MARKET MANAGEMENT SYSTEM

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Introduction:

A market management system plays a pivotal role in the efficient operation and growth of businesses across various industries. It serves as a comprehensive framework that facilitates the planning, execution, and evaluation of marketing strategies and activities. With its ability to streamline processes, analyze market trends, and harness valuable customer insights, a market management system empowers organizations to make informed decisions, enhance customer satisfaction, and drive revenue generation. By leveraging cutting-edge technologies and robust data analytics, businesses can gain a competitive edge in today's dynamic and fast- paced market landscape. This paragraph provides a glimpse into the significance and impact of a market management system in enabling businesses to thrive and succeed in the ever-evolving marketplace. In summary, a market management system is a game-changer for businesses aiming to thrive in today's dynamic market environment. By combining cutting-edge technologies, comprehensive data analysis, and streamlined operations, this system empowers organizations to make informed decisions, capitalize on market opportunities, and build lasting customer relationships. As the business landscape continues to evolve, investing in a robust market management system is no longer a luxury but a necessity for organizations aspiring to stay ahead of the curve and achieve sustainable success

Some Key points:

- **Importance of market management**: Highlight the significance of effective market management in today's competitive business landscape.
- **Streamlining operations:** Emphasize how a market management system helps businesses streamline their operations for improved efficiency.
- **Optimization of strategies:** Discuss how the system enables businesses to optimize their strategies by providing valuable insights into market trends and customer preferences.
- **Integration of functionalities:** Explain that a market management system integrates various functionalities such as data analysis, customer relationship management, and inventory management.

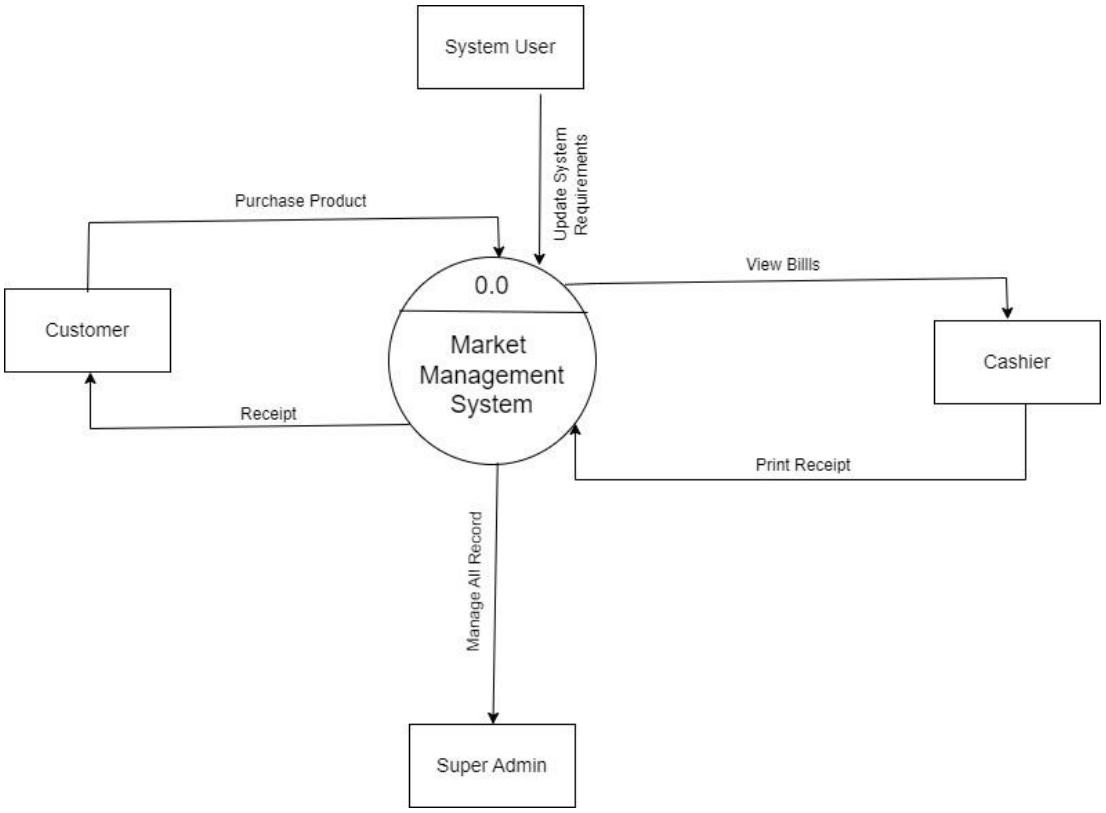
- **Insights and decision-making:** Highlight how the system enables businesses to gain insights into sales, inventory, and customer behavior, facilitating informed decision-making.
- **Efficiency and profitability:** Illustrate how the system improves efficiency and ultimately maximizes profitability for businesses.
- **Necessity in the market:** Emphasize that investing in a robust market management system is not just an option but a necessity for businesses to thrive in the rapidly evolving market.

