Project Design Phase
Proposed Solution Template

Date	18th Febraury 2026
Team ID	LTVIP2026TMIDS57900
Project Name	Online Payments Fraud Detection using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Online payment systems face increasing fraud risks. Traditional rule-based systems fail to detect evolving fraud patterns effectively, leading to financial losses and reduced customer trust. A real-time intelligent fraud detection system is required.
2.	Idea / Solution description	A Machine Learning-based fraud detection system using XGBoost to analyze transaction data and predict fraudulent transactions in real time with high accuracy and recall.
3.	Novelty / Uniqueness	● Focus on fraud recall (minimizing missed fraud cases) ● Handling highly imbalanced dataset ● Comparative evaluation of multiple ML models ● Real-time prediction capability
4.	Social Impact / Customer Satisfaction	● Reduces financial fraud losses ● Improves digital payment security ● Increases customer trust and confidence ● Enhances overall transaction safety
5.	Business Model (Revenue Model)	● SaaS subscription model ● API-based per-transaction pricing ● Enterprise licensing for banks and fintech companies
6.	Scalability of the Solution	● Handles large transaction volumes ● Cloud-deployable ● Easily integrable into banking and payment systems ● Can be retrained for evolving fraud patterns