Project Design Phase-I

Problem Solution Fit

DATE	05 October 2022
TEAM ID	IDPNT2022TMID30026
PROJECT NAME	IoT based smart crop protection system for agriculture

OFFLINE: The control action is taken by the farmers to monitor the farms.

ONLINE: The Data send through application for the farmers to know about the farms.

Direct related: Tries to find a solution to prevent this problem

Indirect related: Located in rural where internet connectivity might not be strong enough to facilitate fast transmission speeds.

Monitor different parameters and mobile or web application make easily to farm the crop field .

“IoT based Smart crop protection system for agriculture” !!

It help farmers grow more food on less land by protection crops from pests, diseases and weeds as well as raising productivity per hectare.

1)If temperature ,PH level ,humidity & light intensity makes the serious cause for the environment.

2)Farmer affected by less productivity which will affect in their profit.

1)High adoption costs , security concerns.

2)Not aware of the implementation of IoT in agriculture.

- It’s difficult to monitor and control
- Ain’t known if the application doesn’t work properly.

Farmer’s ! Who’s not near his field

Create opportunities to lift people out of poverty in developing nations. (Over 60%)

BEFORE: Finances, Heavy work overload and conflict in relationship.

AFTER: It will easier to make more yield in field

<table>
<tr>
<td>1.CUSTOMER SEGMENT

Farmers and agricultural department all over the world</td>
<td>6.CUSTOMER CONSTRAINT
Power availability
Smart mobile phones
Modern technologies
Sensors & Cameras</td>
<td>5.AVAILABLE SOLUTION
Viable detectors to find wild animals , take video & forward to farmers
Patrolling & manned watch towers
Using drones, robots, sensors & computer imaging to save crops</td>
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<td>2.JOBS-TO-BE-DONE\ PROBLEMS
Detect the wild animals at earlier stage
To create an alert system
Intimating farmers to monitor farming land</td>
<td>9.PROBLEM ROOT CAUSE
Dangerous to farmers due to crop loss
Financial losses to farmers due to attack of wild animals</td>
<td>7.BEHAVIOUR
Install required number of cameras and sensors in farming land
Collect images and videos from camera
Give continuous power supply</td>
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<td>3.TRIGGERS
Information from the Neighbour farmers
Having the occurrence of the attack of wild animals
4.EMOTIONS :BEFORE AND AFTER
People who are affected by the wild animals have bad emotions
Wild animals create stress to farmers</td>
<td>10.YOUR SOLUTION
Collecting videos and images of the farming land
Implementing feature extraction and image augmentation
Protecting the crops from wild animals using sensors</td>
<td>8.CHANNELS OF BEHAVIOUR
Informing to forest department
Passing information to Neighbour farmers
Visiting to the spot immediately</td>
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