Project Design Phase
Problem – Solution Fit Template

Date	25-02-2026
Team ID	LTVIP2026TMIDS42037
Project Name	Online Payment Fraud Detection
Maximum Marks	2 Marks

Problem – Solution Fit Template:

There is a growing need among banks, financial institutions, and digital payment platforms to detect fraudulent transactions in real-time. As online transactions increase, fraudsters use advanced techniques to exploit system vulnerabilities, leading to financial loss and reduced customer trust. Traditional rule-based systems struggle to detect new and evolving fraud patterns. Our solution, an Online Payment Fraud Detection System built using Machine Learning, analyzes transaction data to identify suspicious patterns. The system uses preprocessing, feature engineering, and classification algorithms such as Logistic Regression, Random Forest, and Decision Trees to classify

transactions as fraudulent or genuine. The trained model is deployed using Flask to provide real-time fraud prediction through a user-friendly web interface.

Purpose:

- Solve the problem of increasing online payment fraud using intelligent ML-based detection.
- Provide real-time fraud prediction to reduce financial losses.
- Improve accuracy compared to traditional rule-based systems.
- Enhance trust and security in digital payment platforms.
- Understand transaction behavior patterns to improve fraud prevention strategies.

References:

1. Kaggle Online Payment Fraud Detection Dataset.

2.Scikit-learn Documentation for Machine Learning Algorithms.

3. Flask Documentation for Web Deployment.