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*Final Documentation of*

# **VAT ENSURING SYSTEM**

*Submitted by,*

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## Acknowledgement

At first we would like to thank almighty Allah. However, we have taken efforts in this project. It would not have been possible without the kind support and help of many persons. I would like to extend my sincere thanks to all of them.

We are really grateful because we managed to complete our project within the time given by our Project Teacher. I also sincerely thank our respected supervisor Md Shohel Arman for the guidance and encouragement for finishing this project. We are thankful for his inspirations to work harder and for motivating us to be better.

Finally, we would like to thank my parents for keeping us in their prayers and supporting me to be better at every step of the way. Without their love and support we would not be successful.

To sum up, without the help of the mentioned supports, the project would not be possible.

### *Dedication*

We dedicate this project to our respectable parents, our friends and families who are always dear and near to both of us. Without their patience, understanding, unsparing support, care, affection and love it was not possible to come up to this place.

## Abstract

TAX is a common term for most of us. But most of time, the Government cannot manage to collect accurate tax from the general shops and super shops.

So, this project is intend to solve these issue. Here we will enlist all the shops in this country. Every single shop will be enlisted to the Govt. through the designated website or mobile app. Every goods or products can be traced through Bar Code/ QR Code. The company will upload the amount of products with its Bar Code to the App which will be in Govt. Database. The distributor will upload the codes of those products to site which will merge to the Govt. Database. Then the enlisted shop owners will receive the products and update those data to the site. At the end of the year, the govt. will able to calculate 99.9 percent owners vat and can reduce the current vat from 15-20 to 12-15 percent which will encourage people to give tax. They can pay the vat from the mobile app also via mobile Banking system.

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## Chapter 1

- Introduction

TAX is a common and well-known term for most of us. But most of time, the Government cannot manage to collect accurate tax from the general shops and super shops.

So, this project is intend to solve these issue. Here we will enlist all the shops in this country. Every single shop will be enlisted to the Govt. through the designated website or mobile app. Every goods or products can be traced through Bar Code/ QR Code or by updating the online store through the App which will be in Govt. Database. Then the enlisted shop owners will receive the products and update those data to the site. At the end of the year, the govt. will able to calculate 95% percent owners vat and can reduce the current vat from 15-20 to 12-15 percent which will encourage people to give tax. They can pay the vat from the mobile app also via mobile Banking system.

### 1.1. Project Overview

Now-a-days, especially the small shops which cannot access any updated security devices to maintain their business and show the proper data and documentation of sells to the Government. Another reason could be the high amount of vat that prevents people from showing their actual earnings.

Because the earnings of a regular person in Bangladesh is quite low compared to other countries of the world. Currently, the VAT on goods is 15-20 percent in Bangladesh. But the VAT given by the shop owner is less than 40 percent means out of 100 people 60 people doesn't give the tax or hide their actual earning. Here's a huge gap of receiving Tax from the people and the number is quite high, 60 percent. Also, because there is no liability from the company, distributors to the Govt. which causes this huge problem.

## *1.2. Project Purpose*

Primarily, the scope pertains to the data of vat collection features for making Vat Ensuring System. It focuses on the programs, the stakeholders and applications, which allow general shop-owners and the general super shop to be connected with the Govt. in an online platform and keep updated and clear relationship between them.

This SRS is also aimed at specifying requirements of software to be developed but it can also be applied to assist in the selection relation between the users. The standard can be used to create software requirements specifications directly or can be used as a model for defining the system requirements.

### *1.2.1. Background*

### *1.2.2. Benefits*

### *1.2.3. Goals*

### 1.3. Stakeholders

- *Shop owners*
- *Corporation*
- *Admin*

### 1.4. Project Schedule

#### *1.4.1. Gantt Chart:*

#### *1.4.2. Milestone:*

## Chapter 2

- **Software Requirement Specifications:**

All requirement specification described in this section based on this project.

### **2.1. *Functional Requirements:***

The Functional Requirements Specification is designed to be read by a general audience. Readers should understand the system, but no particular technical knowledge should be required to understand the document.

<b>FR 01</b>	<b>Registration</b>
<b>Description</b>	By using a TIN number every shop owner will be able to complete their registration.
<b>Stakeholder</b>	Shop owner

<b>FR 02</b>	<b>Authentication and Login</b>
<b>Description</b>	After registration, users can login in the system. Authentication is required when a user first logs into this system (e.g. OTP) and is not required during the next login. Admin and corporations are also able to see who has logged into the system.
<b>Stakeholder</b>	Shop owner, Corporation , Admin

<b>FR 03</b>	<b>Dashboard</b>
<b>Description</b>	This module helps the shop owner to know total revenue, History, Estimated vat. Corporations are able to see this also. Admin can see this dashboard but can't change anything.
<b>Stakeholder</b>	Shop owner, Corporation , Admin

<b>FR 04</b>	<b>Store Builder</b>
<b>Description</b>	In these modules, the shop owner will input the goods name and their quantity.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 05</b>	<b>Selling info</b>
<b>Description</b>	To sell a product, the owner has to select the products, then select the quantity of this product as well. As a result, in the selling info module, it will be seen how many types of goods the buyer has taken, how much the price and how much his total bill will come.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 06</b>	<b>Preview</b>
<b>Description</b>	Before confirming a bill, the owner must preview the bill. If it does not match the transaction, he may also edit the bill.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 07</b>	<b>Confirmation</b>
<b>Description</b>	To avoid erroneous calculation, owners can confirm the bill by previewing. This information will be updated on the dashboard as soon as the bill is confirmed.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 08</b>	<b>Cash Memo/Bill</b>
<b>Description</b>	When a bill is already confirmed this system automatically provides a cash memo which is also saved in this application.
<b>Stakeholder</b>	Shop owner, Corporation

<b>FR 09</b>	<b>Online payment</b>
<b>Description</b>	At the end of the year, total estimated VAT will show on the dashboard which can be paid through any online banking payment system. Online banking will include Bkash, Rocket, Visa, Nagad etc. which will give the customer 10% cashback. Admin can track this transaction.
<b>Stakeholder</b>	Shop owner, Corporation, Admin

<b>FR 10</b>	<b>Notification</b>
<b>Description</b>	After making the online payment, the shop owner/corporation will receive a notification message. This will let you know if you paid properly. If there is any problem in the transaction, it will also be known through notification. Admin can also view this.
<b>Stakeholder</b>	Shop owner, corporation, Admin

<b>FR 11</b>	<b>Feedback</b>
<b>Description</b>	Shop owners will be able to report any problems related to this system through feedback, which can only be seen by the admin.
<b>Stakeholder</b>	Shop owner, corporation, Admin



## 2.2. Performance Requirements

A requirement that specifies a performance characteristic that a system or system or system component must possess; for example, speed, accuracy, frequency.

### 2.2.1. *Speed and Latency Requirements*

The system is required a fair amount of speed especially while browsing game lists to takebet on a posted game.

<b>PR-01</b>	The Landing page will response within a second
<b>Description</b>	While the user's browsing the system the landing page will show within a second. It also depends on user's internet connection.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 2.2.2. *Precision and Accuracy Requirements*

There are no specific precision and accuracy requirements.

### 2.2.3. *Capacity Requirements*

The system is able to manage all the information of passed out Shopkeeper and the corporation.

<b>PR-02</b>	Initially the system will store 1,00,000 Shop's information
<b>Description</b>	The information of Products will be stored in database.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

## 2.3. Dependability Requirement

The flexibility of current frameworks encourage system architects to enable reconfiguration mechanisms that refocus the available, safe resources to support the most critical services rather than over-provisioning to build failure-proof system. Therefore, these requirements are essentials.

### 2.3.1. *Reliability and Availability*

In order to support global and smooth operations the system must be available around the clock. On the other hand most services in this system are not mission-critical. Even better the game posting can handle times of downtime as the users usually interact with high- availability from third party website. This system will be able to catch up with their data once it's up and running again.

<b>DR-01</b>	The system must be available 24x7
<b>Description</b>	<ul style="list-style-type: none"> <li>• The system must be available 24 hours in a day</li> <li>• The system must be updated regularly</li> <li>• The system must publish the notice, events and job posting and update these regularly</li> </ul>
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 2.3.2. *Robustness and Fault Tolerance Requirements*

The system will almost ensure 0% crash in any single minor error and don't give any wrong calculation.

<b>DR-02</b>	The system handles over access and system errors
<b>Description</b>	Sometimes multiple users can over access to this system. The system can handle multiple user access
<b>Stakeholders</b>	N/A

### 2.3.3. *Safety Critical Requirements*

There are no specific safety critical requirements.

## 2.4. Maintainability and Supportability

Supportability is the degree to which system design characteristics and planned logistics resources meet system requirements. Supportability is the capability of a total system design to support operations and readiness needs throughout the life-cycle of a system at an affordable cost.

### 2.4.1. *Maintenance Requirements*

<b>MS-01</b>	The system helps to update any information in any time
<b>Description</b>	The admin alumni see feedback and can enable to change or update any information in any situation
<b>Stakeholders</b>	Admin

### 2.4.2. *Supportability Requirements*

In order to understand the system's behavior' on a technical support required by the system operator. The reason for reading them might be

- System malfunction has occurred and the system operator has to find the exact pointof time when this happened
- System produces wrong results and the developers must be able to reproduce the dataflow through the system
- Hacker tried to breach the system's security mechanisms and the system operator mustunderstand what he did.

### 2.4.3. *Adaptability Requirements*

There are no specific adaptability requirements.

