

Credit Card Processing

problem statement

To design & develop a credit card processing system to automate all activities with little to no human interaction

SRS document

1) Introduction

1.1 Purpose:

This document specifies requirements for a credit card processing, which securely handles transactions between customers, merchants & banks

1.2 Scope:

The system will support payment authorization, authentication, settlement, fraud detection, reporting. It improves security, accuracy & speed of transaction. Estimated development time is 6-7 months

1.3 Overview:

This system provides secure, end-to-end payment processing with support for multiple card providers & fraud prevention mechanism

2) General description

- users: card holder, merchants, banks & admin

- user characteristics:

- customers require simple, secure & payment process
- merchants need reliable approval & reporting
- banks & admin need transaction logs & fraud monitor

- feature: authorization, settlement, reporting, fraud detection
- benefit: fast, accurate & secure credit card transaction

3) functional requirements

- transaction authorization & authentication
- credit card validation & fraud detection
- clearing & settling between merchants & bank
- secure storage of transaction
- refund & chargeback processing

4) Interface requirements

- User interface: Merchant/admin dashboard, secure payment screen for customer
- software interface: database, payment gateway, fraud detection API's & bank secure
- communication: secure transmission using SSL/TLS encryption

5) Performance requirements

- Handle 1000+ simulation transactions
- authorization response time $\leq 2s$
- settlement completed within 1 day
- uptime $\geq 99\%$

6) design constraints

- Must comply with PCI DSS & banking standards
- work on server (cloud env)
- use AES/RSA encryption
- daily backups & disaster recovery required

7) Non functionality attributes

- security: strong encryption
- reliability: no loss of transaction data
- portability: supports web, mobile, IOS system
- scalability: Handle growth in transaction volume
- data integrity: No unauthorized modification
- availability: 24/7 operation

8) Preliminary schedule & budget

schedule

- Requirement analysis - 4 weeks
- design - 5 weeks
- development - 12 weeks
- Testing - 5 weeks
- Total - 26 weeks

Budget

- development: ₹ 60 lakh
- compliance & security audit: ₹ 13 lakh
- Infrastructure & maintenance: ₹ 13 lakh