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# **Software Requirements Specification For**

# **Supermarket Management System**

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**Submitted as [SRS Document]**

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# 1. Introduction

## 1.1. Purpose:

This SRS describes detailed functional requirements for the version [v.1.0] of the supermarket management system software. This software is designed to automate the processes of selling items, management, and maintenance of the inventory, and continuously analyzing the sales. The goal of this software is to facilitate the process of managing the supermarket and control all odds that may occur.

## 1.2. Scope

The scope of this document would be restricted to small supermarkets only, those who have only one main branch and doesn't have external warehouses

The scope of the software functionalities will be as follows:

- The user shall be able to maintain the supermarket's inventory
- The user shall be able to sell or return an item(s)
- The user shall be able to print receipt of transactions
- The user shall be able to follow up with items sales.

## 1.3. Definitions, Acronyms, and Abbreviations

<b>Cart</b>	List of all added items (name, quantity, price)
<b>Transaction</b>	Process of selling items, has an ID, and contains information that is in the cart
<b>Invoice</b>	The receipt that is to be printed after completing the transaction, contains transaction ID and information that is in the cart

## **2. Specific Requirements**

### **2.1. Functionality**

#### **2.1.1. Login**

- 2.1.1.1. The cashier shall enter the username and password to login
- 2.1.1.2. Password Authorization
  - 2.1.1.2.1. Password incorrect
    - 2.1.1.2.1.1. The system shall display “wrong password!” message
    - 2.1.1.2.1.2. The cashier shall click “forgot my password” button to send the forgotten password to associated phone number in SMS
    - 2.1.1.2.1.3. The cashier shall enter the password sent to login

#### **2.1.2. Inventory**

- 2.1.2.1. The system shall display a list of all items provided by the supermarket
- 2.1.2.2. The system shall display the name, price, barcode number and quantity of each item
- 2.1.2.3. The system shall mark each item that have less than 30 in quantity
  - 2.1.2.3.1. The cashier shall generate a report of all the marked items (shortfalls report)
  - 2.1.2.3.2. The cashier shall print the report
- 2.1.2.4. The cashier shall edit the price and quantity of each item

#### **2.1.3. Make transaction**

##### **2.1.3.1. Sell item(s)**

- 2.1.3.1.1. The cashier shall scan items to add them to cart
- 2.1.3.1.2. The system shall display name, price, quantity, barcode number of each item in cart
- 2.1.3.1.3. The system shall calculate the total price of items in cart and update it each time another item is scanned
  - 2.1.3.1.3.1. The cashier shall edit quantities of items added
- 2.1.3.1.4. Checkout
  - 2.1.3.1.4.1. The cashier shall click “Checkout” button to generate unique 20-digit numeric transaction ID and generate invoice
    - 2.1.3.1.4.1.1. The system shall include the name, quantity and price of each item, along with the transaction ID and the total in the invoice
  - 2.1.3.1.4.2. The system shall store the transaction ID along with the transaction details (name, price, quantity of each item, cashier username, and total)

- 2.1.3.1.4.3. The system shall remove cart's Items quantities from inventory
- 2.1.3.1.4.4. The system shall print invoice.

### **2.1.3.2. Return item(s)**

- 2.1.3.2.1. The cashier shall retrieve transaction details by transaction ID
- 2.1.3.2.2. The cashier shall select items to be returned from the transaction items
- 2.1.3.2.3. The system shall calculate and update the total to be returned each time an item is selected
- 2.1.3.2.4. The cashier shall click "Checkout" to add quantities of selected items to inventory
  - 2.1.3.2.4.1. The system shall print "Return" receipt that includes (name, quantity, price) of each returned item along with the total cash to be returned.

