

# Ideation Phase

## Brainstorm & Idea Prioritization Template

Date	5 November 2023
Team ID	592117
Project Name	Project - Image Caption Generation
Maximum Marks	4 Marks

### Brainstorm & Idea Prioritization Template:


Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

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.

Reference: <https://www.mural.co/templates/empathy-map-canvas>

### 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

➔

#### 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

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.

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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 solve implementing Image Caption Generation?



#### 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

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### Brainstorm

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

10 minutes

**TIP**  
You can select a sticky note and write on it as many ideas as you want to brainstorm.

#### Person 1

Common approaches include combining CNN for image features and RNN for text generation. Transformer-based models, like ViT and DeiT, can process images directly for captioning tasks.

Evaluation metrics like BLEU, METEOR, and CIDE are used to assess the quality of generated captions.

Accessibility-focused captioning aims to provide detailed image descriptions for visually impaired individuals.

Consider building a mobile app version of your image captioning system, making it convenient for users to generate and share captions on the go.

#### Person 3

Diverse Training Data: Ensure that the AI models used for image captioning are trained on diverse and representative datasets, reducing the likelihood of biased outputs.

Cloud-based Solutions: Offer a cloud-based deployment option for your captioning models. This eliminates the need for users to set up and maintain their own infrastructure.

API Integration: Provide a user-friendly API that allows seamless integration of the captioning model into various applications without the need for extensive setup.

Model Updates: Streamline the process of updating the models by offering version control and easy ways to integrate model updates into existing applications.

#### Person 2

Generate captions for more images using the trained model. Use beam search or other decoding techniques for better results.

Extend your image captioning system to support multiple languages, making it accessible to a broader audience.

App Scaling: Implement auto scaling capabilities so that the infrastructure can automatically adapt to varying workloads, reducing stress on the infrastructure.

Provide users with the ability to customize the style and tone of generated captions to suit their preferences.

#### Person 4

Experiment with different word embedding techniques, such as Word2Vec or GloVe, to convert words into numerical representations.

Fine-tune pre-trained Convolutional Neural Networks (CNNs) like VGG, ResNet, or Inception to extract image features and integrate them into your captioning.

Develop a mechanism to control the length of generated captions to ensure they are neither too short nor too long, striking a balance between conciseness and

Create an intuitive and user-friendly interface for users to interact with your image captioning system, allowing them to input images and view generated captions.

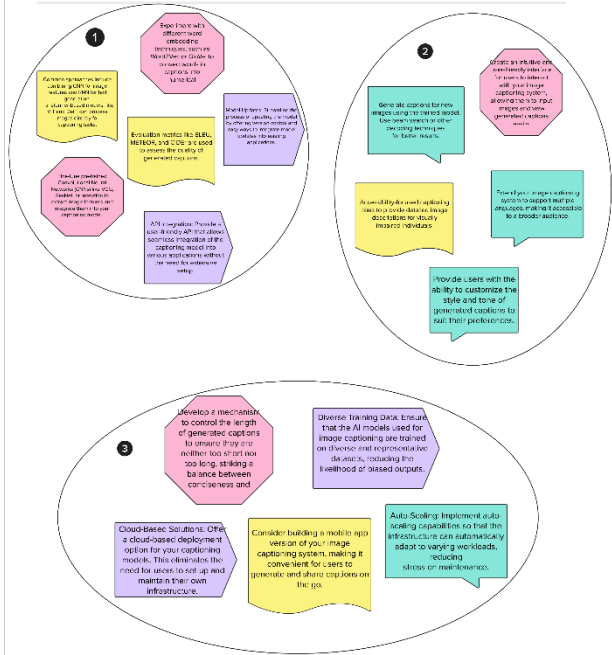
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### Group ideas

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

**TIP**  
Ask cluster members to 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.



## 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

#### TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

