


# Ideation Phase

## Brainstorm & Idea Prioritization Template

Date	19 September 2022
Team ID	PNT2022MID16587
Project Name	A Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

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



## 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

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**A Team gathering**

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

**B Set the goal**

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

**C Learn how to use the facilitation tools**

Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) ➔

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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

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**PROBLEM**

A Novel Method for Handwritten Digit Recognition

Handwriting recognition is a challenging task because every person in this world has their own style of writing. It is the capability of the computer to automatically identify and understand the handwritten digits. Due to the technological advancements, everything is being digitalized to reduce human effort. Hence, handwritten digit recognition is a need-of-the-hour task in many real-time applications. MNIST data set, which has 70000 handwritten digit samples, is widely used for this recognition process.

**Key rules of brainstorming**

To run an smooth and productive session

- 🗣️ Stay in topic.
- 💡 Encourage wild ideas.
- ⏸️ Defer judgment.
- 👂 Listen to others.
- 🗣️ Go for volume.
- 👁️ If possible, be visual.

## Step-2: Brainstorm, Idea Listing and Grouping

2

### Brainstorm

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

🕒 10 minutes

#### Nithiyashree M G

Mainly used  
in number  
plate  
detection

The number  
must be  
dark  
enough

display  
accuracy of  
detection

Digit as  
output

digits of  
different  
style  
recognised

#### Sharmila

Online and  
Offline  
detection is  
available

Variation in  
character  
styles

Feedback  
should be  
enabled

high  
accuracy

DBN  
Algorithm  
can be used

#### Rizwana S

Only the  
numeric  
character should  
be darkened in the  
image

The  
handwriting  
must be  
legible

DNN  
Algorithm  
can be used

low time  
consumption

Enhanced  
dataset  
should be  
used

#### Vijayadharshini

CNN  
algorithm  
can be used

convert  
the text digits  
into electrical  
form

image as  
output

Keras library  
can be used

Accuracy  
should be  
displayed

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

The number  
must be  
dark  
enough

DBN  
Algorithm  
can be used

display  
accuracy of  
detection

DNN  
Algorithm  
can be used

Digit as  
output

low time  
consumption

The  
handwriting  
must be  
legible

Online and  
Offline  
detection is  
available

CNN  
algorithm  
can be used

Feedback  
should be  
enabled

Enhanced  
dataset  
should be  
used

### Step-3: Idea Prioritization

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#### 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