Data Flow Diagrams:

Zero-Level DFD

At the zero-level of a DFD for a market management system, the diagram provides an overview of the system's major components and their interactions. The diagram includes three primary entities: the Market Management System, the Data Sources, and the Users

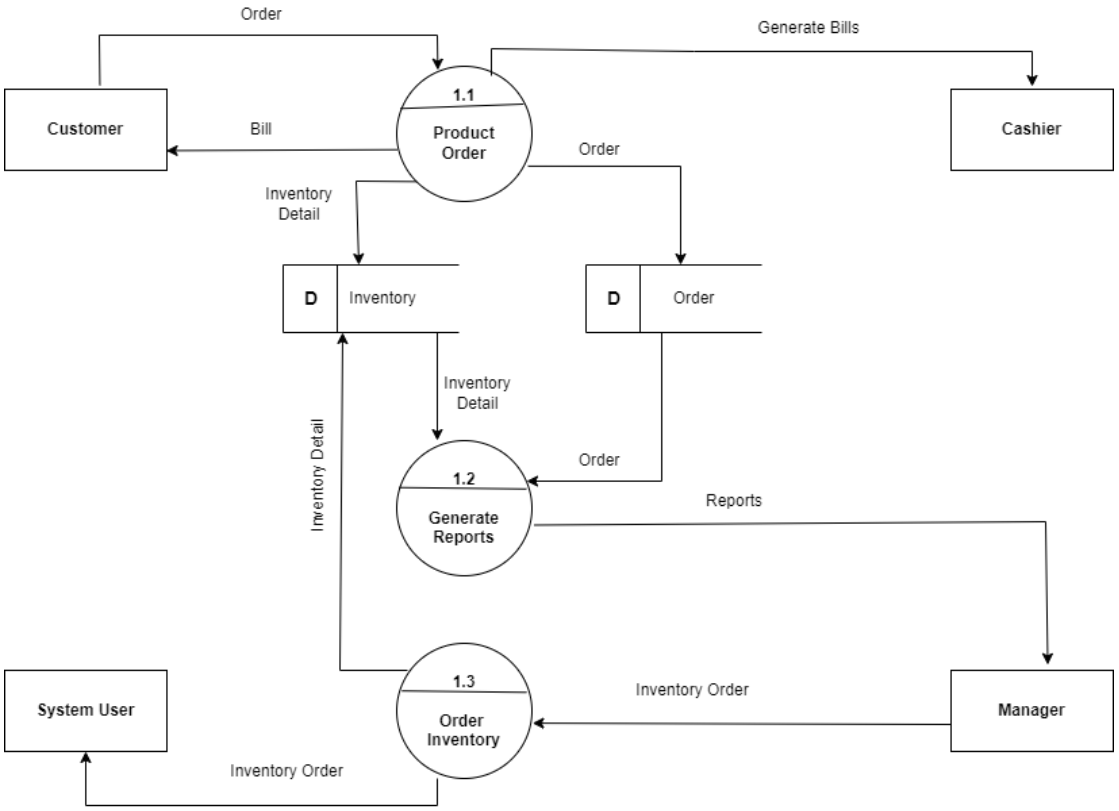
Diagram



One-Level DFD:

The Level 1 DFD provides a more detailed view of the market management system, breaking down the processes and data flows identified in the Level 0 DFD. It expands on the key processes and data stores involved in the system.