## 2.5. Security Requirements

There are no access requirements beside those that have been outlined in the below:

- The software must validate all user input to ensure it does not exceed the sizespecified for that type of input
- The server must authenticate every request accessing the restricted Web pages
- After authenticating the browser, the server must determine whether that browser is authorized to access the requested restricted Web pages
- The system must have security controls to protect against denial-of-service attacks
- The system must encrypt sensitive data transmitted over the Internet between theserver and the browser.

To get access to this system or a specific module the system must provide a central authentication mechanism. In order to prevent anyone to exploit stolen all users password must be encrypted in hash process.

### 2.5.1. Access Requirements

To get access to the system, the system provides authorization/authentication way. This system uses various modules.

<b>SR-01</b>	The system provides security strategies.
<b>Description</b>	The system is designed in way that allows all modules to access a mechanism that provides security services.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 2.5.2. Integrity Requirements

To protect credentials of user from being stolen, all passwords are stored in encrypted form. The Requirements significantly reduces the value of stolen user credentials, it's not easy to decrypt the password.

### 2.5.3. Privacy Requirements

The system provides a protection of the database in the server. However, the system will have to increment this level of protection because of the personal data made available on the system & the larger share of people that will be having access to it through the system's registration. The user's privacy will be granted by the limited access that the log in process is going to give to the database.

<b>SR-02</b>	All data will be protected
<b>Description</b>	The main requirement in the context is the generation of shopkeeper's and corporation's data for analysis.
<b>Stakeholders</b>	Shop-Owner, Corporation

## 2.6. Usability and Human Integrity Requirements

These Requirements define how to meet the physical and cognitive needs of the intended users of your website or application.

### 2.6.1. Ease of Use Requirements

The system is easy to use and can easily be understandable.

<b>UH-01</b>	The system must be usable for shopkeepers with all associated stakeholders.
<b>Description</b>	The system indicates the several possibilities that the shopkeeper has to go on in using the system. The admin panel are allowed to undo any of the operation.
<b>Stakeholders</b>	Admin, Shop-Owner, Corporation

### 2.6.2. Understand-ability and Politeness Requirements

This section describes more requirements of Vat Ensuring system to add more features in future:

<b>UH-02</b>	The features of Vat Ensuring system
<b>Description</b>	The system is more efficiently ease of use more added features. The system is understand-ability for both user. The system will not use any term that is not specified in this system.
<b>Stakeholders</b>	Admin

### 2.6.3. Accessibility Requirements

There are no access requirements beside those that have been outlined in the below:

AR-1: Log in as an Admin.

AR-2: Log in as a Shopkeeper.

AR-3: Log in as a corporation.

AR-4: Log out as an Admin.

AR-5: Log out as a Shopkeeper.

AR-6: Log out as a corporation.

To get access to this system or a specific module the system must provide a central authentication mechanism. In order to prevent anyone to exploit stolen all users password must be encrypted in hash process.

### 2.6.4. User Documentation

<b>UH-03</b>	The system developer documentation
<b>Description</b>	To develop this project we have specified requirement of user documentation. The teams are involved to this project documentation.
<b>Stakeholders</b>	Vat Ensuring system

## 2.7. Look and Feel Requirements

The look and feel requirements describe the intended spirit, the mood, or the style of the product's appearance. These requirements specify the intention of the appearance, and are not a detailed design of an interface.

### 2.7.1. *Appearance Requirements*

It should be clear to the admin and shopkeeper, corporation which fields need to be filled and which can be left blank in this system.

<b>LF-01</b>	Labels of mandatory fields must be bold
<b>Description</b>	Labels of mandatory fields must be bold to identify them as being of mandatory.
<b>Stakeholders</b>	Admin, Corporation

### 2.7.2. *Style Requirements*

We will provide a web based user interface. This requirement does not only define the necessity to use a CSS but also the requirements regarding the CSS's content as well as CSS framework like bootstrap.

<b>LF-02</b>	The look and feel must be controllable using style sheet.
<b>Description</b>	The styling of the elements of the web based user interface will be Defined using CSS, JS and bootstrap.
<b>Stakeholders</b>	Admin, Corporation

## 2.8. Operational and Environmental Requirements

This requirements focus on how the users will operate the system, including interfaces and interoperability with other systems. The requirements establish how well and under what conditions the system must perform.

### *2.8.1. Expected Physical Requirements*

There are no specific expected physical requirements

### *2.8.2. Requirement for Interfacing with Adjacent System*

There is no specific interfacing with adjacent system requirements.

### *2.8.3. Release Requirements*

There are no specific release requirements but in the project schedule section it was described briefly.

## **2.9. Legal Requirements**

These requirements consider any violence of rules and regulation and which rules should be followed to maintain this system

### *2.9.1. Compliance Requirements*

There are no specific compliance requirements

### *2.9.2. Standard Requirements*

There are no specific standard requirements.



## Chapter 3

- **Scope of the Study**

### 3.1. Use Case Diagram

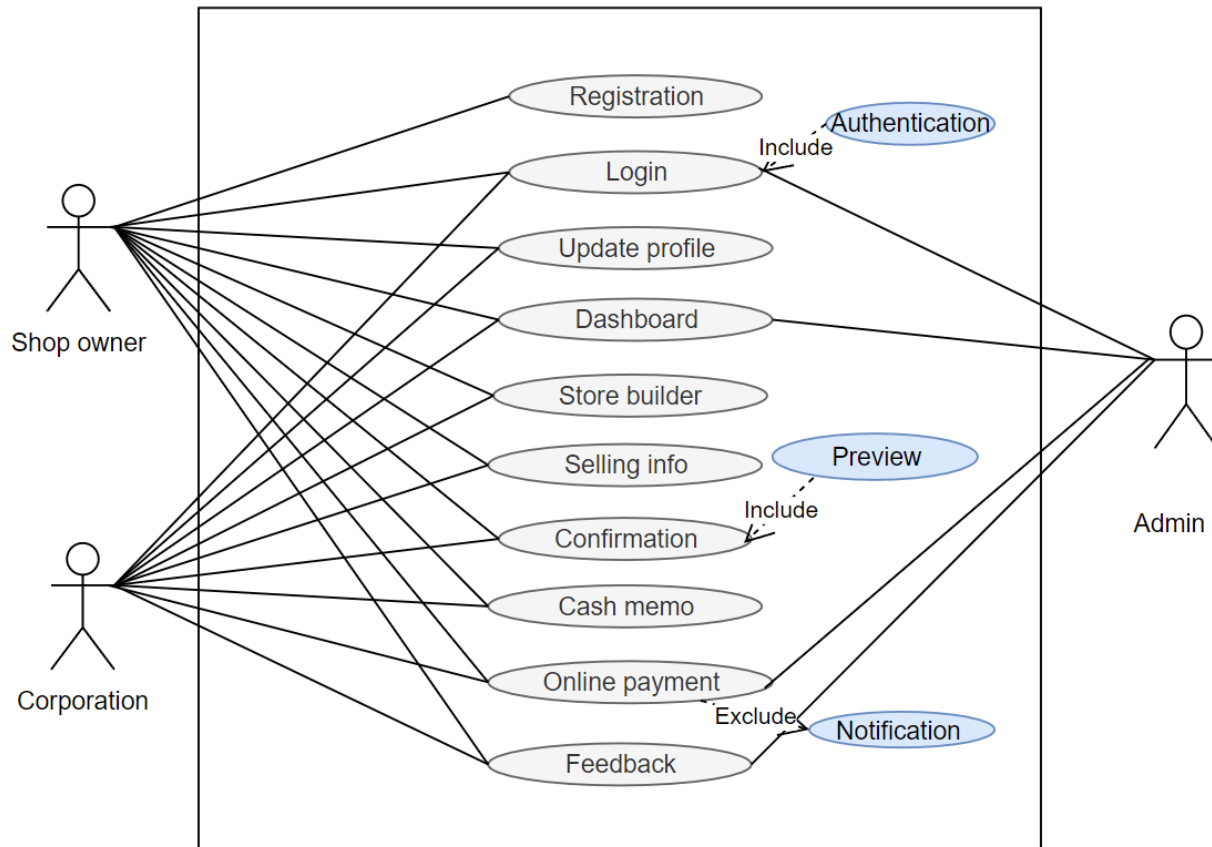


Figure 3.1: Use case Diagram for VAT Ensuring System

### 3.2. Use Case Description

<b>Use case -01</b>	<b>Registration</b>												
<b>Goal</b>	It is very important for a shop owner to register on this site because it allows him to know how many goods are in his store, how many products have been sold and how much vat comes in at the end of the year and pay it without any hassle.												
<b>Precondition</b>	N/A												
<b>Success End Condition</b>	Registered successfully and accessed the system.												
<b>Failed End Condition</b>	Can't enter into the system.												
<b>Actors</b>	Shop Owner												
<b>Trigger</b>	Registration to the system.												
<b>Description</b>	<table border="1"> <thead> <tr> <th>Step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Push Sign Up Button</td></tr> <tr> <td>1.1</td><td>Enter shop ID</td></tr> <tr> <td>1.2</td><td>Enter user phone number</td></tr> <tr> <td>1.3</td><td>Create a Password</td></tr> <tr> <td>2</td><td>Push registration button</td></tr> </tbody> </table>	Step	Action	1	Push Sign Up Button	1.1	Enter shop ID	1.2	Enter user phone number	1.3	Create a Password	2	Push registration button
Step	Action												
1	Push Sign Up Button												
1.1	Enter shop ID												
1.2	Enter user phone number												
1.3	Create a Password												
2	Push registration button												
<b>Alternative Flows</b>	N/A												
<b>Quality Requirements</b>	Don't provide wrong shop Id and invalid phone number of user.												

