PROJECT DESIGN PHASE - I

PROBLEM SOLUTION FIT

Date	30 September 2022
Team ID	**PNT2022TMID19796**
Project Name	IOT Based Smart Crop Protection System For Agriculture
Maximum Marks	4 Marks

Define CS, fit into CT

1.CUSTOMER SEGMENTS: CS

The main customer of our project:

- Farmers and Land Lords who have their agriculture fields near forest areas to save crops, damage by animals.
- Who have less man power to protect crops from animals and birds.
- Who have agriculture and gardening as their passion. i.e., working personalities.

6. CONSTRAINTS CT

- Less power consumption for working of device.
- Sudden information is shared via SMS about the status of fields.
- No need of human presence for 24/7 in the field.
- Installation and maintenance cost is less.
- No technicians needed
- Security of device is assured.
- They don't invest more money on technology.

5. AVAILABLE SOLUTION AS

- Using of electric fences, causes animal death and high power consumption.
- Usage of chemical repellents causes crop damage, so we can't able to produce high yield of crops.
- So, we are moving towards technology support that reduces man power requirement and providing protection for crops.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE/PROBLEMS J&P

- Hygienic and organic crops.
- Less usage of manpower.
- Satisfaction to the customers for best yield of crops.
- Only high crop production can use this as small land owners cannot afford this.
- Availability of natural resources must be available near to the crop production area.
- It is impossible to monitor the field every time.
- They may suffer from sudden change in climatic conditions.
- Water scarcity is main reason for dry crops.

9. PROBLEM ROOT CAUSE RC

- Scarcity of food and water for the animals in their habitat leading them move into agricultural lands.
- Monsoon changes affecting their survival in their own ecosystem.
- Deforestation and accumulation of the forest land.
- Damage caused by animals and birds.
- Farmers can't able to predict the weather in prior.

7. BEHAVIOUR BE

- Even though using the solution, customer visits the agricultural land often as the notifications are not sent properly.
- All the existing system provides only one solution, so there is need for the farmer to do the rest of the work.
- At first they won't trust the solution.
- As they don't have proper Knowledge of using the software.

Focus onJ &P, tap into BE, understand RC

Identify strong TR & EM

3.TRIGGERS TR

The land will be affected because the livestock will graze on large tracts of land, which leads to deforestation, degradation in the quality of soil, and snapping of nutrients.

4. EMOTIONS: BEFORE/AFTER EM

Before:

Damage to crops, lack of knowledge of modern farming techniques, insecurity.

After :

Secured, device handled by everyone, independent.

10. YOUR SOLUTION SL

The device is based on a motion-detecting sensor and is developed especially for crop monitoring in agriculture fields, farms, wetlands, forests, etc. GSM Technology is used to send SMS alerts to users on mobile whenever there is a fire broke out in the field. It will also generate a buzzer sound to alarm nearby people to take proper action to diminish crops protected by smart farming.

8. CHANNELS OF BEHAVIOUR CH

ONLINE:

Farmers will receive an alert message when animals enter the field. And the device buzzers whenever there is a fire broke out in the field.

ON/OFF is automated and also be manually accessed by the user remotely.

OFFLINE:

Helps them in achieving better crop yields and thus, leading to better economic well-being.Automatic spraying of fertilizers.

Extract online & offline CH of BE

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