2. Credit Card processing

Problem Statement:
Design and implement a Credit Card processing System that enables Secure and efficient handling of payment transactions between customers, banks.

The objective is to create robust and trustworthy credit card since offline credit card processing is insecure, timeconsuming, and creates trust issues.

a) SRS document:

1 Introduction:

1.1 purpose of this document: The purpose of this document is to outline the requirements and specifications for the development of a Credit Card Processing System. It will Provide a Clear understanding of the Project objectives, scope and deliverables.

1.2 Scope of this document:
This document defines the overall working and main objective of the Credit Card Processing System, it includes a description of transaction handling, fraud detection.

3 Overview:

The Credit Card processing System is a Secure financial solution designed to handle Payment transactions b/w customers, merchants, & banks.

It will include features like authorization, authentication, transaction settlement, fraud prevention.

2 General Description:
The System will assists the needs of merchants, customers and financial institutions by providing Seamless transaction handling, real-time Payment verification, fraud monitoring. It will be accessible to users with varying levels of technical and financial experts.

3 Functional Requirments:

3.1 Transaction Authorization:
• validate Card details
• Authenticate transaction using PIN, OTP.
• Approve or decline transaction in real time.

3.2 Payment Settlement:

Transfer fund Securly
Provide detailed transaction records

3.3 Fraud detection & Security:
• Detect unusual or suspicious transaction
• Implement encryption. for Secure data transf

3.4 Reporting and invoicing:
• Generate transaction history for Customers,
• Provide monthly & yearly reports.

4 Interface Requirements

4.1 User Interface:
- Provide dashboards for merchants & banks.
- Customer friendly interface for payment
- Accessible via web browser, mobile apps.

4.2 Integration Interface:
- Integration with banks networks (VISA, Rupay)
- Support for third party APIS PayPal, UPI.

5 Performance Requirements:

5.1 Response Time: The System Should process transaction within 2 Seconds.

5.2 Scalability: Handle a minimum of 50,000 Concurrent transactions

6 Design Constraints:

6.1 Hardware Limitations:
- The system Should be compatible with POS machine, ATMs, mobile devices.

6.2 Software dependencies:
- Utilize a relational database for transaction Storage
- Implement a secure middleware using Java.

7. Non Functional Attributes.

7.1 Security
- Implement Strong authentication, encryption

7.2 Reliability
- Ensure 99.99% System uptime

7.3 Scalability:
- Support growing transaction values

7.4 Portability:
work across multiple Platforms.

7.5 Usability:
Provide user Friendly and Simple interface
merchants and Customers.

Preliminary Schedule and budget
- The development of the Credit card pro
System is estimated to take 8-10 mont
- with a budget of $500,000.