

Project Planning Phase

Milestone & Activity List

Date	29 October 2022
Team ID	PNT2022TMID23566
Project Name	IoT based smart crop protection system for agriculture

TITLE	DESCRIPTION	DATE
Literature Survey on The Selected Project and Information Gathering	1.By N S GogulDev,K S Sreenesh,P K Binu – https://ieeexplore.ieee.org/document/8993406 · Provides a complete technical solution using Internet of things (IOT) to the farmers to prevent their crops from wild animals and provide information to the farmers to maximize their production. 2. By Priyanka Deotale,Prasad lokulwar- https://ieeexplore.ieee.org/document/9697315 · Automated perspicacious crop aegis system is proposed utilizing Internet of Things (IOT).	23 September 2022
Prepare Empathy Map	Think and Feel(Animals, Climatic changes, Bacterial and Viral diseases), Gain(Protection of crops),Pain(Animal intruding, Diseases of Plants)	18 September 2022
Ideation-Brainstorming	Brainstorming is a group problem solving session where ideas are shared, discussed and organized among the team members.	19 September 2022
Define Problem Statement	Wild animal attacks are a special challenge for farmers throughout the world. Animals such as deer, wild pigs, rabbits, moles, elephants, monkeys, and many others may cause serious damage to crops. They can damage the plants by feeding on plant parts or simply by running over the field and trampling over the crop fields. Therefore, wild animals may easily cause significant yield losses and provoke additional financial problems. More than one in three farmers stated that the wildlife affects	18 September 2022

	<p>their choice of crop. For the country as a whole, crop losses due to wildlife damage amounted to between 1.2 and 6.7 percent of the total harvest per crop and it is not possible to stay 24 hours in the farm to guard the crops. Another aspect to consider is that wild animal crop protection requires a particularly cautious approach. In other words, while utilizing his crop production, every farmer should be aware and take into consideration the fact that animals are living beings and need to be protected from any potential suffering. So we have come up with the solution of intelligent crop protection system which is low in cost as well as power consumption that helps the farmers in protecting the crop from the animals and birds which destroys the crop. This system also includes remote monitoring and control of pump to avoid the farmer to visit the farm in the night time.</p>	
Problem Solution Fit	<p>CUSTOMER SEGMENTS: Farmers who face problems in protecting their crops.</p> <p>YOUR SOLUTION: We're working on a drone . which will be used to monitor the whole agri- land 24*7 and detects any intrusion of wild animals using image processing and thermal imaging , detecting wild animals from far distance using vibration sensor in the ground and also detecting climatic conditions so that the farmers can decide whether to sow or to cultivate.</p>	01 October 2022
Proposed Solution	<p>The proposed solution comprises IoT Devices and Object storage connected together to the Watson IoT platform. IoT devices include a temperature sensor and humidity sensor to monitor climatic</p>	19 September 2022

	<p>conditions, an altitude sensor which is attached to a drone for proper aerial monitoring, and a sound detection sensor module which will monitor sounds coming from animals/insects if any, and take necessary actions. Camera monitoring is also done for monitoring the animals trying to enter the field. The python code is loaded into the cloud using Clarifai and the Watson platform is connected to Node-Red which in turn is connected</p>	
Solution Architecture	<p>We're working on a drone . which will be used to monitor the whole agri- land 24*7 and detects any intrusion of wild animals using image processing and thermal imaging , detecting wild animals from far distance using vibration sensor in the ground and also detecting climatic conditions so that the farmers can decide whether</p>	30 September 2022
Customer Journey	<p>DISCOVERY: A way to ensure the protection of crops. REGISTRATION: Installing Software. ONBOARDING: Providing user manual, Data saving mode, Testability ,Social media. SHARING: To get proper nutrients from crops.</p>	8 October 2022
Functional Requirement	<p>Here functional Requirements (Farm monitoring, Weather monitoring)and nonfunctional requirements are briefed. It has specific features like usability, security, reliability, performance, availability and scalability.</p>	15 October 2022
Data Flow Diagrams	<p>Data Flow Diagram is a graphical or visual representation using a standardized set of symbols and</p>	14 October 2022

	notations to describe a business's operations through data movement.	
Technology Architecture	Technology Architecture is a more well defined version of solution architecture. It helps us analyze and understand various technologies that needs to be implemented in the project. Here we are using C# and Python	15 October 2022
Prepare Milestone & Activity List	It helps us to understand and evaluate our own progress and accuracy so far. Software and Hardware are still need to do.	29 October 2022
Spring Delivery Plan	Sprint planning is an event in scrum that kicks off the sprint. The purpose of sprint planning is to define what can be delivered in the sprint and how that work will be achieved.	In Progress