# Ideation Phase
# Brainstorm & Idea Prioritization Template

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| Date | 23 October 2023 |
| Team ID | Team-593005 |
| Project Name | AI-enabled car parking system using OpenCV |
| Maximum Marks | 4 Marks |

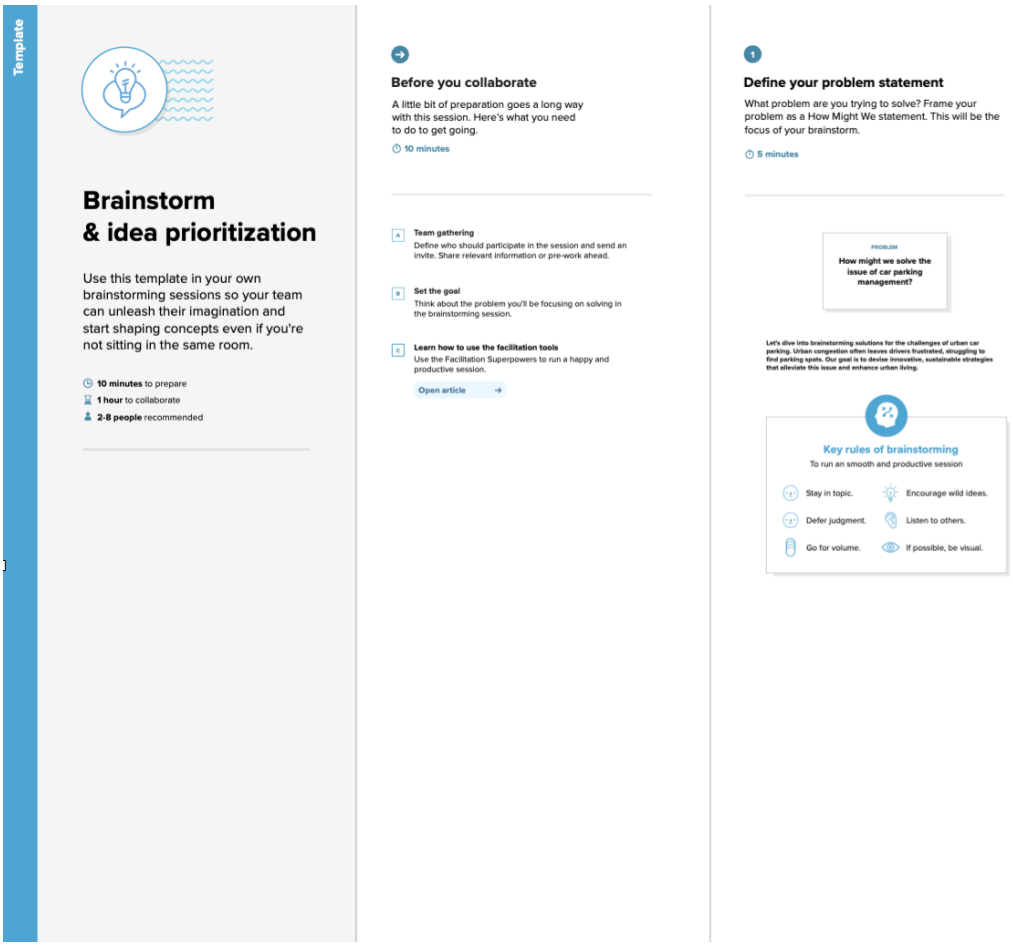
**Brainstorm & Idea Prioritization Template:**

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**



## 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

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 and 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.

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

### 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.

## 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.