


Ideation Phase

Brainstorm & Idea Prioritization

Date	03 OCTOBER 2022
Team ID	PNT2022TMID45543
Project Name	Machine Learning-Based Predictive Analysis for Aircraft Engine
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
- 👥 2-5 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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Use the Facilitation Superpowers to run a happy and productive session.

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1

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

Causes lot of time and cost more funds to take repair measures

PROBLEM

Causes threat to human life and danger to environment when not observed at correct time

PROBLEM

May lead to increase in customer complaints and affects the company's reputation

PROBLEM

Fuel contamination may occur due to engine malfunction which may leads to biodiversity damage

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!



3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, 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

By using the RTD sensor we can detect excess heat in advance	Elastic-net regression used to compare the values	We can use the random forest algorithm to make the prediction	Using DNN for the engine maintainance
Usage of Ridge regression for finding true value	Ensemble method used to predict the best value	Using the probablistic reasoning for the prediction	By using the Decision Tree algorithm we can make the yes/no prediction
Using the Linear Regression we can make prediction in numerical values	Usage of light GBM classier	CatBoost recognize the sound and pictures	To ensure the correct leavel of humidity using sensors
We can use the Naive Bayes algorithm for the prediction	Lasso regression goal is to acquire a subset	We can use different algorithms for finding the efficient algorithms.	Using PCA algorithms which can be used for feature extraction.

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

