SRS for Credit Card Processing.

1. Introduction.

1.1 Purpose: The purpose of this document is to outline the requirements & specifications for the development of credit card Processing System. It defines objectives, scope & deliverables to ensure secure, efficient, and reliable handling of credit card transactions.

1.2 Scope: The system will provide a platform for merchants, financial institutions & customers to process credit card transactions. It will support payment authorization, settlements, refunds, fraud detection & integration with external payment gateways.

1.3 Overview: The CCPS will handle real-time payment processing for online & offline merchants. It will ensure compliance with PCI DSS standards, support multiple card networks, & provide transaction reports.

2. General Description: The system will serve merchants, customers & banks, allowing card authorization, payment confirmation, refund processing and fraud detection. It will be scalable to handle high transaction volumes & integrate with third-party financial services.

3. Functional Requirements

3.1 Transaction Authorization
- Validate credit card details & customer credentials.
- Authorise transactions in real times

3.2 Payment Processing
- Handle transactions across multiple cards networks (visa).
- Support domestic & international transaction.

3.3 Refund & Cancellation
- Process refunds for canceled or refunded returned transactions.
- Maintain a clear record of refund history.

3.4 Fraud Detection & Security.
- Implement fraud detection algorithms.
- Notify merchants & customers of suspicious transactions.

3.5 Reporting
- Generate reports for merchants, banks & administrators on transaction volume, failures & refunds.

4 Interface Requirements

4.1 User Interface
- Merchant dashboard for transaction monitoring
- Customer interface for payment confirmation & receipts

4.2 Integration Interfaces
- API Integration with merchant websites, mobile apps & POS systems.
- Integration with banks & payment gateways.

5 Performance Requirements.
- System response time $<=$ 2 seconds per transaction
- Handle atleast 50,000 concurrent transactions during peak hours.
- Maintain 99.99% uptime.

6 Design Constraints
- Must comply with PCI DSS
- Database: Relational with encryption enabled.
- Backend: Java, Spring Boot.

7 Non functional Requirements.

7.1 Security:
- End to end encryption
- Tokenization of card details to prevent storage of sensitive data.

7.2 Reliability
- High availability with failover & disaster recovery.

7.3 Scalability
- Support national & international level deployment.

7.4 Usability
- Easy-to-use dashboard for merchants & clear payment flow for customers.

8. Preliminary Schedule & Budget
- Development Duration : 10 months.
- Estimated Budget : $ 400,000.