



MINISTRY OF EDUCATION AND TRAINING

TRƯỜNG ĐẠI HỌC FPT

2012



# FPT UNIVERSITY

## Capstone Project Document

### BookStore Management System

SEP490_G30	
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Capstone Project code	BMS

- Hanoi, August 2023 -

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## Acknowledgement

The BMS (BookStore Management System) Project has finally reached its last stage. Looking back on the last four months, it has been a long journey for the team in general and each member in particular. Throughout the journey we have been through many challenges from regular life to health. Of course, we can't be here without receiving huge support from many people during our journey and we would love to tell them how grateful we are.

First and foremost, we would like to thank our team's supervisor, Mrs. Nang. Without her enthusiastic assistance in every step throughout the process, this project could have never been accomplished. Thank you so much for guiding us to complete this capstone project.

Secondly, we would like to thank Mrs. Hang and Ngoai Ngu BookStore. They have always been dedicated to answering and supporting questions and business flow for us. Thank you so much for joining us in this capstone project.

Finally, we would like to express our gratitude to our families and friends with their trust, love and support

*BMS Project, SEP490\_G30*

*HaNoi, August 22th, 2023*

## Definition and Acronyms

Acronym	Definition
BMS	BookStore Management System
BA	Business Analysis
BR	Business Rule
ERD	Entity Relationship Diagram
GUI	Graphical User Interface
PM	Project Manager
SDD	Software Design Description
SPMP	Software Project Management Plan
SRS	Software Requirement Specification
UAT	User Acceptance Test
UC	Use Case
API	Application Program Interface

# I. Project Introduction

## 1. Overview

### 1.1. Project Information

- Project name: BookStore Management System
- Project code: BMS
- Group name: SWP490\_G30
- Software type: Website

### 1.2. Project Team

Full Name	Role	Email	Mobile
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## 2. Product Background

Ngoại Ngữ book store (261 Trần Quốc Hoàn) is currently buying and selling directly at the store and through social networks such as Zalo, etc. Using Zalo wastes the time of both customers and sellers(staff). Firstly, when the customer and the staff have to exchange information such as what the store has, does the store have a discount policy, what is the store's return policy, etc. consultation for each customer in about 20-30 minutes. Secondly, messages via Zalo are easy to drift. This makes it very difficult for merchants to keep track of order status. Besides, in case customers close orders via Zalo, employees will have to create orders through the desktop system (Ngoại Ngữ store's management system). This process also takes time for both the customer and the staff as the customer has to manually type their order on Zalo message and the staff has to update that order in the system. When the number of customers increases, the store will spend a lot of manpower to consult and create orders for customers. The store needs a system that can simultaneously manage the store and save the time of creating orders for customers and employees.



Figure 2.1: Inside Bookstore



Figure 2.2: Outside Bookstore

### 3. Existing Systems

#### 3.1. Ngoại Ngữ Bookstore (261 Tran Quoc Hoan) management system

This system offers an array of features that facilitate seamless management of products, orders and purchase orders while providing clear insights into revenue and bestselling items.

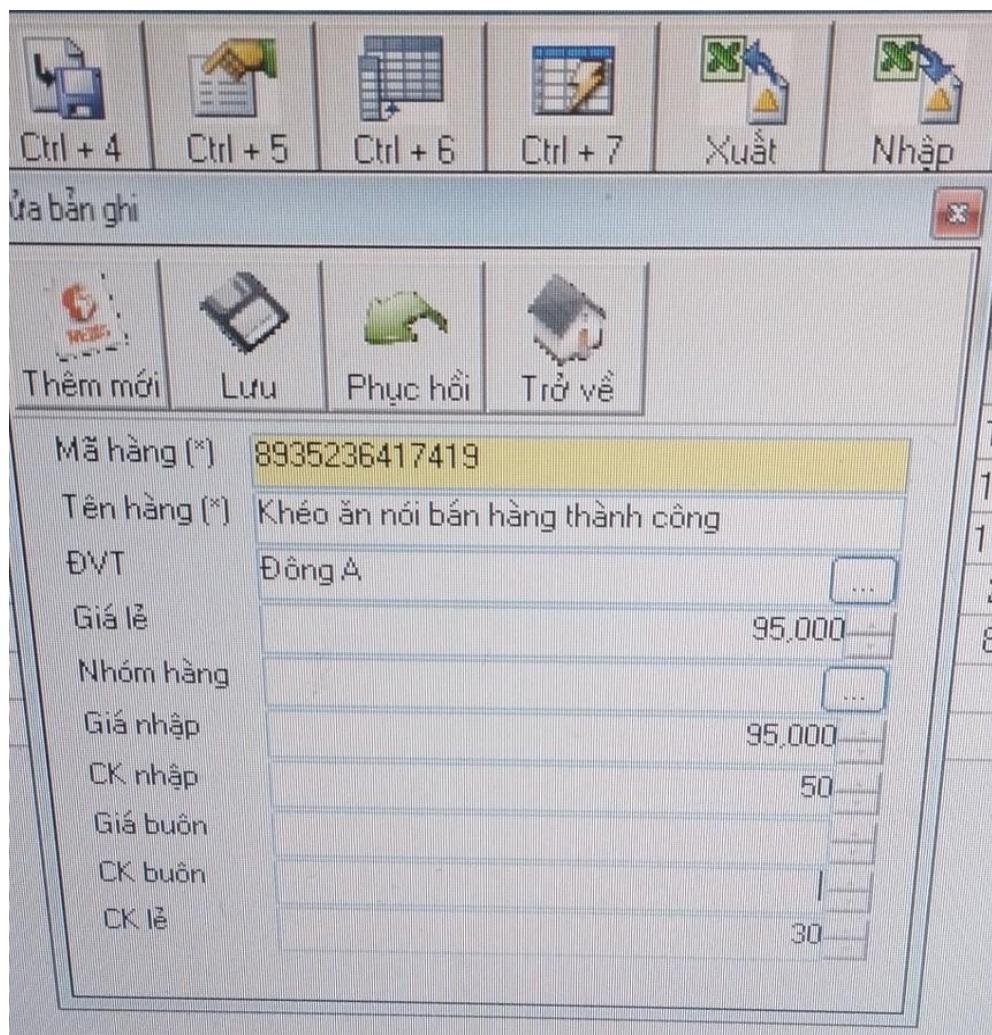


Figure 3.1.1: Edit product

Nhân viên	Hàng	Kho hàng						
Nhà CC	Công Ty Cổ Phần Mcbook	MST						
Địa chỉ	Số 26 - Ngõ 245 - Phố Mai Dịch - Cầu Giấy - TP.Hà Nội	Người bán						
Ghi chú								
Mã hàng		Số lượng	Chuyển xuống					
Đơn giá		Khuyến mại						
		Thành tiền						
SIT	Mã hàng	Tên hàng	ĐVT	Số lượng	Đơn giá	Khuyến mại	Thành tiền	Sửa
1	8935246926444	Học nhanh nhớ lâu 1500 từ vựng tiếng tr		3	168.000	40	302.400	Xoá
2	8935246932995	Học nhanh nhớ lâu 1500 từ vựng tiếng T		3	145.000	40	261.000	Print
3	8935246928233	Học nhanh nhớ lâu ngữ pháp tiếng trung		3	120.000	40	216.000	Excel
4	8935246927717	10 phút tự học tiếng trung mỗi ngày		3	85.000	45	140.250	
5	8935246937946	Tự học tiếng Trung dành cho người Việt		3	118.000	40	212.400	
6	8935246930069	Vui học tiếng Trung ngữ pháp		3	120.000	40	216.000	
7	8935246929193	vui học tiếng trung giao tiếp		3	150.000	40	270.000	
8	8935246926468	5000 từ vựng tiếng trung bỏ túi		3	148.000	40	266.400	
9	8935246928943	các các ruoc		5	59.000	40	177.000	
Tổng tiền hàng		4,969.000	Tiền khuyến mãi	2,041.450				
Thành tiền		2,927.550	Bảng chữ	Hai triệu chín trăm hai mươi bảy nghìn năm trăm năm mươi đồng				
Thanh toán			Còn lại	2,927.550		Hạn thanh toán //		
Người dùng Hàng				Chép từ File Excel				
<input type="checkbox"/> Lưu và In phiếu								
Massage		Massage1						

Figure 3.1.2: Purchase order screen

03/06/2023	Người dùng Hàng	360,400						
14h56	Chứng từ	HBL/12/23/06-00075						
1	Mã hàng							
	Khuyến mãi	Thành tiền	Không đồng					
SIT	Mã hàng	Tên hàng	ĐVT	Số	Đơn giá	Khuyến mại	Thành tiền	
1	i	IELTS 1 đến 17		2	45.000	0	90.000	
2	8935246937129	Destination B1 Grammar&Vocabulary with answer key		1	169.000	20	135.200	
3	8935246937136	Destination B2 Grammar&Vocabulary with answer key		1	169.000	20	135.200	

Figure 3.1.3: Checkout screen

Pros	Cons
<ul style="list-style-type: none"> <li>- Save Time: The system optimises the payment process, saving valuable time and increasing overall productivity.</li> <li>- The ability to create and manage orders ensures uninterrupted operation, even without an internet connection.</li> </ul>	<ul style="list-style-type: none"> <li>- Only provide a single screen for both online and in-store sales.</li> <li>- Unable to promote the brand to many customers</li> </ul>

### 3.2. KiotViet

KiotViet provides simple and cost-effective solutions, helping small, medium and micro enterprises to do business more easily and efficiently. All a user has to do is add the user's specific contact details, the warehouse, and they'll quickly create an inventory for that business

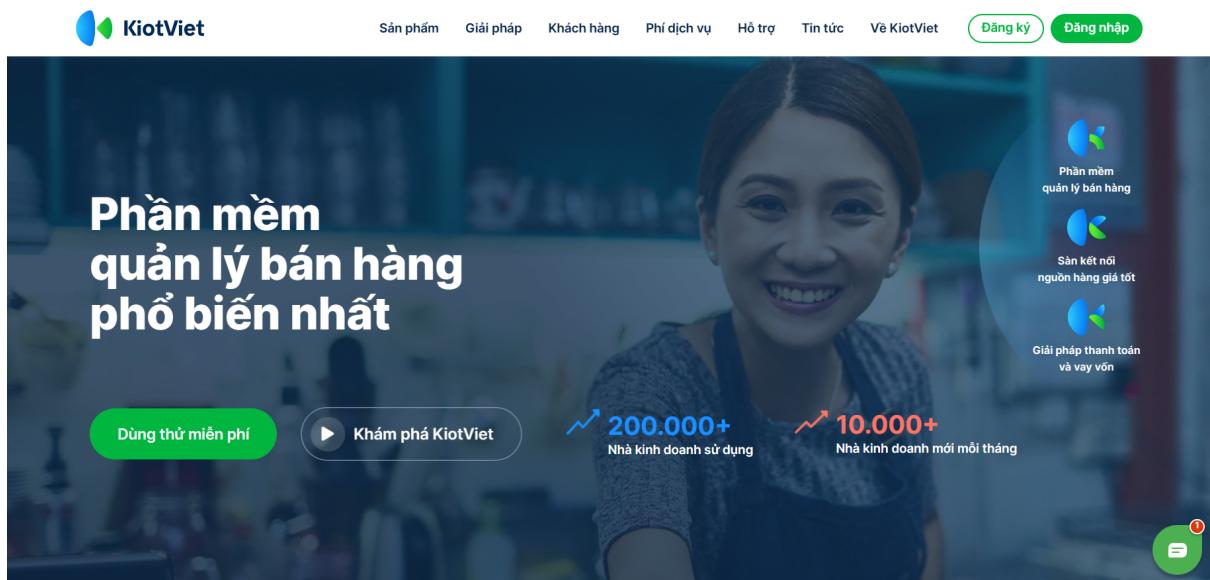


Figure 3.2.1: KiotViet Website

#### Pros:

- Suitable for most industries, such as fashion, grocery, supermarket, cosmetics, electronics... both wholesale and retail.
- Suitable for businesses, shop owners only focus on selling at the store, managing multiple branches.
- Don't need to be a store owner account, but an employee account can also delete and edit orders if granted permission.
- Only provide a single screen for both online and in-store sales, only need to be familiar with a single sales order creation screen.

### 3.2. Tiki

Tiki stands for "Search & Save", which is the name of a Vietnamese e-commerce website. Tiki's beginning was just an online book-selling website, with the investment of CyberAgent Ventures Inc investment fund, Tiki gradually expanded into an e-commerce platform. Currently, it is the top 2 e-commerce sites in Vietnam and the top 6 in Southeast Asia.

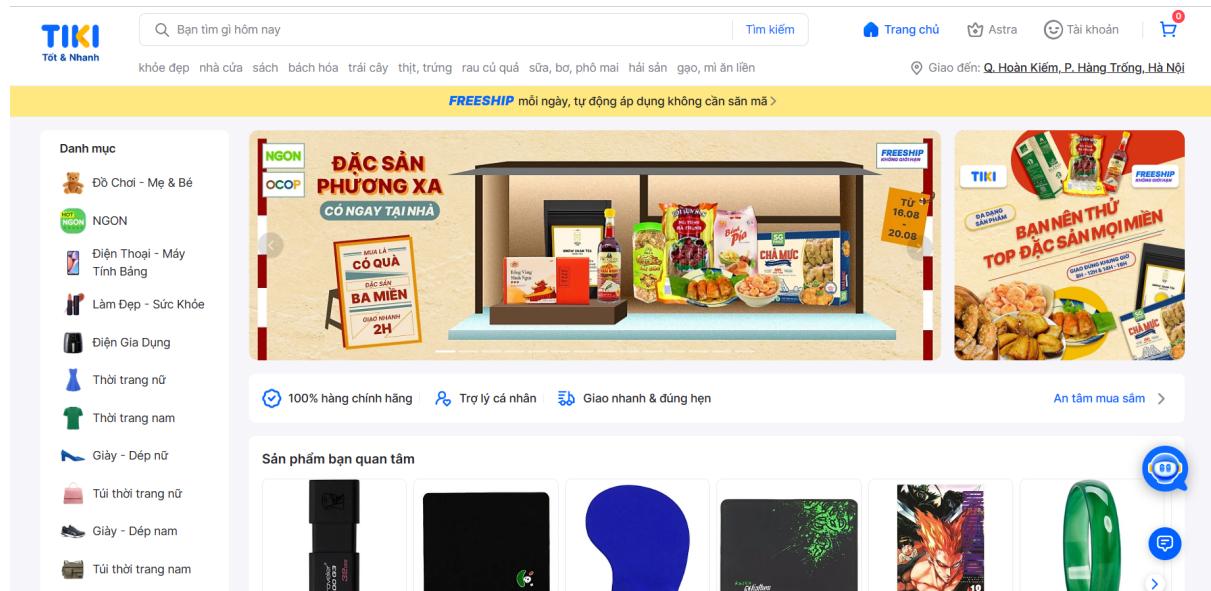


Figure 3.3.1: Tiki Website

#### Pros

- Full interface, eye-catching
- Newbie-friendly, optimised methods management
- Wide range of products and payment methods
- Full staff management support
- Hotline and chat with a counsellor

### 3.3. Sapo

Sapo helps to operate and manage stores more efficiently. Easily pay, issue invoices in just a few simple steps to save maximum sales time. Grow revenue and manage online sales easily on e-commerce platforms, Facebook, Instagram comprehensively. Sales management software helps to track and compare revenue with data on the system to detect losses early to make timely adjustments.

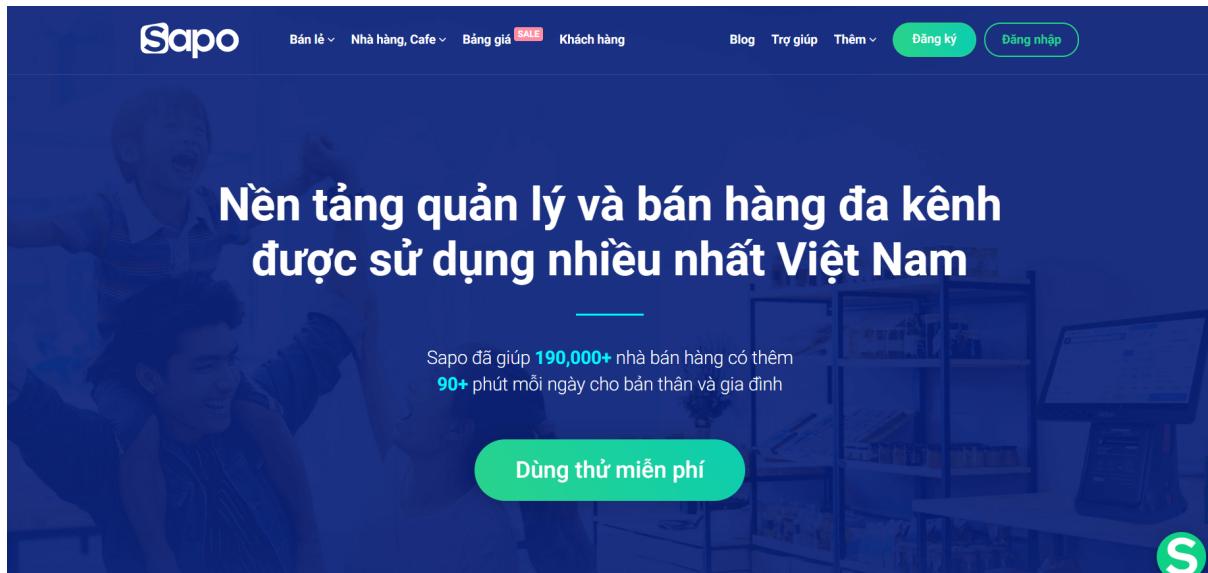


Figure 3.4.1: Sapo Website

### Pros

- The interface is clean, simple and will take care of the work for you.
- User experience is good, anyone can use and customise it easily.
- Have a Sapo app on your phone for tracking.
- Interface is beautiful

## 4. Business Opportunity

The store now has a desktop application to create invoices for customers, create purchase orders to import goods from suppliers and view sales situations such as sales, number of best-selling products. However, for all the work and functions to work more efficiently, the store needs a new website system. Firstly, a website helps to build a personal brand and create trust from customers. Moreover, the new system not only helps online customers save time creating invoices, but also helps stores manage products, orders, revenue statistics, ...conveniently.

## 5. Software Product Vision

The product vision for the BookStore Management System is to provide an e-commerce website for everybody to find and buy book or stationery, as well as a comprehensive management website that can improve the efficiency and effectiveness of bookstore operations.

## 6. Project Scope & Limitations

### 6.1. Major Features

#### ❖ User:

- **Owner:** The one who can manage account staff management, overview of sales performance, view all information in the store such as: product, order, customer,...
- **Staff:** The one who can manage order, manage product, manage purchase order, manage customers.
- **Guest:** the one who interact via the e-commerce website, register account to become customer, view products, add products to cart
- **Customer:** the one who interact via the e-commerce website, can do what Guests can, in addition to log in to their account, create order, set information in profile and set delivery addresses

#### ❖ Major Features:

ID	Major Features & Description
FE-01	Login: This feature allows all users except guest login to the system using email and password.
FE-02	Manage Profile: This feature allows all users except guests to view and update profiles in their accounts and change passwords.
FE-03	Manage Product: This feature allows the owner and staff to view all products in store. Staff create new products and update them. Customers can only view the information of products. The product will only be available for purchase only if it is active.
FE-04	Manage orders: This feature allows the owner and staff to view all orders of the store. Staff create new orders for customers and update incomplete orders. Only active customers can create orders.
FE-05	Manage purchase orders: This feature allows the owner and staff to view all purchase orders. Staff create a new purchase order and update the purchase order.
FE-06	Manage Supplier: This feature allows the owner and staff to view all suppliers, their information and their purchase order history. Staff can create a new supplier and update information of the supplier.
FE-07	Manage Customer: This feature allows the owner and staff to view all customers information in the store, view customer order history. Staffs can create new customers and update information of customers. Change customer's status.
FE-08	Manage Author: This feature allows the owner and staff to view all book's authors. staff create a new author and update the author information or status.
FE-09	Manage staff account: This feature allows the owner to view all staff accounts in the system. The owner can create staff accounts with their profile, change staff account status, and update accounts.

FE-10	Register: This feature allows guests to register to become customers.
FE-11	View products: This feature allows guests and customers to view all active products on the website and add as many products as they wish to their cart.
FE-12	Manage Cart: This feature allows guests and customers to select one product still stocking from the website and add it in their cart. While shopping, they can view the list product in cart, change the quantity, remove product(s) from cart and view total price. Create a new order from the cart.
FE-13	Manage customer's order: This feature allows active customers to view all of their orders. View order details and cancel the order.
FE-14	Manage shipping addresses: This feature allows customers to view all of their shipping addresses. Create new address, delete or update addresses.
FE-15	Dashboard: This feature allows owner to view various types of visual data in store
FE-16	Forgot password: This feature allows all users except guests who have forgotten their password to reset it by registered email of their account
FE-17	Management Category and SubCategory: This feature allows the owner and staff to view all categories and its subCategories. Staff can create/update/delete category and subCategory

## 6.2. Limitations & Exclusions

Due to time constraints, we have 2 limitations and 4 exclusion which are mentioned below, although we are aware that they are quite useful and necessary features:

### 6.2.1. Limitations

ID	Limitations
LI-01	The system only supports web applications and does not support Mobile versions.
LI-02	The system only supports the Vietnamese language.

### 6.2.2. Exclusions

ID	Exclusions
EX-01	Check-out with VNPay, Paypal... for customer
EX-02	Create direct sales invoice
EX-03	Activity log function for owner
EX-04	Update quantity in inventory with product that have difference unit
EX-05	Staff Management, Expense and Income Management

## II. Project Management Plan

### 1. Overview

#### 1.1 Scope & Estimation

#	WBS Item	Complexity	Est. Effort (man-days)
<b>1</b>	<b><i>Authentication and Authorization</i></b>		
1.1	(Guest)Register	Simple	2
1.2	Forgot password	Simple	2
1.3	Change password	Simple	2
1.4	Login with email & password	Complex	5
1.5	Logout	Simple	2
1.6	Email verification	Medium	2
<b>2</b>	<b><i>Category Management</i></b>		
2.1	Create category	Simple	3
2.2	View category	Simple	3
2.3	Update category	Simple	3
2.4	Delete category	Simple	3
<b>3</b>	<b><i>SubCategory Management</i></b>		
3.1	Create subcategory	Simple	3
3.2	View subcategory	Simple	2
3.3	Update subcategory	Simple	3
3.4	Delete category	Simple	3
<b>4</b>	<b><i>Product Management</i></b>		
4.1	Create product	Complex	12
4.2	View product	Simple	4
4.3	Product Details	Simple	4
4.4	Update product	Complex	12
4.5	Dashboard	Medium	10
<b>5</b>	<b><i>Manage order</i></b>		
5.1	Create order	Complex	12
5.2	View order	Medium	7

5.3	Update order status	Complex	10
5.4	View order history	Complex	7
<b>6</b>	<b><i>Manage purchase order</i></b>		
6.1	View purchase order	Medium	5
6.2	Create purchase order	Complex	12
6.3	Update purchase status	Medium	9
6.4	Edit purchase order	Complex	10
<b>7</b>	<b><i>(Customer)Buy products</i></b>		
7.1	Search, Sort and filter products	Medium	8
7.2	View product details	Medium	5
7.3	Add product to cart	Complex	10
7.4	Create a order	Medium	7
<b>8</b>	<b><i>User management</i></b>		
8.1	View profile	Medium	5
8.2	Update profile	Medium	5
8.3	(Customer)View customer order	Medium	3
8.4	(Customer)Update order status	Medium	3
<b>9</b>	<b><i>Manage author</i></b>		
9.1	View author	Simple	2
9.2	Create author	Simple	2
9.3	Update author	Simple	2
<b>10</b>	<b><i>Manager Staff Account</i></b>		
10.1	Create staff	Medium	4
10.2	Edit staff	Medium	3
10.3	View staff	Simple	3
10.4	Update staff	Medium	7
<b>11</b>	<b><i>Manager supplier</i></b>		
11.1	Create supplier	Medium	6
11.2	Edit supplier	Medium	7
11.3	View supplier	Simple	4
<b>12</b>	<b><i>Customer management</i></b>		

12.1	View list customer	Medium	5
12.2	View detail customer	Medium	4
12.3	Update customer	Medium	4
12.4	Delete customer 's shipping information	Medium	3
12.5	Add customer 's shipping information	Medium	3
12.6	Update customer 's shipping information	Medium	3
<b>13</b>	<b><i>Shipping information management</i></b>		
13.1	View list shipping information	Medium	3
13.2	Create shipping information	Medium	2
13.3	Update shipping information	Medium	2
13.4	Delete shipping information		2
<b>14</b>	<b><i>(Customer)Manage Order</i></b>		
14.1	View order list	Medium	2
14.2	View order details	Medium	2
14.3	Update order status	Medium	2

*Total Estimated Effort (man-days)*      **275**

## 1.2 Project Objectives

### - Objectives:

- The project must be completed before 20th August 2023
- All team members must be informed about all the information of schedule, documentations or tasks.
- Team members must follow tasks assigned to them by leaders.

#	Testing Stage	Test Coverage	No. of Defects	% of Defect	Notes
1	Reviewing	100%	20	45%	Before closing the issue, the tester and the leader will review
2	Unit Test	100%	9	20.5%	Developer creates and tests
3	Integration Test	100%	9	20.5%	The tester creates and test
4	System Test	100%	3	7%	The tester creates and tests
5	Acceptance Test	100%	3	7%	Customer verifies system

### 1.3 Project Risks

#	Risk Description	Impact	Possibility	Response Plans
1	Incorrect estimates break the project plan	High	High	<ul style="list-style-type: none"> <li>• Create a schedule carefully</li> <li>• Start early</li> <li>• Add backup time (or backup schedule)</li> <li>• Focus on close targets</li> </ul>
2	Source Code Conflicted	Medium	Medium	<ul style="list-style-type: none"> <li>• Test carefully before push.</li> <li>• Back-up code regularly</li> </ul>
3	Team members do not clearly understand the requirements	High	Medium	<ul style="list-style-type: none"> <li>• BA hold meetings to clarify their requirements</li> </ul>
4	Internet connection issue in Capstone project defence	High	Medium	<ul style="list-style-type: none"> <li>• Prepare personal wireless internet connection</li> <li>• Record demo video before the Capstone project defence</li> </ul>
5	Server failure	High	Medium	<ul style="list-style-type: none"> <li>• Use paid and certified servers</li> <li>• Use a different server</li> </ul>

## 2. Management Approach

### 2.1 Project Process

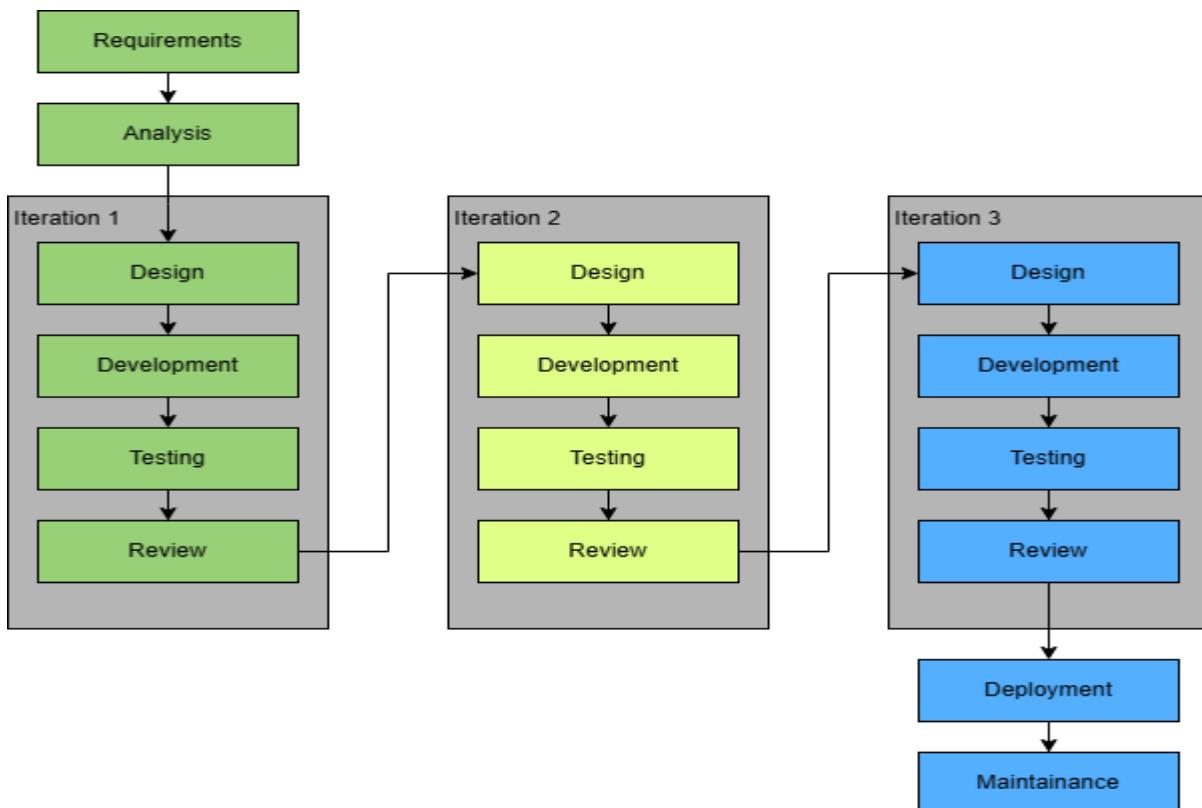


Figure 2.1.1: Iterative Software Process Model

An iterative model involves a repetitive cycle from the start to completing the full specification. This process is then repeated, generating a new version of the software at the end of each iteration of the model. Instead of developing software from a complete specification and then starting execution, this model allows for gradual refinement to reach the final requirements. It has these advantages:

- Builds and refines product components step by step.
- Documentation time will be lesser compared to design time.
- Certain working features can be rapidly developed and incorporated early in the lifecycle.
- Less costly when scope or requirements change.
- Easy risk management.
- Throughout the lifecycle, software is produced early to enable customer evaluation and feedback.

## **2.2 Quality Management**

### **2.2.1 Code Review**

- Any contribution of team members will be reviewed by team leader before merging into main branch.
- If team leader finds any defect or ambiguity in code or document, he will discuss directly with the author to clarify problems and give instructions on how to fix them.
- Team leader also checks if the added code follows code convention. If not, the executor will be assigned to fix it.

### **2.2.2 Unit Testing**

- As each team member will be not only a developer but also a tester, each person will be testing for what part they code.
- Any defects found will be recorded on GitHub Issues as a bug tracking software, with details and images for evidence.
- That team member will then be responsible for repairing those defects.

### **2.2.3 Integration Testing**

- All Integration test cases will be recorded into a spreadsheet, divided by feature. The team member who developed the feature will perform an Integration test for that feature.
- Any defects found will also be recorded on GitHub Issues and will be fixed by that team member.

### **2.2.4 System Testing**

- In the team meeting at the end of each Iteration, all team members will discuss writing some system test cases that can cover all features.
- Any defects found will also be recorded on GitHub Issues and will be fixed by the team member who is responsible for the feature to which it belongs

## 2.2.5 Acceptance Testing

- Reasonable test fields should fit well with the system and architectural design according to user specification requirements. The person who commits the bug found must have a solution to the bug as quickly as possible.

## 2.3 Training Plan

Training Area	Participants	Duration	Waiver Criteria
Unit Test	TungLM, QuocTK, HungLM, ChinhK	30/5/2023 - 10/6/2023	Mandatory
Git, Github	All Team member	30/5/2023 - 10/6/2023	Mandatory
Asp.Net	QuocTK, HungLM, ChinhLK	30/5/2023 - 10/6/2023	Mandatory
Coding Convention	QuocTK, HungLM, ChinhLK	30/5/2023 - 10/6/2023	Mandatory
Azure	QuocTK, HungLM, ChinhLK	30/5/2023 - 10/6/2023	Mandatory

## 3. Project deliverable

#	Deliverable	Start Date	End Date	Note
1	Project Idea	10/5/2023	14/05/2023	
2	Report 1 – Project Introduction	15/05/2023	21/05/2023	<ul style="list-style-type: none"> <li>• Product background</li> <li>• Existing systems</li> <li>• Business opportunity</li> <li>• Product vision</li> <li>• Project scope &amp; limitations</li> </ul>
3	Report 2 – Project Management Plan	22/05/2023	28/05/2023	<ul style="list-style-type: none"> <li>• WBS Project process</li> <li>• Plan and schedule</li> <li>• Project organisation</li> <li>• Project communication</li> <li>• Configuration management</li> </ul>
4	Report 3 – SRS v1	29/05/2023	07/06/2023	<ul style="list-style-type: none"> <li>• Business rules Use case diagram</li> </ul>

				<ul style="list-style-type: none"> <li>● Use case Functional requirements</li> <li>● Non-functional requirements</li> </ul>
5	Report 4 – Software Design v1	02/06/2023	10/06/2023	<ul style="list-style-type: none"> <li>● System architecture</li> <li>● Back-end</li> <li>● Database design</li> </ul>
6	Report 5 - Test Document v1	06/06/2023	10/06/2023	<ul style="list-style-type: none"> <li>● Create test case for iteration 1</li> </ul>
7	Code & Implement Iteration 1, UT, IT (Authen & Manage Products & Customer Shopping)	12/06/2023	18/06/2023	<ul style="list-style-type: none"> <li>● Detail design Code &amp; Unit test</li> <li>● Integration &amp; System test cases</li> </ul>
	Report 3 – SRS v2	19/06/2023	29/06/2023	<ul style="list-style-type: none"> <li>● Business rules Use case diagram</li> <li>● Use case Functional</li> <li>● Requirements Non-functional</li> <li>● requirements</li> </ul>
	Report 4 – Software Design v2	23/06/2023	30/06/2023	<ul style="list-style-type: none"> <li>● System architecture</li> <li>● Database design</li> </ul>
	Report 5 - Test Document v2	25/06/2023	30/06/2023	<ul style="list-style-type: none"> <li>● Create test case for iteration 2</li> </ul>
	Code & Implement Iteration 2 (Import/ export products)	01/07/2023	9/07/2023	<ul style="list-style-type: none"> <li>● Detail design Code &amp; Unit test</li> <li>● Integration &amp; System test cases</li> </ul>
	Report 3 – SRS v3	10/07/2023	18/07/2023	<ul style="list-style-type: none"> <li>● Business rules Use case diagram</li> <li>● Use case Functional</li> <li>● Requirements</li> <li>● Non-functional requirements</li> </ul>
	Report 4 – Software Design v3	13/07/2023	19/07/2023	<ul style="list-style-type: none"> <li>● System Architecture</li> <li>● Back-end Architecture</li> <li>● Front-end Architecture</li> <li>● Database design</li> </ul>
	Report 5 - Test Document v3	15/07/2023	20/07/2023	<ul style="list-style-type: none"> <li>● Create test case for iteration</li> </ul>

				<ul style="list-style-type: none"> <li>Execute test iteration 3</li> </ul>
	Code & Implement Iteration 3 (User Management)	21/07/2023	06/08/2023	<ul style="list-style-type: none"> <li>Detail design Code &amp; Unit test</li> <li>Integration &amp; System test cases</li> </ul>
	Report 6 - Software User Guides	07/08/2023	13/08/2023	<ul style="list-style-type: none"> <li>Deliverable package</li> <li>Installation guides</li> <li>User manual</li> </ul>
	Final Code, Test, Docs and Report 7	14/08/2023	20/08/2023	<ul style="list-style-type: none"> <li>All reports</li> <li>Presentation slide</li> <li>Source code</li> </ul>

## 4. Project Organization

### 4.1 Team & Structure

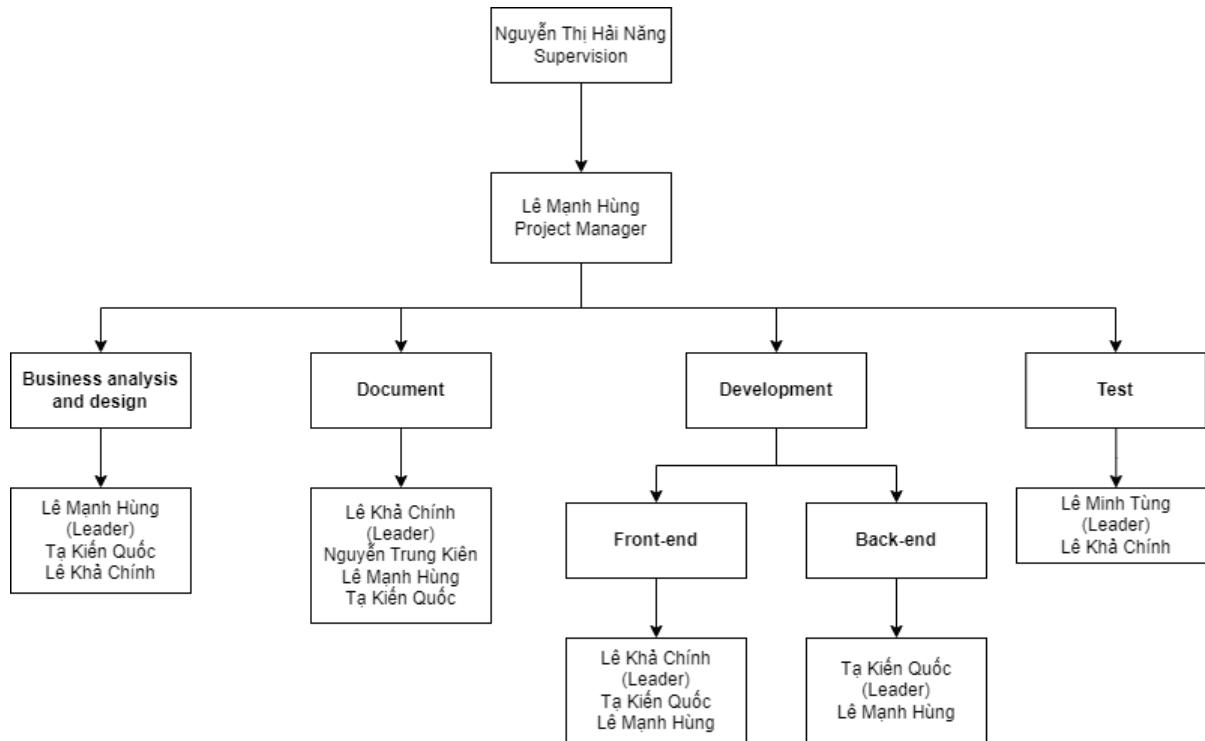


Figure 4.1.1: Team & Structure

## 4.2 Responsibility Assignments

Role	Responsibility
Project Manager	<ul style="list-style-type: none"> <li>+ Responsible for planning, creating schedules, coordinating communication of team members.</li> <li>+ Monitor the progress of the project and keep the project in the direct target.</li> </ul>
Business Analysis and Design	<ul style="list-style-type: none"> <li>+ Analyse project requirement</li> <li>+ Define project scope, create SRS document</li> <li>+ Review SRS created by analysis members</li> </ul>
Document	<ul style="list-style-type: none"> <li>+ Define requirements: functional and non-functional requirements</li> <li>+ Keep track and contribute to SRS document</li> <li>+ Define detailed flow of features</li> <li>+ Participating in research into other systems</li> </ul>
Frontend Developer	<ul style="list-style-type: none"> <li>+ Define screens, flow between screens</li> <li>+ Design UI, UX for application</li> <li>+ Initial and develop frontend</li> <li>+ Review code for each other</li> </ul>
Backend Developer	<ul style="list-style-type: none"> <li>+ Design database</li> <li>+ Initial and develop backend server</li> <li>+ Review code for each other</li> <li>+ Fix bugs</li> <li>+ Deploy code to server</li> </ul>
Test	<ul style="list-style-type: none"> <li>+ Responsible for test execution, including test set-up and test run, evaluation of test run, error recovery, and test results recording.</li> </ul>

## 4.3 Responsibility Assignments

D~Do; R~Review; S~Support; I~Informed

Responsibility	HungLM	ChinhLK	QuocTK	TungLM	KienNT
Project Planning & Tracking	D	I	R	I	I
Prepare Project Introduction Document	D	R	S	I	I
Gathering Requirements	D	S	S	S	I

Prepare SRS Document	R	D	R	I	S
Prepare SDD Document	R	S	S	I	S
Prepare Test Document	I	S	I	D	I
Implement Front-end	S	D	S	I	I
Implement Back-end	D	S	D	I	I
Execute Test	S	D	I	S	I
Prepare Deployment Environment	S	D	S	I	I
Prepare Presentation	D	D	D	D	D

## 5. Project Communications

Communication Item	Who/ Target	Purpose	When, Frequency	Type, Tool, Method(s)
Weekly meeting with supervisor	All members, supervisor	Report project status, discuss problems	Weekly	GoogleMeet, Offline AL-R201
Daily discussion with team member	All members	Discuss problems and report progress	Daily	Google meet, Facebook , Messenger, Zalo
Urgent meeting	All members	Fix bugs and support about technical issues	When any member has issues	GoogleMeet, Messenger

## 6. Configuration Management

### 6.1 Document Management

- Documents are stored on Google Drive

### 6.2 Source Code Management

- We manage our source code through GitHub

### 6.3 Tools & Infrastructures

Category	Tools / Infrastructure
Technology	ASP.NET CORE, Bootstrap 5.0
Database	Microsoft SQL Server
IDEs/Editors	Visual Studio, Visual Studio Code
Diagramming	StarUML, DrawIO
Documentation	Google Docs/Sheets/Slides
Version Control	GitHub (Source Codes), Google Drive (Documents)
Deployment server	Azure
Project management	Google Drive

### III. Software Requirement Specification

#### 1. Product Overview

BookStore Management is a website that helps stores sell online and manage sales on a website application platform. The context diagram below illustrates the entities present in the system, how the entities and the system are linked. The system is expected to fully support customers to purchase online and find information about books.

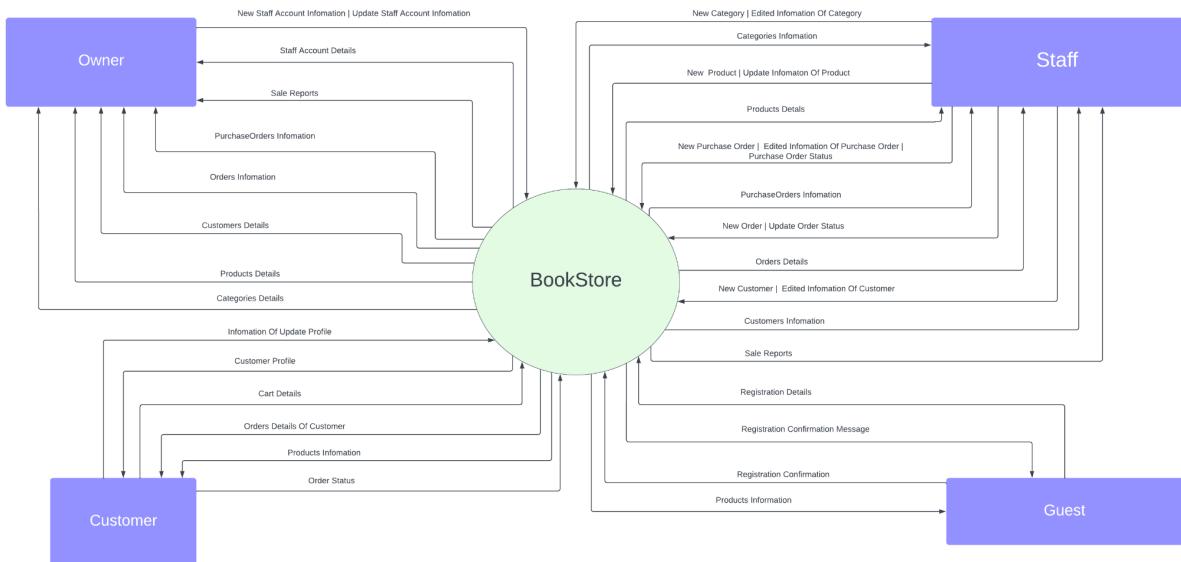


Figure 1.1: Context diagram

#### 2. User Requirements

##### 2.1 Actors

#	Actor	Description
1	Owner	The one who can manage and view all system activities such as account staff management, overview of sales performance, view customers, orders, purchase orders ...
2	Staff	The one who can manage order, manage product, manage categories, manage purchase order, manage customers.
4	Customer	The one who interact via the e-commerce website, can do what guests can, in addition to log in to their account, create order, set information in profile and set delivery addresses
5	Guest	The one who interact via the e-commerce website, register account to become customer, view products, add products to cart

## 2.2 Use Cases

### 2.2.1 Diagram(s)

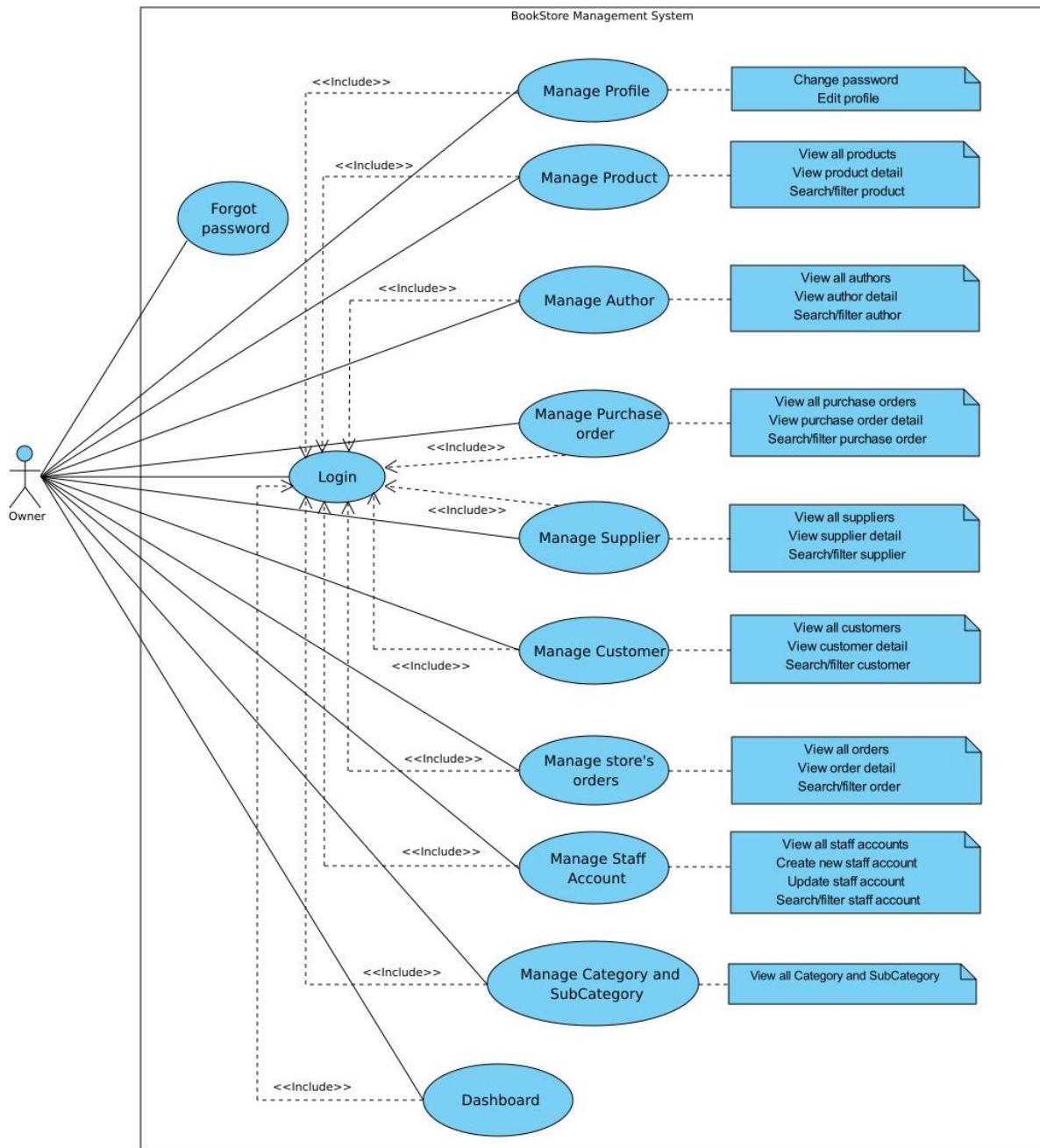


Figure 2.2.1.1: Owner Details Use Case Diagram

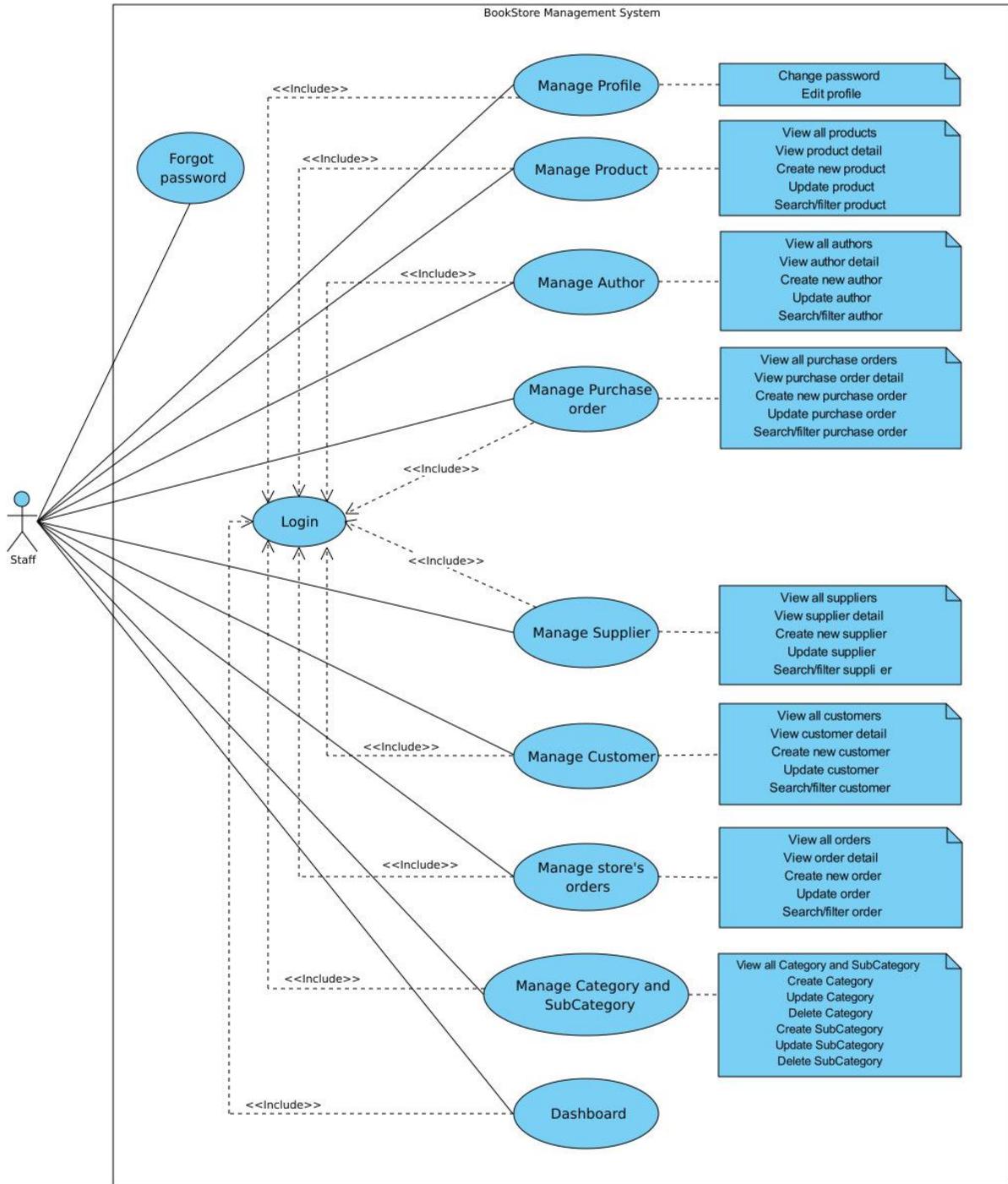


Figure 2.2.1.2: Staff Detail Use Case Diagram

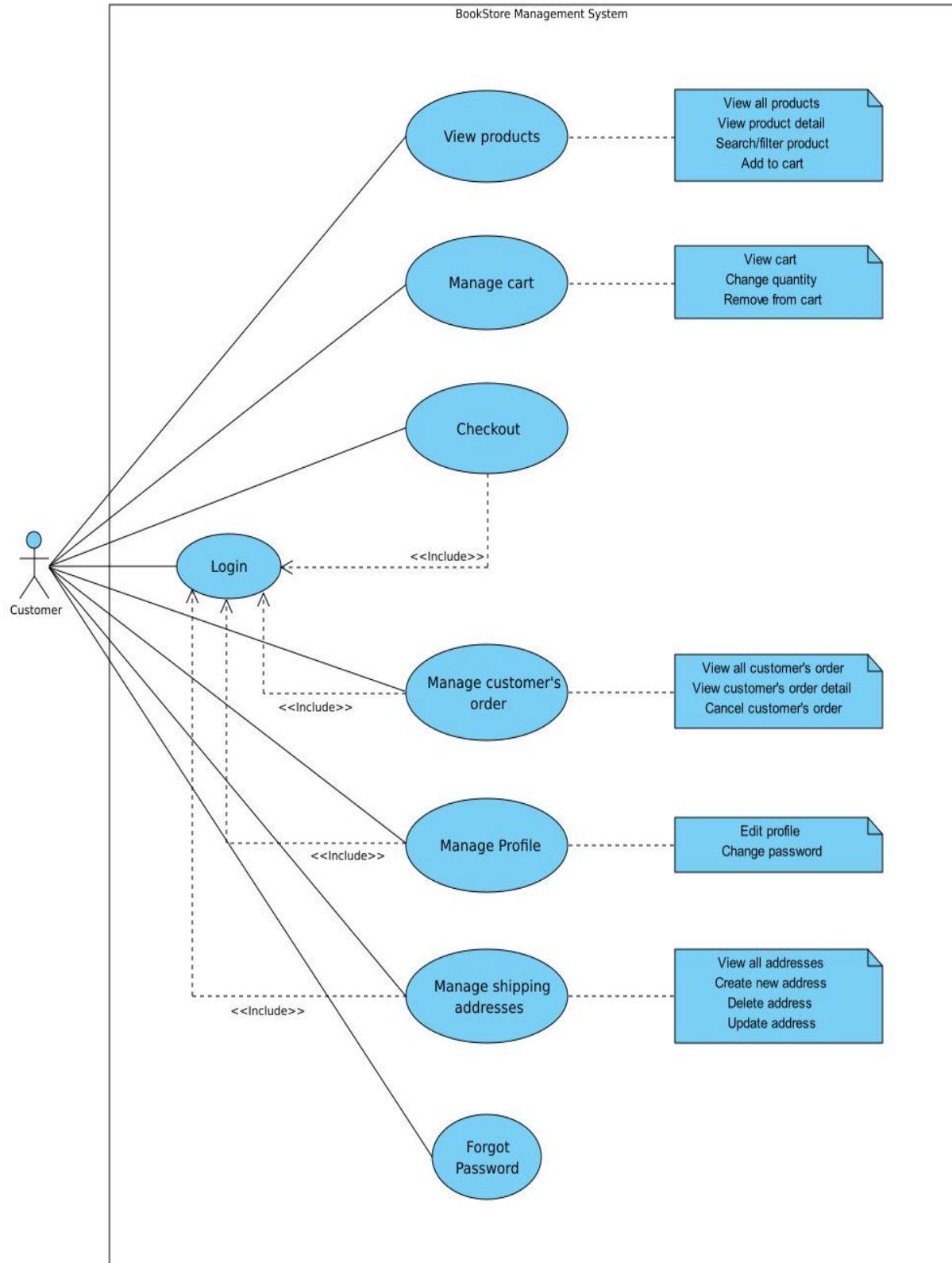


Figure 2.2.1.3: Customer Detail Use Case Diagram

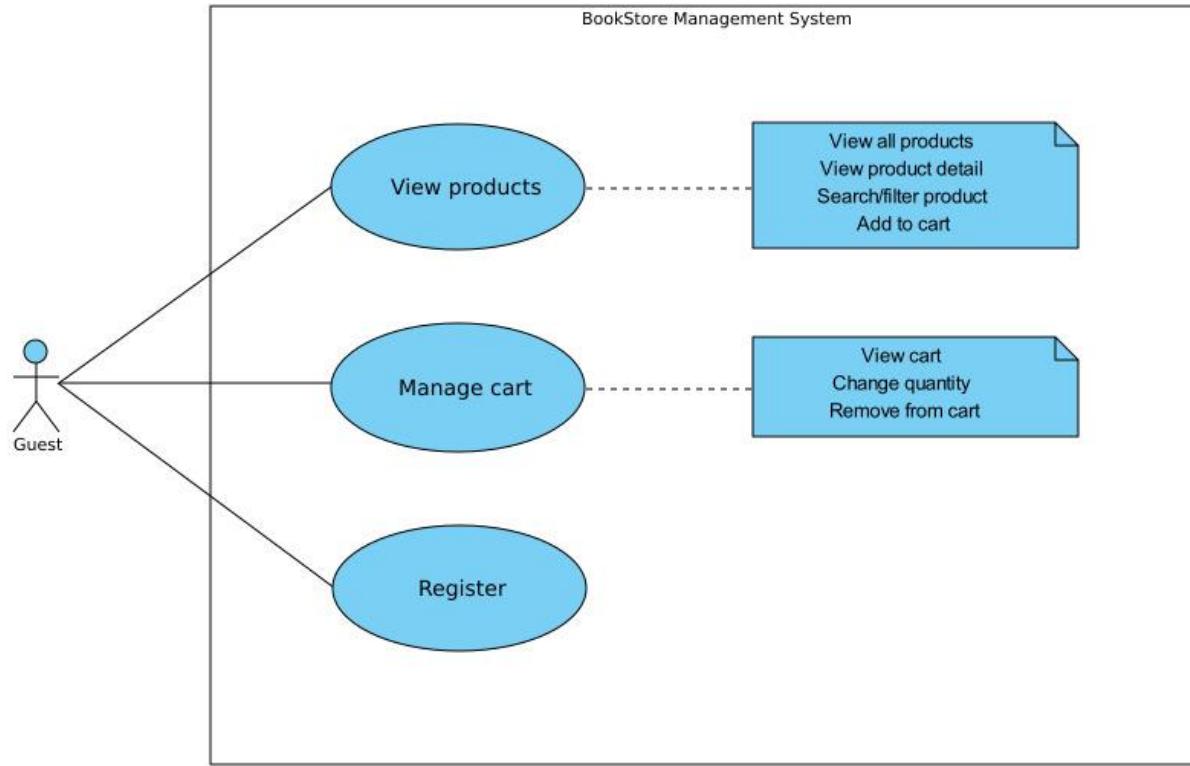


Figure 2.2.1.4: Guest Detail Use Case Diagram

### 2.2.2 Descriptions

ID	Use Case	Actors	Use Case Description
01	Register	Guest	Guests can register a new account.
02	Login	Customer, Owner, Staff	User have account login system
03	Forgot password	Customer, Owner, Staff	User can get their account by input email when they forgot account's password
04	Edit profile	Customer, Owner, Staff	User can update their profile
05	Change password	Customer, Owner, Staff	User can change their password
06	View all staff	Owner	Owner can view all staff in system
07	Update staff account status	Owner	Owner can activate or deactivate the staff account in system
08	Search/filter staff	Owner	User can search or filter list account
09	View all product	Owner, Staff	User can view all product in system
10	View product detail	Owner, Customer Staff	User can view detail of the selected product
11	Create new book	Owner, Staff	User can create and add new book to system
12	Create new stationery	Owner, Staff	User can create and add new stationery to system
13	Update product	Owner, Staff	User can update information of the product
14	Search/filter product	Owner, Customer Staff	User can search or filter list product in store
15	View all orders	Owner, Staff	User can view all order in system
16	View order detail	Owner, Staff	User can view detail of the selected order
17	Create new order	Owner, Staff	User can create new order in system
18	Update order	Owner, Staff	User can update information of the order
19	Search/filter order	Owner, Staff	User can search or filter list order in store
20	View all purchase orders	Owner, Staff	User can view all purchase order in system
21	View purchase order detail	Owner, Staff	User can view detail of the selected purchase order
22	Create new purchase order	Owner, Staff	User can create new purchase order in system
23	Update purchase order	Owner, Staff	User can update information of the purchase order
24	Search/filter purchase order	Owner, Staff	User can search or filter list purchase order in store
25	View all supplier	Owner, Staff	User can view all supplier in system
26	View supplier detail	Owner, Staff	User can view detail of the selected supplier
27	Create new supplier	Owner, Staff	User can create new supplier in system
28	Update supplier	Owner, Staff	User can update information of the supplier
29	Search/filter supplier	Owner, Staff	User can search or filter list supplier in store
30	View all customer	Owner, Staff	User can view all customer in system

31	View customer detail	Owner, Staff	User can view detail of the selected customer
32	Create new customer	Owner, Staff	User can create new customer in system
33	Update customer	Owner, Staff	User can update information of the customer
34	Search/filter customer	Owner, Staff	User can search or filter list customer in store
35	View all author	Owner, Staff	User can view all author in system
36	Create new author	Owner, Staff	User can create new author in system
37	Update author	Owner, Staff	User can update information of the author
38	Search/filter author	Owner, Staff	User can search or filter list author in store
39	View products	Customer, Guest	User can view all active product
40	Add to cart	Customer, Guest	User can add the selected product to their cart
41	View cart	Customer, Guest	User can view their cart
42	Change quantity	Customer, Guest	User can change quantity of product(s) in cart
43	Remove from cart	Customer, Guest	User can remove the selected product from cart
44	Checkout	Customer	User can create order from their cart
45	View all customer's order	Customer	User can view all of their orders
46	View all customer's order detail	Customer	User can view information detail of the selected order
47	Cancel customer's order	Customer	User can cancel an incomplete order
48	View all addresses	Customer	User can view all of their shipping address
49	Create new address	Customer	User can create new shipping address
50	Delete address	Customer	User can delete selected shipping address
51	Update address	Customer	User can update selected shipping address

