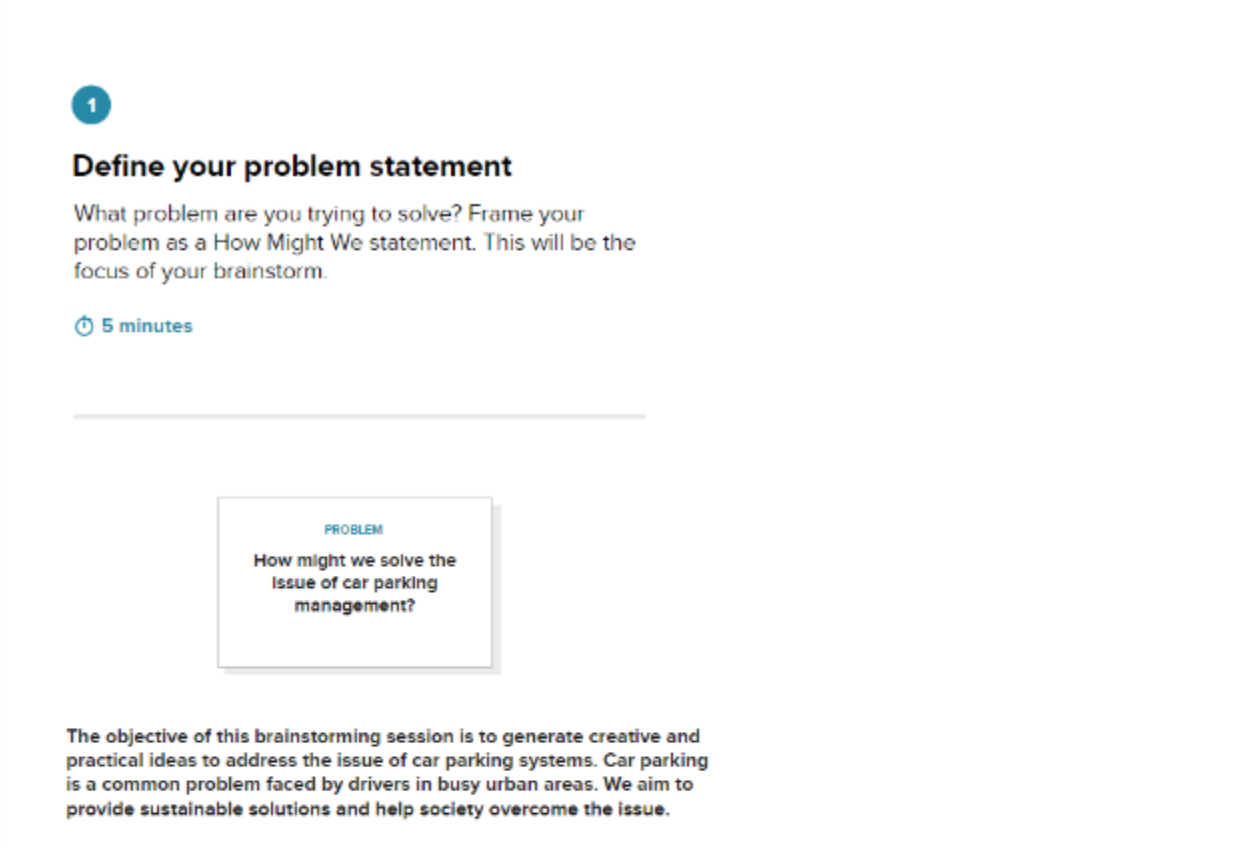
Ideation Phase
Brainstorm & Idea Prioritization

Date	18 October 2023
Team ID	Team-593009
Project Name	AI-enabled car parking system using OpenCV
Maximum Marks	4 Marks

Defining our problem statement and brainstorming ideas

Brainstorming ideas is a creative process where a group generates a list of potential solutions, suggestions, or concepts for a specific problem or project.



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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 hit the pencil [switch to sketch] icon to start drawing!

Abha

Parking Attendant Assistance: Employ parking attendants to guide drivers to available spots and assist with parking maneuvers.

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

Using Computer Vision Techniques (OpenCV): Install cameras with a top-down view of the parking area. Utilize computer vision algorithms to analyze the video feed and identify vacant parking spaces.

Shraddha

Ground-Level Sensors: Employ ground-level sensors, such as ultrasonic or magnetic sensors, to detect the presence or absence of vehicles in individual parking spots.

Crowdsourcing: Allowing drivers to share information about available parking spots on app with others .

Aryan

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

Parking Spot Markings: Use clear and visible parking spot markings to make it easier for drivers to identify vacant spaces.

