Ideation Phase

Define the Problem Statements

Date	13 February 2026
Team ID	LTVIP2026TMIDS88814
Project Name	Online Payments Fraud Detection using Machine Learning
Maximum Marks	2 Marks

Customer Problem Statement Template:

Create clear problem statements from the customer's point of view to guide solution design. These statements help the team empathize with users and focus on real-world challenges faced by stakeholders in digital payment systems.

Problem Statements (PS)

PS-1 (Online Customer Persona)

I am a regular user of online payment platforms for shopping, bill payments, and money transfers.

I'm trying to make secure and hassle-free digital transactions.

But I am worried about unauthorized or fraudulent transactions from my account.

Because cyber fraud incidents are increasing and sometimes banks take time to detect suspicious activities.

Which makes me feel anxious about losing money and losing trust in digital payment systems.

PS-2 (Bank / Payment Gateway Analyst Persona)

I am a fraud detection analyst working in a bank or payment gateway company.

I'm trying to identify and prevent fraudulent transactions in real-time.

But fraud patterns keep evolving, and traditional rule-based systems generate many false alarms.

Because fraudsters constantly change their techniques, making static detection systems ineffective.

Which makes me feel pressured to reduce financial losses while maintaining a smooth customer experience.

PS-3 (Financial Institution / Risk Manager Persona)

I am a risk manager responsible for minimizing financial losses due to fraud.

I'm trying to ensure secure transactions while maintaining customer satisfaction.

But fraud detection systems sometimes either miss fraud cases or block genuine transactions.

Because the system lacks intelligent, data-driven analysis of transaction behavior patterns.

Which makes me feel concerned about reputational damage, regulatory penalties, and customer dissatisfaction.

Proposed Direction (Solution Focus)

Develop a Machine Learning–based Online Payment Fraud Detection System that performs transaction data analysis, behavioral pattern detection, and real-time fraud classification through an intelligent model. The system will reduce false positives, detect suspicious activities early, and enhance transaction security for customers, banks, and financial institutions.