### 3. Functional Requirements

#### 3.1 System Functional Overview

##### 3.1.1 Screens Flow

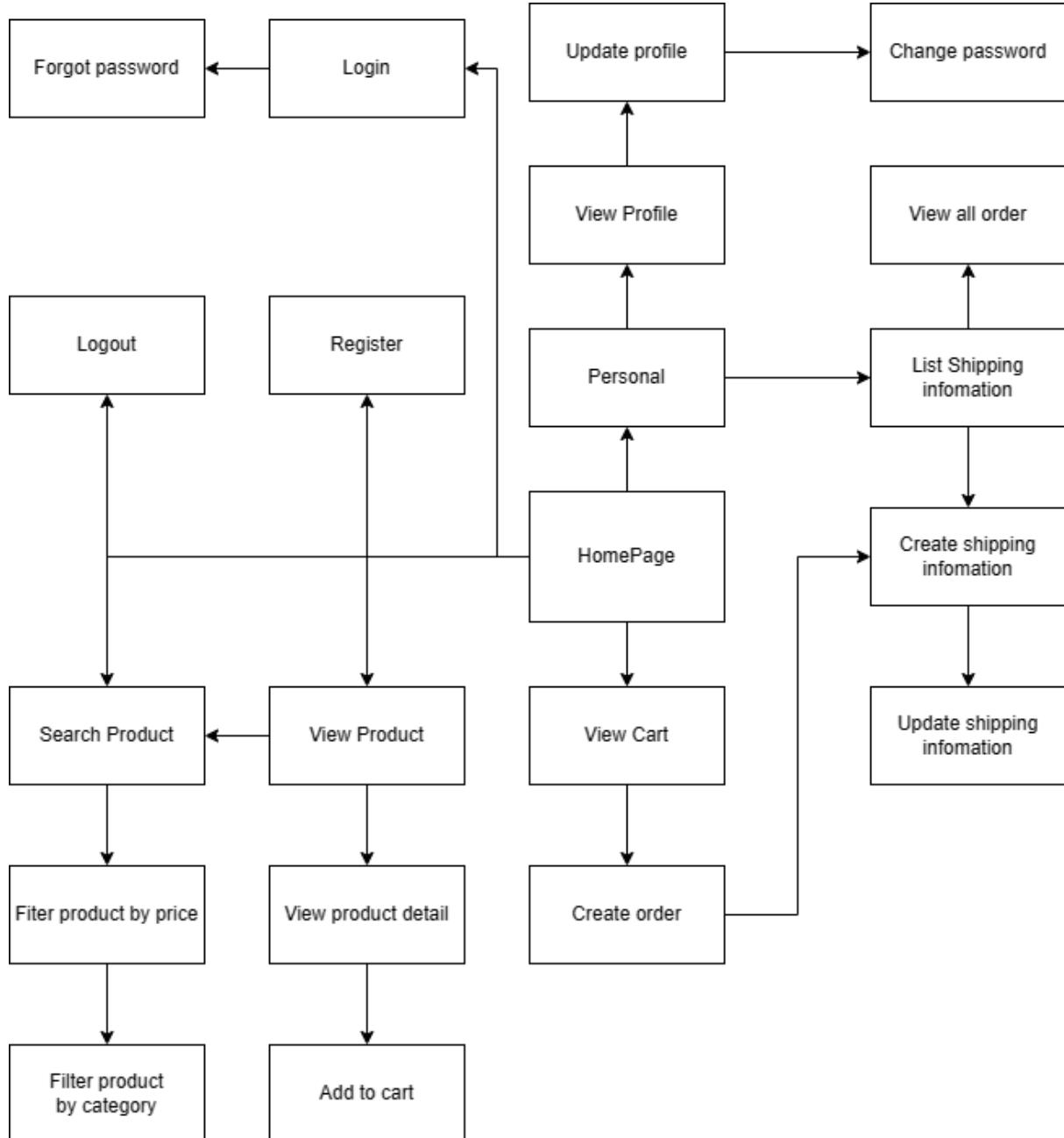


Figure 3.1.1.1: Customer Screens flow

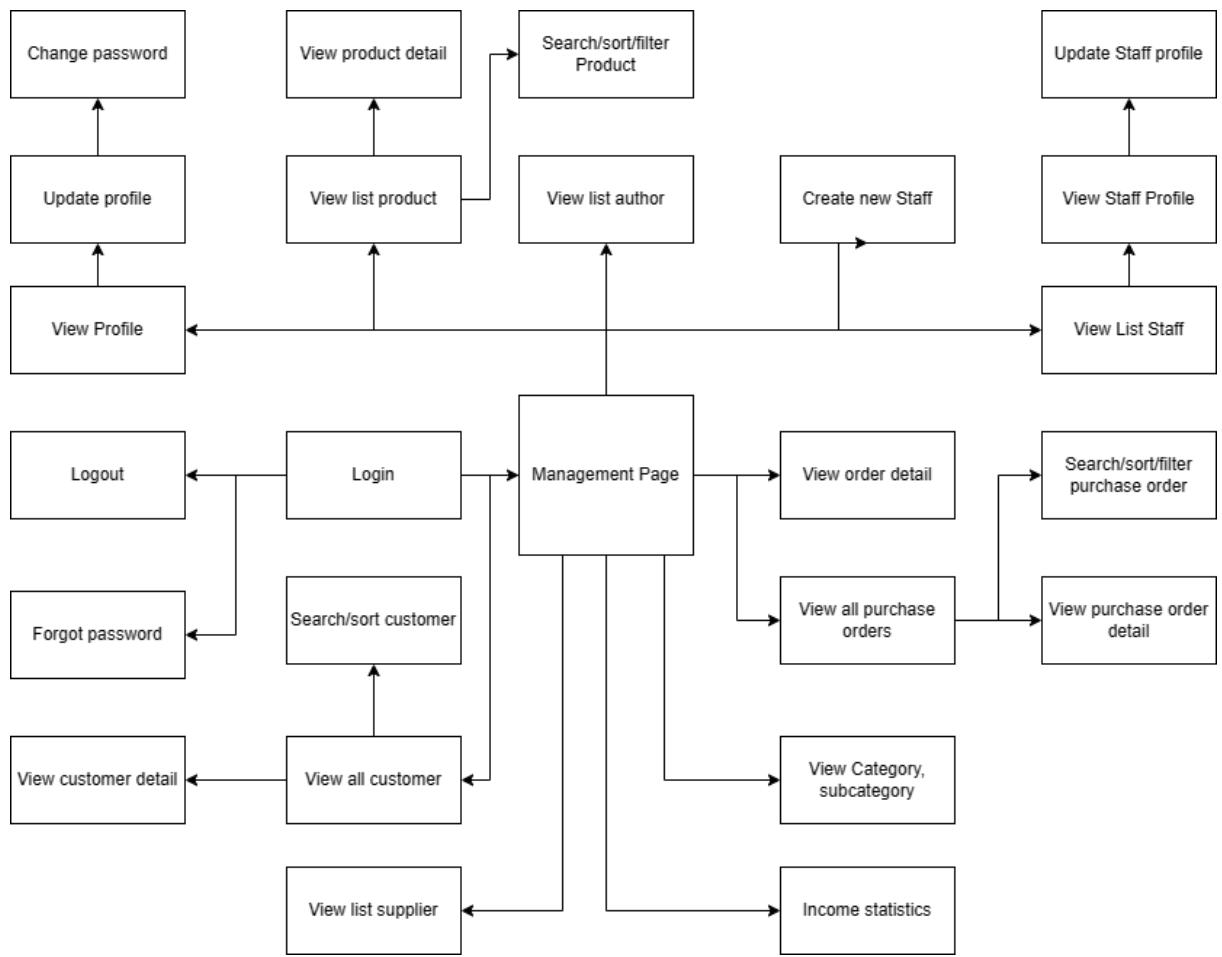


Figure 3.1.1.2: Owner Screens flow

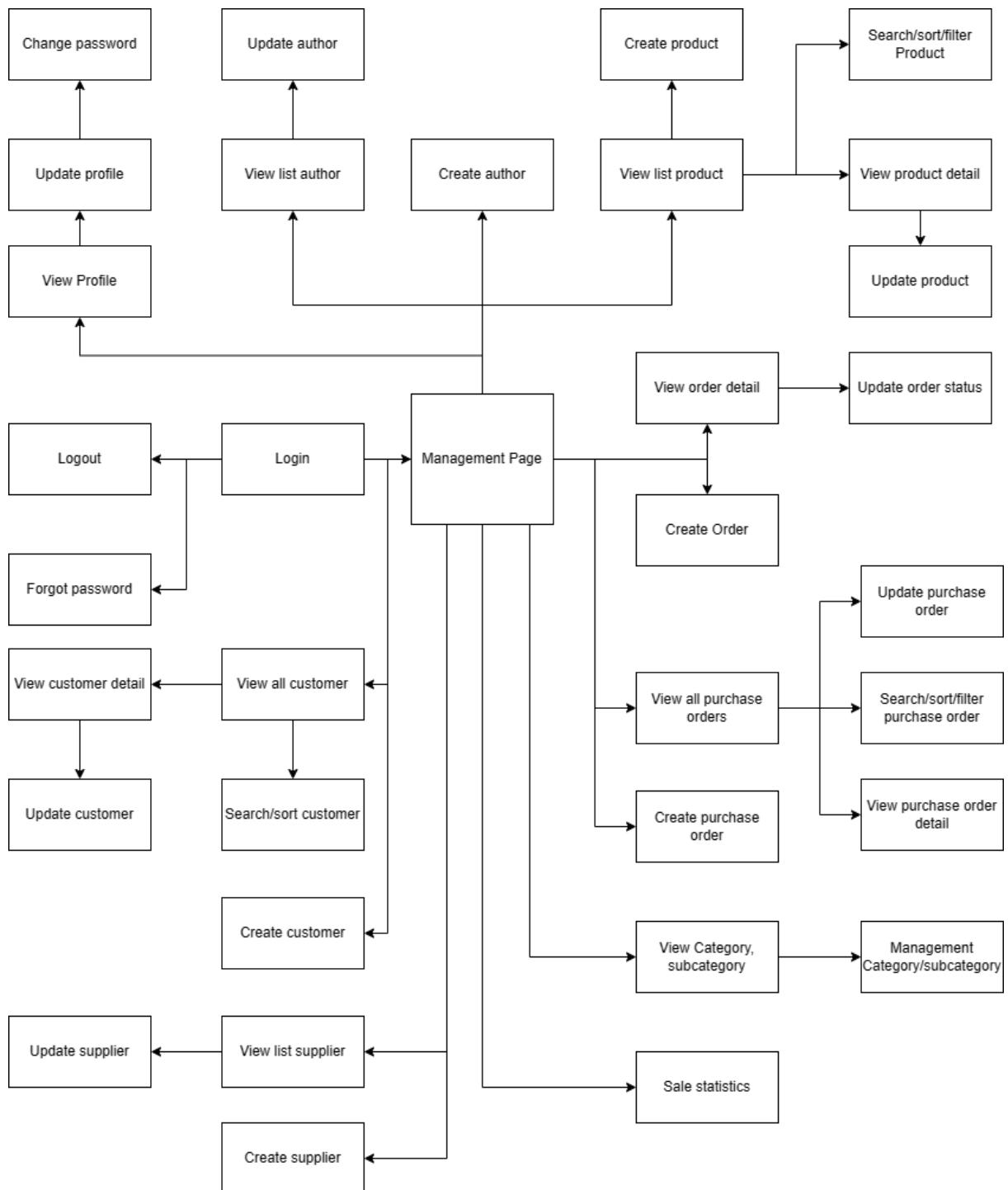


Figure 3.1.1.3: Staff Screens flow

### 3.1.2 Screen Descriptions

#	Feature	Screen	Description
1	Authen&Author	(Customer)Login with email & password	The customer uses this screen to login to the website.
2	Authen&Author	(Customer)Logout	The user logs out to end the working session in the browser.
3	Authen&Author	(Customer)Recertified email	The user reconfirms the email after confirming the email is expired.
4	Authen&Author	(Customer)Forgot password	The user uses this screen to reset the password.
5	Authen&Author	(Customer)Confirm email	The user confirms the email when registering.
6	Authen&Author	(Owner/Staff)Login with email & password	The manager uses this screen to login to the website.
7	Authen&Author	(Owner/Staff)Logout	The manager logs out to end the working session in the browser.
8	Authen&Author	(Owner/Staff)Forgot password	The Manager uses this screen to reset the password.
9	Authen&Author	(Guest)Register	The user uses this screen to register an account to buy products.
10	User Management	(Customer)Change password	Customers can change the password.
11	User Management	(Customer)View profile	Customers can view user details.
12	User Management	(Customer)Update profile	Customers can change their profile information.
13	User Management	List shipping information(Customer)	Customers can view their list shipping information
14	User Management	Create shipping information(Customer)	Customers can create new shipping information.
15	User Management	Update shipping information(Customer)	Customers can edit their shipping information.
16	User Management	(Owner/Staff)Change password	Owner/Staff can change the password.
17	User Management	(Owner/Staff)View profile	Owner/Staff can view their information details.
18	User Management	(Owner/Staff)Update profile	Owner/Staff can change their profile information.
19	Manage product	Create product	The user can add a new product to the inventory.
20	Manage product	View list product	The user can view all the products in the system.
21	Manage product	Search/sort/filter products	The user can search and filter the product by name, barcode,...
22	Manage Product	View Product Details	The screen displays all the details of the product.

23	Manage product	Update product	The user can edit the product's detailed information.
24	Buy product	Search/filter products	Customers can search and filter the product by name, category,...
25	Buy product	Home Page	Customers can view all the products in the system.
26	Buy product	View product details	Customers can view all the details of the product.
27	Buy product	Add product to cart	Customers can add products to cart.
28	Buy product	View list shipping address( when check out)	Customers can view the list shipping address in the system.
29	Buy product	Create shipping address(when check out)	Customers can create shipping address while checkout
30	Order Management	Create a order(Customer)	Customers can check out after they add to cart.
31	Order Management	View all order(Customer)	Customers can view all products when they add to cart.
32	Order Management	View order details, order status(Customer)	Customers can view order details, order status.
33	Order Management	Cancel order(Customer)	Customers can cancel order when order status is "Chờ xác nhận"
34	Order Management	(Admin)View all order	The screen displays all the export orders in the system.
35	Order Management	(Admin)Search/sort/filter order	The user can search the export order.
36	Order Management	(Admin)Create order	The screen provides an export form for export products to the warehouse.
37	Order Management	(Admin)View order detail	The screen displays all the details of an export order
38	Order Management	(Admin)Update order status	The user can edit the order status.
39	Dashboard	View income statistics	User can view amount of income money.
40	Purchase Order Management	View all purchase order	The screen display all purchase order.
41	Purchase Order Management	Search/sort/filter purchase order	Users can search for products or sort by criteria.
42	Purchase Order Management	Create purchase order	Users can create a purchase order with given information.
43	Purchase Order Management	Update purchase order	Users can edit the information of a purchase order.
44	Purchase Order Management	View purchase order detail	Users can view all the details of information of a purchase order.
45	Customer Management	View all customer	Users can view a list of all customers.

46	Customer Management	Create customer	Users can add a new customer to the system.
47	Customer Management	Search/sort customer	Users can search a customer from a list or sort the list of customers.
48	Customer Management	View customer details	Users can view details of a customer.
49	Customer Management	Update customer	Users can edit information of a customer
50	Customer Management	Create customer ship information	Users can create shipping information for a customer.
51	Customer Management	Update customer ship information	Users can edit shipping information of a customer.
52	Customer Management	Delete customer ship information	Users can delete shipping information of a customer.
53	Supplier Management	View list supplier	Users can list all the suppliers.
54	Supplier Management	Filter/search/sort supplier	Users can search for suppliers or sort suppliers by criteria.
55	Supplier Management	Create supplier	Users can add a new supplier to the system.
56	Supplier Management	Update supplier	Users can edit information about a supplier.
57	Author Management	View list author	User can view all of book authors.
58	Author Management	Filter/sort/search author	Users can search for authors or sort authors by criteria.
59	Author Management	Create author	Users can add a new author into the system.
60	Author Management	Update author	Users can edit information about an author.
61	Staff Management	View list Staff	User can view list of all staffs
62	Staff Management	Filter/Search/sort staff	Users can search for staff or sort staff by criteria.
63	Staff Management	Create Staff	Users can add a new staff into the system.
64	Staff Management	Update Staff	Users can edit personal information of a staff.
65	Manage Category	Create category	Users can view all the categories.
66	Manage Category	View category, Subcategory	Users can view all the categories and subcategories.
67	Manage Category	Sort/search/Filter Category	Users can search for Categories or sort categories by criteria.
68	Manage Category	Delete category	Users can delete a category in store.
69	Manage Category	Update category	Users can edit information about categories.
70	Manage Category	Create Subcategory	Users can add new subcategories.

71	Manage Category	Update Subcategory	Users can edit information of a subcategory.		
72	Manage Category	Delete Subcategory	Users can delete a subcategory.		

### 3.1.3 Screen Authorization

#	Screen	Owner	Staff	Guest	Customer
1	(Customer)Login with email & password				x
2	(Customer)Logout				x
3	(Customer)Recertified email				x
4	(Customer)Forgot password				x
5	(Customer)Confirm email				x
6	(Owner/Staff)Login with email & password	x	x		
7	(Owner/Staff)Logout	x	x		
8	(Owner/Staff)Forgot password	x	x		
9	(Guest)Register			x	
10	(Customer)Change password				x
11	(Customer)View profile				x
12	(Customer)Update profile				x
13	List shipping information(Customer)				x
14	Create shipping information(Customer)				x
15	Update shipping information(Customer)				x
16	(Owner/Staff)Change password	x	x		
17	(Owner/Staff)View profile	x	x		
18	(Owner/Staff)Update profile	x	x		
19	Create product		x		
20	View list product	x	x	x	x
21	Search/sort/filter products	x	x	x	x
22	View Product Details	x	x	x	x
23	Update product		x		
24	Search/filter products	x	x	x	x
25	Home Page	x	x	x	x

26	View product details	x	x	x	x
27	Add product to cart			x	x
28	View list shipping address( when check out)				x
29	Create shipping address(when check out)				x
30	Create a order(Customer)				x
31	View all order(Customer)				x
32	View order details, order status(Customer)				x
33	Cancel order(Customer)				x
34	(Admin)View all order	x	x		
35	(Admin)Search/filter order	x	x		
36	(Admin)Create order		x		
37	(Admin)View order detail	x	x		
38	(Admin)Update order status		x		
39	View income statistics	x	x		
40	View all purchase order	x	x		
41	Search/filter purchase order	x	x		
42	Create purchase order		x		
43	Update purchase order		x		
44	View purchase order detail	x	x		
45	View all customer	x	x		
46	Create customer		x		
47	Search/filter customer	x	x		
48	View customer details	x	x		
49	Update customer		x		
50	Create customer ship information		x		
51	Update customer ship information		x		
52	Delete customer ship information		x		
53	View list supplier	x	x		
54	Filter/search/filter supplier	x	x		
55	Create supplier		x		

56	Update supplier		x		
57	View list author	x	x		
58	Filter/sort/search author	x	x		
59	Create author		x		
60	Update author		x		
61	View list Staff	x			
62	Filter/Search/sort staff	x			
63	Create Staff	x			
64	Update Staff	x			
65	Create category		x		
66	View category, Subcategory	x	x		
67	Sort/search/Filter Category	x	x		
68	Delete category		x		
69	Update category		x		
70	Create Subcategory		x		
71	Update Subcategory		x		
72	Delete Subcategory		x		

### 3.1.4 Non-Screen Functions

#	Feature	System Function	Description
1	Signup new Account	.Net Mail	.Net namespace to send email.
2	Forget Password	.Net Mail	.Net namespace to send email.
3	Data store	Azure SQL Database	Server hosting site.
4	Web Server	Azure Web App	Web application hosting site.

Figure 3.1.4.1: Non-Screen Functions table

### 3.1.5 Entity Relationship Diagram

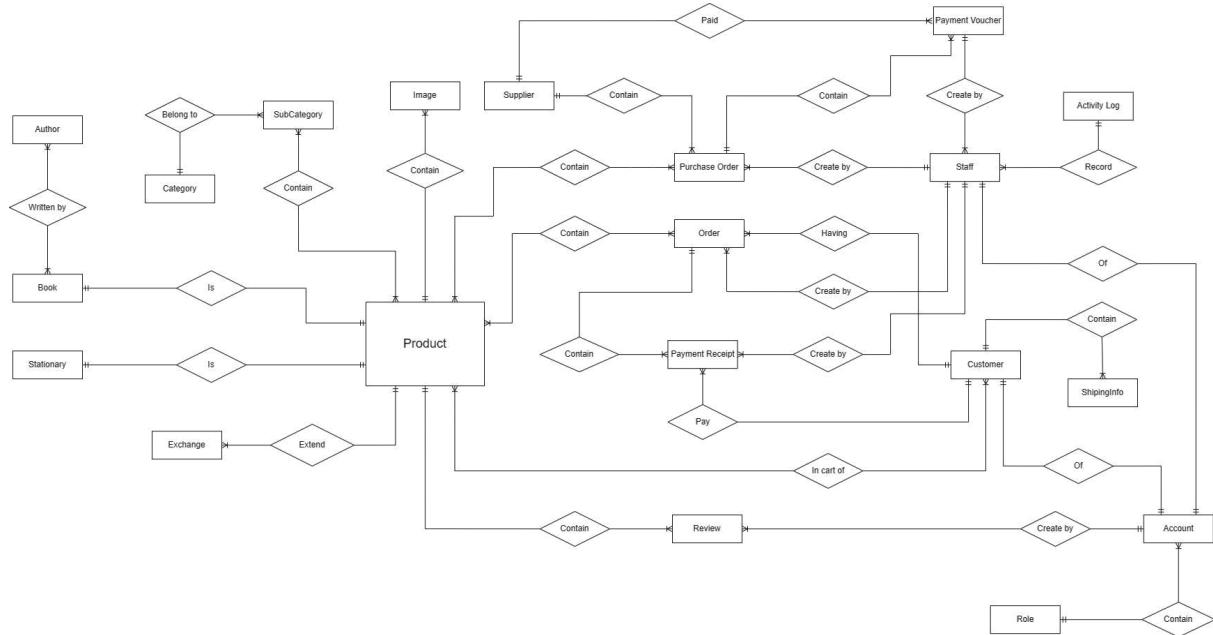


Figure 3.1.5.1: Entity Relationship Diagram

#### Entities Description

#	Entity	Description
01	Author	Represent group of people who the author of book in store
02	Book	Represent the book product in store
03	Stationery	Represent the stationery product in store
04	Category	Represent group of subcategory possessing qualities in common
05	SubCategory	Represent group of product possessing qualities in common
06	Exchange	Group of same product with different unit
07	Image	Group image of product
08	Product	Group of book and stationery
09	Supplier	Represent group of company that supply product to store
10	Purchase Order	Group order from supplier
11	Order	Group order of customer
12	Payment Receipt	Represent Payment Receipt
13	Payment Voucher	Represent Payment Voucher
14	Review	Group of customers reviews product after paid
15	Staff	Represent group of all staff of the store
16	Customer	Represent group of the customer of the store
17	Active Log	List activities of Staff have done in system
18	Shipping Info	List of customer's shipping addresses
19	Account	Represent group of account used in system
20	Role	Group of account type for authentication and authorization

## 3.2 Authentication and Authorization

### 3.2.1 (Customer) Login with email & password

- Function trigger: This function is triggered when a customer attempts to log into the system.
- Function description: Customers will log in into their account by inputting their email and password.
- Screen layout:

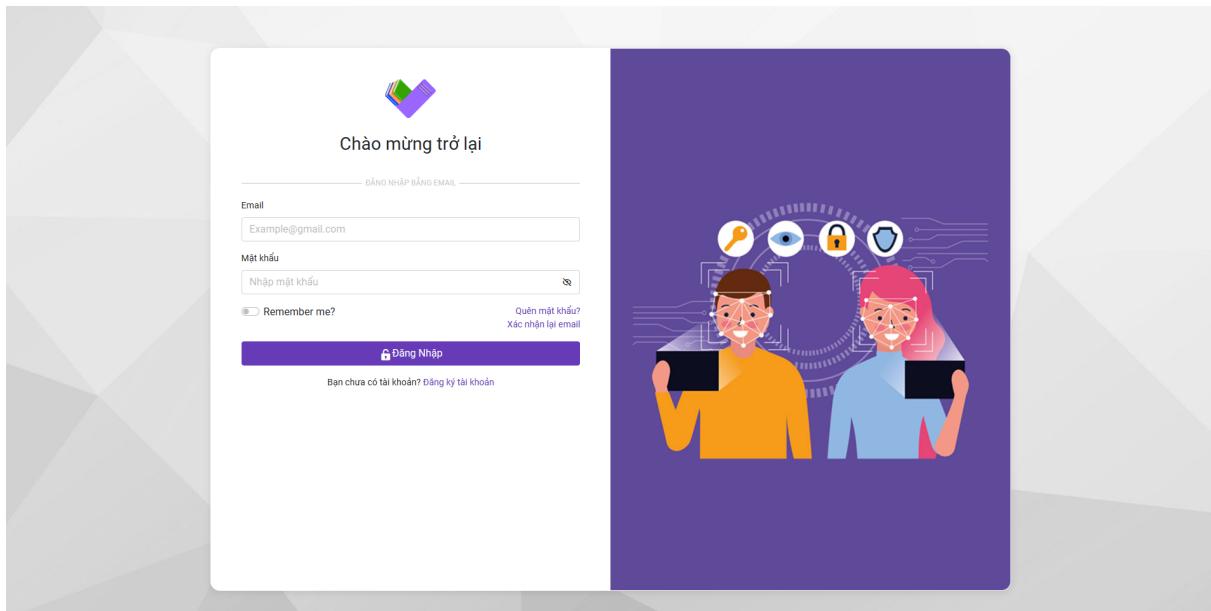


Figure 3.2.1.1: Login screen

- Function Details:

- Users enter the email and password, then click the “Đăng nhập” button. If user inputs the correct email and password, the system will then redirect to the home page. Users can choose to toggle on or off “Remember me”. If “Remember me” is chosen, when user closes the browser, they will not be logged out from the e-commerce website.
- If email or password is incorrect, the system will display an error message “Đăng nhập không thành công”
- If email is left blank, the system will display “Chưa điền thông tin đăng nhập”
- If password is left blank, the system will display “Chưa điền mật khẩu”

### 3.2.2 Forgot password

- Function trigger: This function is triggered when an owner forgets their password and requests the server to reset it.
- Function description: User changes their password to a new one for their account to access the system.
- Screen layout:

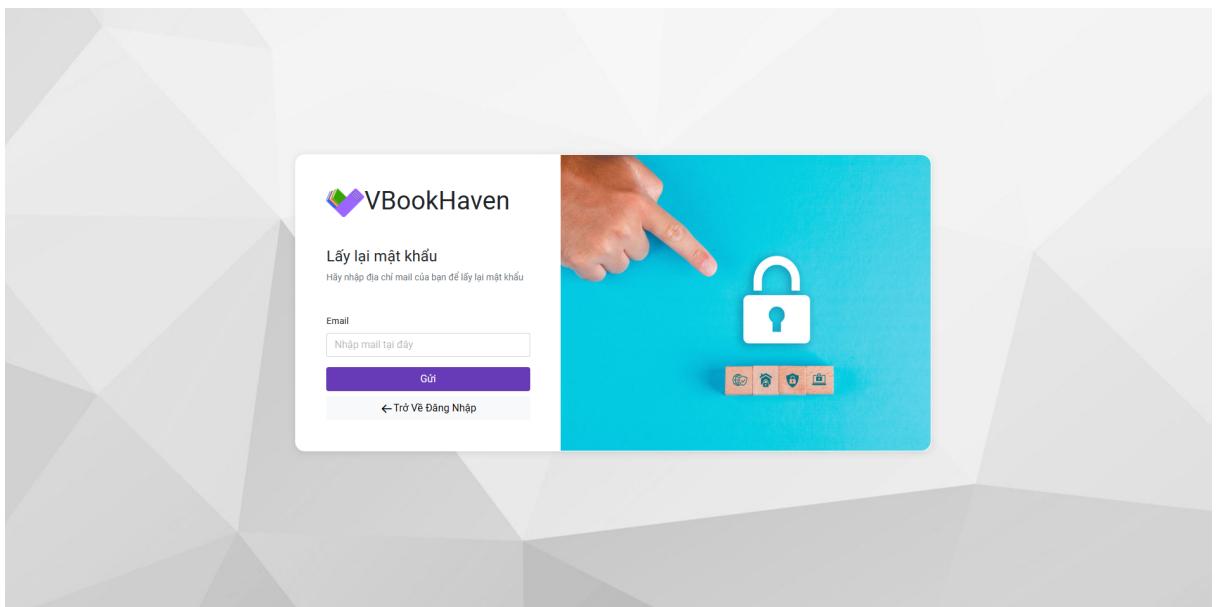


Figure 3.2.2.1: Forgot password screen

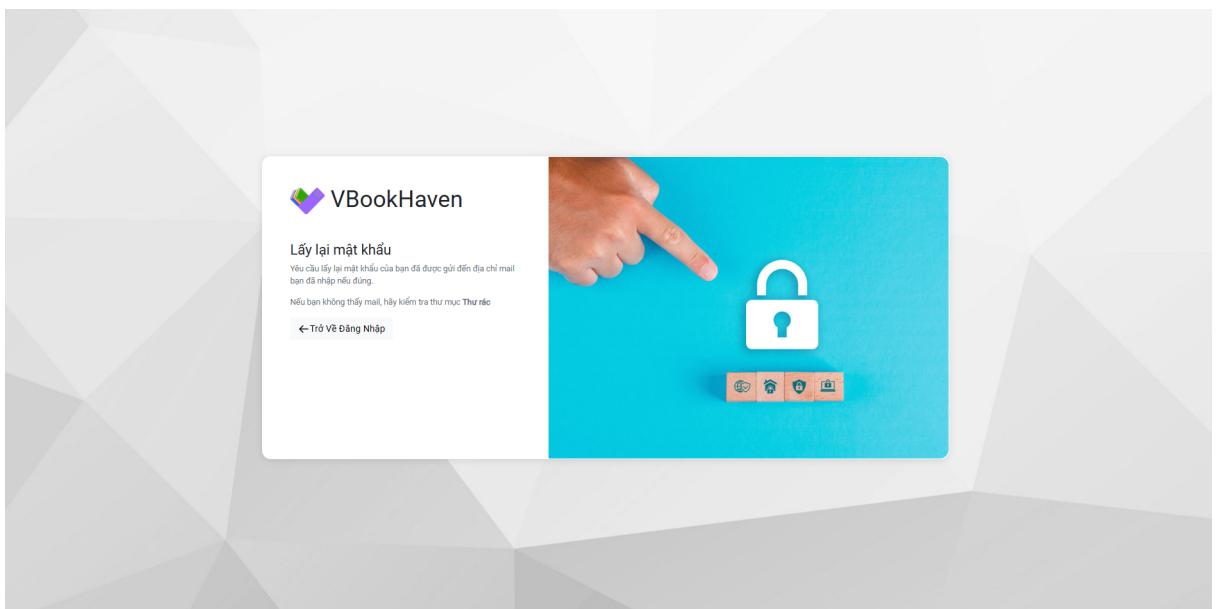


Figure 3.2.2.2: After sending email

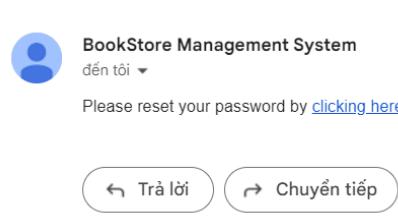


Figure 3.2.2.3: Reset password email

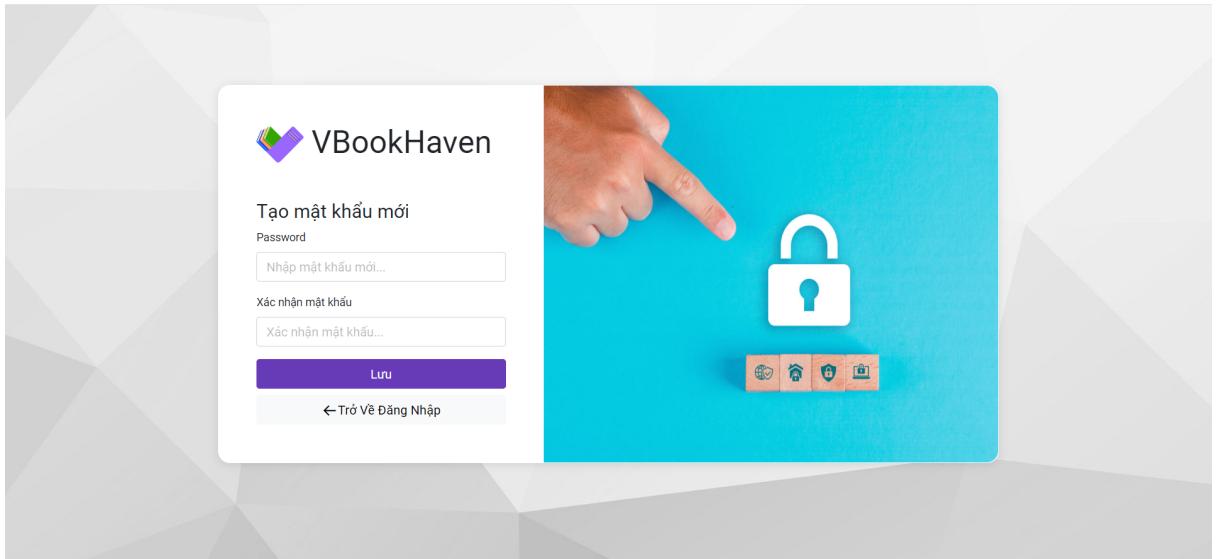


Figure 3.2.2.4: Reset password screen

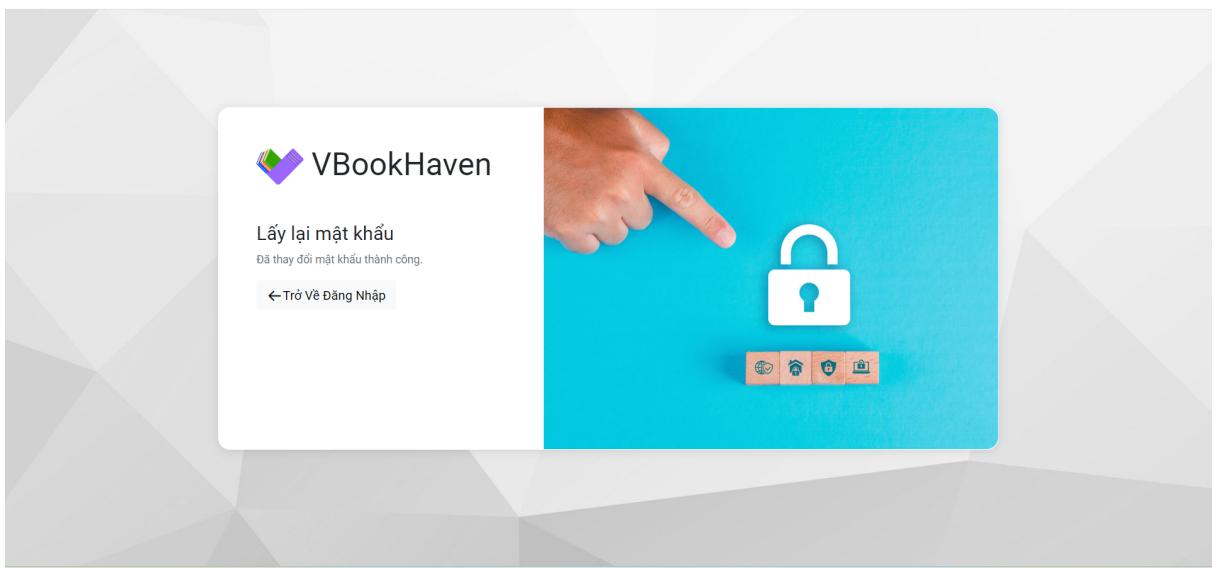


Figure 3.2.2.5: Back to Login screen

#### Function Details:

- User enter their email used for their account, then click “Gửi”
- If the email exists in the system, the notification will send the password reset link to the email. Go to your email and click on the link to redirect to the password change page.
- If the email is incorrect, the system will not send a message.
- If password and confirm password is not matched, the inline error message “Mật khẩu phải trùng nhau” is displayed till confirm password matches the password.

### 3.2.3 Register

- Function trigger: This function is triggered when a guest attempts to create a new account in the system
- Function description : Guest creates a new account to become a customer for the e-commerce website
- Screen layout:

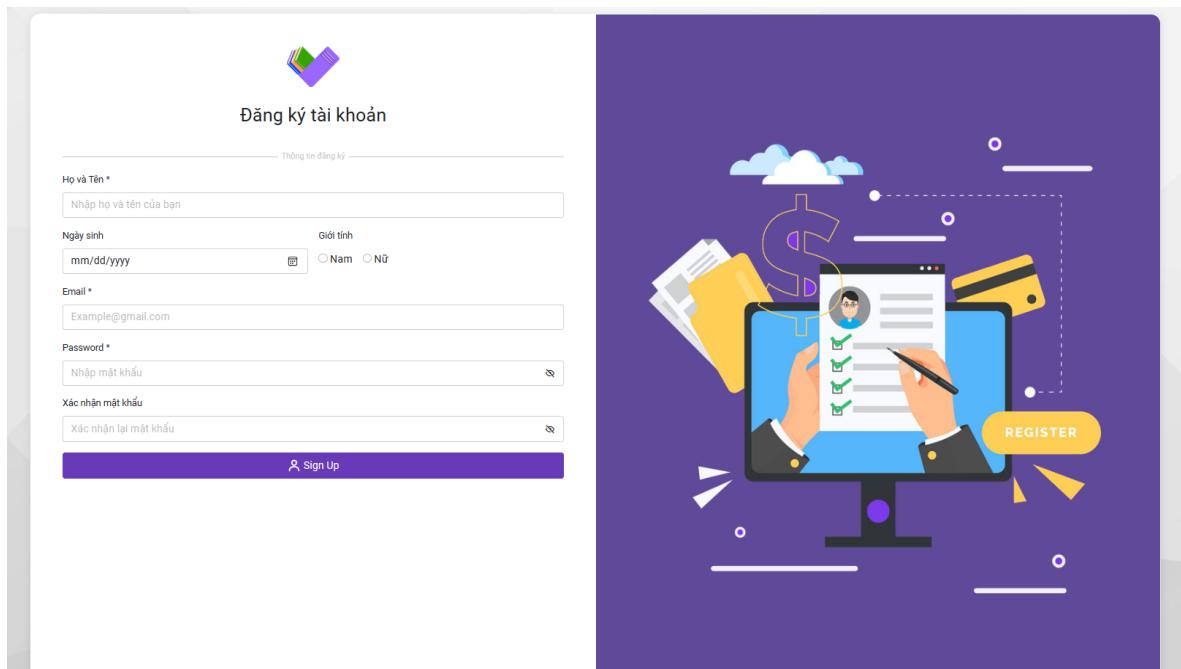


Figure 3.2.3.1: Register screen

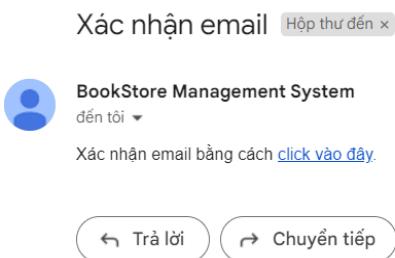


Figure 3.2.3.2: Account confirmation email

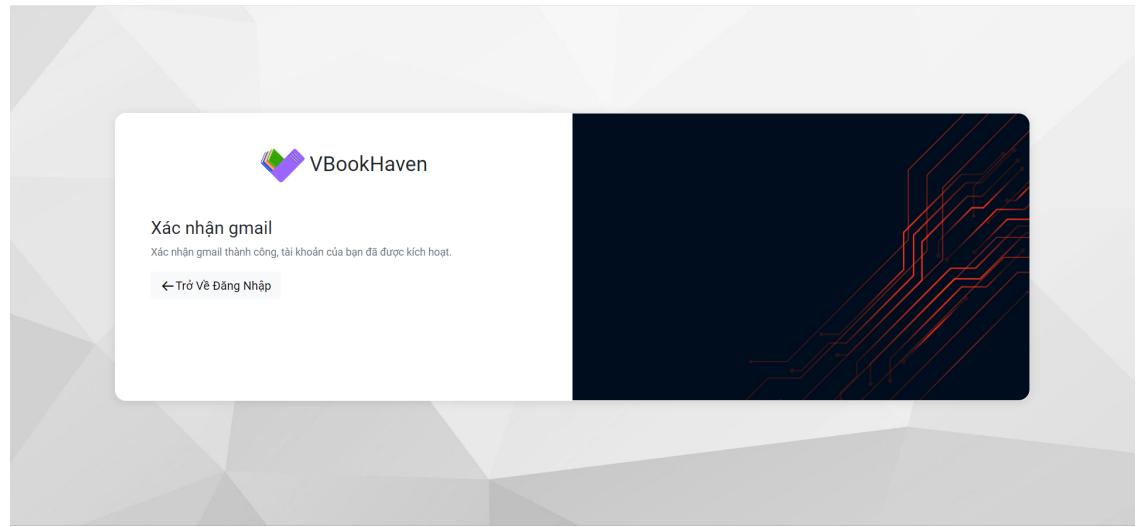


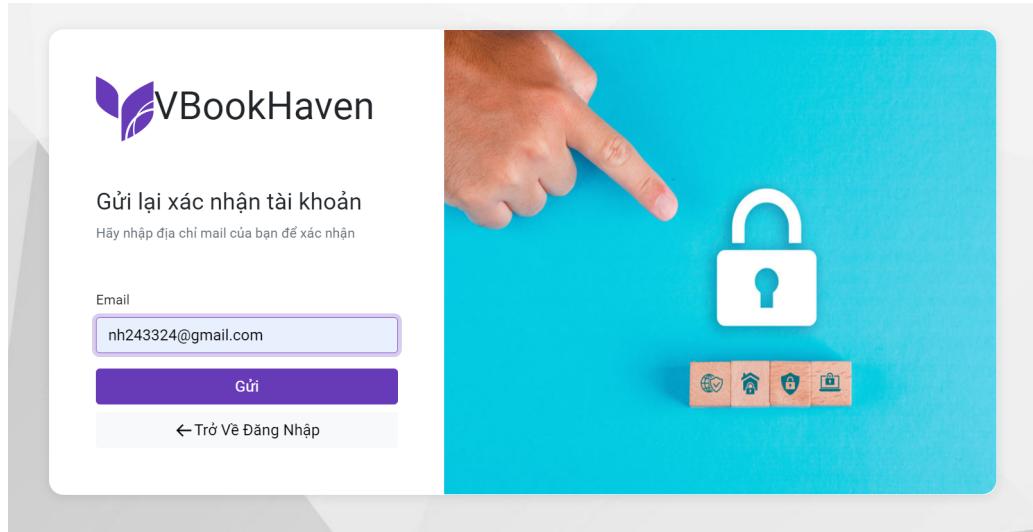
Figure 3.2.3.3: Back to login screen

- Function details:
  - User enters all the information fields, then click the “Sign Up” button
  - If required fields are left blank, the system will display error
  - If email is not in correct format, the system will display error “Nhập khẩu và xác nhận mật khẩu không khớp”
  - If password does not have at least one number, one capital letter and one special character and at least 8 characters. The system will display error “Mật khẩu phải chứa ít nhất 8 ký tự, một ký tự đặc biệt, một chữ số và một chữ cái in hoa.”
  - If re-enter password field is not the same as entered password, the system will display error

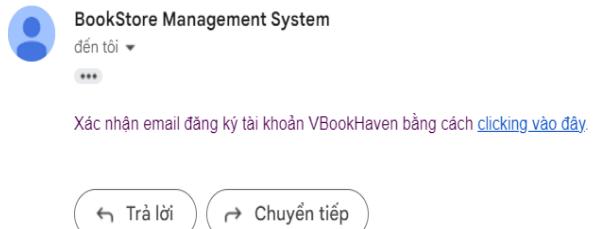
#### 3.2.4 Email Re-confirm

- Function trigger : User clicks “Xác nhận lại email” in the Log In page
- Function description: This function sends guests who can not receive email confirmation registration an email to an email address to re-confirm and activate the account with said address.

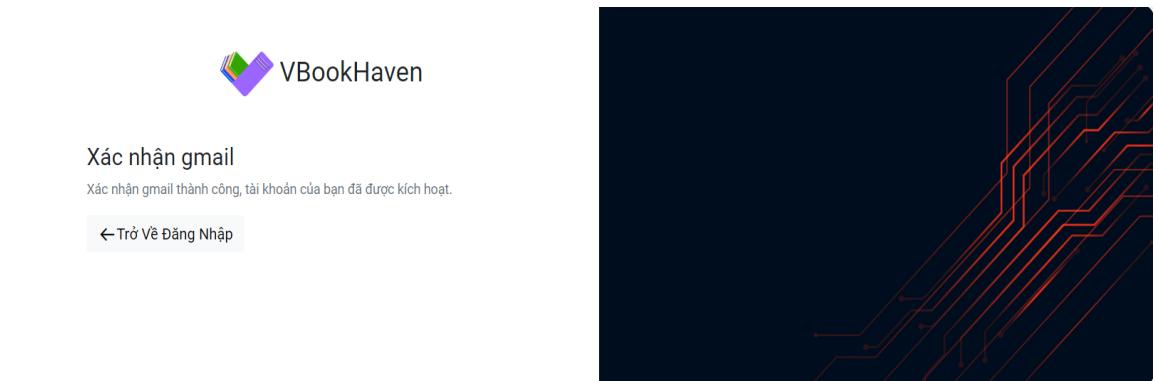
- Screen layout:



*Figure 3.2.4.1: Email reconfirm screen*



*Figure 3.2.4.2: Reconfirm email*



*Figure 3.2.4.3: Back to login screen*

- Function details:

- From the Login page, the user selects the "Resend email confirmation" function, it will switch to the page to enter the email address, after entering, click "Gửi", then in the email there will be a confirmation letter, the user just needs to click on the link in the email, the account will be confirmed.
- User enters the email of the account to be confirmed, then click "Gửi"
- The system will then send a confirmation email to the inputted address

- User needs to click on the link in the email, which will redirect the user to the system with message success. After that, the account will be confirmed and can be logged in and used

### 3.2.5 (Customer)Logout

- Function trigger : Logged in Customer clicks “Đăng xuất” button on the header bar
- Function description : Customer logs out of the system.
- Screen layout:

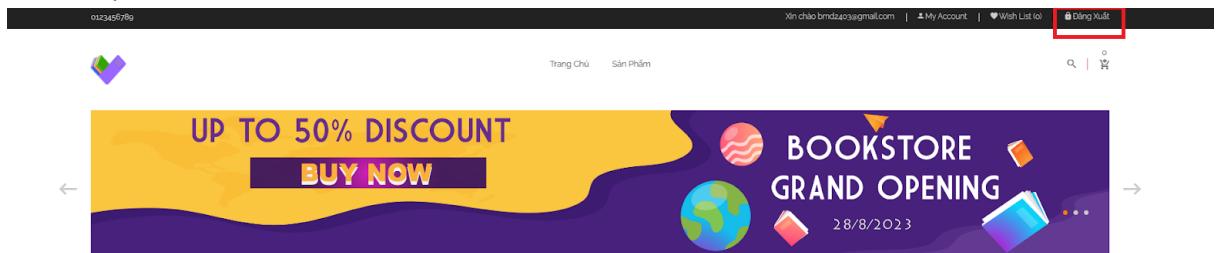


Figure 3.2.5.1: Click “Đăng xuất” on header bar to log out

- Function details:
  - After clicking “Đăng xuất”, user will be logged out of the website and redirected back to the home page

### 3.2.6 (Staff)Login with email & password

- Function trigger: When a Owner/Staff trying to access the management website.
- Function description: Owner/Staff will log in into their account by inputting their email and password.
- Screen layout:

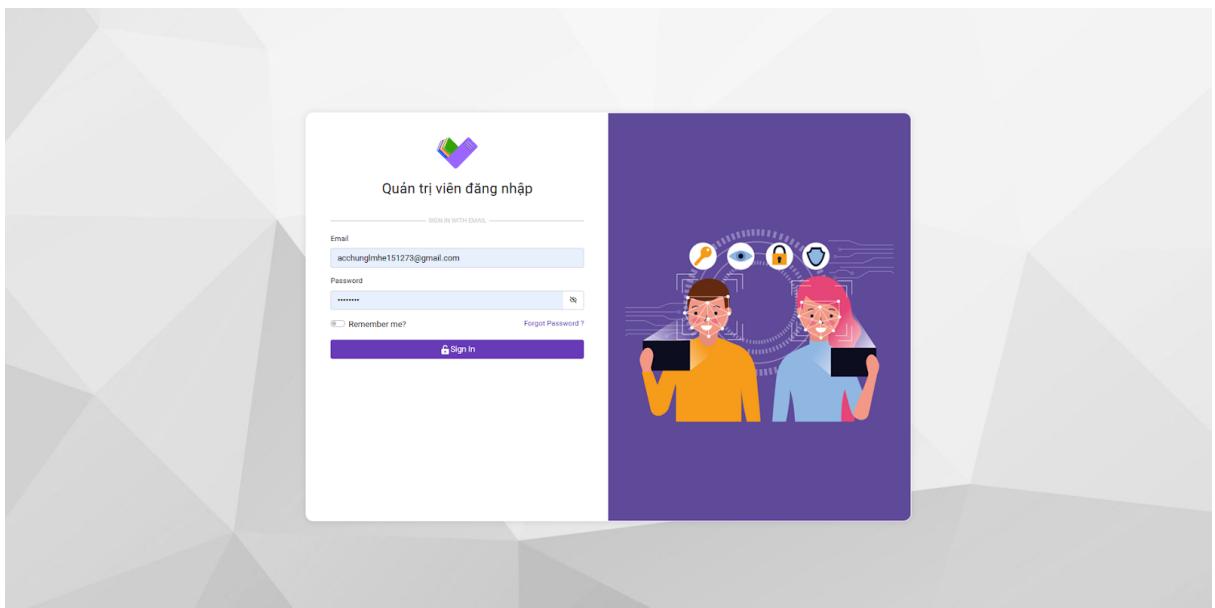


Figure 3.2.6.1: Staff Login screen

- Function Details:

- Users enter the email and password, then click the “Sign in” button. Users can choose to toggle on or off “Remember me”. If “Remember me” is chosen, when user closes the browser, they will not be logged out from the management website.
- If email or password is incorrect, the system will display an error message “Đăng nhập không thành công”
- If email is left blank, the system will display “Chưa điền thông tin đăng nhập”
- If password is left blank, the system will display “Chưa điền mật khẩu”
- If user inputs the correct email and password, the system will then redirect to the Management page.

### 3.2.7 (Staff)Logout

- Function trigger : Logged in Owner/Staff clicks “Đăng xuất” button in profile icon in top navbar
- Function description : Owner/Staff logs out of the system.
- Screen layout:

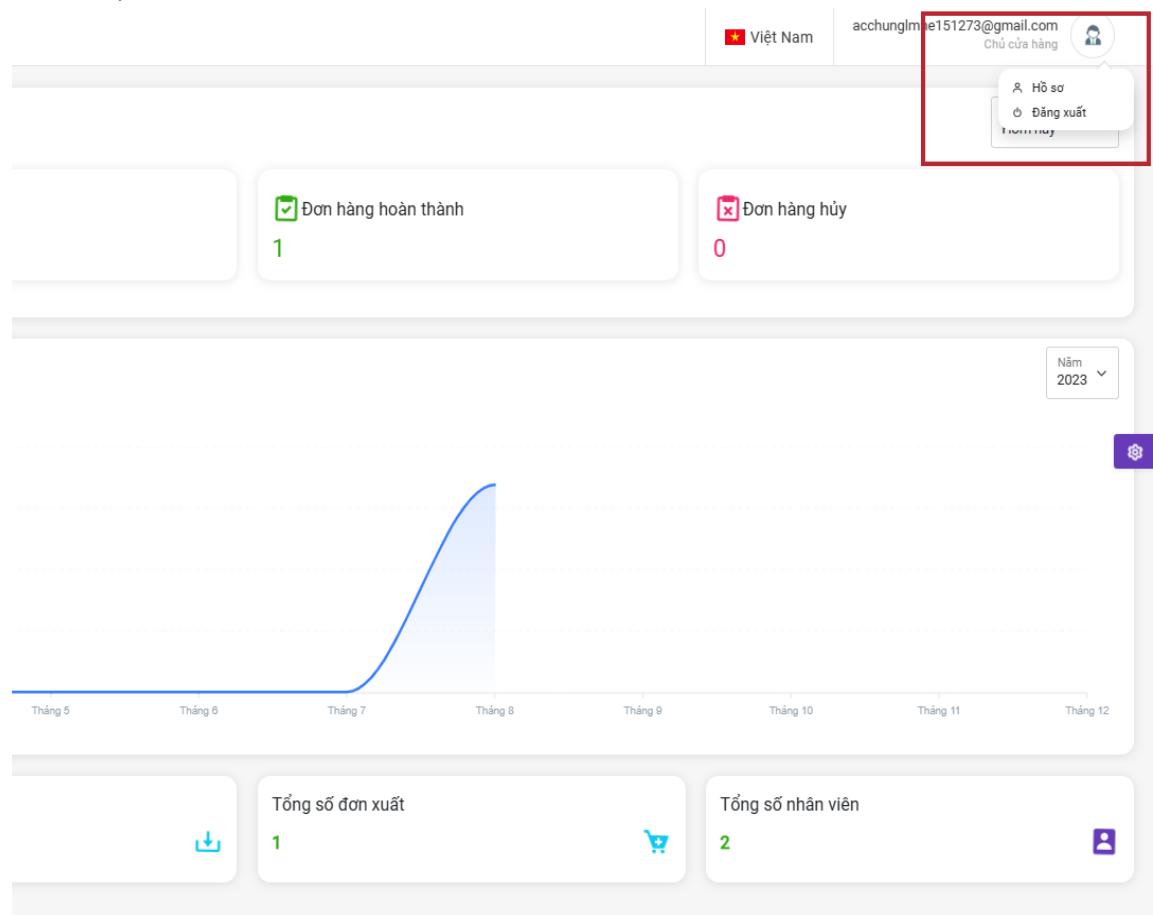


Figure 3.2.7.1: Click “Đăng xuất” to log out

- Function details:
  - After clicking “Đăng xuất”, user will be logged out of the website and redirected back to the Login page

### 3.3 Category and Subcategory Management

#### 3.3.1 View Category and Subcategory

- Function trigger : Owner/Staff clicks “Loại sản phẩm” under “Sản phẩm” on the sidebar menu
- Function description : Owner and Staff can view the list of all categories in the systems, along with their subcategories.
- Screen layout:

Nhóm hàng	Hành động
Sách	<input type="checkbox"/>
Văn phòng phẩm	<input type="checkbox"/>
Truyện	<input type="checkbox"/>
A	<input type="checkbox"/>

Figure 3.3.1.1: View Category List screen

Nhóm hàng	Hành động
Sách	<input type="checkbox"/>
Văn phòng phẩm	<input type="checkbox"/>
Bút-Vết	<input checked="" type="checkbox"/>
Đụng cụ học sinh	<input type="checkbox"/>
Đụng cụ nhà	<input type="checkbox"/>
Sản phẩm về giấy	<input type="checkbox"/>
Sản phẩm khác	<input type="checkbox"/>
Sản phẩm điện tử	<input type="checkbox"/>
Sách trong nước	<input type="checkbox"/>
A	<input type="checkbox"/>

Figure 3.3.1.2: View Category and Subcategory List screen

- Function details:
  - This function retrieves and displays all categories available in the system, including their subcategories
  - After clicking on the eye icon of a category entry, the system will show all of that category's subcategories. Click again to hide the subcategories list

- If there are no categories and subcategories, the system will display “Không có dữ liệu”

### 3.3.2 Create Category

- Function trigger: Staff click the “Tạo nhóm” button in the View Categories and Subcategories page
- Function description : Staff adds a new category to the category list
- Screen layout:

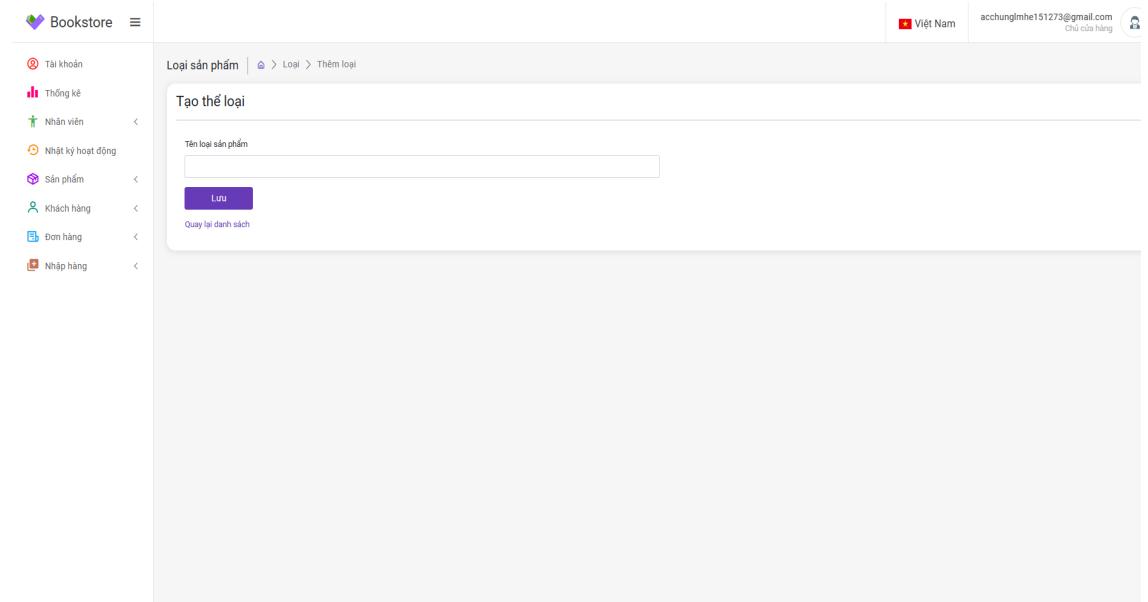


Figure 3.3.2.1: Create Category screen

- Function details:
  - After inputting the new category's name, the user then clicks “Lưu”. The system will then create a new category and store it in the database

### 3.3.3 Update Category

- Function trigger: Owner/Staff clicks the pen icon of a category entry in the View Category and Subcategory page
- Function description : Owner/Staff selects a category to change its detailed information and update it to the database.

- Screen layout:

Loại sản phẩm | ⌂ > Loại > Sửa nhóm

### Sửa nhóm

Tên loại sản phẩm

Lưu

Quay lại danh sách

*Figure 3.3.3.1: Update Category screen*

- Function details:

- After inputting the new information, the user then clicks “Lưu”. The system will then update the category in the database

### 3.3.4 Delete Category

- Function trigger : Owner/Staff clicks the trash can icon of a category entry in the View Category and Subcategory page
- Function description : Owner/Staff selects a category to delete it from the database.
  - Screen layout:

Nhóm hàng

Nhóm hàng	Hành động
Sách	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Văn học	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Kinh Tế	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Tâm lý - Kỹ năng sống	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Sách nuôi dạy con	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Sách thiếu nhi	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Tiểu sử - Hồi ký	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Sách giáo khoa	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Khoa học - văn tông	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>
Văn phòng phẩm	<input checked="" type="checkbox"/> <input type="button" value="View"/> <input checked="" type="button" value="Delete"/>

*Figure 3.3.4.1: Click trash icon to delete*

- Function details:
  - After clicking the delete icon, System will ask to confirm.
  - If clicking on “Xoá”, the category is removed from the database and return to list category page
  - If click on “trở lại danh sách”, the View Category and Subcategory page will then be reloaded and show the remaining categories and subcategories
  - If the selected category has subcategories that are already used by any of the system’s products, it cannot be deleted

### **3.3.5 Create Subcategory:**

- Function trigger : Staff clicks the “Tạo nhóm con” button in View Categories and Subcategories page
- Function description : Staff adds a new subcategory to the list
- Screen layout:

The screenshot shows a user interface for adding a new category. The title bar says "Thêm nhóm hàng". Below it, there are two input fields: "Nhóm hàng" (Category name) and "Nhóm cha" (Parent category). The "Nhóm cha" field contains "Sách" and has a dropdown arrow. At the bottom of the form is a purple rectangular button labeled "Lưu" (Save). Below the form, there is a small link "Quay lại danh sách" (Return to list).

*Figure 3.3.5.1: Create subcategory screen*

- Function details:
  - User input the new subcategory's name, select the category it belongs to then click on “Lưu” button to confirm and add to database

### **3.3.6 Update Subcategory:**

- Function trigger : Owner/Staff clicks the pen icon of a subcategory entry in the View Category and Subcategory page
- Function description : Owner/Staff selects a subcategory to change its detailed information and update it to the database.

