IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

LITERATURE SURVEY

TITLE OF PROJECT: IMPLEMENTATION OF IIOT BASED SMART CROP PROTECTION AND IRRIGATION SYSTEM(2021)

AUTHOR: Ipseeta Nanda, Sahithi Chadalavada, Medepalli Swathi, Lizina Khatua

DESCRIPTION: Ipseeta Nanda et al presence.,This project yields a monitoring procedure for farm safety against animal attacks and climate change conditions. IIoT advances are frequently used in smart farming to emphasize the standard of agriculture. It contains types of sensors, controllers. On behalf of WSN, the ARM Cortex-A board which consumes 3W is the foremost essence of the procedure. Different sensors like DHT 11 Humidity & Temperature Sensor, PIR Sensor, LDR sensor, HC-SR04 Ultrasonic Sensor, and camera are mounted on the ARM Cortex-A board. The PIR goes high on noticing the movement within the scope, the camera starts to record, and the data will be reserved on-board and in the IoT cloud, instantaneously information will be generated automatically towards the recorded quantity using a SIM900A unit to notify about the interference with the information of the weather conditions attained by DHT11. If a variance happens, the announcement of the threshold rate will be sent to the cell number or to the website. The result will be generated on a catalog of the mobile of the person to take the necessary action.

TITLE OF PROJECT: IOT IN AGRICULTURE CROP PROTECTION AND POWER GENERATION (2020)

AUTHOR: Anjana M, Charan Kumar A, Monisha R, Sahana R H

DESCRIPTION : Anjana M et al presence.,The project which consisting of solar power generation and rainwater harvesting as technology method is implemented along with crop safety. The moisture contents in the soil is sensed by using the moisture sensor and it will identify the amount of water supply required to the crop and sends data to RFID and enables the sensor to supply water which automatically turn on the water source and turn off it when need is satisfied. To monitor temperature, humidity and moisture in the soil of agricultural land done by using IOT. We know that greenhouse is the climatic model has nonlinearity, strong coupling, feedback-feed forward linearization and

decoupling. To overcome from this PSO-PI is used. Firstly, nonlinear multiple inputs multiple outputs MIM0 system. This transferred to SISO to eliminate the temperature and humidity coupling. The major disadvantage is when PI used alone it works poorly. The agricultural automation improves irrigation, protects land and manage the health of crops. To improve irrigation, to monitor things, a system to identify and classify affected plants autonomous rover is used. The gathered data from sensing nodes are fed to machine learning algorithm displaying both data and warning message through a graphical user interface.

TITLE OF PROJECT: IOT BASED CROP PROTECTION SYSTEM AGAINST AND WILD ANIMAL ATTACKS (2020)

AUTHOR: Navaneetha P, RamiyaDevi R, Vennila S, Manikandan P, Dr. Saravanan S

DESCRIPTION: Navaneetha P et al presence.,Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds 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. 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. There are remote methods that can be used to track and identify animals visually and through acoustic signals. It is meaningful to design a strategy to roughly localize mobile phones without a GPS by exploiting existing conditions and devices especially in environments without GPS availability. The design system will not be dangerous to animal and human being, and it protects farm.

TITLE OF PROJECT: SMART CROP PROTECTION SYSTEM (2021)

AUTHOR: Krunal Mahajan, Riya Parate, Ekta Zade, Shubham Khante, Shishir Bagal

DESCRIPTION: Krunal Mahajan et al presence.,This paper motive to designing and executing the superior improvement in embedded device for Crops in farms are over and over ravaged with the aid of nearby animals. This results in huge losses for the farmers. 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 woo 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. 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.

PROBLEM STATEMENT:

The project helps farmers get Live Data (Temperature, Humidity, Soil Moisture, and Soil Temperature) for efficient environment monitoring, allowing them to boost overall yield and product quality. It is a high-tech system for bulk crops to be produced sustainably and cleanly. It includes the application of current information and communication technologies in agriculture. The system's primary goal is to improve overall product quality and production.

METHODOLOGY:

The basic building blocks of an IoT System are Sensors, Processors, and applications. So the block diagram below is the proposed model of our project which shows the interconnection of these blocks. The sensors are interfaced with Microcontroller, data from the sensor is displayed onthe mobile app of the user. A mobile app provides an access to continuous data from sensors and accordingly helps the farmer to take action to fulfill the requirements of the soil. Farming is a labor-intensive task that requires lots of time and effort. Usually, these tasks are repetitive and monotonous. Farmers can delegate these labor-intensive tasks to robotics and automation-based solutions. Such solutions can perform tasks that range from seeding and watering to harvesting and sorting. Eventually, this technology integration would result in higher productivity with minimal resource wastage. Robotic Machinery also helps in supporting farm machinery. It is useful for sowing, harvesting, and other services and helps in avoiding human errors. Farms can utilize robotic systems for pesticide spraying, harvesting, cultivating, and other such activities.

REFERENCES

1) J. Padhye, V. Firoiu, andD. Towsley, ―A stochastic model of TCP Reno congestion avoidance and control, Univ. of Massachusetts, Amherst, MA, CMPSCI Tech. Rep. 99- 02,1999.

2) Infantian Rubala,D.Anitha.,"Agriculture Field Monitoring using Wireless Sensor Networks to Improving Crop Production" 2017 IEEE International(2017).

3) Hanshi Wang; Jingli Lu;Lizhen Liu; Wei Song;ZhaoxiaWang;"Community Alarm System Design Based On MCU And GSM" Year: 2015.

4) ArturFrankiewicz;RafałCpek." Smart PassiveInfrared Sensor -Hardware Plat- form "Year: 2013 IECON 2013 -39th Annual Conference of the IEEE Industrial Electronics Society Pages: 7543 – 7547

5) Nagur, Nehaparveen Binkadakatti, Pavitra Gokavi, Mouneshwari on Android and IOT Based agriculture system, "International Journal of Recent of engineering and Research 2017".

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