Use case -02	Authentication	
Goal	Shop owners, Corporations and Admin are able to login in this system and Access the necessary modules which are required for them.	
Precondition	Need to register and put the shop ID and phone number.	
Success End Condition	Come into the system and access the system all features.	
Failed End Condition	Shop owners, corporations and admin are not accessing any module of this system.	
Actors	Shop owners Corporations Admin	
Trigger	Get all access to the system for the required actors.	
Description		
	step	Action
	1	Press OTP required field
	1.1	Get OTP number through SMS by using phone number
	1.2	Provide OTP number
	2	Push confirm button
Alternative Flows	N/A	
Quality Requirements	Do not provide any number without OTP	

<b>Use case -03</b>	<b>login</b>												
<b>Goal</b>	It is very important for a shop owner and Corporation to login on this site because it allows them to know how many goods are in store, how many products have been sold and how much vat comes in at the end of the year and pay it without any hassle. Admin can also login to control this module.												
<b>Precondition</b>	Registration												
<b>Success End Condition</b>	Login successfully and accessed the system.												
<b>Failed End Condition</b>	Shop owners and corporations cannot store their goods, cannot find selling info and cannot calculate estimated vat. Admin cannot get access to control this module.												
<b>Actors</b>	Shop owners Corporations Admin												
<b>Trigger</b>	Login to the system												
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Sign Up to the system</td></tr> <tr> <td>1.1</td><td>Enter shop ID</td></tr> <tr> <td>1.2</td><td>User name</td></tr> <tr> <td>1.3</td><td>password</td></tr> <tr> <td>2</td><td>Push confirm button</td></tr> </tbody> </table>	step	Action	1	Sign Up to the system	1.1	Enter shop ID	1.2	User name	1.3	password	2	Push confirm button
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1	Sign Up to the system												
1.1	Enter shop ID												
1.2	User name												
1.3	password												
2	Push confirm button												
<b>Alternative Flows</b>	N/A												

<b>Quality Requirements</b>	Don't provide the shop ID and password to others.
-----------------------------	---

<b>Use case -04</b>	<b>Update profile</b>																						
<b>Goal</b>	It is very important for the shop owner to save all his information when his profile is updated. Such as username, picture, phone number, email, Address, shop ID, registered number etc. are included in the update profile module.																						
<b>Precondition</b>	login																						
<b>Success End Condition</b>	Profile update successfully and show in his profile module.																						
<b>Failed End Condition</b>	If a user fails to update his profile, then he cannot view the dashboard.																						
<b>Actors</b>	Shop owner																						
<b>Trigger</b>	Update profile successfully																						
<b>Description</b>	<table border="1"> <thead> <tr> <th>Step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Open update profile page</td></tr> <tr> <td>1.2</td><td>Push update button</td></tr> <tr> <td>2</td><td>Open update profile from</td></tr> <tr> <td>2.1</td><td>Enter user name</td></tr> <tr> <td>2.2</td><td>Enter shop Id</td></tr> <tr> <td>2.3</td><td>Enter phone number</td></tr> <tr> <td>2.4</td><td>Enter profile picture</td></tr> <tr> <td>2.5</td><td>Enter present address</td></tr> <tr> <td>2.6</td><td>Enter e-mail</td></tr> <tr> <td>3</td><td>Press confirm button</td></tr> </tbody> </table>	Step	Action	1	Open update profile page	1.2	Push update button	2	Open update profile from	2.1	Enter user name	2.2	Enter shop Id	2.3	Enter phone number	2.4	Enter profile picture	2.5	Enter present address	2.6	Enter e-mail	3	Press confirm button
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2.5	Enter present address																						
2.6	Enter e-mail																						
3	Press confirm button																						

<b>Alternative Flows</b>	N/A
<b>Quality Requirements</b>	provide all of your valid information to make your profile more efficient

<b>Use case -05</b>	<b>Dashboard</b>						
<b>Goal</b>	Shop owners and corporations can know daily revenue, selling history and total vat at the end of a year. Admin can also view and control this.						
<b>Precondition</b>	Update profile						
<b>Success End Condition</b>	Successfully login to dashboard, known about selling statement and his/her actual vat.						
<b>Failed End Condition</b>	Users can not acknowledge accurate vat information and go through a lot of hassle.						
<b>Actors</b>	Shop owners Corporations Admin						
<b>Trigger</b>	View revenue, selling info and estimated vat properly						
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Login to dashboard</td></tr> <tr> <td>2</td><td>View revenue, selling info and estimated vat</td></tr> </tbody> </table>	step	Action	1	Login to dashboard	2	View revenue, selling info and estimated vat
step	Action						
1	Login to dashboard						
2	View revenue, selling info and estimated vat						
<b>Alternative Flows</b>	N/A						
<b>Quality Requirements</b>	Check the dashboard every day to keep in touch with history and revenue sales						

<b>Use case -06</b>	<b>Store builder</b>														
<b>Goal</b>	Store owners and corporations can update how many products they have in stock, product types and how many.														
<b>Precondition</b>	N/A														
<b>Success End Condition</b>	Successfully input the goods types, goods name and their quantity.														
<b>Failed End Condition</b>	Shop owners and corporations cannot sell their products. Although there are plenty of stocks														
<b>Actors</b>	Shop owner corporation														
<b>Trigger</b>	Successfully store all kind of product info in store builder														
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Open store builder page</td></tr> <tr> <td>2</td><td>Select product category</td></tr> <tr> <td>2.1</td><td>Product name</td></tr> <tr> <td>2.2</td><td>Product quantity</td></tr> <tr> <td>2.3</td><td>Product expiry date</td></tr> <tr> <td>3</td><td>Push update button.</td></tr> </tbody> </table>	step	Action	1	Open store builder page	2	Select product category	2.1	Product name	2.2	Product quantity	2.3	Product expiry date	3	Push update button.
step	Action														
1	Open store builder page														
2	Select product category														
2.1	Product name														
2.2	Product quantity														
2.3	Product expiry date														
3	Push update button.														
<b>Alternative Flows</b>	Include scanning method to update store builder														
<b>Quality Requirements</b>	Carefully inter all the product info in store builder														

<b>Use case -07</b>	<b>Selling Info</b>														
<b>Goal</b>	To sell a product, the owner has to select the products, then select the quantity of this product as well. As a result, in the selling info module, it will be seen how many types of goods the buyer has taken, how much the price and how much his total bill will come.														
<b>Precondition</b>	N/A														
<b>Success End Condition</b>	Successfully choose the goods types, goods name and their quantity.														
<b>Failed End Condition</b>	Shop owners and corporations cannot sell their products. Although there are plenty of stocks														
<b>Actors</b>	Shop owner, corporation														
<b>Trigger</b>	Successfully added all the products from store builder														
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Open store builder page</td></tr> <tr> <td>2</td><td>Select product category</td></tr> <tr> <td>2.1</td><td>Product name</td></tr> <tr> <td>2.2</td><td>Product quantity</td></tr> <tr> <td>2.3</td><td>Product expiry date</td></tr> <tr> <td>3</td><td>Push Select button.</td></tr> </tbody> </table>	step	Action	1	Open store builder page	2	Select product category	2.1	Product name	2.2	Product quantity	2.3	Product expiry date	3	Push Select button.
step	Action														
1	Open store builder page														
2	Select product category														
2.1	Product name														
2.2	Product quantity														
2.3	Product expiry date														
3	Push Select button.														
<b>Alternative Flows</b>	Include scanning method to add into the cart														
<b>Quality Requirements</b>	Carefully scan/choose all the product info from the store builder														



<b>Use case -08</b>	<b>Preview</b>														
<b>Goal</b>	Before confirming a bill, the owner must preview the bill. If it does not match the transaction, he may also edit the bill.														
<b>Precondition</b>	Select the products from selling info														
<b>Success End Condition</b>	Successfully check the goods customer will buy.														
<b>Failed End Condition</b>	Shop owners and corporations cannot have the right amount of products into the cart. Then end up with failure or loss.														
<b>Actors</b>	Shop owner, corporation														
<b>Trigger</b>	Successfully checked the goods customer will buy.														
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Open selling info</td></tr> <tr> <td>2</td><td>Select product category</td></tr> <tr> <td>2.1</td><td>Product name</td></tr> <tr> <td>2.2</td><td>Product quantity</td></tr> <tr> <td>2.3</td><td>Product expiry date</td></tr> <tr> <td>3</td><td>Push Preview button.</td></tr> </tbody> </table>	step	Action	1	Open selling info	2	Select product category	2.1	Product name	2.2	Product quantity	2.3	Product expiry date	3	Push Preview button.
step	Action														
1	Open selling info														
2	Select product category														
2.1	Product name														
2.2	Product quantity														
2.3	Product expiry date														
3	Push Preview button.														
<b>Alternative Flows</b>	N/A														
<b>Quality Requirements</b>	Carefully check all the product info from the store builder														

<b>Use case -09</b>	<b>Confirmation</b>														
<b>Goal</b>	To avoid erroneous calculation, owners can confirm the bill by previewing. This information will be updated on the dashboard as soon as the bill is confirmed.														
<b>Precondition</b>	Select the products and preview goods from selling info														
<b>Success End Condition</b>	Successfully confirmed the goods customer will buy.														
<b>Failed End Condition</b>	Shop owners and corporations cannot sell the products or goods.														
<b>Actors</b>	Shop owner, corporation														
<b>Trigger</b>	Successfully checked the goods customer will buy.														
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Open selling info</td></tr> <tr> <td>2</td><td>Select product category</td></tr> <tr> <td>2.1</td><td>Product name</td></tr> <tr> <td>2.2</td><td>Product quantity</td></tr> <tr> <td>2.3</td><td>Product expiry date</td></tr> <tr> <td>3</td><td>Push Preview button And press confirm.</td></tr> </tbody> </table>	step	Action	1	Open selling info	2	Select product category	2.1	Product name	2.2	Product quantity	2.3	Product expiry date	3	Push Preview button And press confirm.
step	Action														
1	Open selling info														
2	Select product category														
2.1	Product name														
2.2	Product quantity														
2.3	Product expiry date														
3	Push Preview button And press confirm.														
<b>Alternative Flows</b>	N/A														
<b>Quality Requirements</b>	Carefully check all the product info from the store builder														

