1| Credit card processing

Problem statement
Manual credit card transaction handling is slow and prone to errors. An automated system is needed for secure, fast, & reliable credit card processing.

1) Introduction

1.1) purpose
To - develop a secure credit card processing system for handling transaction validations, & settlements.

1.2) Scope
- Transaction authorization & verification
- Fraud detection & security checks
- Billing and settlement system
- Transaction history tracking.

1.3) Overview

The system ensure secure, real-time card transaction b/t customer, merchants, & banks.

2| General description

The credit card processing system validate transactions, checks account balance, prevent fraud, & process payments across stakeholders.

3) User classes & characteristics

- Customer : Uses credit card for payment
- Merchant : Accepts card payments
- Bank/Issuer : Authorizes transaction
- Admin : Manages system security & reports

4) Functional Requirements

- Transaction authorization (approve/decline)
- PIN/OTP verification
- Fraud detection & alerts
- Billing & settlement processing
- Transaction reporting & logs

5) Interface requirements

- Web & POS terminal interface
- Mobile-friendly payment gateway
- Secure login for admin & merchant

6) Performance Requirement

- Transaction approval within 2-3 secs
- Support thousands of transaction per second
- High system availability (99.99%)

7) Design Constraint

- Must comply with PCI DSS standards
- Encrypted communication (SSL / TLS)
- Integration with multiple banks & gateways

8) Non-functional Requirements

- Security : Strong encryption, fraud detection
- Reliability : Redundant servers & failover systems
- Scalability : Handle growing number of users & merchants
- Usability : Simple interface for customers & merchants

9) Schedule & Budget

- Schedule : 5-6 mons development timeline
- Budget : Approx. 10-15 lakhs depending on integration & compliance needs.