Project Design Phase

Proposed Solution Template

Date	21-02-2026
Team ID	LTVIP2026TMIDS54386
Project Name	Online Payment Fraud Detection
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 growth of digital payments, online transaction fraud has increased significantly. Traditional rule-based systems fail to detect evolving fraud patterns, causing financial loss and reduced customer trust in online payment platforms.
2.	Idea / Solution Description	The project proposes a Machine Learning-based Online Payment Fraud Detection system. It performs data preprocessing, feature engineering, and applies classification algorithms such as

		Logistic Regression, Random Forest, and Decision Tree. The trained model is deployed using Flask for real-time fraud prediction through a web interface.
3.	Novelty / Uniqueness	The system integrates multiple ML models, applies cross-validation for evaluation, and provides real-time prediction capability. It improves fraud detection accuracy compared to traditional static rule-based systems.
4.	Social Impact / Customer Satisf	aTc thi œnsolution enhances digital transaction security, reduces financial losses, builds customer trust, and supports banks and fintech companies in preventing fraud.
5.	Business Model (Revenue Mode	Il)he system can be offered as a fraud detection API or SaaS product for banks, fintech companies, and e-commerce platforms. Revenue can be generated through subscription-based or usage-based pricing models.

6.	Scalability of the Solution	The solution is scalable to handle large-scale transaction datasets and can be extended with advanced deep learning models and real-time streaming systems for improved performance.