### **2.1.4. Manage profiles**

- 2.1.4.1. The system shall display the profiles of the staff to the manager.
- 2.1.4.2. The manager shall view the information of each profile (phone number, email, full name, salary, working hours, username and password of login)
- 2.1.4.3. The manager shall create or delete profiles
- 2.1.4.4. The manager shall update profiles information

### **2.1.5. Analyze Sales**

- 2.1.5.1. The manager shall generate "sales" report
  - 2.1.5.1.1. The system shall sort items in descending order according to their total purchase count and display each item name along with its corresponding total purchase count to manager
  - 2.1.5.1.2. The system shall group the highest 20 items of purchase count in "best-selling" category
- 2.1.5.2. The manager shall print "sales" report

## **2.2. Usability**

- 2.2.1. The system shall provide a user-friendly interface
- 2.2.2. The users of the system shall not do more than 2 mistakes after training for 2 hours

## **2.3. Performance**

- 2.3.1. The system shall not exceed 5 seconds when processing a transaction
- 2.3.2. The system performance shall not depend on system hardware

## **2.4. Availability**

- 2.4.1. *The system must be available to users in 99% of the time every month*

## **2.5. Compatibility**

- 2.5.1. The system must be compatible with windows 7 or higher operating systems

### 3. System Models

#### 3.1. Activity Diagrams

##### 