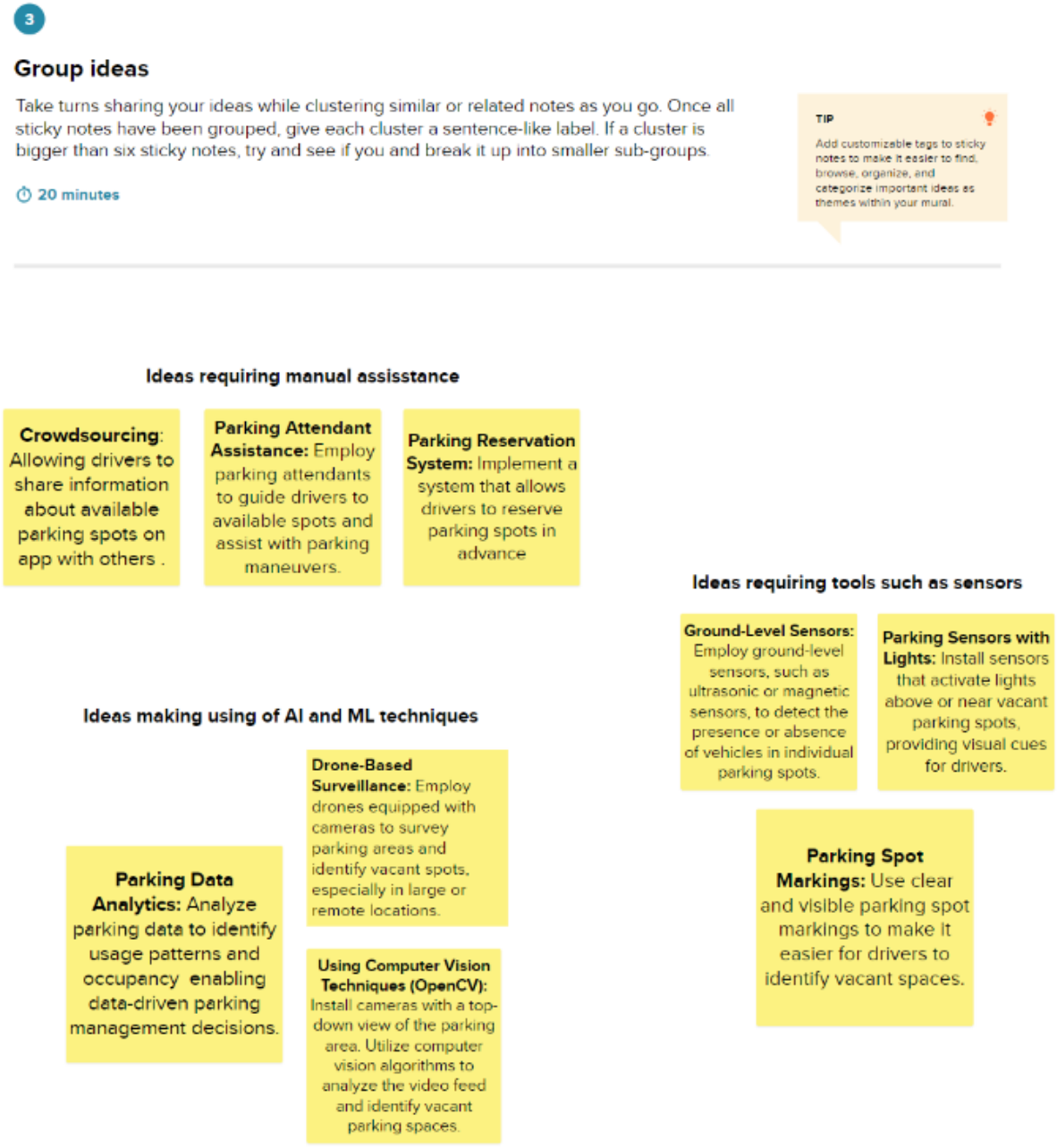
Parth

Parking Sensors with Lights: Install sensors that activate lights above or near vacant parking spots, providing visual cues for drivers.

Parking Reservation System: Implement a system that allows drivers to reserve parking spots in advance