- Screen layout:

Phân loại	Trạng thái	Hành động
Sách	Hoạt động	<input type="checkbox"/> Delete
Văn học	Hoạt động	<input type="checkbox"/> Delete
Kinh Tế	Hoạt động	<input checked="" type="checkbox"/> Delete
Tâm lý - Kỹ năng sống	Hoạt động	<input type="checkbox"/> Delete
Sách nuôi dạy con	Hoạt động	<input type="checkbox"/> Delete
Sách thiếu nhi	Hoạt động	<input type="checkbox"/> Delete
Tiểu sử - Hồ ký	Hoạt động	<input type="checkbox"/> Delete
Sách giáo khoa	Hoạt động	<input type="checkbox"/> Delete
Sách ngoại ngữ	Hoạt động	<input type="checkbox"/> Delete
Dụng cụ văn phòng	Hoạt động	<input type="checkbox"/> Delete
Văn phòng phẩm	Hoạt động	<input type="checkbox"/> Delete

Figure 3.3.6.1: Click pen icon to edit

Loại sản phẩm | [Home](#) > Loại > Thêm loại

### Sửa thẻ loại

SubCategoryName: Văn học

Thẻ loại: Sách

Status:  Hoạt động  Định chỉ

**Lưu**

[Back to List](#)

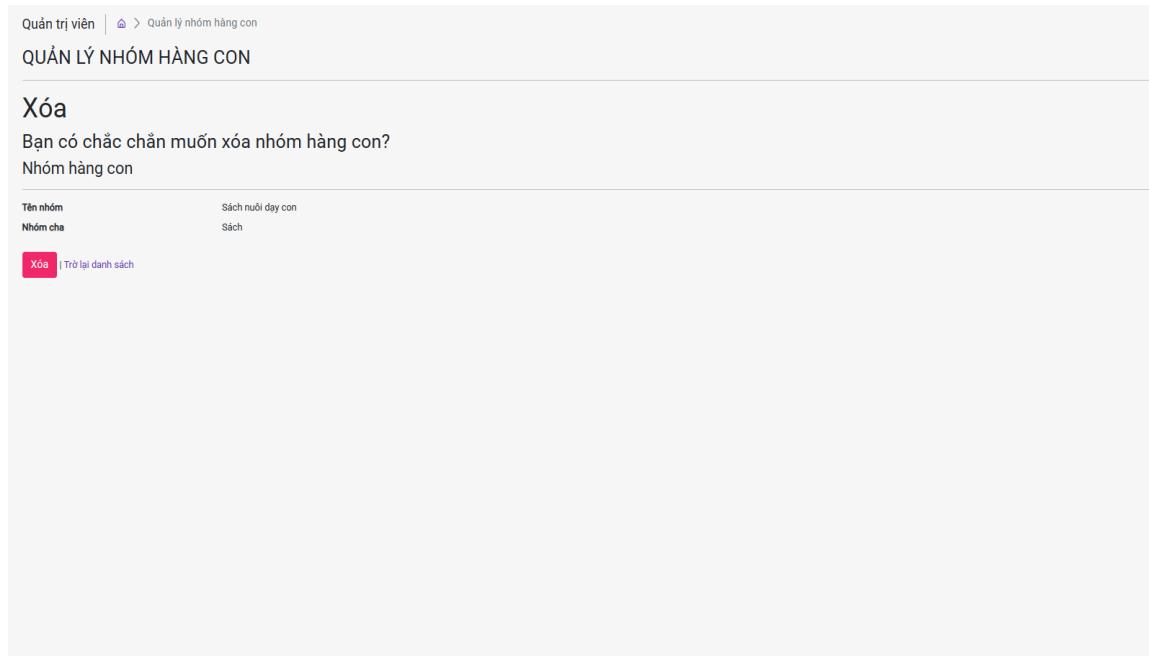
Figure 3.3.6.2: Edit Subcategory screen

- Function details:

- After inputting the new information, the user then clicks “Lưu”. The system will then update the subcategory in the database

### **3.3.7 Delete subcategory:**

- Function trigger : Staff clicks the delete(bin) icon of a subcategory entry in the View Category and Subcategory page
- Function description : Owner/Staff selects a subcategory to delete it from the database
- Screen layout:



*Figure 3.3.7.1: Confirm delete screen*

- Function details:
  - After clicking the delete icon, the system will ask to confirm.
  - If clicking on “Xóa” the subcategory is removed from the database. The View Category and Subcategory page will then be reloaded and show the remaining categories and subcategories
- Else Turning back to the previous page.
- If the selected subcategory is already used by any of the system's products, it cannot be deleted

## 3.4 Products Management

### 3.4.1 View List Products

- Function trigger: the Owner or Staff clicks “Danh sách sản phẩm” under “Sản phẩm” on the sidebar.
- Function description: Owner and Staff can view the list of all products in the system
- Screen layout:

The screenshot shows a product management interface. On the left is a sidebar with icons for User Account, Statistics, Employees, Activity Log, and Products (selected). The main area has tabs for Product List and Product Details. A sub-tab 'Bộ lọc' (Filter) is active. The table lists six products:

ID	Name	Stock	Sales	Purchase Price (VND)	Selling Price (VND)	Profit Margin (%)	Status	Action
123	Chiến Binh Cầu Vồng (Tái Bản 2020)	0	0	70,850	0	0	<span>Hoạt động</span>	<span>⋮</span>
PVN1	Sứ Ký Tư Mã Thiên (Tái Bản 2023)	48	48	44,748	198,000	130,000	<span>Hoạt động</span>	<span>⋮</span>
PVN2	Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)	50	43	20,023	67,000	40,000	<span>Hoạt động</span>	<span>⋮</span>
PVN3	Cây Cam Noot Của Tôi	49	49	30,000	81,000	30,000	<span>Hoạt động</span>	<span>⋮</span>
PVN4	Nhà Giả Kim (Tái Bản 2020)	44	44	20,000	60,000	40,000	<span>Hoạt động</span>	<span>⋮</span>
PVN5	Trixie, Tiếng Tiếng... - Tài Bản 2021	46	43	20,000	60,000	40,000	<span>Hoạt động</span>	<span>⋮</span>

VMS 2023 | Developed By: ISPM&P (530)

Figure 3.4.1.1: View List Products screen

This screenshot shows the same product list interface but with additional filtering and search features. A 'BỘ LỌC' (Filter) section at the top includes a search bar ('Tim kiếm') and dropdown menus for 'Loại sản phẩm' (Product Type) and 'Trạng thái' (Status). The table below remains the same, displaying the six products listed earlier.

Figure 3.4.1.2: View List Products screen with filter and search option

- Function details:
  - This function retrieves and displays all products available in the system, including some of their details and related information.
  - If there are no products, the page will display “Không có dữ liệu”
  - To search and filter products, the user clicks on “Bộ lọc”, then input a part of the product's name or barcode in the search bar, and pick category and

status options to filter. The system will then show the searched and filtered result.

- To sort the product list, the user clicks the header of an attribute column. The product list table will then be sorted in ascending order by said attribute. Click again to sort the products in descending order.

### 3.4.2 View Products Details

- Function trigger : when Owner/Staff click on the eye icon of a specific product entry in the View List Products page.
- Function description : Owner/Staff can view detailed information about each product
- Screen layout:

Chi tiết sách

ID	2
Mã vạch	PVN2
Tên sản phẩm	Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)
Số lượng	66
Loại sản phẩm	Văn học
Đơn vị	Quyển
Kích thước	20.5 x 14.5 x 1.8 cm
Trọng lượng	450g
Số trang	364
Ngôn ngữ	Tiếng Việt
Tác giả	
Giá nhập	20000 VND
Giá lẻ	67000 VND
Chiết khấu lẻ	5%
Giá sỉ	40000 VND
Chiết khấu sỉ	10%
Trạng thái	Hoạt động
Mô tả	<p>* Những Cuộc Phiêu Lưu Của Tom Sawyer Những cuộc phiêu lưu của Tom Sawyer (The Adventures of Tom Sawyer, 1876) được coi là hồi ký của Mark Twain và tác giả mô tả Tom Sawyer, anh bạn Huck Finn và tên gian ác Injun Joe cũng như làng St. Petersburg sống tại Hannibal khi trước. Những cuộc phiêu lưu của Tom Sawyer là một trong những tác phẩm văn học đầu tiên của Mỹ, sử dụng những phương ngữ đặc trưng của vùng miền, tác giả đã tạo nên nền văn hóa riêng của thị trấn nhỏ bé này. Mark Twain đã vẽ ra hình ảnh của cậu bé Tom Sawyer dùng cảm tình nghịch từ những ký ức tuổi thơ của mình ở một thị trấn ven sông Missouri vào những năm 1840, đó chính là điều khiến cuốn sách trở nên thú vị nhất. Những cuộc phiêu lưu của Tom Sawyer là một câu chuyện hài hước thể hiện tinh thần và những nỗi sợ của một cậu bé, còn là tiếng nói châm biếm gay gắt về văn hóa và xã hội lúc bấy giờ. Đây là một trong những tác phẩm của Mark Twain được nhiều độc giả yêu thích và được ca ngợi như một tác phẩm văn học cổ điển của</p>
Ảnh minh họa	

Quay Lại    Chính Sửa

Figure 3.4.2.1: View Product Detail screen

- Function details:

- This function retrieves all information about the selected product, including their details and related information
- If the user tries to see the detail of a non-existent product, the system will return an error page

### 3.4.3 Create Product

- Function trigger : Staff click the “Thêm sản phẩm” button in the View List Products page or on the sidebar (under “Sản phẩm”), then click “Thêm sách” or “Thêm văn phòng phẩm”
- Function description : Staff adds a new product in store to product list
- Screen layout:

The screenshot displays the 'Create Product' interface with the following sections:

- Thông tin chung (General Information):**
  - Mã vách: Đế trống để tự sinh
  - Tên sản phẩm \*: VD: Sách a, Bút bi xyz, v.v..
  - Mô tả: Mô tả về sản phẩm...
  - Đơn vị: VD: Quyển, Bộ, v.v..
  - Kích thước: VD: 30 x 40 cm
  - Trọng lượng: VD: 500 g
  - Loại sản phẩm: Chọn: Văn học
- Thông tin sách (Book Information):**
  - Số trang: Trang
  - Ngôn ngữ: VD: Tiếng Việt, Tiếng Anh, v.v..
  - Tác giả: Chọn
- Giá sản phẩm (Product Price):**
  - Giá nhập \*: VND
  - Giá lẻ \*: VND
  - Chiết khấu lẻ \*: %
  - Giá sỉ \*: VND
  - Chiết khấu sỉ \*: %
- Thông tin sách (Book Information):**
  - Số trang: Trang
  - Ngôn ngữ: VD: Tiếng Việt, Tiếng Anh, v.v..
  - Tác giả: Chọn
- Giá sản phẩm (Product Price):**
  - Giá nhập \*: VND
  - Giá lẻ \*: VND
  - Chiết khấu lẻ \*: %
  - Giá sỉ \*: VND
  - Chiết khấu sỉ \*: %

At the bottom left are the 'Lưu' (Save) and 'Hủy' (Cancel) buttons.

Figure 3.4.3.1: Create Product screen

- Function details:
  - This function allows Staff to add a new product to the system by providing its details, requiring information such as name, category, prices...
  - After the inputted details are validated, the user can click “Lưu”. The system will then create a new product with inputted information and store it in the database.

### 3.4.4 Update Product

- Function trigger : Staff click the pen icon of a product entry in the View List Products page, or click the “Chỉnh sửa” button in a specific Product Details page.
- Function description : Staff selects the products that need to be edited to edit the details and update to the system
- Screen layout:

The screenshot displays the 'Thông tin chung' (General Information) section of the product update form. It includes fields for 'Mã vạch' (Barcode) set to 'PVNT', 'Tên sản phẩm\*' (Product Name) set to 'Sứ Ký Tư Mã Thiên (Tái Bản 2023)', 'Mô tả' (Description) containing a brief history of the book, 'Đơn vị\*' (Unit) set to 'Quyển', 'Kích thước' (Dimensions) set to '24 x 16 x 4.4 cm', and 'Trọng lượng' (Weight) set to '1100g'. Below this, there's a 'Loại sản phẩm' (Product Type) dropdown set to 'Văn học'.

On the left, there are two large preview images of the book cover and its back cover, which show the title 'SỨ KÝ Tư Mã Thiên' and various chapter titles in Vietnamese and Chinese.

The bottom section contains two forms: 'Thông tin sách' (Book Information) and 'Giá sản phẩm' (Product Price). The 'Thông tin sách' form has fields for 'Số trang' (Number of pages) set to '892', 'Ngôn ngữ' (Language) set to 'Tiếng Việt', and 'Tác giả' (Author) set to 'Daisuke Aizawa, Touzai'. The 'Giá sản phẩm' form has fields for 'Giá nhập\*' (Purchase Price) set to '44748', 'Giá lẻ\*' (Retail Price) set to '198000', and 'Giá sỉ\*' (Wholesale Price) set to '130000'. Both forms include dropdowns for 'VND' and percentage values for 'Chiết khấu lẻ\*' (Retail Discount%) and 'Chiết khấu sỉ\*' (Wholesale Discount%).

At the bottom, there are three buttons: 'Lưu' (Save), 'Hủy' (Cancel), and 'Ngừng Kinh Doanh' (Stop Selling). The footer of the page reads 'VMS 2023 | Developed By : SEP490\_G30'.

Figure 3.4.4.1: Update Product screen

- Function details:
  - If user tries to update a non-existent product, the system will return an error page
  - Authorised users can modify the details of an existing product, such as product name, description, price, and image...
  - After the inputted information is validated, the user can click “Lưu”. The system will then save the product with new information to the system.
  - Authorised users can click “Ngừng kinh doanh” or “Tiếp tục kinh doanh” button to deactivate or activate the product

## 3.5 Author Management

### 3.5.1 View List Author:

- Function trigger : Owner/Staff clicks “Tác giả sách” on the side menu bar
- Function description : Owner and Staff can view the list of all book authors in the system
- Screen layout:

ID	Tác giả	Trạng thái	Hoạt động
1	Daisuke Alizawa, Touzai	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Paulo Coelho	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	David Baldacci	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Kutzsc	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	Og Mandino	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	Russell Brunson	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	Lama Christie McNally	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

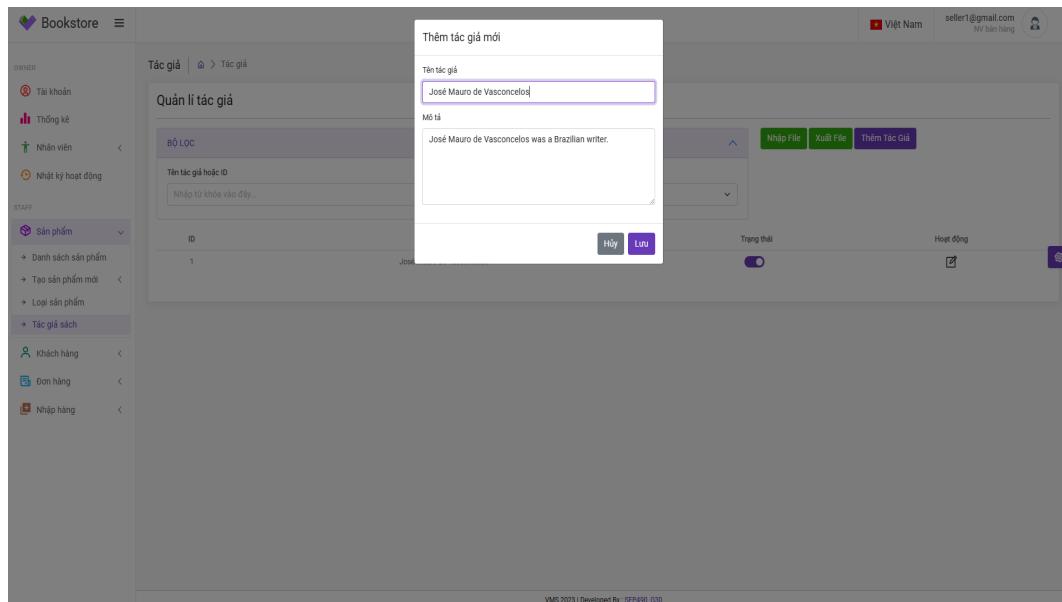
Figure 3.5.1.1: View List Author screen

- Function details:
  - This function retrieves and displays all authors available in the system, including their details and information.
  - If there are no authors, the page will display “Không có dữ liệu”
  - To search and filter authors, the user clicks on “Bộ lọc”, then input the author’s ID or a part of its name in the search bar, and pick the status option to filter. The system will then show the searched and filtered result.

### 3.5.2 Create Author:

- Function trigger : Staff clicks the “Thêm tác giả” button in the View List Author page.
- Function description : Staff adds a new author to the author list.

- Screen layout:



*Figure 3.5.2.1: Create Author screen*

- Function details:

- After clicking the add button, a popup screen will appear
- User inputs the new author's information, then the system will validate them
- If the information is valid, user can click “Lưu”, then the system will create a new author with inputted information and add it to the database

### **3.5.3 Update Author:**

- Function trigger : Staff click the pen icon of an author entry in the View List Author page
- Function description : Staff selects the author that needs to be edited to edit the details and update to the system

- Screen layout:

Tác giả | > Tác giả > Chính sửa

Sửa tác giả

ID  
1

Tên tác giả  
José Mauro de Vasconcelos

Mô tả  
José Mauro de Vasconcelos was a Brazilian writer.

Lưu Hủy

Figure 3.5.3.1: Update Author screen

- Function details:

- If user tries to update a non-existent author, the system will return an error page
- Authorised users can modify the name and description of an existing author
- After the inputted information is validated, the user can click “Lưu”. The system will then save the author with new information to the system.

### 3.5.1 Change Status Author:

- Function trigger : Staff clicks the toggle on the “Trạng thái” column of an author entry in the View List Author page
- Function description : Staff activates or deactivates an author in the system
- Screen layout:

Quản lý tác giả

BỘ LỌC		Nhập File	Xuất File	Thêm Tác Giả
ID	Tác giả	Trạng thái	Hoạt động	
1	José Mauro de Vasconcelos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Figure 3.5.1.1: Click toggle to change status

- Function details:
  - If the author was active before, it will become inactive, and the toggle changes to white to reflect
  - If the author was inactive before, it will become active, and the toggle changes to blue to reflect

## 3.6 Buy products

### 3.6.1 View List Products (Customer):

- Function trigger :
  - Customer/Guest clicks “Sản phẩm” or one of the subcategories under it on the navbar
  - Customer/Guest hover over the magnifying glass icon on the navbar, types in the search field then clicks the magnifying glass icon
- Function description : Customer/Guests can view the list of products in the store. They can also search and filter their desired products
- Screen layout:

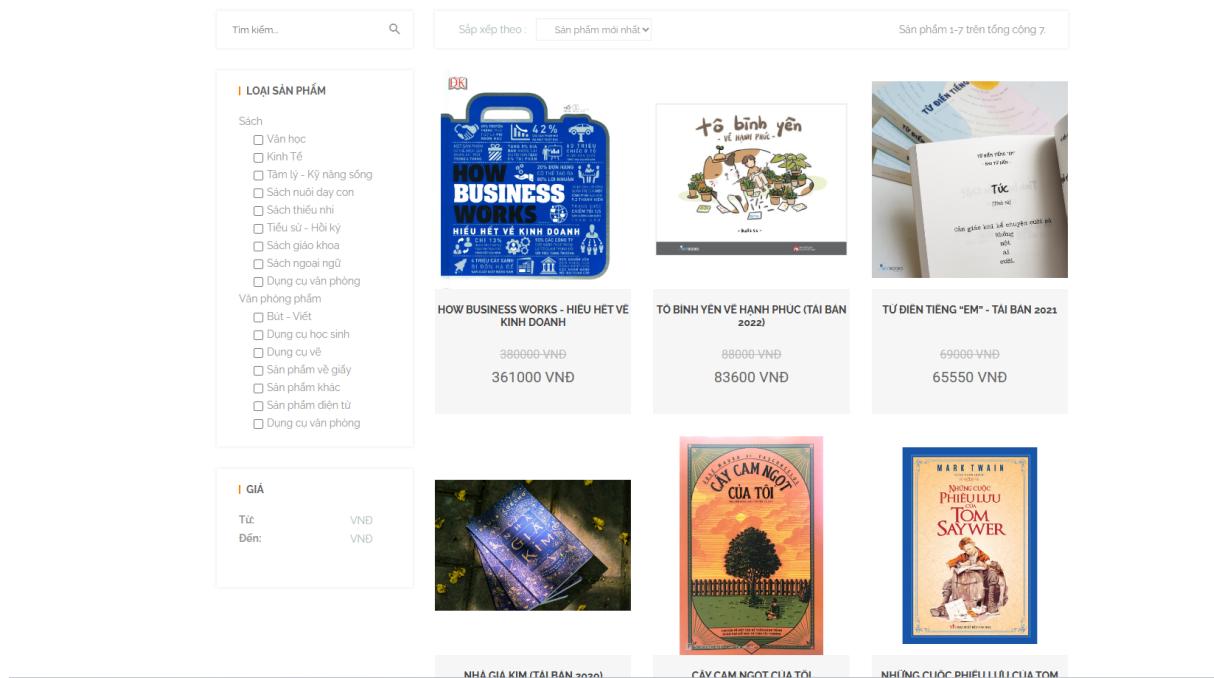


Figure 3.6.1.1: View List Product screen

- Function details:
  - This function retrieves and displays all active products available in the system, including some of their details, then display products based on user's search and filter options
  - User can sort the result by selecting the “Sắp xếp theo” option
  - To search a desired product, user inputs a part of its name in the “Tìm kiếm” bar on the side menu, then click the magnifying glass icon besides it
  - To filter products, user chooses one or more category options in the “Loại sản phẩm” section, and/or inputs the price range in the “Giá” section on the side menu, then click the magnifying glass icon besides the “Tìm kiếm” bar

### 3.6.2 View Product Details (Customer):

- Function trigger : Customer/Guest clicks a product entry in the Home or View List Product page
- Function description : Customer/Guest can view all of the selected product's details such as name, price, description, images...
- Screen layout:

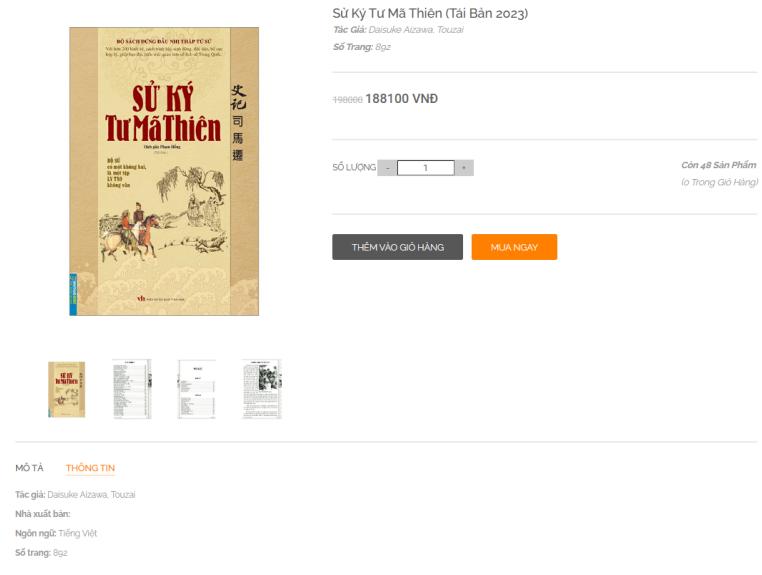


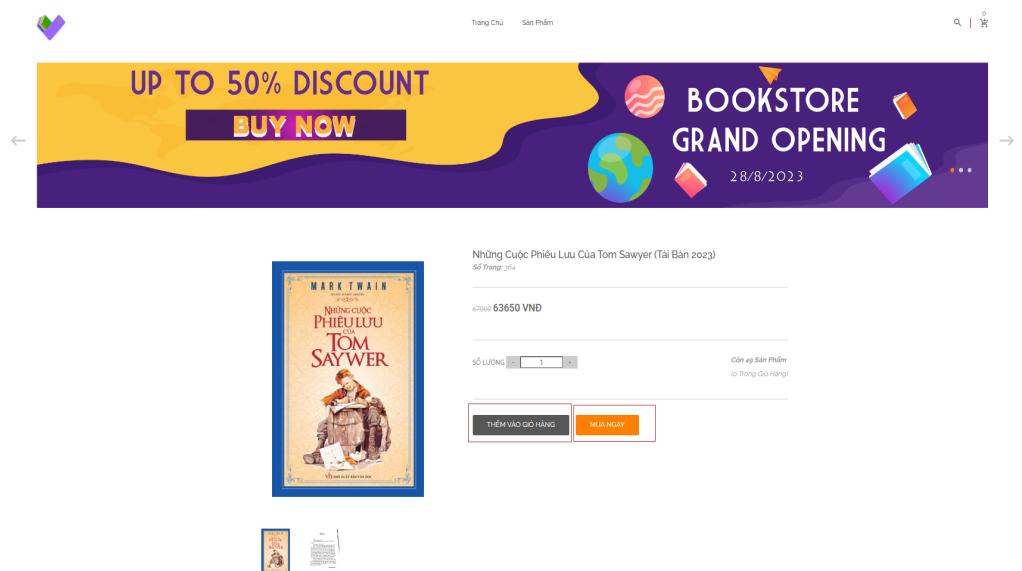
Figure 3.6.2.1: View Product detail screen

- Function details:
  - This function retrieves all information and details about the selected product and show it to the user
  - If the user tries to see the detail of a non-existent product, the system will return an error page

### 3.6.3 Add Product to Cart:

- Function trigger : Customer/Guest clicks the “Thêm vào giỏ hàng” or “Mua ngay” button in the View Product Detail page
- Function description : Customer/Guest adds a product to their cart to make an order later

- Screen layout:



*Figure 3.6.3.1: Click “Thêm vào giỏ hàng” or “Mua ngay” to add product to cart*

- Function details:

- If there are no more available products to purchased, or if the product was already deactivated, user cannot add that product to their cart
- User change the “Số lượng” field to choose the number of products they want to add to cart. They cannot add to cart more products than what is available to purchase
- If user clicks the “Thêm vào giỏ hàng” button, they will stay on the current View Product Detail page
- If user clicks the “Mua ngay” button, they will be redirected to View Cart page

#### 3.6.4 View Cart

- Function trigger : Customer/Guest clicks the cart icon on the navbar, clicks “Xem giỏ hàng” under it, or clicks the “Mua ngay” button in a View Product Detail page
- Function description : Customer/Guest can view their shopping cart before making an order

- Screen layout:

SẢN PHẨM	GIÁ THÀNH	KHUYẾN MẠI	SỐ LƯỢNG	THÀNH TIỀN	XÓA
NHÀ GIÁ KIM (TÁI BẢN 2020)	60000 VND	5%	<input type="button" value="-"/> <input type="text" value="1"/> <input type="button" value="+"/>	57000 VND	
TÚ DIỄN TIẾNG 'EM' - TÁI BẢN 2021	69000 VND	5%	<input type="button" value="-"/> <input type="text" value="1"/> <input type="button" value="+"/>	65550 VND	
TÔ BÌNH YÊN VỀ HẠNH PHÚC (TÁI...	88000 VND	5%	<input type="button" value="-"/> <input type="text" value="1"/> <input type="button" value="+"/>	83600 VND	

| TỔNG CỘNG

**206150 VND**

**ĐẶT HÀNG**

Figure 3.6.4.1: View Cart screen

- Function details:
  - This function retrieves and displays all products and their quantity in the user's cart.
  - Logged in customer's cart will be saved even when the user logs out and logs in again

### 3.6.5 Update Cart:

- Function trigger :
  - Customer/Guest changes the input field in the “Số lượng” column of a product entry in the View Cart page
  - Customer/Guest clicks the X icon on the right of a product entry in the View Cart page
- Function description : Customer/Guest changes the detail of their shopping cart
- Screen layout:

SẢN PHẨM	GIÁ THÀNH	KHUYẾN MẠI	SỐ LƯỢNG	THÀNH TIỀN	XÓA
NHỮNG CUỘC PHIÊU LƯU CỦA TOM SAW...	67000 VND	5%	<input type="button" value="-"/> <input type="text" value="4"/> <input type="button" value="+"/>	254600 VND	

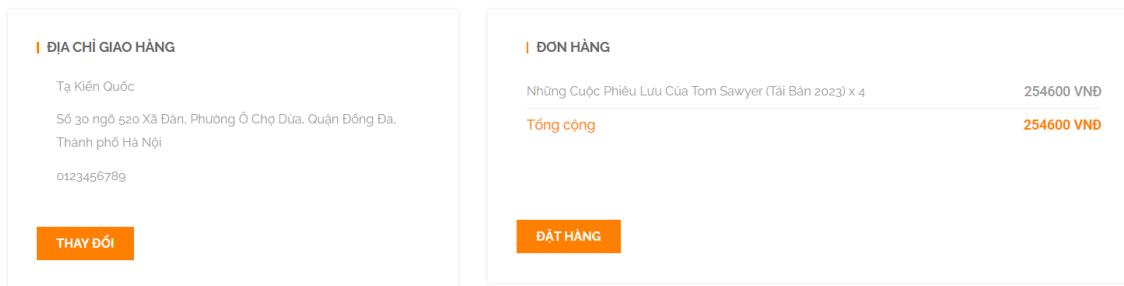
Figure 3.6.5.1: Change “Số lượng” or click X icon to update cart

- Function details:
  - If user changes the “Số lượng” field of a product, the number of that product in user's cart will be changed accordingly. If the number of a products reach 0, that product will be removed from the cart immediately

- If user clicks the X icon on the right of a product, that product will be removed from the cart

### **3.6.6 (Customer) Make an Order:**

- Function trigger : Logged in Customer clicks the “Đặt hàng” button in the View Cart page, or hovers over the cart icon on navbar and click “Đặt hàng” under it
- Function description : Logged in Customer makes an order with products in their cart
- Screen layout:



*Figure 3.6.6.1: Customer's Make Order screen*

- Function details:
  - Only logged in Customer can make an order, Guest cannot make an order
  - Customer can click the button under “Địa chỉ giao hàng” section to change the shipping information for the order. If customer has not add any shipping information beforehand, they can click it to add a new shipping information
  - After a shipping information is set, customer can click “Đặt hàng” to finalise the order

## **3.7 Order Management**

### **3.7.1 View List Orders:**

- Function trigger : When Owner/Staff clicks “Danh sách đơn hàng” under “Đơn hàng” on the side menu bar
- Function description : Owner and Staff can view the list of all selling orders

- Screen layout:

The screenshot shows a web-based application interface for managing orders. On the left, there is a sidebar with various menu items: Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng (selected), Danh sách đơn hàng, Tạo đơn hàng mới, and Nhập hàng. The main content area is titled 'Đơn hàng' and 'Số liệu đơn hàng'. Below this is a sub-section titled 'Bảng quản lý đơn hàng'. The table has the following data:

ID	Khách hàng	Ngày tạo	Trạng thái	Tổng tiền	Chi tiết đơn hàng
1	Khach Hang A	2023-08-11	Chờ lấy	251750 VNĐ	
2	Khach Hang A	2023-08-11	Đã hoàn thành	0 VNĐ	
3	hungLee007	2023-08-01	Đã hoàn thành	342000 VNĐ	
4	Lê Mạnh Hùng Test: 5/45	2023-08-14	Đã hoàn thành	498750 VNĐ	
5	hungLee007	2023-08-14	Đã hoàn thành	265050 VNĐ	
6	Nguyen Van Truong	2023-08-16	Đã hoàn thành	862600 VNĐ	
7	Nguyen Trung Kien	2023-08-16	Chờ xác nhận	616550 VNĐ	
8	Nguyen Trung Kien	2023-08-17	Chờ lấy	206150 VNĐ	

At the bottom of the table, it says 'Từ 1 đến 8 trên tổng 8'. There are also buttons for 'Nhập File', 'Xuất File', and 'Tạo Đơn Hàng Mới'.

Figure 3.7.1.1: View List Orders screen

- Function details:

- This function retrieves and displays all selling orders in the system, with some of their details
- If there are no orders, the page will display “Không có dữ liệu”
- To search and filter products, the user clicks on “Bộ lọc”, then inputs order's ID or a part of the order's customer's name in the search bar, and picks order's creation date time range and order's status options to filter. The system will then show the searched and filtered result.
- To sort the order list, the user clicks the header of an attribute column. The order list table will then be sorted in ascending order by said attribute. Click again to sort the orders in descending order.

### 3.7.2 Create Order:

- Function trigger : Owner/Staff clicks the “Tạo đơn hàng” button in the View List Orders page, or selects “Tạo đơn hàng mới” under “Đơn hàng” on the sidebar menu
- Function description : Create a new order for a customer
- Screen layout:

The screenshot shows the 'Create order' screen with the following sections:

- Top Progress Bar:** Tạo Đơn (checkmark), Chờ Xác Nhận, Đang Xử Lý, Đang Văn Chuyển, Đã Giao Hàng, Đã Hoàn Thành.
- Shipping Information Section:**
  - Tên Trung Kiên**
  - Số điện thoại: 0983389165
  - Địa chỉ: Số 30 ngõ 520 Xã Đàn, Phường Ô Chợ Dừa, Quận Đống Đa, Thành phố Hà Nội
- Product Details Section:**
  - Chi tiết đơn hàng**
  - Search bar: Thêm sản phẩm theo mã SP, tên SP
  - Table: Sắp xếp theo Giá lẻ
 

STT	Ảnh	Tên SP	Đơn vị	Số lượng	Đơn giá	Chiết khấu	Thành tiền
		Sứ Ký Tư Mã Thiên (Tái Bản 2023)	Quyển	1	198000	5 %	188,100 VNĐ
  - Product List:**

STT	Ảnh	Tên SP	Đơn vị	Số lượng	Đơn giá	Chiết khấu	Thành tiền
1		Sứ Ký Tư Mã Thiên (Tái Bản 2023)	Quyển	1	198000	5 %	188,100 VNĐ
2		Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)	Quyển	1	67000	5 %	63,650 VNĐ
  - Payment Summary:**

Cộng tiền hàng	251,750 VNĐ
Thuế GTGT	0 %
Tổng tiền thanh toán	251,750 VNĐ
Số tiền khách đã trả	0 VND
Chuyển khoản	(dropdown menu)
Số tiền còn thiếu	251,750 VNĐ
- Buttons:** Lưu (Green), Hủy (Red).

Figure 3.7.2.1: Create order screen

- Function details:
  - Authorised users can choose the new order's shipping information in the "Địa chỉ giao hàng" section. They can also add a new shipping information by clicking "Thêm nhanh địa chỉ giao hàng"
  - Authorised users can choose the products in the orders in the "Chi tiết đơn hàng" section. After choosing a product, they can edit its quantity, price and discount
  - Authorised users can optionally input the VAT, amount of paid money and change the paying method for the order below the products table
  - After a shipping information and at least a product is chosen, user clicks the "Lưu" button to create a new order and save it to the database

### 3.7.3 View Order Detail:

- Function trigger : Owner/Staff click on the eye icon of a specific order entry in the View List Orders page
- Function description : Owner/Staff can view detailed information about the selected order
- Screen layout:

Bảng quản lý đơn hàng						
BỘ LỌC						
Hiển thị 10 kết quả						
ID	Tên Khách hàng	Ngày tạo	Trạng thái	Tổng tiền	Chi tiết đơn hàng	Tìm kiếm:
1	Khach Hang A	2022-08-11	Đã hủy	251750 VNĐ		
2	Khach Hang A	2023-08-11	Đã hoàn thành	0 VNĐ		
3	hungLee307	2023-08-01	Đã hoàn thành	342000 VNĐ		
4	Lê Mạnh Hùng Test: 5:45	2023-08-14	Đã hoàn thành	498750 VNĐ		
5	hungLee307	2023-08-14	Đã hoàn thành	265050 VNĐ		
6	Nguyen Van Truong	2023-08-16	Đã hoàn thành	862500 VNĐ		
7	Nguyen Trung Kien	2023-08-16	Chờ xác nhận	616550 VNĐ		
8	Nguyen Trung Kien	2023-08-17	Đã hủy	206150 VNĐ		

Từ 1 đến 8 trên tổng 8

Trước 1 Tiếp

Figure 3.7.3.1: Click eye icon to view order detail

The screenshot shows the Bookstore application's Order Detail page. On the left, a sidebar navigation includes links for Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main content area has tabs for Đơn hàng (selected), Chi tiết đơn hàng, and other sections like Khách hàng, Địa chỉ giao hàng, Lịch sử thanh toán, and Chi tiết đơn hàng.

**Đơn hàng** tab details:

- Order ID: 7
- Customer: Nguyen Trung Kien
- Phone: 0346884399
- Address: hn
- Status: Chờ xác nhận (Pending Confirmation)
- Payment History: Tiền khách cần trả: 616550 VNĐ, Đã trả: 0 VNĐ, Còn phải trả: 616550 VNĐ

**Thông tin bổ sung** section:

- Nhân viên xác nhận đơn: Nguyen Trung Kien
- Ngày tạo đơn: 16/08/2023
- Ghi chú:

STT	Ảnh	Tên SP	Đơn vị	Số lượng	Đơn giá	Chiết khấu	Thành tiền
		Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)	Quyển	5	67000 VNĐ	5%	318250 VNĐ
		Tú Biển Tiếng 'Em' - Tái Bản 2021	Quyển	2	69000 VNĐ	5%	131100 VNĐ
		Tô Bình Yên Về Hạnh Phúc (Tái Bản 2022)	Quyển	2	88000 VNĐ	5%	167200 VNĐ

Cộng tiền hàng: 616550 VNĐ  
Thuế GTGT: 0%  
Tổng tiền thanh toán: 616550 VNĐ  
Số tiền khách đã trả: 0 VNĐ  
Số tiền còn thiếu: 616550 VNĐ

[Xác Nhận](#) [Hủy Đơn](#) [Quay Lại](#)

Figure 3.7.3.2: View Order Detail screen

- Function details:

- This function retrieves all information about the selected order and display them
- If the user tries to see the detail of a non-existent order, the system will return an error page

#### 3.7.4 Update Order Status:

- Function trigger : Owner/Staff clicks the “Xác nhận”, “Giao hàng”, or “Đã giao” blue button (depending on the current order’s status), or clicks the “Hủy đơn” red button in the View Order Detail page
- Function description : Owner/Staff update the status of an order
- Screen layout:

#### Chi tiết đơn hàng

STT	Ảnh	Tên SP	Đơn vị	Số lượng	Đơn giá	Chiết khấu	Thành tiền
		Sứ Ký Tư Mã Thiên (Tái Bản 2023)	Quyển	1	198000 VNĐ	5%	188100 VNĐ
		Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)	Quyển	1	67000 VNĐ	5%	63650 VNĐ

Cộng tiền hàng: 251750 VNĐ  
Thuế GTGT: 0%  
Tổng tiền thanh toán: 251750 VNĐ  
Số tiền khách đã trả: 0 VNĐ  
Số tiền còn thiếu: 251750 VNĐ

[Giao Hàng](#) [Hủy Đơn](#) [Quay Lại](#)

Figure 3.7.4.1: Click “Giao hàng” to change order’s status

## Chi tiết đơn hàng

STT	Ảnh	Tên SP	Đơn vị	Số lượng	Đơn giá	Chiết khấu	Thành tiền
		Sứ Ký Tư Mã Thiên (Tái Bản 2023)	Quyển	1	198000 VNĐ	5%	188100 VNĐ
		Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)	Quyển	1	67000 VNĐ	5%	63650 VNĐ
Cộng tiền hàng							251750 VNĐ
Thuế GTGT							0%
Tổng tiền thanh toán							251750 VNĐ
Số tiền khách đã trả							0 VNĐ
Số tiền còn thiếu							251750 VNĐ

[Giao Hàng](#)
[Hủy Đơn](#)
[Quay Lại](#)

Figure 3.7.4.2: Click “Hủy đơn” to cancel order

- Function details:
  - If user clicks the “Xác nhận”, “Giao hàng”, or “Đã giao” blue button (depending on the current order’s status), the current order’s status will be updated accordingly and save to database
  - If user clicks the “Hủy đơn” red button, the current order will be cancelled

### 3.7.5 Add Order Payment:

- Function trigger : Owner/Staff clicks the “Thanh toán” button in the View Order Detail page
- Function description : Owner/Staff add a new payment history for an order

- Screen layout:

The screenshot displays a software interface for managing orders. A central modal window titled "Xác nhận thanh toán" (Confirm payment) is open. It contains fields for "Phương thức thanh toán \*" (Payment method) set to "Chuyển khoản" (Bank transfer), "Ngày thanh toán \*" (Payment date) set to "08/17/2023", and "Số tiền \*" (Amount) which is empty. At the bottom of the modal are three buttons: "Lưu" (Save) in purple, "Đặt Lại" (Reset) in grey, and "Hủy" (Cancel) in grey. The background of the main window shows a navigation bar with tabs: "hàng" (Goods), "TAO ĐƠN" (Create Order) with a checkmark, "CHỜ XÁC NHẬN" (Pending Confirmation), and "ĐÃ HOÀN THÀNH" (Completed). Below the tabs, sections include "Khách hàng" (Customer) with details "Tên khách hàng: Nguyen Trung Kien" and "Số điện thoại: 0346884399"; "Địa chỉ giao hàng" (Delivery address) with details "Tên người nhận: Nguyen Trung Kien", "Số điện thoại: 0346884399", and "Địa chỉ: hn"; "Lịch sử thanh toán" (Payment history) showing a balance of "Tiền khách cần trả: 616550 VND" and "Đã trả: 0 VND"; and "Chi tiết đơn hàng" (Order details). The bottom right corner of the main window shows the text "VMS 2023 | Developed By: SEP490\_G30".

*Figure 3.7.5.1: Add order payment screen*

- Function details:

- After choosing the payment method, payment date and inputting the payment amount, user can click “Lưu” to save the payment entry to the database

## 3.8 Purchase Order Management

### 3.8.1 View purchase order:

- Function trigger : when Owner/Staff select “Danh sách hoá đơn nhập” in side menu bar
- Function description : Owner/Staff will view and manage the list of purchase order
- Screen layout:

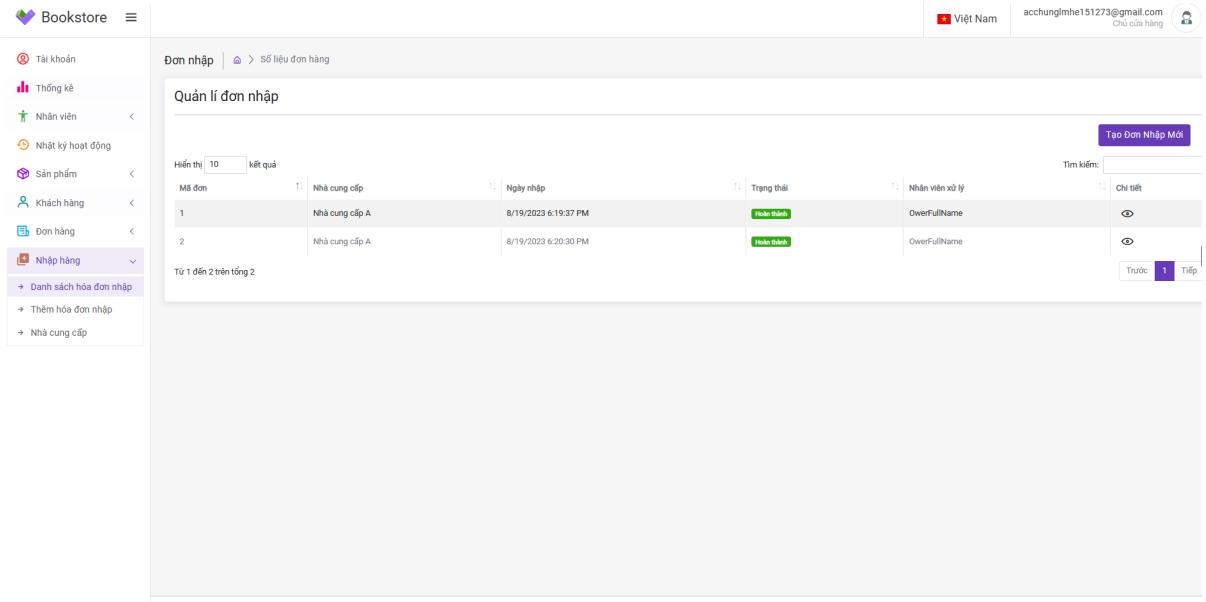


Figure 3.8.1.1: View purchase order list screen

- Function details: All list of purchase order will be displayed when click on “Danh sách hoá đơn nhập”

### 3.8.2 Create purchase order:

- Function trigger : when Staff select “Tạo hoá đơn nhập” in side menu bar or click on “Tạo đơn nhập mới” in View list purchase order page.
- Function description: Staff can create a new purchase order
- Screen layout:

Figure 3.8.2.1: Create purchase order screen

- Function details:
  - Select a supplier to create a new order. If a supplier does not exist, click on “Thêm nhà cung cấp”.

- Search the product and add to order. If product is new, click on “Thêm nhanh sản phẩm mới”.
- Enter values of empty fields to import products.
- Click “Tạo đơn” to create order or click “Hủy” to cancel.

### 3.8.3 Update Purchase order status:

- Function trigger : When Staff select view(eye) button in “Đơn nhập hàng” page
- Function description : Staff can update detail and status of purchase order
- Screen layout:

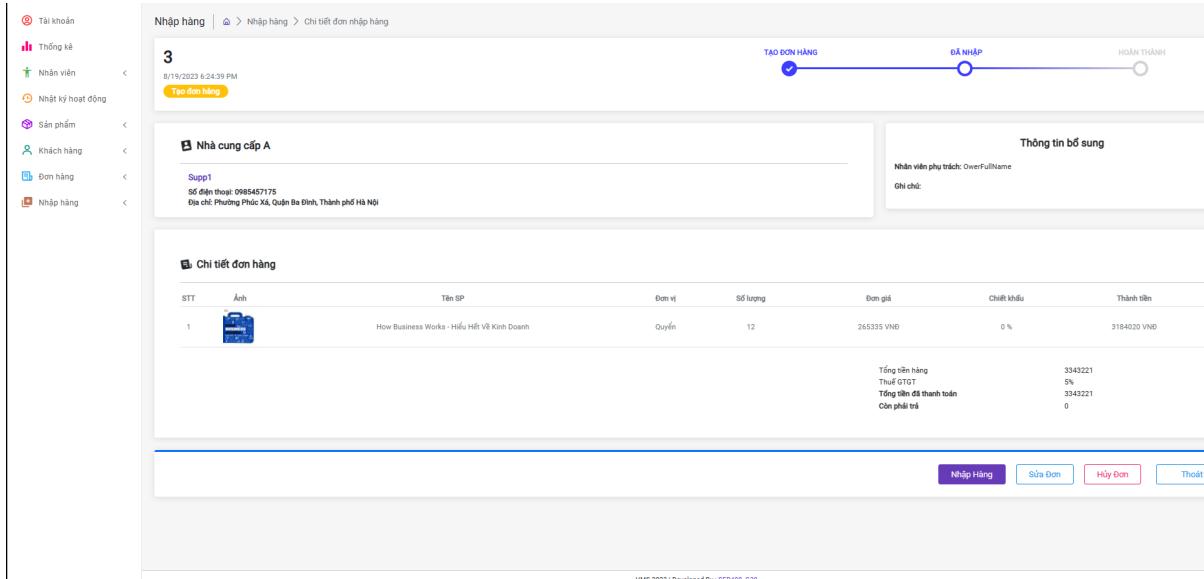


Figure 3.8.3.1: Update purchase order status screen

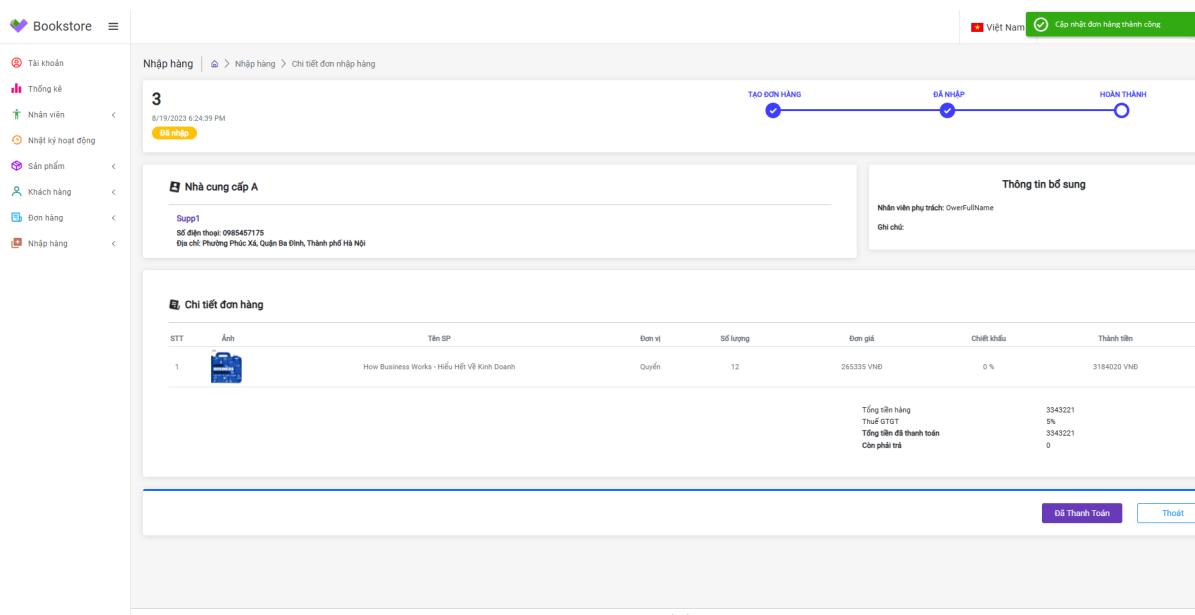


Figure 3.8.3.2: Update purchase order status successfully

- Function details:

- Click on “Nhập hàng” to confirm order or “Huỷ đơn” to discard the order.
- After confirming the purchase order, “Đã thanh toán” button is displayed and you can click to complete the order.

#### 3.8.4 Update purchase order detail:

- Function trigger : When Staff click to button “Sửa đơn” in purchase order detail page
- Function description : Staff can update detail purchase order

Figure 3.8.4.1: Update purchase order details screen

Figure 3.8.4.2: Update purchase order details successfully

- Function details: - If an order is in status “Tạo đơn hàng”. Its details can be edited. all steps are similar to Create function(3.8.2). The difference between edit purchase and create purchase order is when edit purchase order, cannot edit order that has a total

price smaller than paid amount for this purchase order and cannot edit amount of paid.

### 3.9 Account Staff Management

#### 3.9.1 View List Account Staff:

- Function trigger : When Owner select “Danh sách nhân viên” in side menu bar
- Function description : Owner will view and manage the list of employees
- Screen layout:

The screenshot shows a user interface for managing staff accounts. On the left is a sidebar with icons for Tài khoản, Thống kê, Nhân viên (selected), Danh sách nhân viên, Thiết nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main area has a title 'Nhân viên' and a sub-title 'Bảng quản lý nhân viên'. It includes a search bar ('Tìm kiếm') and buttons for '+Thêm Nhân Viên Mới' and 'Hành động'. A table lists two employees: Staff1 with FullName 'Staff1FullName', Email 'staff1@gmail.com', Phone '0123456789', Address '123 Example Street, City, Country', and Role 'Nhân viên'; and Staff2 with similar details. Each row has a delete icon and a 'Trạng thái' switch. At the bottom, there's a page navigation section with 'Trước', 'Tiếp', and a page number '1'.

Figure 3.9.1.1: View List Account screen

- Function details: The system will list all employees

#### 3.9.2 Create Account:

- Function trigger : when Owner select “Thêm nhân viên” in side menu bar
- Function description : Owner creates a new account for Staff
- Screen layout:

The screenshot shows a 'TẠO NHÂN VIÊN MỚI' (Create New Staff) form. The top navigation bar shows 'Chủ cửa hàng' and 'Nhân viên'. The form is titled 'Thông tin nhân viên' (Employee Information). It includes fields for: Họ và Tên (Name) with placeholder 'Nhập tên', Số CCCD/CMND (ID Card/Passport) with placeholder 'Nhập số CCCD/CMND', and a placeholder 'Ảnh đại diện' (Large Picture) with a camera icon. Below these are fields for: Tên đăng nhập (Login Name) with placeholder 'noaowuaw@gmail.com', Mật khẩu (Password) with placeholder '.....', Số điện thoại (Phone Number) with placeholder 'Nhập số điện thoại', Ngày sinh (Date of Birth) with placeholder 'dd/mm/yyyy' and a calendar icon, Giới tính (Gender) with radio buttons for 'Nam' and 'Nữ', and Địa chỉ (Address) with placeholder 'Nhập địa chỉ chi tiết'. At the bottom are 'Hủy' (Cancel) and 'Lưu' (Save) buttons, and a footer note 'VMS 2023 | Developed By : SEP490\_G30'.

Figure 3.9.2.1: Create staff account screen

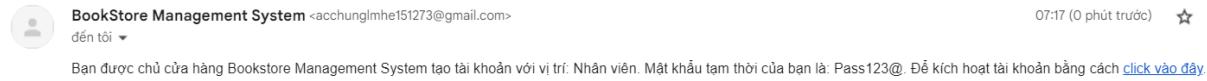


Figure 3.9.2.2: Staff account confirmation email

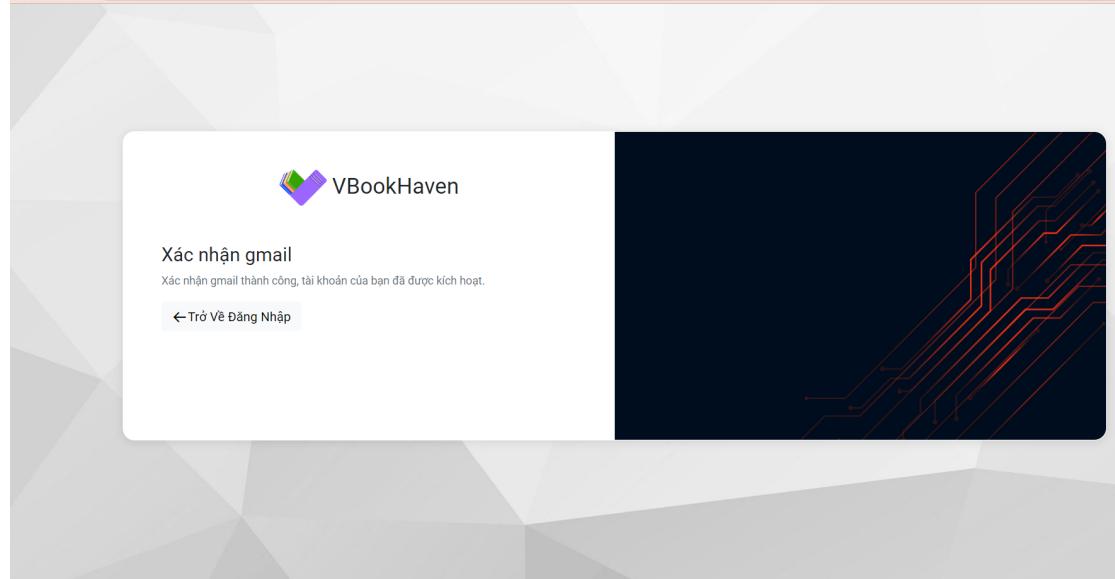


Figure 3.9.2.3: After clicking confirmation link

- Function details:
  - At the add new employee page. Owner input all the information of employee and click on button “Lưu” to save or “Huỷ” to Cancel. After clicking “Lưu”, the system will send an email with a notification and access password to the employee.
  - If the attributes are not filled in, a message that the attribute is required will be displayed.
  - If Email is already registered, The inline error message “This email is already existed” is displayed

### 3.9.3 Update Account

- Function trigger : When the user clicks on the "eye" icon at the employee management page
- Function description : Owner updates the information of accounts in the system

- Screen layout:

Figure 3.9.3.1: Update staff account screen

- Function details:

- This function allows the owner to modify the details of an existing staff, such as name, staff code, role, identity number, and phone number, based on the staff ID, which are then validated and updated in the database for future use.
- If the details of the staff are missing some required fields, User has to fill in all the missing information.

#### 3.9.4 Enable/Disable staff

- Function trigger : An owner wants to use a method to enable/disable status of the staff who currently has the status of disabled/enabled
- Function description : As an owner, I want to enable/disable the status of a staff member who has an account in my storage.
- Screen layout:

Bảng quản lý nhân viên								+ Thêm Nhân Viên Mới
Hiển thị	10	kết quả	Tim kiếm:					
Ảnh	Tên nhân viên	Email	Số điện thoại	Địa chỉ	Chức vụ	Trạng thái	Hành động	
	Staff1FullName	staff1@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input checked="" type="checkbox"/>		
	Staff2FullName	staff2@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input checked="" type="checkbox"/>		
	họ tên st1	hunglmhe151273@fpt.edu.vn	0123456789	địa chỉ ...	Nhân viên	<input checked="" type="checkbox"/>		
	Nhân viên A	noauuw@gmail.com	1234567891	Số nhà...	Nhân viên	<input type="checkbox"/>		

Từ 1 đến 4 trên tổng 4

Trước 1 Tiếp

Figure 3.9.4.1: Click “Trạng thái” button to disable staff

Bảng quản lý nhân viên									+ Thêm Nhân Viên Mới
Hiển thị	10	kết quả							Tìm kiếm:
Ảnh	Tên nhân viên	Email	Số điện thoại	Địa chỉ	Chức vụ	Trạng thái	Hành động		
	Staff1FullName	staff1@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input type="checkbox"/>			
	Staff2FullName	staff2@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input checked="" type="checkbox"/>			
	họ tên st1	hunglmhe151273@fpt.edu.vn	0123456789	địa chỉ ...	Nhân viên	<input checked="" type="checkbox"/>			
	Nhân viên A	noaowuaw@gmail.com	1234567891	Số nhà...	Nhân viên	<input checked="" type="checkbox"/>			

Từ 1 đến 4 trên tổng 4

Trước 1 Tiếp

Figure 3.9.4.2: After disabling staff successfully

- Function details:
  - This function changes the working status of a staff from disabled/enabled to enabled/disabled. The staff after enabled can be in charge of internal action of the website. Meanwhile, the staff after disabled can't access the page anymore.

## 3.10 (Staff/Owner)Profile Management

### 3.10.1 View profile:

- Function trigger : This function is triggered when the owner/staff wants to view his/her profile information.
- Function description As a(n) owner/seller, I want to view my personal information which I save in the system
- Screen layout:

 Thông tin cá nhân

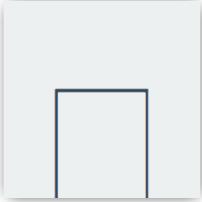
Họ và tên	Số CMND	Ảnh đại diện
OwerFullName	123456789101	
Email	Chức vụ	
acchunglmhe151273@gmail.com	Chủ cửa hàng	
Số điện thoại	Ngày sinh	Giới tính
0123456789	01/01/2001	<input checked="" type="radio"/> Nam <input type="radio"/> Nữ
Địa chỉ	<input type="text" value="123 Example Street, City, Country"/>	
<input type="button" value="Hủy"/> <input type="button" value="Đổi Mật Khẩu"/> <input type="button" value="Lưu"/>		

Figure 3.10.1.1: View Profile screen

- Function details: :The owner/staff views his/her full personal information. The screen provides functions to view personal information.

### 3.10.2. Edit user profile:

- Function trigger : This function is triggered when an authorised user requests to update their profile information
- Function description : As a(n) owner/staff, I want to edit my personal information which I saved in the system before.
- Screen layout:

The screenshot shows a user profile editing interface. At the top left is the title 'Thông tin cá nhân' (Personal Information). Below it are several input fields: 'Họ và tên' (Name) containing 'OwnerFullName', 'Số CMND' (ID Card Number) containing '123456789101', 'Email' containing 'acchunglmhe151273@gmail.com', 'Chức vụ' (Position) containing 'Chủ cửa hàng' (Shop Owner), 'Số điện thoại' (Phone Number) containing '0123456789', 'Ngày sinh' (Date of Birth) containing '01/01/2001', and 'Giới tính' (Gender) with radio buttons for 'Nam' (Male) and 'Nữ' (Female). To the right of these fields is a placeholder box labeled 'Ảnh đại diện' (Avatar) with a small gear icon. At the bottom are three buttons: 'Hủy' (Cancel), 'Đổi Mật Khẩu' (Change Password), and a green 'Lưu' (Save) button.

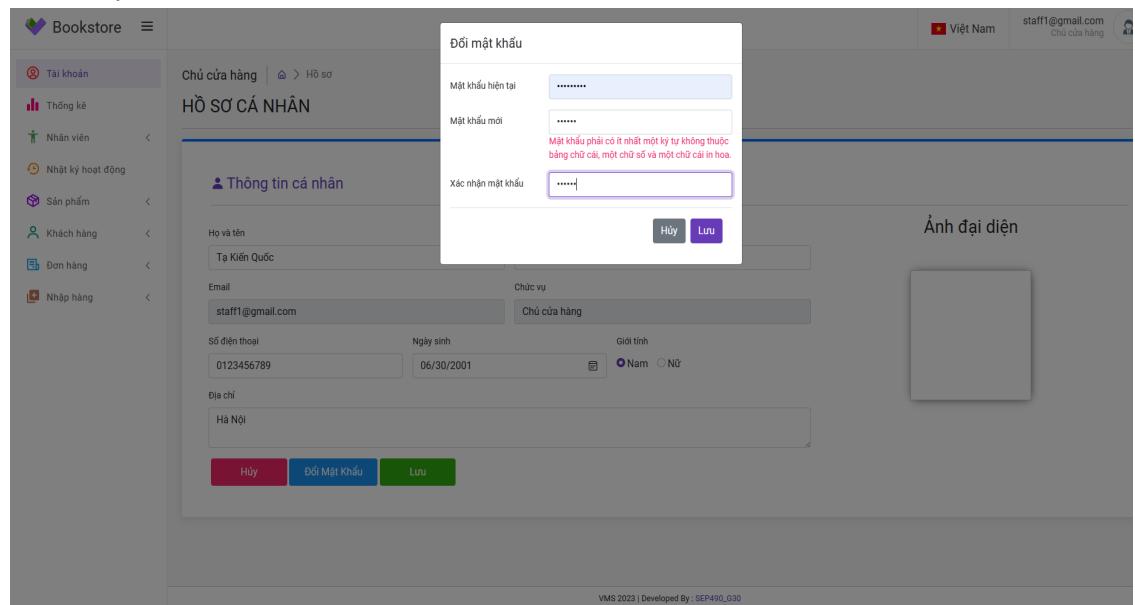
Figure 3.10.2.1: Edit user profile screen

- Function details:
  - This function allows authorised users to modify the details of an existing profile information, such as their name (which is required), identity number, gender, avatar and phone number.
  - If the details of the user are missing some required fields, User has to fill in all the missing information .

