# Project Design Phase
## Proposed Solution Template

| Date | 5 February 2026 |
|------|-----------------|
| Team ID | LTVIP2026TMIDS76029 |
| Project Name | Online Payments Fraud Detection using Machine Learning |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

| S.No. | Parameter | Description |
|-------|-----------|-------------|
| 1. | Problem Statement (Problem to be solved) | Increasing online payment fraud causes financial losses and reduces customer trust. Traditional rule-based systems fail to detect fraud effectively in real-time. |
| 2. | Idea / Solution description | Develop a machine learning-based fraud detection system that analyzes transaction data and predicts fraud in real-time using multiple ML algorithms. |
| 3. | Novelty / Uniqueness | The system compares multiple ML models, performs hyperparameter tuning, and deploys the best-performing model through a Flask web application. |
| 4. | Social Impact / Customer Satisfaction | Reduces financial losses, improves transaction security, and increases customer confidence in digital payment systems. |
| 5. | Business Model (Revenue Model) | Can be offered as a SaaS solution to banks and fintech companies through subscription plans or API integration services. |
| 6. | Scalability of the Solution | The solution can handle millions of transactions and can be scaled using cloud platforms (AWS/Azure/GCP). Additional ML models and advanced techniques can be integrated easily for improved performance. |