

Project Design Phase-I
Proposed Solution Template

Date	30 September 2022
Team ID	PNT2022TMID11064
Project Name	Project – IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<p>Agriculture is a pillar of India's economy and deserves security. Security and protection are required at the very initial stage, like protection from attacks of rodents or insects in the fields and as well as grain stores. Those challenges also need to be taken into account. The security systems that are used today are not smart enough to deliver real-time notification after detecting the problem. Climate change, soil erosion and loss of biodiversity also increases the pressure of farmers and a drastic decrease in the crop production</p> <p>Farmers are dealing with many problems, including ,</p> <ul style="list-style-type: none">• Climate change• Increasing demands in terms of both qualities and quantities.• To safe guard crops from animals and rodents.

2.	Idea / Solution description	<p>A smart crop protection system helps farmers keep crops safe from animals and birds that destroy crops. It also helps farmers to monitor soil moisture levels in the field, as well as temperature and humidity values in the vicinity of the field. Motors and sprinklers in the field can be monitored with the help of the mobile app.</p> <p>It employs sensors such as soil moisture sensors, temperature sensors and a humidity sensor. Capacitive soil humidity sensors measure or assess the amount of water in the soil. They can be stationary or portable. Fixed sensors are located in predetermined locations and depths in the field, while portable soil moisture probes can measure soil moisture in multiple locations.</p>
3.	Novelty / Uniqueness	<ul style="list-style-type: none"> • Adding smartness to the pre existing manual system for protection. • Provides automatic irrigation to the field. • Monitors soil moisture levels, temperature and humidity automatically.
4.	Social Impact / Customer Satisfaction	<p>As it is user friendly and easy to us, It can be easily adapted to the farmers.It also saves water as the smart IoT will have a track on the water used and needed.It also provides control over</p>

		motor and sprinklers which helps in the automation of the irrigation system. So Users can configure according to their need.
5.	Business Model (Revenue Model)	The end product will be efficient in both financial and economical factor. Agriculture will be practised as long as humans exist, so with the evolution the technology this product will be helpful to save time and earn more profit.
6.	Scalability of the Solution	This system will be successful in both small scale and large scale farms as the number of sensors can be customised.