Title of the Project: Shop Management System

Group Number: 09
Group Name: Amigos

Group Members:

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Introduction

In the traditional shop, there are absences of appropriate systems and information infrastructure, shops are finding it difficult to achieve smooth and efficient materials planning and execution due to the following information-based limitations. To reduce this problem, we came up with the idea of a Shop management system. The aim is to automate its existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same Basically the project describes the goods information of their efficiency cost. By using our software, A shop owner can store and sell his/her product to/from the shop. The software will handle the procedure needed to store, sell, profit loss calculation, store records of sale and store of products. Furthermore, the system will keep track of the regular or particular customer and give them special voucher or membership discount on their purchase.

Motivation

Shop Management must be designed to meet the dictates of the market place and support the company's Strategic Plan. The many changes in the market demand, new opportunities in marketing and new manufacturing technology means shop owners need to change their shop Management approach and change the process for shop Control. Our goal is to give the shop owner a better experience by ensuring the following facilities:

- To maintain a shop's transaction in the Computerized System.
- To give a shop owner a better facility.
- To analyze several parts of business.
- To inform the owner about the storage of product.

System Description

Project sponsor: Md. Istiaq Shams, marketing head of sky development ltd.

Business Need:

This project has been initiated to help out the shop owner to keep the record of his shop profit/loss and details about the product stocks. It will also control operating costs and provide better understanding. So, by using this software the shop owner will increase the sales of his shop.

Business Requirements:

Using the Software, the shop owner should be able to know about the stock of the products so that he can easily preorder the products which are running out, and also help to know which product has a high selling rate. The software should ensure the functionality discussed below:

- By using this software, the shop owner can store and sell his product to/from the shop.
- The software will handle the procedure needed to store, sell and profit loss calculation.
- It also stores records of sale and store of products.
- The owner should be informed by the software about the storage of the product
- This software helps to create invoices so that each and every transaction is being recorded in a computerized system.
- The software will identify the high selling l and low selling products by the selling information and stock.

Business Value:

We believe that our software will help a shop owner to increase his profit by increasing the sales with reducing lost sales due to out-of-stock or non-stocked items and. Furthermore, it will also compute a Summary Tab of selling: Total consumer in a day, Total Selling Amount, Maximum Sold Item & it's amount, Most Item Seller & Transaction, Managing Vendors, Managing Items, Managing Seller Information Features, Purchasing Items, Stock Monitor of Items, Warning List Monitor, Manage Warning List, Daily Status Checker, Monthly Status Checker Features.

The estimation of tangible value to the shop include:

- $8500 in sales from customers not facing "out-of-stock or non-stocked" items.
- $5000 in sales from identifying the low selling rate products.

Special issues or Constraints:

- There might be some management limitations. You may need to train your employer to get used to this software or you may need to hire a trained and experienced employer to use this software.
- Hardware limitations can be an issue. You may need to purchase devices which meet the minimum requirements to run the software.

Requirement analysis

Functional Requirements

1. Log In

1.1. The System asked for some information to log in the system.

1.2. The System holds all the details of all the employees who are working in the organization.

1.3. It allows admin to manage two types of users, hold their details, authenticate these users at the time of login and accordingly provide different options.

2. Sale process

2.1. Allow users to scan items each customer purchases. The system displays the item description and processes the total sales and generates receipts for the customers.

3. Inventory Level Tracking

3.1. Administrator able to track each item's inventory level according to the sales made.

3.2. It holds the details of all the shops which are part of our organization.

3.3. It holds the details of all Product Stocks held in the shop of the company.

3.4. The system allows the shop manager to log into the system and enter their Inwards entries related to their shop.

3.5. It also allows them to view the list of inward entries.

3.6. The system allows the shop manager to log into the system and enter their Outward entries and their purpose related to their shop.

3.7. It also allows them to view the list of Outward entries.

3.8. The system allows the shop manager to enter stock return entries and the reason for return.

4. Database Update

4.1. Allow admin to update the data from the inventory in the database that will be used to process the sale.

4.2. An inward entry should be entered in the database whenever stock comes into the shop. That is the number of items should be updated automatically.

