

Smart Crop Protection System from Animals and Fire using Arduino

Abstract: Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds, and fire etc. This leads to huge losses for the farmers. It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard it. So here we propose automatic crop protection system from animals and fire. This is a arduino Uno based system using microcontroller. This system uses a motion sensor to detect wild animals approaching near the field and smoke sensor to detect the fire. In such a case the sensor signals the microcontroller to take action. The microcontroller now sounds an alarm to woo the animals away from the field as well as sends SMS to the farmer and makes call, so that farmer may know about the issue and come to the spot in case the animals don't turn away by the alarm. If there is a smoke, it immediately turns ON the motor. This ensures complete safety of crops from animals and from fire thus protecting the farmer's loss. Keywords - GSM, Smoke Sensor, PIR Sensor, DC Motor, Buzzer Arduino Uno

SMART CROP PROTECTION AGAINST ANIMALS ATTACK

Abstract: The first major threat to the farmers is drought. Crop vandalization by animals is the second major threat after drought. Crops are vulnerable to animals. Therefore, it is very important to monitor the nearby presence of animals. The main aim of this project is to provide a better solution in order to resolve this problem. In this paper we proposed a method which could detect the presence of animal and offer a warning. In this project we used microcontroller and camera to detect the movement of animals send signal to the controller. It diverts the animal by producing sound and signal further, transmitted to GSM and which gives an alert to the owner of the crop immediately. The proposed monitoring scheme is to provide an early warning about possible intrusion and damage by animal

Animal Detection System in Farm Areas

Abstract: The main aim of our project is to protect the crops from damage caused by animal as well as divert the animal without any harm. Animal detection system is designed to detect the presence of animal and offer a warning. In this project we used PIR and ultrasonic sensors to detect the movement of the animal and send signal to the controller .It diverts the animal by producing sound and signal further, this signal is transmitted to GSM and which gives an alert to farmers and forest department immediately.

Protecting Crops From Birds, Using Sound Technology In Agriculture

Abstract: Food is the most important requirement for living beings. The main products of our food come directly or indirectly from agriculture. Now a day's security of agricultural field is very important. Crop damage by birds is a severe problem in most of the areas all over India. Field surveys showed that on an average 36% of the crop were damaged by wild birds. The incident of damage was very high in crop fields adjacent to forest areas; this resulted into direct conflict between people and birds in everyday life farmers facing different kind of problems in agriculture. In olden days different kind of animals enter into crop they are damaging the fields. For reducing those kinds of problem they are used different kind of technique. Now a day birds are major problem in agriculture. Birds are falling on crop and eating it. In this research paper we are solving some problems. Every animal or group of animal is having a specific range of hearing frequencies. There irritating frequency is estimated by a specific logic. In day life birds creating irritating sounds in agriculture and out sides' fields also. At early morning and evening time birds falling on the crops and eating

rice seeds, rabbi crops, cons and wheat....etc. so we can create irritating sounds for birds, and then they can flay outside of the field. By using this research idea we can able to reduce mostly affected problem in agriculture. For developing this project we have to record some species sound in controller by using the Apr900 module. g this project we are using Arduino, APR900,IR, and buzzer. First step

IoT based Raspberry Pi Crop Vandalism Prevention system

Abstract: Agriculture is a major source of food production in our country. Growth in population increase the demand for food production and agriculture is the main source. Irrigation in agriculture is an important process that affects the development of crops. In particular, farmers visit their agricultural fields regularly to check the level of soil moisture and water is pumped by motors to irrigate their respective fields on the basis of requirements. But the limitation of protecting crops from animals becomes a major concern for yield. This works presents the protection system in addition to the automated irrigation system.