Diagram:



Functional & Non-Functional Requirements:

Functional Requirements:

Functional requirements describe the specific features, capabilities, and behaviors that a system or software must possess to fulfill its intended purpose .Some Important functional requirements of Market Management System are Shown in below.

- Market Analysis.
- Campaign Planning and Execution.
- Lead Generation and Management.
- Customer Relationship Management (CRM).
- Sales and Revenue Tracking.
- Competitive Analysis

Non-Functional Requirements:

Non-functional requirements define the qualities, characteristics, and constraints that the system must possess or adhere to Some Important non-functional requirements of Market Management System are Shown in below.

- Integration.
- Scalability.
- Security.
- Usability and User Experience.
- Reliability and Availability.
- Performance.

Use Case Diagram:

List of Actors in MMS

Four main Actor Work on Market Management System.

- Super Admin.
- System User.
- Customer
- Cashier.

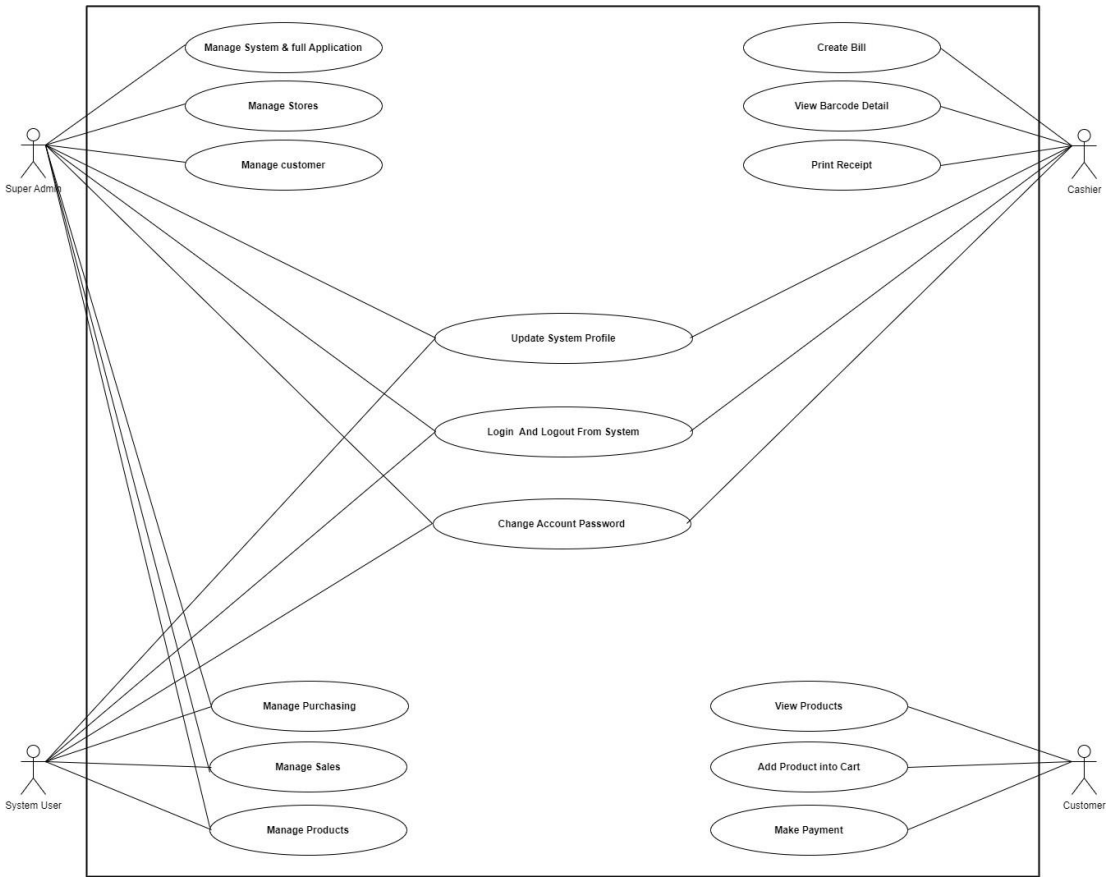
Super Admin: The main work of super admin is to control all the managements, Applications & System updating.