4.3. Whenever an inwards entry is entered then accordingly the stock number will be automatically updated.

4.4. An outward entry should be entered in the database whenever stock goes out into the shop. That is the number of items should be updated automatically.

4.5. Whenever an outward entry is entered then accordingly the stock number will be automatically updated.

4.6. A return entry should be entered in the database whenever stock returned into the shop. That is the number of items should be updated automatically.

4.7. Whenever a return entry is entered then accordingly the stock number will be automatically updated if the reason is order cancelled otherwise It need not update the stock.

5. Generate report

5.1. Reports will be generated on the store's daily, weekly and monthly sales so that the owner can view the company's performance and take appropriate action.

5.2. It allows the admin to generate shop details reports.

5.3. It allows the admin to generate inward details reports.

5.4. It allows the admin to generate outward details reports.

5.5. It allows the admin to generate stock statement reports.

6. Payment system

6.1. Payment system will have multiple options. Mobile banking and card payment systems will be added so that users can accept multiple ways of payment method.

6.2. It will print out the money receipts.

6.3. It will also offer a membership card if a customer purchases a fixed number of groceries from the shop and that amount can be fixed by the shop admin.

Non-functional Requirements

1. Operational

1.1. The system should be available over the intranet so that the users like the shop managers & clerks can use the system from their respective locations which could be anywhere in the organization.

1.2. The system should be easy to understand and organized in a structured way.

1.3. The users should also receive feedback about any errors that occur.

2. Performance

2.1. Acceptable response times for system functionality.

2.2. The system should display a user-friendly menu for users to choose from.

2.3. The system should display shop ID and item to be selected from the popup list in the forms.

2.4. The graphical user interface of the system should be easily understood by the user (have consistent look and feel graphical user interface).

2.5. Services of the system should be available 24 hours a day.

2.6. The system should be designed in such a way that it is easy to enhance it with more functionality. It should be scalable & easily maintainable.

3. Security

3.1. For gaining entry into the system the admin should register user info and the user should be able login by using email & passwords.

