Project Design Phase

Proposed Solution

Date	13 February 2026
Team ID	LTVIP2026TMIDS84813
Project Name	Online Payments Fraud Detection using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Details:

S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	Online customers and financial institutions face increasing losses due to fraudulent digital transactions. Traditional rule-based systems fail to detect evolving fraud patterns and often generate high false positives, affecting genuine users.
2	Idea / Solution Description	Develop a Machine Learning–based Online Payment Fraud Detection System that analyzes transaction data, performs behavioral pattern analysis, and classifies transactions as Fraud or Legitimate in real-time through a web/API-based system.
3	Novelty / Uniqueness	Combines advanced feature engineering with adaptive ML models to detect evolving fraud patterns. Focuses on real-time prediction with fraud probability scoring and reduced false positives for better customer experience.
4	Social Impact / Customer Satisfaction	Enhances financial security, reduces monetary losses, increases trust in digital payments, and ensures smoother user experience

		by minimizing unnecessary transaction blocks.
5	Business Model (Revenue Model)	Subscription-based fraud detection service for banks and fintech companies; API-based integration pricing model; enterprise licensing for financial institutions.
6	Scalability of the Solution	Cloud-ready architecture capable of handling high transaction volumes. Easily scalable across banks, payment gateways, and fintech platforms with continuous model retraining and data expansion.