SMART CROP PROTECTION USING ARDUINO

Abstract: Agriculture has always been the primary and the most important sectors of Indian economy. Farmers are the back bone of one's country, so it is important for us to make sure he has the access to resources that are essential. Conventional methods like scare crows are used even today in an agricultural field to avoid birds and animals from feeding on growing crops. There are many loopholes in such ideas and so improvising agricultural security has become a major issue these days. Thus, this paper focuses on proposing a system which detects the intruders, monitors any suspicious activity and then reports to the owner of the field. It acts as an adaptable system which provides a practicable system to the farmers for ensuring complete safety of their farmlands from any attacks or trespassing activities. This is an Arduino Uno based framework utilizing microcontroller. This framework utilizes a PIR sensor to identify intruders close to the field and additional to it a smoke sensor to identify the smoke produced from the fire and a soil moisture sensor to detect the volumetric water content in the soil

A SMART FARMLAND USING RASPBERRY PI CROP PREVENTION AND ANIMAL INTRUSION DETECTION SYSTEM

Abstract: This project is used to protect the farmland from animals by using Raspberry pi. Wild animals are special challenge for the farmers throughout the world. Animals like wild boars, elephants, monkeys etc...cause serious damage to crops. This project utilizes the RFID (Radio Frequency Identification Device) module and GSM (Global System Mobile) modem for this purpose. Forest officer and farmers will get these SMS containing area in which that animals observe. The techniques that already being used is ineffective, in this article we are presenting a practical procedure toward them off, by creating a system which studies the behaviour of the animal, detects the animal and creates the different sound that irritates the animal and also alerts the authorized person by sending a message. The animal can be detected by the RFID injector (for animals), the LF tag which inject under the animal skin. After the detection the intimation is sent. This project is mainly contributed to repellent the

animals to the forest by using three stages are intimation, irritation noise and smoke by fog machine.

IoT based automation using Drones for Agriculture

Abstract: Drones are also known as Unmanned Aerial Vehicle (UAV). It is a kind of flying robot which do not carry a human operator and can be controlled remotely. Drones are growing rapidly and are used in many applications like agriculture, commercial, intelligent transportation, hunting hurricane, research and development. They bring more benefits to people and industries. Drones when connected to Internet of Things make the object smarter through the network. This paper is currently focusing on how the drones are used for agriculture. In the present era, there are many techniques to increase the crop productivity. Especially in countries like India where 70% of the people are dependent on fields. They face a huge loss due to the diseases. These diseases are caused from pests and the insects, which will reduce the productivity of the crops. Pesticides and fertilizers are used in agriculture to kill the insects and pests so as to increase the crop quality. It is estimated from WHO (World Health Organization) that many people are affected from ill when using the pesticides manually. UAVs are used in order to spray the water, pesticides, and insects and to avoid the health problems of humans.

IoT Based Low-cost Weather Station and Monitoring System for Smart Agriculture

Abstract: It is estimated that the world's population will be about 9.1 billion by 2050. The UN FAO has reported that food production would need to be increased by approximately 70 percent to feed this increased population. Therefore, to ensure high yields and farm profitability, it is very important to improve agricultural productivity. In this sense, the technology of the Internet of Things (IoT) has become the key road towards novel practice in agriculture. In the agriculture sector, climate change is also a major concern. A solution to completely satisfy the requirements of automated and real-time monitoring of environmental parameters such as humidity, temperature and rain is proposed in this paper. The proposed platform, which collects environmental data (temperature, humidity and rain) over a period of one year, was tested on a real farm in Tunisia. The results show that the proposed solution can be used as a reference model to meet the requirements for large-scale agricultural farm calculation, transmission and storage.

IoT based End-to-End Farm Management System

Abstract: The Industry 4.0 concept is a prominent trend expected to significantly affect the modernization of all industrial sectors. Since agriculture is a major sector of the primary industry, it is essential to integrate the Industry 4.0 technological advancements into the operational farm management in order ensure food security with regard to the climate change effects and the sustainable usage of environmental resources. Provided that the Industry 4.0 is strongly tied to the Internet of Things (IoT) technology, this paper presents an approach of employing a responsive and adaptive context sensitive IoT based system, capable of delivering a wide variety of operational services in order to facilitate end-to-end farm

management. In particular, the proposed approach adopts a layered hierarchical structure enhancing the scalability and flexibility of agricultural operations. As proof of concept, the functionality of the proposed system was evaluated and some results regarding its performance are quoted