

2) Credit Card Processing System

1. Introduction

1.1. Purpose of this Document

The purpose of this document is to define the requirements of the Credit Card Processing System (CCPS), which enables secure and compliant processing of credit card transactions for online and in-store purchases.

1.2. Scope of this Document

The document outlines the features and interactions of the CCPS, including credit card validation, payment processing, and fraud detection. The system will work with multiple payment gateways and comply with PCI-DSS standards.

1.3. Overview

The CCPS ensures that credit card transactions are handled securely and efficiently.

2. General Description.

The CCPS will allow merchants to securely process credit card transactions. The system will interface with financial institutions and payment gateways. Key features include:

- (i) Secure payment processing
- (ii) Real time authorization

- (1) Fraud detection and prevention
- (2) Reporting on transactions, refunds, and chargebacks

3. Functional Requirements

- (1) Credit Card Validation - The system must validate card numbers, expiration date, and CVV
- (2) Payment Processing - support for one time and recurring payments
- (3) Refunds and chargebacks - The system must allow for efficient and manage chargebacks
- (4) Fraud Detection - Real time fraud detection using predefined rules and algorithms.
- (5) Transaction Reporting - Detailed reports on transaction history for merchants

4. Interface Requirements

- (1) Merchant interface - Merchants will be able to process payments and view transaction history
- (2) Customer interface - Customers will enter their credit card details to make payments
- (3) Admin interface - Admin can manage merchant settings, fraud rules and reporting tools
- (4) Bank integration - The system must

integrate with various banks and payment processors for transaction processing

5. Performance Requirements

The system must support up to 1 million daily transactions. Response time for payment processing should be under 2 seconds. Transaction data must be processed and stored in real time.

6. Design Constraints

The system must comply with all regulations for secure handling of cardholder data. Integration with existing payment gateways should be seamless, requiring minimal changes to external systems. The system should support multiple currencies and payment methods.

7. Non-Functional Attributes

- (1) Security - All sensitive data must be encrypted.
- (2) Scalability - The system must scale horizontally to accommodate growing transaction volumes.
- (3) Availability - The system must be available 99.99% of the time, with a backup and disaster recovery plan in place.

8. Preliminary Schedule & Budget

The estimated project duration is 7 months with a total budget of £30,000.

Needs to be split up of expenses.