3.2. The users should be able to change their passwords for increased security.

3.3. Data integrity should be maintained if an error occurs or the whole system comes down.

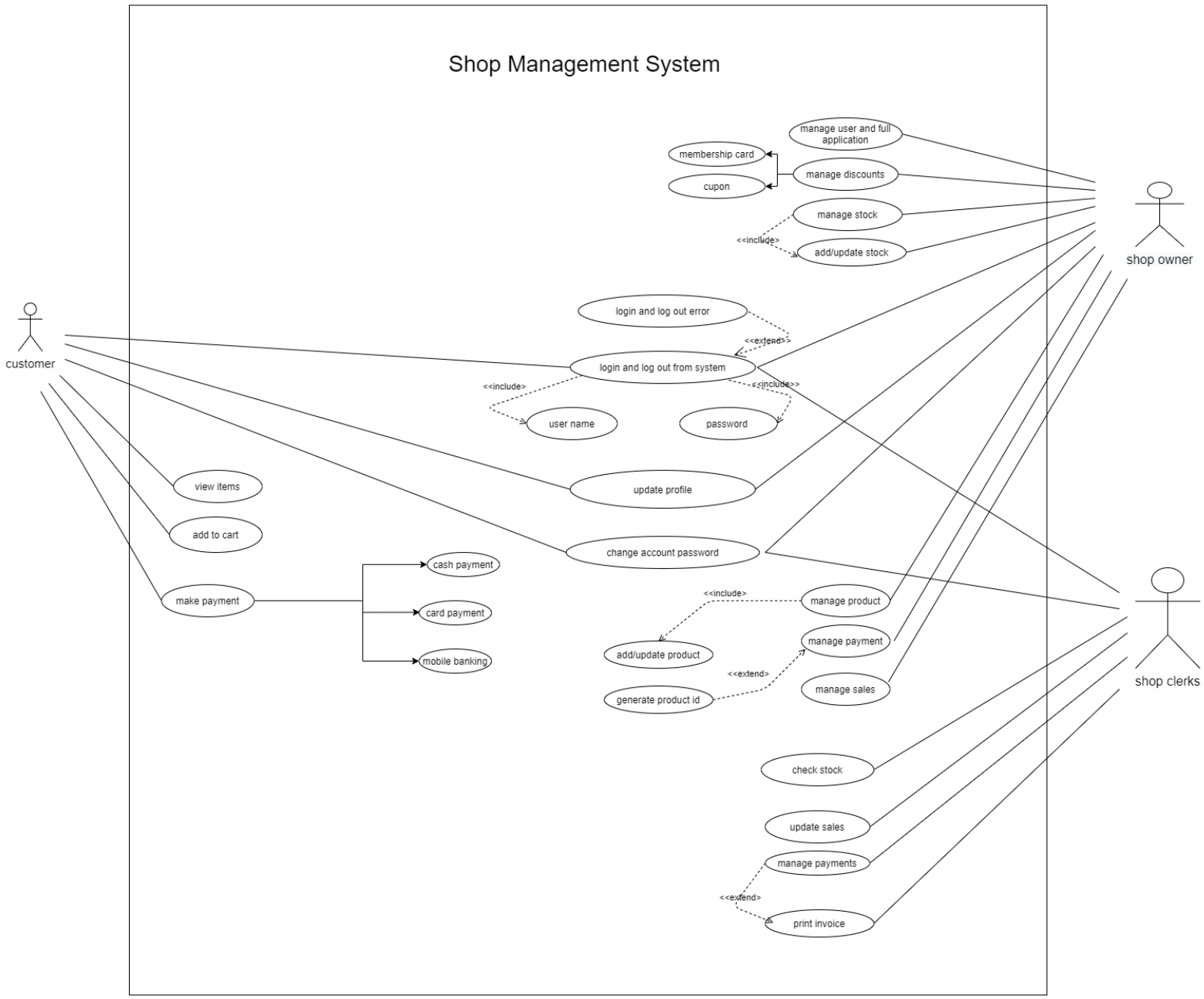
4. Cultural and political

4.1. There should be no limitation about the hardware platform that is to be used to run the system.

4.2. Customer personal information is protected in compliance with the Data Protection Act.

Design diagram

Use Case Diagram:

