CREDIT CARD PROCESSING:

Credit Card Processing   23/9/24

1. **Introduction:**

1.1. Purpose of this document.
   It describes the requirements for a credit card processing system for secure and efficient card transactions. ensuring accuracy and security.

1.2. Scope of this document
   It can handle credit card payments, authorizations, and settlements. It provides fraud detection and ensures) provides security.

1.3 The system processes payments, verifies card details, and generate transaction records. It ensures the secure transfer of information b/t banks, cardholders or users.

2. **General Description:**
   The system allows merchant to accept credit card payment online and in store, ensuring security and reliability. Users can include financial institution, customers, etc.

3. **Functional Requirements:**
- Authenticate transactions b/t the card users and card issuers.
- Maintain record history.
- Process multiple transactions for efficiency.

4. **Interface Requirement:**
   - Good UI to process payments and view transactions.
   - Interface for customers to make payment and view receipts.

5. **Performance Requirement:**
   - Handle multiple transaction about 1000 transactions/per sec.
   - Autheticate within 3 seconds.

7. Non-Functional Attributes
- Security
- Reliability
- Scalability.

8. Schedule and Budget:
   - 6 months for development and deployment.
   - Budget: around some estimation for development, testing and compliance.
     - Requirement specification: $15,000
     - Design phase: $25,000
     - Development: $80,000
     - Testing phase: $20,000
     - Deployment and training: $7500
     - Post deployment: $2500

So, a total estimate of around $150000.

CREDIT CARD PROCESSING SYSTEM - CLASS DIAGRAM

Statement

+statementID: String {unique}
+issueDate: String
+totalAmountDue: Double

+generateStatement()

Transaction

+transactionID: Integer {unique}
+amount: Double
+date: Date
+status: TransactionStatus

+initiateTransaction()
+confirmTransaction()
+cancelTransaction()
+refundTransaction()

+includes   1   0..*

«enumeration»
TransactionStatus
(from Transaction)

Pending
Confirmed
Cancelled
Refunded

1

+statement

+linked

1..*   1..*   1

+transaction

CreditCard

+cardNumber: String {unique}
+cardCVV: Integer
+expiringDate: String
-balance: Double

+validateCard()
+checkBalance()
+updateBalance()

1   +participate

1   1

1..*

Customer

+customerID: Integer {unique}
+name: String
+contact: Integer
-accountBalance: Double

+makePayment()
+viewTransactions()
+requestCardReplacement()

Bank

+bankID: String
+bankName: String
+branchCode: String {unique}
+contact: String

+authorizeTransaction()
+blockCard()
+settleTransaction()

1..*   0..*

1   +has

+belongs   1