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Problem Statement:
Many small and medium-sized businesses struggle to process credit card payments efficiently due to the lack of a reliable and secure credit card processing system. This often results in lost sales and dissatisfied customers. The problem is exacerbated by the ever-increasing complexity of payment regulations and the need for businesses to comply with security standards such as PCI-DSS.

Therefore, there is a need for a credit card processing system that is easy to use, secure, and compliant with the latest payment regulations and security standards. The system should be accessible to businesses of all sizes, and it should be able to handle various payment methods, including credit and debit cards, mobile payments, and e-wallets. The system should also provide real-time reporting and analytics to help businesses optimize their payment processing operations

Software Requirement Specification(SRS)

1 Introduction:

1.1 Purpose of this Document:

The purpose of a credit card processing system is to enable businesses to accept and process credit and debit card payments from their customers in a secure and efficient manner. The system must ensure that transactions are processed accurately and quickly, while also providing the necessary security measures to protect customer data.

1.2 Scope of this document

The credit card processing system will be designed to meet the needs of businesses of all sizes, from small retailers to large corporations. The system will be designed to be user-friendly and customizable to meet the specific requirements of each business.

1.3 **Overview** –

A credit card processing system is a software application that enables businesses to accept and process credit and debit card payments from their customers. The system works by capturing the card information, verifying the transaction, and transferring funds from the customer's account to the merchant's account. The credit card processing system is essential for any business that accepts electronic payments and needs to ensure secure and efficient processing of transactions.

2 General description:

The credit card processing system will be a web-based application that will allow businesses to process credit and debit card transactions securely and efficiently. The system will capture the card information and verify the transaction through a payment gateway that communicates with the issuing bank. The system will also provide real-time reporting and analytics to help businesses manage their finances and track their sales.

3 Functional Requirements:

Secure Card Data Storage: The system shall securely store customer card data in compliance with the Payment Card Industry Data Security Standard (PCI DSS).
Payment Processing: The system shall be able to process credit and debit card payments securely and efficiently through a payment gateway.
Refunds and Voiding Transactions: The system shall allow businesses to issue refunds and void transactions as needed.
Transaction Reporting: The system shall provide real-time reporting and analytics for transactions processed through the system.
Customizable Settings: The system shall allow businesses to customize their settings for card processing, including transaction fees, tax rates, and currency settings.

4 Interface Requirements:

User Interface: The system shall provide a user-friendly interface for business owners and employees to access and manage their transactions and settings.
Hardware Interface: The system shall be compatible with different hardware configurations, including desktops, laptops, tablets, and smartphones.
Software Interface: The system shall be compatible with different operating systems, including Windows, Mac OS, and Linux, and with different web browsers such as Google Chrome, Mozilla Firefox, and Microsoft Edge.

Communication Interface: The system shall use standard communication protocols such as HTTP, HTTPS, and TCP/IP for transmitting data over the internet.

5 Performance Requirements:

Response Time: The system shall provide a response time of less than 2 seconds for any user action.
Availability: The system shall be available 24/7 with a maximum of 1 hour of downtime per month for maintenance purposes.
Capacity: The system shall be able to handle a minimum of 1000 concurrent users and a minimum of 500 transactions per day.

6 Design Constraints:

Compatibility with Different Operating Systems and Devices: The system must be compatible with various operating systems, devices, and web browsers to ensure that it can be used by businesses of all sizes.
Scalability: The system must be designed to handle a large volume of transactions and users, with the ability to scale up as the business grows.
Reliability and Availability: The system must be reliable and available 24/7, with minimal downtime and quick recovery times in case of system failure.
Cost-Effective: The system must be cost-effective, with affordable pricing models that can be customized to meet the specific needs of each business.

7 Non-Functional Attributes

Security: The system shall be designed with security in mind, including measures to prevent unauthorized access and protect against hacking attempts.
Reliability: The system shall be reliable, with minimal downtime and quick recovery times in case of system failure.
Usability: The system shall be user-friendly, with a simple and intuitive interface that can be easily navigated by business owners and employees.
Scalability: The system shall be scalable, with the ability to handle a large number of transactions and users as the business grows.
Accessibility: The system shall be accessible to people with disabilities, including support for screen readers and keyboard navigation.

4 Preliminary Schedule and Budget:

The development of a credit card processing system can take several months, depending on the complexity of the project and the size of the development team. The following is a tentative schedule for the project:

Requirements Gathering: 2-4 weeks
System Design: 4-6 weeks
Development: 16-20 weeks
Testing and Quality Assurance: 4-6 weeks
Deployment and User

The budget for a credit card processing system can vary depending on several factors such as the complexity of the system, the size of the development team, and the technologies used. Here is a rough estimate of the preliminary budget for the project:

Requirements Gathering: $5,000 - $10,000
System Design: $10,000 - $20,000
Development: $50,000 - $100,000
Testing and Quality Assurance: $10,000 - $20,000
Deployment and User Training: $5,000 - $10,000
Maintenance and Support (annual): $10,000 - $20,000
Total preliminary budget: $90,000 - $180,000

Note that this is just an estimate, and the actual budget may be higher or lower depending on the specific needs and requirements of the project.