### 3.10.3 Change password

- Function trigger : This function is triggered when a user requests to change their current password.
- Function description: As a(n) owner/staff, I want to change the current password of my account.

- Screen layout:



*Figure 3.10.3.1: Change password screen*

- Function details:

- The user can update the password for his/her account.
- If Password and confirm password is not matched, the inline error message “Mật khẩu phải trùng nhau” is displayed till confirm password matches the password
- If password does not meet requirements, the inline error message “Mật khẩu phải có ít nhất một ký tự không thuộc bảng chữ cái, một chữ số và một chữ cái in hoa” is displayed
- Password or confirm password field is not filled, the inline error message will display and can not save.

## 3.11. (Customer)Profile Management

### 3.11.1 View profile:

- Function trigger: This function is triggered when the customer wants to view his/her profile information.
- Function description As a customer, I want to view my personal information which I save in the system

- Screen layout:

The screenshot shows a user profile page titled "Thông tin tài khoản". On the left, there's a sidebar with links: "Thông tin tài khoản", "Quản lý đơn hàng", "Số địa chỉ", "Thông tin thanh toán", and "Sản phẩm yêu thích". The main content area is divided into sections: "Thông tin cá nhân" (Personal Information) containing fields for "Họ và tên" (Name), "Ngày sinh" (Date of Birth), "Giới tính" (Gender), and "Số điện thoại" (Phone Number); "Email" with a field for "Địa chỉ email" (Email Address) containing "bmd2403@gmail.com"; and "Bảo mật" (Security) with a field for "Thiết lập mật khẩu" (Set password) and a "Cập nhật" (Update) button.

*Figure 3.11.1.1: View profile screen*

- Function details: The customer views his/her full personal information. The screen provides functions to view personal information.

### **3.11.2 Edit user profile:**

- Function trigger : This function is triggered when an authorised user requests to update their profile information
- Function description : As a customer, I want to edit my personal information which I saved in the system before.
- Screen layout:

This screenshot is identical to the one above, showing the "View profile" screen. The difference is that the "LƯU THAY ĐỔI" (Save changes) button at the bottom is highlighted in orange, indicating it is the active or next step in the process.

*Figure 3.11.2.1: Edit user profile screen*

- Function details:
  - This function allows authorised users with the customer role to modify the details, such as their name (which is required), gender, avatar and phone number.
  - If the details of the user are missing some required fields, User has to fill in all the missing information.

### **3.11.3 Change password**

- Function trigger: This function is triggered when a user requests to change their current password.

- Function description: As a(n) owner/staff, I want to change the current password of my account.
- Screen layout:

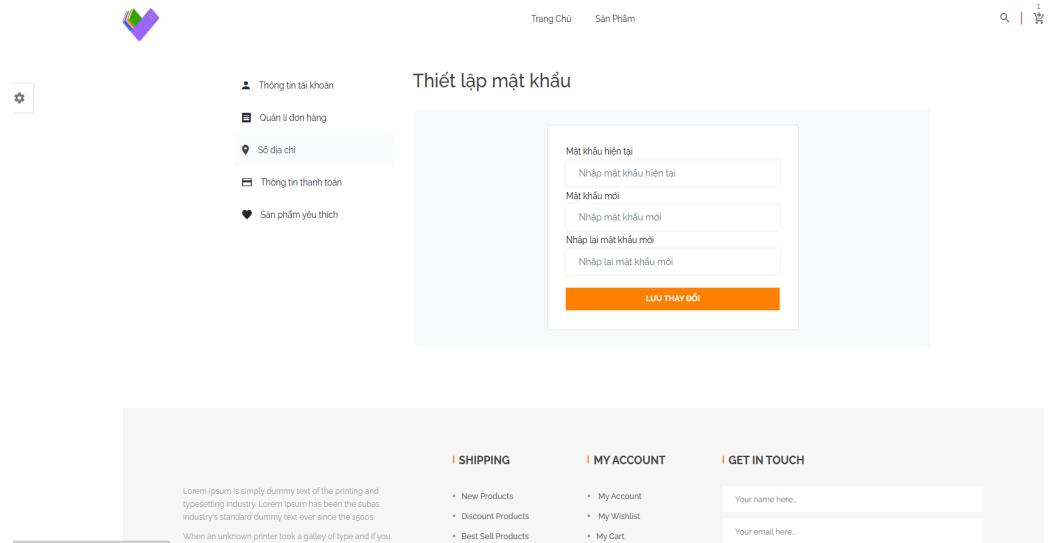


Figure 3.11.3.1: Change password screen

- Function details:
  - The user can update the password for his/her account.
  - If Password and confirm password is not matched, the inline error message “Mật khẩu phải trùng nhau” is displayed till confirm password matches the password
  - Password or confirm password field is not filled, the inline error message will display and can not save.

## 3.12. (Staff/Owner)Shipping Management

### 3.12.1 View Shipping information list:

- Function trigger: This function is triggered when the user wants to view his/her shipping information. Select “Số địa chỉ” in Profile management
- Function description: As a staff/owner, I want to view my shipping information
- Screen layout:

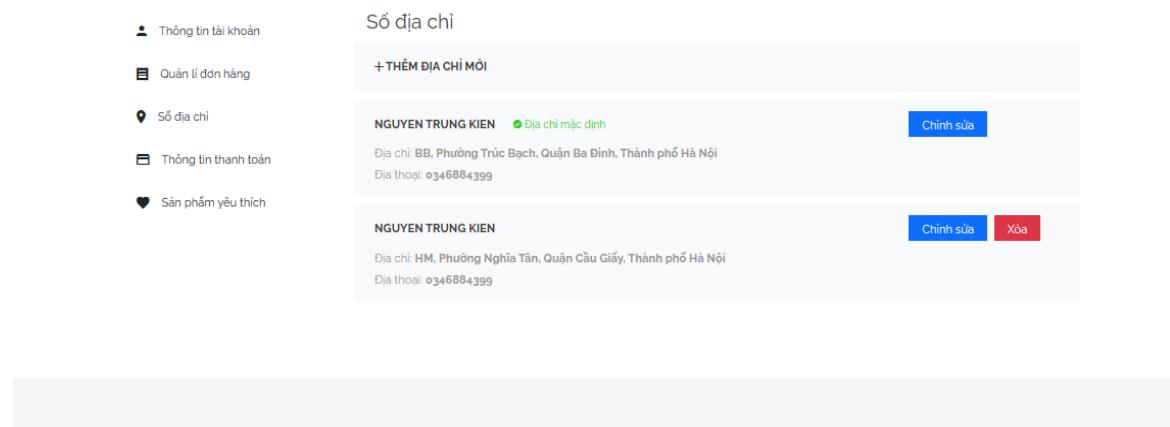


Figure 3.12.1.1: View Shipping information list screen

- Function details: Select “Số địa chỉ” in Profile management. List of shipping infomation will be displayed

### 3.12.2 Add Shipping information

- Function trigger: This function is triggered when a user requests to add a new shipping address. Click on “+ Thêm địa chỉ mới”
- Function description: As a Customer, I want to add a new shipping information to receive order
- Screen layout:

The screenshot shows a web-based application interface for adding a new shipping address. At the top, there's a navigation bar with icons for Home, Products, and a search bar. On the left, there's a sidebar with links for User Information, Order Management, Shipping Address, Payment Information, and Favorite Products. The main content area is titled "Thêm địa chỉ nhận hàng mới". It contains several input fields: "Họ và tên" (Name) with "Nguyen Trung Kien" entered; "Số điện thoại" (Phone number) with "0346884399"; "Tỉnh/Thành phố" (City/District) with "Thành phố Hà Nội"; "Quận/huyện" (District/Sub-district) with "Quận Hoàn Kiếm"; "Phường/xã" (Ward/Village) with "Phường Đông Xuân"; and "Địa chỉ" (Address) with "123". Below these fields is a checked checkbox labeled "Đặt làm địa chỉ mặc định" (Set as default address). At the bottom right is a prominent orange "Lưu" (Save) button.

Figure 3.12.2.1: Add Shipping information screen

- Function details:
  - The user fills all the empty fields. select City, district, ward.
  - Click on “Lưu” to save or click on “quay lại” to cancel.
  - If clicking on checkbox “Đặt làm mặc định” or the only one address, it will be default address.

### 3.12.3 Edit Shipping information:

- Function trigger : This function is triggered when an authorised user requests to update their shipping information
- Function description : As a customer, I want to edit my shipping information which I saved in the system before.

- Screen layout:

Figure 3.12.3.1: Edit Shipping information screen

- Function details:

- This function allows authorised users with the customer to modify the shipping information, such as their name, avatar and phone number.
- If the details of the user are missing some required fields, User has to fill in all the empty fields.

#### 3.12.4 Delete Shipping information

- Function trigger: This function is triggered when a user wants to delete shipping information.
- Function description: customer want to delete shipping address
- Screen layout:

Figure 3.12.4.1: Delete shipping information screen

- Function details:

- Clicking on the “Xóa” button to delete the shipping information. Click on Xác nhận to confirm or Huỷ to cancel.

## 3.13 Supplier Management

### 3.13.1 View list of suppliers:

- Function trigger: This function is triggered when a user wants to see all of the suppliers available in the system
- Function description: As an owner/staff, I want a function to view a list of suppliers.
- Screen layout:

Tên nhà cung cấp	Số điện thoại	Email	Trạng thái	Địa chỉ	Hoạt động
Nhà cung cấp A	0985457175		Đang giao dịch	Số nhà ... Phường Phúc Xá, Quận Ba Đình, Thành phố Hà Nội	<input checked="" type="checkbox"/>
Nhà cung cấp A	0985457175		Đang giao dịch		<input checked="" type="checkbox"/>
Nhà cung cấp C	0985457175		Đang giao dịch		<input checked="" type="checkbox"/>
Tên nhà cung cấp B	0123456798	Storekeeper1@gmail.com	Đang giao dịch	so nhà 20, Phường Phúc Xá, Quận Ba Đình, Thành phố Hà Nội	<input checked="" type="checkbox"/>

Từ 1 đến 4 trên tổng 4

Trước 1 Tiếp

Figure 3.13.1.1: View list of supplier screen

- Function details:
  - This function retrieves and displays all the supplier information available in the system, including their name, contact details, email, status and address.
  - If list of suppliers is empty, The website shows the inline message “Không có dữ liệu” .

### 3.13.2 Search supplier:

- Function trigger: A(n) owner/staff wants to use a method to search the supplier by supplier name
- Function description: As a(n) owner/staff, I want to search the supplier by all fields in the data table.
- Screen layout:

						Nhập File	Xuất File	+ Tạo Nhà Cung Cấp
						Tim kiếm		
Tên nhà cung cấp	Số điện thoại	Email	Trạng thái	Địa chỉ	Hoạt động			
Nhà cung cấp A	0985457175		Bang giao dịch	Số nhà ..., Phường Phúc Xá, Quận Ba Đình, Thành phố Hà Nội	<input checked="" type="checkbox"/> <input type="checkbox"/>			
Nhà cung cấp A	0985457175		Bang giao dịch		<input checked="" type="checkbox"/> <input type="checkbox"/>			
Nhà cung cấp C	0985457175		Bang giao dịch		<input checked="" type="checkbox"/> <input type="checkbox"/>			
Tên nhà cung cấp B	0123456798	Storekeeper1@gmail.com	Bang giao dịch	so nha 20, Phường Phúc Xá, Quận Ba Đình, Thành phố Hà Nội	<input checked="" type="checkbox"/> <input type="checkbox"/>			

Từ 1 đến 4 trên tổng 4

Trước 1 Tiếp

Figure 3.12.2.1: Search supplier screen

- Function details:
  - The owner/seller searches the supplier by all field input on the search bar.

### 3.13.3 Create supplier:

- Function trigger: This function is triggered when staff attempts to create a new supplier in the system.
- Function description: As a staff, I want to create a supplier.
- Screen layout:

👤 Thông tin nhà cung cấp

Tên Nhà Cung Cấp	Nhập tên		
Số điện thoại	Số điện thoại	Email	Nhập email
Tỉnh/Thành Phố	Quận/Huyện	Phường/Xã	
Chọn Tỉnh/Thành Phố	Chọn Quận/Huyện	Chọn Phường/Xã	
Địa chỉ chi tiết	Nhập địa chỉ chi tiết		
Ghi Chú	Nhập ghi chú		
<input type="button" value="Trở Lại"/> <input type="button" value="Tạo"/>			

Figure 3.13.3.1: Create supplier screen

- Function details:
  - This function allows staff to add a new supplier to the system by providing their details, requiring supplier name and phone number, and other details such as email, address and note, which are then validated and stored in the database for future use
  - If required fields are not filled, information can not be saved.

- User input wrong data types. Users must input accurate data types of fields, for example the phone number must not contain letters.

#### **3.13.4 Edit supplier**

- Function trigger: Staff wants to edit details of a supplier
- Function description: As a staff, I want to edit details of a supplier details
- Screen layout:

The screenshot shows a web-based application interface for editing supplier information. At the top, there's a header with a user icon and the text 'Thông tin nhà cung cấp'. Below this is a form with several input fields and dropdown menus. The first section contains fields for 'Tên Nhà Cung Cấp' (Supplier Name) with a value 'Nhà cung cấp A', 'Số điện thoại' (Phone Number) with a value '0985457175', 'Email' (Email), and a 'Trạng thái' (Status) toggle switch which is turned on. The second section includes dropdowns for 'Tỉnh/Thành Phố' (Province/City) set to 'Thành phố Hà Nội', 'Quận/Huyện' (District) set to 'Quận Ba Đình', and 'Phường/Xã' (Ward) set to 'Phường Phúc Xá'. There's also a 'Địa chỉ chi tiết' (Detailed Address) field containing 'Số nhà ...'. The third section is for 'Ghi Chú' (Notes) with a text area labeled 'Nhập ghi chú'. At the bottom, there are two buttons: a red 'Trở Lại' (Back) button and a green 'Lưu' (Save) button.

*Figure 3.13.4.1: Edit supplier screen*

- Function details:
  - This function allows authorised users to modify the details of an existing supplier, such as their name and contact details, based on the supplier ID, which are then validated and updated in the database for future use.
  - If required fields are not filled, information can not be saved.
  - User input wrong data types. Users must input accurate data types of fields, for example the phone number must not contain letters.

#### **3.13.5 View details of supplier**

- Function trigger: This function is triggered when a user selects a specific supplier to view its details
- Function description: As an owner/staff, I want a function to view supplier details.

- Screen layout:

The screenshot shows a web-based application interface for managing suppliers. At the top, there's a header with a logo and navigation links. Below the header, the main content area is divided into two sections: 'Thông tin chung' (General Information) and 'Các sản phẩm cung cấp' (Supplied Products).  
**Thông tin chung:**  
 - Tên Nhà Cung Cấp: Nhà cung cấp A  
 - Số Điện Thoại: 0985457175  
 - Địa Chỉ: Số nhà ..., Phường Phúc Xá, Quận Ba Đình, Thành phố Hà Nội  
 - Ghi Chú:  
**Các sản phẩm cung cấp:**  
 - Hiển thị: 10 kết quả  
 - Tabel view:  
 | Mã sản phẩm | Hình | Tên sản phẩm | Loại | Đơn vị | Chi tiết |  
 | PVN5 |  | Từ Điển Tiếng "Em" - Tài Bản 2021 | Văn học | Quyển |   
 | PVN7 |  | How Business Works - Hiểu Hết Về Kinh Doanh | Văn học | Quyển |   
 | PVN9 |  | Chùa Tế Bóng Tối - Tập 1 - Bản Giới Hạn - Tặng Kèm Character Card + Mini Clearfile | Văn học | Quyển |   
 - Tính năng: Trước | Tiếp

Figure 3.13.5.1: View details of supplier screen

- Function details:

- This function retrieves and displays the detailed information about a specific supplier, such as their name, contact details, and product offerings, based on the supplier ID.

## 3.14 Customer Management

### 3.14.1 View list of customer

- Function trigger: This function is triggered when a user wants to see all of the customers in the system
- Function description: As a(n) owner/staff, I want a function to view a list of customers.
- Screen layout:

The screenshot shows a web-based application interface for managing customers. On the left, there's a sidebar with various menu items: Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng (selected), Danh sách khách hàng (sub-menu), Thêm khách hàng, Đơn hàng, and Nhập hàng. The main content area is titled 'Khách hàng' and shows a list of customers under 'Danh sách khách hàng'.  
**Danh sách khách hàng:**  
 - Hiển thị: 10 kết quả  
 - Tabel view:  
 | Mã khách hàng | Tên khách hàng | Số điện thoại | Nhóm khách hàng | Tổng SL đơn hàng | Chi tiết |  
 | 1 | Nguyễn Trung Kiên | 0346884399 | Khách lẻ | 2 |   
 | 2 | Trung Kiên | | Khách lẻ | 0 |   
 - Tính năng: Nhập File | Xuất File | + Tạo Mới Khách Hàng | Tìm kiếm | Trước | Tiếp

Figure 3.14.1.1: View list of customer screen

- Function details:
  - This function retrieves and displays the detailed information about a specific supplier, such as their name, contact details, and product offerings, based on the supplier ID.

**3.14.2 Create customer:**

- Function trigger: This function is triggered when staff attempts to create a new supplier in the system.
- Function description: As a staff, I want to create new customer

- Screen layout:

Figure 3.14.2.1: Create customer screen

- Function details:

- This function allows staff to add a new customer to the system by providing their details, requiring customer name and phone number, and other details such as email, address and note, which are then validated and stored in the database for future use
- If required fields are not filled, information can not be saved.

### 3.14.3 View details of customer

- Function trigger: This function is triggered when a user selects a specific customer to view its details
- Function description: As an owner/staff, I want a function to view customer details.
- Screen layout:

Figure 3.14.3.1: View details of customer screen

- Function details:
  - This function retrieves and displays the detailed information about a specific supplier, such as their name, phone, gender, order of customer, shipping information of customer.

#### **3.14.4 Delete customer shipping information**

- Function trigger: Staff wants to delete details of a customer shipping information
- Function description: As a staff, I want to delete details of a customer shipping information details
- Screen layout:

The screenshot shows a web-based application interface for managing customer shipping information. At the top, there's a breadcrumb navigation: Quản trị > Khách hàng > Chi tiết khách hàng. Below it, the title is Khách Hàng: Nguyen Trung Kien. The main content area is divided into two sections: 'Thông tin cá nhân' (Personal Information) and 'Thông tin mua hàng' (Purchase Information). Under 'Thông tin cá nhân', there are fields for Ngày sinh (22-08-2023), Giới tính (Nam), Số điện thoại (0346884399), and Nhóm khách hàng (Khách lẻ). Under 'Thông tin mua hàng', there are fields for Tổng số đơn hàng (2) and Tổng số sản phẩm đã mua (6). Below these sections is a table titled 'Lịch sử mua hàng' (Purchase History) with columns: Số điện thoại, Địa chỉ, Phường/xã, Quận/huyện, Tỉnh/thành phố, and Hành động. It lists two entries: one for 0346884399 with address BB, Phường Trúc Bạch, Quận Ba Đình, Thành phố Hà Nội, and another for 0346884399 with address HM, Phường Nghĩa Tân, Quận Cầu Giấy, Thành phố Hà Nội. At the bottom right of the page, there are buttons for Thêm Địa Chỉ Mới (Add New Address) and Thoát (Logout).

*Figure 3.14.4.1: Delete customer screen*

- Function details:
  - This function allows authorised users to delete the details of an existing customer shipping information;
  - Staff can not delete default shipping information of customers.

#### **3.14.5 Edit customer**

- Function trigger: Staff wants to edit details of a customer
- Function description: As a(n) staff, I want to edit details of a customer details

- Screen layout:

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*Figure 3.14.5.1: Edit customer screen*

- Function details:

- This function allows authorised users to modify the details of an existing customer, such as their name and contact details, based on the customer ID, which are then validated and updated in the database for future use.
- If supplier editing is missing some fields, the user needs to fill all required fields, information can not be saved.
- User input wrong data types. Users must input accurate data types of fields, for example the phone number must not contain letters.

### 3.14.6 Create customer shipping information

- Function trigger: Staff wants to create a customer shipping information
- Function description: As a staff, I want to create a customer shipping information details
- Screen layout:

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*Figure 3.14.6.1: Create customer shipping information screen*

- Function details:
  - This function allows authorised users to create the shipping information details of an existing customer, such as their name and contact details, based on the customer ID, which are then validated and updated in the database for future use.
  - If new shipping information is missing some fields, the user needs to fill all required fields, information can not be saved.

### **3.14.7 Edit customer shipping information**

- Function trigger: Staff wants to edit details of a customer shipping information
- Function description: As a(n) staff, I want to edit details of a customer shipping information details
- Screen layout:

*Figure 3.14.7.1: Edit customer shipping information screen*

- Function details:
  - This function allows authorised users to modify the details of an existing customer shipping information, such as shipping name and contact details, based on the customer ID, which are then validated and updated in the database for future use.
  - If editing information is missing some fields, the user needs to fill all required fields, information can not be saved.
  - Users must input accurate data types of fields, for example the phone number must not contain letters.

### 3.15 Dashboard

#### 3.15.1 View dashboard

- Function trigger: The owner/staff visits their dashboard of the website
- Function description: As the owner/staff, I want to view inventory information, total revenue, by date, orders.
- Screen layout:

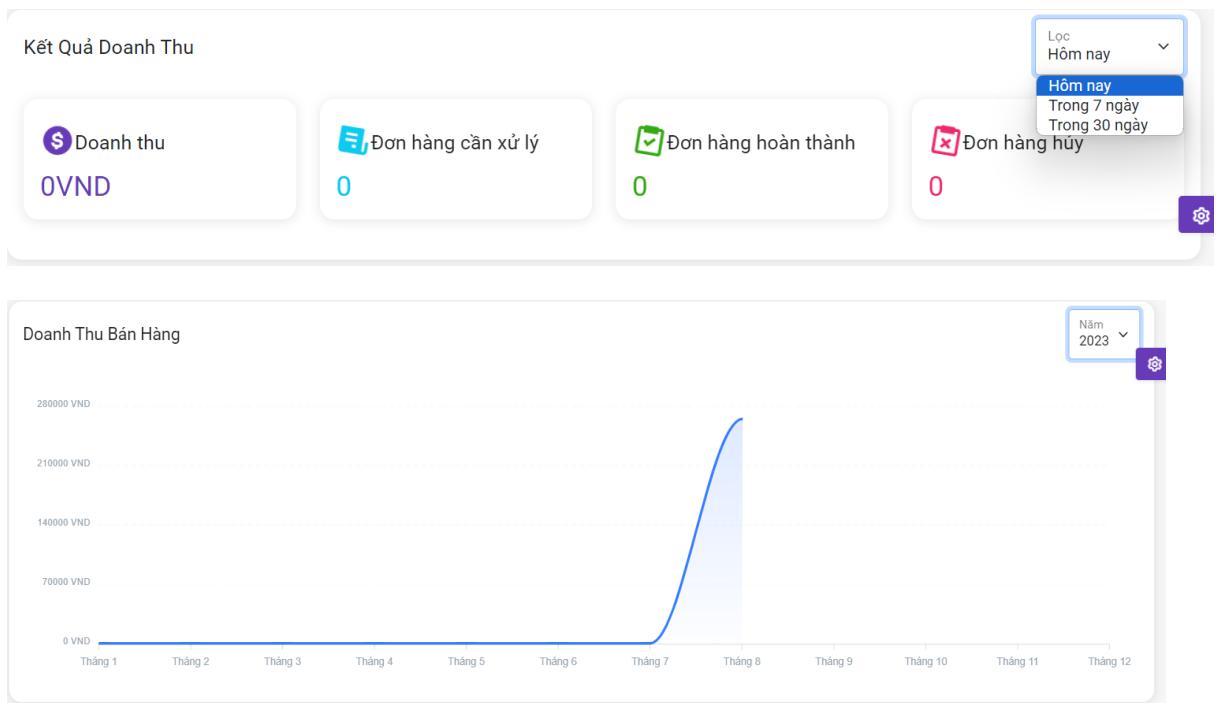


Figure 3.15.1.1: View dashboard screen

- Function details:
  - The owner/staff can see the total product in the system. The staff can view the information of their own order and their own revenue. The owner can see total staff members in the system, and view the total revenue of staff. The revenue result via period by choosing period from drop down list. Sales revenue by year chart can be filtered by year.

## **4. Non-Functional Requirements**

### **4.1 External Interfaces**

#### **4.1.1 User Interfaces**

- UI-1: The websites will have a user-friendly interface and are easy to use.
- UI-2: The layout of the screen is streamlined, easy to operate, and implement for the user.
- UI-3: Buttons have distinctive features and colours but are in sync with the interface.
- UI-4: When the user is on a screen or function, the position of that function displayed on the sidebar will be bright and synchronised with the interface.
- UI-5: Notifications displayed on the screen have a friendly banner outlining the content for the user.
- UI-6: The screen displays shall conform to the Process Impact Internet Application User Interface Standard, Web 2.0
- *UI-7: System will support most web browsers with responsive design.*

#### **4.2 Quality attributes**

##### **4.2.1 Usability**

- US-1: The languages are Vietnamese
- US-2: Menu sidebar will have main functions for easier access.
- US-3: Buttons and checkboxes are easily clickable.
- US-4: Links are easily recognizable and clickable.
- US-5: The user interface of the solution should be elegant, easy to navigate, and user-friendly
- US-6: All the titles or names of functions should be easy to understand and reflect the purpose of the function.
- US-7: All error message should be clear for all users
- US-8: User should be able to learn to use the specified functions in no time
- Main functions are organised into tabs for easier access.

##### **4.2.2 Reliability**

- RE-01: Before being sent to the server, every information submitted by the user is verified.
- RE-02: The system complies with business rules.

##### **4.2.3 Security**

- *All password stored is encrypted*
- *The system must use HTTPS to encrypt the information transferred between clients and servers.*
- *Authentication and Authorization in ASP.NET MVC Application with ASP.NET Identity*

## 5. Requirement Appendix

### 5.1 Business Rules

ID	Rule Definition
BR-01	Required fields with '*' cannot be empty.
BR-02	Phones must be the 10 numbers
BR-03	The password must be at least 6 characters with letters and numbers, contain 1 capitalised letter, must contain 1 special character
BR-04	Passwords will be displayed as “*” characters instead of digits/letters.
BR-05	Each employee contains a different ID.
BR-06	The phone number cannot be duplicated.
BR-07	The email address cannot be duplicated.
BR-08	The currency used will be VND.
BR-09	When the export price is less than the import price, a warning will be displayed.
BR-10	The date select must be less than or equal current time
BR-11	The number cannot be negative, if it is negative, the number is 0.

### 5.2 Common Requirements

- The confirmation popup is used for the confirm and cancel actions.

### 5.3 Application Messages List

#	Message code	Message Type	Context	Content
1	MSG01	In line	The Email field is required	<i>Email can not be empty</i>
2	MSG02	In red, under the text box	Input-required fields are empty	<i>The * field is required.</i>
3	MSG03	Toast message	Updating asset(s) information successfully	<i>Update asset(s) successfully.</i>
4	MSG04	Toast message	Adding new asset successfully	<i>Add asset(s) successfully.</i>
5	MSG05	Toast message	Confirming email of asset hand-over is sent successfully	<i>A confirmation email has been sent to {email_address}.</i>
6	MSG06	Toast message	Resetting asset information successfully	<i>Return asset(s) successfully.</i>
7	MSG07	Toast message	Deleting asset information successfully	<i>Delete asset(s) successfully.</i>
8	MSG08	In red, under the text box	Input value length > max length	<i>Exceed max length of {max_length}.</i>

9	MSG09	In line	Username or password is not correct when clicking sign-in	<i>Incorrect username or password. Please check again.</i>
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## IV. Software Design Description

### 1. System Design

#### 1.1 System Architecture

##### 1.1.1 Overall Architecture Design

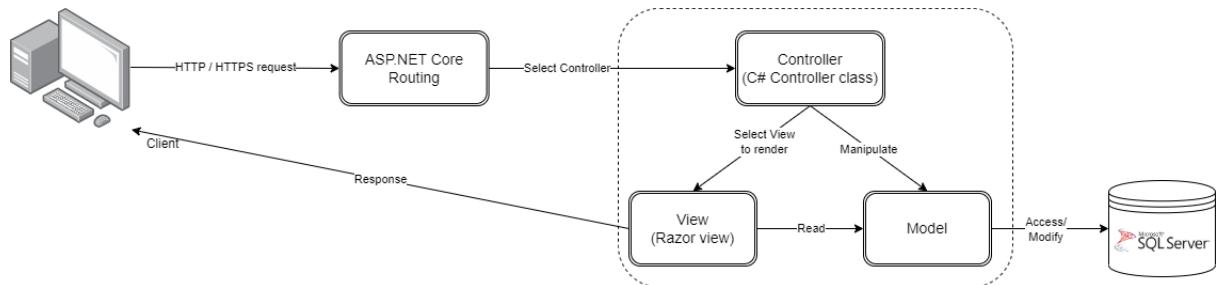


Figure 1.1.1.1: Overall Architecture Design

#### 1.2 Package Diagram

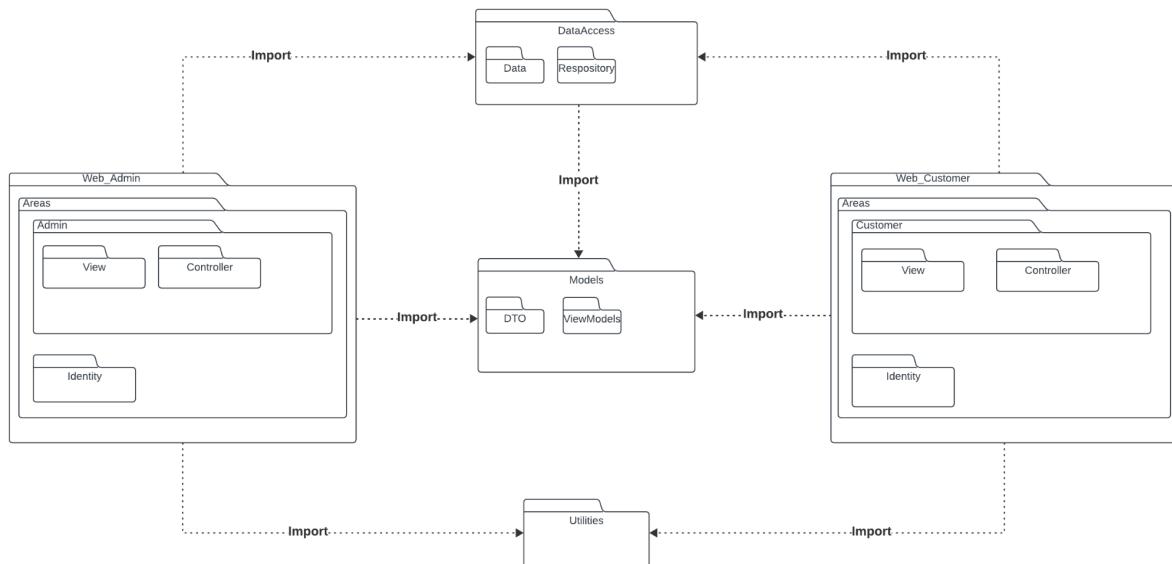


Figure 1.2.1: Package Diagram

### ***Package Descriptions***

No	Package	Description
01	Data	Responsible for managing the connection, mapping models to tables, change tracking, executing queries, and managing transactions when interacting with a database in application.
02	Models	Representation class of entity in database
03	DTO	Data transfer object
04	ViewModels	Objects only to view purpose
05	Controllers	System controllers
06	Identity	Identity configure
07	Views	Web UI
08	Utilities	Contains Helper Class such as: StaticDetail, EmailSender,...

## 2. Database Design

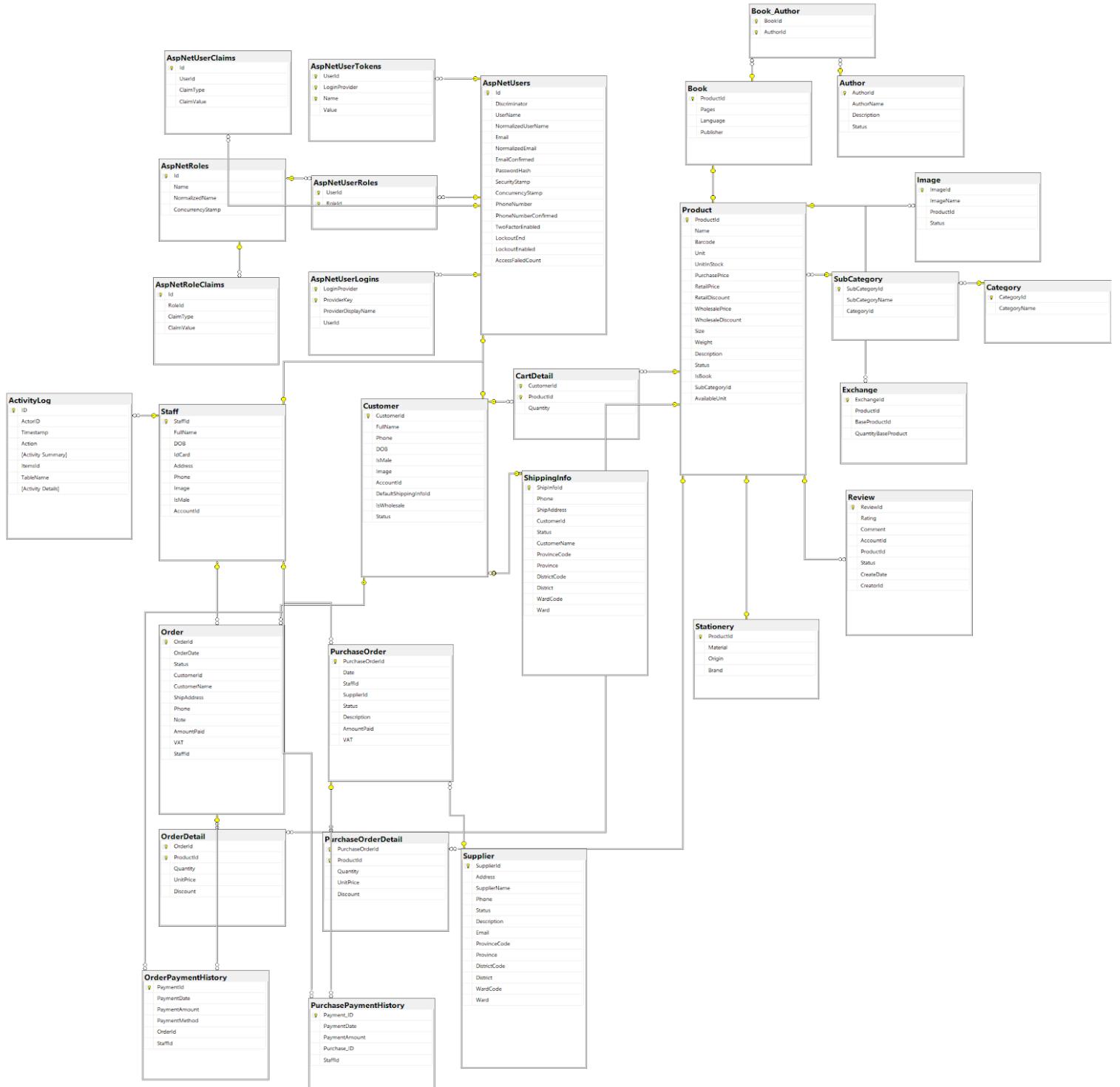


Figure 2.1: Database Diagram

## **Table Descriptions**

### **2.1 Tables**

No	Table	Description
1	AspNetUserClaims	Store additional claims or user-specific information associated with a user
2	AspNetRoles	Store user roles or groups that define access permissions and behaviors within the application.
3	AspNetRoleClaims	Store additional claims or role-specific information associated with user roles. These claims can define custom permissions or attributes for specific roles
4	AspNetUserTokens	Store authentication tokens associated with users, which can be used for various security-related operations, such as email confirmation, password reset, and two-factor authentication
5	AspNetUserRoles	Associate users with their respective roles. It defines the many-to-many relationship between users and roles, indicating which roles a user belongs to within the application.
6	AspNetUserLogins	Store external login information for users, such as logins through external identity providers like Google, Facebook, or Microsoft. It allows users to associate multiple external accounts with their application account.
7	AspNetUsers	Store user account information, including authentication credentials (such as hashed passwords), user properties, and related data. It forms the core table for managing user identities within the application.
8	ActivityLog	Store list of system activities
9	Staff	Store list of staffs
10	Customer	Store list of customers
11	Order	Store list of orders
12	OrderDetail	Store list of order details
13	OrderPaymentHistory	Store list of order payments
14	PurchaseOrder	Store list of purchase orders
15	PurchaseOrderDetail	Store list of purchase order details
16	PurchasePaymentHistory	Store list of purchase order payments
17	Supplier	Store list of suppliers
18	ShippingInfo	Store list of customer's shipping information
19	CartDetail	Store list of customer's cart details
20	Product	Store list of products
21	Book	Store list of product's subtype books' additional information
22	Author	Store list of book authors
23	Book_Author	Store many-many relationship of books and authors
24	Stationery	Store list of product's subtype stationeries' additional information
25	Image	Store list of product's images
26	Category	Store list of product categories
27	SubCategory	Store list of product sub-categories
28	Exchange	Store list of exchanges between products (for product version control)
29	Review	Store list of product reviews

## 2.2 Attributes

### 2.2.1 AspNet User Claims table

No	Field Name	Type	Description
1	Id	int	Primary Key Auto increment Unique claim identifier
2	UserId	nvarchar(450)	Foreign key to AspNetUsers
3	ClaimType	nvarchar(MAX)	Represents the type of the claim
4	ClaimValue	nvarchar(MAX)	The value associated with the claim type

### 2.2.2 AspNet Roles table

No	Field Name	Type	Description
1	Id	nvarchar(450)	Primary Key A unique identifier for each role
2	Name	nvarchar(256)	Name of the role
3	NormalizedName	nvarchar(256)	Normalized name of the role (usually uppercase)
4	ConcurrencyStamp	nvarchar(MAX)	Concurrency stamp for optimistic concurrency

### 2.2.3 AspNet Role Claims table

No	Field Name	Type	Description
1	Id	int	Primary Key Auto increment Unique claim identifier
2	RoleId	nvarchar(450)	Foreign key referencing the associated role
3	ClaimType	nvarchar(MAX)	Type of the claim
4	ClaimValue	nvarchar(MAX)	Value of the claim

### 2.2.4 AspNet User Tokens table

No	Field Name	Type	Description
1	UserId	nvarchar(450)	Primary Key Foreign key referencing the associated user
2	LoginProvider	nvarchar(450)	Primary Key The external login provider (e.g., Google)
3	Name	nvarchar(450)	Primary Key The name of the token (e.g., "authenticator")
4	Value	nvarchar(MAX)	The token value

### 2.2.5 AspNet Role Claims table

No	Field Name	Type	Description
1	Id	int	Primary Key Auto increment Unique identifier for the role claim.
2	RoleId	nvarchar(450)	Foreign key reference to the "Id" field in the "AspNetRoles" table, indicating the associated role.

3	ClaimType	nvarchar(MAX)	Represents the type of the claim being stored.
4	ClaimValue	nvarchar(MAX)	Holds the value of the claim.

#### 2.2.6 AspNet User Roles table

No	Field Name	Type	Description
1	UserId	nvarchar(450)	Foreign key reference to the "Id" field in the "AspNetUsers" table, indicating the associated user.
2	RoleId	nvarchar(450)	Foreign key reference to the "Id" field in the "AspNetRoles" table, indicating the associated role.

#### 2.2.7 AspNet User Logins table

No	Field Name	Type	Description
1	LoginProvider	nvarchar(450)	The external login provider, e.g., "Google", "Facebook".
2	ProviderKey	nvarchar(450)	The unique identifier provided by the external provider.
3	ProviderDisplayName	nvarchar(MAX)	A user-friendly display name for the external provider.
4	UserId	nvarchar(450)	Foreign key reference to the user's primary key.

#### 2.2.8 AspNetUsers table

No	Field Name	Type	Description
1	Id	nvarchar(450)	Primary Key Unique identifier for the user.
2	UserName	nvarchar(256)	The username used for authentication.
3	NormalizedUserName	nvarchar(256)	The normalized version of the username.
4	Email	nvarchar(256)	The user's email address.
5	NormalizedEmail	nvarchar(256)	The normalized version of the email address.
6	EmailConfirmed	bit	Indicates if the user's email is confirmed.
7	PasswordHash	nvarchar(MAX)	The hashed password for the user.
8	SecurityStamp	nvarchar(MAX)	A random value used to improve security.
9	ConcurrencyStamp	nvarchar(MAX)	Used for concurrency control.
10	PhoneNumber	nvarchar(MAX)	The user's phone number.
11	PhoneNumberConfirmed	bit	Indicates if the user's phone number is confirmed.
12	TwoFactorEnabled	bit	Indicates if two-factor authentication is enabled.
13	LockoutEnd	datetimeoffset(7)	Date and time when lockout ends (if applicable).
14	LockoutEnabled	bit	Indicates if user lockout is enabled
15	AccessFailedCount	int	Number of failed access attempts.

### **2.2.9 Activity Log table**

No	Field Name	Type	Description
1	ID	int	ID of an activity Primary Key Auto increment
2	ActorID	int	ID of the staff doing the activity Foreign key reference to "StaffId" of "Staff" table
3	Timestamp	datetime	Time of the activity
4	Action	nvarchar(30)	Type of activity
5	Activity Summary	nvarchar(100)	Short summary of the activity
6	ItemsId	nvarchar(30)	ID of the item affected by the activity
7	TableName	nvarchar(50)	Name of the table affected by the activity
8	Activity Details	ntext	Detail description of the activity

### **2.2.10 Staff table**

No	Field Name	Type	Description
1	StaffId	int	ID of staff Primary Key Auto increment
2	FullName	nvarchar(70)	Full name of staff
3	DOB	date	Birthdate of staff
4	IdCard	nchar(12)	National Id card number of staff
5	Address	nvarchar(12)	Home address of staff
6	Phone	nchar(10)	Phone number of staff
7	Image	nvarchar(150)	Directory to the avatar image of staff
8	IsMale	bit	Staff gender True is Male False is Female
9	AccountId	nvarchar(450)	Account ID of staff Foreign key reference to "ID" of "AspNetUsers" table Unique

### **2.2.11 Customer table**

No	Field Name	Type	Description
1	CustomerId	int	ID of customer Primary Key Auto increment
2	FullName	nvarchar(100)	Full name of customer
3	Phone	nchar(10)	Phone number of customer
4	DOB	date	Birthdate of customer
5	IsMale	bit	Gender of customer True for Male False for Female
6	Image	nvarchar(150)	Directory to the avatar image of customer
7	AccountId	nvarchar(450)	Account ID of customer Foreign key reference to "ID" of "AspNetUsers" table Unique
8	Default ShippingInfo	int	Customer's default shipping information ID Foreign key reference to "ShipInfoId" of "ShippingInfo" table
9	IsWholesale	bit	Customer type - retail or wholesale True for Wholesale customer False for Retail customer
10	Status	bit	Customer's status True for Active False for Inactive

### **2.2.12 Order table**

No	Field Name	Type	Description
1	OrderId	int	ID of Order Primary Key Auto increment
2	OrderDate	datetime	Order's creation date
3	Status	nvarchar(50)	Status of order
4	CustomerId	int	ID of order's customer Foreign key reference to "CustomerID" of "Customer" table
5	Customer Name	nvarchar(100)	Recipient name of order
6	ShipAddress	nvarchar(300)	Shipping Address of order
7	Phone	nchar(10)	Recipient's phone number of order
8	Note	nvarchar(MAX)	Order's note
9	AmountPaid	int	Amount of money already paid for the order
10	VAT	float	Order's VAT
11	StaffId	int	ID of the staff who handles order Foreign key reference to "StaffId" of "Staff" table

### **2.2.13 Order Detail table**

No	Field Name	Type	Description
1	OrderId	int	ID of order this detail belongs to Primary Key Foreign key reference to “OrderId” of “Order” table
2	ProductId	int	ID of product bought Primary key Foreign key reference to “ProductId” of “Product” table
3	Quantity	int	The number of products bought
4	UnitPrice	int	The price of 1 unit of product bought
5	Discount	float	Discount of the product bought

### **2.2.14 Order Payment History table**

No	Field Name	Type	Description
1	PaymentId	int	ID of the order payment Primary Key Auto increment
2	Payment Date	datetime	Date of the order payment
3	Payment Amount	decimal(15, 0)	The amount of money paid
4	Payment Method	nvarchar(MAX)	The method of payment
5	OrderId	int	ID of the order being paid Foreign key reference to “OrderId” of “Order” table
6	StaffId	int	ID of the staff handling the payment Foreign key reference to “StaffId” of “Staff” table

### **2.2.15 Purchase Order table**

No	Field Name	Type	Description
1	Purchase OrderId	int	ID of the purchase order Primary Key Auto increment
2	Date	datetime	Purchase order's creation date
3	StaffId	int	ID of the staff handling the purchase order Foreign key reference to “StaffId” of “Staff” table
4	SupplierId	int	ID of the Supplier purchased from Foreign key reference to “SupplierId” of “Supplier” table
5	Status	nvarchar(30)	Purchase order's status
6	Description	nvarchar(MAX)	Purchase order's optional description
7	AmountPaid	decimal(15, 0)	Amount of money already paid for the purchase order
8	VAT	float	Purchase order's VAT

#### **2.2.16 Purchase Order Detail table**

No	Field Name	Type	Description
1	Purchase OrderId	int	ID of the purchase order this detail belongs to Primary Key Foreign key reference to "PurchaseOrderId" of "PurchaseOrder" table
2	ProductId	int	ID of product bought Primary key Foreign key reference to "ProductId" of "Product" table
3	Quantity	int	The number of products bought
4	UnitPrice	decimal(7, 0)	The price of 1 unit of product bought
5	Discount	float	Discount of the product bought

#### **2.2.17 Purchase Payment History table**

No	Field Name	Type	Description
1	PaymentId	int	ID of the purchase order payment Primary Key Auto increment
2	Payment Date	datetime	Date of the purchase order payment
3	Payment Amount	decimal(15, 0)	The amount of money paid
4	PurchaseId	int	ID of the purchase order being paid Foreign key reference to "PurchaseOrderId" of "PurchaseOrder" table
5	StaffId	int	ID of the staff handling the payment Foreign key reference to "StaffId" of "Staff" table

#### **2.2.18 Supplier table**

No	Field Name	Type	Description
1	SupplierId	int	ID of the supplier Primary Key Auto increment
2	Address	nvarchar(150)	Supplier's detailed address
3	Supplier Name	nvarchar(300)	Supplier's name
4	Phone	varchar(15)	Supplier's phone number
5	Status	bit	Supplier's status True for Active False for Inactive
6	Description	nvarchar(1000)	Supplier's description
7	Email	nvarchar(100)	Supplier's email address
8	Province Code	int	The province code of supplier's address (used by API)
9	Province	nvarchar(50)	The province name of supplier's address
10	DistrictCode	int	The district code of supplier's address (used by API)
11	District	nvarchar(50)	The district name of supplier's address
12	WardCode	int	The ward code of supplier's address (used by API)

13	Ward	nvarchar(50)	The ward name of supplier's address
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#### 2.2.19 Shipping Info table

No	Field Name	Type	Description
1	ShipInfoId	int	ID of the shipping information Primary Key Auto increment
2	Phone	nchar(10)	Phone number in shipping information
3	ShipAddress	nvarchar(200)	Address in shipping information
4	CustomerId	int	The Id of customer this shipping information belongs to Foreign key reference to "CustomerId" of "Customer" table
5	Status	bit	Shipping's information status True for Active False for Inactive
6	Customer Name	nvarchar(50)	Recipient name in shipping information
7	Province Code	int	The province code of shipping information's address (used by API)
8	Province	nvarchar(50)	The province name of shipping information's address
9	DistrictCode	int	The district code of shipping information's address (used by API)
10	District	nvarchar(50)	The district name of shipping information's address
11	WardCode	int	The ward code of shipping information's address (used by API)
12	Ward	nvarchar(50)	The ward name of shipping information's address

#### 2.2.20 Cart Detail table

No	Field Name	Type	Description
1	CustomerId	int	Id of the customer this cart detail belongs to Primary Key Foreign key reference to "CustomerId" of "Customer" table
2	ProductId	int	Id of the product in the cart Primary Key Foreign key reference to "ProductId" of "Product" table
3	Quantity	int	The number of said product in cart

### **2.2.21 Product table**

No	Field Name	Type	Description
1	ProductId	int	Id of product Primary Key Auto increment
2	Name	nvarchar(100)	Name of product
3	Barcode	nvarchar(50)	Barcode of product Unique
4	Unit	nvarchar(50)	The unit this product is calculated in (individual item, box, package,...)
5	UnitInStock	int	The number of product units currently in storage
6	Purchase Price	decimal(7, 0)	Product's purchase price
7	RetailPrice	int	Product's retail price
8	Retail Discount	float	Product's discount when sold to retail customers
9	Wholesale Price	int	Product's wholesale price
10	Wholesale Discount	float	Product's discount when sold to wholesale customers
11	Size	nvarchar(50)	Product's size
12	Weight	nvarchar(50)	Product's weight
13	Description	ntext	Product's description
14	Status	bit	Product's status True for Active False for Inactive
15	IsBook	bit	Product's subtype - Book or Stationery True for Book False for Stationery
16	SubCategoryId	int	Id of Product's subcategory Foreign key reference to "SubCategoryId" of "SubCategory" table
17	Available Unit	int	The number of product units that can be sold

### **2.2.22 Book table**

No	Field Name	Type	Description
1	ProductId	int	Id of this book product Primary Key Foreign key reference to "ProductId" of "Product" table
2	Pages	int	Number of pages this book has
3	Language	nvarchar(50)	Language of this book
4	Publisher	nvarchar(100)	This book's publisher's name

### **2.2.23 Author table**

No	Field Name	Type	Description
1	AuthorId	int	Id of author Primary Key Auto increment
2	AuthorName	nvarchar(50)	Name of author
3	Description	ntext	Author's description
4	Status	bit	Author's status True for Active False for Inactive

### **2.2.24 Book-Author table**

No	Field Name	Type	Description
1	BookId	int	Id of book Primary Key Foreign key reference to "ProductId" of "Book" table
2	AuthorId	int	Id of author Primary Key Foreign key reference to "AuthorId" of "Author" table

### **2.2.25 Stationery table**

No	Field Name	Type	Description
1	ProductId	int	Id of this stationery product Primary Key Foreign key reference to "ProductId" of "Product" table
2	Material	nvarchar(50)	Stationery's material
3	Origin	nvarchar(50)	Stationery's origin country
4	Brand	nvarchar(100)	Stationery's brand

### **2.2.26 Image table**

No	Field Name	Type	Description
1	ImageId	int	Id of image Primary Key Auto increment
2	ImageName	nvarchar(50)	Name of the image file
3	ProductId	int	ID of the product this image belongs to Foreign key reference to "ProductId" of "Product" table
4	Status	bit	Image's status True for Active False for Inactive

### **2.2.27 Category table**

No	Field Name	Type	Description
1	CategoryId	int	ID of category Primary Key Auto increment
2	Category Name	nvarchar(50)	Name of category

### **2.2.28 Sub-category table**

No	Field Name	Type	Description
1	SubCategoryId	int	ID of subcategory Primary Key Auto increment
2	SubCategory Name	nvarchar(50)	Name of subcategory
3	CategoryId	int	ID of the category this subcategory belongs to Foreign key reference to "CategoryId" of "Category" table

### **2.2.29 Exchange table**

No	Field Name	Type	Description
1	ExchangeId	int	ID of exchange Primary Key Auto increment
2	ProductId	int	ID of the product converted into Foreign key reference to "ProductId" of "Product" table
3	BaseProductId	int	ID of the product being converted Foreign key reference to "ProductId" of "Product" table
4	Quantity	int	The number of base product units 1 new product unit consists of

### **2.2.30 Review table**

No	Field Name	Type	Description
1	ReviewId	int	ID of review Primary Key Auto increment
2	Rating	float	Rating on the scale of 5 in the review
3	Comment	text	The content of review's comment
4	AccountId	int	ID of the customer making the review
5	ProductId	int	ID of the product this review is for Foreign key reference to "ProductId" of "Product" table
6	Status	bit	Review's status True for Active False for Inactive
7	CreateDate	datetime	The time and date this review is added

