Project Design Phase – 1

Proposed Solution

Date	24 September 2022
Team ID	PNT2022TMID46939
Project Name	Smart Crop Protection System For Agriculture
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Crops in farms are many times damaged by animals like buffaloes, cows, goats, birds and wild elephants. This causes major losses for the farmers. Farmers cannot stay on the field for 24 hours and protect it.
2.	Idea / Solution description	An animal detection system has been designed to detect the presence of animals and it offers a warning and divert the animal without any harm. The designed system will continuously check for any animal to enter the field. IR sensors and ultrasonic sensor are used in this project to detect animal movement and to give a signal to the controller. Further the animals are being diverted by generating sound and signals, and this signal is being transmitted to

		GSM and instantly give farmers warning, so the farmers will be aware of the difficulty and available to the spot just in case the animals do not show off by the alarm. The complete safety of crops was ensured by this system from animals thus protecting the farmer's loss.
3.	Novelty / Uniqueness	The Problem of Crop Protection System is solved by an animal detection system has been designed to detect the presence of animals and it offers a warning and divert the animal without any harm. The designed system will continuously check for any animal to enter the field. IR sensors and ultrasonic sensor are used in this project to detect animal movement and to give a signal to the controller. Further the animals are being diverted by generating sound and signals, and this signal is being transmitted to GSM and instantly give farmers warning, so the farmers will be aware of the difficulty.
4.	Social Impact / Customer Satisfaction	The project is very effective in protecting crops in the field. Rather than using Manual Methods, a monitoring system is used to ensure the crop without any damaged.It has been tested and verified properly to ensure all the different parts work together for a smooth function of the whole system. In most of the cities globally poses a challenge to protect and maintenance of the crops.

5.	Buisness Model (Revenue Model)	• The cost to develop the project is about the sensors used here. • The Arduino device and Cloud platform used here play a vital role in cost. • If any damage occurs to the device during monitoring we need to fix it. • The contribution of the farmers is necessary to make the project succeed in the market.
6.	Scalability of the Solution	The project design is a part of the implication that can be used to improve the Crop Protection.All the technical aspects have been thoroughly designed keeping all the constraints in mind. The project resolves around whether the project will be able to meet the future needs of the users. This project-based on IoT gives users the freedom of changing hardware as well as software specifications as per the arising need. IoT based projects are already designed while keeping future demands in mind and in a rising economy like India where the concept of smart crop protection is new the demand for our project will keep on increasing.