# POINT OF SALE SYSTEM FOR RETAIL STORES

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**Abstract.** The business management software to create a seller, add a product, generate a sales report, summarize sales, and handle account-related tasks, other functions, is known as a point-of-sale system. The POS system for retail stores is an automated solution designed to streamline and manage various store functions efficiently. This project provides comprehensive information about store operations, offering flexible and convenient features that enable store managers and employees to maximize their time and efficiency.

**Keywords:** POS, retail, management, system, store, employees, user

## INRODUCTION

In today's fast-paced retail environment, the importance of a Point of Sale (POS) system cannot be overstated. Retail stores are transforming from simple sales points to complex operational hubs, making an efficient POS system essential for managing resources, improving transaction accuracy, and providing seamless user services. The system offers centralized platform accessibility over the internet, allowing store employees to access and manage store resources remotely. One of the primary objectives of this POS system is to develop a reliable, convenient, and accurate tool for store operations. This project aims to facilitate the transition from manually managed stores to automated ones, making them more efficient and effective.

## PROBLEM

Retail stores are evolving from simple sales points to complex operational hubs, requiring efficient systems to handle various tasks. The challenge lies in managing products, transactions, and customer interactions accurately and swiftly. Traditional methods are often prone to errors and inefficiencies, leading to the need for a comprehensive POS system that automates key store functions, improves accuracy, and streamlines operations.

## APPROACH

This POS (Point of Sale) system for retail stores comprises two primary roles: administrator and user (cashier). On the user side, they can manage products, report transactions, handle billing, view customer information, and view product bar codes.



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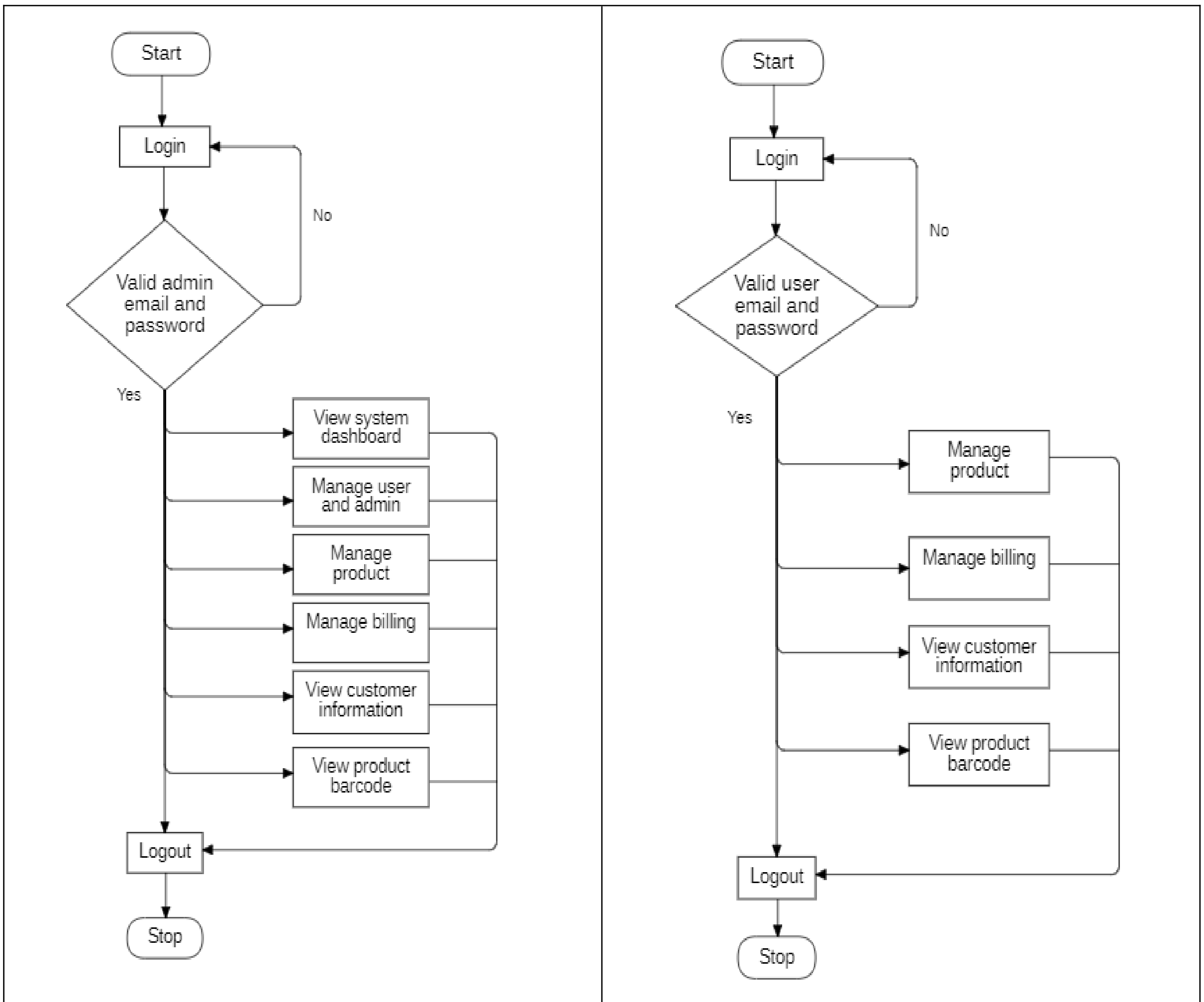
Additionally, users can switch between Myanmar and English languages for better accessibility. The system ensures that users have the necessary permissions to perform specific tasks, thereby enhancing security and operational control. The user can also generate reports and view transaction histories. Additionally, users can log out to end their session, at which point the system will stop processing their data.