System User: He has a same work as super admin but he can't control all application as super admin.

Customer: He is a most important factor of the system which can view products, add them into Cart & make payment.

Cashier: Cashier can create the bills, print receipt, view Barcode detail and also manage system account.

Use Case Diagram:

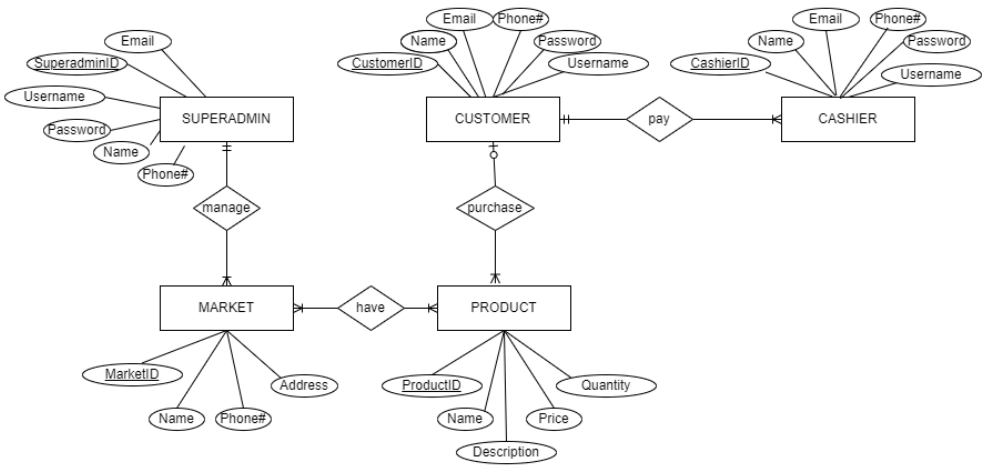


Entity Types and Attributes

- **SUPERADMIN:** SuperAdmin-id, Name,Email,Username,Passowrd,Phone#
- **CUSTOMER:** Cutomer-id,Name,Email,Username,Passowrd,Phone#
- **CASHIER:** Cashier-id,Name,Email,Username,Passowrd,Phone#
- **Market:** Market-id,Name,Address, Phone#
- **PRODUCT:** Product-id,Name,Description,Price,Quality

