

Ideation Phase

Brainstorm & Idea Prioritization Template

Date	06 May 2023
Team ID	NM2023TMID12828
Project Name	Drowsiness detection and alerting system
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.

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
👥 2-5 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

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](#) →

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

Driver drowsiness detection and alerting system is a car safety technology which helps prevent accidents caused by the driver getting drowsy

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 collect a sticky note and fill the pencil outline to write/see to start drawing!

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

Kjae vame

Eye-Tracking and Blink Detection Use a camera or specialized eye-tracking device to monitor the user's eyes and detect patterns such as slow blinking or prolonged eye closure, indicating drowsiness.

M5ibathy

Facial Expression Analysis Analyze the user's facial expressions using computer vision techniques to identify signs of fatigue or drowsiness, such as drooping eyelids or yawning.

EGG Monitoring

 Measure drowsiness by using an electroencephalogram (EEG) to detect changes in electrical activity, such as an increase in alpha waves or a decrease in beta waves.

Heart Rate and Pulse Monitoring

 Monitor the user's heart rate and pulse using sensors or wearable devices. A significant decrease in heart rate or irregular patterns may indicate drowsiness.

Head Position and Movement Tracking

 Track the user's head position and movement to identify signs of drowsiness, such as nodding or sudden changes in head orientation.

IoT Integration

 Connect the drowsiness detection system to an IoT platform to enable real-time monitoring and data sharing. The integrated data can be used for remote monitoring and analysis.

VR/AR

Virtual Reality Simulation Create a virtual environment where users can experience simulated drowsiness. This can be used for training purposes or to study the effects of drowsiness on decision-making.

IoT-enabled Vehicle Safety

 Create a system that integrates with vehicles to monitor the driver's drowsiness level. The system can trigger alerts or take control of the vehicle if drowsiness is detected, such as slowing down or pulling over.

Cloud-based Drowsiness Detection

 Develop a cloud-based drowsiness detection system that receives data from multiple sources, such as wearable devices or cameras installed in vehicles. The system can analyze the data using machine learning algorithms to detect patterns of drowsiness across different individuals and provide real-time alerts or generate reports for further analysis.

Environmental Monitoring

 Implement an IoT system that monitors environmental factors known to affect drowsiness, such as temperature, humidity, and CO2 levels. By integrating these sensors with a drowsiness detection algorithm, the system can identify conditions that may contribute to drowsiness and send alerts to individuals or adjust the environment automatically.

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 own sticky notes to place their ideas on the grid. The facilitator can confirm the spot by using the lower portion of the sticky note to mark the spot.

5 After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

Quick add-ons

- Share the mural** Share a view link to the mural with stakeholders to keep them in the loop about the outcome of the session.
- Export the mural** Export a copy of the mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

- Strategy Blueprint** Define the components of a new idea or strategy. [Open the template](#)
- Customer experience journey map** Understand customer needs, motivations, and obstacles for an experience. [Open the template](#)
- Strengths, weaknesses, opportunities, & threats** Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan. [Open the template](#)

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Importance

Feasibility

Regardless of the importance, which ideas are more feasible than others? (Cost, time, effort, complexity, etc.)