3.1.1. Login

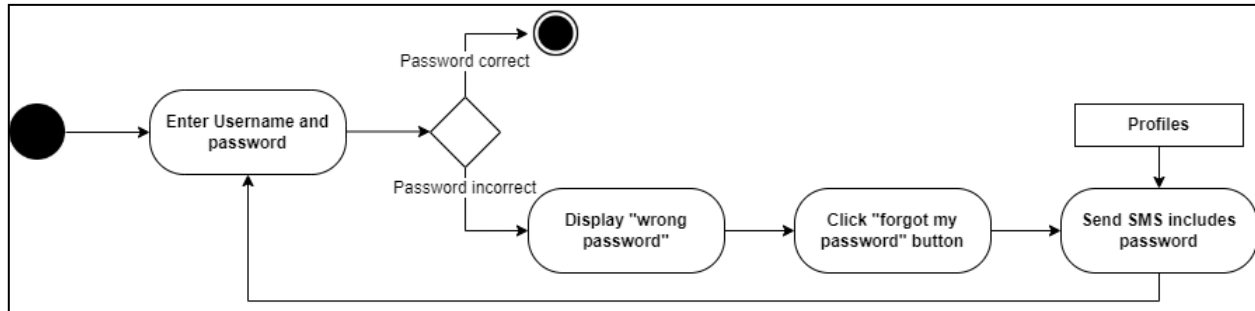


Figure 1: Login Activity Diagram

##### 3.1.2. Make Transaction

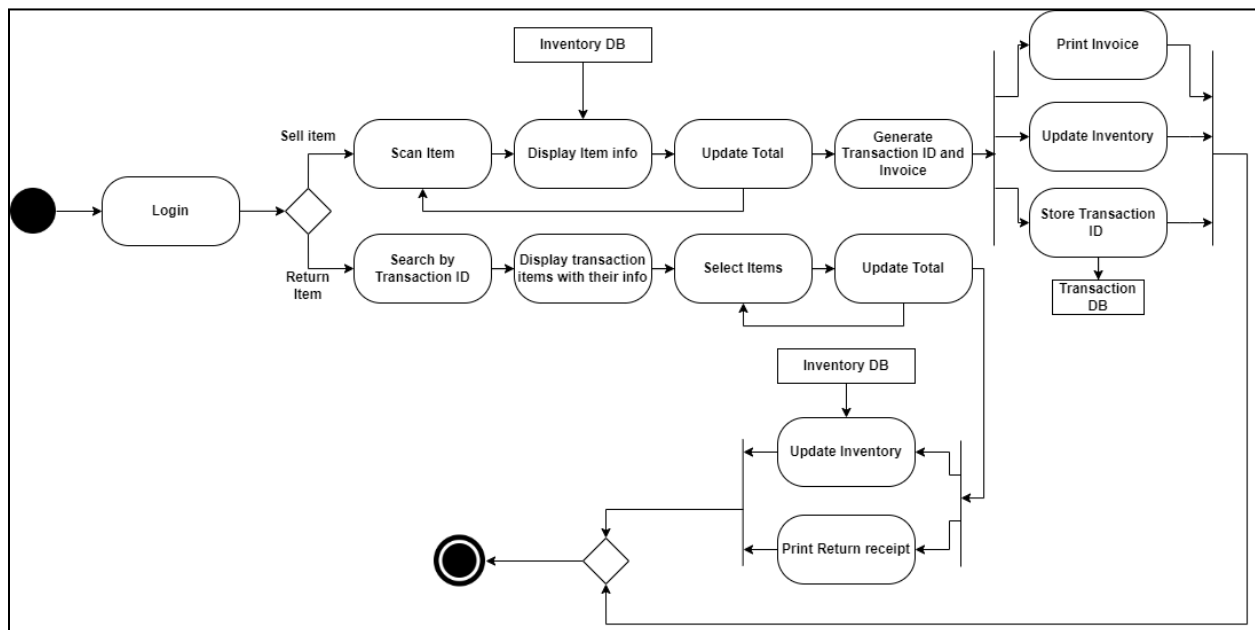


Figure 2: Make Transaction Activity Diagram



### 3.2. Use case (All Actors)

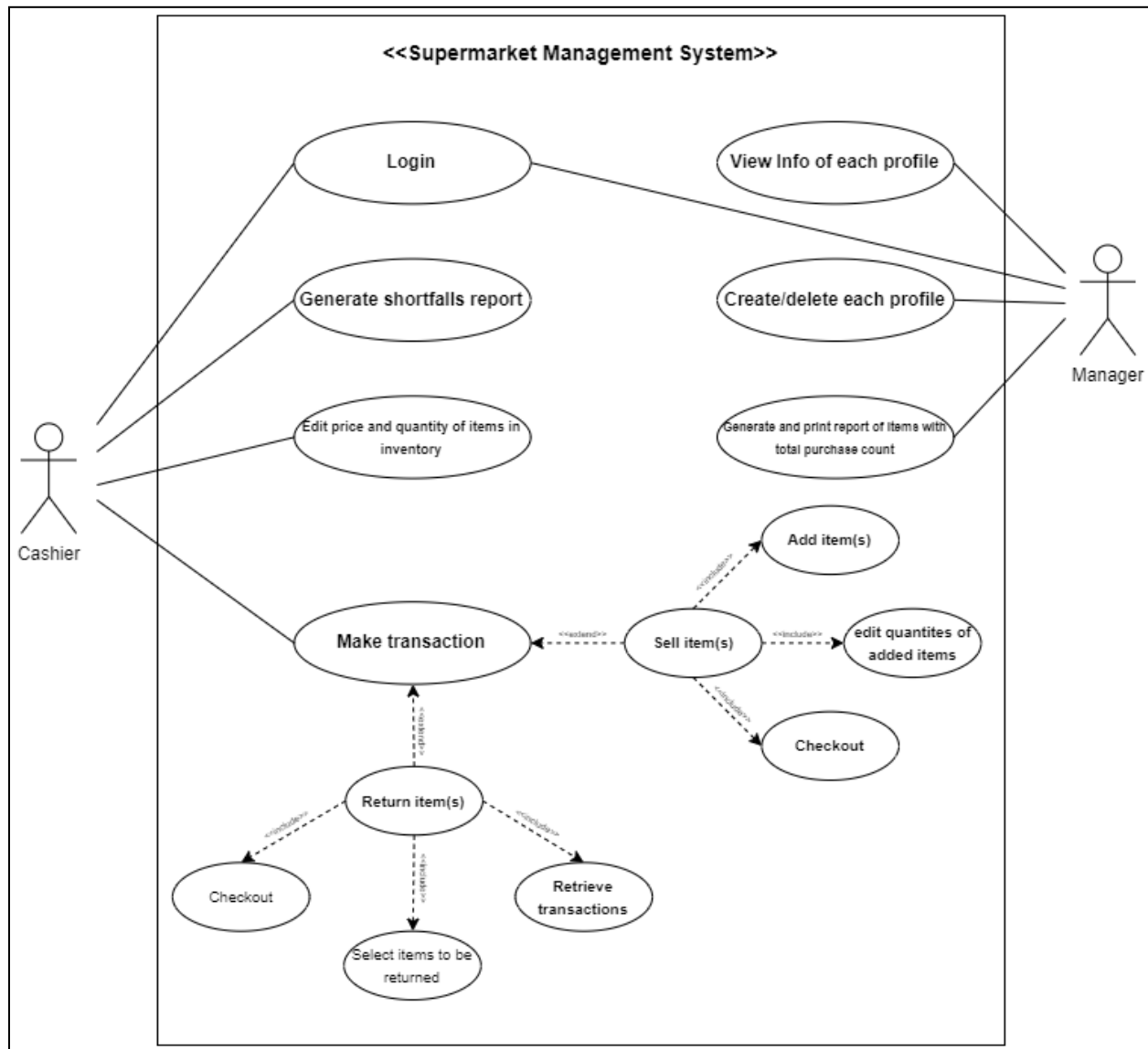


Figure 3: Use Case Diagram For All Actors

