Project Title: Emerging methods for early detection of forest fires

Project Design Phase-I - Solution Fit

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Define CS, fit into CC

1. CUSTOMER SEGMENT(S) `CS`

Who is your customer?
Tribal community and Forest officers

6. CUSTOMER CONSTRAINTS `CC`

Accurate, affordable, robust, and reliable. No need of setting up a dedicated infrastructure. This application is meant for detecting forest fires using visual input and hence can be integrated with the existing surveillance infrastructure.

5. AVAILABLE SOLUTIONS `AS`

Based on the temperature humidity oxygen data collector through a video feed, we designed training and testing of data sets divided in an 80:20 ratio

Explore AS, differentiate

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

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

Early detection of forest fires and alerting messages.

9. PROBLEM ROOT CAUSE `RC`

High temperature, climatic conditions and natural changes

7. BEHAVIOUR `BE`

Collect the video feed which is recorded and filter the frames and detect the forest fires and send alert messages

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

3. TRIGGERS `TR`

Triggering them by sending alerting messages

10. YOUR SOLUTION `SL`

Forest fires are a major environmental issue, creating economic and ecological damage while endangering human lives. There are typically about 100,000 wildfires in the United States every year. Over 9 million acres of land have been destroyed due to treacherous wildfires. It is difficult to predict and detect Forest Fires in a sparsely populated forest area and it is more difficult if the prediction is done using ground-based methods like a Camera or Video-Based approach. Satellites can be an important source of data prior to and also during the Fire due to their reliability and efficiency. The various real-time forest fire detection and prediction approaches, with the goal of informing the local fire authorities.

8. CHANNELS of BEHAVIOR `CH`

Alerting messages

4. EMOTIONS: BEFORE / AFTER `EM`

Insecure, emotional, unsafe