On the administrator side, the admin must log in to access the system's full capabilities. Once logged in, the admin can add, view, and manage users. Admin can generate various reports to aid in business analysis and decision-making. The system dashboard is viewable only by the admin, who can use the admin panel to oversee all transactions and access detailed sales reports for insights into store performance. Admin can also manage expired products and inventory levels, ensuring that stock is replenished as needed and that there are no discrepancies between physical stock and the system records. Furthermore, the system allows administrators to generate various reports that support business analysis and decision-making, helping to identify trends and opportunities for growth. Figure 1 illustrates the system flow diagram for both user and admin interactions within the POS system.




**Admin** **Customer**

**Figure 1: System Flow Diagram**



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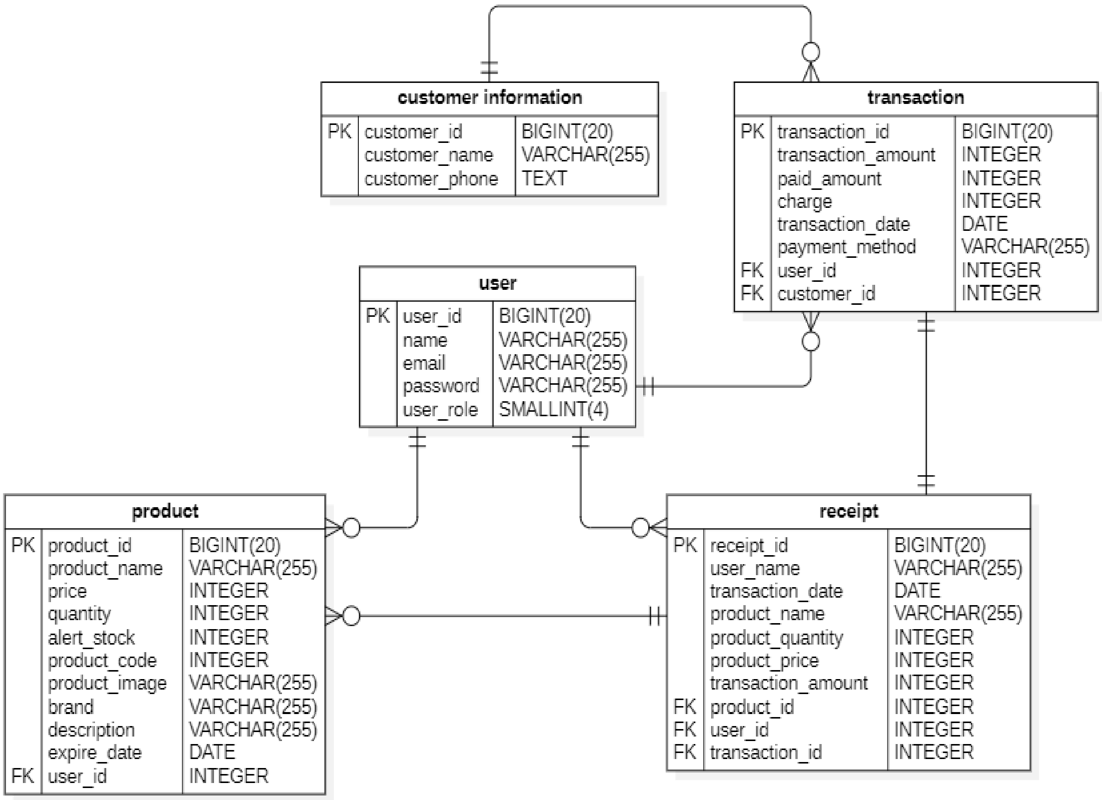


