Application : Credit Card Processing System

1. Introduction

Credit Card processing is interaction of the customer to the credit card processor allows getting a new card and also to get the details of the card and makes the copy of purchase made

1.1 Purpose

The credit card makes shopping easier and the customer or purchaser need not to carry cash along with them helps to keep track of all estimations

1.2 Document Convention

This document uses standard IEEE formating Requirements are stated Using shall for mandatory feature . Use case references are Italicized Number Sections Correspond to specific categories of System requirements

1.3 Intended Audience and Reading Suggestion

This SRS is intended for developers, project managers testers and stakeholders . Readers are encouraged to start with the introduction for Context. followed by overall system description and specific Requirements based on their Roles

1.4 Project Scope

The CCPS is a Secure, cloud-based System that process credit card payments . It supports authorization, Settlement, refund handling and fraud detection. The System align with organizational goals to modernize and Secure transaction handling

1.5 References

Include PCI DSS 4.0, ISO 8583, messaging standards Credit card network API guide

2. Overall Description

2.1 product perspective

CCPS is a standalone System replacing older payment System. It interfaces with card networks, merchant system, and internal banking API's via Secure channel The System supports integration with external services through standarlized API's

2.2 Product Function

The System authorize transaction, captures payment process settlement, handles chargeback and generate reports. It includes user management - fraud detection and web-based admin portal

2.3 User classes and characteristics

User groups include customers, merchants, admin staff and developers. Each group has different access levels and technical expertise, with administrators requiring more advanced features for monitoring & control

2.4 Operating Environment

The System runs on a cloud platform with Linux Servers, Docker containers & postgreSql database web access is through modern browsers and API use Authr2.0 for Secure Communication

2.5 Design and Implementation

Constraints include compliance with PCI DSS integration Using ISO 8583 standards

2.6 User Documentation

Usermanuals, admin guides, API documentation will be provided in both HTML & PDF formats

2.7 Assumption & Dependencies

The System depends on external card networks Stable banking API and ongoing access to cloud infrastructure.

3. Specific Requirements

3.1 functional Requirements

- Authorize transaction with 3sec
- capture payment after merchant confirm
- process merchant - initiated refunds
- keep transaction logs for 2 years

3.2 External Interface Requirement

- Use standard verification for payment network messging
- provide restful API's for merchant

3.3 System features

- Role based access control
- Real time monitoring dashboard
- Automated backup & recovery

3.4 Non-function Requirements

- 99.9% System availaibility
- Encrypt all Sensitive data
- Comply with PCI
- Handle 10,000 transaction 1sec
- UI responses with 2 seconds

4 Appendices

4.1 Glossary

* Authorization validate
* capture : finalizes payment
* PCI DES: Security standard
  ISO8583: Transaction message format

4.2 future Enhancement

ML Based fraud detection
mobile / digital wallet
Multi-currency support