Project Title: EMERGING METHODS FOR EARLY FOREST FIRE DETECTION

Project Design Phase-I - Solution Fit Template

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Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

Forest department officers living in forest.
Common people.

6. CUSTOMER CONSTRAINTS — CC

Satellites allow for detecting and monitoring a range of fires, providing information about the location, duration, size, temperature, and power output of those fires that would otherwise be unavailable. Satellite data is also critical for observing and monitoring smoke from the fires.

5. AVAILABLE SOLUTIONS — AS

Avoid burning wastes around dry grass.
Obey local laws regarding open fires, including campfires
Have firefighting tools nearby and handy.
Use fire resistant roofing materials.
undertake technical checkups regularly.
Monitoring weather analytics,
monitoring thermal anomalies,
monitoring water stress and temperature rises.

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Satellite remote sensing offers a useful tool for forest fire detection, monitoring, management and damage assessment. During a fire event, active fires can be detected by detecting the heat, light and smoke plumes emitted from the fires.
This application uses real-time satellitedata to detect and monitor forest fires (sending alerts to mobile

9. PROBLEM ROOT CAUSE — RC

Forest fires cause lots of damage, some of them are – loss of wildlife habitat, extinction of plants and animals, destroys the nutrient rich top soil, reduction in forest cover, loss of valuable timber resources, ozone layer depletion, loss of livelihood for tribal people and poor people, increase in global warming.

7. BEHAVIOUR — BE

Climate change should be monitored.
Hot areas should be monitored clearly.

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

Identify strong TR & EM

3. TRIGGERS — TR

Human-caused fires result from campfires left unattended, the burning of debris, equipment use and malfunctions, negligently discarded cigarettes, and intentional acts of arson.

4. EMOTIONS: BEFORE / AFTER — EM

Before : Unable to detect small sparks. Camera should always be in motion.

After : Able to detect small sparks. 360 view of camera is used.

10. YOUR SOLUTION — SL

For this problem we use image processing and video analysis so by using satellite image processing we can able to find the fire at the early stage and stop spreading fire in the forest. This model is mainly build by using CNN and machine learning and deep learning

8. CHANNELS of BEHAVIOUR — CH

ONLINE: Collect the date and form a dataset in order to compare the flames regions for forest fire detection.

OFFLINE: In case of forest fire detection the information is sent to forest authorities so that they will prevent it at ease.

Identify strong TR & EM