IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

LITERATURE SURVEY

TITLE	**IOT Based Smart Crop Protection System for Agriculture**
DOMAIN NAME	**INTERNET OF THINGS**
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ABSTRACT

This essay provides a summary of numerous studies on intelligent crop protection systems. We have a lot of technology, including the systems and methods we explain in this paper, that can defend the farm around-the-clock. We have a variety of technological tools at our disposal to help protect the farm. We have seen farm protection systems built on Raspberry Pi and Arduino. However, those Systems have distinct platforms and mythologies for it, and the costs of such projects have gone up as well, making them unaffordable for farmers. Our main goal was to create a technology that could assist a farmer in safeguarding their farm against animals without endangering them.

Keywords:SCPS, IOT, Arduino,Nodemcu.

INTRODUCTION

About 58% of Indians rely mostly on agriculture for their livelihood. A significant portion of the Indian economy, accounting for 17% of GDP, is the agricultural sector. 60% of the population is employed in agriculture. However, farmers are suffering significant losses as a result of a variety of weather changes and animal interference. Farmers use a variety of conventional techniques, such as scarecrows, electric fences, etc. In some places, farmers burn elephant dung or other items that produce thick smoke to keep their farmland from being destroyed. In some places, people also use castor oil, a natural emulsion of fish or garlic, or both to ward off animals. However, they are not very good at keeping animals away from farms. Consequently, we created this affordable system to surveillance and to protect the farm effectively.

1.IOT Based Smart Agriculture System

ABSTARCT

In today materialistic society, smart agriculture systems are a hot topic. This essay explains the idea of showcasing and maintaining an online agribusiness platform. The most crucial aspect of human life is agriculture, which may be improved utilising IoT technology. IoT technology makes it possible to increase the effectiveness of agricultural automation systems. Smart agriculture system that makes use of the benefits of cutting-edge technology like Wireless Sensor Network and Arduino. In order to increase crop productivity, this paper offers the idea and features of the sensor world in the internet of things for agriculture. The agriculture stick that is being suggested in this study integrates Arduino technology, a breadboard, and a variety of sensors, and a live data feed may be accessed online using a mobile phone. The construction of a system that can track temperature, humidity, moisture, and even the movement of animals that can destroy crops in agricultural fields using sensors and an Arduino board is a feature of this study. The device has the

potential to be helpful in water-scarce, remote places thanks to its low cost and energy independence.

ADVANTAGES

- Efficiency, Expansion, Reduced resources.
- Clean process, Agility, Improved product quality**.**

2. Smart Crop protection system from living objects and fire using Arduino

ABSTARCT

Farmers can no longer block entire fields or prepare a field for 24 hours of protection. Therefore, we are presenting this computerised crop safety system against fire and animals. This is a microcontroller-based device that is mostly based on the Arduino Uno. This method uses a motion sensor to find animals approaching the sphere and a smoke sensor to find the hearth. The sensor informs the microcontroller to take action in such a situation. The microcontroller now sounds an alert to further entice the animals away from the area while also calling the farmer and sending an SMS so that he can understand the situation and visit the scene in case the animals don't go despite the noise. If smoke is detected, it quickly turns the motor ON.

ADVANTAGES

Reduce waste, improve productivity and enable management of a greater number of resources through remote sensing.

3. Development of IOT based Smart Security and Monitoring Devices for Agriculture:

ABSTARCT

Since agriculture is the foundation of the Indian economy, it demands protection. Agriculture products need protection and safety at a very early stage, such as protection from rodent or insect attacks in fields or grain storage, and security is no longer just a matter of sources. Even so, these difficulties should be taken into account. Today's security systems don't seem to be intelligent enough to send out real-time notifications when they detect a problem. Agriculture can become more modernised by combining traditional methods with current technologies like wireless sensor networks and the internet of things. With this situation in mind, we developed, tested, and examined a "Internet of Things"-based device that can analyse the sensed data before transferring it to the user. This device will be operated and monitored from a remote location, and it is used in grain bins, bloodless stores, and agricultural fields for security reasons. This study aims to improve ways for resolving issues such rodent identification, crop hazards, and turning in real-time notifications backed records evaluation and processing in addition to human intervention. The sensors and digital units used in this gadget are integrated using Python programmes. With support from attempted test cases, we were successful in 84.8% of test cases.

CONCLUSION

In India, farmers frequently suffer significant losses as a result of animals. In order to solve this problem, a system was created that emits a frightening sound, causing animals to flee immediately. The main goal is to avoid crop loss and to safeguard the land from trespassers and wild animals, both of which pose a serious threat to agricultural areas. To notify the farmer, a call is placed using the GSM module. As a result, the developed method is cost-effective and beneficial to farmers. The system is safe for people and animals to use, and also safeguards farmland. With IOT monitoring, the system is able to protect the farm day and night.

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