<b>Use case -10</b>	<b>Cash Memo</b>																
<b>Goal</b>	When a bill is already confirmed this system automatically provides a cash memo which is also saved in this application.																
<b>Precondition</b>	Confirm the products at selling info.																
<b>Success End Condition</b>	Successfully give a cash memo to the customer.																
<b>Failed End Condition</b>	N/A																
<b>Actors</b>	Shop owner, corporation																
<b>Trigger</b>	Successfully print the bill.																
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Open selling info</td></tr> <tr> <td>2</td><td>Select product category</td></tr> <tr> <td>2.1</td><td>Product name</td></tr> <tr> <td>2.2</td><td>Product quantity</td></tr> <tr> <td>2.3</td><td>Product expiry date</td></tr> <tr> <td>3</td><td>Push Preview button And press confirm.</td></tr> <tr> <td>4.</td><td>Press cash memo</td></tr> </tbody> </table>	step	Action	1	Open selling info	2	Select product category	2.1	Product name	2.2	Product quantity	2.3	Product expiry date	3	Push Preview button And press confirm.	4.	Press cash memo
step	Action																
1	Open selling info																
2	Select product category																
2.1	Product name																
2.2	Product quantity																
2.3	Product expiry date																
3	Push Preview button And press confirm.																
4.	Press cash memo																
<b>Alternative Flows</b>	Let the customer to take a picture of the cash memo which include a barcode.																
<b>Quality Requirements</b>	Carefully check all the product info from the selling info.																

<b>Use case -11</b>	<b>Online Payment</b>																
<b>Goal</b>	At the end of the year, total estimated VAT will show on the dashboard which can be paid through any online banking payment system. Online banking will include Bkash, Rocket Visa and Nagad etc. which will give the customer 10% cashback. Admin can track these transaction.																
<b>Precondition</b>	Account should be eligible for tax. Year must be one for eligibility.																
<b>Success End Condition</b>	Successfully give the Tax to the Govt.																
<b>Failed End Condition</b>	Retry																
<b>Actors</b>	Shop owner, corporation																
<b>Trigger</b>	Successfully Vat Given to the Govt.																
<b>Description</b>	<table border="1"> <thead> <tr> <th>step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Open Payment</td></tr> <tr> <td>2</td><td>Select Year</td></tr> <tr> <td>2.1</td><td>Select Bank name</td></tr> <tr> <td>2.2</td><td>Enter Bank Account/others Number.</td></tr> <tr> <td>2.3</td><td>Enter the phone number you gave during registration</td></tr> <tr> <td>3</td><td>Enter the pin code received from the phone.</td></tr> <tr> <td>4</td><td>Press confirm.</td></tr> </tbody> </table>	step	Action	1	Open Payment	2	Select Year	2.1	Select Bank name	2.2	Enter Bank Account/others Number.	2.3	Enter the phone number you gave during registration	3	Enter the pin code received from the phone.	4	Press confirm.
step	Action																
1	Open Payment																
2	Select Year																
2.1	Select Bank name																
2.2	Enter Bank Account/others Number.																
2.3	Enter the phone number you gave during registration																
3	Enter the pin code received from the phone.																
4	Press confirm.																

<b>Alternative Flows</b>	Let the shop-owner or corporation can go to the bank and pay their tax.
<b>Quality Requirements</b>	Carefully enter bank account number and pin number.

<b>Use case -12</b>	<b>Notification</b>
<b>Goal</b>	After making the online payment, the shop owner/corporation will receive a notification message. This will let you know if you paid properly. If there is any problem in the transaction, it will also be known through notification. Admin can also view this.
<b>Precondition</b>	Pay the tax
<b>Success End Condition</b>	Successfully received a message for giving tax.
<b>Failed End Condition</b>	N/A
<b>Actors</b>	Shop owner, corporation
<b>Trigger</b>	N/A
<b>Description</b>	N/A
<b>Alternative Flows</b>	N/A
<b>Quality Requirements</b>	N/A

Use case -13	Feedback					
Goal	Shop owners/ Internal Corporation workers will be able to report any problems related to this system through feedback, which can only be seen by the admin.					
Precondition	N/A					
Success End Condition	Successfully Submitted the issue.					
Failed End Condition	Try again					
Actors	Shop owner, corporation. Admin					
Trigger	Admin will received a notification in his account.					
Description	<table><tr><td>Action</td></tr><tr><td>Open Feedback</td></tr><tr><td>Select Complain Type</td></tr><tr><td>Complain Tittle Description Attributes</td></tr><tr><td>Press submit button</td></tr></table>	Action	Open Feedback	Select Complain Type	Complain Tittle Description Attributes	Press submit button
Action						
Open Feedback						
Select Complain Type						
Complain Tittle Description Attributes						
Press submit button						
Alternative Flows	Directly call the head office to solve the problem they are facing.					
Quality Requirements	N/A					

## Chapter 04

### 4.1. *Project Scenario*

This project is intend to solve these issue. Here we will enlist all the shops in this country. Every single shop will be enlisted to the Govt. through the designated website or mobile app. Every goods or products can be traced through Bar Code/ QR Code or by updating the online store through the App which will be in Govt. Database. Then the enlisted shop owners will receive the products and update those data to the site. At the end of the year, the govt. will able to calculate 95% percent owners vat and can reduce the current vat from 15-20 to 12-15 percent which will encourage people to give tax. They can pay the vat from the mobile app also via mobile Banking system.

### 4.2. *Stakeholders*

There are three types of Stakeholders in this system. The first two are, Shop-owners and the corporation, the only distinction between them is that Corporations are allowed to see the preference and exclusion sets of other users. It is the third type of user, the administrator, who is able to initially setup the system, add new users, and set their authorization level.

**Shop Owners:** Most members of this system will be of the general shop owners. These members are able update and build their store with products name & numbers, see selling information, see the selling history and pay the vat at the end of the year without any hassle. They also can see all the exclusive shop owner's list who has given incentive for given the most vat in the year to this system and be one of them by upgrading their sells. They also can get the exclusive vat cut card facilitates which will include a lot of offers which will reduce the taxation rate.

**Corporation:** The next most common type of user is the authorized Corporation who has a selective amount of super shops across the country. These users have the same permissions as the general shopkeepers with the additional ability to view other member's preference and exclusion set of offers. They are allowed to sell the product without building an initial online shop like the general shop owners do. Also they have the permission to scan the product without updating the products info at the first place.

**Admin Panel:** Finally, the system administrators are users who are able to setup the system from the initial installation and maintain the systems member accounts. They automatically have the functionality of authorized users within the normal operation of the system; however have additional menu options which allow them to maintain the system. They can also fix any software and taxation issue after been checked by the authority.

