LITERATURE SURVEY

Date	02 September 2022
Team ID	PNT2022TMID46724
Project Name	Smart Farmer - IoT Enabled Smart Farming Application
Maximum Marks	2 Marks

TOPIC - A Literature Survey on Smart Agriculture Monitoring and Control System Using IOT
AUTHORS : Divya J., Divya M.,Janani V
PUBLISH DATE : 2022-02-25
ISSN : 2321-9653
PUBLISHER NAME : IJRASET

Abstract:

Smart agriculture is an emerging concept, because IOT sensors are capable of providing information about agriculture fields and then act upon based on the user input. The feature of this paper includes development of 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 are capable of providing 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. The updated hardware is called new version of the software. This new version is required to be tested in order to ensure changes that are made in the old version work correctly and it will not bring bugs in other part of the software. This is necessary because updating in one part of the hardware may bring some undesirable effects in other part of the hardware.

TOPIC*:* New Technologies for Smart Farming 4.0: Research Challenges and Opportunities
AUTHORS : Muhammad Ayaz, Mohammad Ammad-Uddin, Zubair sharif, Ali Mansour, EI- Hadi M.Aggoune
PUBLISH DATE : 01 August 2019
ISSN : 2169-3536
PUBLISHER NAME : IEEE

Abstract:
Despite the perception people may have regarding the agricultural process, the reality is that today's agriculture industry is data-centered, precise, and smarter than ever. The rapid emergence of the Internet-of-Things (IoT) based technologies redesigned almost every industry including “smart agriculture” which moved the industry from statistical to quantitative approaches. Such revolutionary changes are shaking the existing agriculture methods and creating new opportunities along a range of challenges. This article highlights the potential of wireless sensors and IoT in agriculture, as well as the challenges expected to be faced when integrating this technology with the traditional farming practices. IoT devices and communication techniques associated with wireless sensors encountered in agriculture applications are analyzed in detail. What sensors are available for specific agriculture application, like soil preparation, crop status, irrigation, insect and pest detection are listed. How this technology helping the growers throughout the crop stages, from sowing until harvesting, packing and transportation is explained. Furthermore, the use of unmanned aerial vehicles for crop surveillance and other favorable applications such as optimizing crop yield is considered in this article. State-of-the-art IoT-based architectures and platforms used in agriculture are also highlighted wherever suitable. Finally, based on this thorough review,

we identify current and future trends of IoT in agriculture and highlight potential research challenges.

TOPIC - A Literature Survey on Smart Agriculture Monitoring and Control System Using IOT
AUTHORS : Anushree Math, Layak Ali, Pruthviraj
PUBLISH DATE : 2022-02-25
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PUBLISHER NAME : IJRASET

Abstract:
India is a country where agriculture plays a vital role. As a result, it's critical to water theplants wisely in order to maximise yield per unit space and so achieve good output.Irrigation is the process of providing a certain amount of water to plants at a specifictime. The purpose of this project is to water the plants on the National Institute ofTechnology Karnataka campus with a smart drip irrigation system. To do this, the opensource platform is used as the system's fundamental controller. Various sensors havebeen employed to supply the current parameters of components that impact planthealthiness on a continual basis. By controlling a solenoid valve, water is provided to the plants at regular intervals depending on the information acquired from the RTC module.The webpage may be used to monitor and manage the complete irrigation system. This website contains a function that allows you to manually or automatically control plant watering. The health of the plants is monitored using a Raspberry Pi camera that gives live streaming to the webpage. The controller receives water flow data from the water flow sensor through a wireless network. The controller analyses this data to see if the reare any leaks in the pipe. Forecasting the weather is also done to restrict the quantity of water given, making it more predictable and efficient.

TOPIC - A Literature Survey on Smart Agriculture Monitoring and Control System Using IOT
AUTHORS : R. Nageswara Rao, B.Sridhar
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Abstract:
Agrarian countries like India rely heavily on agriculture for their development. Agriculture has always been a roadblock to the country's development. Smart agriculture, which comprises modernising present agricultural systems, is the only answer to this challenge. As a result, the suggested strategy attempts to use automation and Internet of Things technologies to make agriculture smarter. Crop growth monitoring and selection, irrigation decision assistance, and other uses are possible thanks to the Internet of Things (IoT). To modernise and boost crop yield, a Raspberry Pi-based autonomous irrigation IOT system has been proposed. This project's main purpose is to produce crops using the least amount of water possible. Most farmers waste a lot of time in the fields in order to focus on water available to plants at the appropriate time. Water management should be improved, and the system circuit's complexity should be minimised. Based on the data collected from the sensors, the suggested system determines the amount of water required. Two sensors detect the humidity and temperature of the soil, as well as the humidity, temperature, and length of sunshine each day, and send the data to the base station. Based on these characteristics, the recommended systems must calculate the irrigation water quantity. The key benefit of the system is the integration of Precision Agriculture (PA) and cloud computing, which will reduce water fertiliser consumption while increasing crop yields and assisting in the evaluation of field weather conditions.

TOPIC - A Literature Survey on Smart Agriculture Monitoring and Control System Using IOT
AUTHORS : Shweta B. Saraf, Dhanashri H. Gawali
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Abstract:
The Internet of Things (IoT) is the internet-based connectivity of a huge number of devices (IoT). A unique identity links each item, allowing data to be sent without human involvement It makes it possible to develop strategies for improved natural resource management. Smart gadgets with sensors, according to the IoT concept, enable interaction with the physical and logical worlds. The proposed system in this study is built on the Internet of Things and uses real-time input data. Over a wireless sensor network, a smart farm irrigation system uses an Android phone to remotely monitor and regulate drips. Between sensor nodes and base stations, Zigbee is utilised to communicate. A web-based java graphical user interface is used to process and present the server's real-time observed data. Field irrigation system wireless monitoring eliminates human interaction and enables for remote monitoring and control using an Android phone. Cloud computing is a potential choice due to the large volume of data created by the wireless sensor network. This research presents and examines a cloud-based wireless communication system for monitoring and controlling a collection of sensors and actuators in order to determine the water needs of plants.