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IoT Based Smart Crop Protection System for Agriculture

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ABSTRACT

The smart crop protection system's technique is defined in this study. The project's primary goal is to warn the farmer and instil anxiety in him or her about the possibility of the farm being burglarized or of the animals being harmed. One of the primary issues facing farmers in our nation is low crop output. This might be essay offers to remedy for agricultural destruction caused by animals. This system will give farmers a full technological answer using the Internet of Things (IOT) to protect their crops from wild animals and give them information to increase their output. due to two key factors. crops damaged as a result of severe weather and wild animals. PIR sensors and cameras are used to detect animals, and TensorFlow image processing techniques are used to identify the detected animals. The system's processing component is a Raspberry PI, and sound buzzers are utilised to transmit the ultrasound frequencies.

PROPOSED METHODOLOGY:

PIR sensor, web camera, ultrasonic sensor, LDR sensor, temperature sensor, humidity sensor, moisture sensor, buzzer and monitor are employed in the suggested system. The focus of this effort is still on withholding the system for crop security in confrontation with unintentional events and weather conditions. As the system is automated, the water pumps are turned on when the moisture content falls below a critical threshold that is detected by the sensor installed in the fields. This completely protects the crops from both animals and the elements, preventing losses for the producers.

LITERATURE REVIEW:

TITLE : Smart Crop Protection System From Living Objects and Fire Using Arduino(2020)

AUTHOR : Dr. M. Chandra, Mohan Reddy

DESCRIPTION: The purpose of this study is to design and implement the best enhancement in embedded device for with the help of adjacent animals like buffalo, cows, goats, birds, and fireplace, etc., crops in farms are repeatedly destroyed. Farmers suffer

enormous losses as a result of this. It is now not feasible for farmers to barricade complete fields or precede field 24 hours and protect it. Therefore here we present computerized crop safety system from animals and fire. This is a Arduino Uno primarily based device the use of microcontroller. This technique makes use of a motion sensor to discover wild animals drawing near the sphere and smoke sensor to discover the hearth. In such a case the sensor alerts the microcontroller to require action. The microcontroller now sounds an alarm to move the animals away from the sector further as sends SMS to the farmer and makes call, in order that farmer may fathom the difficulty and come to the spot just in case the animals don't recede by the alarm. If there's a smoke, it immediately turns ON the motor. This provide us entire safety of plants from animals and from fireplace for this reason protecting the farmer's loss.

TITLE : Smart AGRO Using ARDUINO and GSM(2017)

AUTHOR : P.Rekha, T.Saranya

DESCRIPTION: Agriculture area being the backbone of the Indian economy . Security no longer in phrases of sources solely however additionally agricultural products wishes protection and safety at very preliminary stage, like protection from attacks of rodents or insects, in fields or grain stores. Such challenges should even be taken into consideration. Security systems which are getting used now a days don't seem to be smart enough to produce real time notification after sensing the matter. The mixture of typical methodology with present day technologies as Internet of Things and Wireless Sensor Networks can cause agricultural modernization. Keeping this scenario in our mind we've got designed tested and analysed an 'Internet of Things' based device which is capable of analysing the sensed information then transmitting it to the user. This gadget will be controlled and monitored from far off region and it is carried out in agricultural fields, grain shops and bloodless stores for protection purpose. This paper is oriented to intensify the methods to unravel such problems like identification of rodents, threats to crops and turning in actual time notification supported records evaluation and processing besides human intervention. During this device, referred to sensors and digital units are built-in using Python scripts. Supported attempted take a look at cases, we had been capable to obtain success in 84.8% check cases.

TITLE : IOT Based Wireless Sensor Network for Prevention of Crops from Wild Animals(2017)

AUTHOR : S. R. Chourey, P. A. Amale and N. B. Bhawarkar

DESCRIPTION: Wildlife requirement overlaps human population, creating cost to residents and cultivated field. Wild animals often destroy standing crops, due to which annual production of crops reduces causing economic losses to farmers. In our region, farmer suicide is big problem due to low productivity among farms. This low productivity is because of two main reasons i.e. Crop destroyed by wild animals and Crop destroyed by nature object. This paper provides review for complete technical solution using wireless sensor network (WSN) and Internet of all the types of sensors, controller, actuator required for WSN and raspberry pi as a heart of the system.

TITLE : IoT in Agricultural Crop Protection and Power Generation(2019)

AUTHOR : Anjana

DESCRIPTION: Agriculture performs most important position inside the economic development of our us of a and this can be the first occupation from a few years. so as to extend the productivity of the crops and to attenuate the expenses of agricultural practices we adopt smart agriculture techniques using IOT. The sensors are placed at different locations within the farm, by which the parameters is controlled using remote or through internet services and by interfacing the sensors operations are performed with microcontrollers. India is that the second most populated country. The issue of power supply and generation is often unsolvable. This research focuses on using energy and crop protection to generate power and capture rainfall as an influence generation strategy.

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