#### *4.3. Project Timeline*



#### 4.4. Project Risk Management

#### 4.5. Use Case Diagram

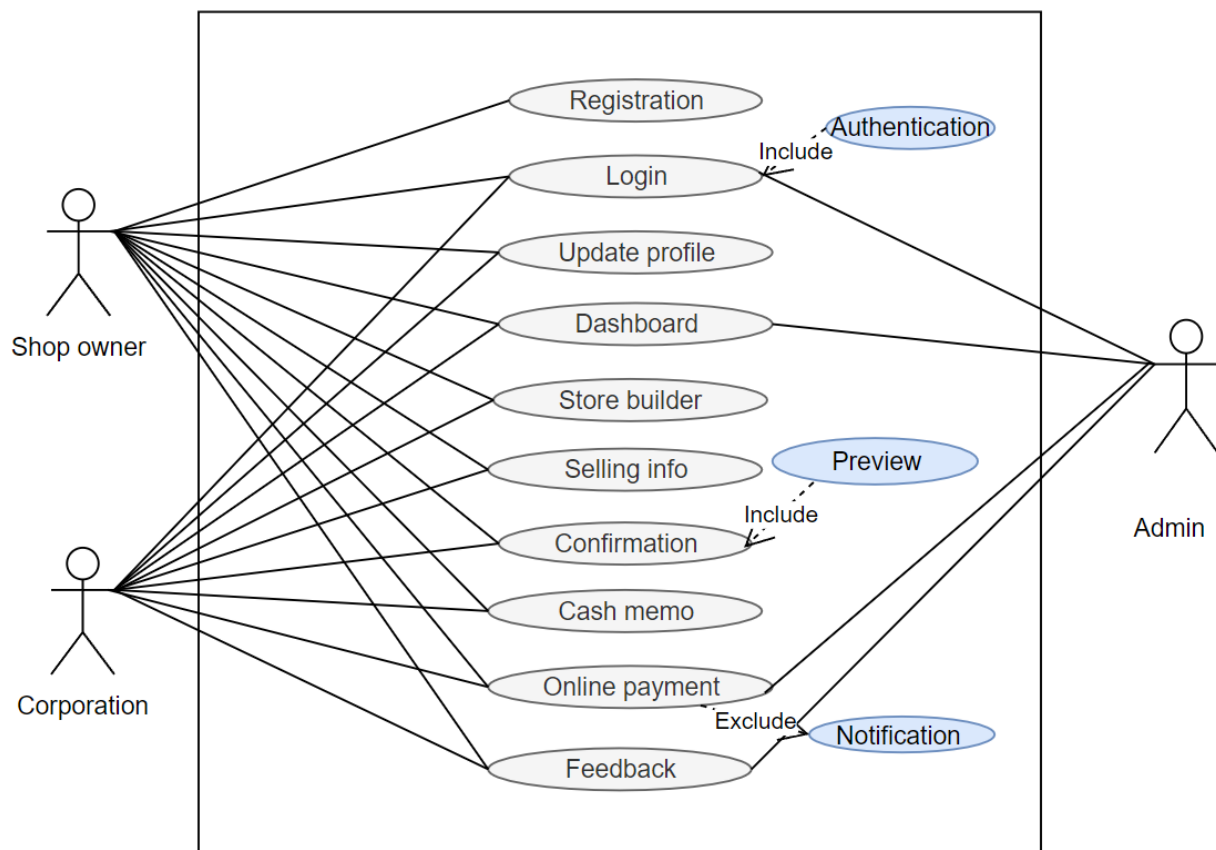


Figure 4.5: Use case Diagram for VAT Ensuring System

#### 4.6. Activity Diagram

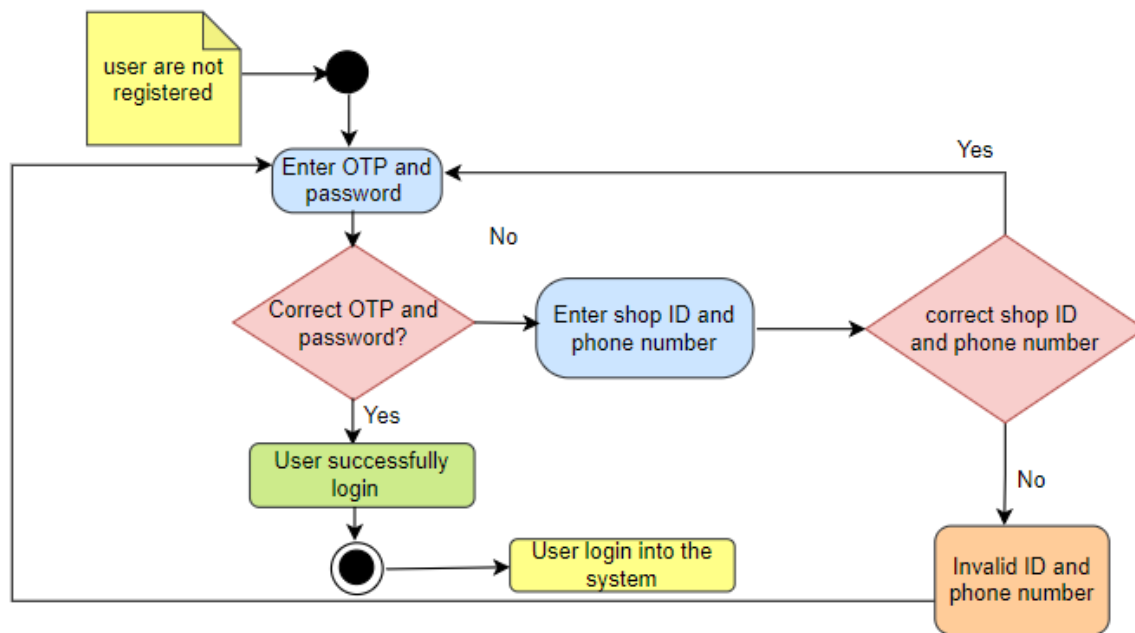


Figure 4.6.1: Activity Diagram for Sign-In

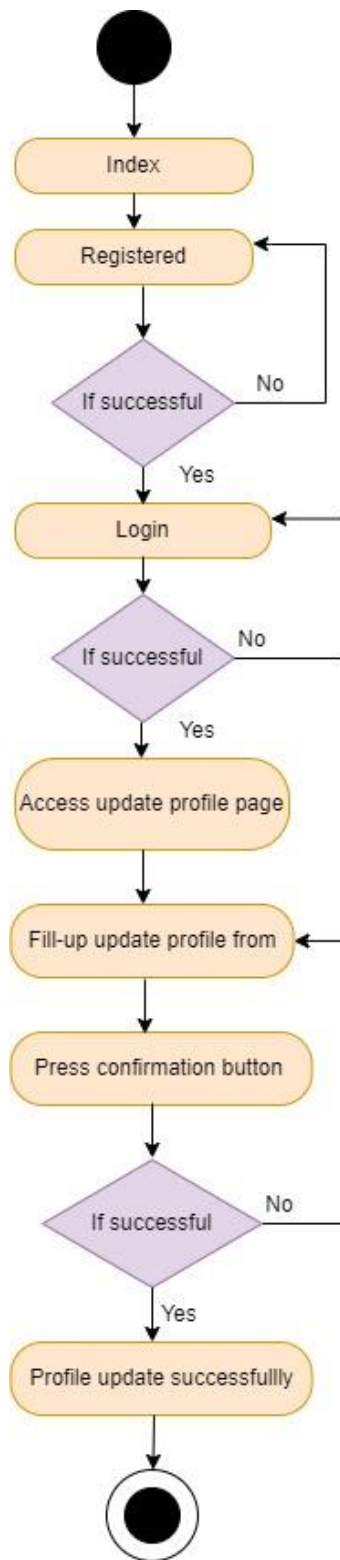


Figure 4.6.2: Activity Diagram for Update Profile

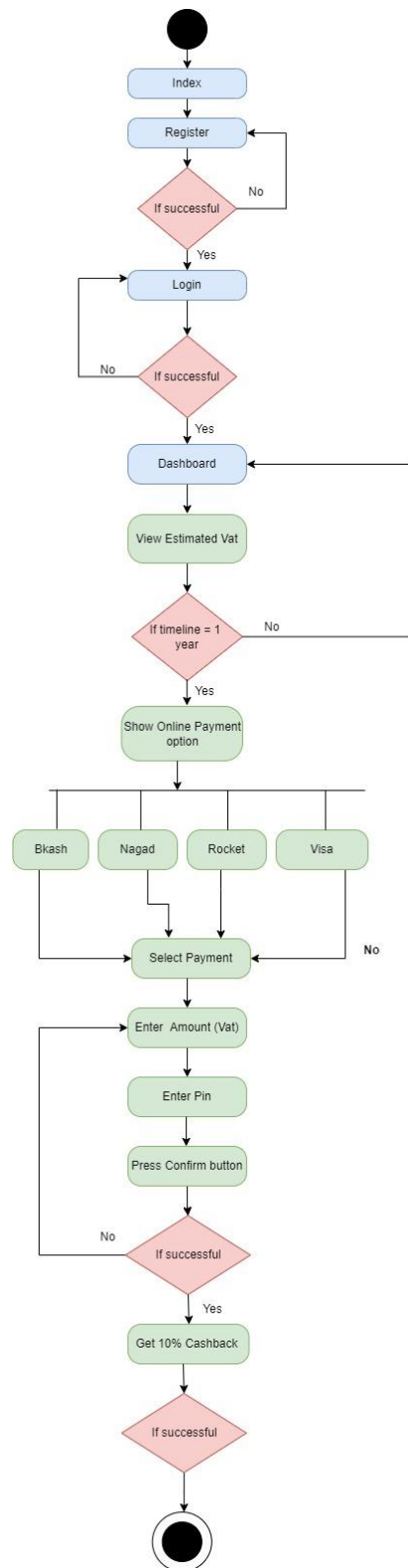