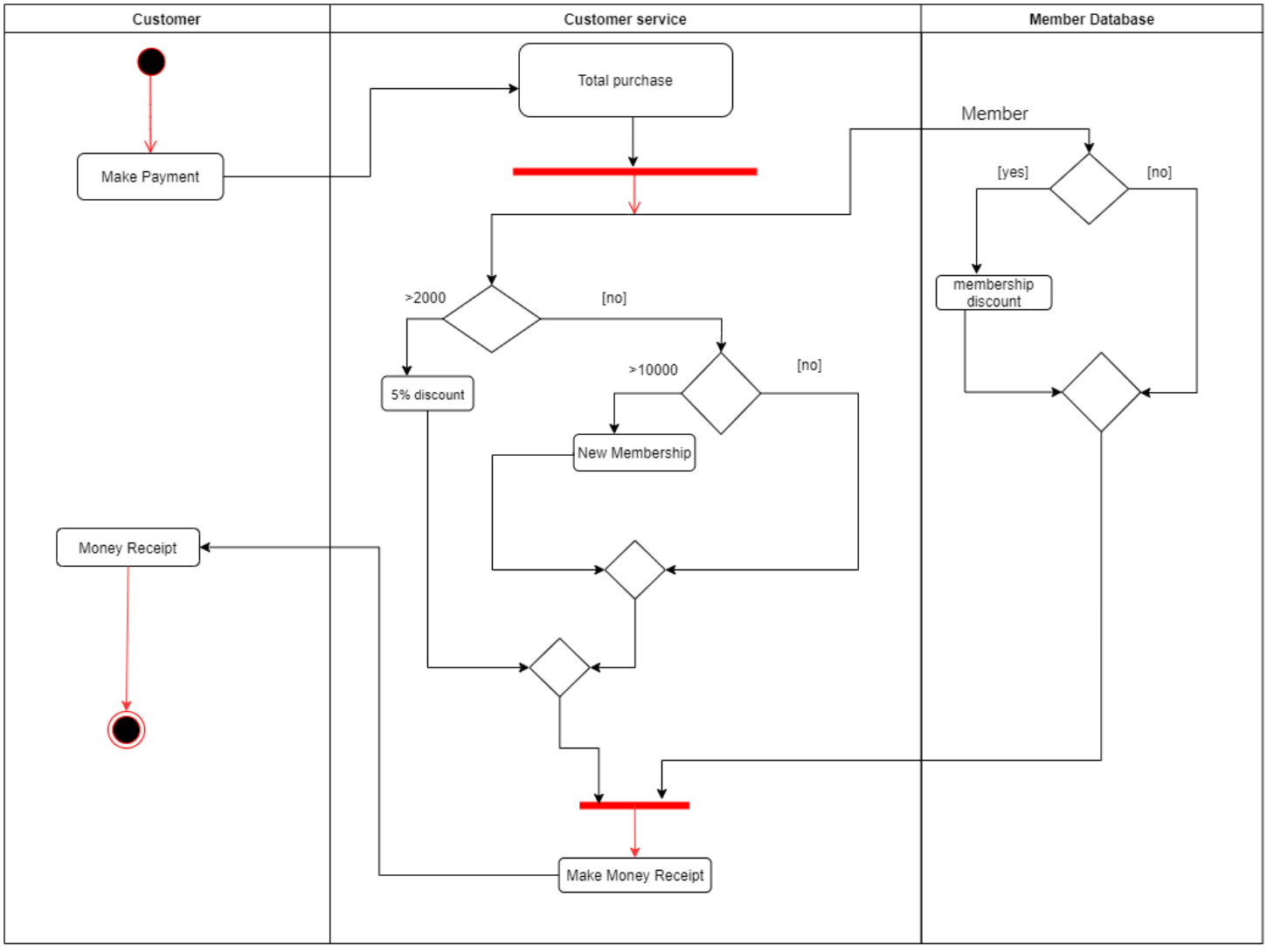


Activity Diagram:

Use Case Description:

We have done our Activity diagram in the use case of Manage Discount. For this activity diagram, we need three actors. They are - Customers, Customer service, and Member database. First of all, the customer purchases some product and gives payment. Here the amount of the money of total purchase is important. Because of this amount of money, customer service decides whether the customer is eligible for the discount or not. First of all, customer service decides whether the total purchase is greater than 2000 or not. If the total purchase is greater than 2000, then the customer gets a 5% discount. If the total purchase is less than 2000, then the customer gets no discount. Secondly, if the total purchase is greater than 10000, the customer gets a membership card and the customer will get a membership discount from his/her next purchase. But, If the total purchase is less than 10000, then no discount. Thirdly, the system has to check in the Membership database that the customer has already been a member or not. If the customer is already a member of that shop, then the customer gets the membership discount. But if the customer is not a member of that shop, then the customer gets no discount.

