Project Title: Emerging methods for early detection of forest fires
Project Design Phase-I – **Solution Fit Template**
Team ID:PNT2022TMID47186

1. CUSTOMER SEGMENT(S)   CS

Forest guard

6. CUSTOMER CONSTRAINTS

Spending more money for the equipments, network connection for the devices, power supply interruptions, occurrence of damages sometimes these limitations the customers choices of solutions.

5. AVAILABLE SOLUTIONS

Alarm system for indication of five, remote sensing based methods such as satellites, high -resolution static cameras fixed on the ground, unmanned aerial vehicles.

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

Always clear the area around the workspace. The area should be even larger if it is windy and dry. Making sure that to never operate equipment that produces sparks near dry vegetation.

9. PROBLEM ROOT CAUSE   RC

The fire is mainly caused by lightning, increased temperature, human activities and other reasons . Human caused fires result from campfires, equipment use and malfunction, negligently discarded cigarettes, etc..

7. BEHAVIOUR   BE

They to monitor he forest areas themselves, often checking whether the camp fire are put off properly. Always having fire fighting tools always ready. Monitoring the temperature in the forest.

3. TRIGGERS

the need to protect the wildlife and themselves triggers them to act.

Not knowing when would file starts

taking suggestion from visitors.

4. EMOTIONS: BEFORE / AFTER

they don't feel safe.

Always fear of catching fire in the forest.

Panic at the of sudden forest fire.

Afterwards:

they will have some satisfaction of knowing that some indication will come on the stair of fire.

10. YOUR SOLUTION

the computer vision methods for recognition and detection of smoke and fire, based on the still images oí the video input from the cameras.

Deep learning method "convolution neural network" can be used for finding the amount of fire.

Enabling the video surveillance systems on forest to handle more complex situations in real world.

8.CHANNELS of BEHAVIOUR

Online:

Installing cameras and sensors in parts of the forest and checking the situation.

Offline:

Making sure that no fireis started near the dry plants or highly inflammable objects.