Figure 4.6.3: Activity Diagram for Online Payment

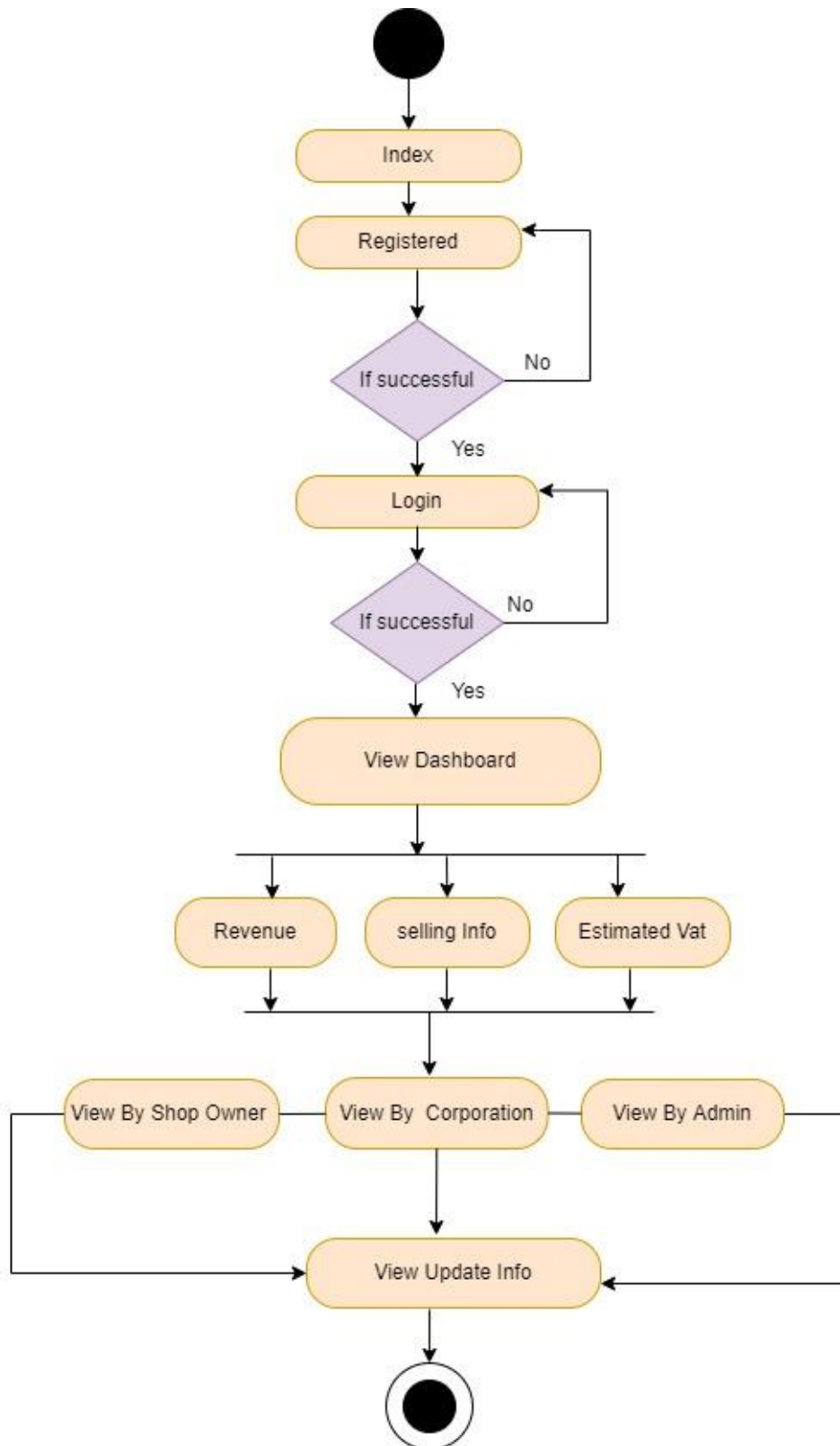


Figure 4.6.4: Activity Diagram for Dashboard

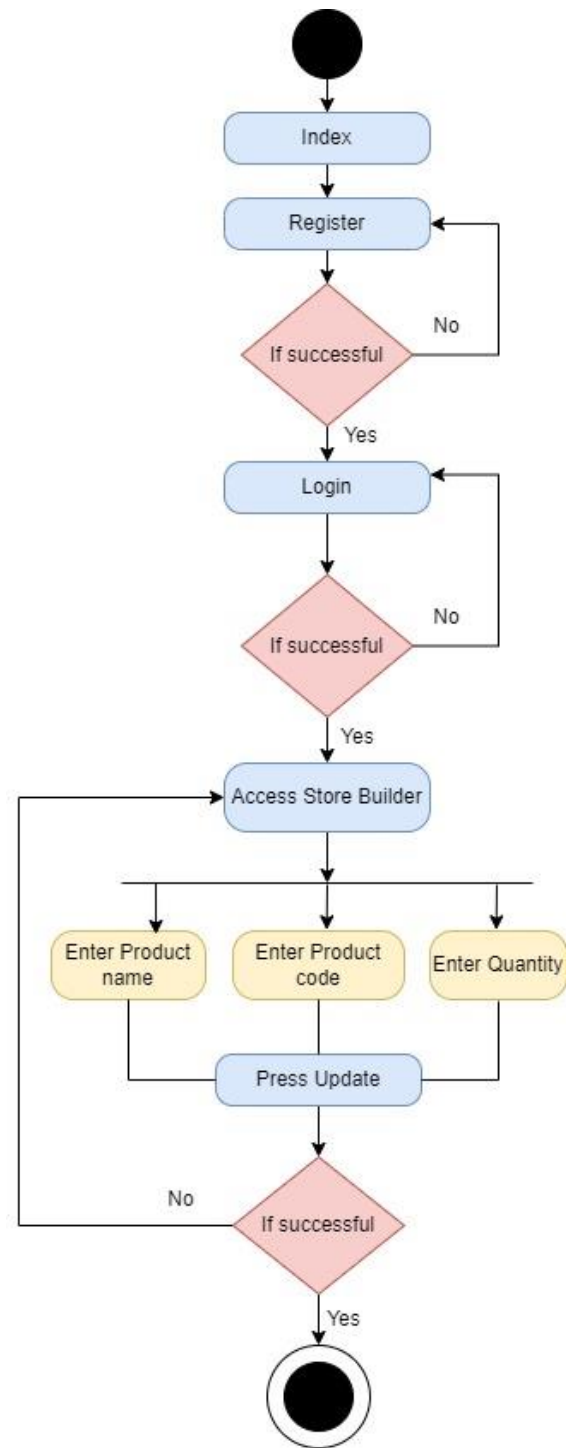


Figure 4.6.5: Activity Diagram for Shop Builder

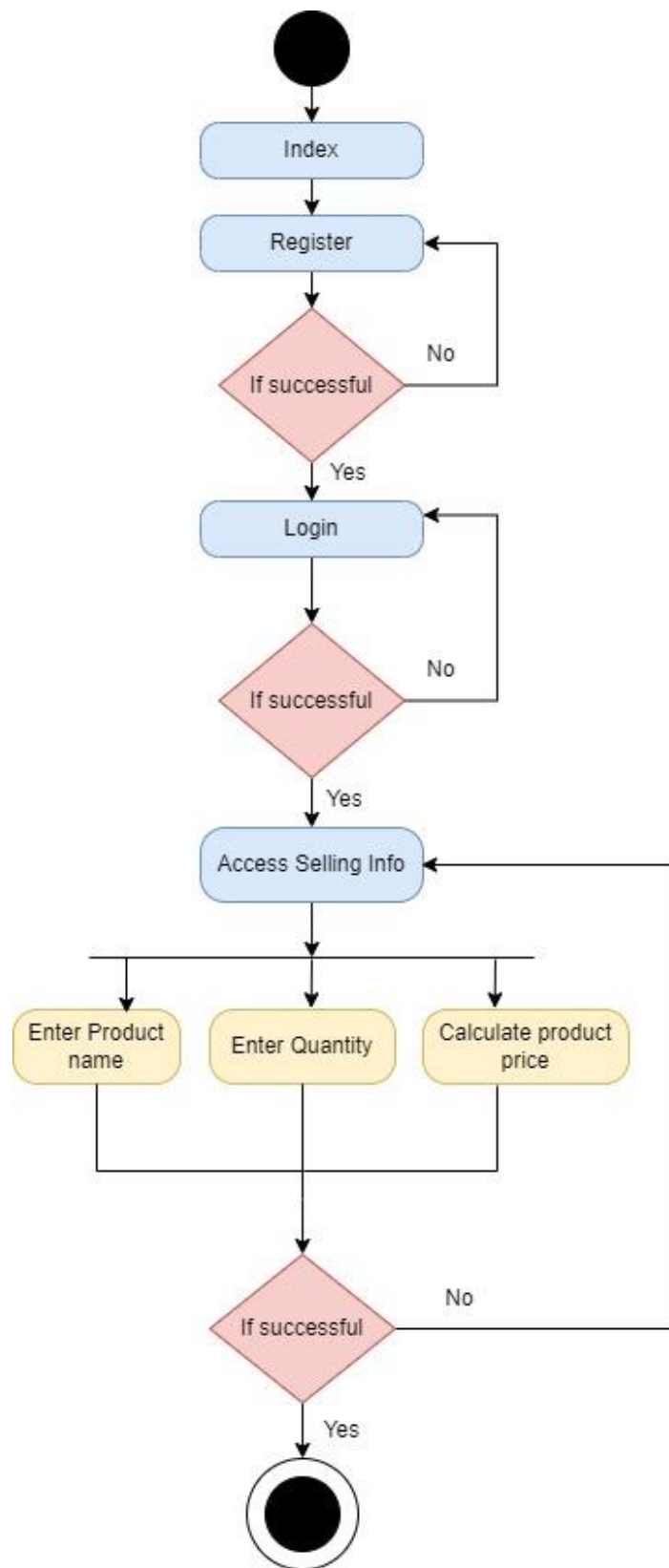


Figure 4.6.6: Activity Diagram for Selling Info

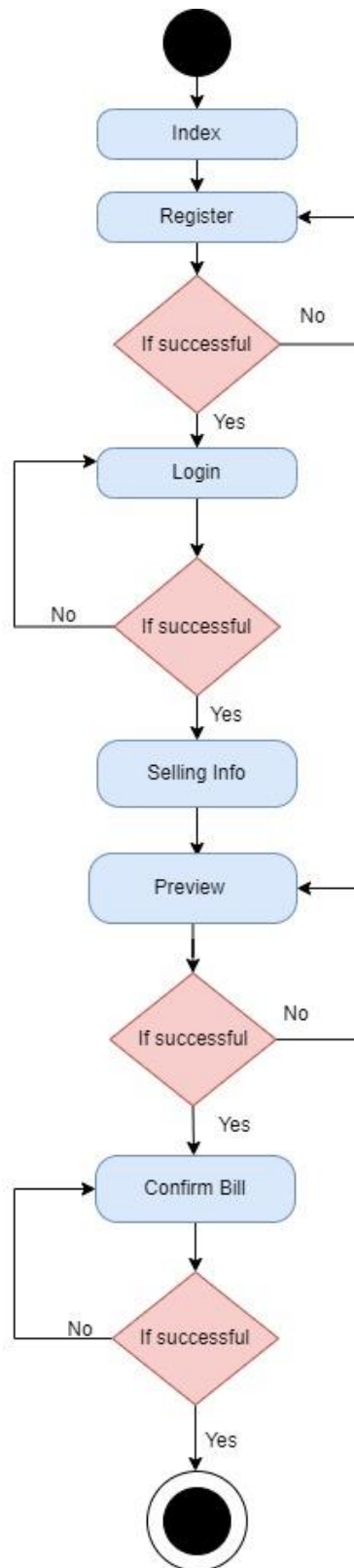


Figure 4.6.7: Activity Diagram for Confirmation (Bill)



