



b. SRS document for credit card processing system:

1. Introduction:

1.1 Purpose of the requirements document: to specify the software requirements for credit card processing system.

1.2 Scope of the product: allows customers to make payments credit card at various merchant locations. The system handles the authorization, capture and payment of transactions.

1.3 Definitions, acronyms, and abbreviations

- POS : point of sale
- API : application programming interface
- CVV : card verification value
- EMV : Europay, MasterCard and Visa
- PCI-DSS : payment card industry data security standard

1.4 References : PayPal, Visa & Mastercard merchant guidelines

1.5 Overview : the document includes functional, non functional aspects, constraints & domain specific features. It also describes the processes of transaction, initiation, validation, authorization & settlement.

2. General Description:

2.1 Product perspective: The system interacts with both external & ~~internal~~ banking networks and internal systems for merchants. The system will integrate with POS devices, mobile payment gateways & online e-commerce platforms:

- Bank perspective: interfaces with bank &



card networks to authorize transactions, check for fraud and ensure funds are available

- Merchant perspective : they will use the system to process credit card payments
- Customers perspective : they will use the system to make payments securely using credit card and receive real-time authorization responses & view their transaction status.

2.2 Product functions: transaction authorization, transaction capture, transaction settlement, fraud detection, chargeback management, refund processing

2.3 User characteristics:

- merchants are business owners or staff processing payments at physical or online stores
- customers are individuals making credit card payments
- banks are financial institutes that authorize transactions & provide merchant services

2.4 General characteristics:

- must comply with PCI-DSS standards for data security
- System should support all major card types
- transactions above £5,000/- need additional authorization checks

2.5 Assumptions and dependencies:

- merchants will ensure that customers input correct payment details



- system assumes constant connectivity with banks and card network for real-time authorization.

3. Specific requirements:

3.1 Functional requirements:

- transaction authorization: validate card number, expiration date, CVV and address; ensure enough funds are there for transaction; provide real time response to merchant and customer
- Fraud detection: cross check transactions for unusual patterns based on user history
- chargeback handling: automatically reverse payments when disputes are resolved in favor of the customer
- refund management: enable partial or full refunds for authorized transactions

3.2 Non-functional requirements:

- Security: must comply with PCI-DSS standards to ensure data protection
- Performance: system should handle up to 500 transactions per second during peak times & avg. response time for authorization should be less than 2 seconds
- reliability: system uptime should be 99.9% with failover mechanisms in place

3.3 Domain requirements:

- responsive user interface for mobile & desktop users
- inventory management



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- Support multiple payment gateways

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