### 3. Detailed Design

#### 3.1 Authentication and Authorization functions

##### 3.1.1 Class Diagram

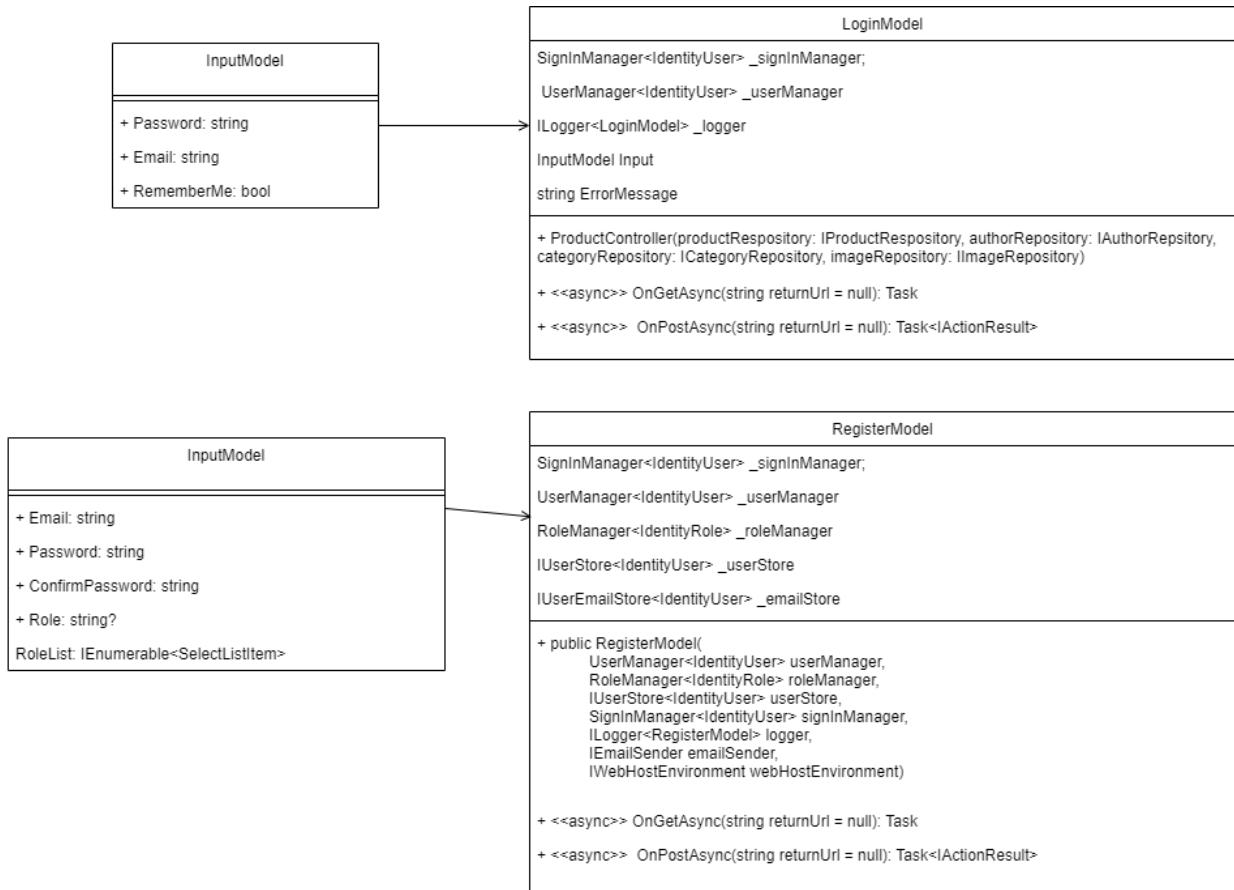


Figure 3.1.1.1: Authentication and Authorization functions class diagram

### 3.1.2 Login

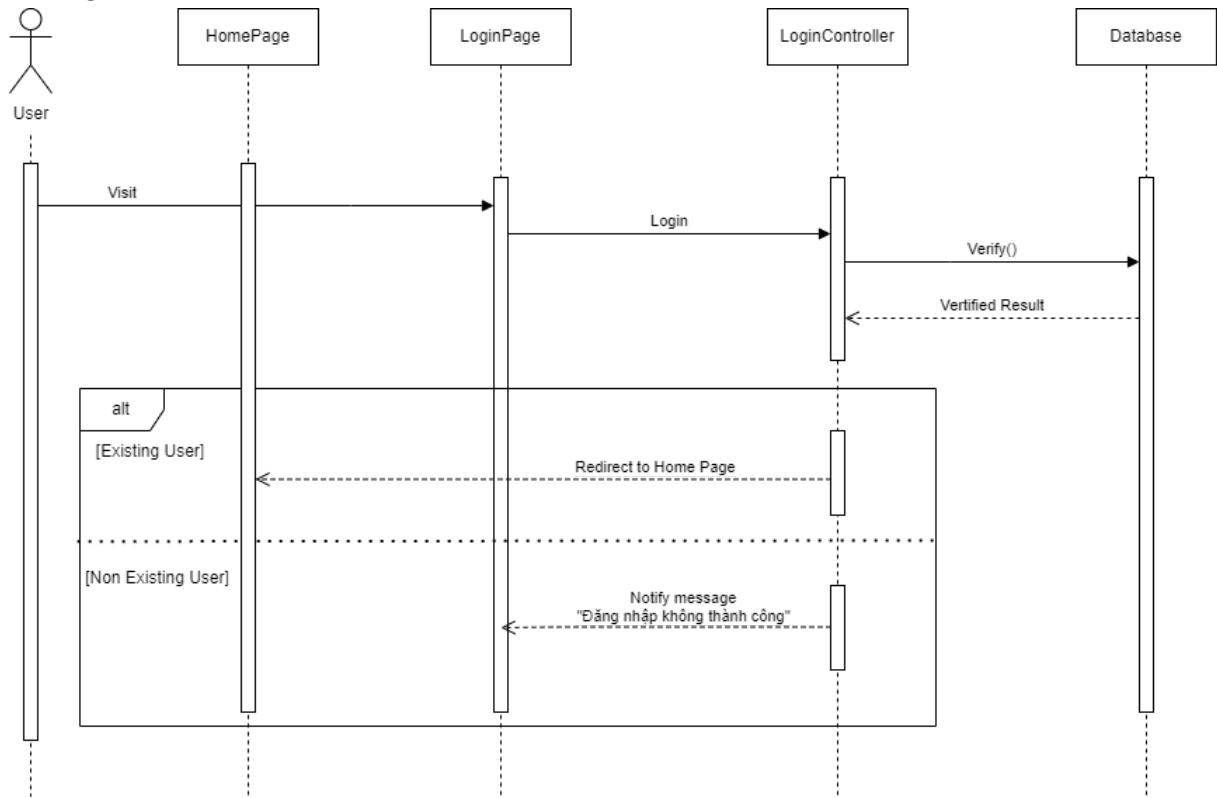


Figure 3.1.2.1: Login sequence diagram

### 3.1.3. Forgot Password

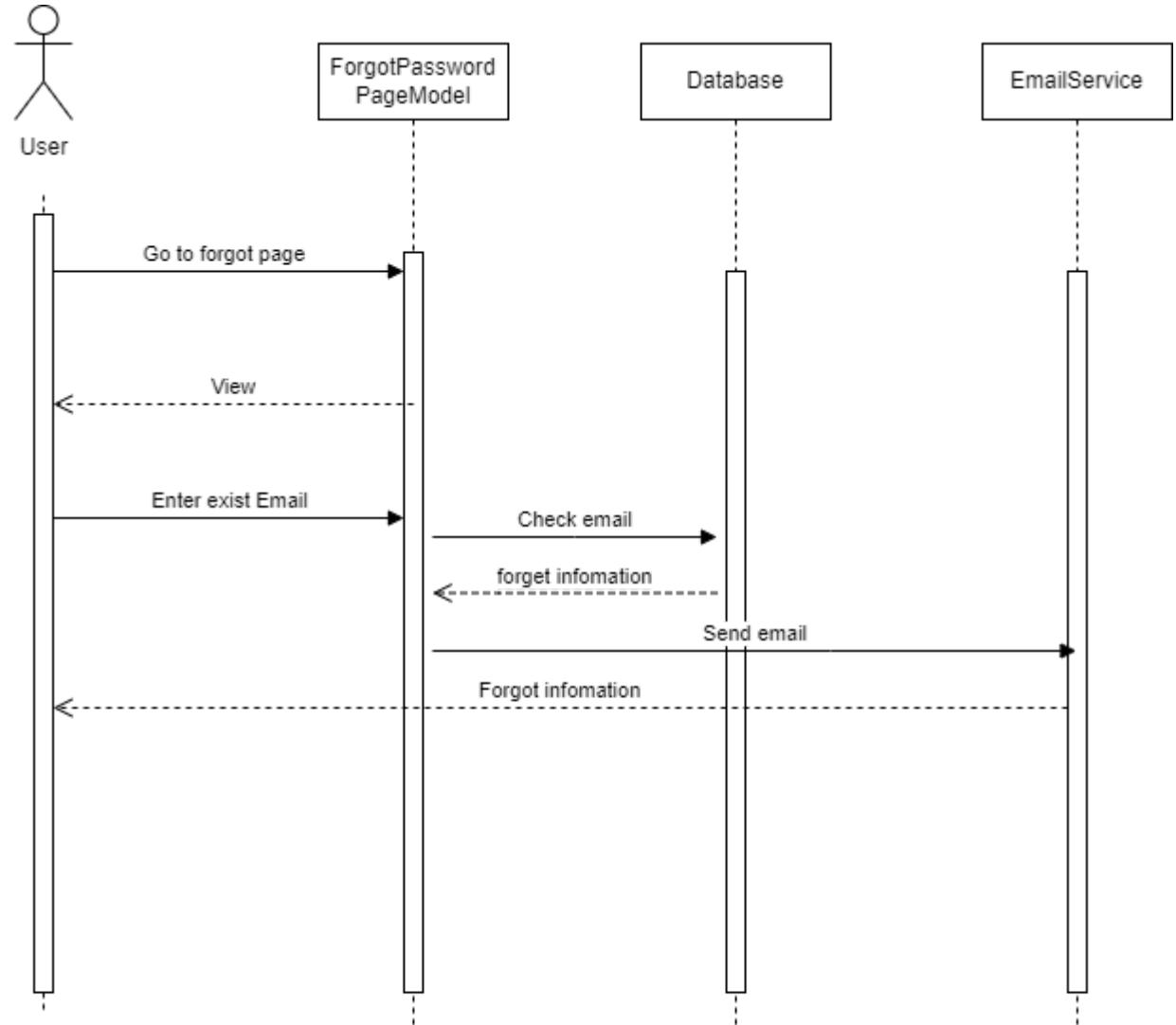


Figure 3.1.3.1: Forgot password sequence diagram

### 3.1.4. Register

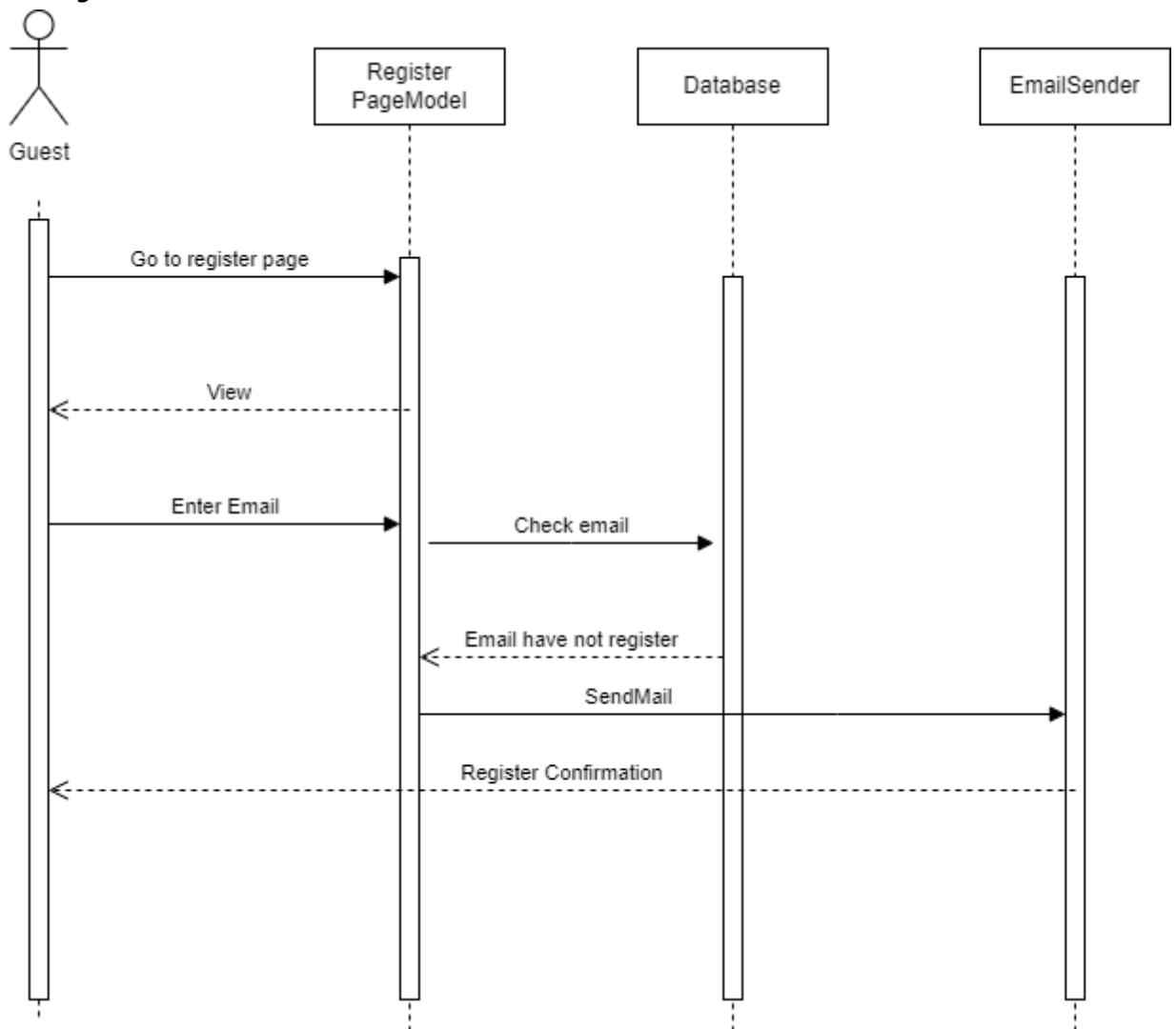


Figure 3.1.4.1: Register sequence diagram

### 3.1.5 Email Re-confirm

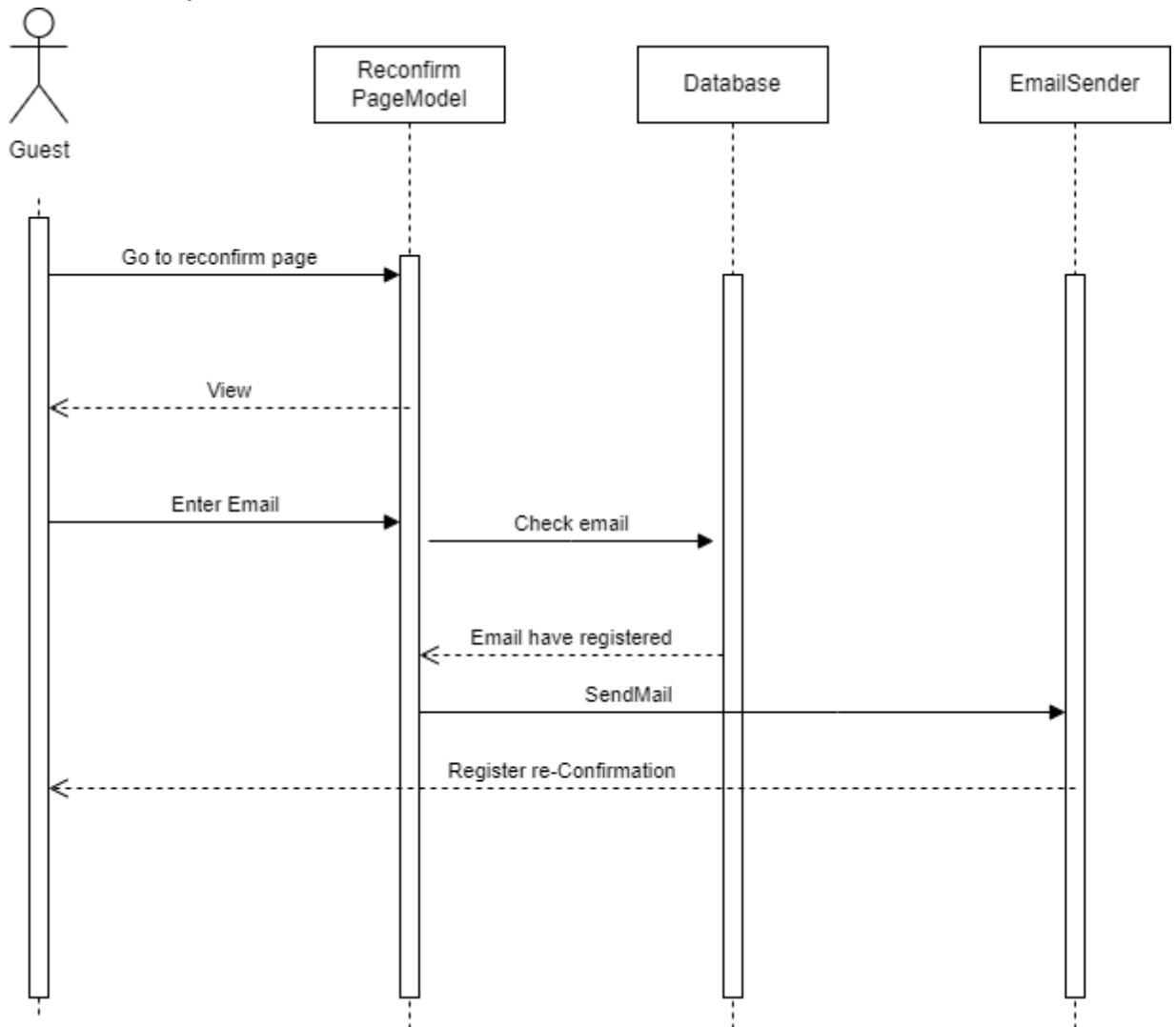


Figure 3.1.5.1: E-mail Re-confirm sequence diagram

### 3.1.6 Logout

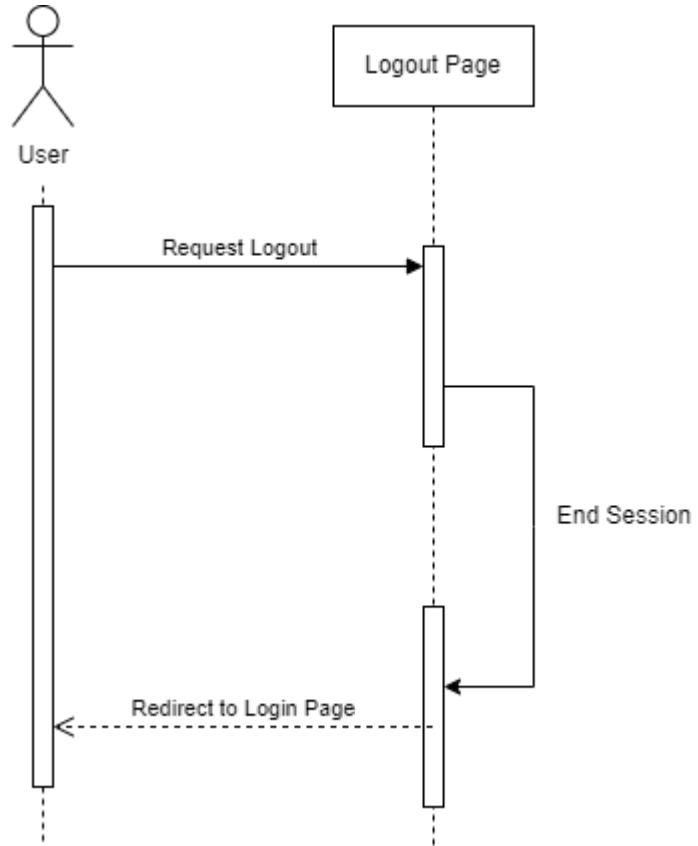


Figure 3.1.6.1: Logout sequence diagram

## 3.2 Category and Subcategory Management

### 3.2.1 Class Diagram

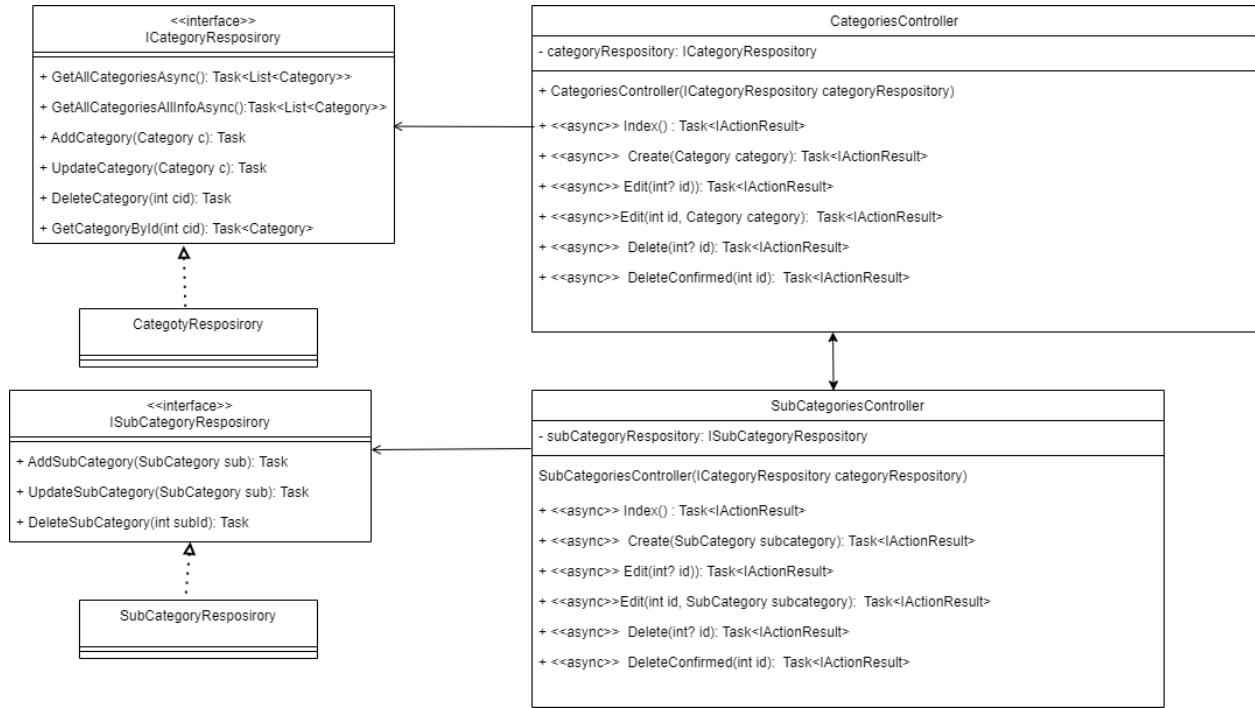


Figure 3.2.1.1: Category and Subcategory Management class diagram

### 3.2.2 View list category and subcategories

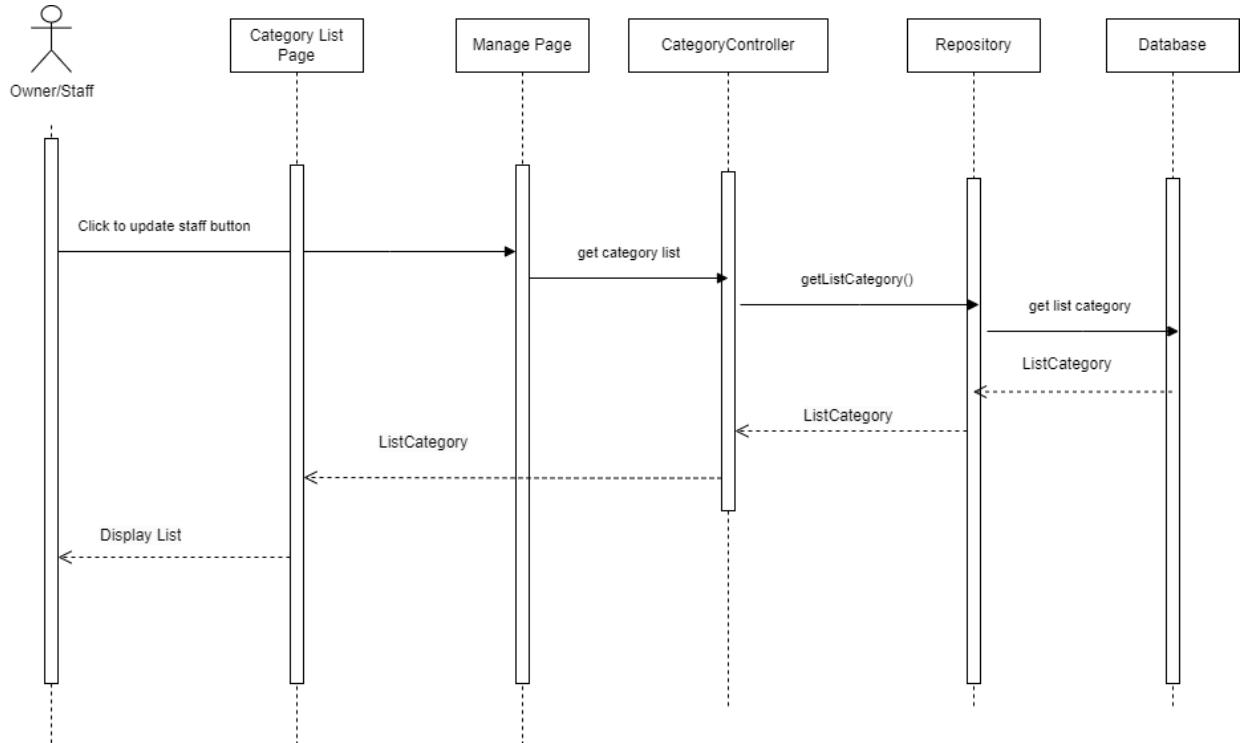


Figure 3.2.2.1: View list category and subcategories sequence diagram

### 3.2.2 Add category

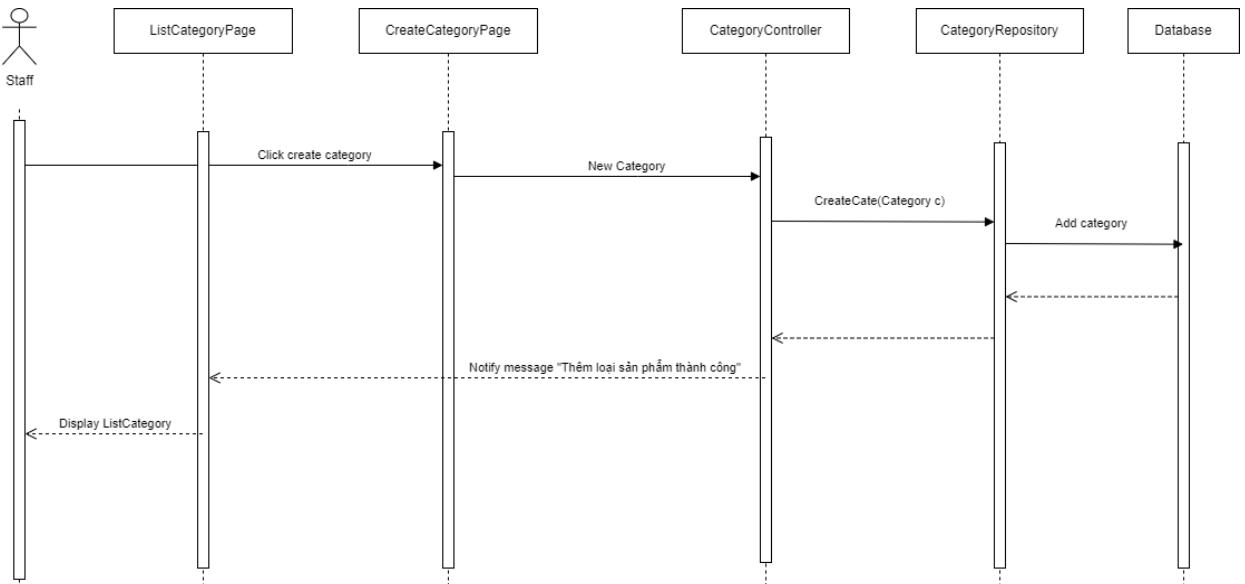


Figure 3.2.2.1: Add category sequence diagram

### 3.2.3 Update category

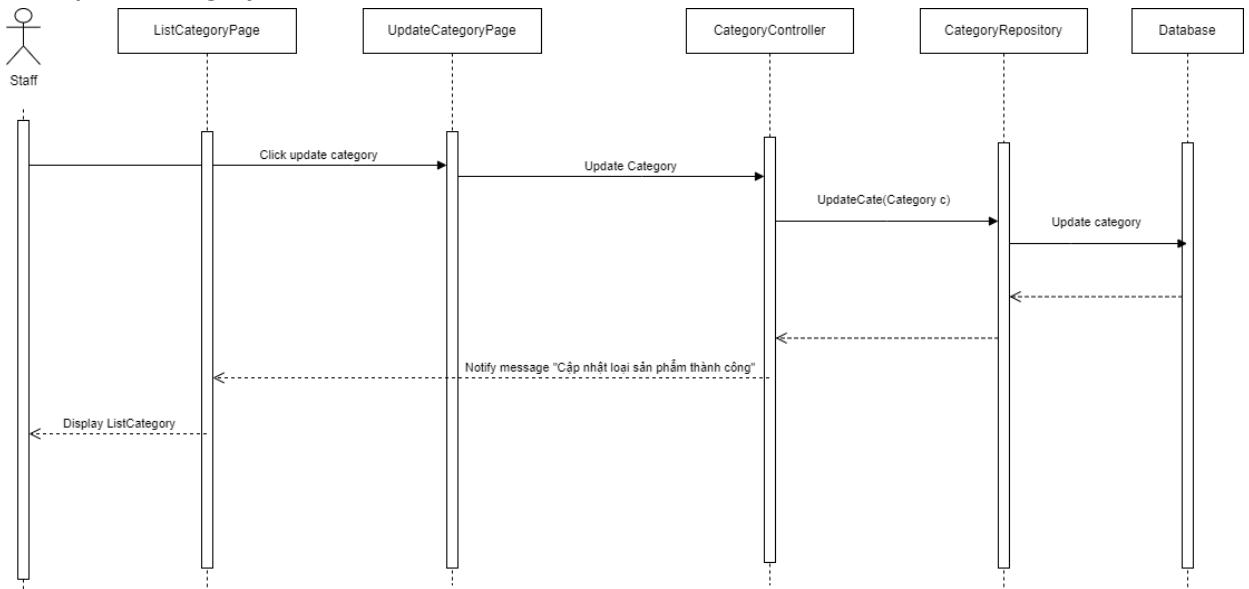


Figure 3.2.3.1: Update category sequence diagram

### 3.2.4 Delete category

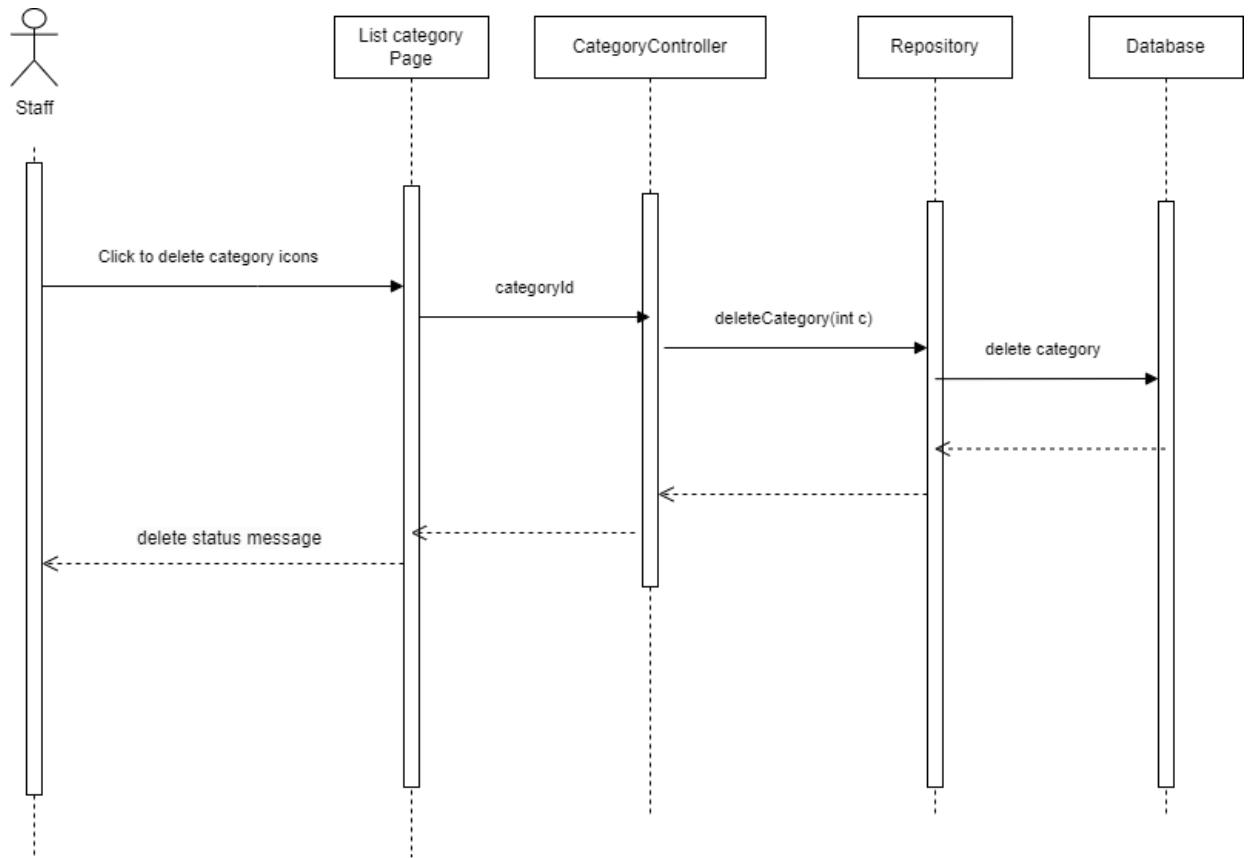


Figure 3.2.4.1: Delete category sequence diagram

### 3.2.5 Add subcategory

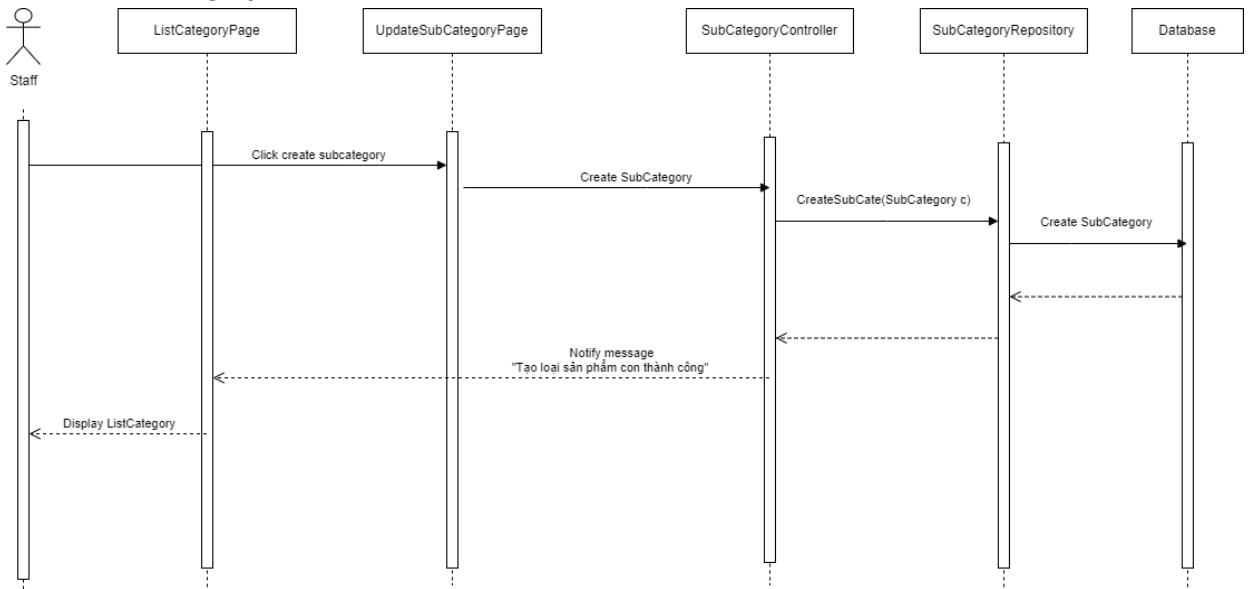


Figure 3.2.5.1: Add subcategory sequence diagram

### 3.2.6 Update subcategory

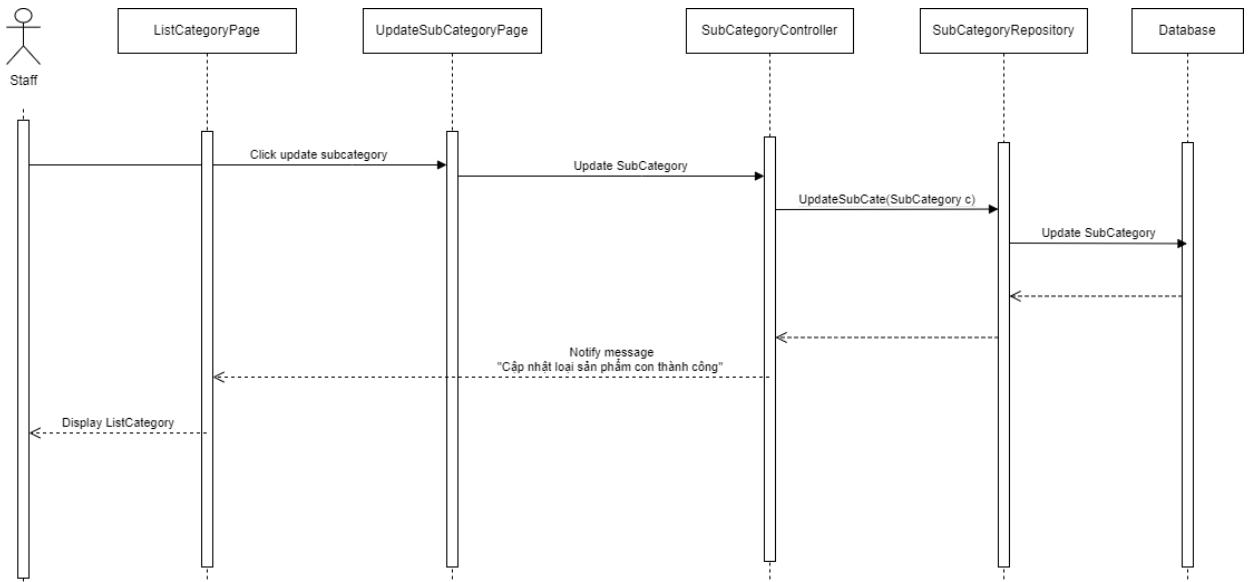


Figure 3.2.6.1: Update subcategory sequence diagram

### 3.2.7 Delete subcategory

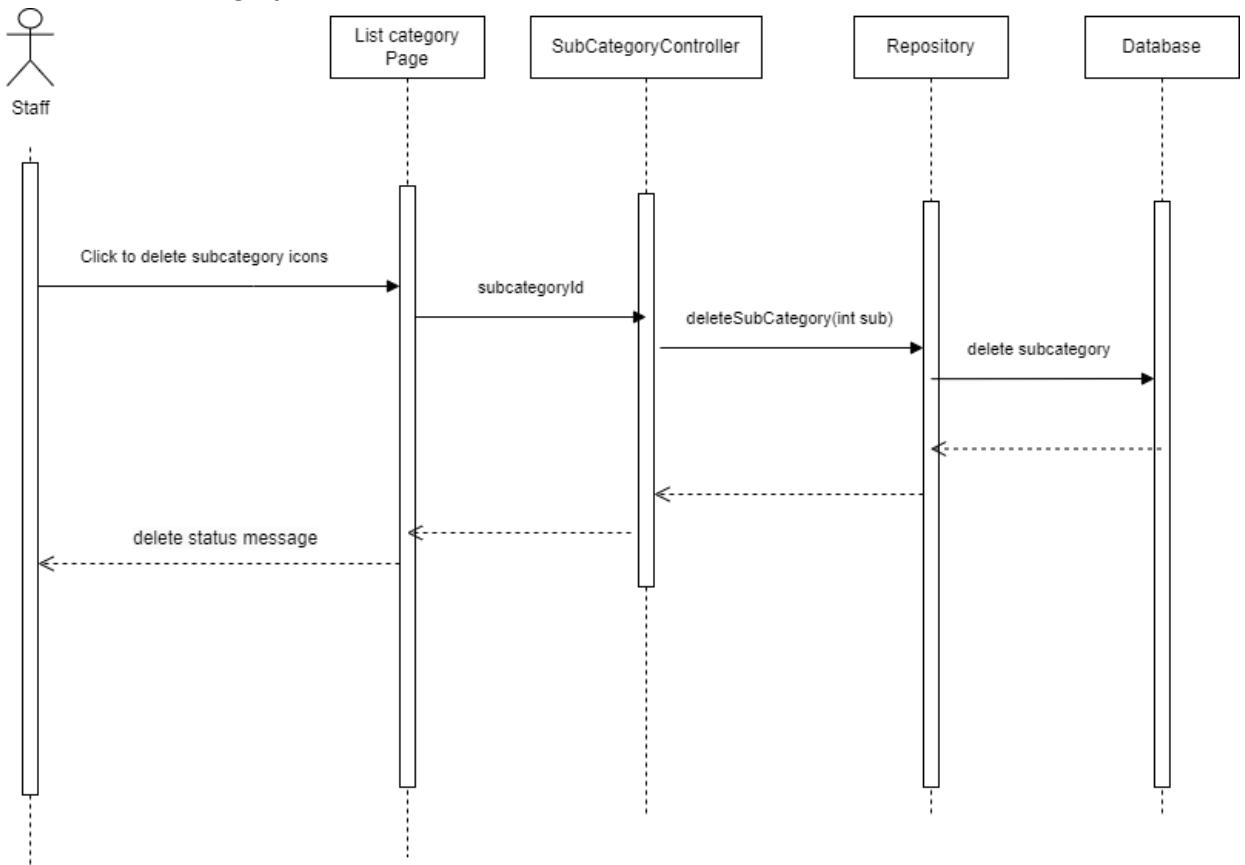


Figure 3.2.7.1: Delete subcategory sequence diagram

## 3.3 Product Management

### 3.3.1 Class Diagram

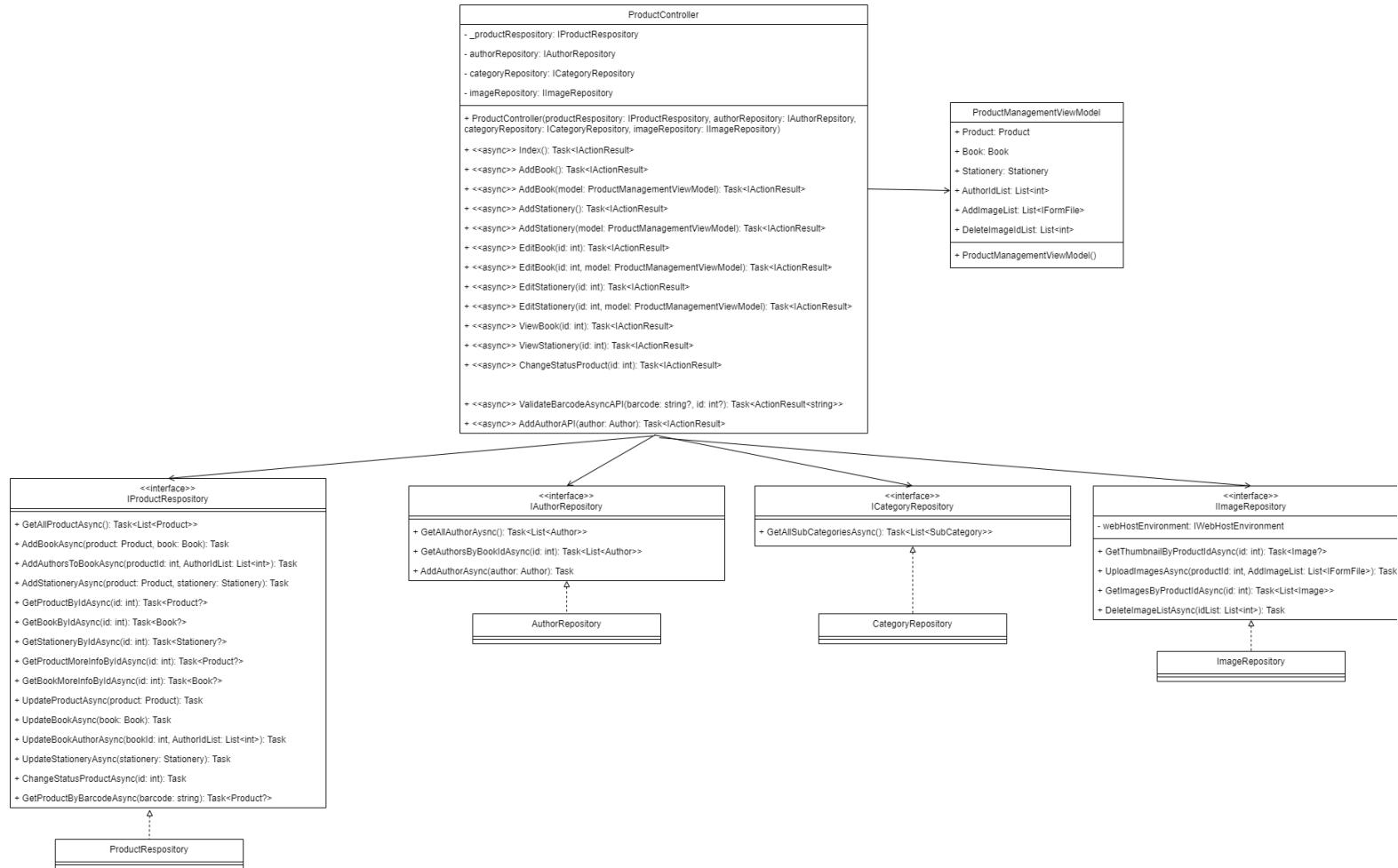


Figure 3.3.1.1: Product Management functions class diagram

### 3.3.2 View List Products

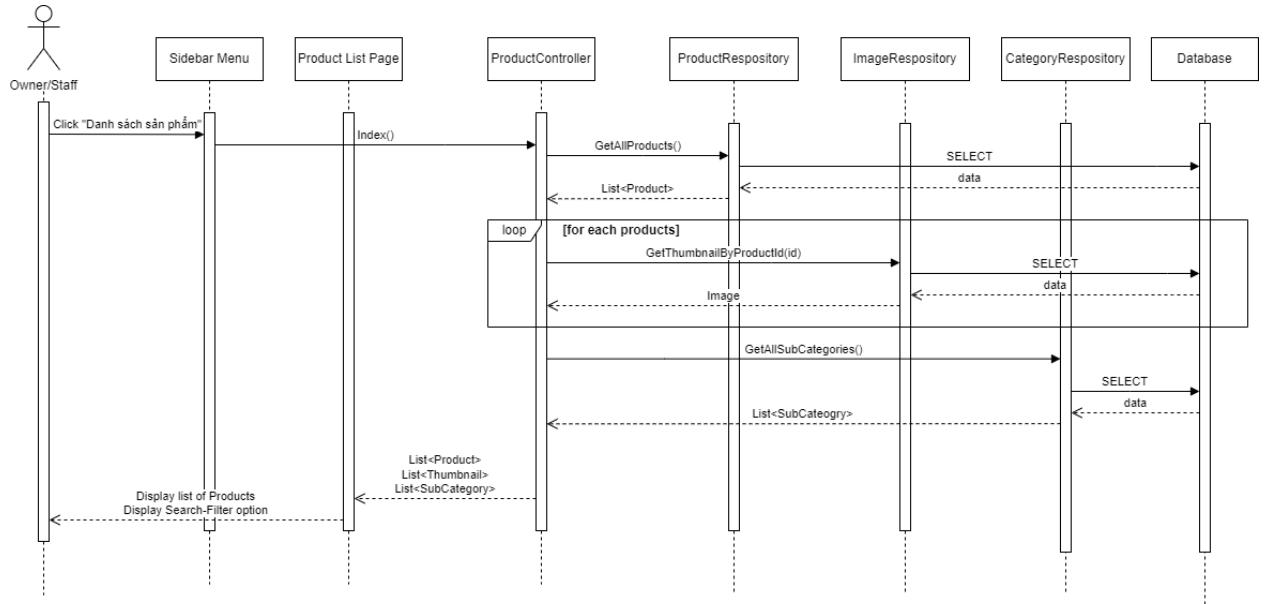


Figure 3.3.2.1: View List Products sequence diagram

### 3.3.3 View Product Details

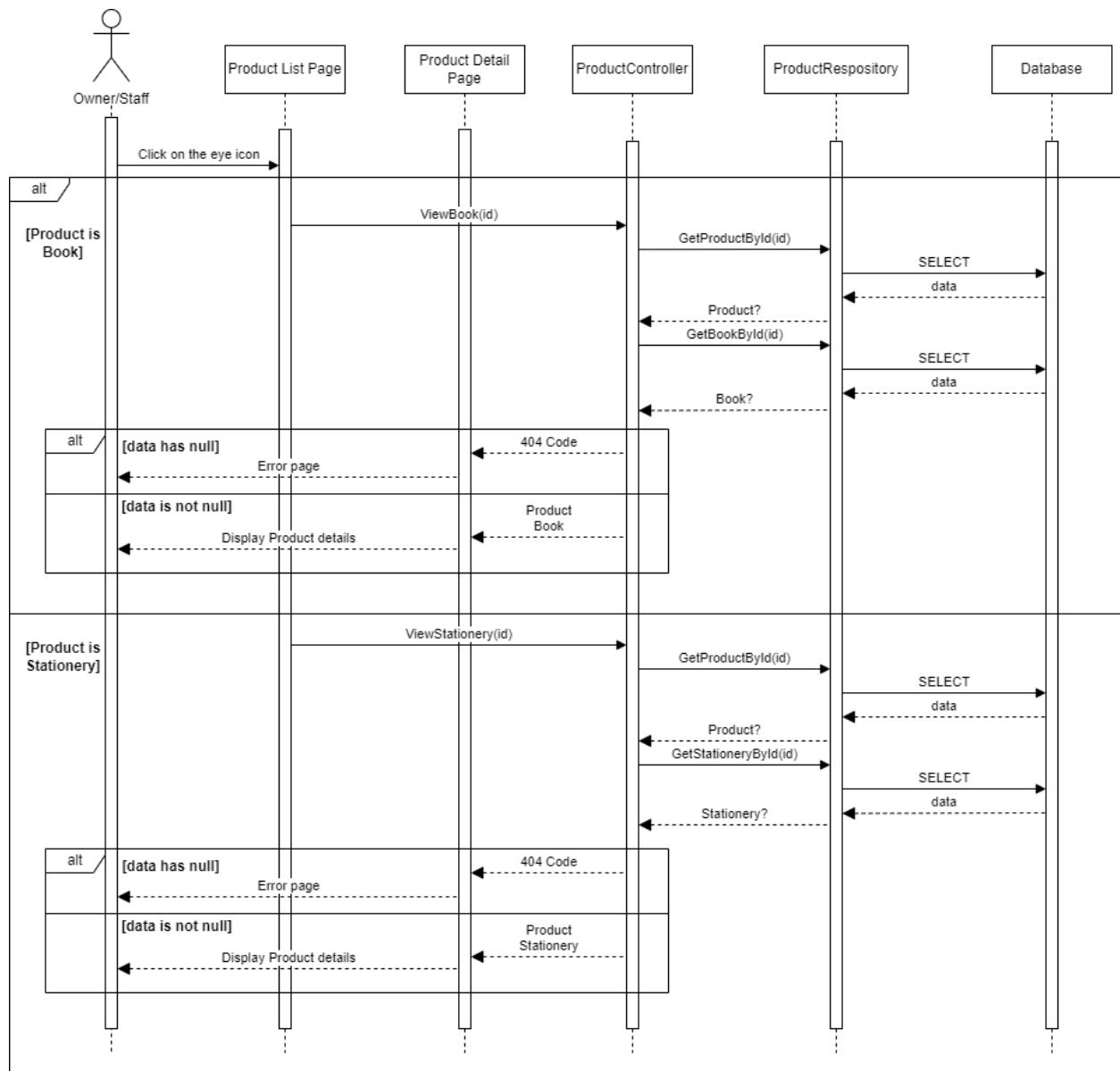


Figure 3.3.3.1: View Product Details sequence diagram

### 3.3.4 Create Product

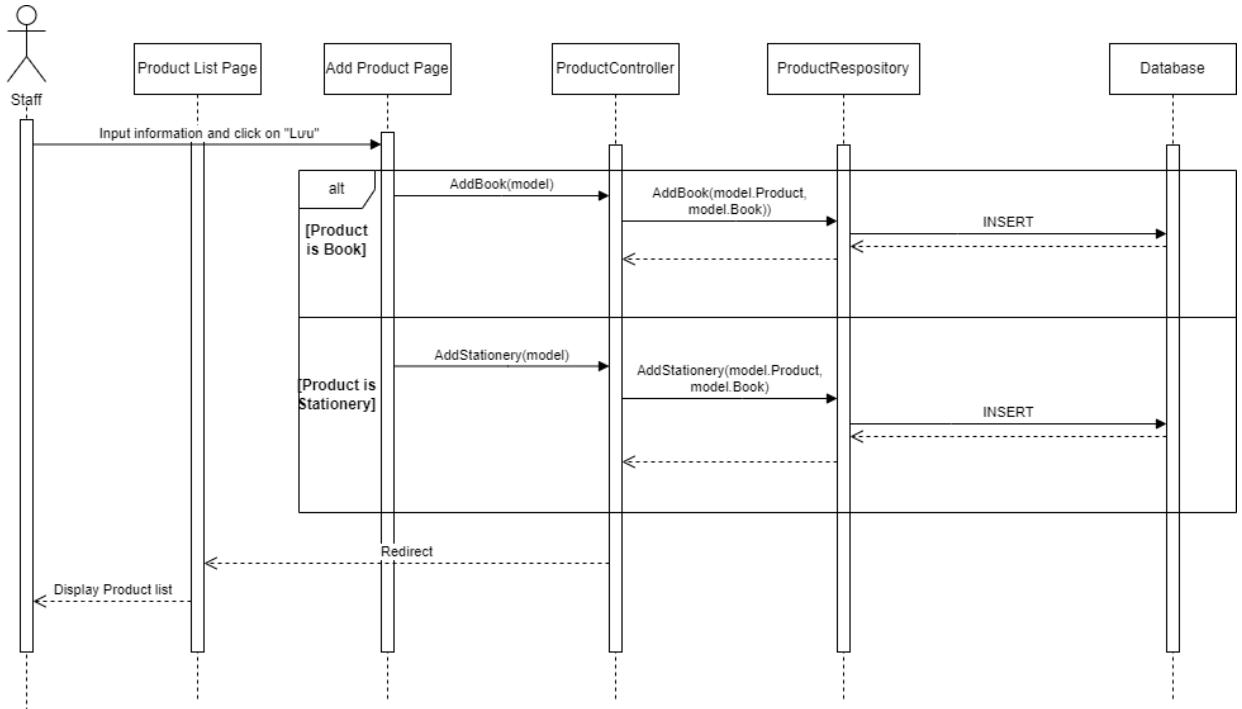


Figure 3.3.4.1: Create Product sequence diagram

### 3.3.5 Update Product

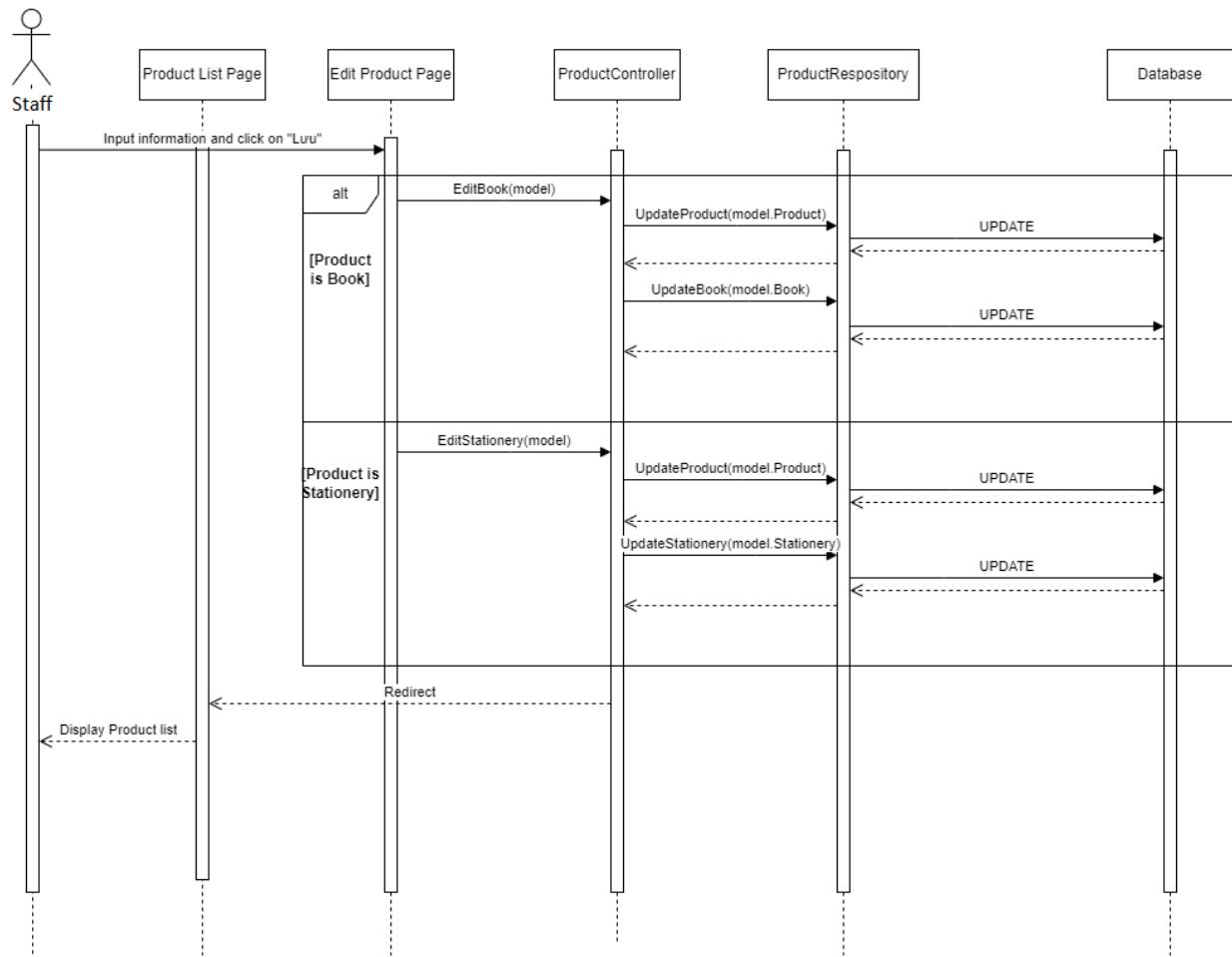


Figure 3.3.5.1: Update Product sequence diagram

## 3.4 Author Management

### 3.4.1 Class Diagram

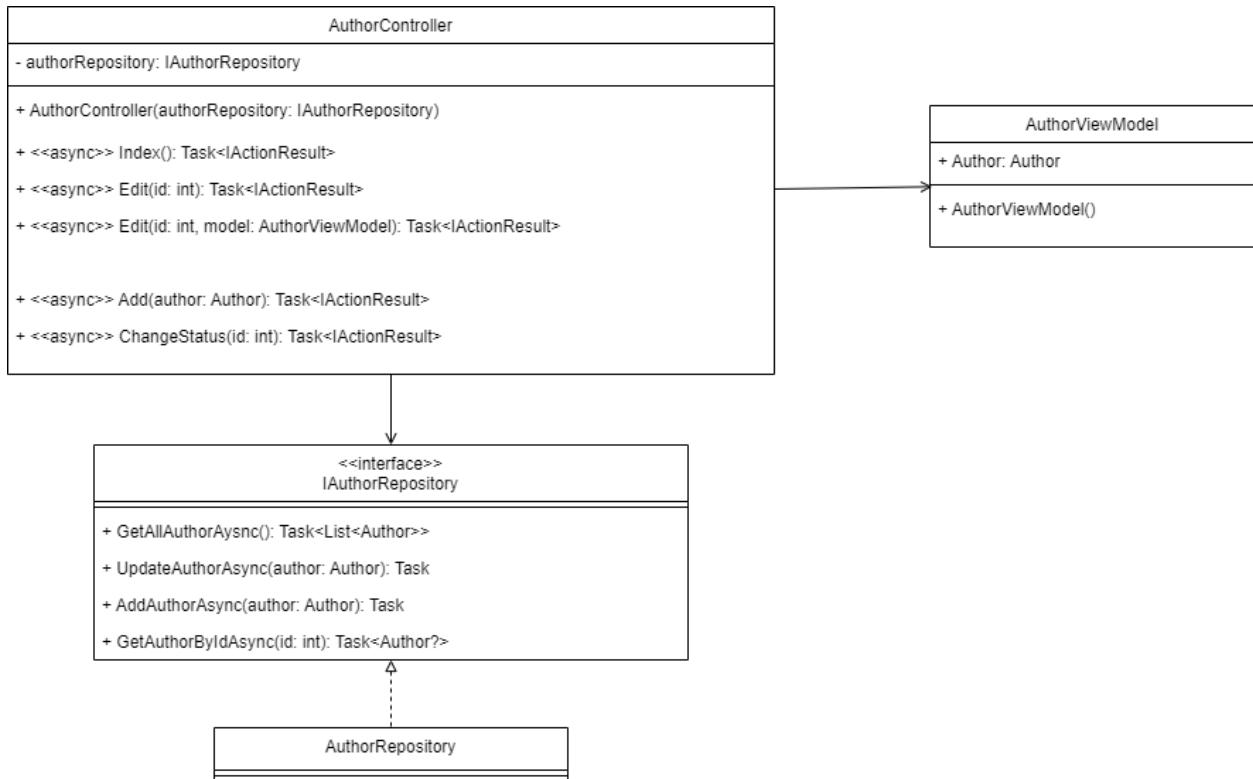


Figure 3.4.1.1: Author Management functions class diagram

### 3.4.2 View list of Authors

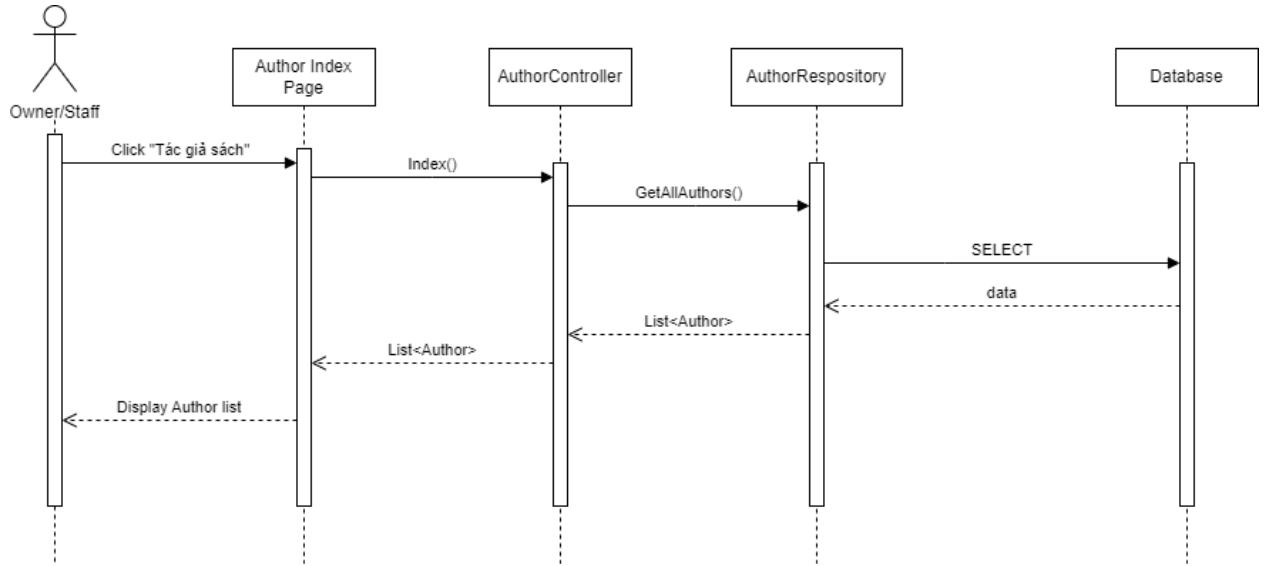


Figure 3.4.2.1: View list of Authors sequence diagram

### 3.4.3 Add new Author

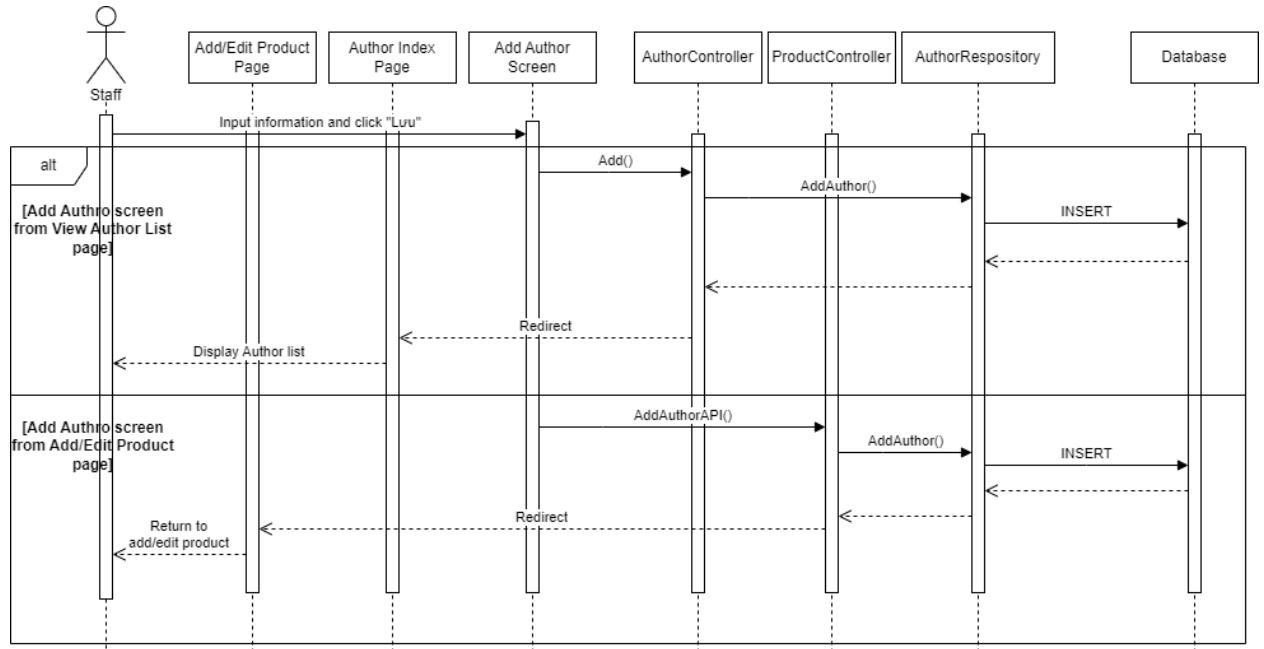


Figure 3.4.3.1: Add new Author sequence diagram

### 3.4.4 Edit Author

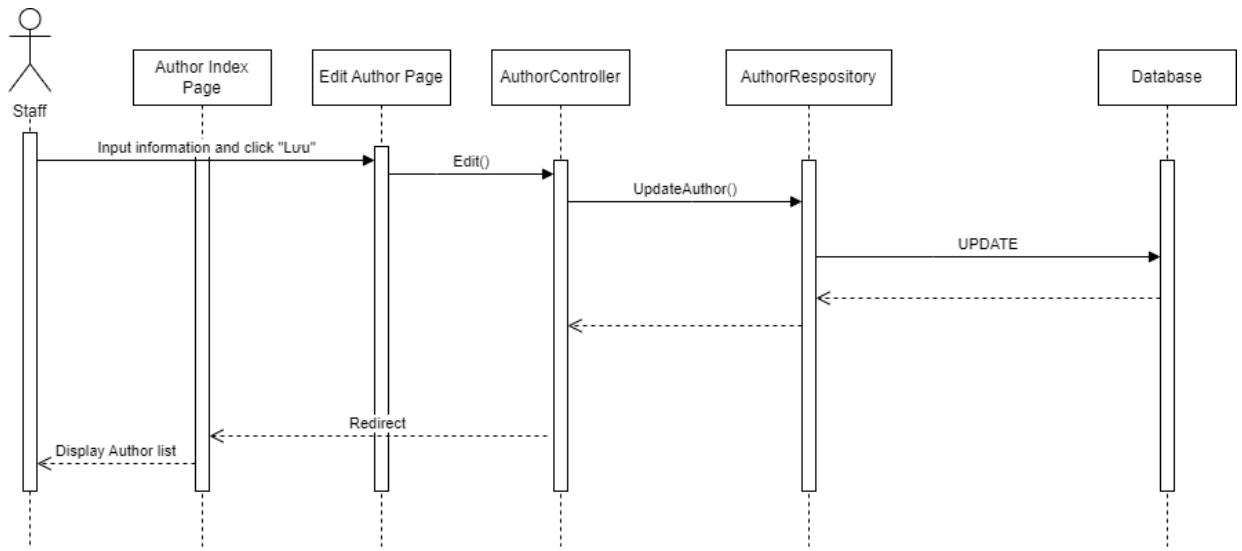


Figure 3.4.4.1: Edit Author sequence diagram

### 3.4.5 Change Status Author

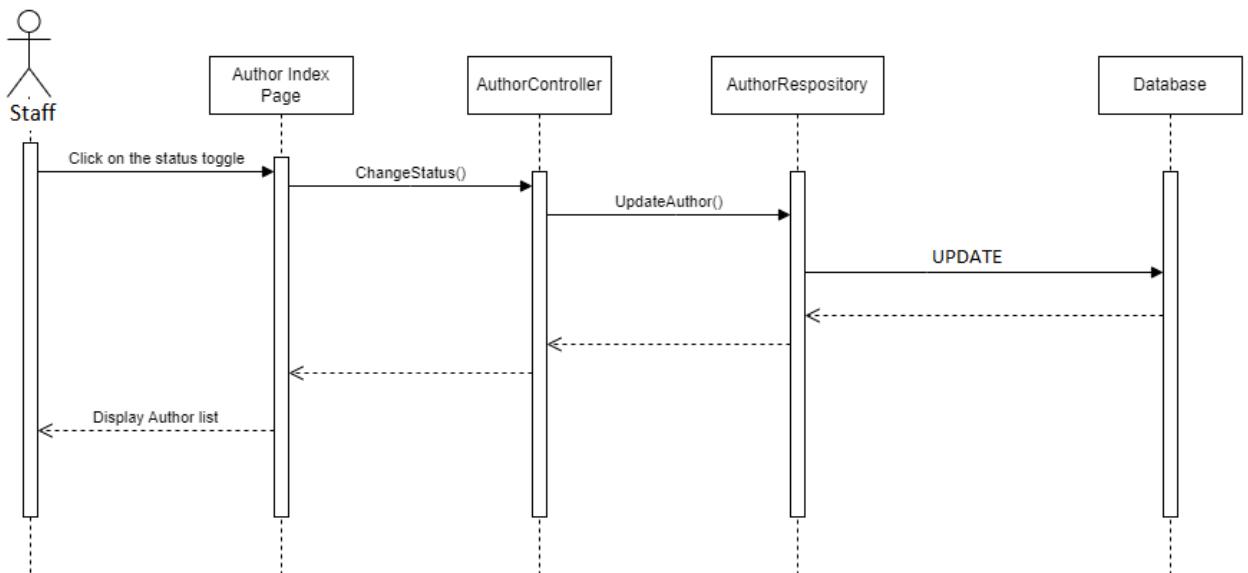


Figure 3.4.5.1: Change Status Author sequence diagram

## 3.5 Buy Products

### 3.5.1 Class Diagram

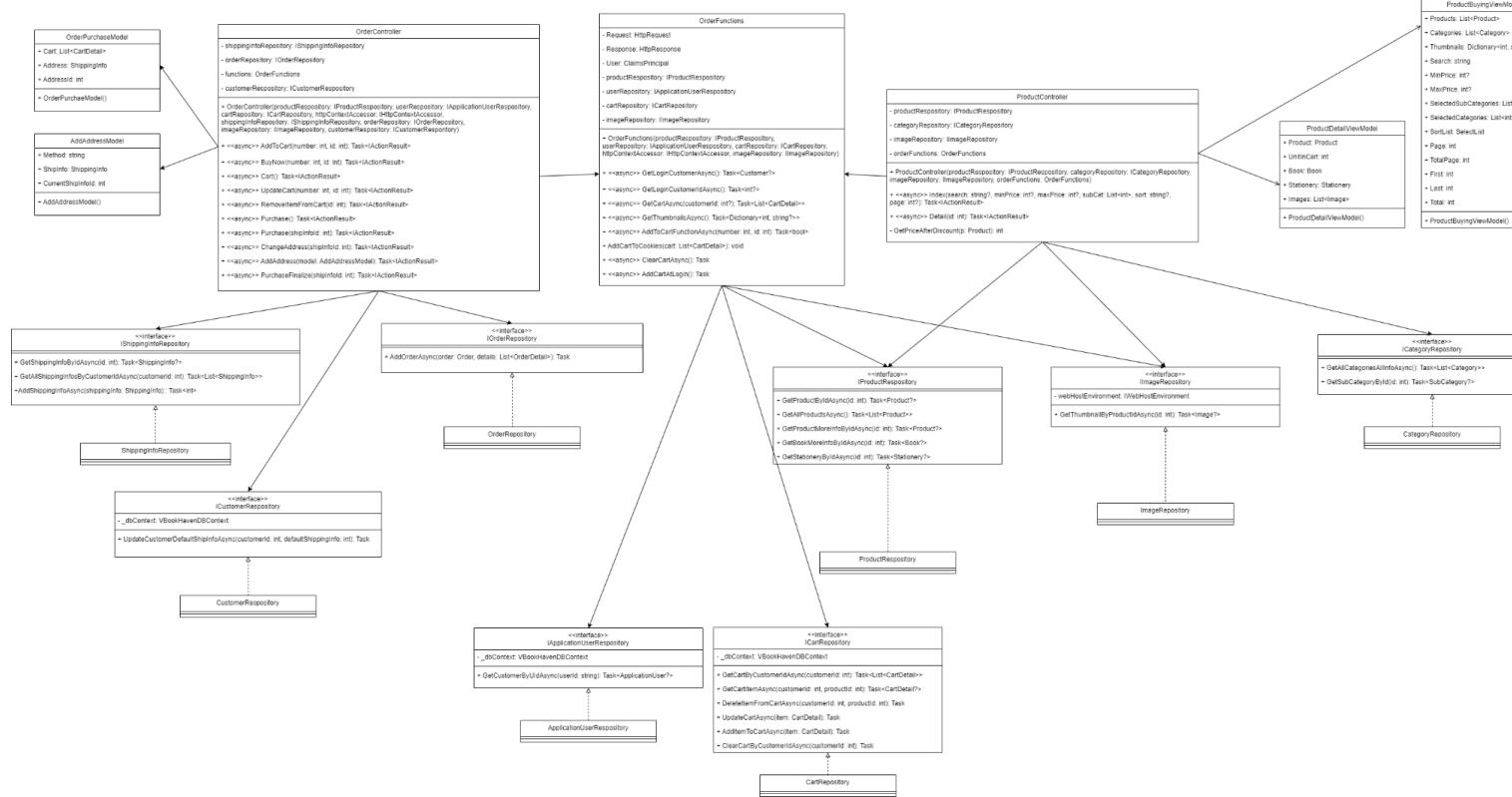


Figure 3.5.1.1: Buy Products functions class diagram

### 3.5.2 View List Products (Customer)

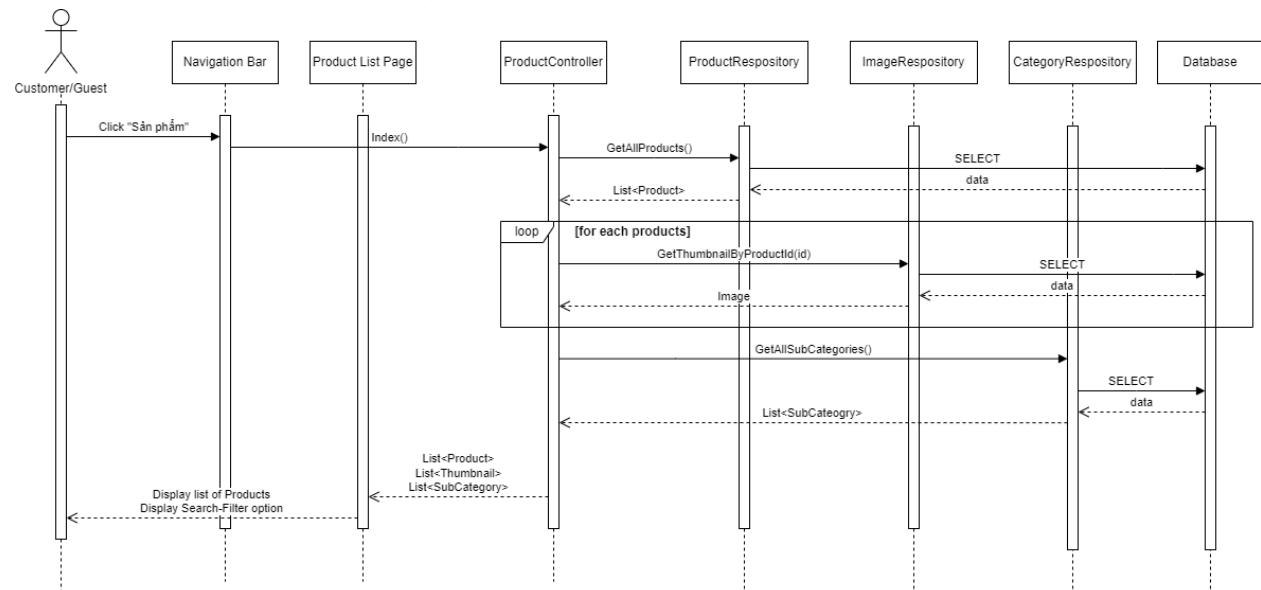


Figure 3.5.2.1: View List Products (Customer) functions sequence diagram

### 3.5.3 View Product Details (Customer)

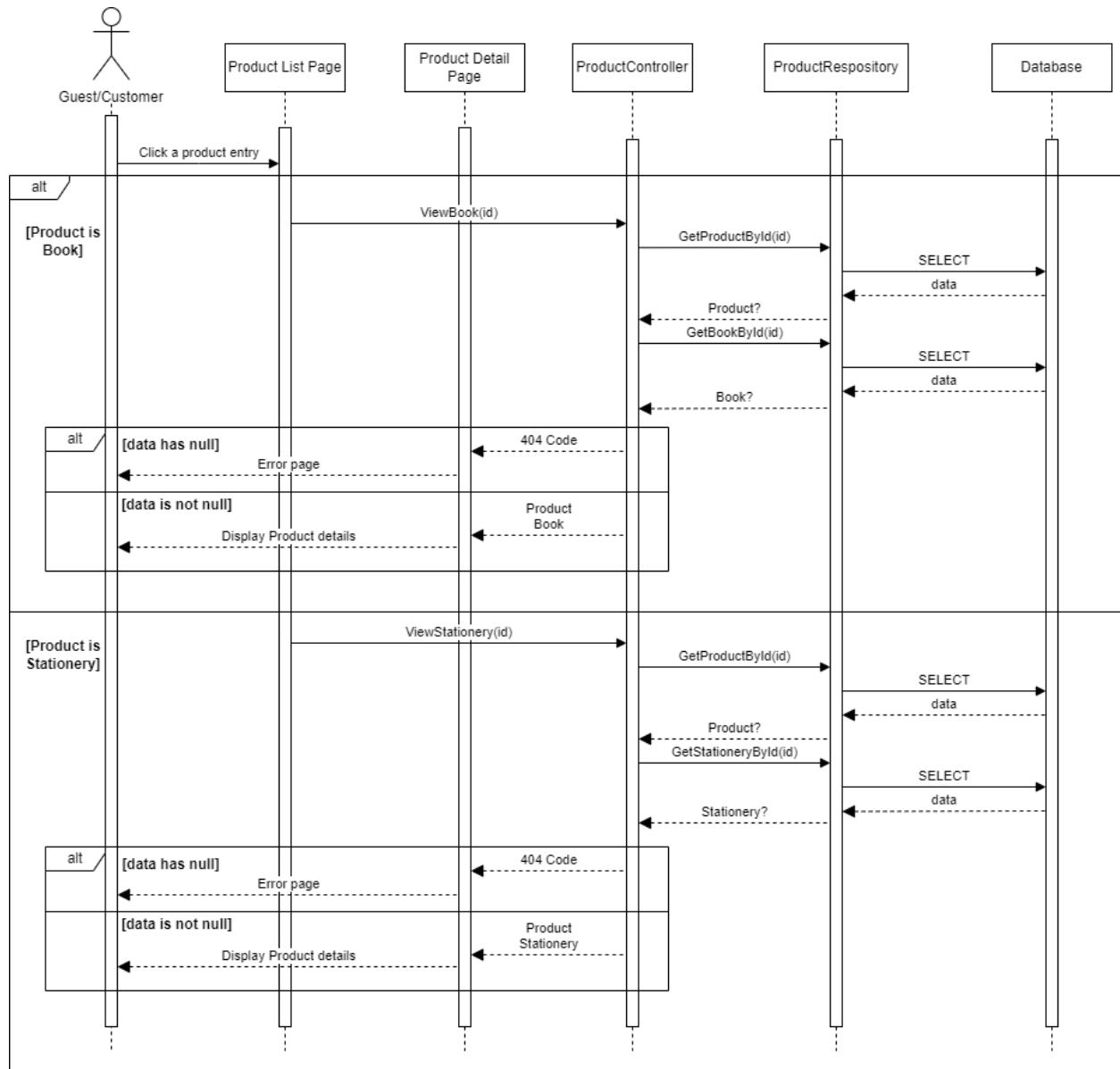


Figure 3.5.3.1: View Product Details (Customer) functions sequence diagram

### 3.5.4 Add Product to Cart

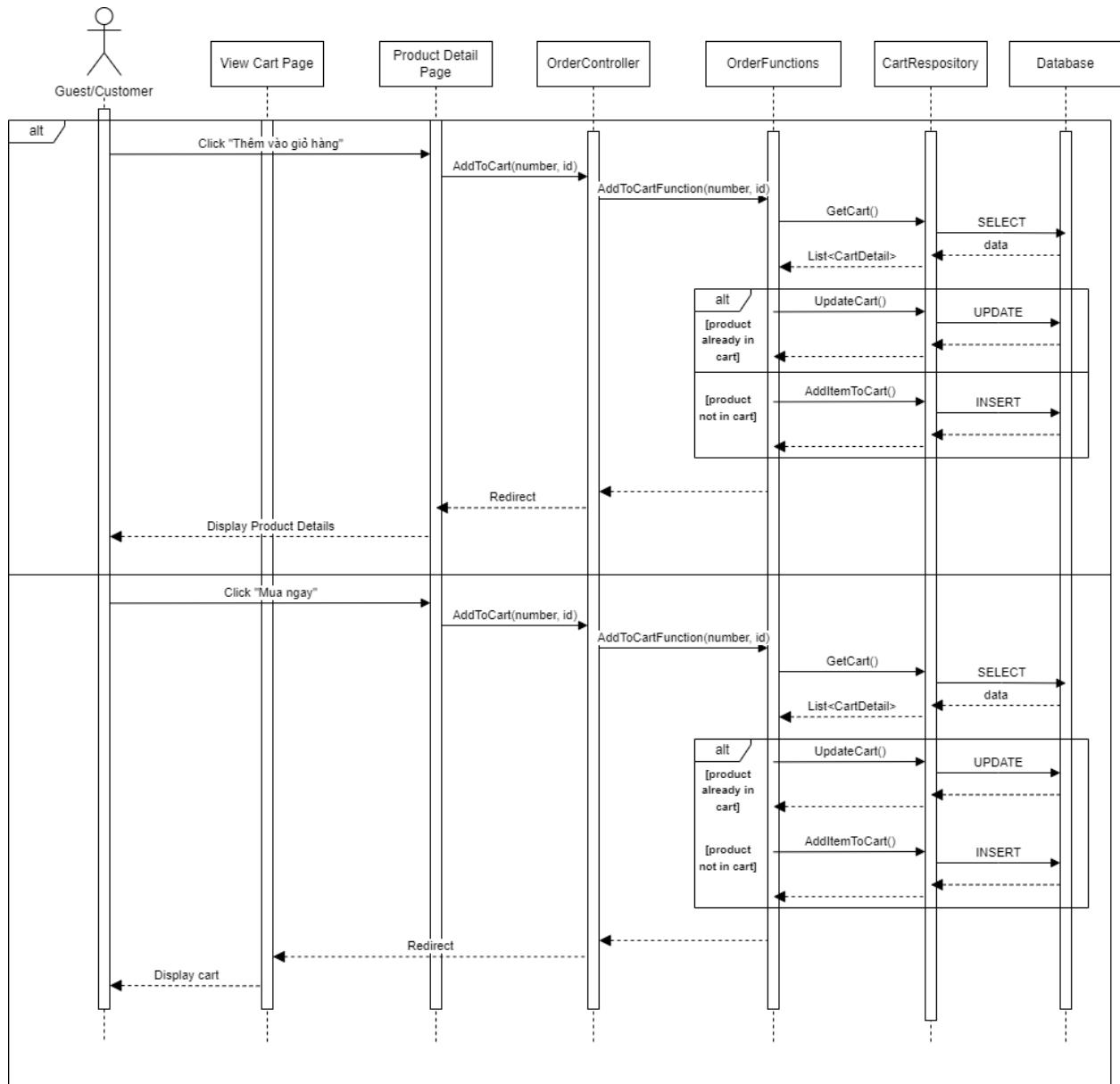


Figure 3.5.4.1: Add Product to Cart functions sequence diagram

### 3.5.5 View Cart

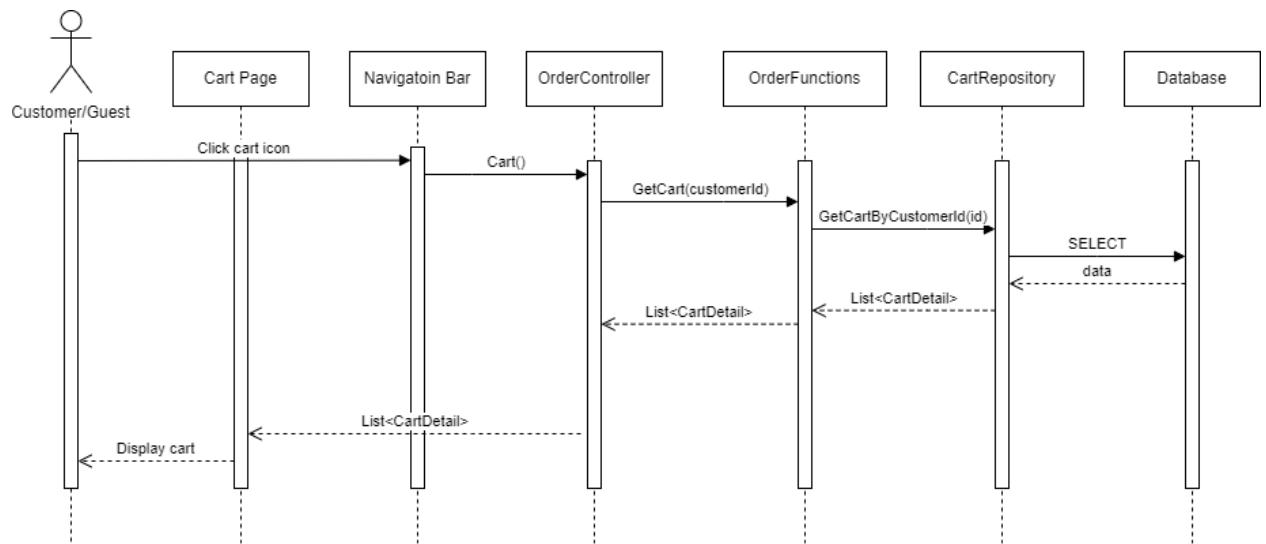


Figure 3.5.5.1: View Cart functions sequence diagram

### 3.5.6 Update Cart

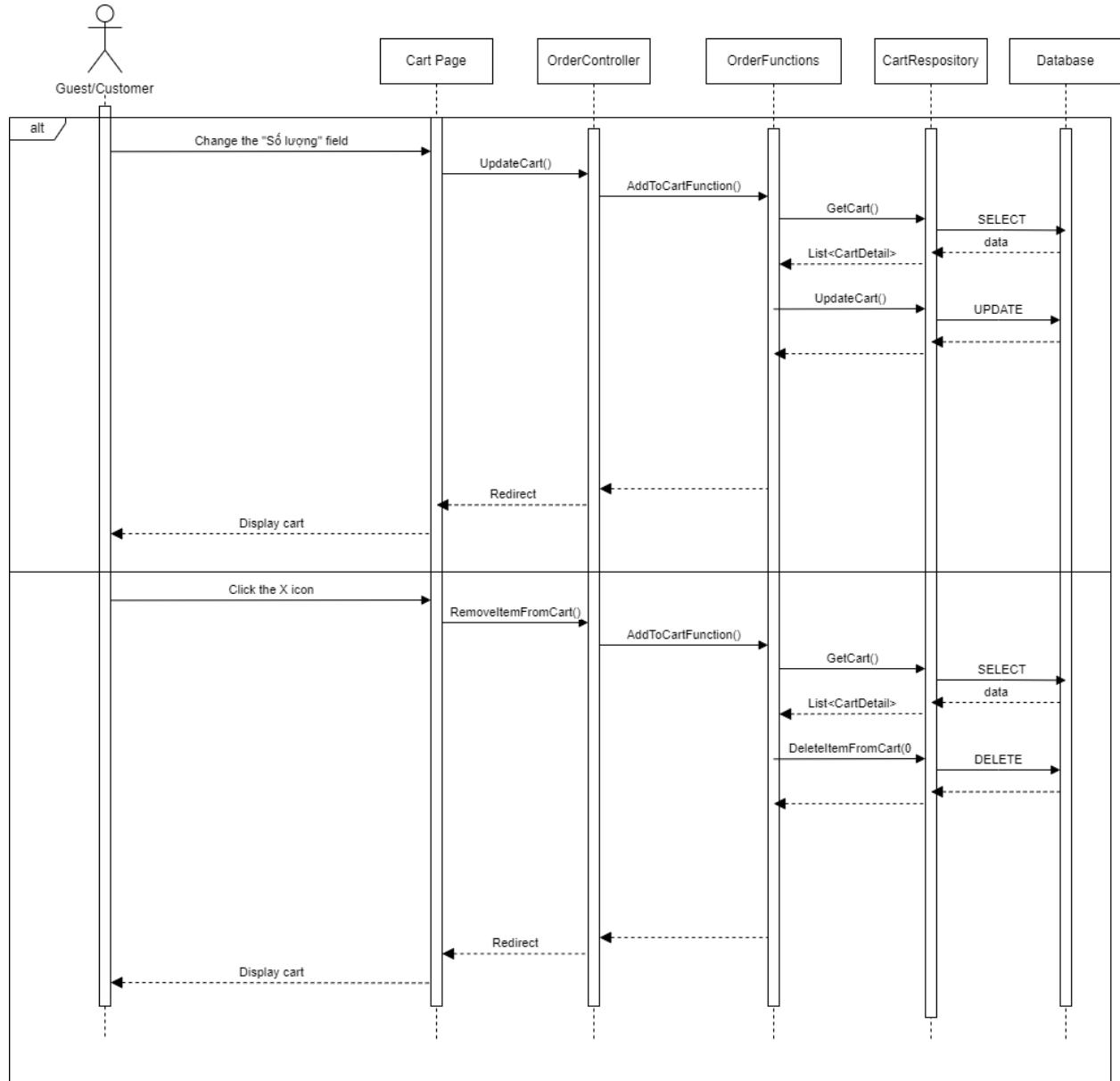


Figure 3.5.6.1: Update Cart functions sequence diagram

### 3.5.7 Make an Order (Customer)

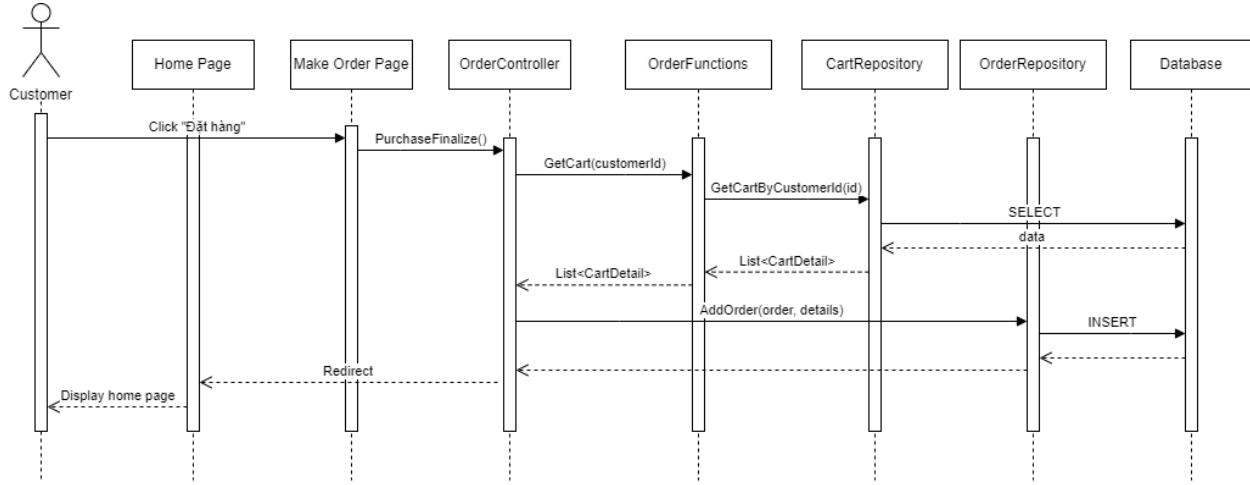


Figure 3.5.6.1: Update Cart functions sequence diagram

## 3.6 Order Management

### 3.6.1 Class Diagram

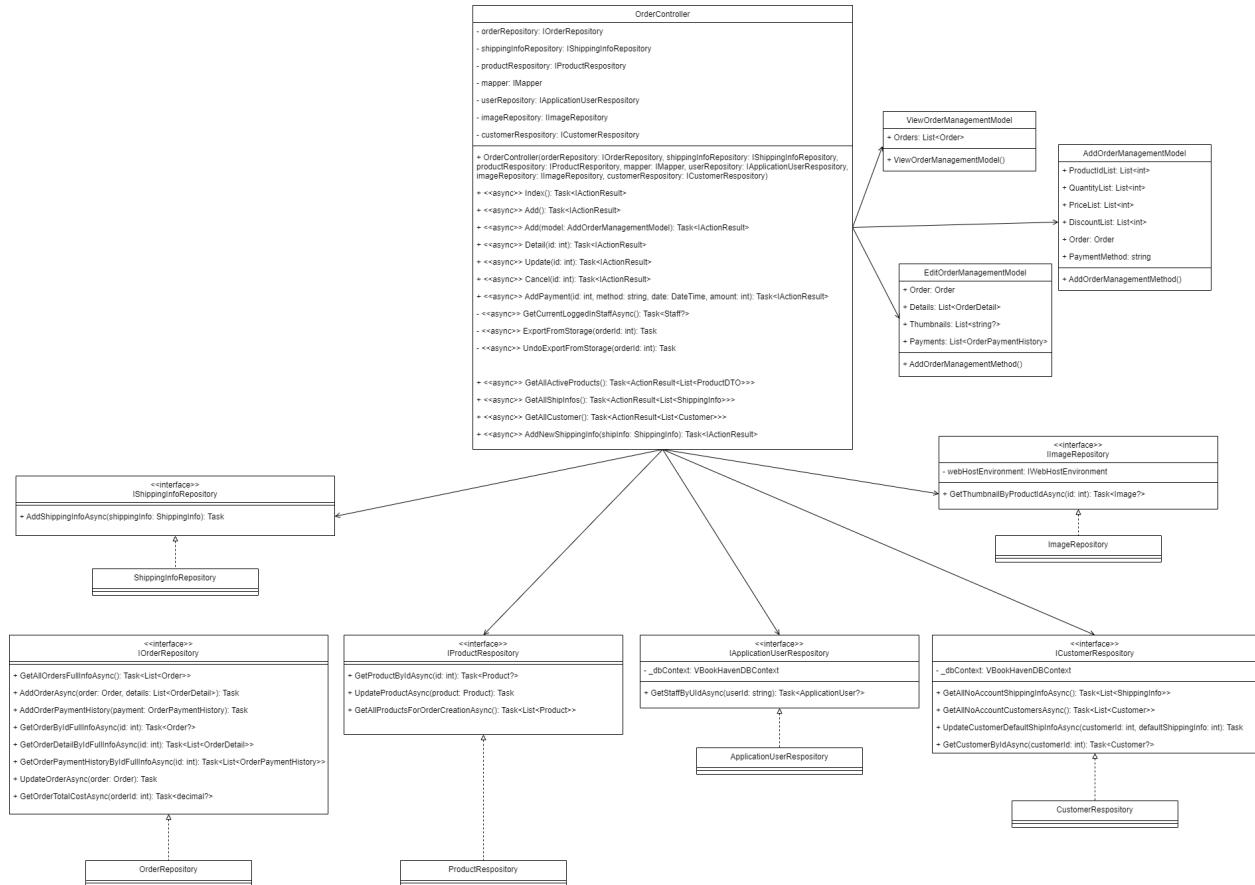


Figure 3.6.1.1: Order Management functions class diagram

### 3.6.2 View List Orders

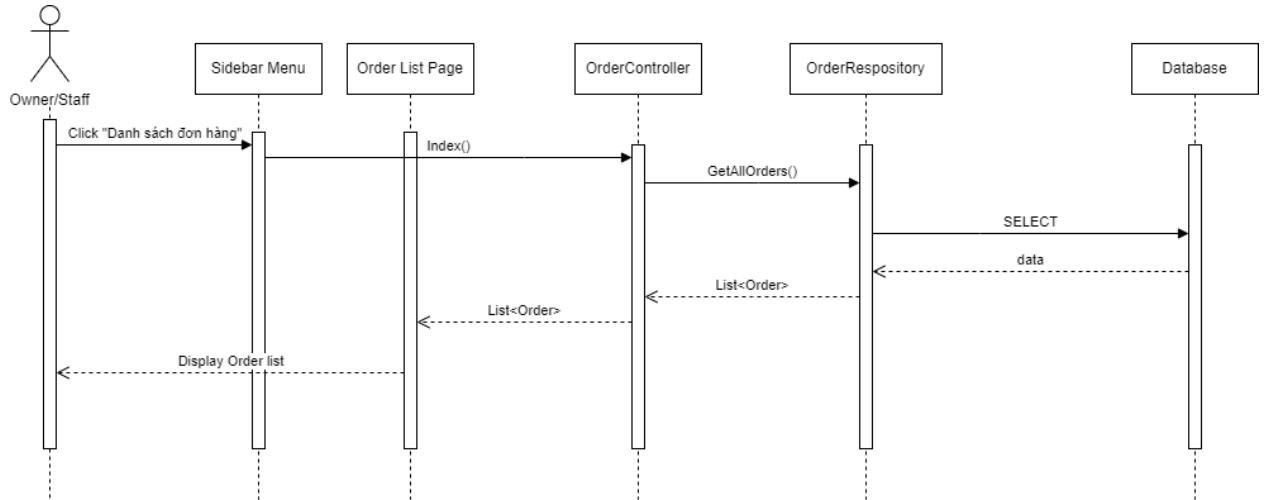


Figure 3.6.2.1: View List Orders functions sequence diagram

### 3.6.3 Create Order

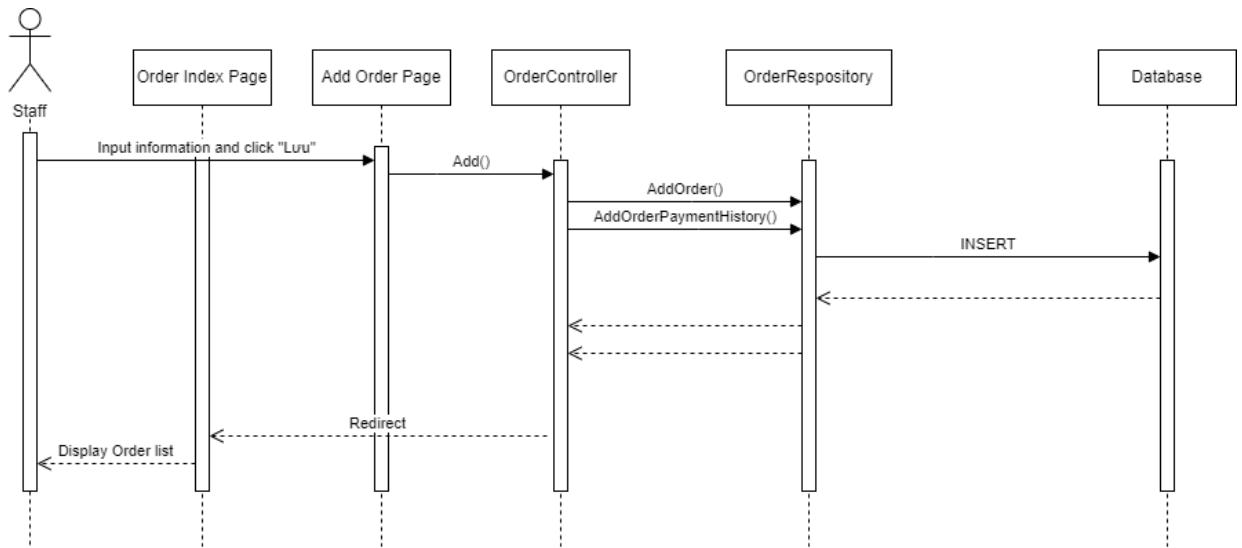


Figure 3.6.3.1: Create Order functions sequence diagram

### 3.6.4 View Order Details

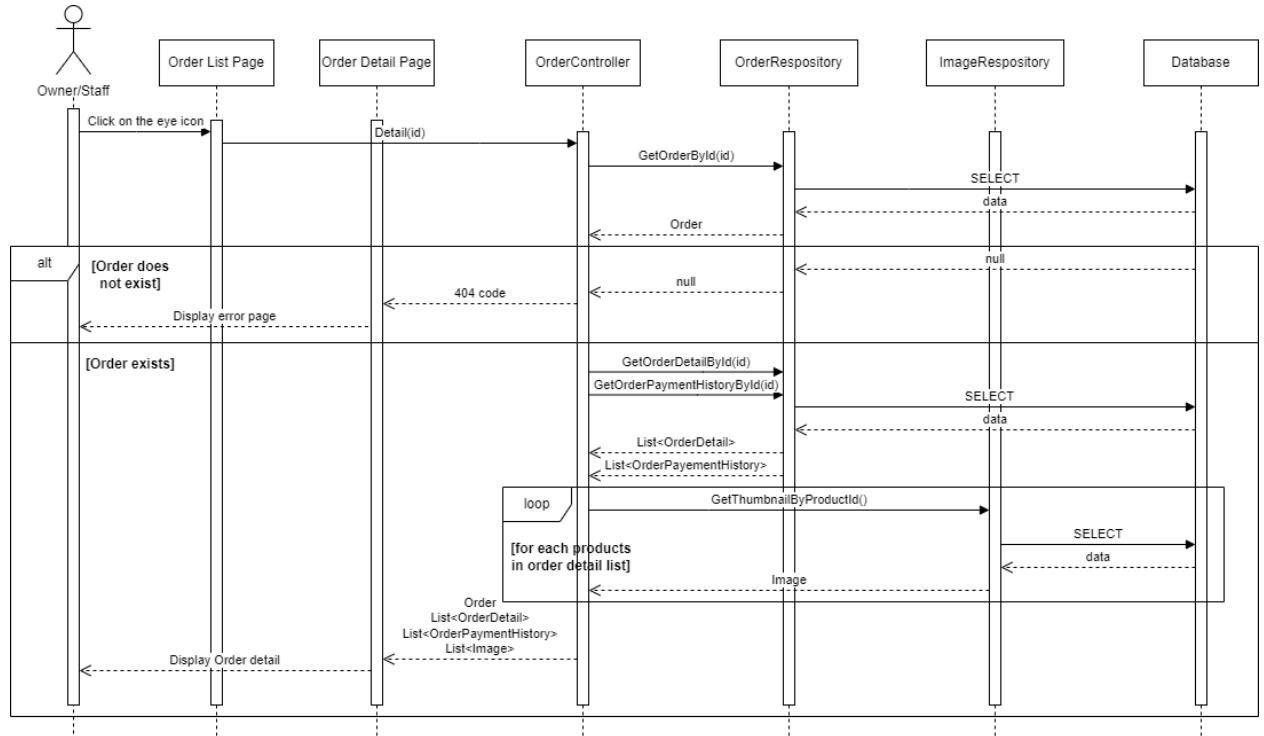


Figure 3.6.4.1: View order details sequence diagram

### 3.6.5 Update Order Status

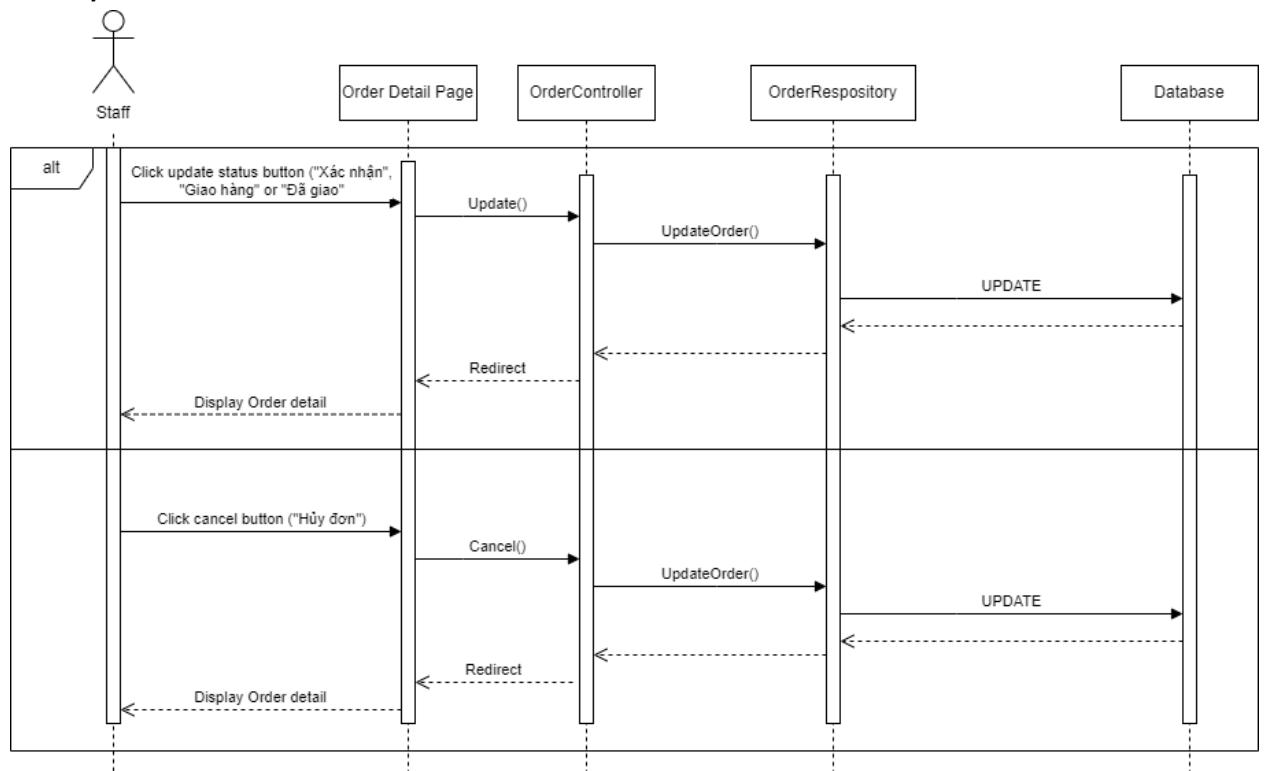


Figure 3.6.5.1: Update Order Status sequence diagram

### 3.6.6 Add Order Payment

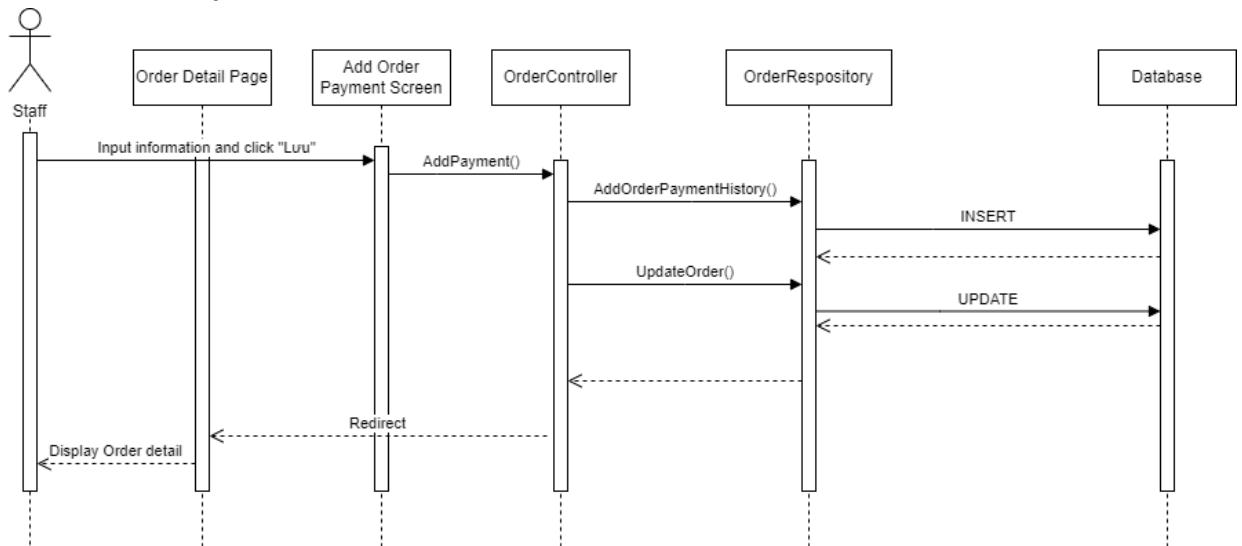


Figure 3.6.6.1: Add Order Payment sequence diagram

## 3.7 Purchase Order Management

### 3.7.1 Class Diagram

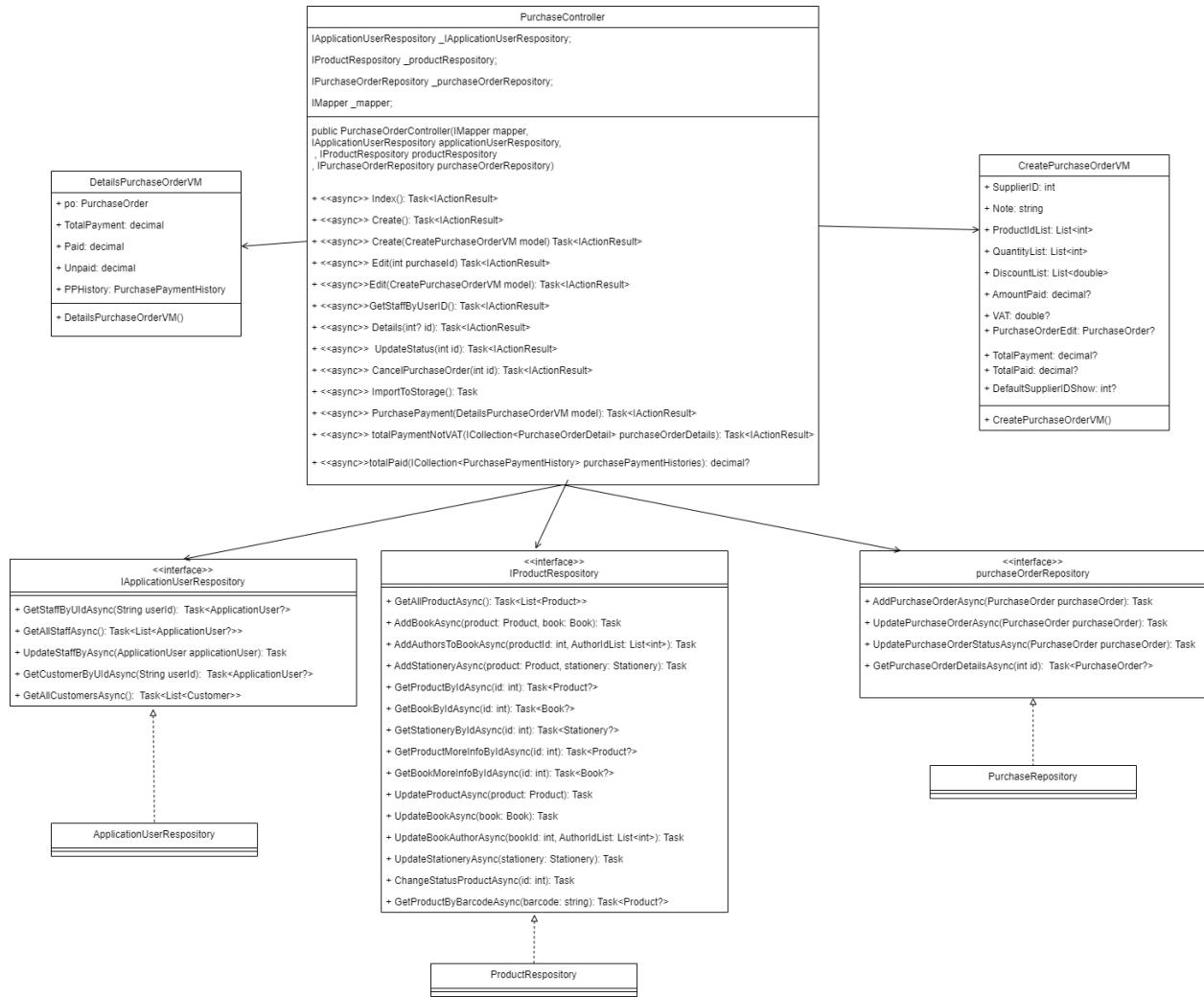


Figure 3.7.1.1: Purchase Order Management class diagram

### 3.7.2 View List Purchase Orders

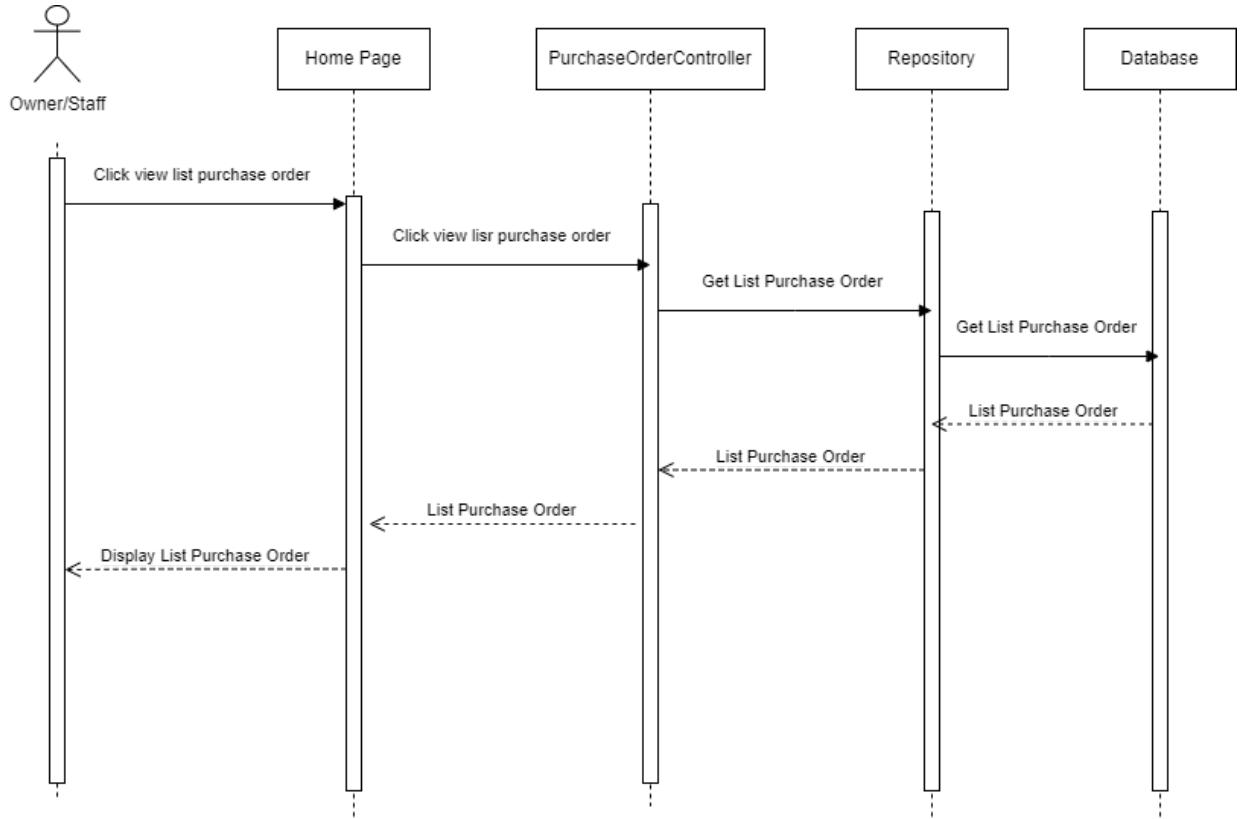


Figure 3.7.2.1: View List Purchase Orders sequence diagram

### 3.7.3 Update Purchase Orders Status

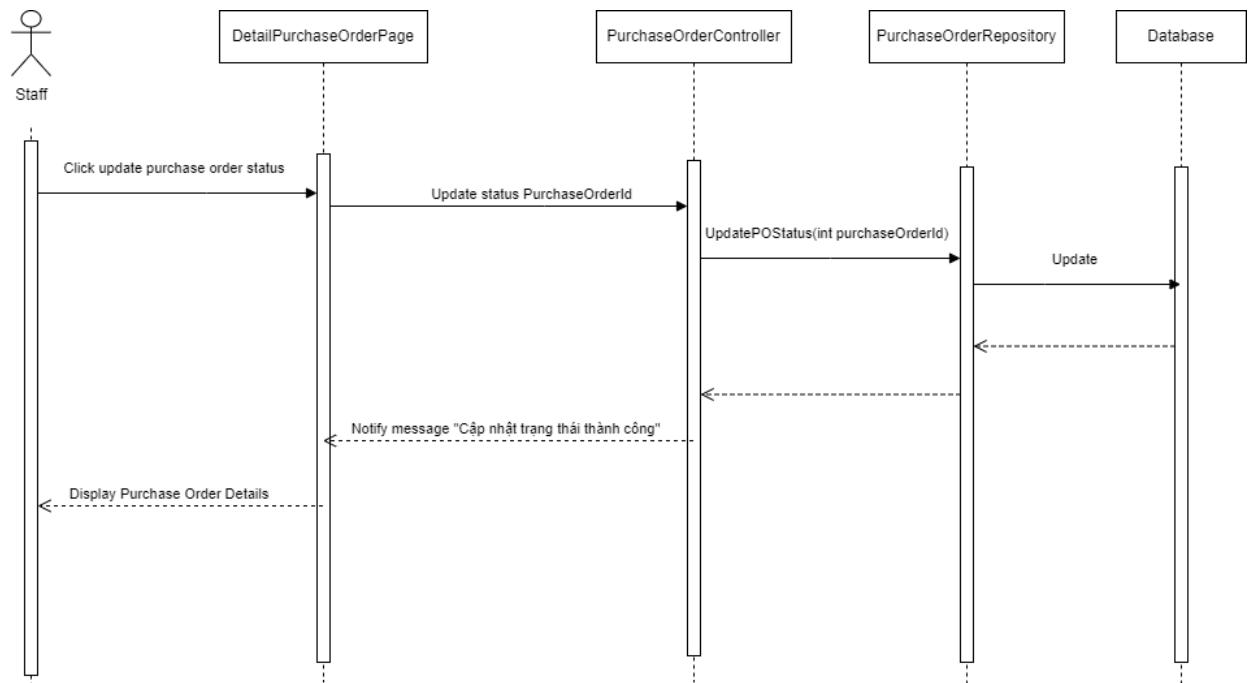


Figure 3.7.3.1: Update Purchase Orders Status sequence diagram

### 3.7.4 Create Purchase Orders

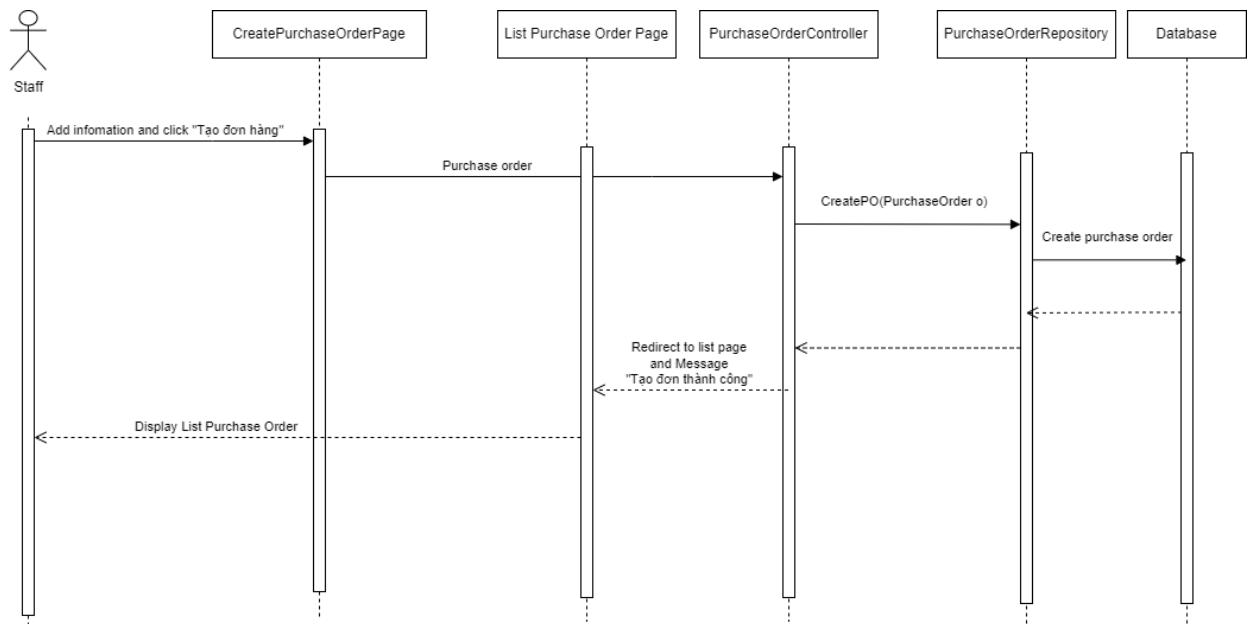


Figure 3.7.4.1: Create Purchase Orders sequence diagram

### 3.7.5 Update purchase order

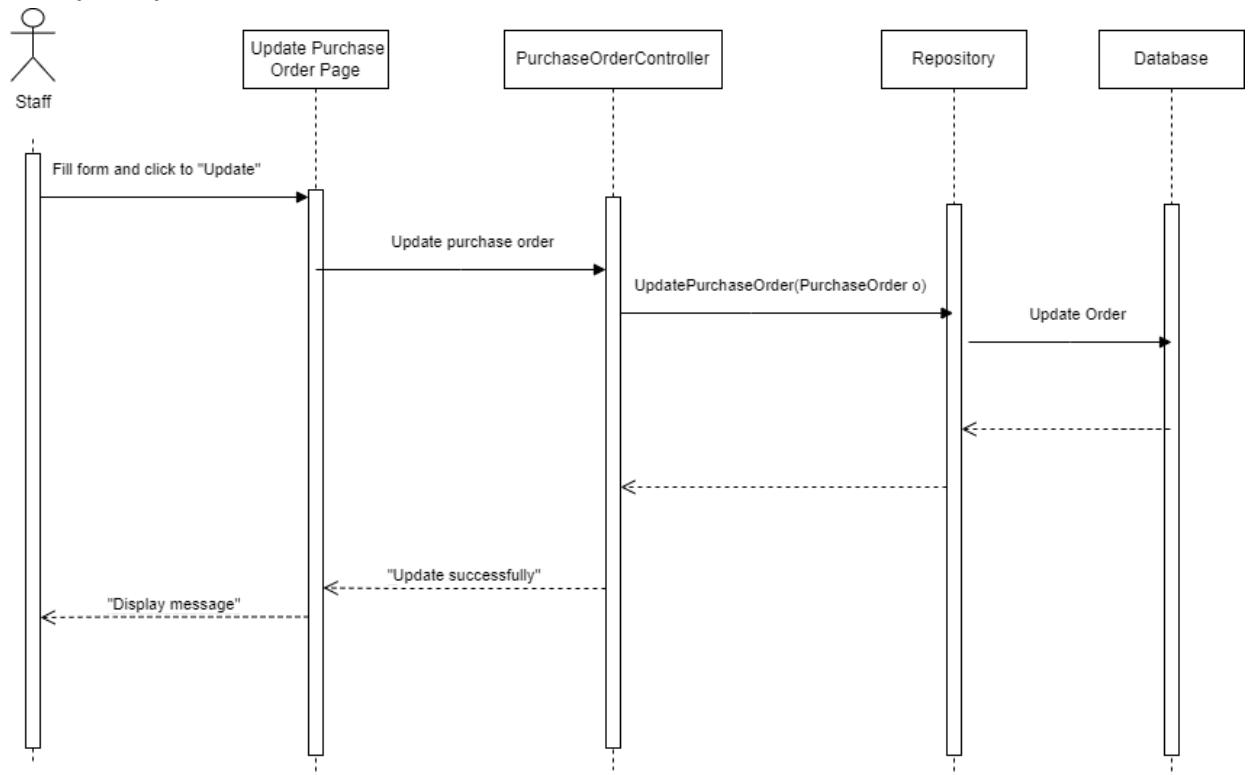


Figure 3.7.5.1: Update purchase order sequence diagram

## 3.8 Account Staff Management

### 3.8.1 Class Diagram

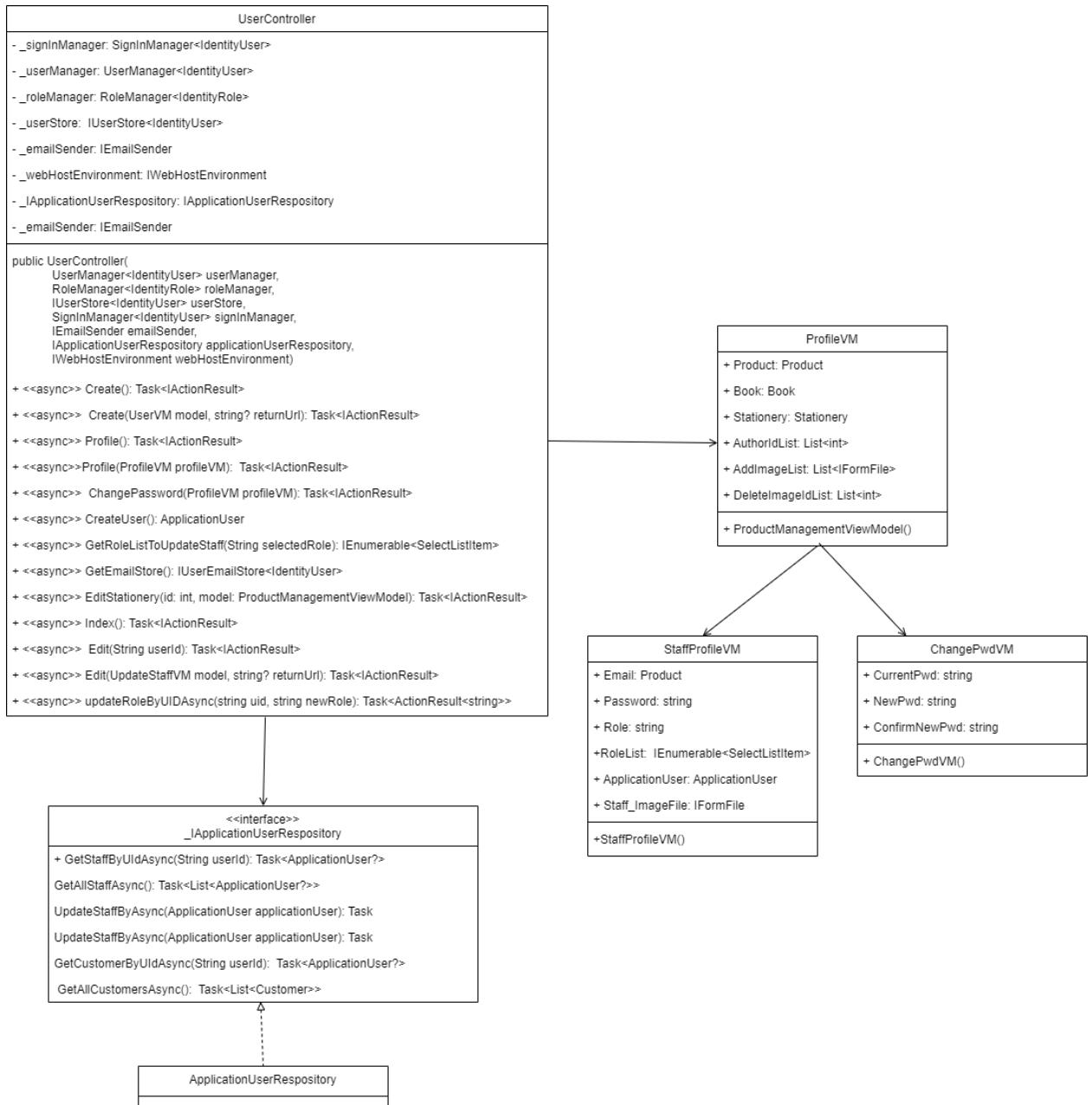


Figure 3.8.1.1: Account Staff Management class diagram

### 3.8.2 View List Account Staff

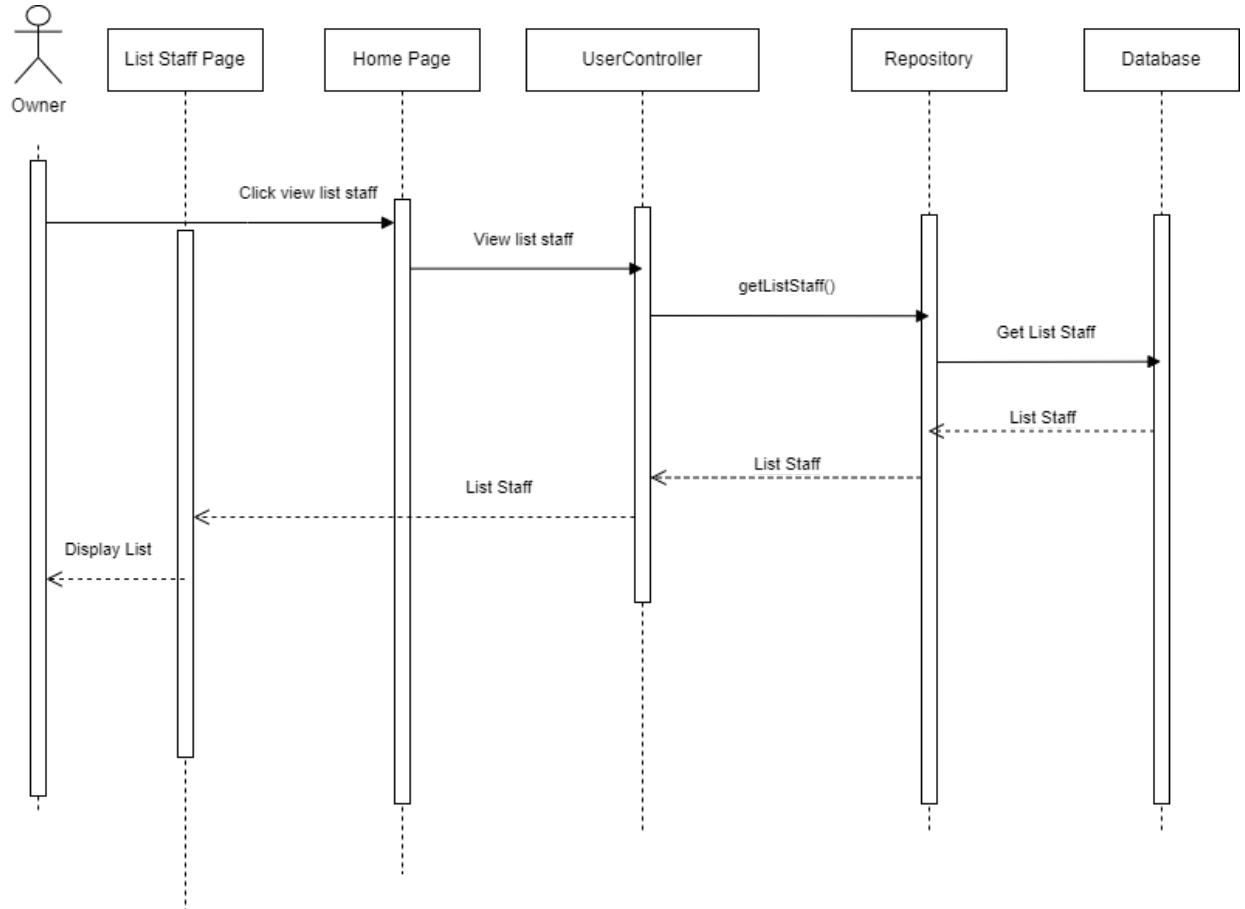


Figure 3.8.2.1: View List Account Staff sequence diagram

### 3.8.3 Create Account

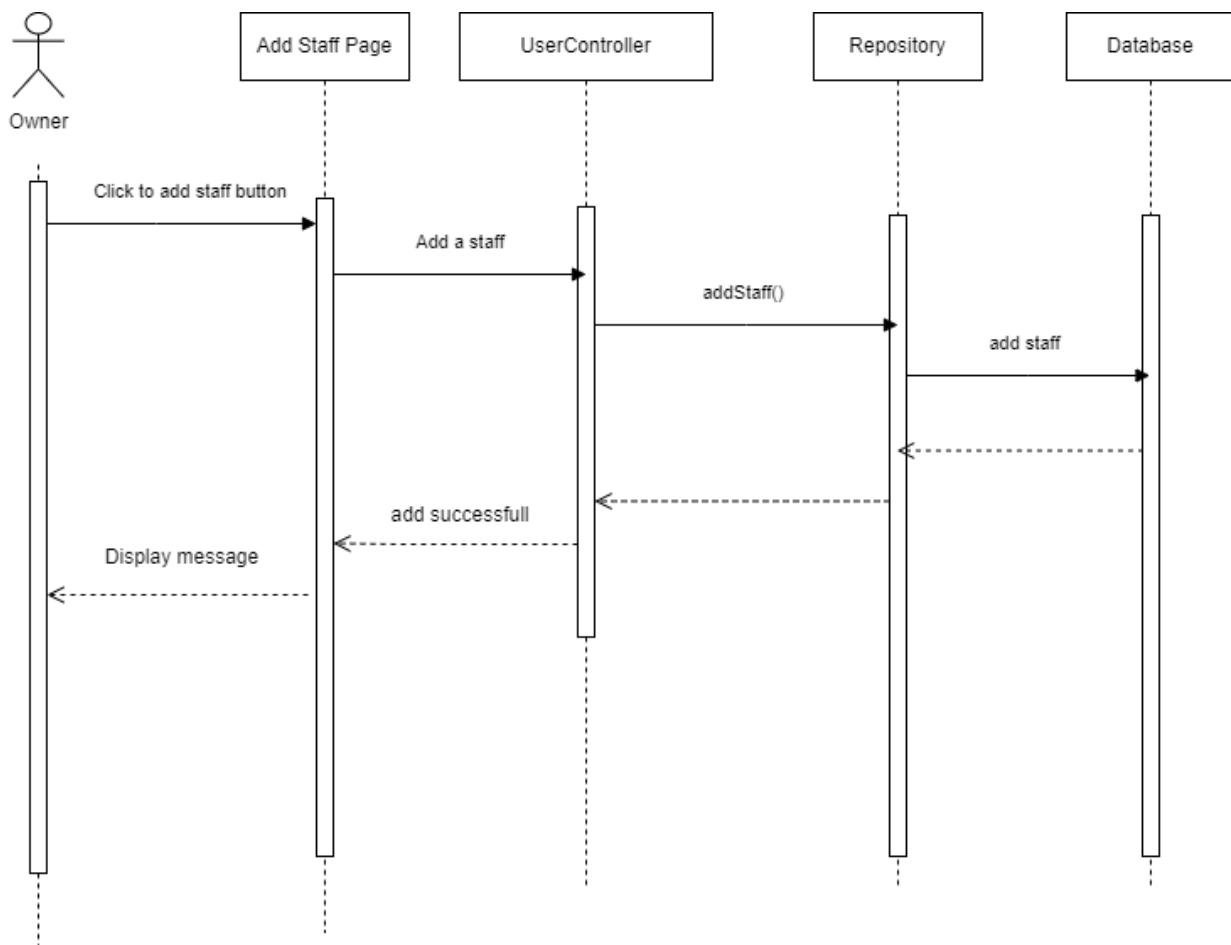


Figure 3.8.3.1: Create Account sequence diagram

### 3.8.4 Update Account

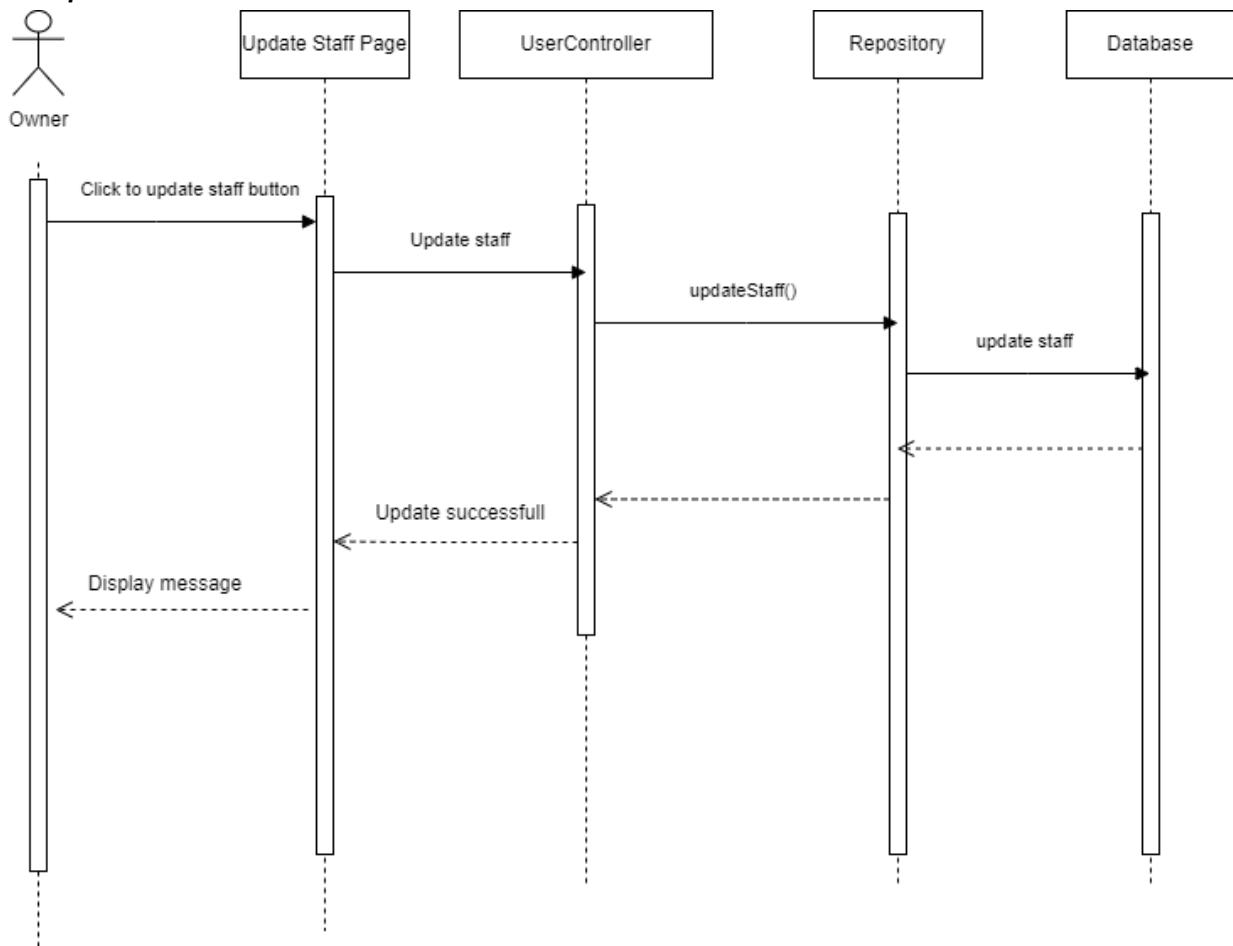


Figure 3.8.4.1: Update Account sequence diagram

### 3.8.5 Enable/Disable staff

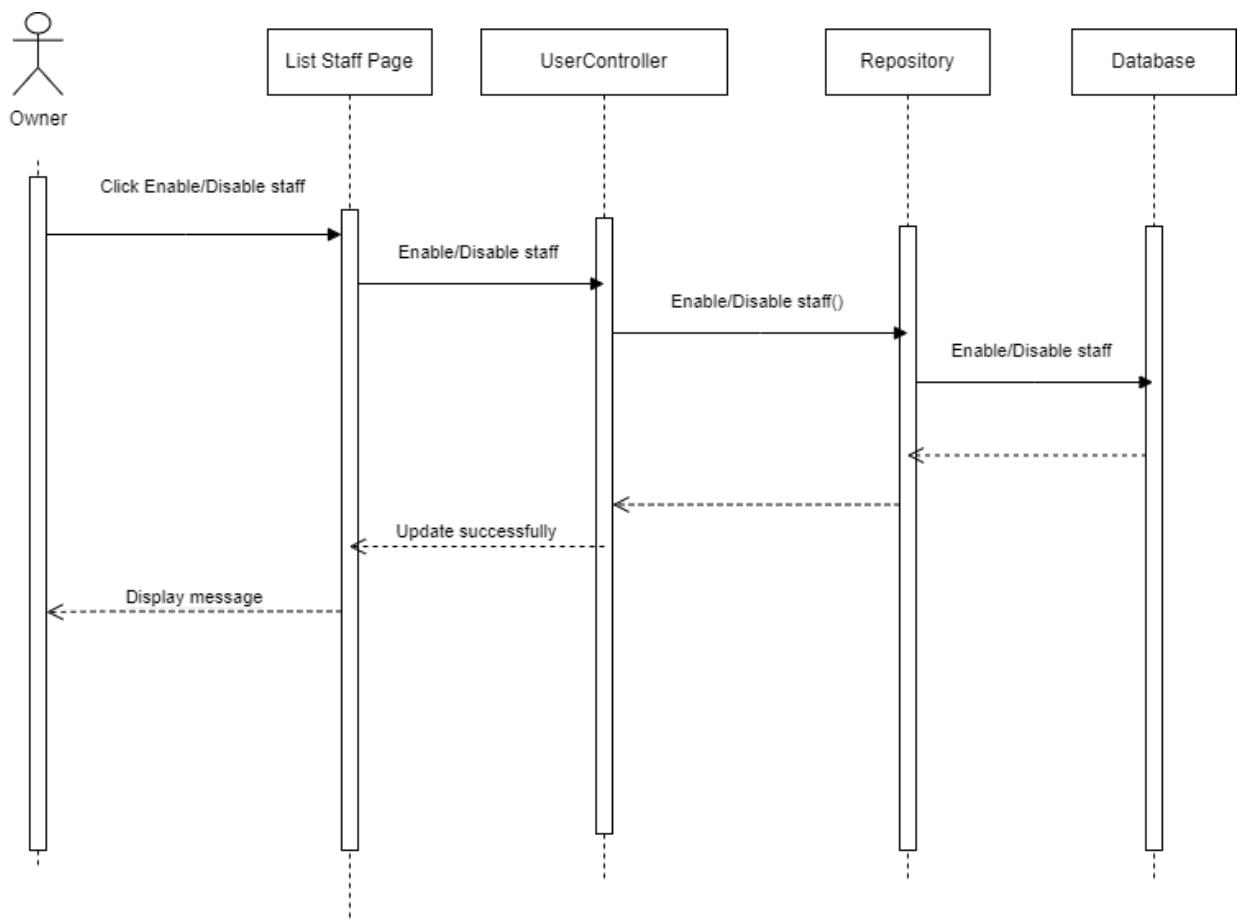


Figure 3.8.5.1: Enable/Disable staff sequence diagram

## 3.9 (Staff/Owner) Profile Management

### 3.9.1 Class Diagram

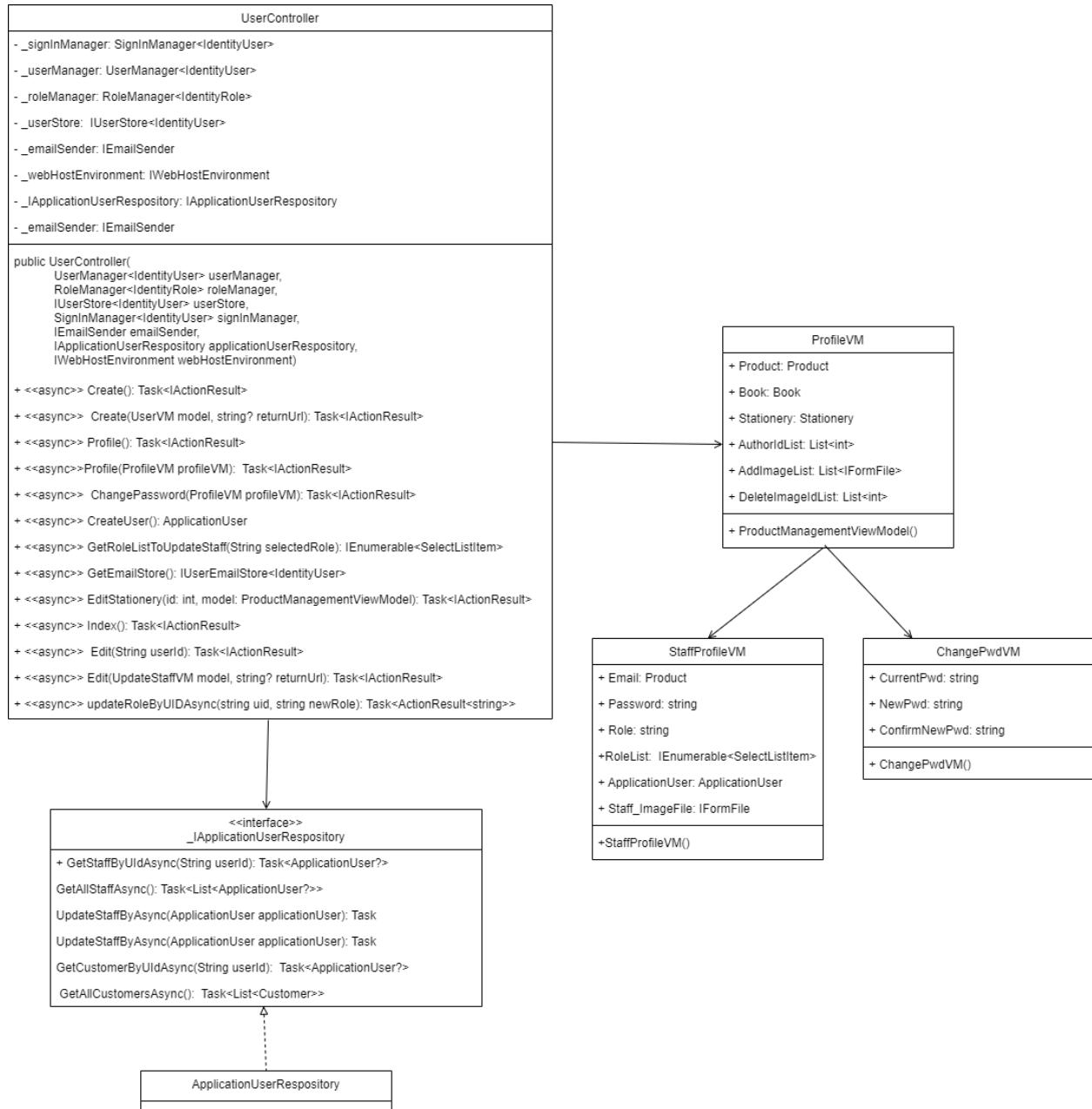


Figure 3.9.1.1: (Staff/Owner) Profile Management class diagram

### 3.9.2 View profile

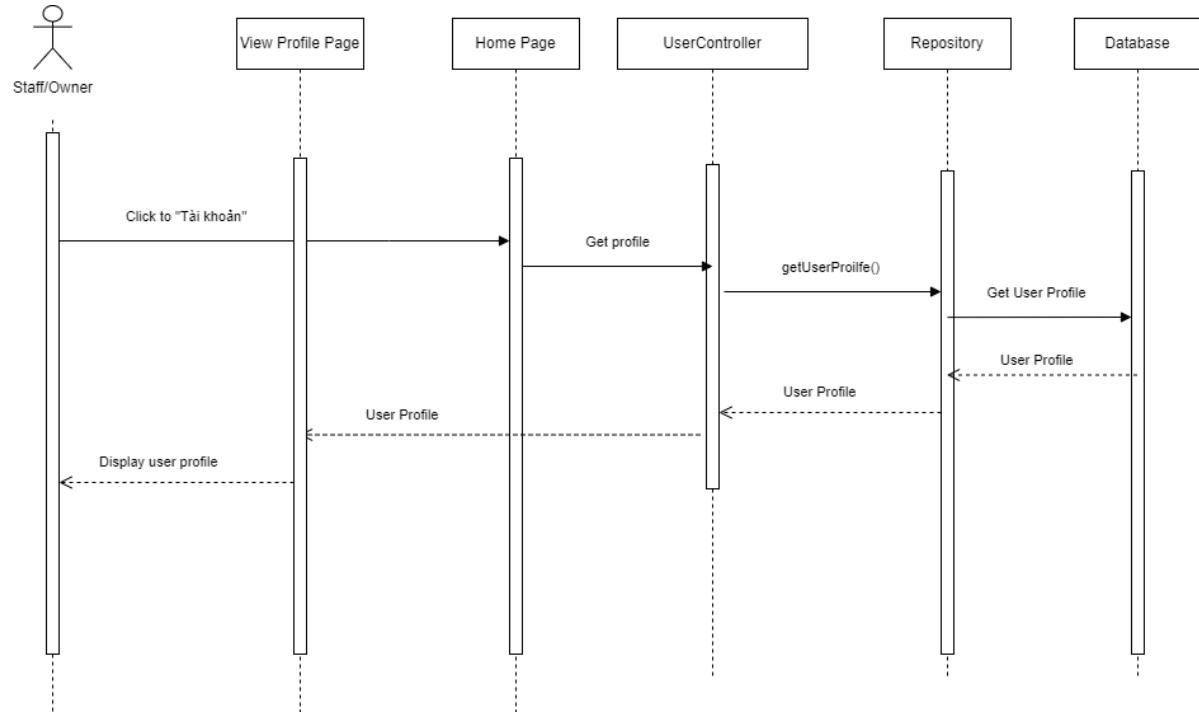


Figure 3.9.2.1: View profile sequence diagram

### 3.9.3 Edit user profile

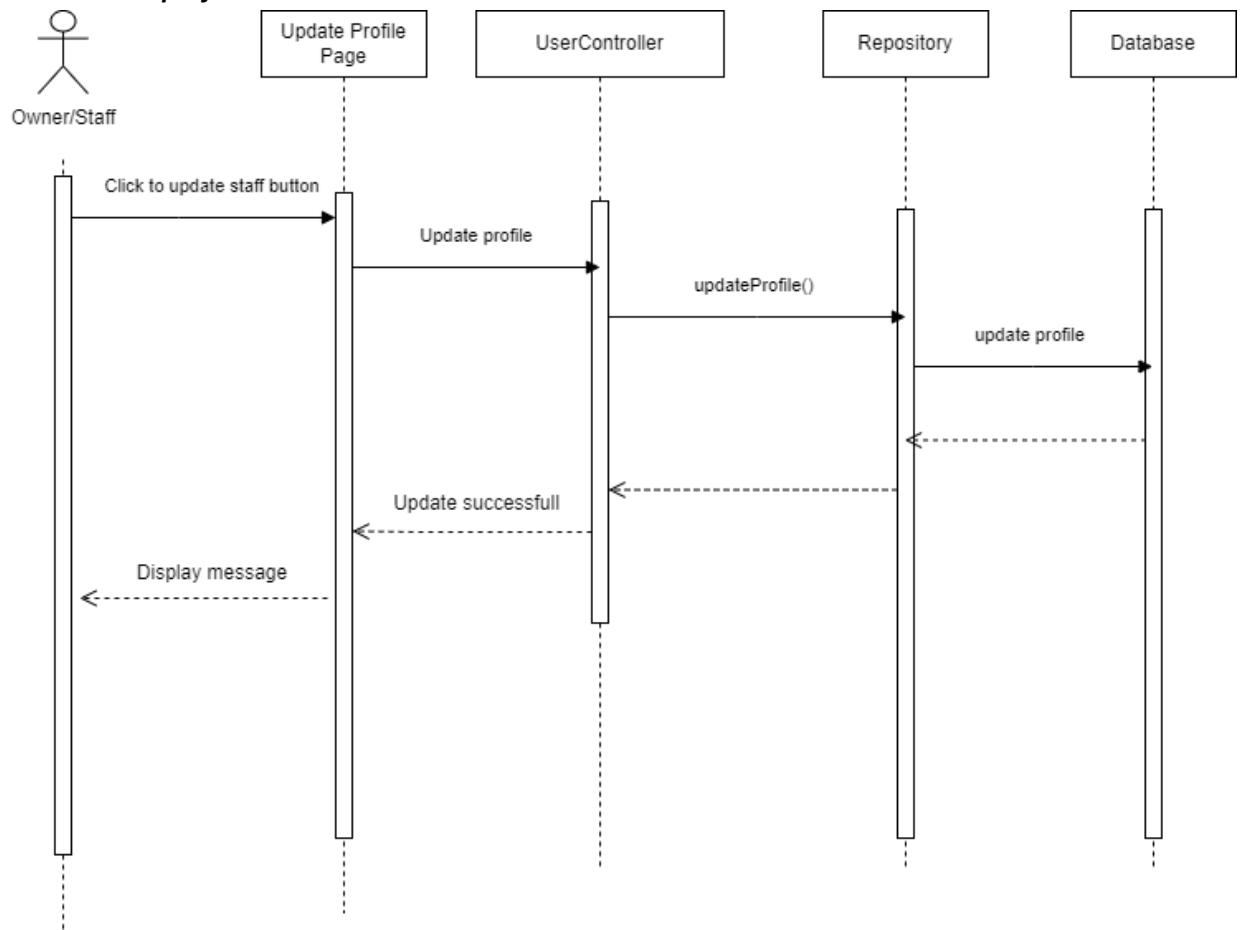


Figure 3.9.2.1: Edit user profile sequence diagram

### 3.9.4 Change password

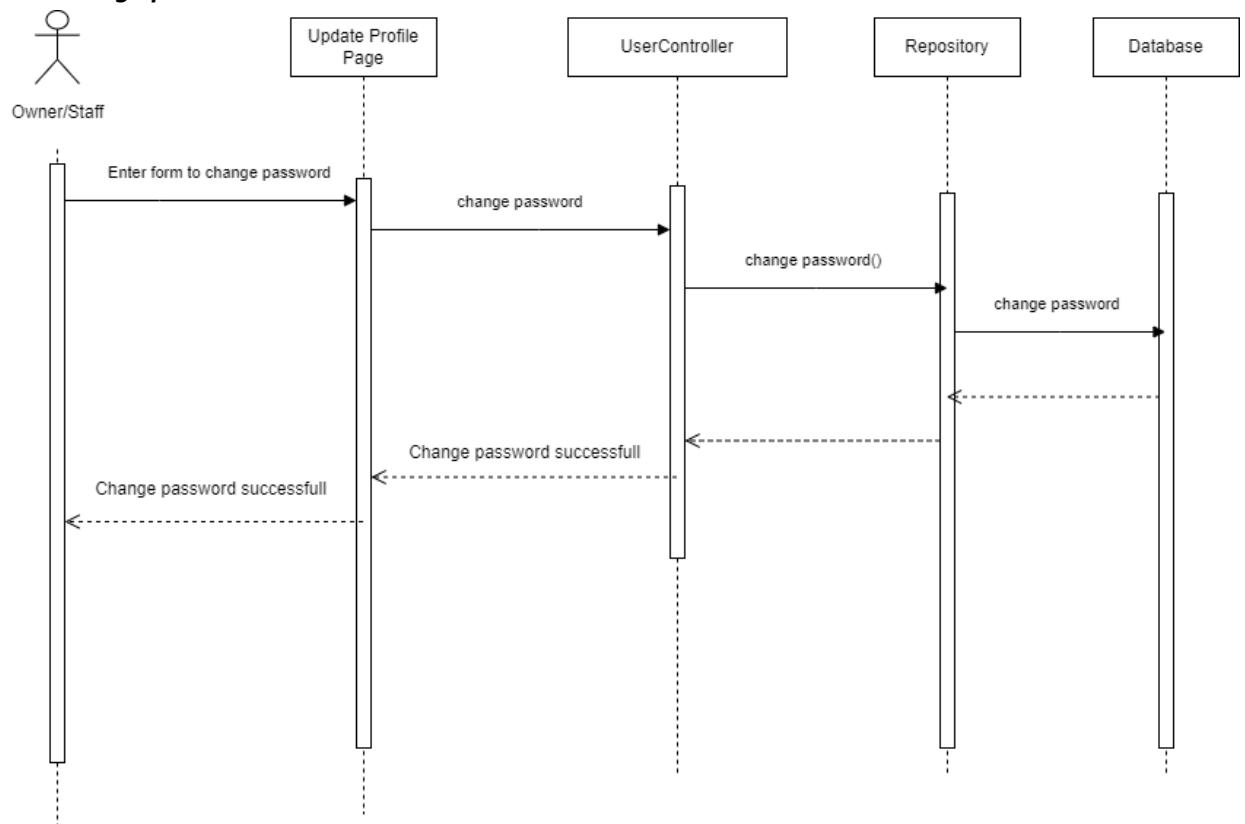


Figure 3.9.4.1: Change password sequence diagram

## 3.10 (Customer) Profile Management

### 3.10.1 Class Diagram

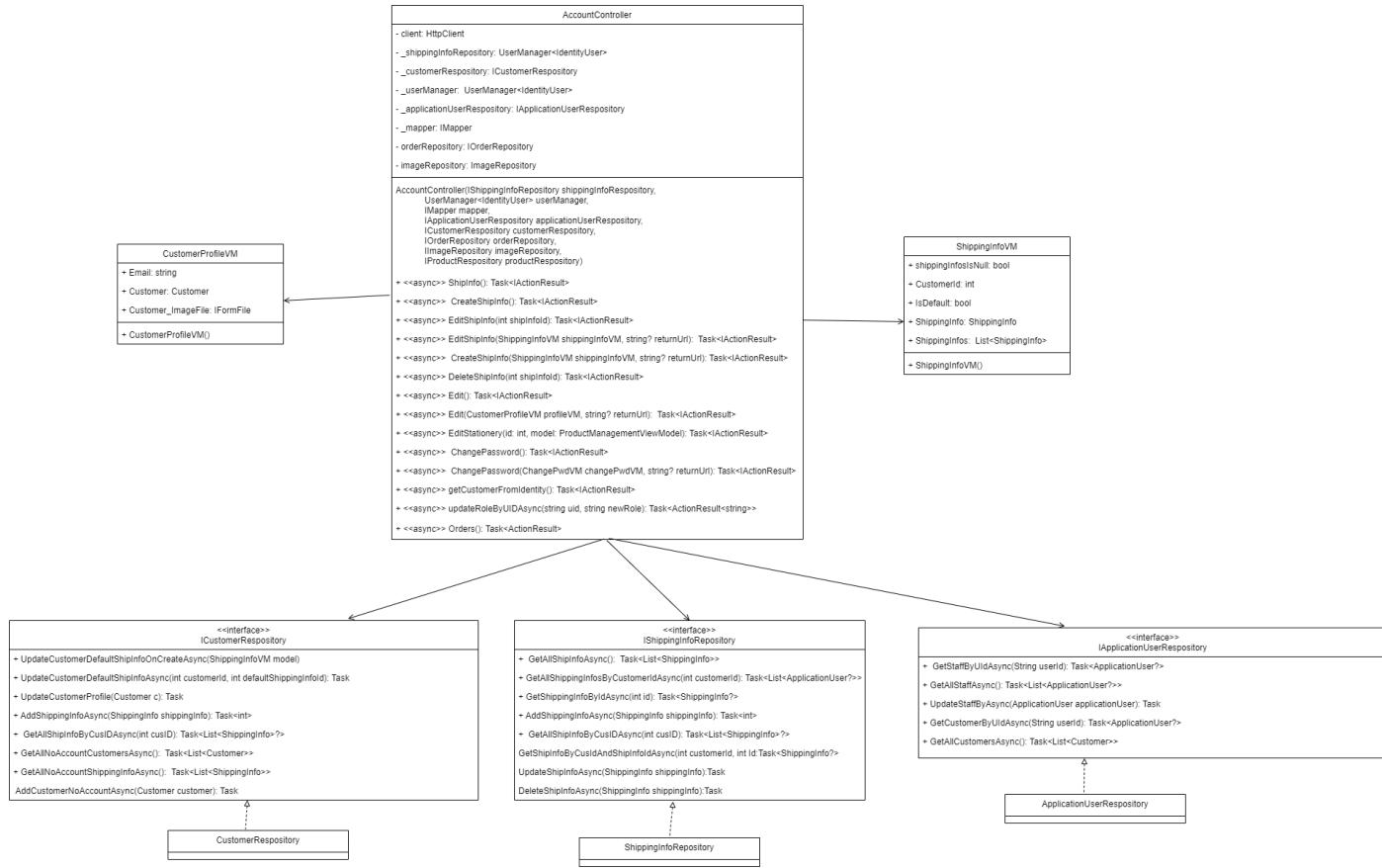


Figure 3.10.1.1: (Customer) Profile Management functions class diagram

### 3.10.2 View profile

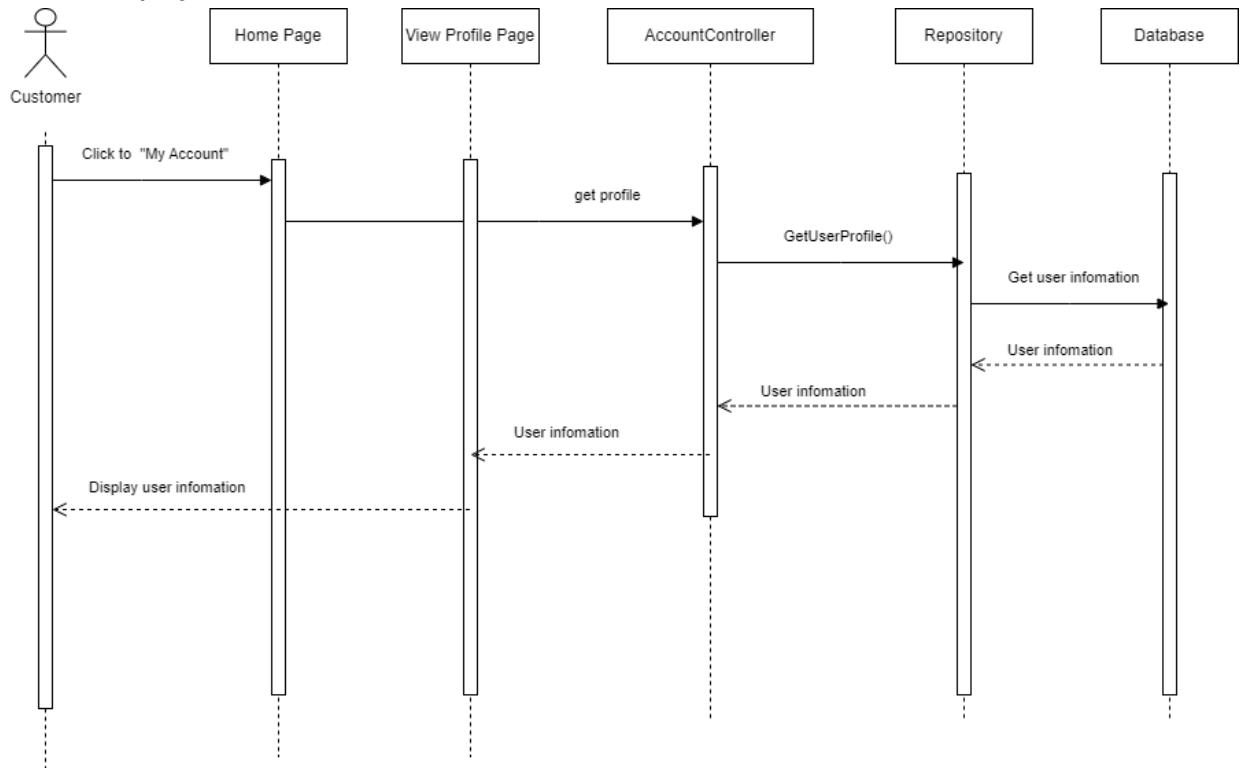


Figure 3.10.2.1: View profile sequence diagram

### 3.10.3 Edit profile

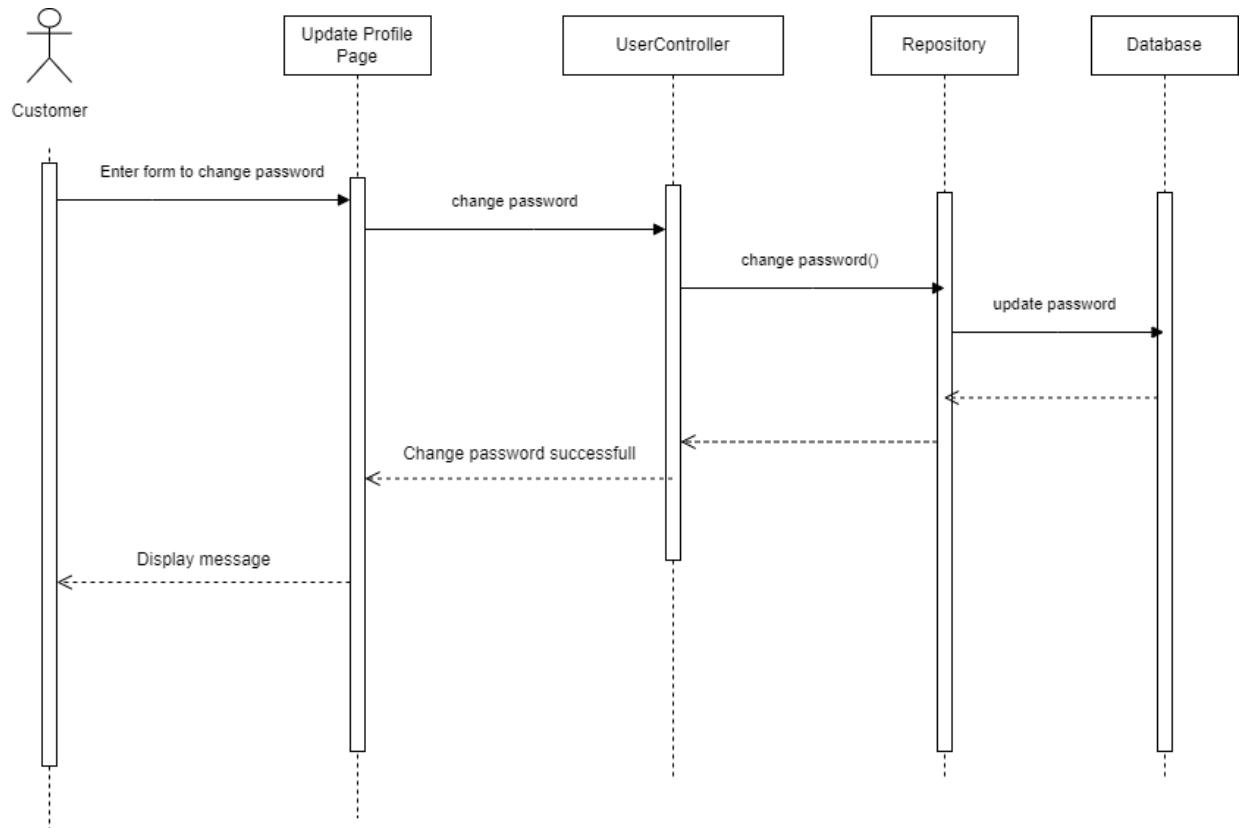


Figure 3.10.3.1: Edit profile sequence diagram

### 3.10.4 Change Password

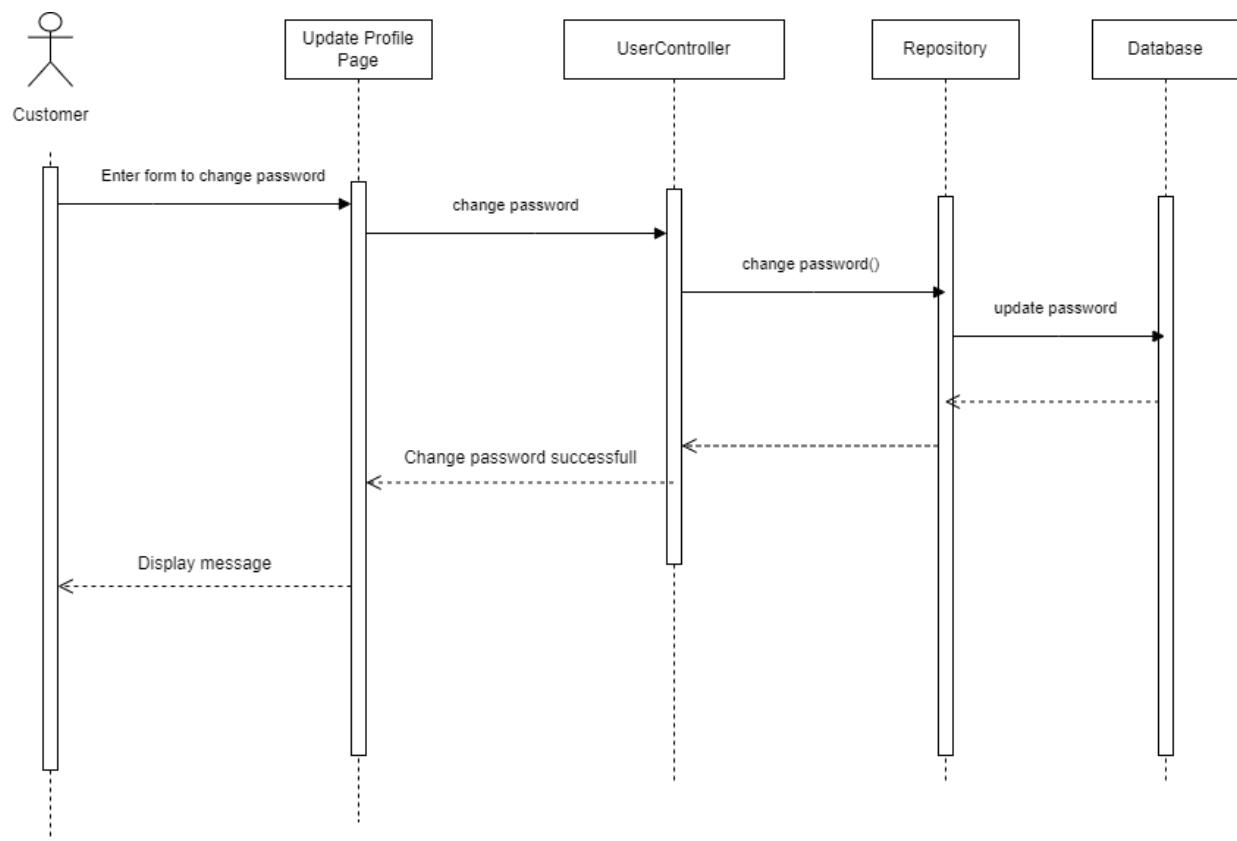


Figure 3.10.4.1: Change Password sequence diagram

## 3.11 (Customer)Shipping Information Management

### 3.11.1 Class Diagram

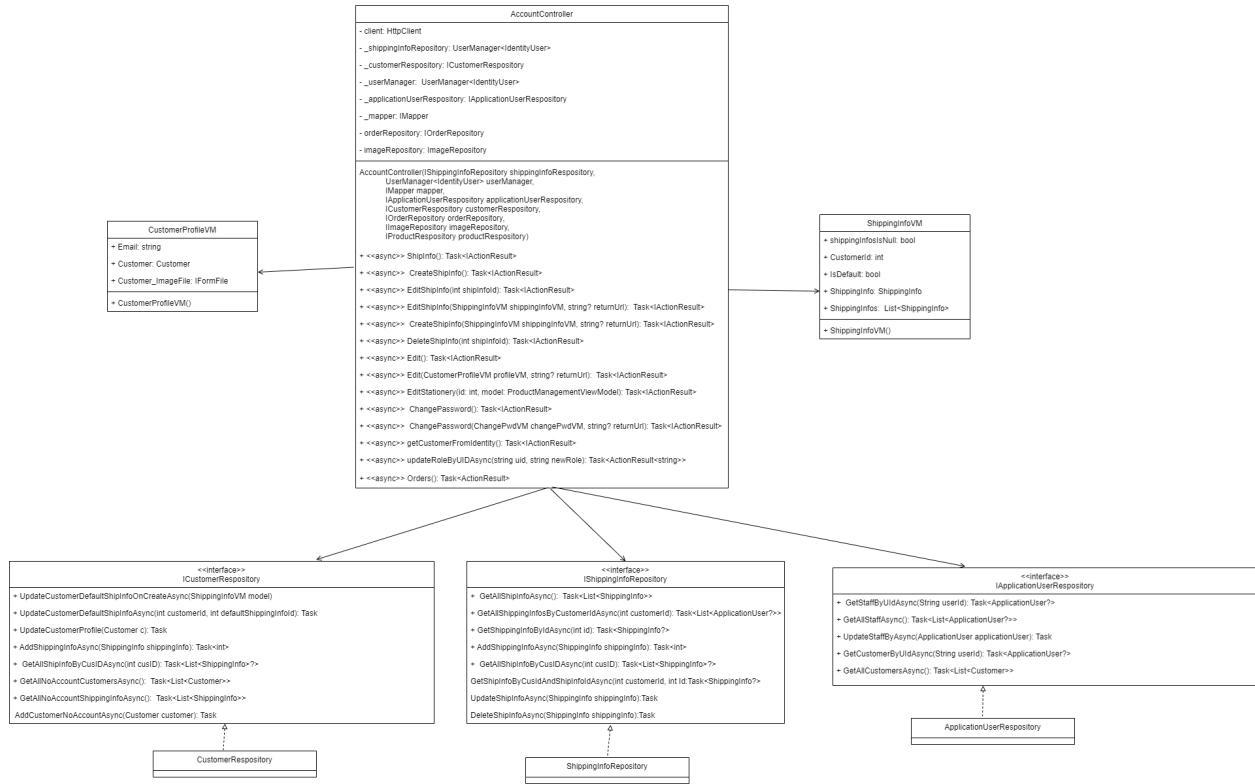


Figure 3.11.1.1: Create new shipping information functions class diagram

