

Project Design Phase

Proposed Solution Template

| S.No. | Parameter | Description |
|-------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Problem Statement (Problem to | bWeitshotlvhedr)apid 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. |

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| 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 |
|----|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|---------------|--------------------------------|
| Date | 25-02-2026 |
| Team ID | LTVIP2026TMIDS42037 |
| 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.

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|----|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | 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 crossvalidation 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 | aTcthioensolution enhances digital transaction security, reduces financial losses, builds customer trust, and supports banks and fintech companies in preventing fraud. |

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| 5. | Business Model (Revenue Mode | The 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. |