CREDIT CARD PROCESSING SYSTEM

* Problem Statement: A credit card processing System is designed to facilitate real time transacti-ons between cardholders and merchants safely. The system must authenticate card holder and verify the available funds.

* Scope: It should securely handle the credit and debit of the transactions. It must consists of cardholder authentication, easy transfer of funds. The system should also support refunds and chargebacks.

* Functional requirements:
- Cardholder Authentication: Verify identity by checking card details using methods such as PIN, CVV, OTP
- Transaction Authorization: Check the availability of funds
- Transaction Notification: Each time amount is credited or debited notification should be recieved
- Card Expiry and Renewal: Manage the expiration and renewal process
- Fraud Detection: Implement fraud detection mechanism
- Transaction History: Transaction details like date, amount and status should be maintained.

* Non Functional requirements:
- Performance: Transaction should be completed in minimal time.
- Security: Include proper security & authenticatn
- Reliability: Ensure system is available 99% with minimal downtime.

- Usability: User friendly interface must be provided
- Data Integrity: Maintain consistency and accuracy of transaction data.

* Domain Requirements:
- Transaction types: Support various types of transactions including refunds, chargebacks etc.
- Handling multiple currencies: Support transaction in multiple currencies for cross-border transactions.
- Cardholder registration & Information Management: Every cardholder registration must be handled smoothly and their information must be managed properly.

* Overview: Credit card processing system will enable merchants to accept, process & manage credit card payments. It will support multiple card networks, provide fraud detection, etc -

£ General Description:
- Transaction processing: Real-time card authorization and payment capture.
- Fraud detection: Built-in tools for identifying and preventing fraudulent activities.
- Reporting: Transaction history and financial summaries for merchants

Credit Card processing System Continuation

6. Interface requirements
- User Interface: Web and mobile interface for merchants to monitor transactions
- API Integration: Support for integrating with merchant websites and POS Systems
- Payment Gateway: Interfaces with card networks for authorization and settlement
- Database: Secure storage of transaction & customer data in compilance with PCI-DSS

7. Performance Requirements
- Processing Time: Authorization & capture within 2 secs
- Scalability: Support for handling thousands of transactions per second.
- Error Handling: Minimal error rate (less than 0.01%) during peak transactions.
- Reliability: 99.9% uptime to ensure constant availability.

8. Design constraints:
- Security compilance: Adhere to PCI-DSS and encryption protocols for Secure transaction
- Hardware / Software limitations: Must integrate with existing POS and e-commerce platforms.

10. Schedule and Budget:
- Development Time: 8 months
- Total cost: $100,000 covering System development, Security audits, and testing.
  System development - $50k
  Security audits - $30k
  Testing - $20k