### 3.3. Sequence

#### 3.3.1. Login

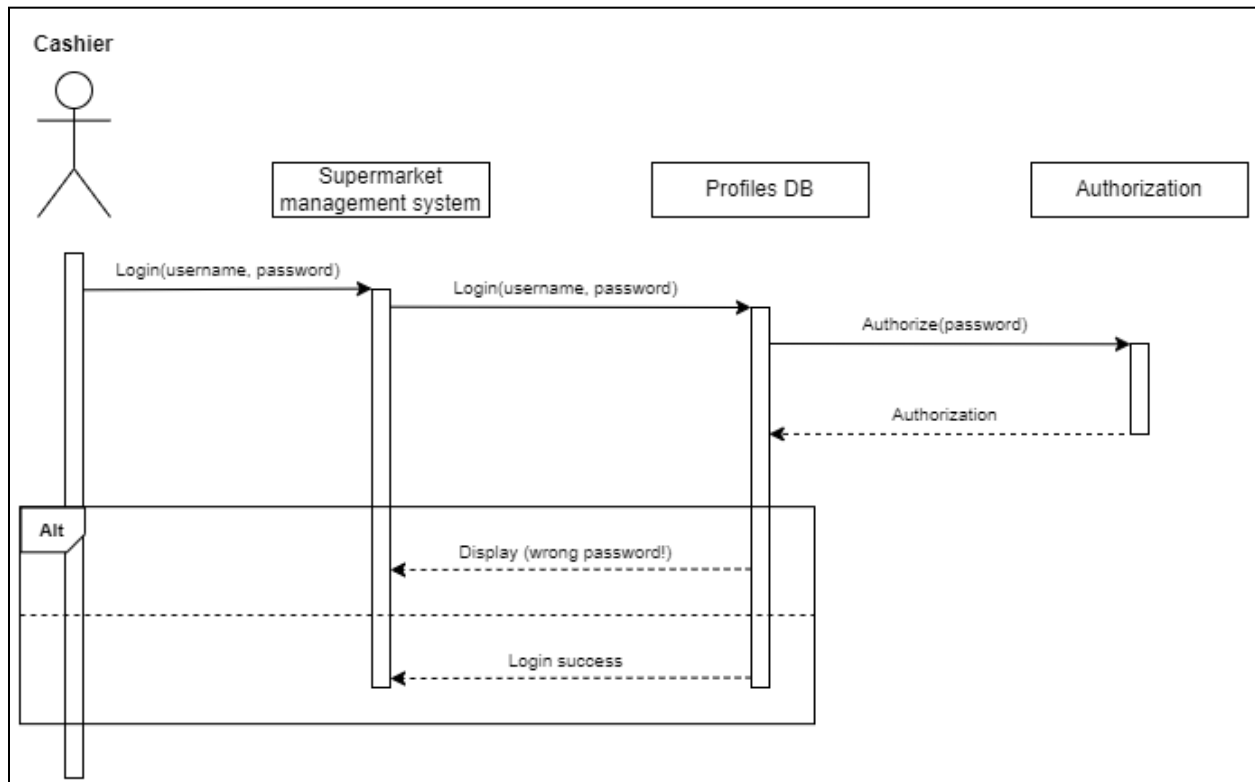


Figure 4: Login Sequence Diagram

### 3.3.2. Add Item

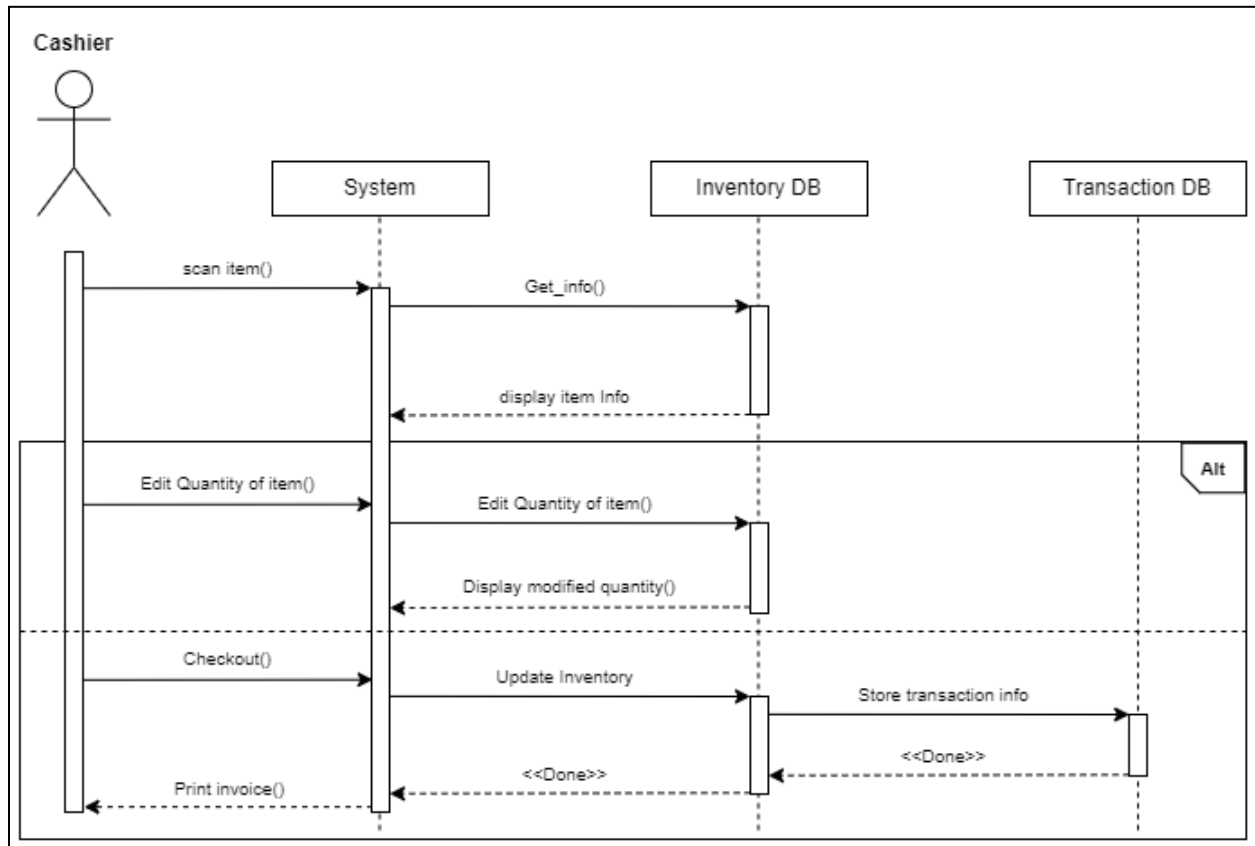


Figure 5: Add Item Sequence Diagram

### 3.3.3. Print Sales Report

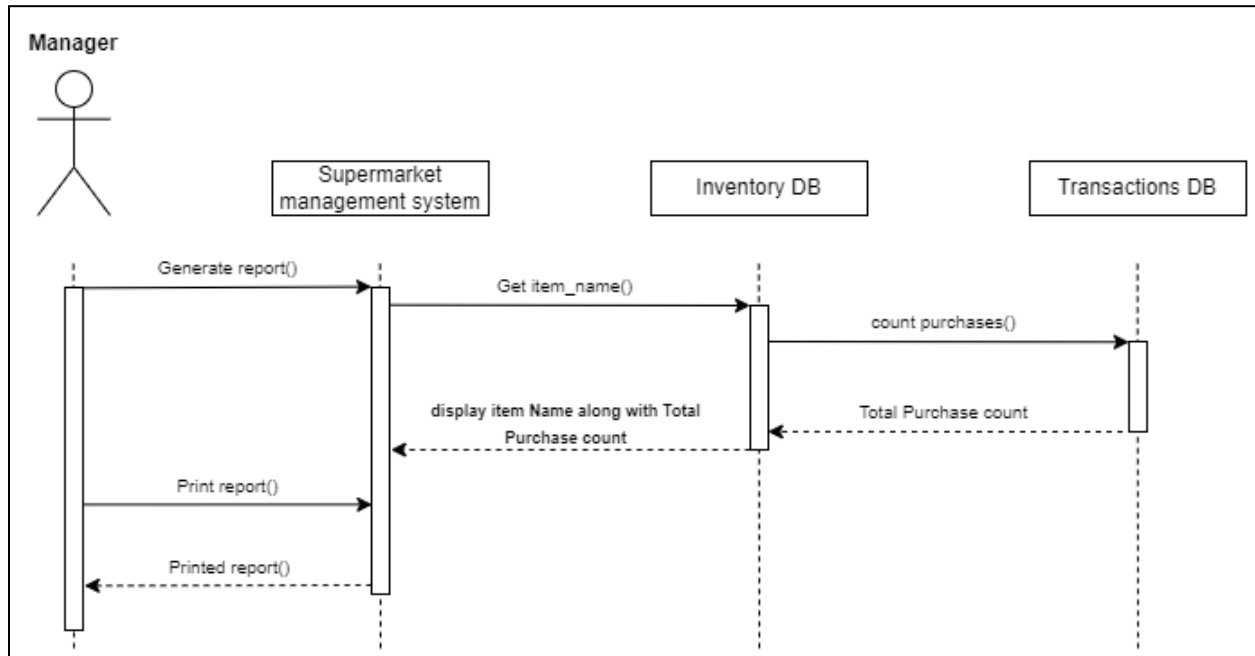


Figure 6: Print Sales Report Sequence Diagram

## 3.4. State

### 3.4.1. Login

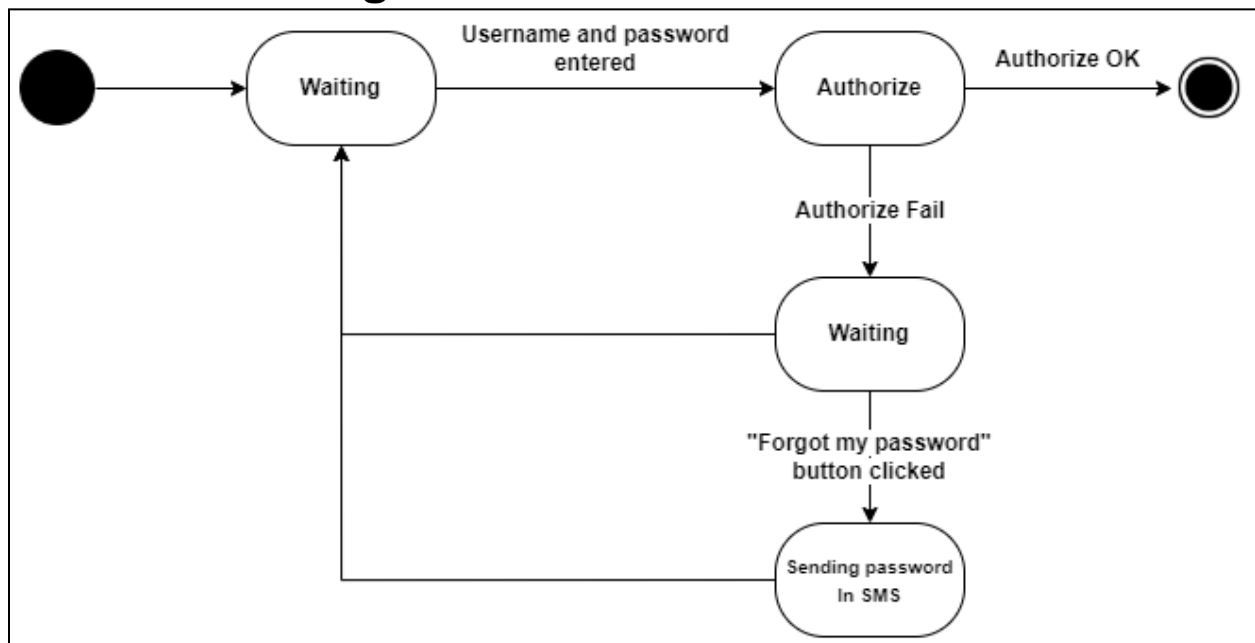