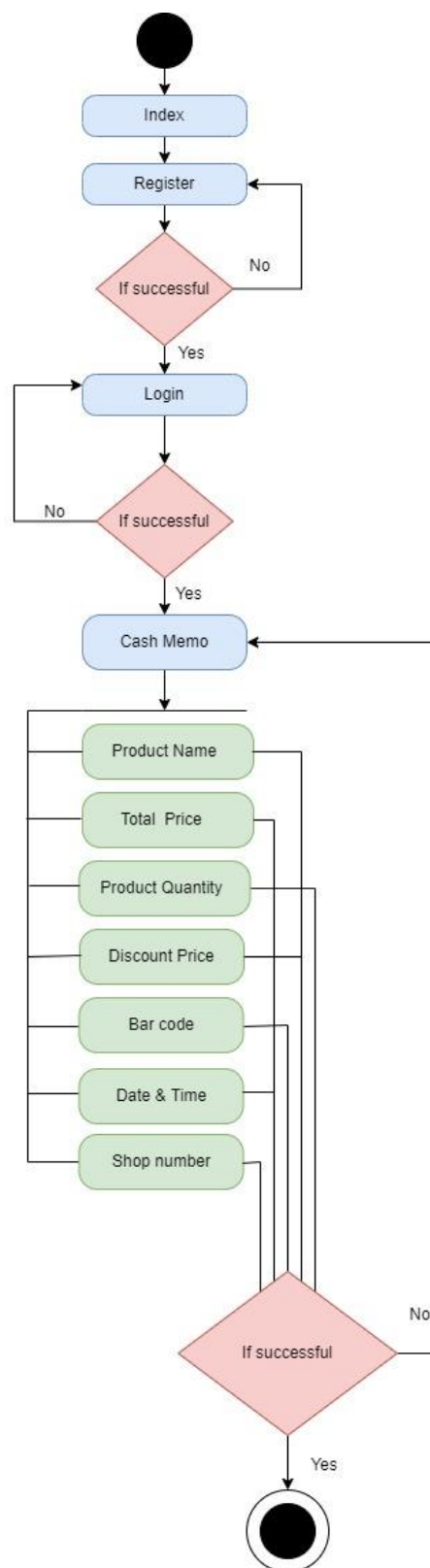


Figure 4.6.8: Activity Diagram for Cash memo

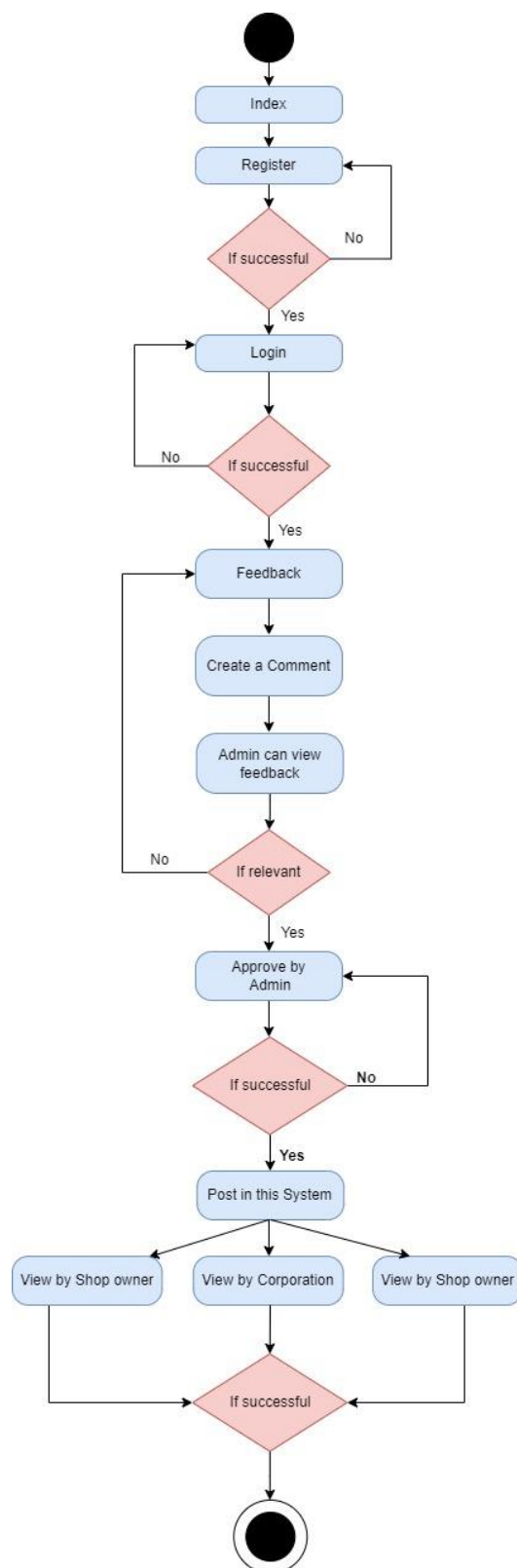


Figure 4.6.9: Activity Diagram for Feedback

### 4.7. Sequence Diagram

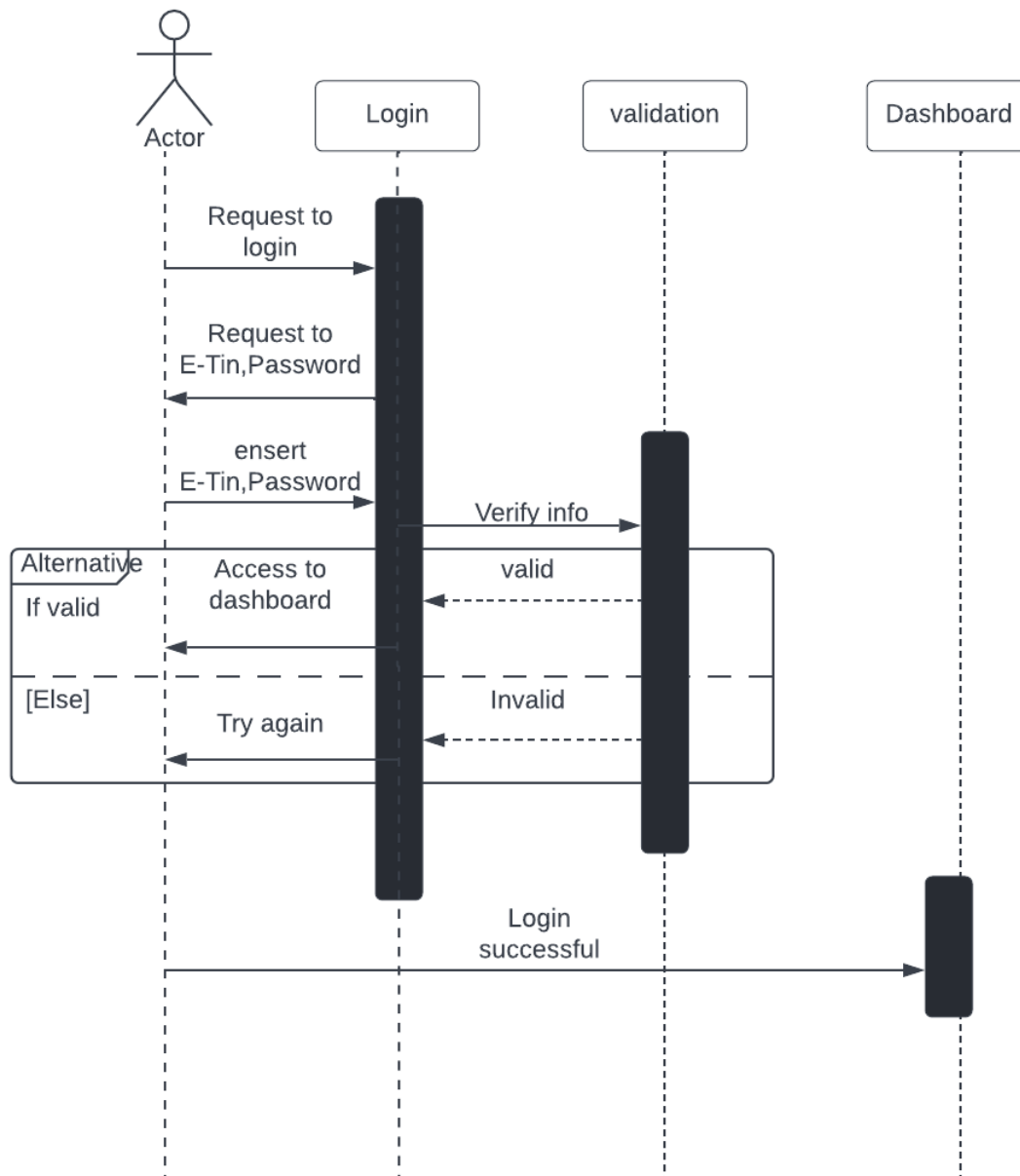


Figure 4.7.1: Sequence Diagram for Login