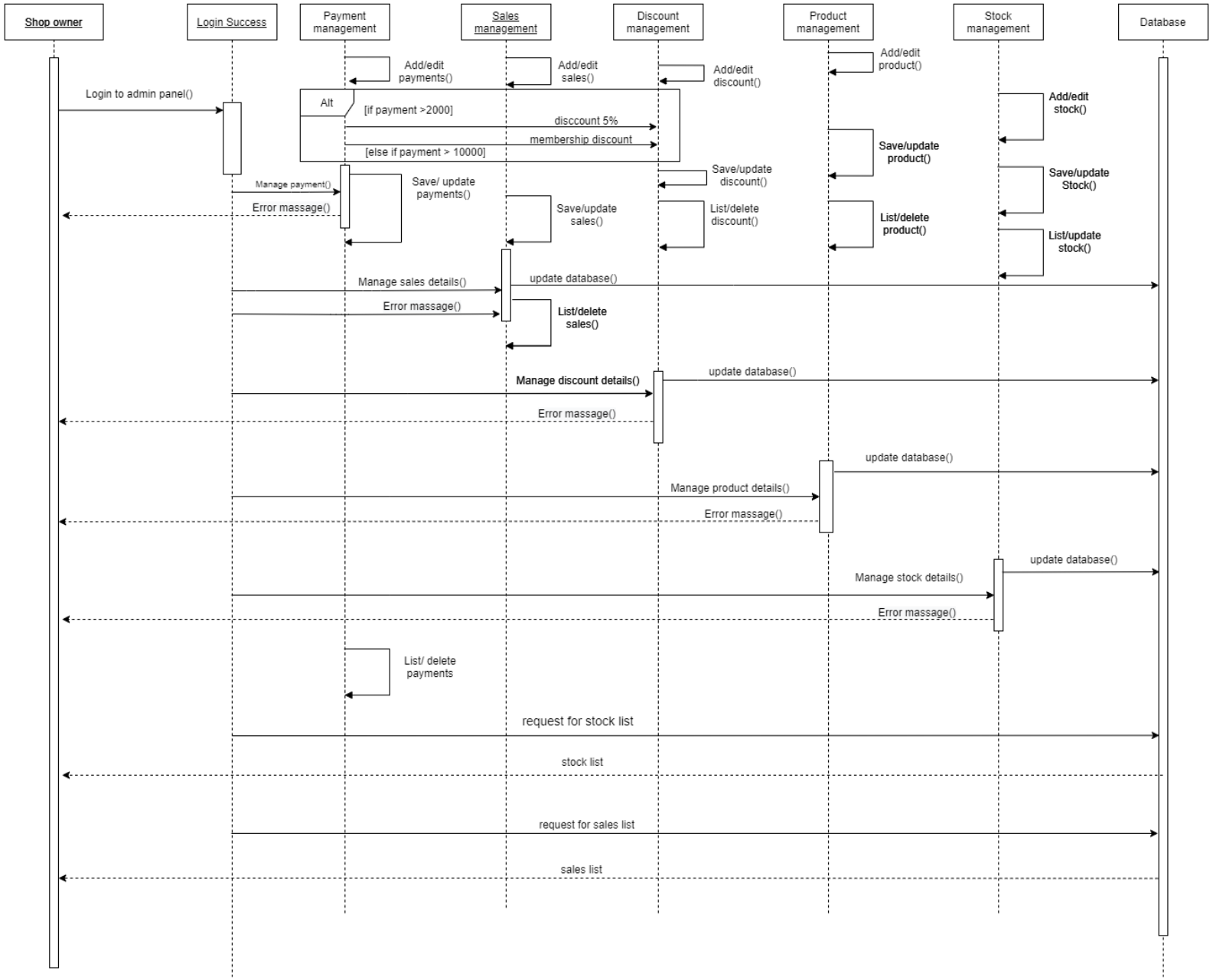
After these checking, the customer service makes the invoice of the total purchase of the customer and gives the money receipt to the customer.



Sequence diagram:

Use Case Description:

We are working on the admin's perspective sequence diagram. Here, first of all, the shop owner logs in to the system. The shop owner can manage the payment management of the system. For payment management, the shop owner can add or edit payment details and also save and update the payments to the database. Moreover, he/she can list or delete the sales. The shop owner can also manage sales details. For managing sales, the owner of the shop can add or edit the sales product and save or update the sales, and list or delete the sales. The owner of the shop can also manage the discount details. The shop owner can add or edit the discount, save or update the discount, and list or delete the discount. The shop owner can also manage product details. He /she can add or edit the product, save or update the product, and list or delete the product. Furthermore, the shop owner can also manage the stock by adding or editing the product, saving or updating the product, and listing or deleting the product.

