Project Title: IoT Based Smart Crop Protection System For Agriculture

Project Design Phase-I - Solution Fit Template

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Define CS, fit into CC

1.CUSTOMER SEGMENT(S) CS

Farmers who trying to protect Crops from various problems

6. CUSTOMER CONSTRAINTS

- Limited supervision.
- Limited financial Constrains.
- Lack of man power.

5. AVAILABLE SOLUTIONS

- Automation in irrigation.
- CCTV Camera to monitor and supervise the crops.
- Alarm system to give alert while animals attack the crops.

Explore AS, differentiate

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

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

- Improper maintenance of crops.
- Crops are not irrigated properly.
- Lack of knowledge among farmers in usage of fertilizers and hence crops are affected.
- Requires protecting Crops from Wild animals attacks, birds and pests.

9. PROBLEM ROOT CAUSE RC

- Due to insufficient labor forces.
- Due to various environmental factors such as temperature climate, topography and soil quality which results in crop destruction.
- Crops are damaged and it affects growth.
- Due to high ammonia, urea, potassium and high PH level fertilizers.

7. BEHAVIOUR BE

- Asks suggestions from surrounding peoples and implement the recent technologies.
- Consumes more time in crop land.
- Searching for an alternative solution for an existing solution.

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

Identify Strong TR & EM

3. TRIGGERS TR

- By seeing surrounding Crop land with installing machineries.
- Hearing about innovative technologies and effective solutions.

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 is interfaced with Microcontroller to measure the moisture level in soil and the motor pump for managing the water level. It will be updated 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 sprinklers.
- Image processing techniques with IOT is followed for crop protection against animal attacks.
- IOT based fertilizing methods are followed, to minimize the negative effects on growth of crops while using fertilizers.

8. CHANNELS of BEHAVIOUR CH

8.1 ONLINE

Using different platforms /social media to describe the working and uses of smart Crop protection device.

8.2 OFFLINE

Giving awareness among farmers about the application of the device.

Identify Strong TR & EM