### 3.11.2 Create new shipping information

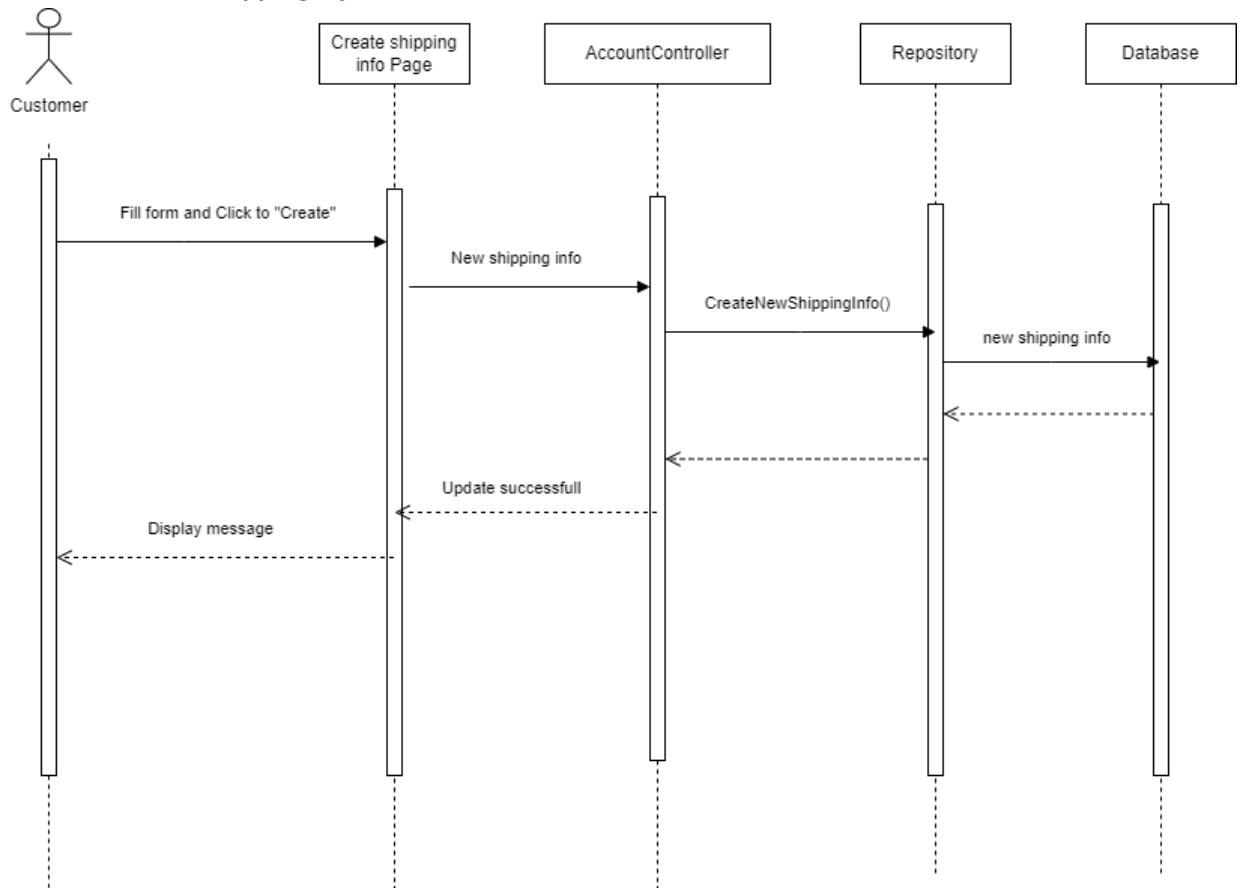


Figure 3.11.2.1: Create new shipping information sequence diagram

### 3.11.3 Edit shipping information

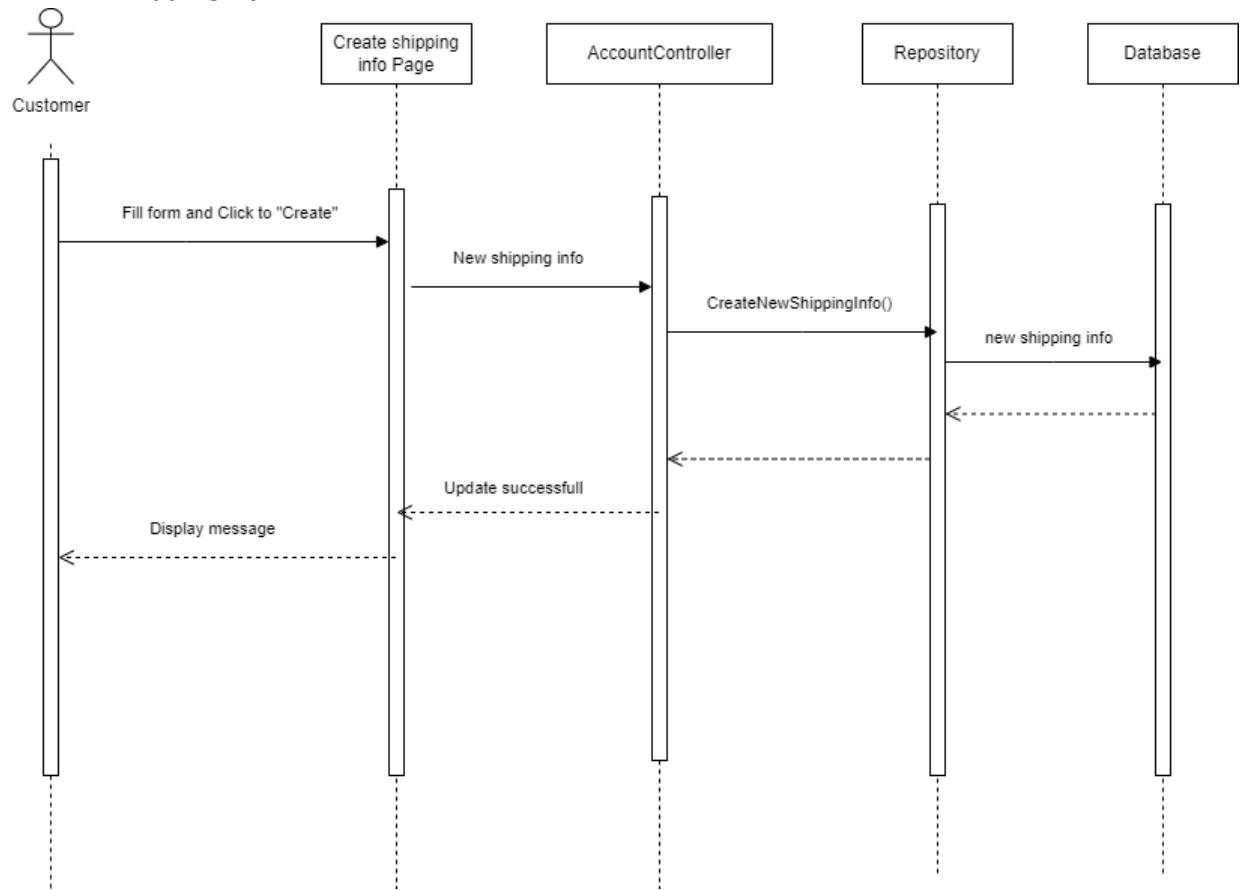


Figure 3.11.3.1: Edit shipping information sequence diagram

### 3.11.4 Delete shipping information

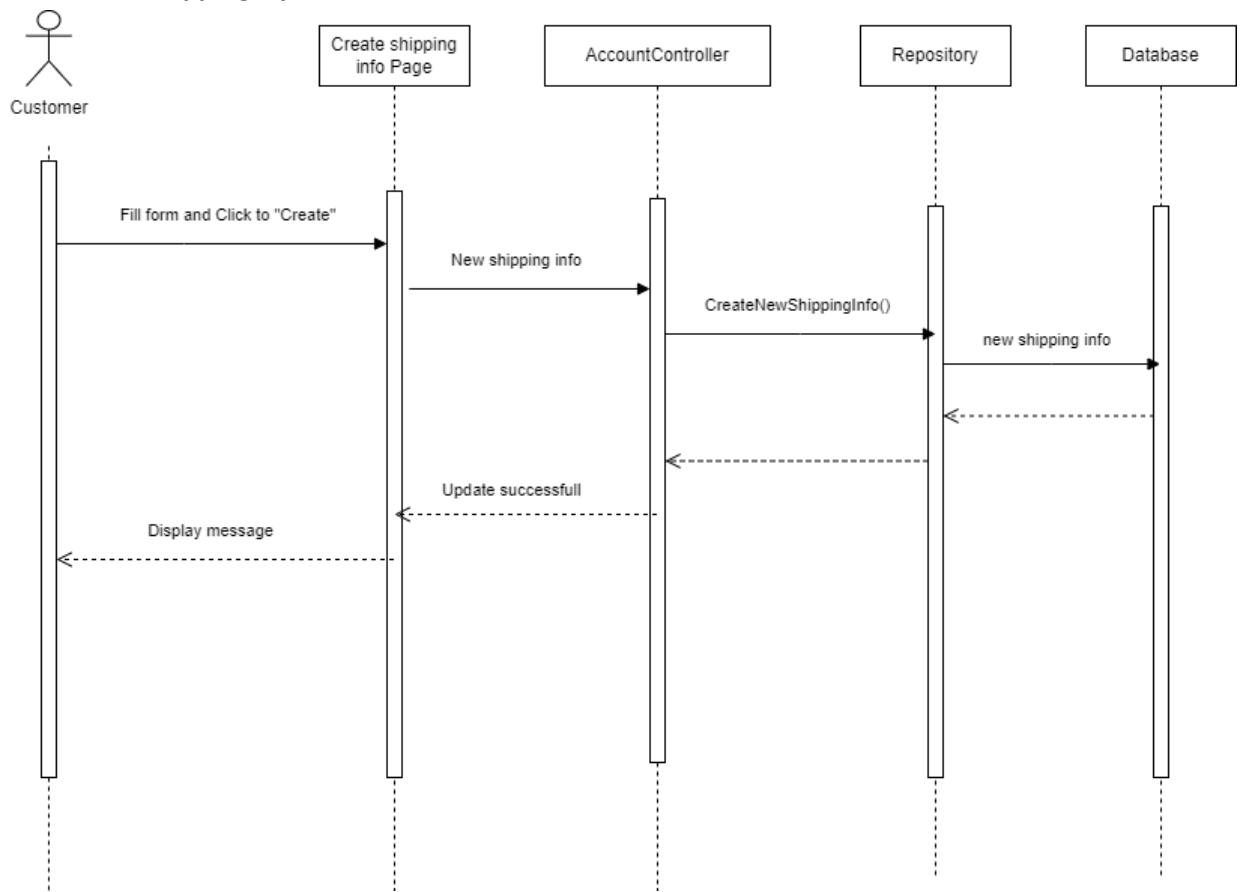


Figure 3.11.4.1: Delete shipping information sequence diagram

## 3.12 Supplier Management

### 3.12.1 Class Diagram

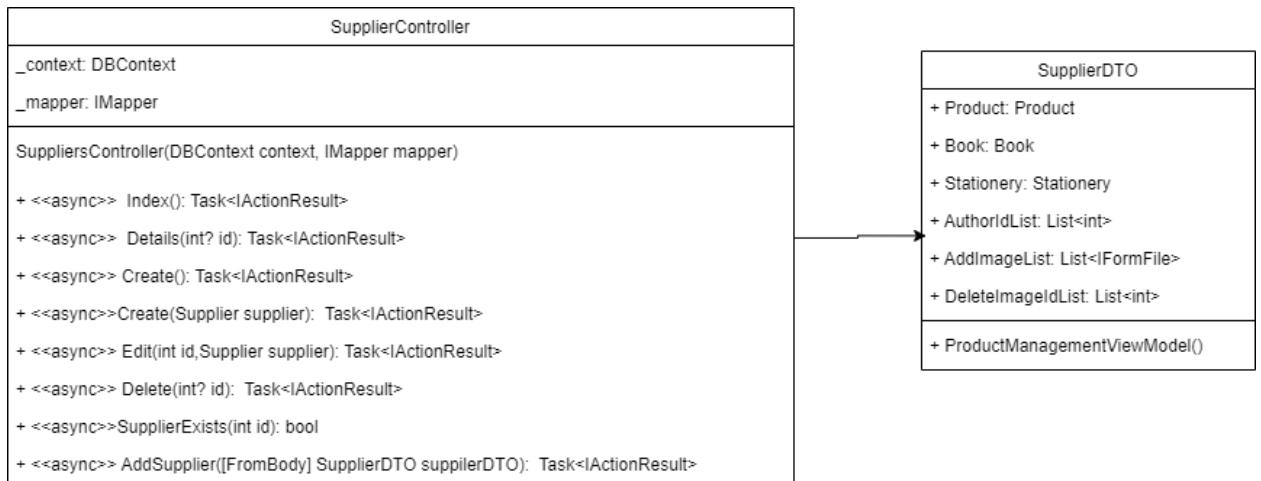


Figure 3.12.1.1: Supplier Management functions class diagram

### 3.12.2 View list of supplier

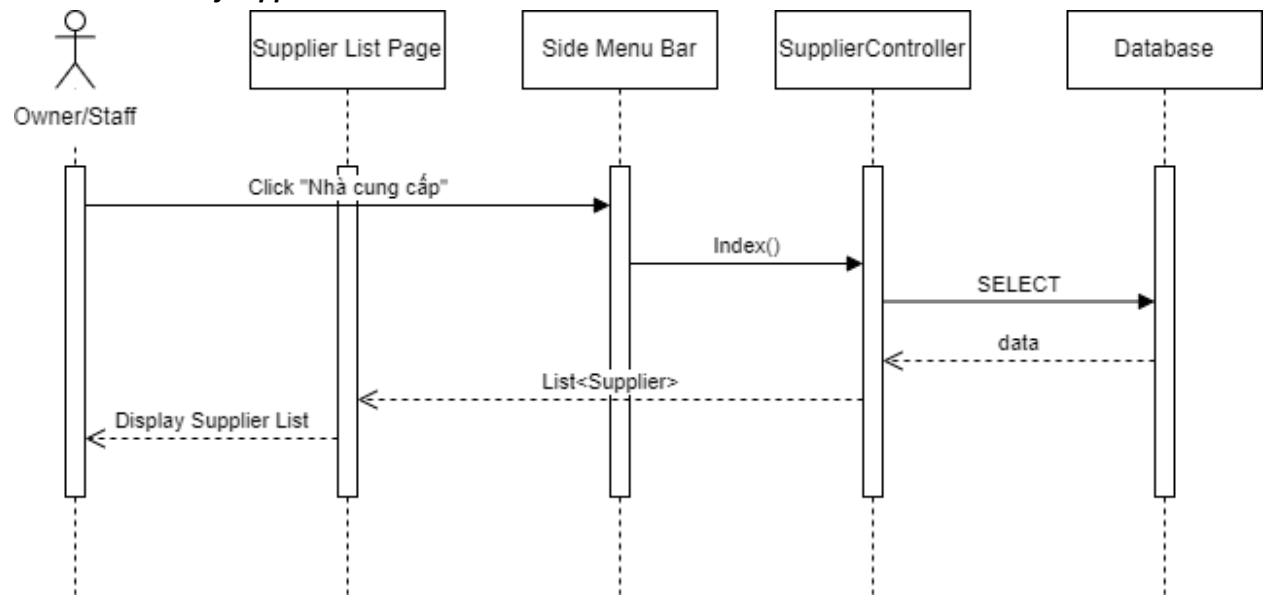


Figure 3.12.2.1: View list of supplier sequence diagram

### 3.12.3 Update supplier

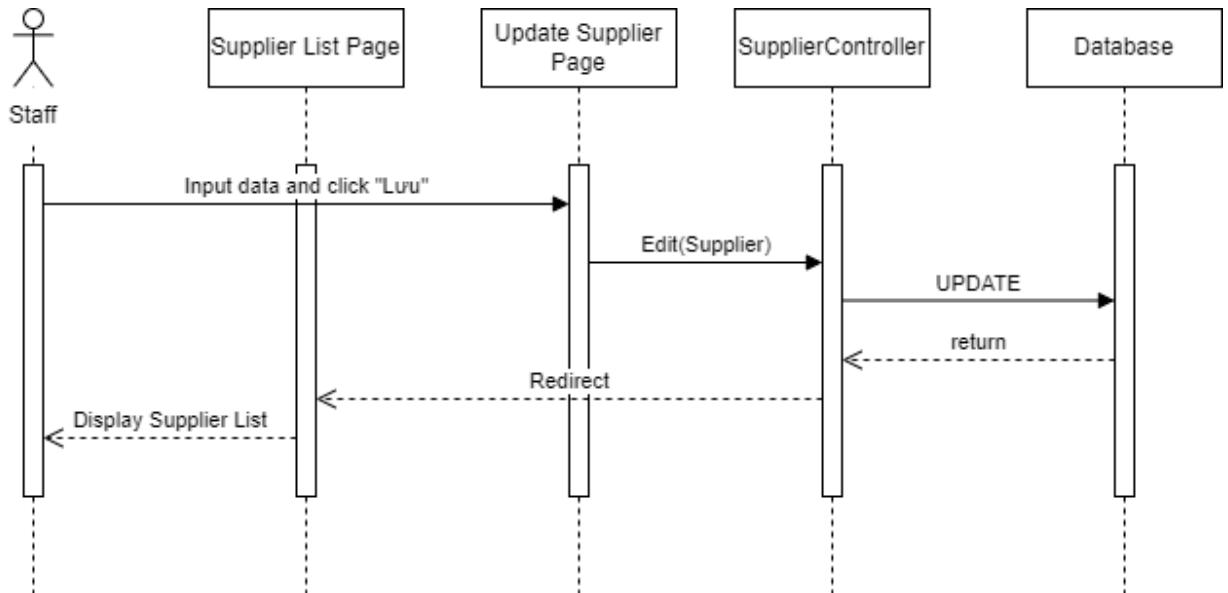


Figure 3.12.3.1: Update supplier sequence diagram

### 3.12.4 View details supplier

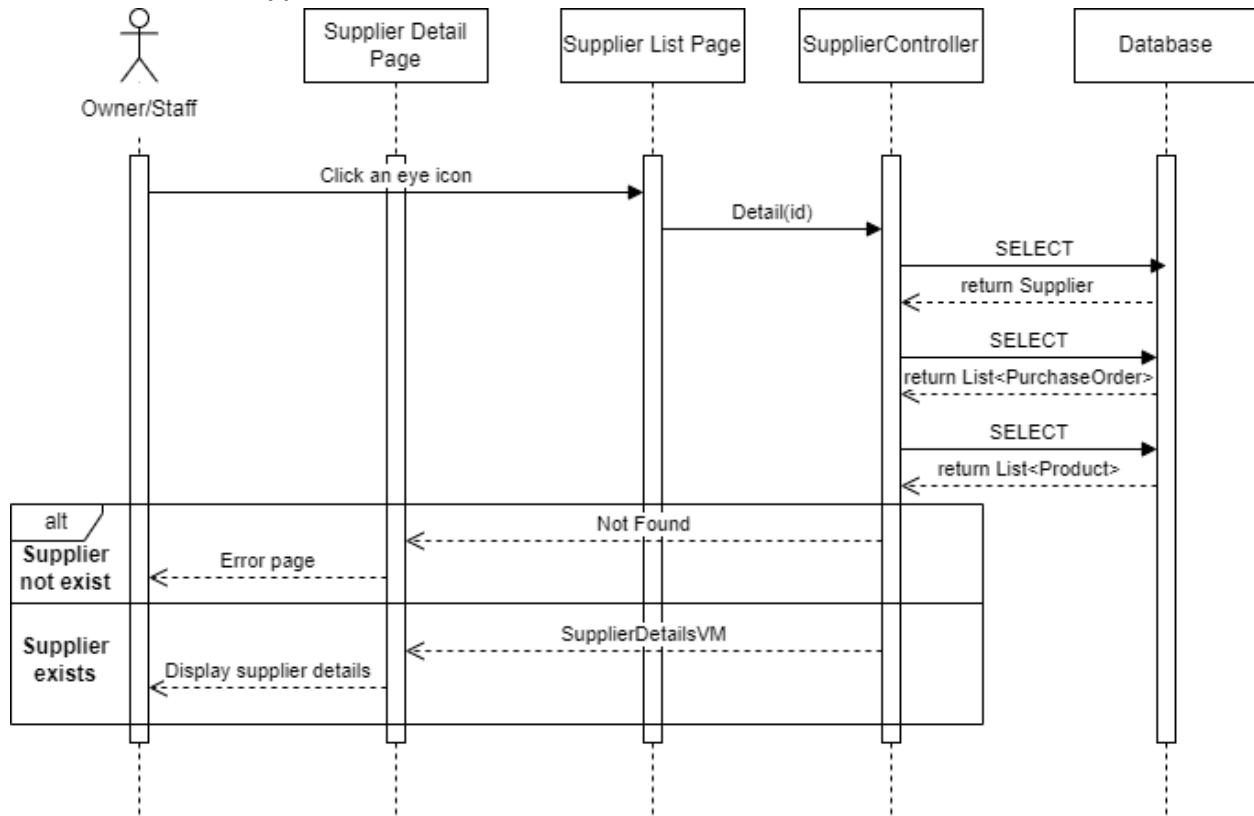


Figure 3.12.4.1: View details supplier sequence diagram

### 3.12.5 Create supplier

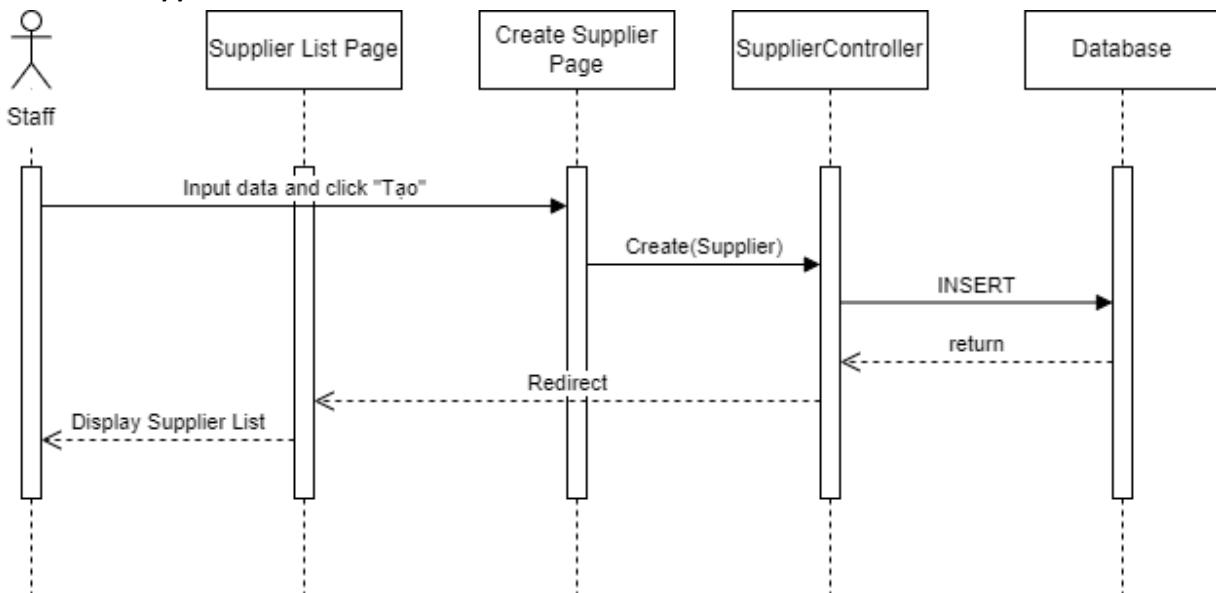


Figure 3.12.5.1: Create supplier sequence diagram

## 3.13 Customer Management

### 3.13.1 Class Diagram

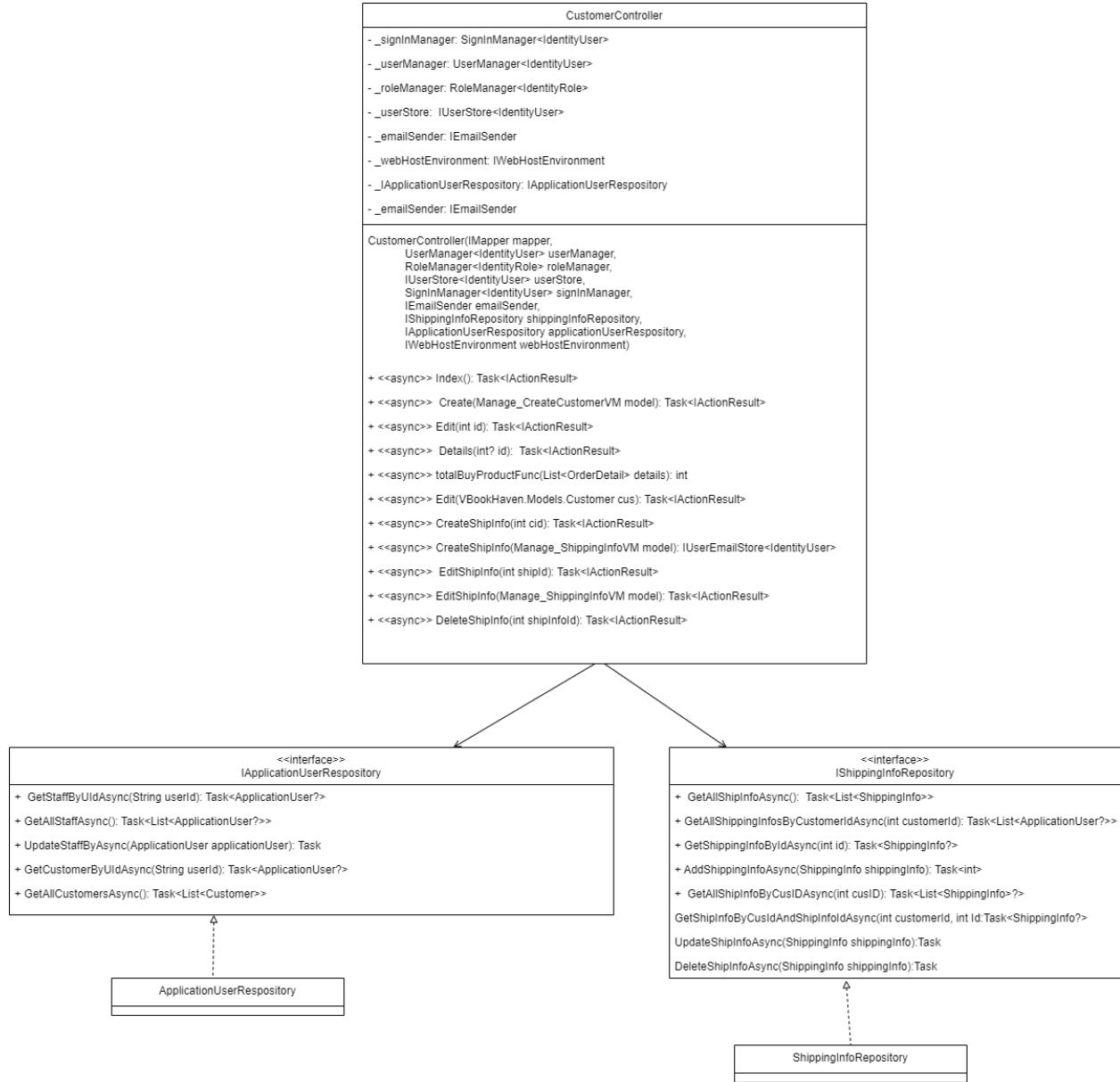


Figure 3.13.1.1: Dashboard functions class diagram

### 3.13.2 View list of customer

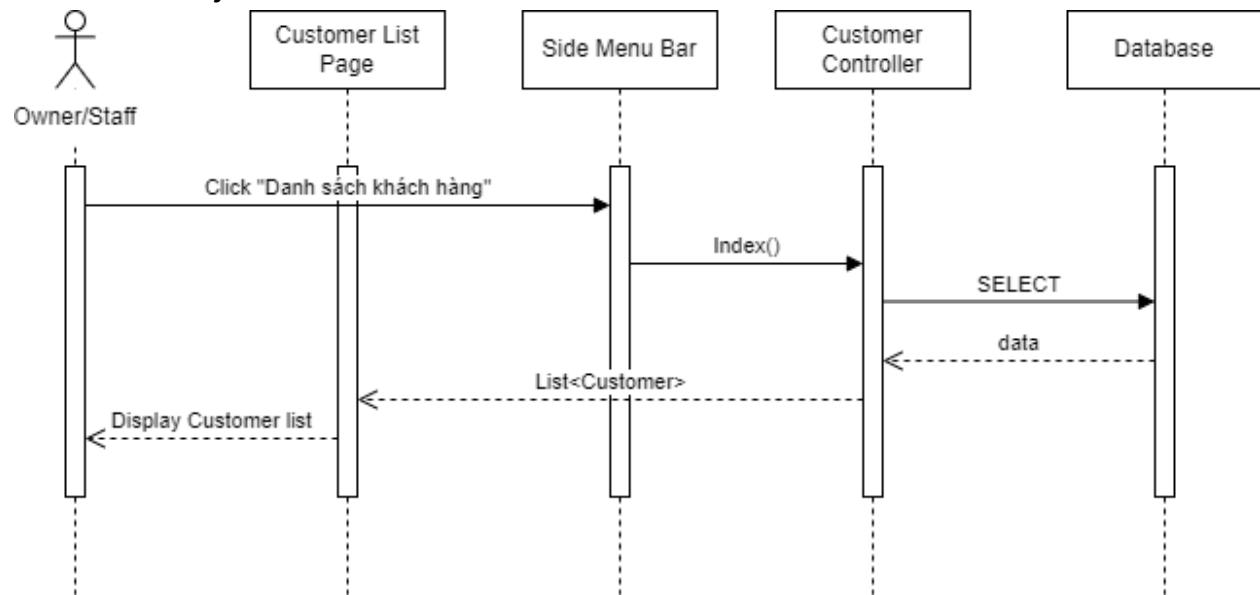


Figure 3.13.2.1: View list of customer sequence diagram

### 3.13.3 Create a customer

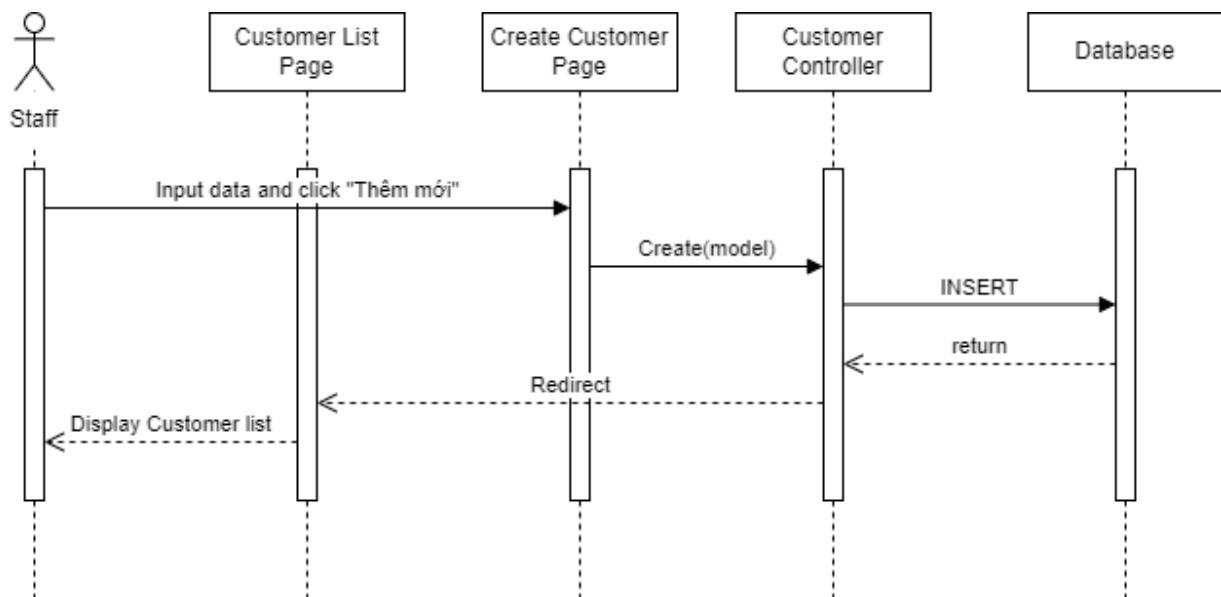


Figure 3.13.3.1: Create a customer sequence diagram

### 3.13.4 Update a customer

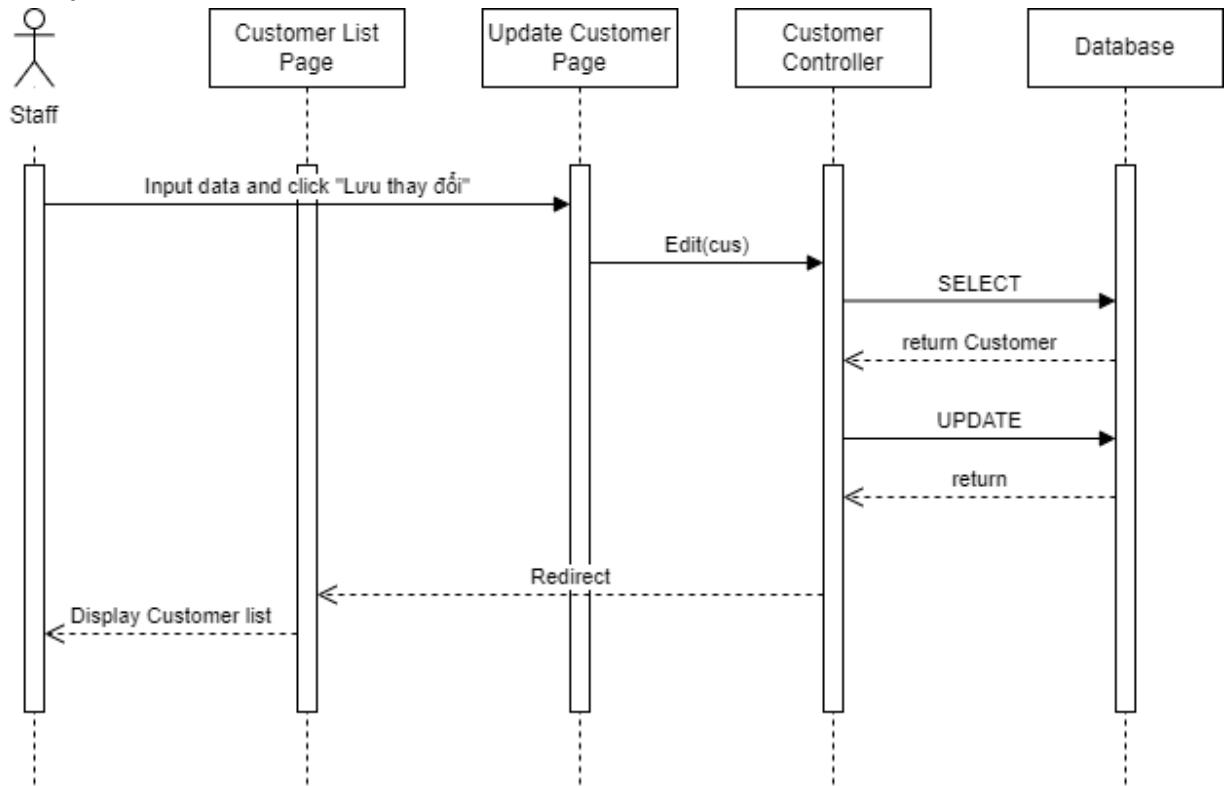


Figure 3.13.4.1: Update a customer sequence diagram

### 3.13.5 View details of customer

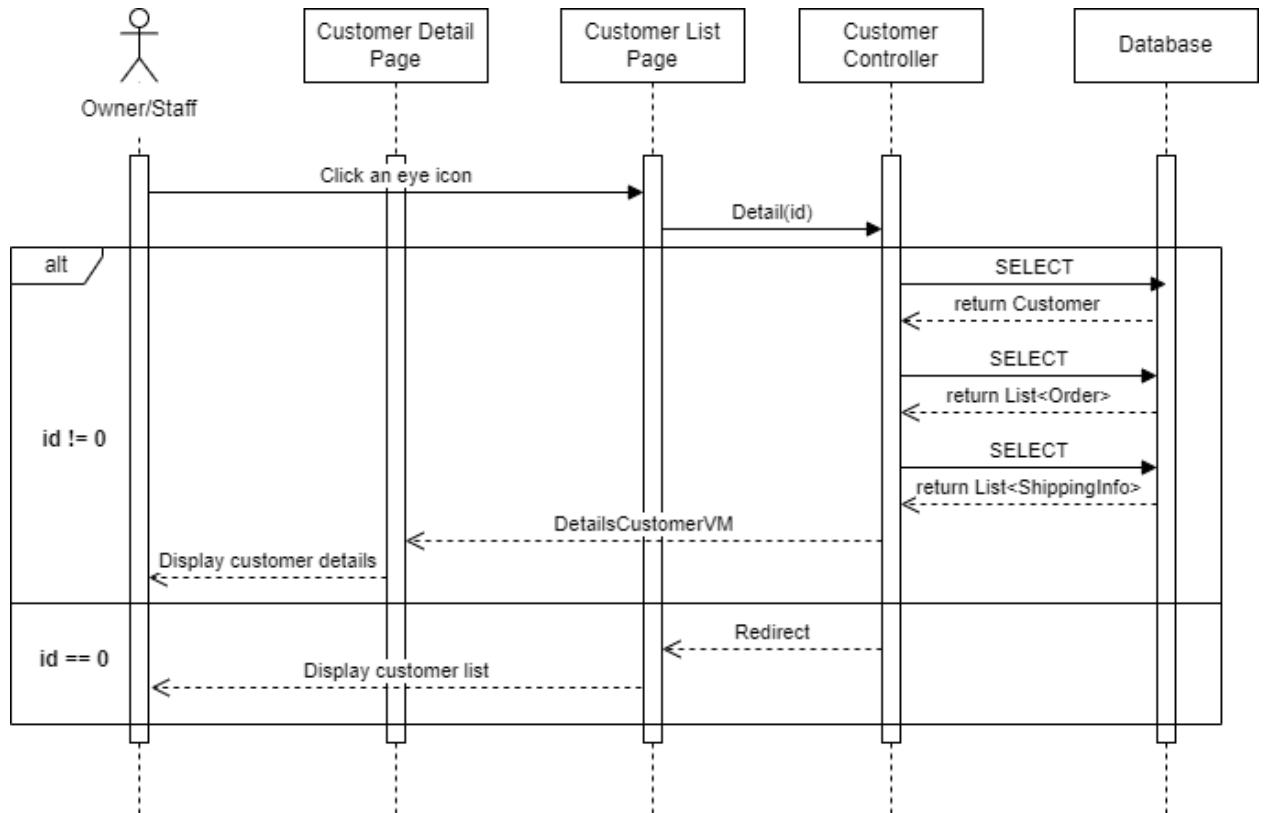


Figure 3.13.5.1: View details of customer sequence diagram

### 3.13.6 Delete customer shipping information

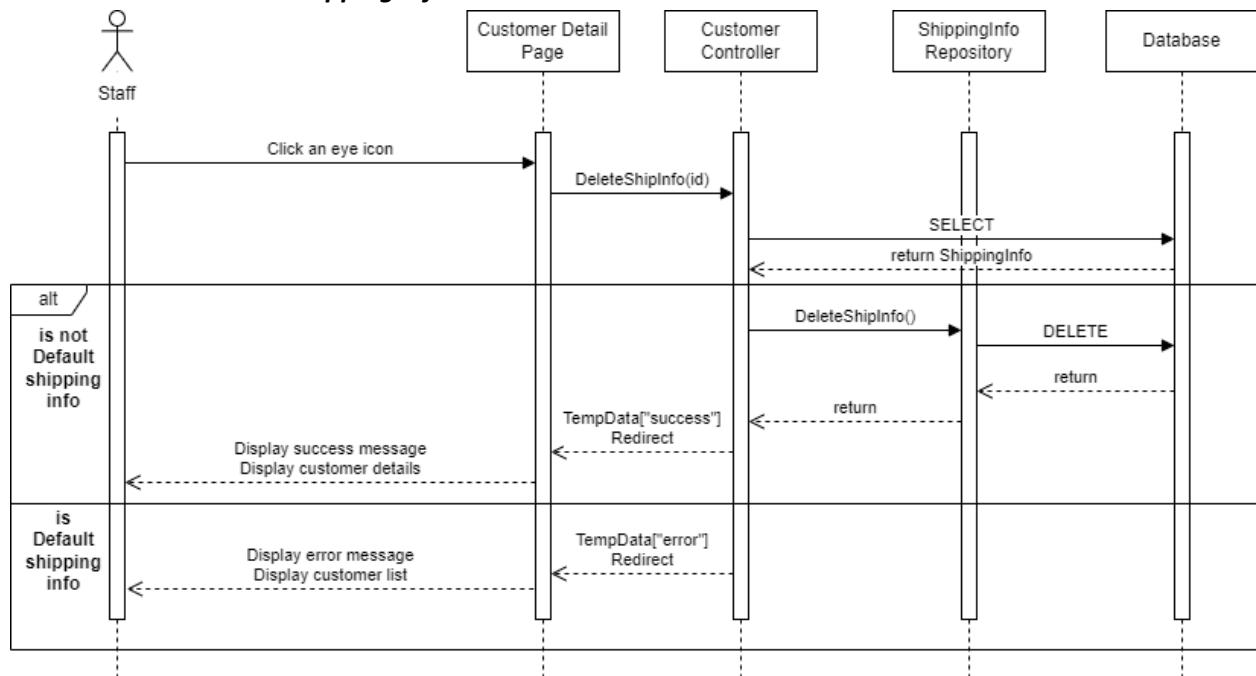


Figure 3.13.6.1: Delete customer shipping information sequence diagram

### 3.13.7 Create customer shipping information

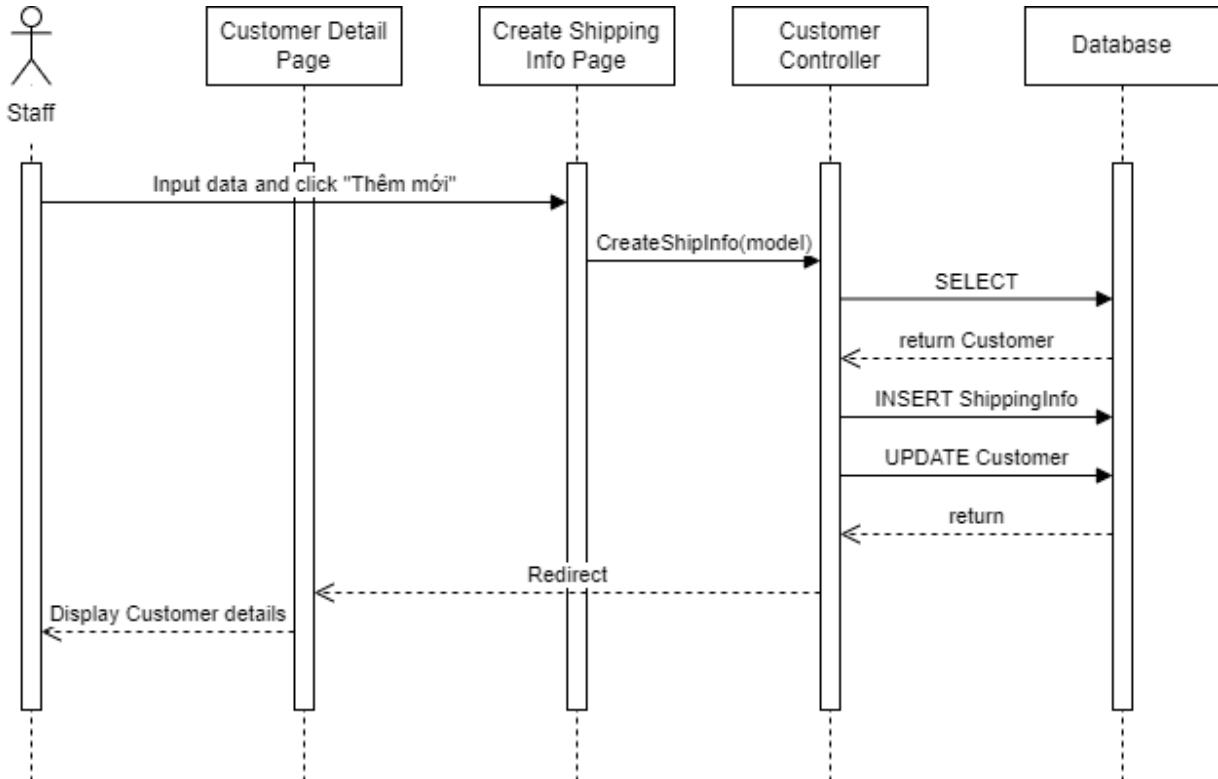


Figure 3.13.7.1: Create customer shipping information sequence diagram

### 3.13.8 Edit customer shipping information

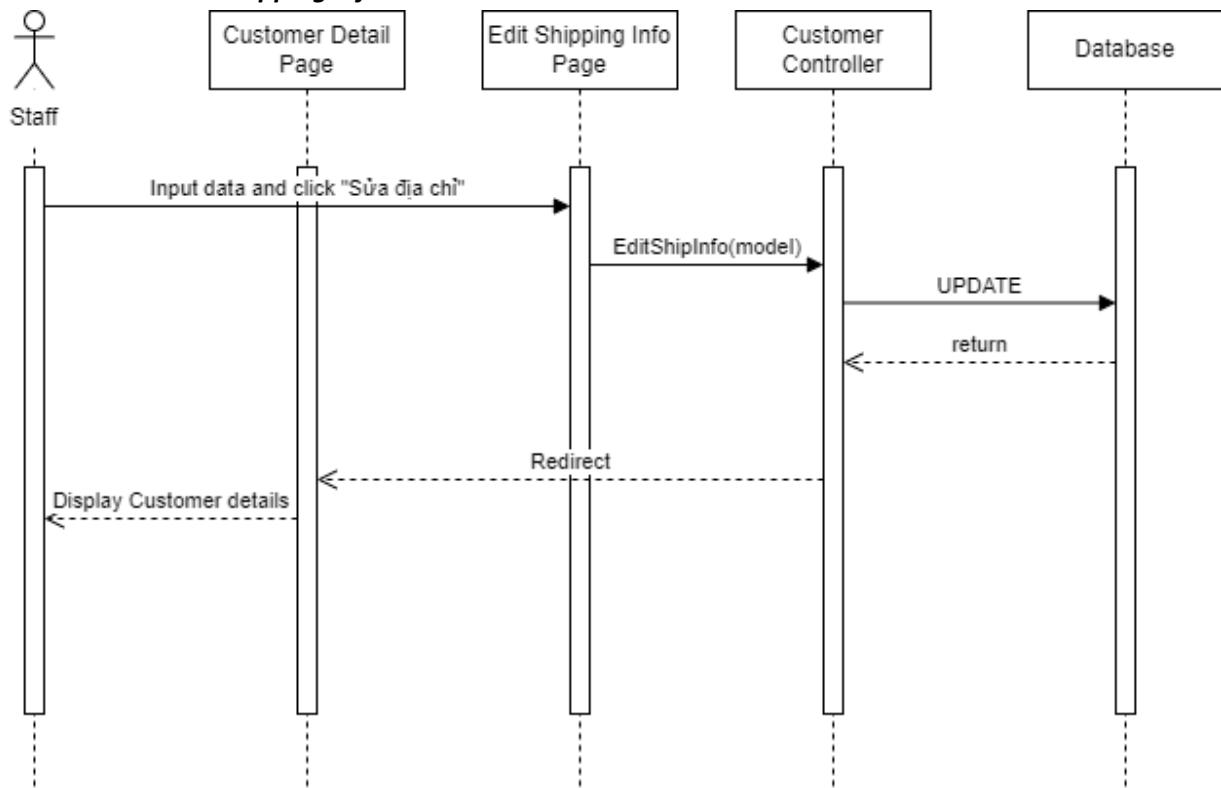


Figure 3.13.8.1: Edit customer shipping information sequence diagram

### 3.14. Dashboard

#### 3.14.1 Class Diagram

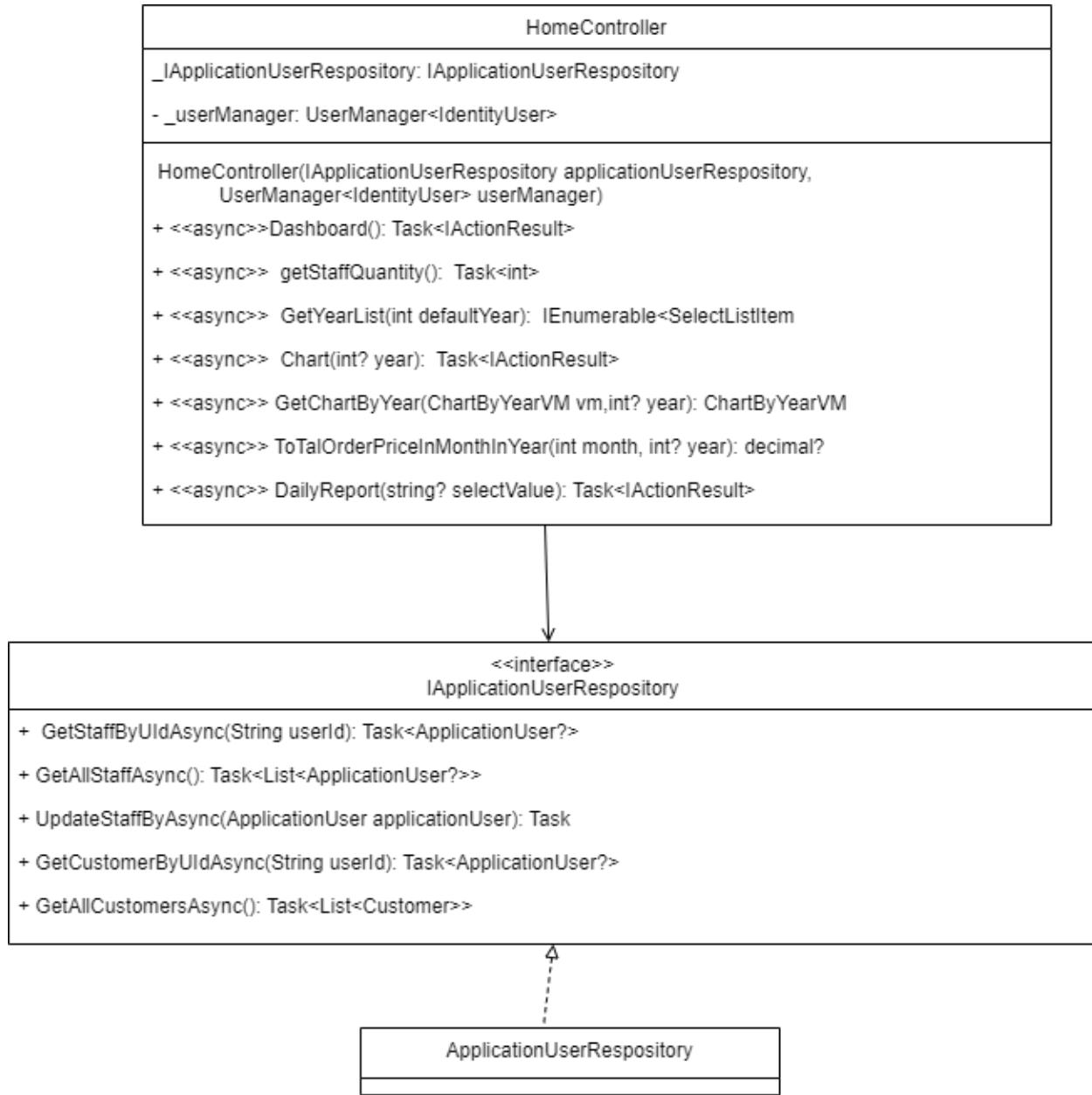


Figure 3.14.1.1: Dashboard functions class diagram

### 3.14.2 View dashboard

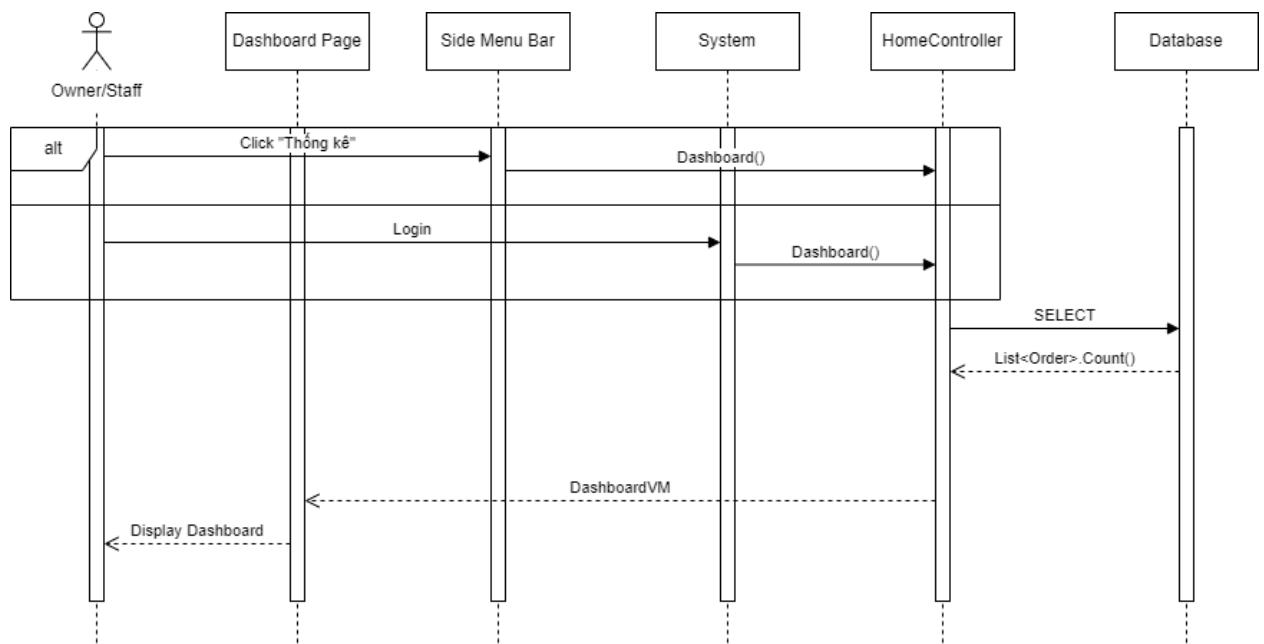


Figure 3.14.2.1: View dashboard sequence diagram

## V. Software Testing Documentation

### 1. Scope of Testing

#### 1.1 Target of Test

The team implements all the functions that have been defined in the SRS and performs continuous testing throughout the development process.

- Common
- Product management
- Category management
- SubCategory management
- Author management
- Supplier management
- Purchase order management
- Order management
- Account management
- Customer management

#### 1.2 Testing Levels

No	Testing types	Description
1	Unit Testing	Unit test is used in the iteration 1, 2, 3. The purpose is to validate that each unit of the code we do tests on all main methods.
2	Integration Testing	The Integration test is used in the iteration 1, 2, 3. Integration testing individuals the opportunity to combine all of the units within a program and test them as a group to find interface defects between the functions and UI
3	System Testing	The System test is used in iteration 3. System testing enables testers to ensure that the product meets business requirements
4	Acceptance Testing	Acceptance test is used in the last iteration. Get feedback to evaluate the user's experience with the system

### 2. Test Strategy

#### 2.1 Testing Types

No	Testing types	Description
1	API Testing	Test API of back-end component if the data front-end component receive
2	Function Testing	Function testing to test all implemented methods, functions of model class or library class.

No	Testing types	Description
		Test cases will have to cover all logic branches that function or method could execute with different data input.
3	User Interface testing	GUI testing verifies the user's interaction with the software. The goal of GUI testing is to ensure that the GUI provides the user with proper access and navigation.

## 2.2 Test Levels

Type of Tests	Test Level			
	Unit	Integration	System	Acceptance
API Testing	X			
Function Testing	X	X	X	X
User Interface testing		X	X	X

## 2.3 Supporting Tools

Purpose	Tool	Vendor/In-house	Version
Manage test cases	Google sheets	Google	Chrome Version 116.0.5845.96
Test API	Postman	Postdot Technologies	2023
Unit Test	NUnit, Visual Studio	Microsoft	2022

## 3. Test Plan

### 3.1 Human Resources

Worker/Doer	Role	Specific Responsibilities/Comments
Lê Mạnh Hùng	Project manager	Create Project Schedule of the project Review test cases and test reports
Lê Minh Tùng	Test Leader/Tester	Create test plans Write test reports Create test Data and execute Test
Tạ Kiến Quốc	Developer	Create Unit Test Cases, Fix bugs back-end
Lê Khả Chính	Developer	API Testing, fix bug front-end
Nguyễn Trung Kiên	Document writer	Write documents

### 3.2 Test Environment

Purpose	Tool	Provider	Version
Unit Testing	Visual Studio Code 2022	Microsoft	2022
API Testing	Postman	Postdot Technologies	2023

Integration Testing	Microsoft Edge, Chrome	Google	2023
System Testing	Microsoft Edge, Chrome	Google	2023
Acceptance Testing	Microsoft Edge, Chrome	Google	2023

### 3.3 Test Milestones

Milestone Task	Start Date	End Date
Iteration 1	6/6/2023	18/6/2023
Iteration 2	19/6/2023	20/7/2023
Iteration 3	21/7/2023	20/8/2023

## 4. Test Cases

### 4.1 Unit Test Case

- Unit test cases: [Report5\\_Unit Test.xlsx](#)

Function Code	CreateProducts	Function Name	createProducts				
Created By	QuocTK	Executed By	TungLM				
Lines of code	300	Lack of test cases	0				
Test requirement	create new products		Total Test Cases				
	Passed	Failed	Untested				
	13	0	0				
			N/A/B				
			8 5 0				
			13				
	purchasePrice	retailPrice	wholeSalePrice	retailDiscount	wholeSaleDiscount	Confirm	Result
null	-	-	-	-	-	-	Type(N : Normal, A : Abnormal, B : Boundary)
40000	O - O - O -	O - O - O -	O - O - O -	O - O - O -	O - O - O -	O - O - O -	N - N - N -
-1	-	-	-	-	-	-	N - N - N -
null	-	-	-	-	-	-	N - N - N -
100000	O - O - O - O -	O - O - O - O -	O - O - O - O -	O - O - O - O -	O - O - O - O -	O - O - O - O -	N - N - N -
-1	-	-	-	-	-	-	N - N - N -
null	-	-	-	-	-	-	N - N - N -
700000	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	N - N - N -
-1	-	-	-	-	-	-	N - N - N -
null	-	-	-	-	-	-	N - N - N -
5	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	N - N - N -
-1	-	-	-	-	-	-	N - N - N -
null	-	-	-	-	-	-	N - N - N -
10	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	O - O - O - O - O -	N - N - N -
-1	-	-	-	-	-	-	N - N - N -
null	-	-	-	-	-	-	N - N - N -
Confirm	Return						
	Message "Add product successfully"	O -	O -	O -	O -	O -	N - N - N -
	Message "productName is required"	O -	O -	O -	O -	O -	N - N - N -
	Message "Unit is required"	O -	O -	O -	O -	O -	N - N - N -
	Message "purchasePrice is required"	O -	O -	O -	O -	O -	N - N - N -
	Message "purchasePrice must be greater than 0"	O -	O -	O -	O -	O -	N - N - N -
	Message "retailPrice must be greater than 0"	O -	O -	O -	O -	O -	N - N - N -
	Message "retailPrice is required"	O -	O -	O -	O -	O -	N - N - N -
	Message "wholeSalePrice must be greater than 0"	O -	O -	O -	O -	O -	N - N - N -
	Message "wholeSalePrice is required"	O -	O -	O -	O -	O -	N - N - N -
	Message "retailDiscount must be greater than 0"	O -	O -	O -	O -	O -	N - N - N -
