SAVEETHA ENGINEERING COLLEGE AUTONOMOUS

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IBM NALAIYA THIRAN PROJECT

IDEATION PHASE

Team ID	PNT2022TMID03479
Project Name	IoT Based Smart Crop Protection System for Agriculture

Abstract:

Food security has become a key worry for all governments globally as the global population grows, natural resources, cropland, and unpredictable environmental conditions deteriorate. Due to these issues, the agricultural sector is moving toward "smart agriculture," which aims to increase operational effectiveness and production using big data and Internet of Things (IoT) technologies. Cloud computing, big data, wireless sensor networks, cognitive radio ad hoc networks, and end-user applications are just a few of the state-of-the-art technologies and solutions that are integrated into the Internet of Things (IoT). In this project, we try to show IoT solutions, and the integration of IoT into the smart agriculture industry is illustrated that can be implemented also.

Literature Survey:

In [1], the author clearly explains about how one of the primary issues facing farmers in our nation is low crop output. There are two basic causes for this. crops damaged because of severe weather and wild animals. This essay offers a 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. 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.

In [2], we understand that in, day to day lives are heavily reliant on technology. The need for Internet of Things (IoT) has increased significantly across many industries, which has attracted significant research interest from both the academic community and the business community. IoT adoption has facilitated smart farming and precision agriculture, to name a few, solely in the agriculture industry. To stop animals from entering the crop field, this paper describes the development of an Internet of Things application for crop protection. To guard against potential harm to agriculture from wild animal attacks and meteorological conditions, a repelling and monitoring system is offered.

References:

1. N. S. Gogul Dev, K. S. Sreenesh and P. K. Binu, "IoT Based Automated Crop Protection System," 2019 2nd International Conference on Intelligent Computing, Instrumentation and Control Technologies (ICICICT), 2019, pp. 1333-1337, doi: 10.1109/ICICICT46008.2019.8993406.

2. S. Giordano, I. Seitanidis, M. Ojo, D. Adami and F. Vignoli, "IoT solutions for crop protection against wild animal attacks," 2018 IEEE International Conference on Environmental Engineering (EE), 2018, pp. 1-5, doi: 10.1109/EE1.2018.8385275.