

Ideation Phase
Literature Survey

Date	18 OCTOBER 2022
Team ID	PNT2022TMID54441
Project Name	IoT based smart crop protection system for agriculture
Maximum Marks	4 Marks

Sruthi Priya D M, Sakthi Sneghaa V A, Shakthi S P, Shruthi SS

Department of Electronics and Communication Engineering

Easwari Engineering College

Si no.	Journal Details	Inference
1.	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.	<p>The creation of an Internet of Things application for crop security to stop animal invasions in the agricultural field is discussed in the study.</p> <p>To guard against damage from weather events and wild animal attacks, agriculture is furnished with a repelling and monitoring system.</p> <p>In this paper, heterogeneous sensors and actuators are coordinated with the cloud to interact and create a platform for new services in the area. They utilised wireless technologies, in particular in the peripheral area, such as 6LoWPAN, WiFi, Zigbee, etc., and used an advanced IoT gateway to communicate with the data centre. The life expectancy of the devices prior to deployment is another crucial aspect that had to take into account. To achieve this goal, they chosen low energy-consuming motes that have batteries and solar panels for energy harvesting.</p>

2.	<p>S. R. Prathibha, A. Hongal and M. P. Jyothi, "IOT Based Monitoring System in Smart Agriculture," 2017 International Conference on Recent Advances in Electronics and Communication Technology (ICRAECT), 2017, pp. 81-84, doi: 10.1109/ICRAECT.2017.52</p>	<p>The purpose of the paper is to deploy smart agriculture using automation and emerging technologies, such as IoT.</p> <p>The key to increasing the output of productive crops is to keep an eye on environmental elements. The paper's feature involves utilising sensors with a single CC3200 chip to monitor the temperature and humidity in an agricultural field. The CC3200 camera interface allows for the collection of photographs and the transmission of those images through MMS to farmers mobile devices over Wi-Fi</p>
3	<p>S. K. Roy, A. Roy, S. Misra, N. S. Raghuwanshi and M. S. Obaidat, "AID: A prototype for Agricultural Intrusion Detection using Wireless Sensor Network," 2015 IEEE International Conference on Communications (ICC), 2015, pp. 7059-7064, doi: 10.1109/ICC.2015.7249452.</p>	<p>In this work, they suggest a hardware prototype that uses a Wireless Sensor Network (WSN) to detect intruders in a field of crops called Agricultural Intrusion Detection (AID). When a trespasser enters the field, AID assists in setting off alarms in the farmer's home and sends a text message to the farmer's cellphone at the same time. They constructed and install wireless sensor boards with Advanced Virtual RISC (AVR) microcontrollers across an outside environment in order to execute the suggested scheme.</p>
4	<p>I. Nanda, C. Sahithi, M. Swath, S. Maloji and V. K. Shukla, "IIOT Based Smart Crop Protection and Irrigation System," 2020 Seventh International Conference on Information Technology Trends (ITT), 2020, pp. 118-125, doi: 10.1109/ITT51279.2020.9320783.</p>	<p>A monitoring strategy for farm safety against animal assaults and climate change circumstances is produced by the study. Smart farming usually makes use of IIoT advancements to highlight the standard of agriculture. It includes many controls and sensors. The ARM Cortex-A board, which uses 3W, is the key component in the process for WSN. The ARM Cortex-A board is equipped with a variety of sensors, including a camera, PIR sensor, LDR sensor, HC-SR04 ultrasonic sensor, and DHT 11 humidity and temperature sensor. When there is movement within the scope, the PIR activates, the camera begins to record, and the data is saved both on-board and in the IoT cloud. Immediately after the data is recorded, information is automatically generated using a SIM900A unit to alert about any interference with the weather conditions information that DHT11 has obtained. The notification of the threshold rate will be</p>

		issued to the cell phone or the website in the event of a deviation.
5	<p>P.Navaneetha, R.Ramiya Devi, S.Vennila, P.Manikandan, Dr.S.Saravanan</p> <p>“IOT Based Crop Protection System against Birds and Wild Animal Attacks”</p> <p>INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY, IJIRT 149166 April 2020 IJIRT Volume 6 Issue 11 ISSN: 2349-6002</p>	<p>They suggested an automated method for protecting crops from fire and animals. This system is based on an Arduino Uno microcontroller. This device employs a motion sensor to find approaching wild animals close to the field and a smoke sensor to find a fire. The sensor instructs the microcontroller to operate in this situation. In order to get the animals out of the field, the microcontroller now sounds an alarm. It also calls the farmer and sends an SMS to let him know about the problem in case the animals don't leave after hearing the warning. The motor is turned on right away if there is smoke. This guarantees the entire safety of crops against animals and fire, safeguarding the environment.</p>
6	<p>S. Yadahalli, A. Parmar and A. Deshpande, "Smart Intrusion Detection System for Crop Protection by using Arduino," 2020 Second International Conference on Inventive Research in Computing Applications (ICIRCA), 2020, pp. 405-408, doi: 10.1109/ICIRCA48905.2020.9182868.</p>	<p>A motion sensor and an IR sensor have been employed in the suggested work, which effectively detects any movement of intruders. Additionally, because a camera is being employed here, the timing of entry and exit is also being recorded. It is simple to carry out this plan to safeguard crops, and it may be done without endangering people or animals.</p> <p>Additionally, the system's components are not overly expensive, making it highly viable. As a result, this product can be utilised to safeguard farm crops. For agricultural purposes, it may be quite helpful.</p>

7	<p>Shishir Bagal, Krunal Mahajan, Riya Parate, Ekta Zade, Shubham Khante, "Smart Crop Protection System Using IOT", April 2021 IJIRT Volume 7 Issue 11 ISSN: 2349-6002</p>	<p>The approach employed in the intelligent crop protection system is defined in the study. The major goal of this initiative is to warn the farmer and create dread in him or her about the possibility of farm theft and animal cruelty. This is accomplished using SCPS. In order to make this device portable, they added solar panels and converter modules, which will enable the battery to be charged using solar energy. The SCPS operates on the battery. The IOT gadget is used to alert the farmer when someone enters the farm, and an SD card module is used to store a specific sound that makes the animals frightened.</p>