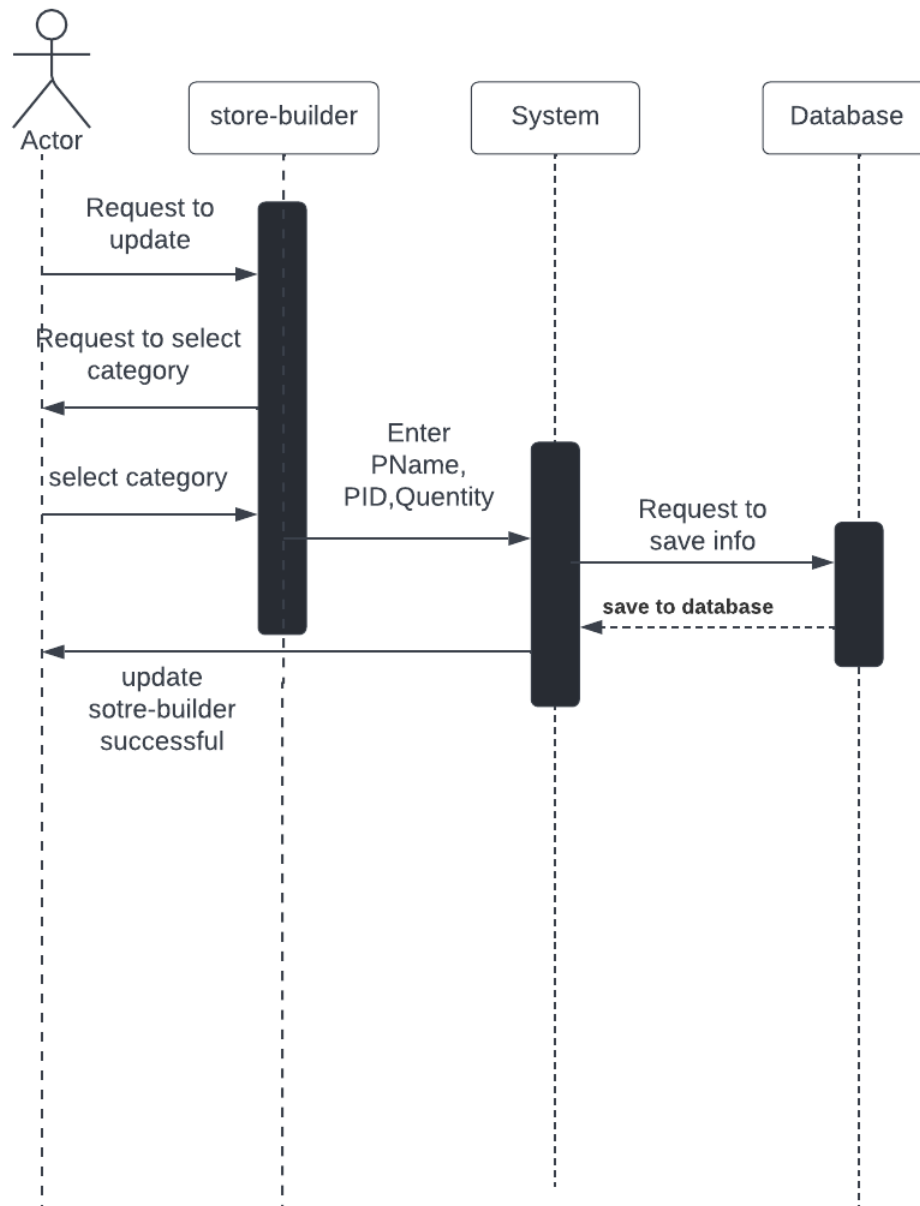


Figure 4.7.2: Sequence Diagram for Store Builder

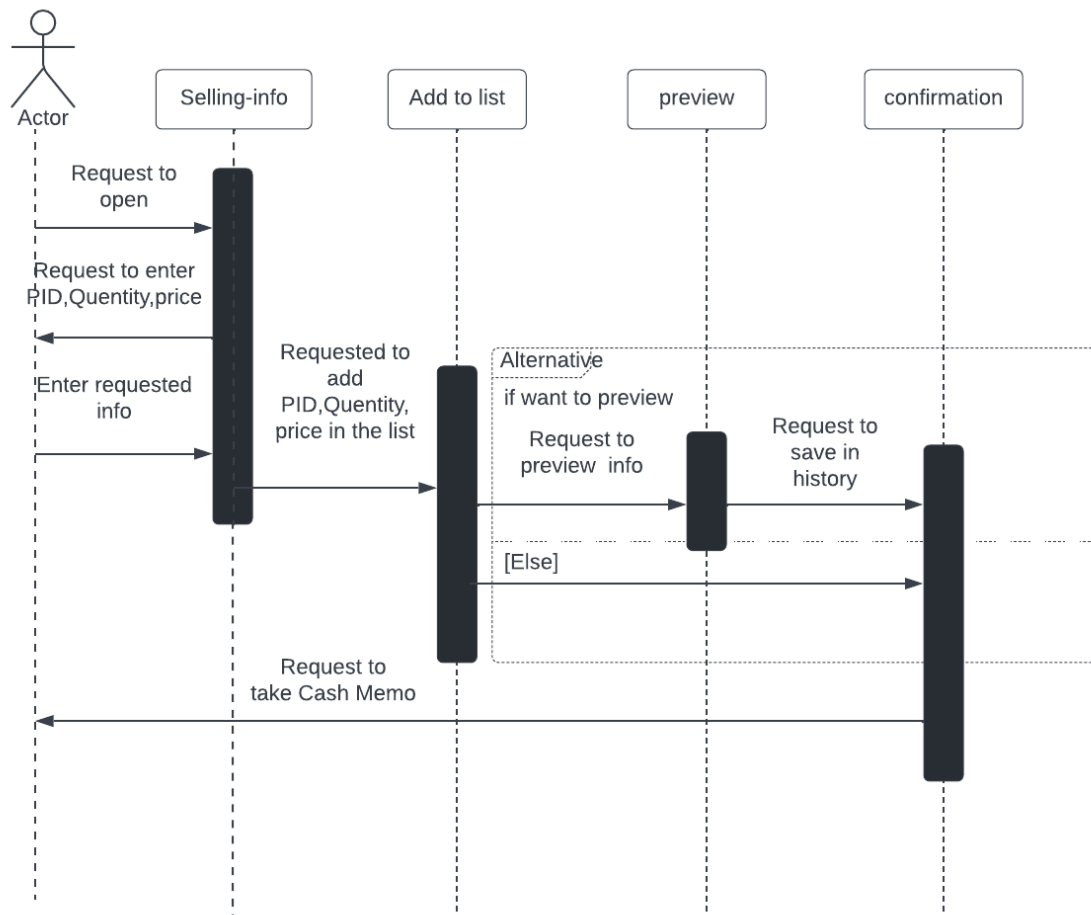


Figure 4.7.3: Sequence Diagram for Store Builder

## 4.8. Entity Relationship Diagram

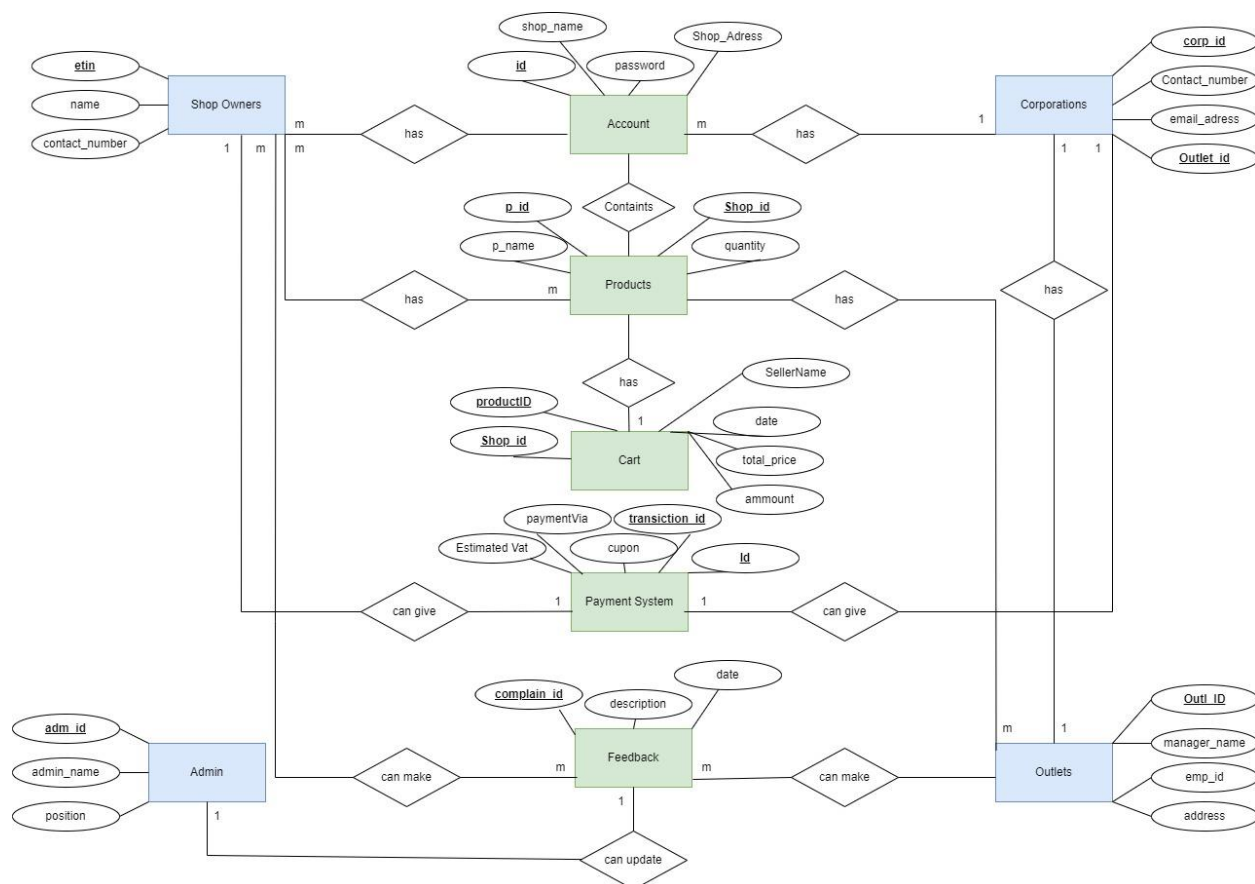


Figure 4.8: Entity Relationship Diagram for Vat Ensuring Diagram