	Message "retailDiscount is required"	O -	O -	O -	O -	O -	N - N - N -
	Message "wholeSaleDiscount must be greater than 0"	O -	O -	O -	O -	O -	N - N - N -
	Message "wholeSaleDiscount is required"	O -	O -	O -	O -	O -	N - N - N -
Result	Passed/Failed	N - N - N -	N - N - N -	N - N - N -	N - N - N -	N - N - N -	N - N - N -

Figure : An example of Unit test case

## 4.2 Integration Test Case

- Integration test cases: [Report5\\_IntegrationTest.xlsx](#)

A	B	C	D	E	F
1	Features	View list Staff			
2	Test requirement	Test function View list Staff			
4	Number of TCs	15			
5	Testing Round	Passed	Failed	Pending	N/A
6	Round 1	15	0	0	0
7	Round 2	15	0	0	0
8	Round 3	0	0	15	0
10	Test Case ID	Test Case Description	Test Case Procedure	Expected Results	Pre-conditions
11	View list Staff				Round 1
12	View Staff 1	Kiểm tra tài trang	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên"	Hiển thị "Bảng quản lý nhân viên" với các chức năng "Bộ lọc", "Thêm nhân viên"	Passed ▾
13	View Staff 2	Kiểm tra bộ cục của trang	1>Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên"	Bộ cục hiển thị không bị sai lệch kích thước, các hiển thị hiện ẩn không có lỗi	Passed ▾
14	View Staff 3	Kiểm các trường hiển thị bắt buộc	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên"	Các trường nhập tìm kiếm, các nút bấm chọn chức năng, sắp xếp, chọn trạng thái, chọn hành động được hiển thị đầy đủ	Passed ▾
15	View Staff 4	Kiểm tra bộ lọc tìm kiếm theo tên nhân viên, mã nhân viên, số điện thoại	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên" 4.Click "Bộ lọc" 5.Type "Tìm kiếm"	Kiểm tra nhập từ khóa vào thanh tìm kiếm và hiển thị ra nội dung cần tìm kiếm trong bảng thành công	Passed ▾
16	View Staff 5	Kiểm tra bộ lọc theo chức vụ	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên" 4.Click "Bộ lọc" 5.Choose "Chức vụ"	Hiển thị ra các chức vụ "Owner", "Storekeeper", "Seller" thành công, và hiển thị trên bảng quản lý	Passed ▾
17	View Staff 6	Kiểm tra bộ lọc theo trạng thái	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên" 4.Click "Bộ lọc" 5.Choose "Trạng thái"	Hiển thị ra trạng thái "Hoạt động" và "Đinh chỉ" thành công và hiển thị trên bảng quản lý	Passed ▾
18	View Staff 7	Kiểm tra phản ứng số lượng nhân viên hiển thị trên bảng	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên" 4.Click "Show 10 entries"	Hiển thị từ 10-100 dòng thông tin trong 1 trang thành công, khi quá số lượng sẽ được phân sang trang tiếp theo	Passed ▾
19	View Staff 8	Kiểm tra sắp xếp theo tên	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên" 4.Click sort in row "Tên nhân viên"	Hiển thị sắp xếp tên theo thứ tự A-Z thành công trong cột "Tên nhân viên"	Passed ▾
20	View Staff 9	Kiểm tra sắp xếp theo email	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên" 4.Click sort in row "Email"	Hiển thị sắp xếp tên theo thứ tự A-Z thành công trong cột "Email"	Passed ▾
21	View Staff 10	Kiểm tra sắp xếp theo số điện thoại	1.Login as Owner 2.Choose "Nhân viên" on sidebar 3.Choose "Danh sách nhân viên" 4.Click sort in row "Số điện thoại"	Hiển thị sắp xếp theo số thứ tự 0-9 thành công trong cột "Số điện thoại"	Passed ▾

Figure: An example of Integration test case

## 4.3 System Test Case

- System test cases: [Report5\\_SystemTest.xlsx](#)

A	B	C	D	E	F	G	H	I
Feature	Storekeeper							
Test requirement	Test role Storekeeper							
Number of TCs	36							
Testing Round	Passed	Failed	Pending	N/A				
Round 1	36	0	0	0				
Round 2	0	0	33	0				
Round 3	0	0	33	0				
Test Case ID	Test Case Description	Test Case Procedure	Expected Results	Pre-conditions	Round 1	Test date	Tester	Round 2
Login - Logout								
Storekeeper 1	Login successfully to the website with role Owner	1.Go to https://localhost:7123/Identity/Account/Login 2.Click "Logout" on sidebar	1. Login successfully with role Owner 2. System redirects to the "Dashboard" screen		Passed	16/8/2023	TungLM	Pending
Storekeeper 2	Login fail with not exist email	1.Go to https://localhost:7123/Identity/Account/Login 2.Input "Email": "tunglm@example.com"	Owner can't Login, page will loading again Owner must check Email and input password		Passed	16/8/2023	TungLM	Pending
Storekeeper 3	Login fail with incorrect email	1.Go to https://localhost:7123/Identity/Account/Login 2.Input "Email": "tunglm@example.com"	Please include an '@' in the email address		Passed	16/8/2023	TungLM	Pending
Storekeeper 4	Login fail with blank email	1.Go to https://localhost:7123/Identity/Account/Login 2.Input "Email": ""	Alert : The Email field is required.		Passed	16/8/2023	TungLM	Pending
Storekeeper 5	Login fail with wrong password	1.Go to https://localhost:7123/Identity/Account/Login 2.Input "Password": "wrongpassword"	Owner can't Login, page will loading again Owner must check Email and input password again		Passed	16/8/2023	TungLM	Pending
Storekeeper 6	Login fail with blank password	1.Go to https://localhost:7123/Identity/Account/Login 2.Input "Password": ""	Alert: The Password field is required.		Passed	16/8/2023	TungLM	Pending
Storekeeper 7	Logout the website successfully	1.Go to https://localhost:7123/Identity/Account/Login 2. At Owner page click avatar	the system redirects to the Login screen		Passed	16/8/2023	TungLM	Pending
Manage profile								
Storekeeper 8	View profile Owner	1.Login as Owner 2.Click "Tài khoản" on sidebar	View profile page with "Họ và tên", "Số CMND", "Email", "Chức vụ", "Số điện thoại", "Ngày sinh", "Giới tính", "Địa chỉ", "Ảnh đại diện"		Passed	16/8/2023	TungLM	Pending
Storekeeper 9	Update profile Owner	1.Login as Owner 2.Click "Tài khoản" on sidebar 3.Input "Họ và tên": Nguyen Van C 4.Input "Số CMND":123456432432 5.Input "Số điện thoại": 0345646467 6.Input "Ngày sinh": 1/1/2001 7.Choose "Giới tính": Male 8.Input "Địa chỉ": 123 example street 9.Click "Lưu"	Profile with new name, ID, phone number, date of birth, gender, address successfully		Passed	16/8/2023	TungLM	Pending
Storekeeper 10	Change password successfully	1.Login as Owner 2.Click "Tài khoản" on sidebar 3.Click "Đổi mật khẩu" 4.Input old password: Pass123@ 5.Input new password: Aa123456@ 6.Input "Xác nhận mật khẩu mới": Aa123456@	-Step 3 to appear pop-up "Đổi mật khẩu", enter old password and new password match - Step 6 "Thay đổi mật khẩu thành công"		Passed	16/8/2023	TungLM	Pending

Figure: An example of System test case

#### 4.4 Acceptance Test Case

- Acceptance test cases: [Report5\\_AcceptanceTest.xlsx](#)

TEST STATISTICS			
Project Name	BookStore - Book Management System	Creator	TungLM
Project Code	BookStore - Book Management System	Reviewer/Approver	HungLM
Document Code	BookStore - Book Management System_Acceptance Report_1.0	Issue Date	20/8/2023
Notes			
No	Question	Yes	No
1	Tính năng đặt hàng có hoạt động đúng cách, bao gồm thêm sách vào giỏ hàng, chỉnh sửa giỏ hàng và xóa sách ra khỏi giỏ hàng không?	Y ▾	▢ ▾
2	Có thể tìm kiếm sách dựa trên tiêu đề, tác giả hoặc thể loại không?	Y ▾	▢ ▾
3	Có xác nhận đơn hàng và cung cấp thông tin chi tiết của đơn hàng sau khi hoàn tất thanh toán không?	Y ▾	▢ ▾
4	Thao tác quản lý tài khoản người dùng như thay đổi thông tin cá nhân, đổi mật khẩu hoặc đăng xuất có hoạt động bình thường không?	Y ▾	▢ ▾
5	Có thể đọc mô tả chi tiết về mỗi cuốn sách và xem hình ảnh của chúng không?	Y ▾	▢ ▾
6	Có hệ thống giảm giá hoặc khuyến mãi được áp dụng đúng cách không?	Y ▾	▢ ▾
7	Tính năng tạo danh sách yêu thích cho các cuốn sách có hoạt động không?	▢ ▾	N ▾
8	Hiện tại chỉ có một hình thức vận chuyển qua zalo thì cần thêm tính năng này không?	Y ▾	▢ ▾
9	Tính năng tìm kiếm sách theo khoảng giá có hoạt động không?	Y ▾	▢ ▾
