

Ideation Phase

Brainstorm & Idea Prioritization Template

Date	23 October 2023
Team ID	Team-593005
Project Name	AI-enabled car parking system using OpenCV
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

+

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.

+

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 the issue of car parking management?

Let's dive into brainstorming solutions for the challenges of urban car parking. Urban congestion often leaves drivers frustrated, struggling to find parking spots. Our goal is to devise innovation, sustainable strategies that alleviate this issue and enhance urban living.

Key rules of brainstorming

To run a 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

TIP

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

Revanth

Parking Attendant Assistance:

Implement a support system with trained attendants who can direct drivers to open parking spaces and offer assistance with parking maneuvers, easing the stress of finding a spot in busy urban areas.

Drone-Based Surveillance:

Utilize camera-equipped drones for efficient parking surveillance, identifying vacant spots in vast or remote areas.

Using Computer Vision Techniques (OpenCV):

Install overhead cameras and employ computer vision technology to quickly detect and display available parking spaces in real time for drivers.

Siva

Ground-Level Sensors:

Implement ultrasonic or magnetic sensors at parking spots to detect vehicle presence, providing real-time availability updates for drivers.

Crowdsourcing:

Enable drivers to share real-time information about open parking spots through a dedicated app, facilitating collective updates for others seeking parking in the area.

Vignesh

Parking Data Analytics:

Utilize parking data analysis to understand usage patterns and occupancy rates, empowering informed decision-making for efficient parking management.

Parking Spot Markings:

Implement highly visible and clear markings for parking spots, simplifying the identification of vacant spaces for drivers.

Harsha

Parking Sensors with Lights:

Implement sensors that trigger visible lights above or near available parking spots, offering clear visual cues for drivers seeking parking spaces.

Parking Reservation System:

Implement a system that allows drivers to reserve parking spots in advance

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

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Ideas requiring Manual Assistance

Crowdsourcing: Enable drivers to share real-time information about available parking spots through a dedicated app, fostering a collaborative platform for parking spot updates among users.

Parking Attendant Support: Employ attendants to guide and assist drivers in finding available spots.

Parking Reservation System: Introduce a system enabling drivers to pre-book parking spots in advance, streamlining the parking process and ensuring availability upon arrival.

Ideas requiring tools such as sensors

Ground-Level Sensors: Utilize ultrasonic or magnetic sensors at parking spots to detect vehicle presence, providing real-time updates on spot availability.

Parking Sensors with Lights: Install sensors triggering nearby lights to indicate vacant parking spots, offering clear visual cues for drivers seeking available spaces.

Ideas making using of AI and ML techniques

Parking Data Analytics: Analyze parking data to identify usage patterns and occupancy enabling data-driven parking management decisions.

Drone-Based Surveillance: Utilize drones equipped with cameras to survey parking areas, identifying vacant spots, especially in large or remote locations.

Leveraging Computer Vision (OpenCV): Install top-down cameras in parking areas and apply computer vision algorithms to analyze video feeds, swiftly identifying vacant parking spaces.

Parking Spot Markings: Implement highly visible and distinct markings for parking spots, simplifying the identification of vacant spaces for drivers.

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.