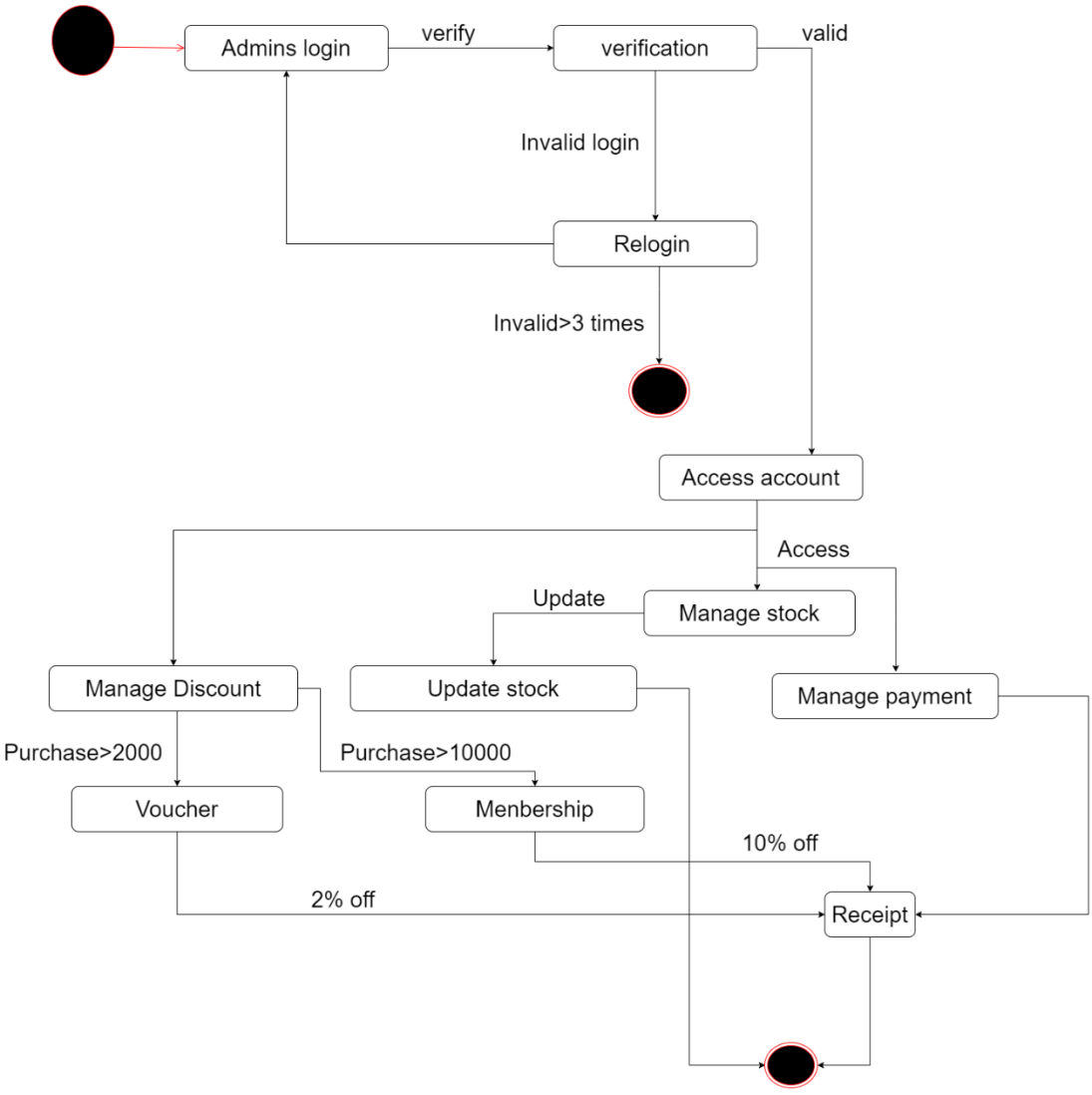


Sequence Diagram of Shop Management System

State Machine Diagram:

Use Case Description:

