Ideation Phase
Online Payment Fraud Detection Using Machine Learning

Date	15 February 2026
Team ID	LTVIP2026TMIDS73723
Project Name	Online payment fraud detection using machine learning
Maximum Marks	4 Marks

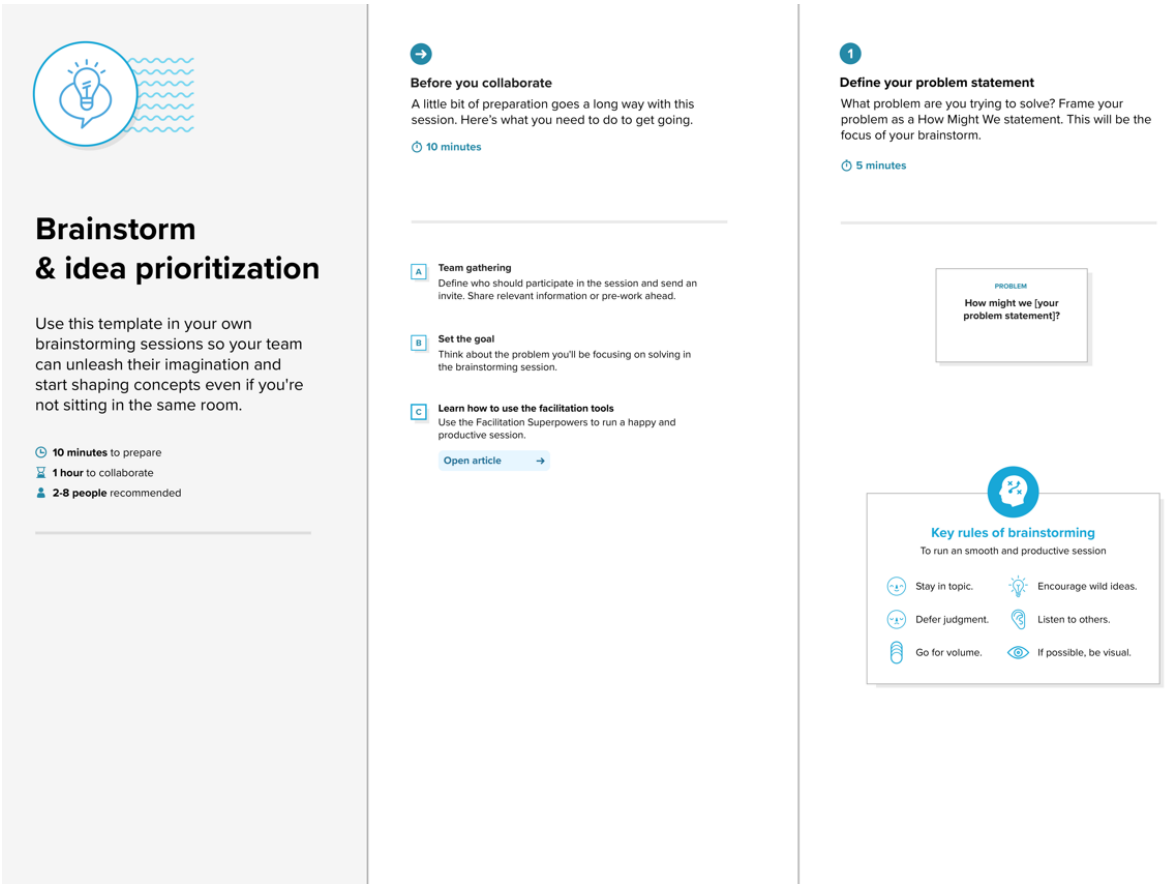
Brainstorm & Idea Prioritization Template:

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/brainstorm-and-idea-prioritization

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



Step-2: Technologies Used

1. Programming Language

Python* – Used for data preprocessing, model building, training, and prediction.

2. Development Environment

Google Colab* – Used for writing and executing the machine learning code in a cloud-based environment.

3. Libraries & Frameworks

andas* – For data manipulation and preprocessing.

NumPy* – For numerical computations.

Matplotlib* – For data visualization.

Seaborn* – For advanced data visualization.

Scikit-learn* – For implementing machine learning algorithms such as Logistic Regression, Random Forest, etc.

4. Dataset Source

Fraud detection dataset obtained from *Kaggle* platform.

5. Deployment (Optional / If Done)

Streamlit* – Used for building a simple web application interface.

Ngrok* – Used to generate a public URL for accessing the application.

Step-3: Idea Prioritization

The output of the Online Payment Fraud Detection system is:

1. The system takes transaction details as input.

2. The trained machine learning model analyzes the transaction data.

3. It predicts whether the transaction is:

* *Fraudulent (1)*

* *Legitimate (0)*

Final Output Example:

* If fraud is detected → “Fraudulent Transaction Detected”

* If not fraud → “Legitimate Transaction”

Additional Outputs:

* Model Accuracy Score

* Confusion Matrix

* Classification Report (Precision, Recall, F1-Score)

* Data Visualization Graphs

The system helps financial institutions identify fraudulent transactions quickly and reduce financial losses.