Project Title :IOT Based Smart Crop Protection System for Agriculture

Project Design Phase-I .Solution Fit

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Define CS, fit into CL

1. CUSTOMER SEGMENT(S) — CS

- Farmers who trying to protect crops from various problems
- Enables growers and farmers to reduce waste and enhance productivity

6. CUSTOMER LIMITATIONS EG. BUDGET, DEVICES — CL

- Limited supervision.
- Limited financial constrains and man power

5. AVAILABLE SOLUTIONS PLUSES & MINUSES — AS

- Automation in irrigation.
- CCTV camera to monitor and supervise the crops.

Explore AS, differentiate

Focus on PR, tap into BE, understand RC

2. PROBLEMS / PAINS + ITS FREQUENCY — PR

- Crops are not irrigated properly.
- Improper maintenance of crops.
- This excess use of chemical may destroy the crops
- Requires protecting crops from Wild animals attacks ,birds and pests.

9. PROBLEM ROOT / CAUSE — RC

Due to various environmental factors such as temperature climate ,to pography and soil quality which results in crop destruction.

- Due to high ammonia ,urea potassium and high PH level fertilizers.

7. BEHAVIOR + ITS INTENSITY — BE

- Asks suggestions from surrounding peoples and implement there cent technologies.
- Consumes more time in cropland.

Focus on PR, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS TO ACT — TR

By seeing surrounding cropland with installing machineries.

4. EMOTIONS BEFORE / AFTER — EM

- Mental frustrations due to insufficient production of crops.
- Felt smart enough to follow the available Technologies with minimum cost

10. YOUR SOLUTION — SL

Moisture sensor interfaced with Arduino Microcontroller to measure the moisture level in soil and relay is used to turn ON and OFF the motor pump for managing the excess waterlevel.

It will be updated to authorities through IOT.

- Temperature sensor connected to microcontroller is used to monitor the temperature in the field. The optimum temperature required for crop cultivation is maintained using .
  IOT based fertilizing methods are followed ,to minimize the negative effects on growth of crops while using fertilizers .
- Biodiversity management

8. CHANNELS of BEHAVIOR — CH

ONLINE

- Using different platforms/socialmedia to describe the working and uses of smart crop protection device.

OFFLINE

Giving awareness among farmers about the application of the device.

Extract online & offline CH of BE