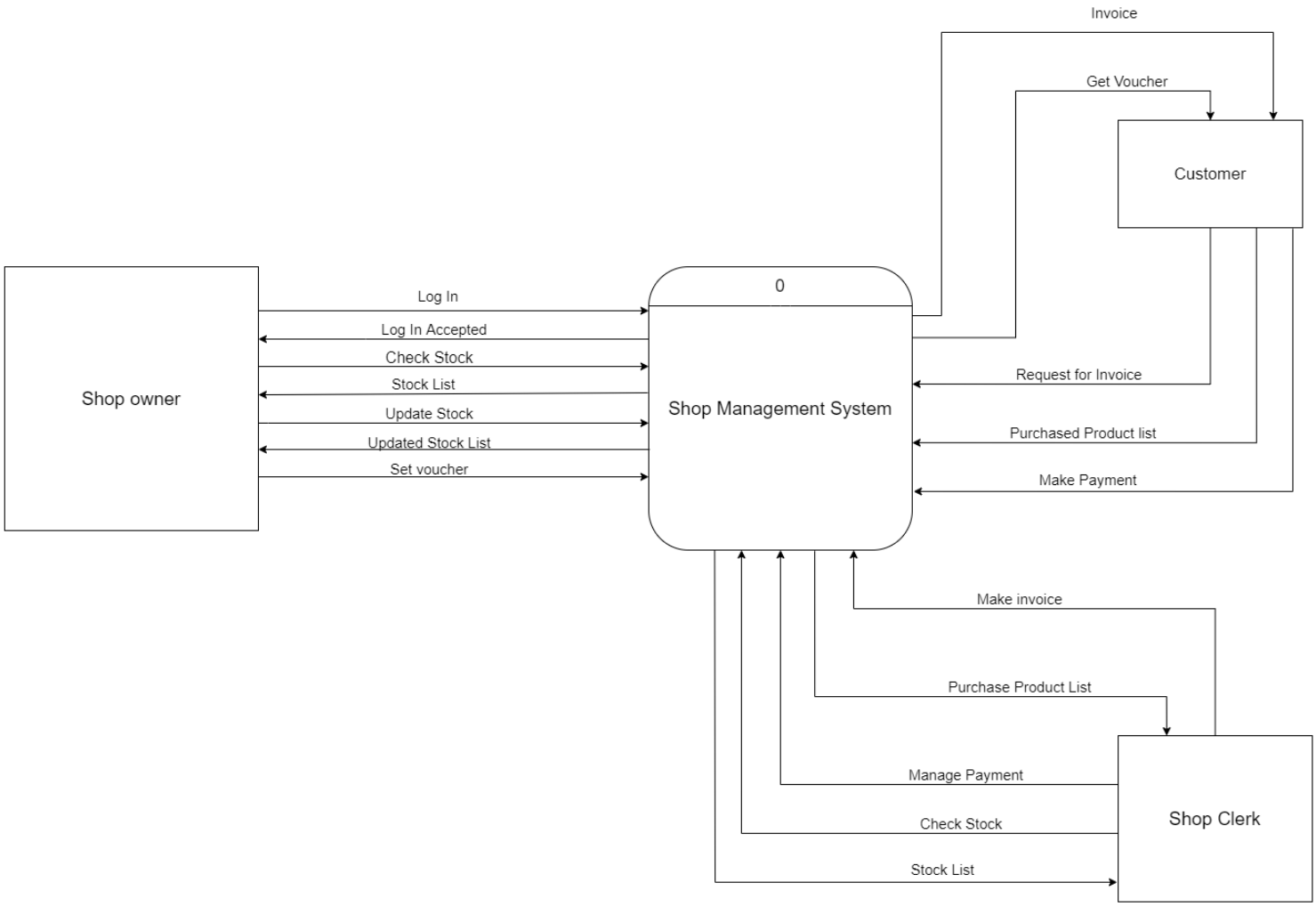
Here we work on the admin's perspective state machine diagram. First of all, the admin login to the shop management system. While login, the system wants a valid password from the admin. If the admin gives a valid password, then the system lets the admin into the system. If the password is invalid then the system gives three chances to the admin to enter the correct password. If the admin fails to give the correct password, then the system blocks the admin for 10 minutes. Now, if the admin gives the correct password, then the admin can access the account. After accessing the account, the admin can manage discounts, manage stock, and manage payment. For managing the stock, the adman can update the stock. For managing discounts, if a customer purchases more than 2000 then, the customer gets a voucher. By using this voucher, the customer gets 2% off on all types of products. If the customer purchases more than 10000, then the customer gets a membership card. By using that membership card, the customer gets 10% off on all types of products. Then finally, a receipt is delivered.



