Ideation Phase
Brainstorm & Idea Prioritization Template

Date	19 September 2022
Team ID	
Project Name	Project - Falcon
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.

Team Gathering, Collaboration, and Selecting the Problem Statement

1. Team Gathering

The success of the project heavily relied on the collaborative efforts of a multidisciplinary team. The initial gathering involved assembling individuals with expertise in various domains, including:

- **Data Scientists**: Responsible for data collection, cleaning, analysis, and model development.
- **Aerospace Engineers**: Provided insights into the physics of rocket launches and landings, ensuring that the models accounted for relevant physical dynamics.
- **Software Developers**: Facilitated the integration of machine learning models into usable applications and interfaces for mission planners.
- **Project Managers**: Ensured that the project was aligned with timelines and deliverables, coordinating efforts across different team members.

Activities During Team Gathering

- **Kick-off Meeting**: An initial meeting was held to outline project goals, timelines, and roles within the team. This facilitated a shared understanding of the project's objectives and the importance of each member's contribution.
- **Brainstorming Sessions**: Collaborative brainstorming sessions were organized to discuss potential approaches and technologies that could be employed in the project. This encouraged creative thinking and collective input from all team members.

2. Collaboration

Collaboration was essential throughout the project, promoting open communication and efficient workflow. Several methods and tools were utilized to facilitate this:

- **Agile Methodology**: The project was managed using Agile principles, allowing for iterative development and regular feedback loops. This ensured that the project could adapt to new insights and challenges as they arose.

- **Daily Stand-up Meetings**: Short daily meetings were conducted to share progress, discuss challenges, and outline tasks for the day. This helped maintain accountability and keep everyone aligned on project goals.

- **Version Control Systems**: Tools like Git were employed for version control, enabling seamless collaboration among team members. This allowed multiple developers to work on different aspects of the code simultaneously without conflicts.

- **Collaboration Platforms**: Platforms such as Slack or Microsoft Teams facilitated ongoing communication, allowing team members to share updates, ask questions, and exchange ideas in real time.

3. Selecting the Problem Statement

The selection of the problem statement was a critical step in ensuring the project's focus and relevance. The team followed a structured approach:

3.1 Identification of Needs

- **Stakeholder Interviews**: Engaging with key stakeholders, including mission planners and engineers at SpaceX, provided valuable insights into the challenges faced during Falcon 9 landings. These discussions highlighted the need for more reliable predictions of landing success.

3.2 Defining the Problem

- **Problem Workshops**: Workshops were conducted to analyze the insights gathered from stakeholders. During these sessions, the team identified core issues related to the unpredictability of landing outcomes due to various environmental and operational factors.

3.3 Formulating the Problem Statement

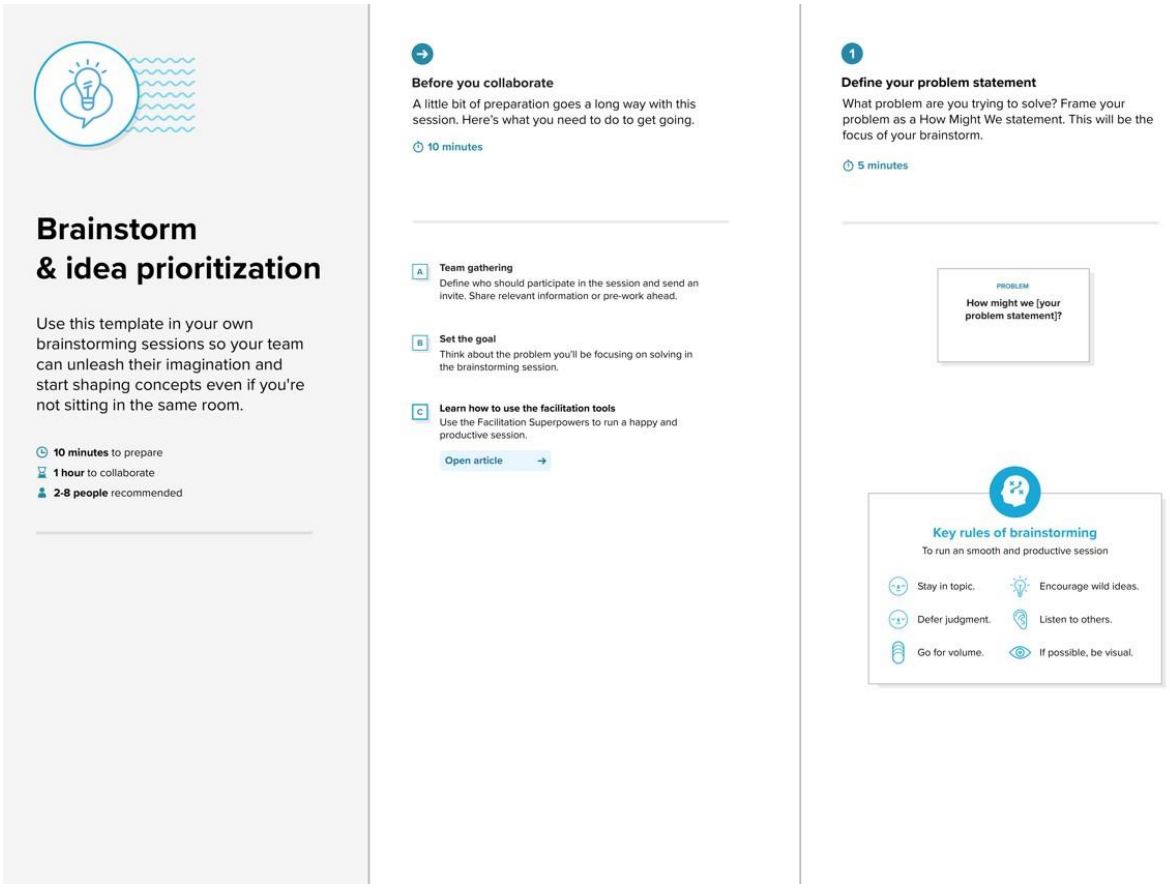
- After thorough analysis and discussion, the following problem statement was articulated:

"How can machine learning techniques be utilized to improve the accuracy of predicting the landing success of the SpaceX Falcon 9 first stage by analyzing historical launch data and environmental conditions?"

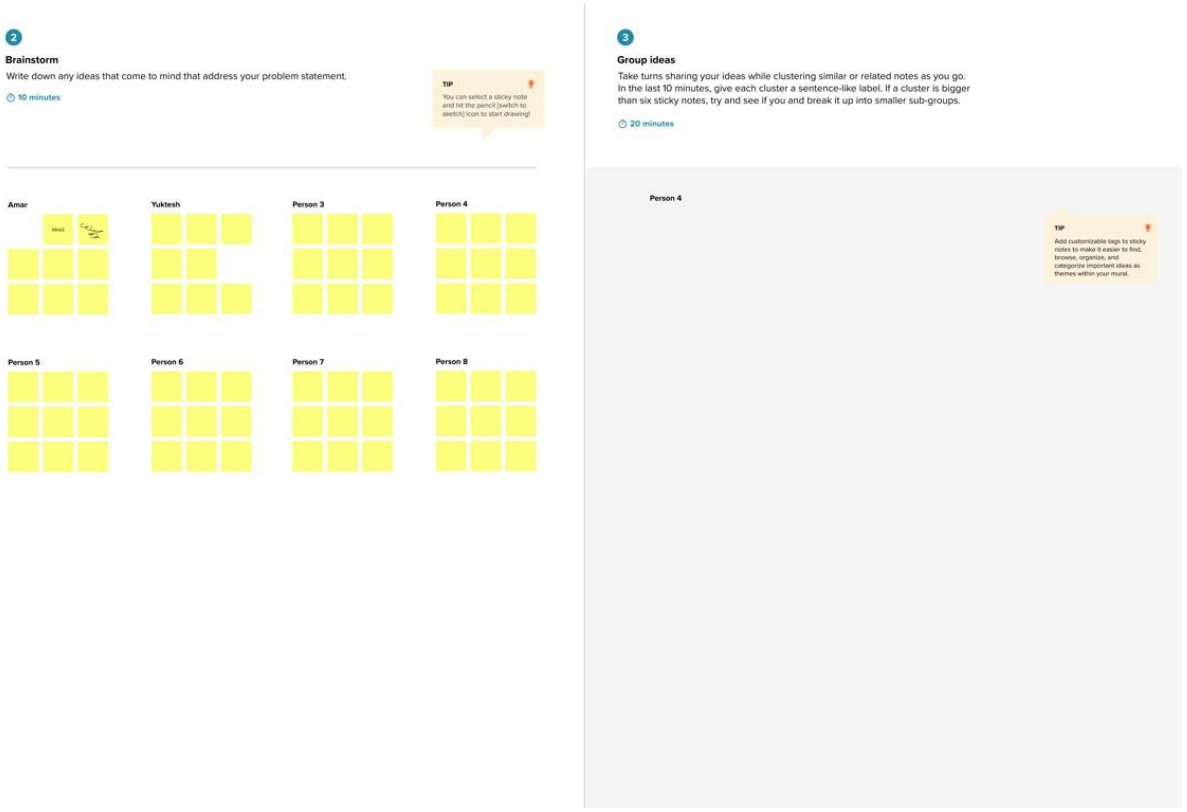
4. Outcome of Collaboration and Problem Selection

The collaborative efforts and structured approach in selecting the problem statement culminated in a clear and actionable project focus. This allowed the team to direct their efforts effectively towards developing a machine learning model that addresses the identified needs, ultimately leading to enhanced predictive capabilities for Falcon 9 landings.

Step-1: Team Gathering, Collaboration and Select the Problem Statement



Step-2: Brainstorm, Idea Listing and Grouping



Step-3: Idea Prioritization