**Figure 2: Database Design**

The Entity-Relationship diagram illustrates a POS system's database structure comprising five key tables. The customer information table stores customer ID, name, and phone number, while the user table manages user credentials, including ID, name, email, and role. The transaction table records financial transactions, linking users to customers and capturing payment details. The product table contains product data, such as ID, name, price, quantity, and additional attributes. Lastly, the receipt table documents receipt details, including product information and transaction amounts, connecting it to the user, product, and transaction tables.

## RESULTS

The POS system provides a user-friendly platform that streamlines store operations and enhances the user experience. It efficiently manages inventory, transactions, and customer information while reducing paperwork and operational costs. The system's reporting capabilities offer valuable insights into store performance, aiding in strategic business decisions. Testing has ensured that the system is free of bugs, delivering reliable performance for both management and customers.



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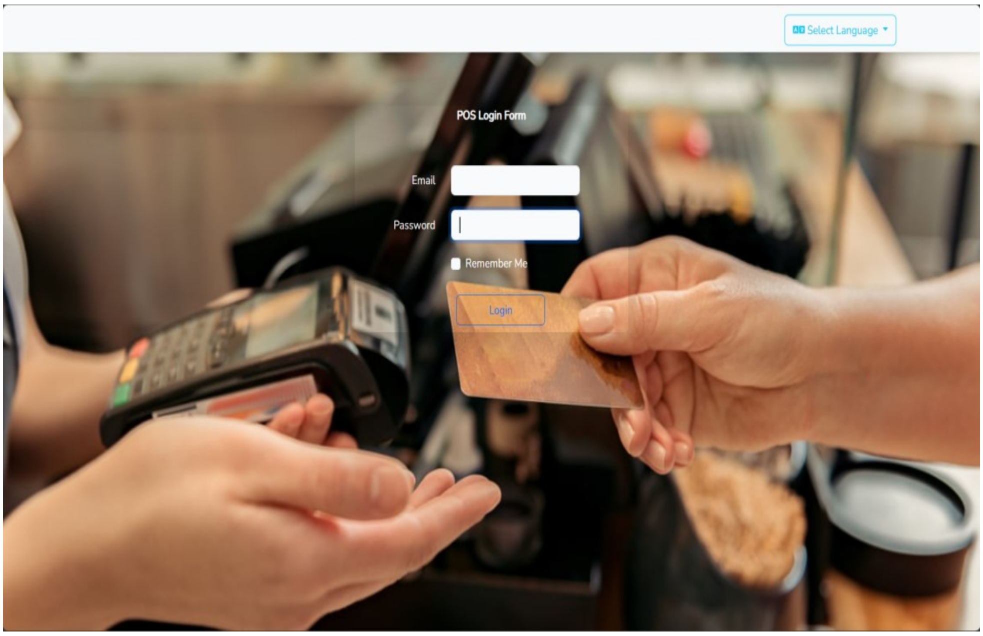


**Figure 3: Implementation of the System**

## CONCLUSION

The POS system offers numerous advantages, including improved store management, increased accuracy, and enhanced customer satisfaction. It supports promotional activities, inventory control, and customer relationship management, making it a comprehensive solution for modern retail operations. The system ultimately benefits store managers, employees, and customers alike by streamlining processes and elevating service quality, making it a crucial tool for business growth and efficiency.

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