



LITERATURE SURVEY OF IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

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LITERATURE SURVEY 1

Paper Title: IoT based smart crop-field monitoring and automation irrigation system

Author(s): R. NageswaraRao; B. Sridhar

Publishedon: 2018 2nd International Conference on Inventive Systems and Control (ICISC)

Abstract:

For an agricultural nation like India, agriculture is essential to its development. Agriculture-related issues have historically impeded the nation's progress. Modernizing the current traditional methods of agriculture is the only way to solve this issue. Therefore, the suggested approach intends to use automation and IoT technology to make agriculture smart. Crop growth monitoring and selection, irrigation decision assistance, and other uses are made possible by the Internet of Things (IoT). It is suggested that a Raspberry Pi-based automatic irrigation IOT system be used to modernise and increase crop output. The primary goal of this endeavour is crop development with little water consumption. The majority of farmers use waste lots for this purpose in order to concentrate on water being available to the plants at the appropriate moment. It is important to build an effective water management system and simplify the system circuits. The proposed system calculates the required amount of water based on the data sent by the sensors. Two sensors are utilised to transmit data on the soil's temperature, humidity, and length of daylight each day to the base station. The suggested systems must calculate how much water is needed for irrigation depending on these parameters. The system's primary benefit is the incorporation of Precision Agriculture (PA) with cloud computing, which will optimise the use of water fertilizers while optimizing crop production and also assist in assessing the field's weather conditions.

LITERATURE SURVEY 2

Paper Title:IoT-Based Smart Security System for Agriculture Fields

Author(s): Sukhwinder Sharma, Puneet Mittal & Anuradha.

Published on: 02 OCT 2021

Abstract:

Farmers must safeguard their crops from weeds, illnesses, and insects as well as against unfavourable weather conditions like hail and frost. These challenges are well-known. However, they also have to deal with the significant difficulty of safeguarding their crops from wild creatures that could seriously harm their cultivated crops by nibbling on plant portions or trampling them underfoot. Due to distance and the expense of hiring staff for this purpose, regular monitoring of fields is not practicable because the majority of farmers avoid their fields. The availability of low-cost, simple-to-install, and user-friendly solutions to these issues is now possible thanks to modern technologies. This study intends to create and deploy an IoT-based security system for agricultural fields that can identify and communicate employing a PIR sensor and a GSM module, wild animals. When an animal enters a certain region, it sends the farmer's phone an SMS alert. It enables farmers to protect crops in a timely manner. To verify the security system's applicability and potential future enhancements, it is implemented in a real-world setting.

LITERATURE SURVEY 3

PaperTitle: Development of IoT based smart security and monitoring devices for agriculture

Author(s): Tanmay Baranwal; Nitika; Pushpendra Kumar Pateriya.

Published on: 14-15 January 2016

Abstract:

Because it is the foundation of the Indian economy, agriculture demands protection. Agriculture products need security and protection from the very beginning, such as defence against rodent or insect attacks in fields or grain storage, and not just in terms of resources. These difficulties should also be taken into account. The security systems in use today are not intelligent enough to alert users in real time when a problem is detected. Modernizing agriculture may be accomplished by fusing established practices with cutting-edge innovations like wireless sensor networks and the internet of things. We created, tested, and examined a "Internet of Things"-based device with this situation in mind. This device is capable of interpreting the detected data. This gadget can be used in agricultural fields, grain bins, and cold storage facilities for security purposes and can be operated and monitored remotely. This essay focuses on techniques for resolving issues including rodent identification, agricultural risks, and real-time notification based on information analysis and processing without human involvement. The aforementioned sensors and electronic components are included into this gadget utilizing Python scripts. Based on test cases that were attempted, we were successful in 84.8% of them.