

Project Design Phase
Proposed Solution Template

Date	15 February 2025
Team ID	LTVIP2026TMIDS79606
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)	Increasing online payment fraud causes financial loss, reduced trust, and security risks due to ineffective traditional rule-based detection systems.
2.	Idea / Solution description	A machine learning-based fraud detection system using XGBoost that analyzes transaction data, calculates fraud probability, and provides real-time classification through a Flask web application.
3.	Novelty / Uniqueness	Uses advanced ML model (XGBoost) for detecting complex fraud patterns instead of static rules. Provides probability-based risk scoring and real-time prediction through a web interface.
4.	Social Impact / Customer Satisfaction	Reduces financial fraud losses, improves digital transaction security, enhances trust in online payments, and supports safer digital economy growth.
5.	Business Model (Revenue Model)	Can be offered as a Fraud Detection API service to banks and payment gateways with subscription-based or usage-based pricing.
6.	Scalability of the Solution	Easily scalable for integration with banking systems, payment gateways, and cloud deployment for handling high transaction volumes.