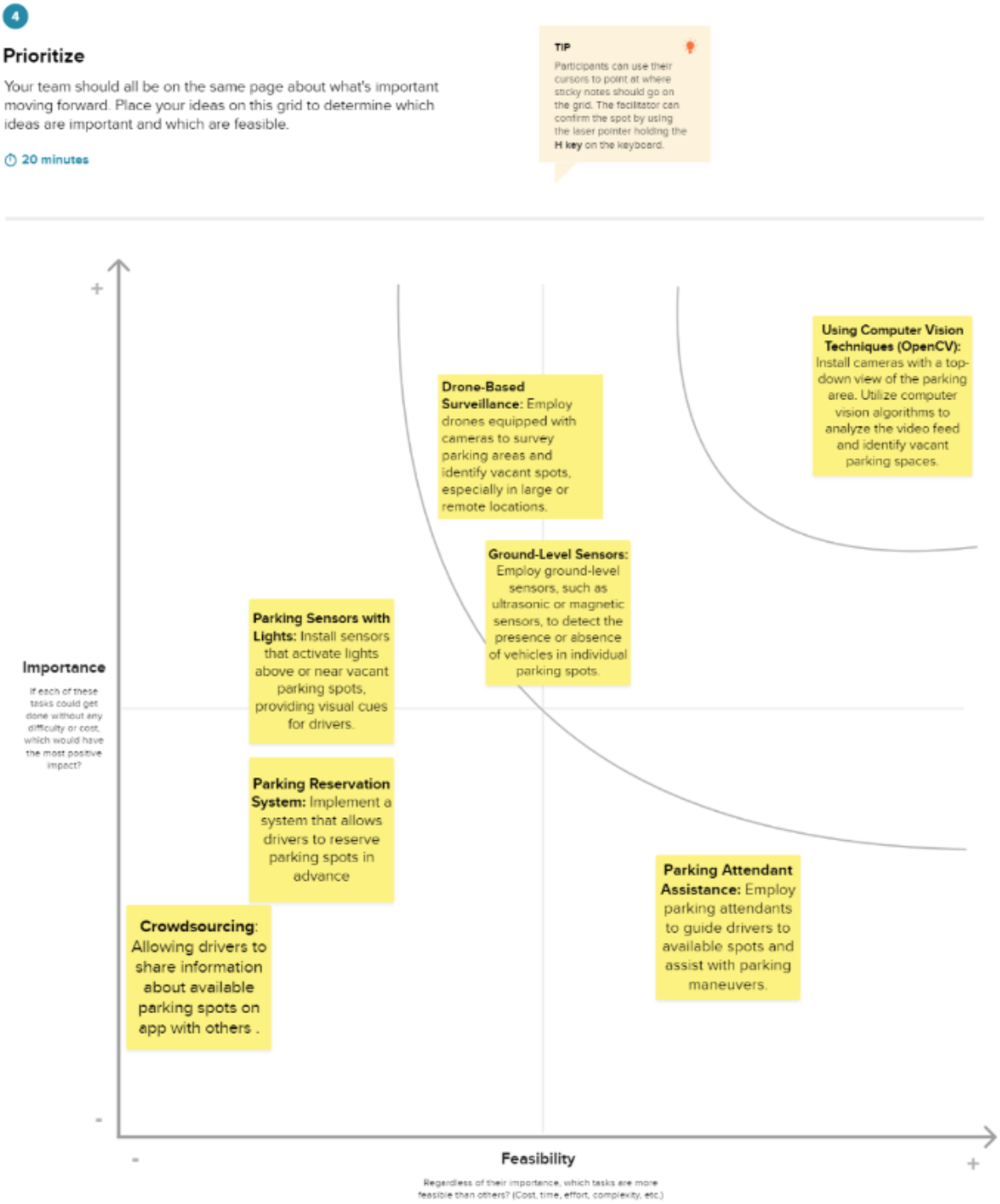
Clustering the ideas

Clustering involves grouping ideas of similar categories together.



Idea Prioritization

Idea prioritization is the process of ranking or assessing ideas based on specific criteria (in this case importance and feasibility) to determine which ideas should be implemented or pursued first.



From the prioritization process, we can see that an AI-enabled car parking system using OpenCV is a compelling choice and would be the best approach.

Firstly, this idea addresses a significant and prevalent issue in urban areas: parking congestion and inefficiency. By leveraging artificial intelligence and computer vision, we can optimize parking space utilization, reduce driver frustration, and improve overall traffic flow. This means that drivers in urban settings will see a substantial reduction in time and effort spent trying to find parking spots.

Moreover, OpenCV is a well-established and widely used open-source library for computer vision applications. This provides a robust and accessible foundation for developing our parking system, reducing development costs and time to market.

Additionally, this project aligns with our commitment to smart city initiatives and sustainable transportation solutions. By streamlining parking processes, we can reduce vehicle emissions from unnecessary searching, minimize congestion-related pollution, and promote a more efficient transportation infrastructure.

Lastly, this initiative presents an opportunity for innovation and technological advancement. By developing an AI-powered parking system, we not only address a pressing urban challenge but also position ourselves as leaders in the field of smart parking solutions.

In conclusion, the selection of an AI-enabled car parking system using OpenCV as our project is a strategic decision based on its high impact potential, feasibility, and alignment with our smart city goals. We are confident that this choice will contribute to a more efficient, sustainable, and user-friendly urban transportation landscape.