Figure 7: Login State Diagram

### 3.4.2. Add Item

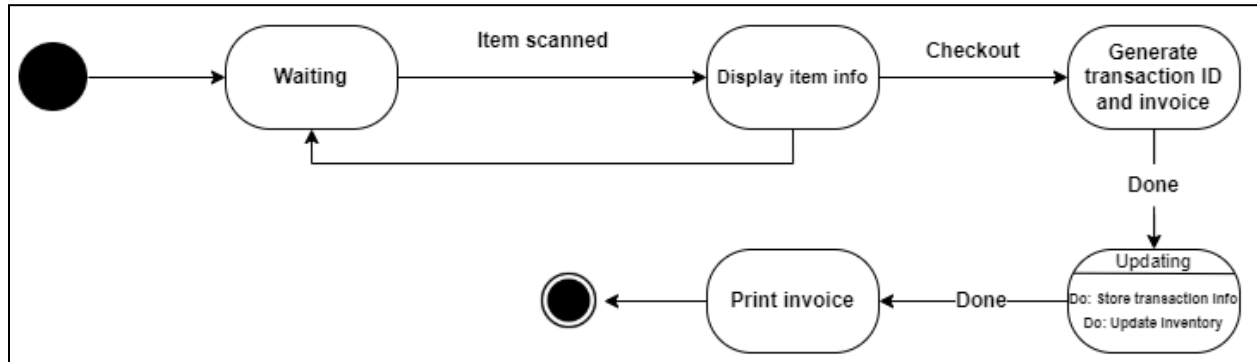


Figure 8: Add Item State Diagram

### 3.4.3. Print Sales Report

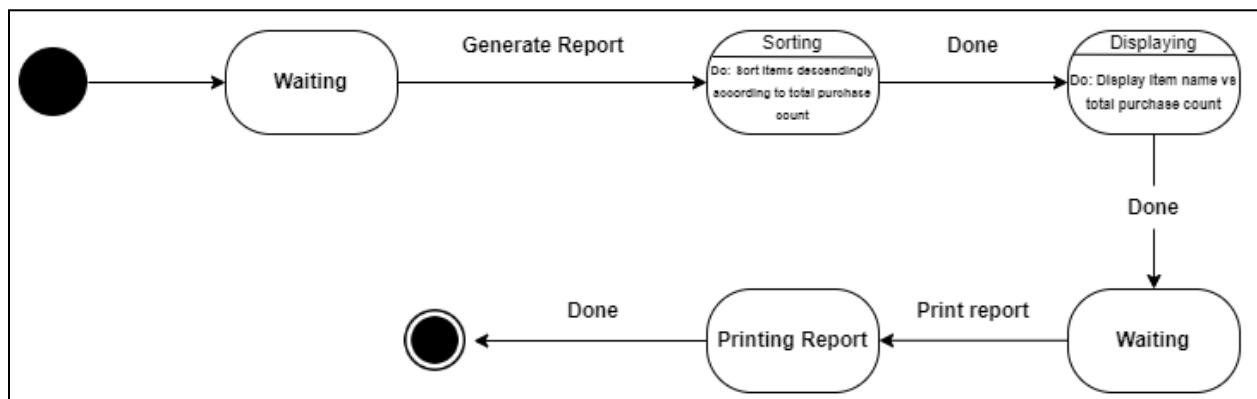


Figure 9: Print Sales Report State Diagram

### 3.5. Class

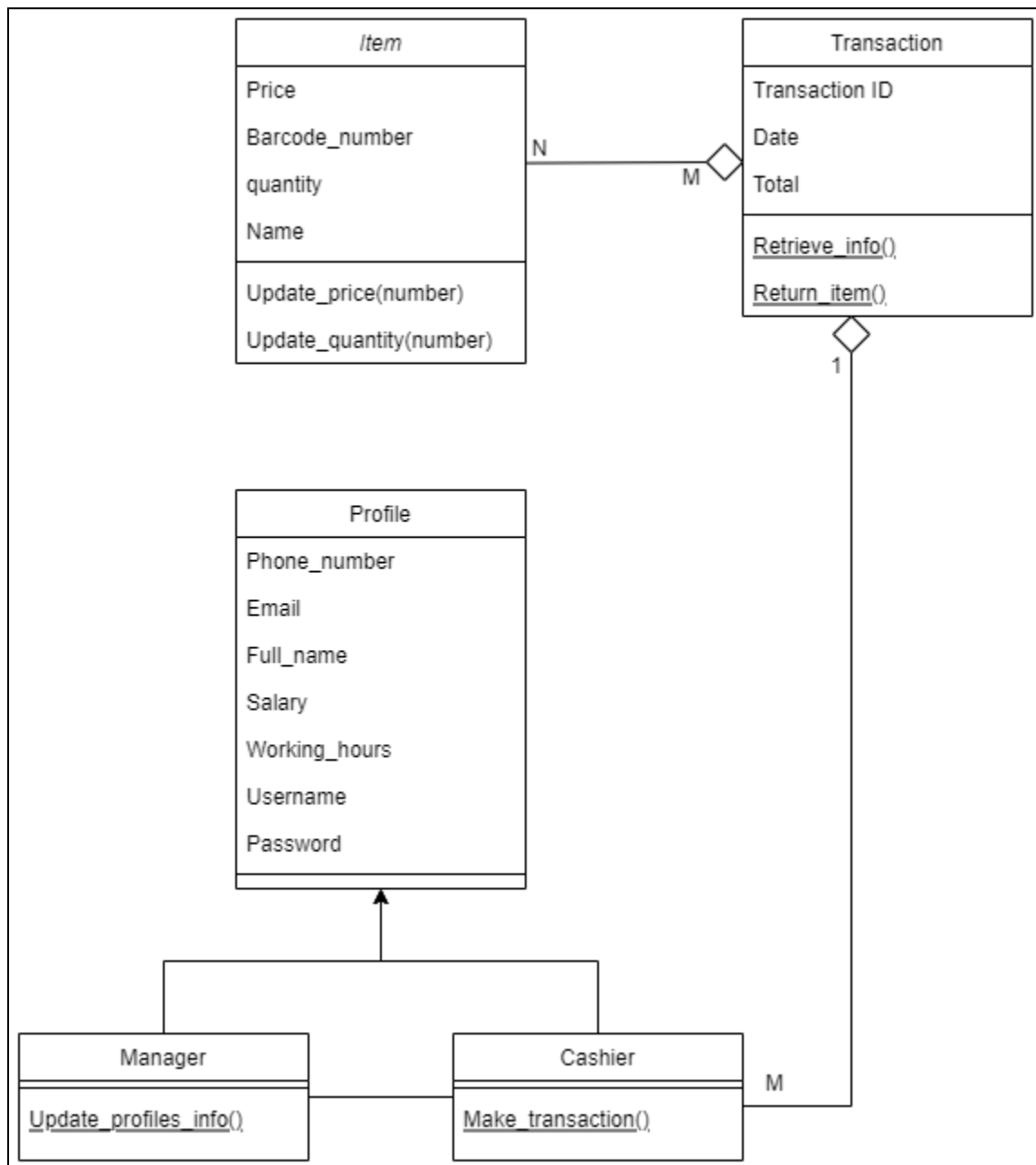


Figure 10: Class Diagram