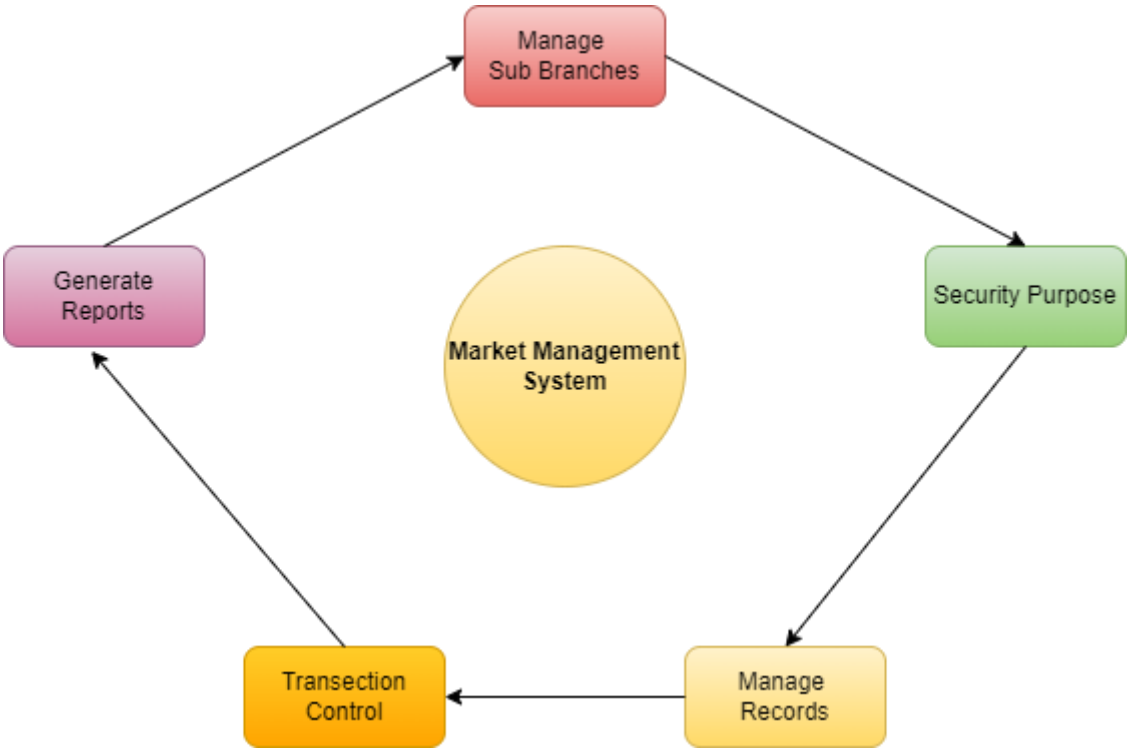
Relationships

- **Manage:** It is a relationship between **SUPERADMIN** and **MARKET**.
    - From SUPERADMIN to MARKET is mandatory many.
    - From MARKET to SUPERADMIN is mandatory one.
- **have:** It is a relationship between **MARKET** and **PRODUCT**.
    - From MARKET to PRODUCT is mandatory many.
    - From PRODUCT to MARKET is mandatory many.
- **purchase:** It is a relationship between **PRODUCT** and **CUSTOMER**.
    - From PRODUCT to CUSTOMER is mandatory one.
    - From CUSTOMER to PRODUCT is mandatory many.
- **pay:** It is a relationship between **CUSTOMER** and **CASHIER**.
    - From CASHIER to STAFF is mandatory one.
    - From STAFF to CASHIER is mandatory many.
- **Have:** It is a relationship between **STUDENT** and **ISSUE**.
    - From STUDENT to ISSUE is mandatory many.
    - From ISSUE to STUDENT is mandatory many.



Software Requirements Specification

The Market Management System is a web-based application designed to enhance the process of Manage the record of Market. The Market Management System is an innovative and robust software solution designed to streamline and optimize various aspects of market operations. It serves as a powerful platform for businesses and market administrators to efficiently manage products, inventory, pricing, orders, and reporting. The SRS diagram of MMS is as follow:



Description: -

Manage Sub Branches:

The system should have a centralized dashboard where an administrators can access information and perform actions related to each branches, such as adding new branches, updating branches details , and monitoring branch-specific data.

Security Purpose

A Market Management System can implement various security measures to ensure the confidentiality, integrity, and availability of data and functionality. Here are several ways in which a Market Management System can perform security purposes:

- Authentication and Authorization.
- Data Encryption etc.

Manage Records:

A Market Management System efficiently manages records through a structured approach that encompasses data capture, categorization, storage, and retrieval. By employing a robust database management system, the system ensures the secure organization of records, facilitating easy access and updates.

Transection Control:

A Market Management System effectively performs transaction control by implementing a set of measures that ensure secure and accurate financial interactions. Through robust authentication protocols, users are authenticated before conducting transactions, safeguarding against unauthorized access.

