

Credit Card Processing System

1. Introduction

1.1 Purpose

This document defines requirements for the credit card processing system (CCPS), which validates, authorizes and processes credit card payments securely.

1.2. Intended audience

- Developers → implementations
- Testers → requirement validation
- Merchants/Bank staff → usage
- Inspectors → project evaluation.

1.3. Product scope.

It will provide an end-to-end platform for handling payments requests. It will include transaction authorization, fraud detection, settlement, and reporting. The system benefits merchants, banks, and cardholders by ensuring seamless payments.

1.4. References:

1. IEEE Standard 830-1998
2. Visa, MasterCard, and American express API integration guidelines.

2. Overall Description.

2.1. Product perspective

Standalone system integrated with merchant applications and payment gateways.

2.2. User classes.

- Merchant : initiates payment
- Customer : provides credit card info
- Bank system : validates and authorizes.

2.3. Operating Environment:

- OS : Windows/Linux
- Database : MySQL/Oracle
- Secure communication via HTTPS

3. System Features & Requirements

3.1. Functional Requirements

- System shall validate card number, expiry date and CVV
- System shall authorize transactions via payment gateway
- System shall generate transaction receipts.
- System shall log failed transactions for review.

3.2. Non-Functional requirements

- Performance : Each transaction processed within 5 seconds.
- Security : Data encrypted per PCI DSS standards.
- Reliability : 99% ~~time~~ uptime in test environment.
- Usability : Simple UI for merchants.

3.3. Domain Requirements

- Must comply with PCI DSS
- Must support multiple currencies
- Must ensure two-factor authentication for suspicious transactions.

4. External Interface Requirements

- Use Interface: Merchant dashboard, customer payment form.
- Hardware: Standard PC or POS terminal
- Software: Database + payment gateway API
- Communication: Secure HTTPS/TLS

5. Other Requirements

- Source code must be documented
- System should support future integration with mobile apps.

6. Appendix

• Glossary

- Authorization: Approval from bank to complete transaction
- Settlement: Transfer of funds between customer and merchant
- PCI DSS: Industry standard for handling card data securely.

• Abbreviations:

- CCPS: Credit card processing system
- CVV: Card verification value.