

Project Design Phase
Proposed Solution Template

Date	30 Jan 2026
Team ID	LTVIP2026TMIDS88779
Project Name	Online-Payments-Fraud-Detection-using-Machine-Learning
Maximum Marks	4 Marks

Proposed Solution – Fraud detection Prediction

S.No	Parameter	Description
1	Problem Statement	Online payment fraud is increasing rapidly due to the growth of digital transactions. Financial institutions and payment platforms struggle to detect fraudulent activities in real time, leading to financial losses, customer dissatisfaction, and regulatory risks. Traditional rule-based systems fail to identify evolving fraud patterns.
2	Idea / Solution Description	<p>Develop a machine learning-based fraud detection system using historical transaction data. The solution integrates classification models such as Random Forest and XGBoost with a Flask-based web dashboard to provide real-time fraud prediction.</p> <ul style="list-style-type: none"> - Analyzes transaction features like amount, transaction type, and account balances. - Provides instant prediction of Fraud / Not Fraud. - Stores trained model as .pkl for deployment.
3	Novelty / Uniqueness	<ul style="list-style-type: none"> - - Uses machine learning algorithms instead of traditional rule-based detection. - Learns evolving fraud patterns from historical data. - Provides a user-friendly dashboard for prediction and monitoring. - Focuses on real-time deployment with scalable architecture.
	Social Impact/ Customer Satisfaction	<ul style="list-style-type: none"> - Improves reliability of renewable energy, encouraging wider adoption. - Helps grid operators reduce instability and blackouts. - Supports sustainable energy goals by making wind energy more predictable. - Enhances customer trust in renewable energy investments.