Generate Reports :

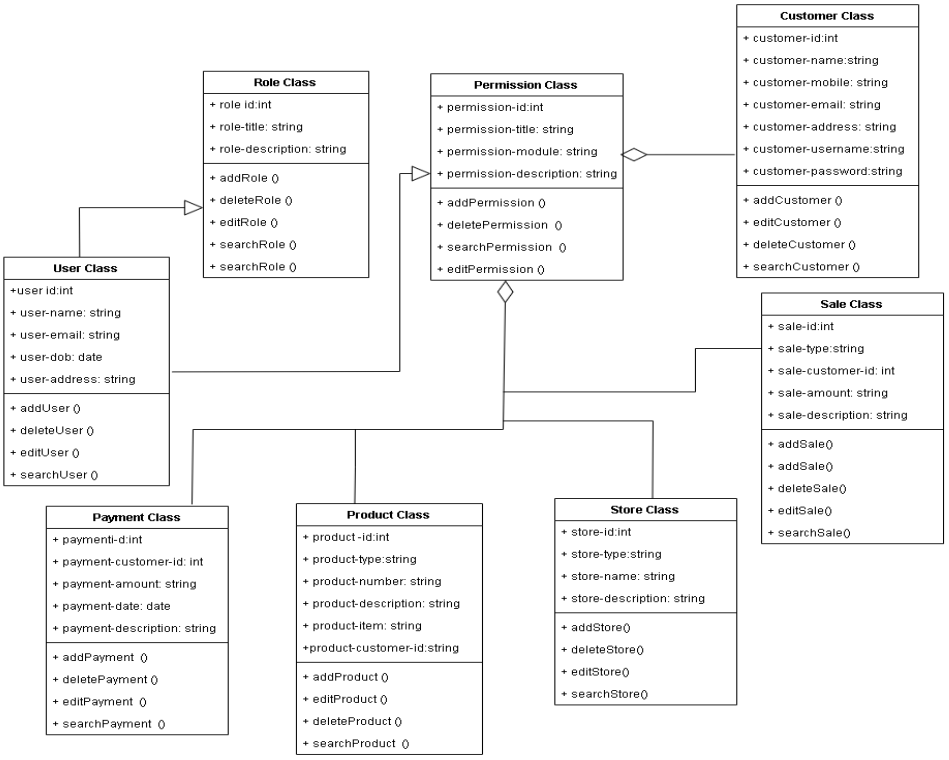
A Market Management System efficiently generates reports by utilizing its data-rich environment. Through systematic data collection and analysis, the system compiles valuable insights into market trends, sales, and inventory.

Class Diagram of Market Management System

The class diagram for a comprehensive Market Management System involves several essential classes that collectively streamline various aspects of the system's functionality.

- **User**: The User class is pivotal, representing individuals interacting with the system. It encompasses attributes like user-id, user-name, user-email, user-address and user-dob, with relationships to roles and permissions to regulate access control.
- **Role**: Roles define user categories within the system, such as admin, cashier, or customer service. They contain attributes specifying role-title, role-description and are linked to permissions, determining the actions users with that role can perform.
- **Permission**: Permissions dictate the specific actions or operations that users can execute. These can range from managing products to processing payments.

- **Customer**: The Customer class encapsulates details about market patrons. It includes customer-id, name, contact information, email, address and a history of purchases. Customers can be associated with user accounts for online services.
- **Product**: Product class represents the items available for sale in the market. It comprises attributes such as product-id, type, number and description.
- **Store**: This class encapsulates information about physical stores within the market management system, including store-id, type, name and operating hours. It may relate to products to specify which items are available at which store.
- **Payment**: Payment details are managed within the Payment class. It includes attributes like payment-id, amount, date, description each payment with a specific sale transaction.
- **Sale**: The Sale class handles the transactional aspect of purchases made by customers. It contains attributes like sale-id, date, total amount, and description. Sales are linked to customers, products, and payments.