State Machine Diagram of Shop Management System

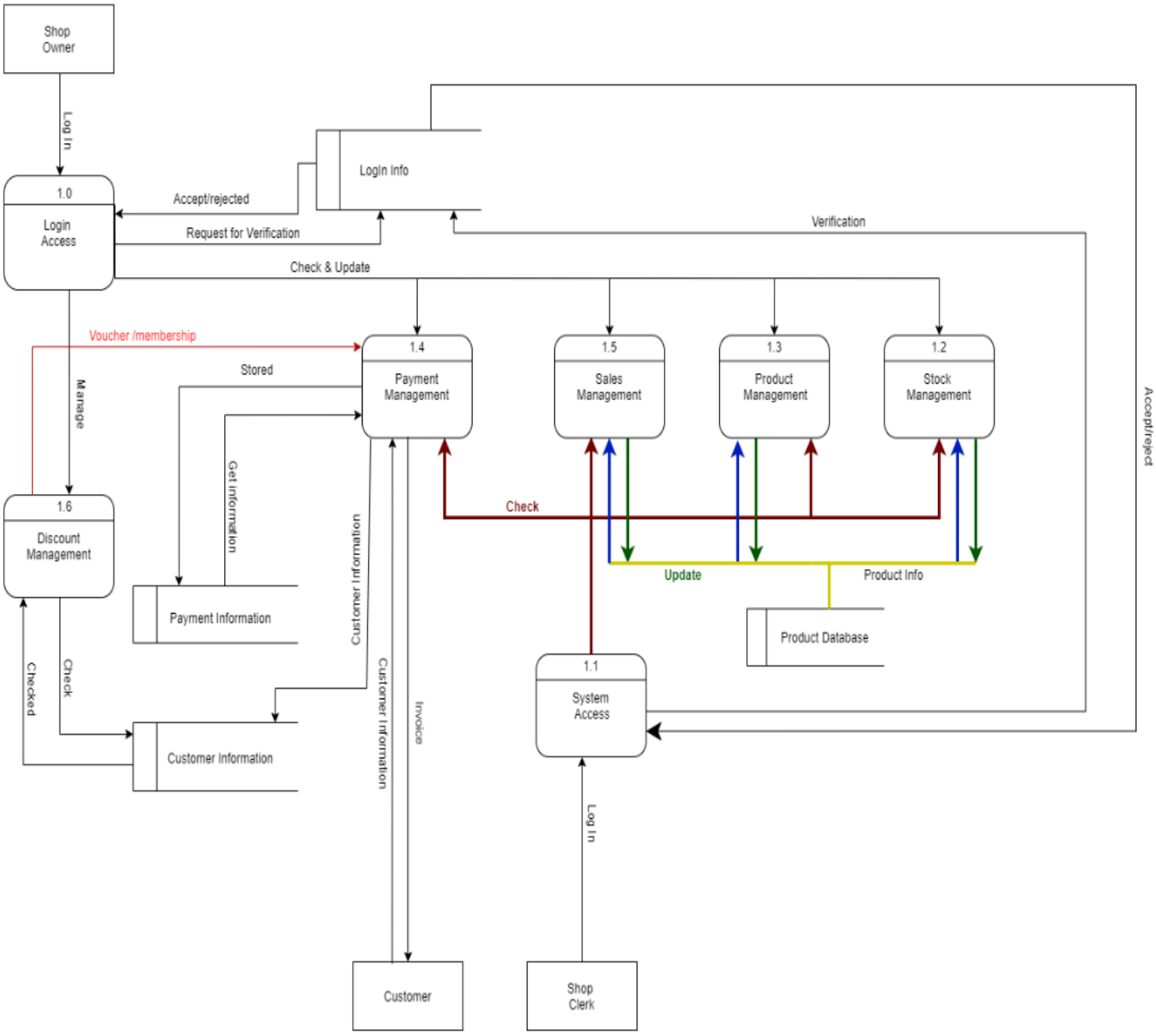
Data Flow Diagram:

Level 0 Data Flow Diagram:



Level 0 DFD Diagram of Shop management System

Level 1 Data Flow Diagram:



Level 1 DFD Diagram of Shop Management System

Windows Navigation Diagram:

Windows Navigation Diagram of Shop Management system

Conclusion

Although there are some Management limitations and Hardware limitations in our system, the system is very helpful for the shop owner to maintain track of his shop's profit and loss, as well as detail about the stock information. The shop owner should be able to see what items are in stock so that he can quickly preorder some that are sold out, and the software can also assist in determining which products have a high sale volume. We assume that by growing revenue and reducing missed sales due to out-of-stock or non-stocked products, our program can assist a shop owner in increasing profits.