

Project Design Phase

Proposed Solution Template

Date	15 February 2025
Team ID	LTVIP2026TMIDS73723
Project Name	Online payment fraud detection using machine learning
Maximum Marks	2 Marks

Proposed Solution Template:

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Team ID	SIM/2025/FD/01
Project Name	Online Payment Fraud Detection System
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)	With the rapid increase in online payments, UPI, and card transactions, financial fraud has become a critical issue. Detecting fraudulent transactions in real-time is challenging for banks and financial institutions using traditional methods.
2.	Idea / Solution description	We propose a machine learning-based Online Payment Fraud Detection System that can automatically analyze transaction patterns, detect fraud in real-time, and alert financial institutions immediately, improving overall security and reducing fin-
3.	Novelty / Uniqueness	The solution uses advanced machine learning algorithms (such as Logistic Regression and Random Forest) instead of traditional rule-based systems. It provides real-time fraud detection with higher accuracy and adaptability to new fraud patterns.
4.	Social Impact / Customer Satisfaction	The system helps protect users from financial losses, builds trust in digital payments, increases customer confidence, and enhances the reputation of banks and online platforms by offering a secure and reliable payment environment.
5.	Business Model (Revenue Model)	The business model includes: <ul style="list-style-type: none"> ▸ Subscription Fees: Financial institutions pay a subscription fee to access our fraud detection system. ▸ Pay-Per-Use: Charges based on the number of transactions analyzed. ▸ Consulting & Integration: Offering consulting services and integration support for implementing the fraud detection system.
6.	Scalability of the Solution	The solution is designed to handle large volumes of transaction data and can scale up to meet the needs of banks, e-commerce platforms, and payment gateways. It can be deployed on cloud platforms, ensuring high availability and real-