Project Design Phase
Problem – Solution Fit Template

Date	18th Febraury 2026
Team ID	LTVIP2026TMIDS57900
Project Name	Online Payments Fraud Detection using Machine Learning
Maximum Marks	2 Marks

Problem – Solution Fit Template:

1. CUSTOMER SEGMENT(S) — CS

Define CS, fit into

- Primary Customers (B2B): Banks, Pyment Gateways, Credit Card Companies, FintTechCompanies, E-Commerce platforms
- Secondary Customers (Indirect beneficiaries): Online shoppers, Account holders, Digital wallet users

6. CUSTOMER CONSTRAINTS — CC

- Highly imbalanced data
- False positives affecting genuine users
- Need for real-time processing
- Evolving fraud patterns
- Infrastructure cost
- Regulatory and compliance constraints

5. AVAILABLE SOLUTIONS — AS

Explore AS.

- Rule based systems
- Manual Review Teams
- Basic Machine Learning Systems

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Focus on J&P, tap into BE,

- Fraudulent Transactions
- Missed Fraud Cases
- False Positives
- Slow Detection

9. PROBLEM ROOT CAUSE — RC

- Increasing digitilization + weak pattern detection
- Rule-based logic limitations
- Overly strict thresholds
- Manual review techniques

7. BEHAVIOUR — BE

Focus on J&P, tap into BE.

- Use rule-based filters - High Urgency
- Monitor alerts manually - Continuous monitoring
- Investigate suspicious transactions
- High Operational cost
- Refund fraud victims - High financial risk

3. TRIGGERS — TR

Identify strong TR & EM

- Sudden spike in fraud cases
- Regulatory penalties
- Customer complaints
- Media exposure of fraud

4. EMOTIONS: BEFORE / AFTER — EM

- Fear of financial loss <-> Confidence
- Stress <-> Security
- Frustration <-> Trust
- Lack of control <-> Operational efficiency

10. YOUR SOLUTION — SL

A Machine Learning-based real-time fraud detection system using XGBoost that accurately predicts fraudulent transactions with extremely high recall and minimal fraud miss rate.

8. CHANNELS of BEHAVIOUR — CH

Extract online & offline CH of BE

8.1 **ONLINE**
Banking software dashboards, Fraud monitoring systems, internal analytics tools, Fintech platforms

8.2 **OFFLINE**
Board meetings, Risk management teams, Financial audit departments, Banking conferences