


Ideation Phase

Brainstorm&Idea Prioritization Template

Date	19 September 2022
Team ID	PNT2022TMID42321
Project Name	Emerging Methods for Early Detection of Forest Fires
Maximum Marks	4 Marks

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Template




Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

⌚ 10 minutes to prepare
🕒 1 hour to collaborate
👥 2-8 people recommended


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Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.


⌚ 10 minutes

**Team gathering**

Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.


**Set the goal**

Think about the problem you'll be focusing on solving in the brainstorming session.

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Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⌚ 5 minutes


PROBLEM

How might we detect Forest Fire in a sparsely populated forest area Early ?

Emerging Methods For Early Detection Of Forest Fires

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 10 million acres of land have been lost/destroyed due to these fires. It is difficult to predict and detect Forest Fire in a sparsely populated forest area and it is more difficult if the prediction is done using ground-based methods like Camera or Video Based approach. Satellites can be an important source of data prior to and also during the fire due to its reliability and efficiency. The various real-time forest fire detection and prediction approaches, with the goal of informing the local fire authorities.

Technical Architecture:



Step-2: Brainstorm, Idea Listing and Grouping

2 Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

Tip: You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

Akash J

- Fire detection using CNN model
- Image Processing
- The neural network model is to be built
- Collect dataset from different sources

Harshavardhan J

- Classify images using a Convolutional Neural Network
- perform video analysis to get the prediction
- Activation functions can be used
- Detect forest fire using UAV

Parthasarathy B

- Get and prepare the dataset
- Using Digital Camera
- Monitoring the forest
- Detection Using wireless sensor Network

Vinoth R

- Image Preprocessing
- Satellites can be an important source of data
- capture the live stream with a camera
- Collection of data using satellite

Vaishnavi T

- OpenCV for video processing
- Camera or Video-Based approach
- Using optical sensor
- Deep Learning can be used

3 Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

20 minutes

Cluster 1 (Detection)

- Detect the fire using the Sensors
- Make an alert system based on that
- Use the image processing & CNN

Cluster 2 (Model Building)

- Initializing the model
- Adding CNN Layers
- Training and testing the model
- Save the Model

Cluster 3 (Video/Image Processing)

- OpenCV for video processing
- Define the parameters / arguments
- Read images using OpenCV.

Step-3: Idea Prioritization

4 Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

Importance

♥

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

Feasibility

🚩

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can create the most powerful ideas. Start sharing ideas as soon as you're not sitting in the same room.

10 minutes to prepare
 1 hour to collaborate
 2-4 people recommended

Before you collaborate

1. Have a goal
 2. Have a plan
 3. Have a way to share ideas
 4. Have a way to share ideas

Define your problem statement

1. Define your problem statement
 2. Define your problem statement
 3. Define your problem statement
 4. Define your problem statement

Brainstorm

1. Brainstorm
 2. Brainstorm
 3. Brainstorm
 4. Brainstorm

Group ideas

1. Group ideas
 2. Group ideas
 3. Group ideas
 4. Group ideas

Prioritize

1. Prioritize
 2. Prioritize
 3. Prioritize
 4. Prioritize

Feasibility

1. Feasibility
 2. Feasibility
 3. Feasibility
 4. Feasibility