.my)

Tsunamis were brought about nearly everywhere in the globe by the Internet of Things (IoT) technologies' quick development, but especially in agriculture. The existing agricultural practises are being shaken by these significant developments, and a new wave of opportunities. Agriculture products will increase by 30% as a result of the world population growth by 2050 will be in high demand. The development of agricultural human resources is decreasing as a result of young people moving to big cities and land being used for agriculture.Using culture, quick development is possible. Consequently, the majority of agricultural. In order to meet the demand for food, tasks must be automated. technologies related to IoT will possibly be the answer to the problems with agriculture and food demand mentioned above. This study will investigate.

6.Smart Agriculture Using Internet of Things with Raspberry Pi (Zuraida Muhammad,Muhammad Azri Asyraf Mohd Hafez,Nor Adni Mat)

The term "Internet of Things" describes the process of attaching equipment, cars, and other items to a network in order to share data (IoT). The Internet of Things (IoT) is being used more often to link things and gather data. Therefore, the usage of the Internet of Things in agriculture is essential. The project's goal is to build a smart agriculture network that is integrated with the internet of things. To deal with Malaysia's changing weather, technology is coupled with an irrigation system. The Raspberry Pi 4 Model B serves as the system's microcontroller. The DHT22 and soil moisture sensor are used to keep track of the local climate's temperature and humidity as well as the soil's level of moisture.

7.IoT based Smart Soil Monitoring System for Agricultural Production (Divya J., Divya M.,Janani V)

Both the economy and the existence of the Indian people depend on agriculture. The goal of this project is to develop an embedded-based irrigation and soil monitoring system that will lessen the need for manual field monitoring and deliver data via a mobile app. The technique is designed to assist farmers in boosting agricultural productivity. The equipment used to inspect the soil includes a pH sensor, a temperature sensor, and a humidity sensor. Farmers may choose to plant the best crop for the land based on the findings. Wi-Fi is used to transmit sensor data to the field manager, and a mobile app is used to generate crop recommendations. Use of an automatic watering system is necessary when the soil temperature is high. The crop picture is collected and sent.

8.Development of Smart Drip Irriga- tion System Using IoT (Anushree Math, Layak Ali, Pruthviraj U)

Agriculture is extremely important in the country of India. Therefore, it's essential to water the plants properly to maximise yield per unit of space and thus produce good output. The act of irrigation involves giving plants a certain amount of water at a specific time. This project's goal is to use a sophisticated drip irrigation system to water the plants on the National Institute of Technology Karnataka campus. The system's primary controller for accomplishing this is the open source platform. To provide the most recent characteristics of the factors that continuously affect plant healthiness, a variety of sensors have been used. Depending on the data obtained from the RTC module, a solenoid valve is controlled to supply water to the plants at regular intervals. The entire irrigation system may be managed and monitored using the website. This website has a feature that lets you manually or automatically regulate how often plants are watered. Using a Raspberry Pi camera that provides live streaming to the webpage, the health of the plants is tracked. Through a wireless network, the controller gets information about water flow from the water flow sensor. The controller examines this data to see if the pipe has any leaks. Weather forecasting is also done to limit the amount of water provided, making it more reliable and effective.

9.IOT BASED SMART CROP-FIELD MONI- TORING AND AUTOMATION IRRIGATION SYSTEM (R. Nageswara Rao, B.Sridhar)

India and other agrarian nations are significantly dependent on agriculture for their development. The country's progress has traditionally been hampered by the agricultural sector. The only way to overcome this problem is through smart agriculture, which entails modernising current agricultural systems. In order to make agriculture smarter, the suggested plan makes use of automation and Internet of Things technology. The Internet of Things enables applications such as irrigation decision support, crop growth monitoring, and crop selection (IoT). A Raspberry Pi-based autonomous irrigation Internet of Things system has been suggested to modernise and increase crop productivity. The primary goal of this project is to grow crops while utilising the least amount of water feasible. On order to concentrate on the water accessible to plants, most farmers squander a lot of time in the fields. The proposed system calculates the necessary amount of water based on the sensor data. Two sensors measure the soil's temperature and humidity as well as the amount of sunshine received each day and transmit the information to the base station. The suggested methods must compute the irrigation water quantity based on these factors. The system's integration of Precision Agriculture (PA) and cloud computing, which increases crop yields, decreases water and fertiliser consumption, and aids in the assessment of field weather conditions, is its main advantage.