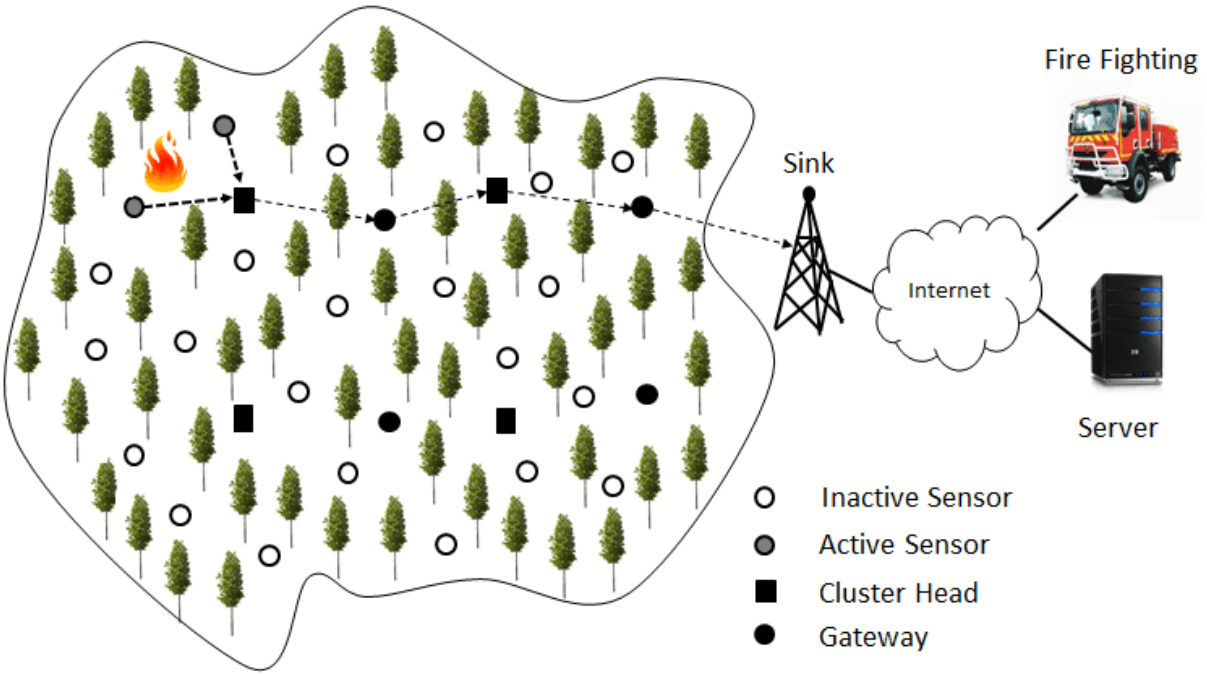
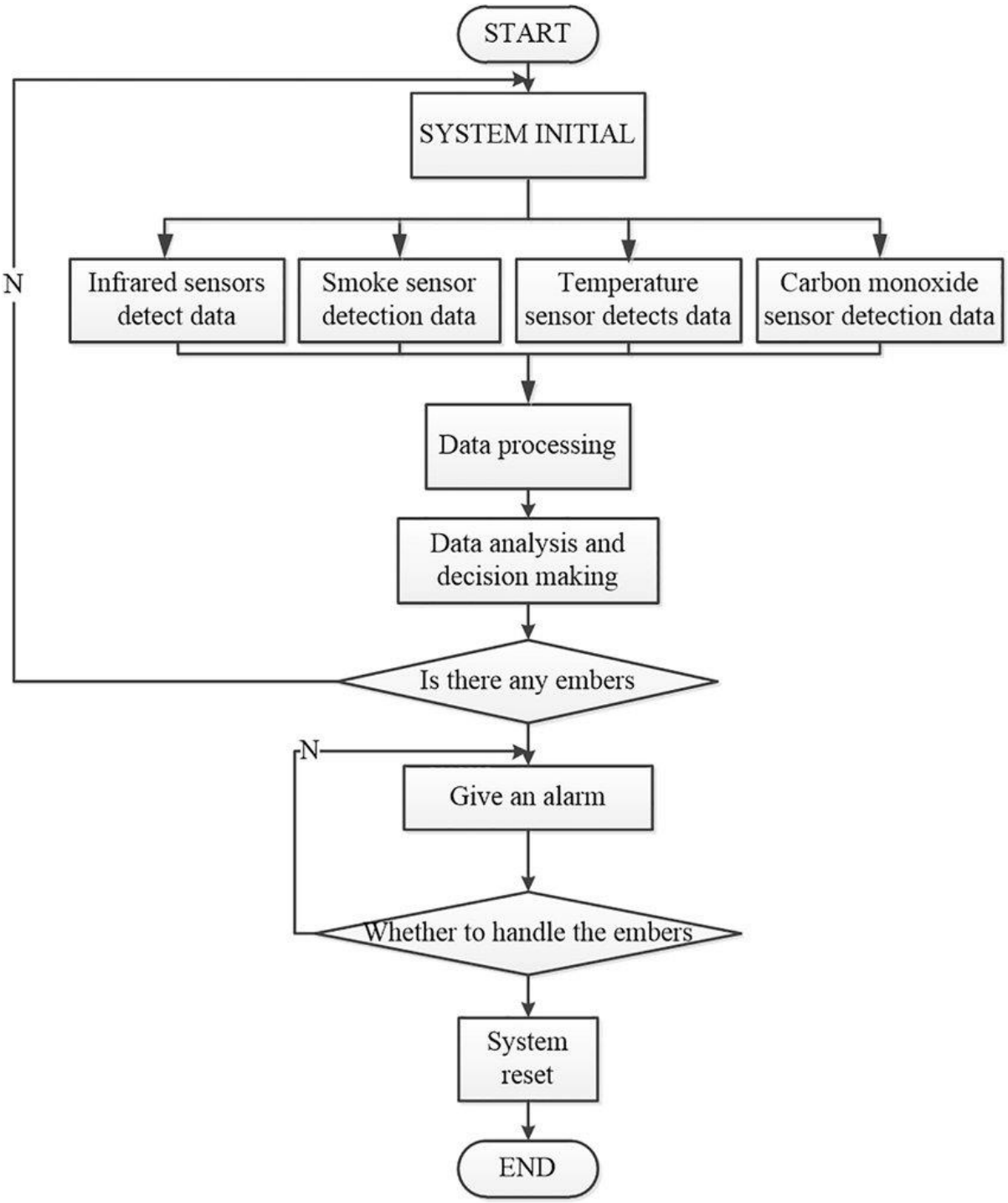
Project design phase -I