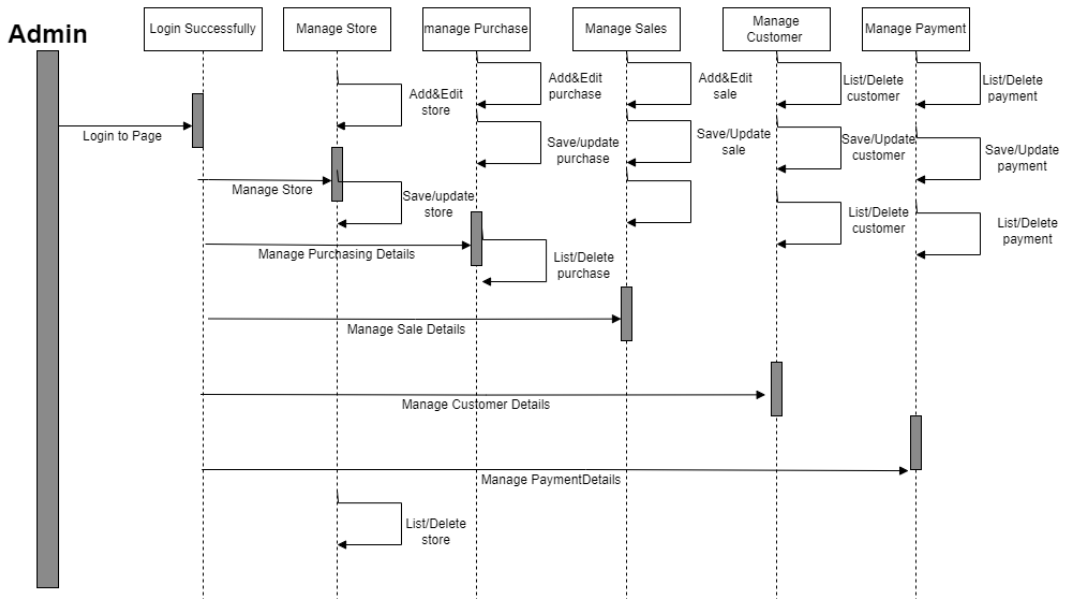
Sequence Diagram of Market Management System

Within the Market Management System, Sequence Diagrams play a pivotal role in illustrating the dynamic interactions and processes between various system components.

- **Login:** The "Login" sequence diagram depicts how the Admin logs into the system. It involves authentication, authorization, and session management to ensure secure access to administrative features.

- **Manage Store:** In the "Manage Store" sequence diagram, the Admin, typically the main person in charge, initiates interactions. They may add or update store information, which triggers actions like database updates and notifications to relevant personnel.
- **Manage Purchase:** When a customer initiates a purchase, the "Manage Purchase" sequence diagram comes into play. It demonstrates the steps involved in selecting products, adding them to the shopping cart, and proceeding to checkout. Payment processing and inventory updates are integral here.
- **Manage Sales:** The "Manage Sales" sequence diagram captures the lifecycle of a sale. It begins when a customer confirms their order and proceeds to payment. Once payment is approved, the system generates a sales record, deducts products from inventory, and may trigger notifications for store personnel.

- **Manage Customer:** Within the "Manage Customer" sequence diagram, the Admin or the customer interacts with the system to create or update customer profiles. This may include details like name, contact information, and preferences, ensuring a personalized shopping experience.
- **Manage Payment:** Payment processing is a crucial aspect, and the "Manage Payment" sequence diagram outlines the steps involved in securely processing payments. It includes interactions with payment gateways, confirmation, and updating payment records.



Work Breakdown Structure of Market Management System

Project Initiation

- Define Project Scope
- Set Objectives and Goals
- Identify Stakeholders
- Create Project Plan

Requirement Analysis

- Gather User Requirements
- Define Functional Requirements
- Define Non-functional Requirements

System Design

- Design User Interface
- Database Design
- Architectural Design
- Security Design

Development

- Front-end Development
- Back-end Development
- Database Implementation
- User Authentication System

Testing

- Unit Testing
- Integration Testing
- System Testing