Solution fit document and solution architecture

DATE	26 September 2022
Team ID	PNT2022TMID10153
Project Name	Emerging Methods for Early Detection of Forest Fires

Solution architecture





Solution fit document

Problem-Solution fit canvas 2.0

Purpose / Vision

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

This project can be installed by all the central and state governments in order to detect the wildfires or forest fires rapidly.

6. CUSTOMER CONSTRAINTS CC

The primary constraint on the fire detection system is to detect a developing fire prior to belt ignition or as quickly as possible thereafter before the onset of rapid flames spread can begin.

5. AVAILABLE SOLUTIONS AS

There are many solutions existed such as thermo -cam imaging,satellite imaging and IOT based systems and using sensors of many types etc.

Explore AS, differentiate

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

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

The existing solutions are less efficient and consuming high power and low accuracy along with latency issues and these problems should be resolved.

9. PROBLEM ROOT CAUSE RC

Forest fires are the one of the random natural disaster that is too hard to identify even with the existing state of the art technology.The fact that more than 20% of complete world CO2 emissions comes from forest fires.

7. BEHAVIOUR BE

The behaviour refers to the manner in which fuels ignites flame develops and fire spreads,Once a fire starts it continu e burning only if heat,oxygen and more fuels are present.

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

Identify strong TR & EM

3. TRIGGERS TR

saving wildlife
Area detection
Assessing the environmental conditions

4. EMOTIONS: BEFORE / AFTER EM

BEFORE:Encroachment,loss of diversity,decreased wild life
AFTER:Forest surveilliance systems can be used to monitor the forest areas so that we can prevent the people and wild lives and economic damage.

10. YOUR SOLUTION SL

Forest surveillance using some sensors like fire,temperature,CO2 ,humidity sensors and many AI/ML and IOT derived solutions can be used to monitor the forest areas and they can alert the forest department if there is any symptoms of forest fire or any other suspicious activities.

8. CHANNELS of BEHAVIOUR CH

online:collect the data and run in matlab or any other software plat forms.

offline: when the forest fire occur the information will send to forest fire department then they will prevent the forest.

Extract online & offline CH of BE

AMALTAMA