10	Có thể xem lịch sử đặt hàng và theo dõi trạng thái đơn hàng không?	Y ▾	▢ ▾

Figure: An example of Acceptance test case

## 5. Test Reports

### 5.1 Unit Test Report

#### UNIT TEST REPORT

Project Name	BookStore - Book Management System	Creator	TungLM
Project Code	SEP490_G30_SU23	Reviewer/Approver	HungLM
Document Code	SEP490_G30_SU23_Test_Report_1.0	Issue Date	6/20/2023
Notes			

No	Function code	Passed	Failed	Untested	N	A	B	Total Test Cases
1	Login	4	0	0	1	3	0	4
2	Register	8	0	0	2	6	0	8
3	CreateProducts	13	0	0	8	5	0	13
4	CreateCategory	2	0	0	1	1	0	2
5	CreateSubCategory	3	0	0	2	1	0	3
6	CreateAuthor	3	0	0	2	1	0	3
7	CreateSupplier	8	0	0	7	1	0	8
8	CreatePurchase	9	0	0	6	3	0	9
9	CreateOrder	7	0	0	6	1	0	7
10	CreateCustomer	11	0	0	10	1	0	11
11	CreateStaff	12	0	0	9	3	0	12
Sub total		80	0	0	54	26	0	80

Test coverage **100,00 %**

Test successful coverage **100,00 %**

Normal case **67,50 %**

Abnormal case **32,50 %**

Boundary case **0,00 %**

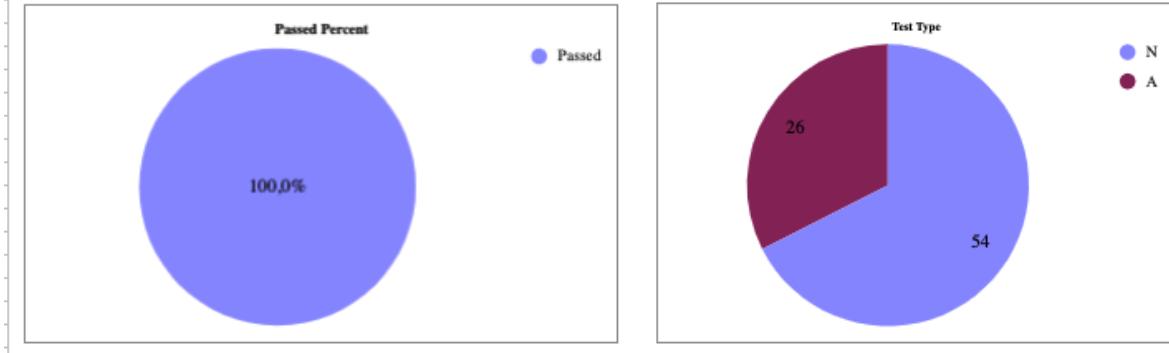


Figure: Unit test result

## 5.2 Integration Test Report

### TEST STATISTICS

Project Name	Bookstore Management System	Creator	TungLM
Project Code	Bookstore Management System	Reviewer/Approver	HungLM
Document	Bookstore Management System Test Report_1.d	Issue Date	20/6/2023

No	Module code	Passed R1	Failed R1	Pending R1	N/A R1	Number	Passed R2	Failed R2	Pending R2	N/A R2	Number of test	Passed R3	Failed R3	Pending R3	N/A R3	Number of test
1	Login	12	0	0	0	13	13	0	0	0	13	13	0	0	0	12
2	Register	13	0	0	0	13	13	0	0	0	13	13	0	0	0	13
3	EmailReconfirm	7	1	0	0	8	8	0	0	0	8	8	0	0	0	8
4	ForgotPassword	10	0	0	0	10	10	0	0	0	10	10	0	0	0	10
5	View list products	11	2	0	0	13	13	0	0	0	13	13	0	0	0	13
6	Update products	15	0	0	0	15	15	0	0	0	15	15	0	0	0	15
7	UpdateProducts	15	0	0	0	15	15	0	0	0	15	15	0	0	0	15
8	View list category	6	2	0	0	8	6	2	0	0	8	8	0	0	0	8
9	Create category	5	0	0	0	5	5	0	0	0	5	5	0	0	0	5
10	Update category	7	0	0	0	7	7	0	0	0	7	7	0	0	0	7
11	View list Subcategory	5	0	0	0	5	5	0	0	0	5	5	0	0	0	5
12	Create Subcategory	6	0	0	0	6	6	0	0	0	6	6	0	0	0	6
13	Update SubCategory	6	0	0	0	6	6	0	0	0	6	6	0	0	0	6
14	View list Staff	15	0	0	0	15	15	0	0	0	15	15	0	0	0	15
15	Create staff	17	0	0	0	17	17	0	0	0	17	17	0	0	0	17
16	Update Staff	18	0	0	0	18	18	0	0	0	18	18	0	0	0	18
17	Disable Staff	5	0	0	0	5	5	0	0	0	5	5	0	0	0	5
18	View list Supplier	6	0	0	0	6	6	0	0	0	6	6	0	0	0	6
19	CreateSupplier	11	0	0	0	11	11	0	0	0	11	11	0	0	0	11
20	UpdateSupplier	12	0	0	0	12	12	0	0	0	12	12	0	0	0	12
21	ViewListPurchase	9	0	0	0	9	9	0	0	0	9	9	0	0	0	9
22	CreatePurchase	16	5	0	0	21	21	0	0	0	21	21	0	0	0	21
23	UpdatePurchase	12	0	0	0	12	12	0	0	0	12	12	0	0	0	12
24	ViewListAuthor	1	4	0	0	5	5	0	0	0	5	5	0	0	0	5
25	Create Author	3	0	0	0	4	4	0	0	0	4	4	0	0	0	4
26	Update Author	4	0	0	0	4	4	0	0	0	4	4	0	0	0	4
27	View list Customer	6	0	0	0	6	6	0	0	0	6	6	0	0	0	6
28	Create Customer	10	0	0	0	10	10	0	0	0	10	10	0	0	0	10
29	UpdateCustomerDetail	10	1	0	0	11	11	0	0	0	11	11	0	0	0	11
30	CustomerProfile	7	0	0	0	7	7	0	0	0	7	7	0	0	0	7
31	Customer	3	0	0	0	5	5	0	0	0	5	5	0	0	0	5
32	Customer Shipping Information	8	1	0	0	9	8	1	0	0	9	9	0	0	0	9
33	Customer Order	10	0	0	0	10	10	0	0	0	10	10	0	0	0	10
34	View list order	8	0	0	0	8	8	0	0	0	8	8	0	0	0	8
35	Create Order	12	4	0	0	16	12	4	0	0	16	16	0	0	0	16
36	Update Order	10	0	0	0	10	10	0	0	0	10	10	0	0	0	10
<b>Sub total</b>		<b>335</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>355</b>	<b>347</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>355</b>	<b>355</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>355</b>

Test coverage R1 **100.00 %**  
 Test successful coverage R2 **94.37 %**

Test coverage R2 **100.00 %**  
 Test successful cover **97.75 %**

Test coverage R3 **100.00 %**  
 Test successful coverage R3 **100.00 %**

Figure: Integration test result

## 5.3 System Test Report

### TEST STATISTICS

Project Name	BookStore - Book Management System	Creator	TungLM
Project Code	BookStore	Reviewer/Approver	TungLM
Document Code	Report5_SystemTest	Issue Date	16/8/2023
Notes			

No	Module code	Passed	Failed	Pending	N/A	Number of test cases
1	Owner	27	0	0	0	27
2	Staff	45	0	0	0	45
3	Customer	19	0	0	0	19
<b>Sub total</b>		<b>91</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>91</b>

Test coverage **100.00 %**  
 Test successful coverage **100.00 %**

Figure: System test result

## 5.4 Acceptance Test Report

<b>TEST STATISTICS</b>				
<b>Project Name</b>	<i>BookStore - Book Management System</i>	<b>Creator</b>	TungLM	
<b>Project Code</b>	<i>BookStore - Book Management System</i>	<b>Reviewer/Approver</b>	HungLM	
<b>Document Code</b>	<i>BookStore - Book Management System_Acceptance Report_1.0</i>	<b>Issue Date</b>	20/8/2023	
<b>Notes</b>				
No	Question	Yes	No	
1	Tính năng đặt hàng có hoạt động đúng cách, bao gồm thêm sách vào giỏ hàng, chỉnh sửa giỏ hàng và xóa sách ra khỏi giỏ hàng không?	Y ▾	✗ ▾	
2	Có thể tìm kiếm sách dựa trên tiêu đề, tác giả hoặc thể loại không?	Y ▾	✗ ▾	
3	Có xác nhận đơn hàng và cung cấp thông tin chi tiết của đơn hàng sau khi hoàn tất thanh toán không?	Y ▾	✗ ▾	
4	Thao tác quản lý tài khoản người dùng như thay đổi thông tin cá nhân, đổi mật khẩu hoặc đăng xuất có hoạt động bình thường không?	Y ▾	✗ ▾	
5	Có thể đọc mô tả chi tiết về mỗi cuốn sách và xem hình ảnh của chúng không?	Y ▾	✗ ▾	
6	Có hệ thống giảm giá hoặc khuyến mãi được áp dụng đúng cách không?	Y ▾	✗ ▾	
7	Tính năng tạo danh sách yêu thích cho các cuốn sách có hoạt động không?	✗ ▾	N ▾	
8	Hiện tại chỉ có một hình thức vận chuyển qua zalo thì cần thêm tính năng này không?	Y ▾	✗ ▾	
9	Tính năng tìm kiếm sách theo khoảng giá có hoạt động không?	Y ▾	✗ ▾	
10	Có thể xem lịch sử đặt hàng và theo dõi trạng thái đơn hàng không?	Y ▾	✗ ▾	

Figure: Acceptance test result

## VI. Release Package & User Guides

### 1. Deliverable Package

No.	Deliverable Item	Description
1	Source Codes	SEP490_G30_BookstoreManagementSystem.zip
2	Database Script(s)	script.sql
3	Final Report Document	Report7_Final Project Report.pdf
4	Unit Test Document	Report5_Unit Test.xlsx
5	System Test Document	Report5_SystemTest.xlsx
6	Integration Test Document	Report5_IntegrationTest.xlsx
7	Acceptance Test Document	Report5_AcceptanceTest.xlsx
8	Slide	SEP490_Slide_G30.pdf
9	Deployed app	<b>Management:</b> <a href="https://book-management.azurewebsites.net">https://book-management.azurewebsites.net</a> (Owner account: <a href="mailto:owner@gmail.com">owner@gmail.com</a> ; Password: <b>Pass123@</b> ) <b>Customer:</b> <a href="https://book-e-commerce.azurewebsites.net/">https://book-e-commerce.azurewebsites.net/</a>

### 2. Installation Guides

#### 2.1 System Requirements

- Windows 64-bit operating system
  - Windows 11 Home in S mode, Windows Enterprise IoT, Windows 10 IoT Core, Windows 10 Enterprise LTSC edition, Windows 10 S, and Windows 10 Team Edition are not supported
- 1.8 GHz or faster ARM64 or x64 processor; Quad-core or better recommended. ARM 32 processors are not supported.
- Minimum of 4 GB of RAM. Many factors impact resources used; we recommend 16 GB RAM for typical professional solutions.
- Hard disk space: Minimum of 3 GB up to 220 GB of available space, depending on features installed; typical installations require 20-50 GB of free space. We recommend installing Windows and Visual Studio on a solid-state drive (SSD) to increase performance.
- Video card that supports a minimum display resolution of WXGA (1366 by 768); Visual Studio will work best at a resolution of 1920 by 1080 or higher.
  - Minimum resolution assumes zoom, DPI settings, and text scaling are set at 100%. If not set to 100%, minimum resolution should be scaled accordingly. For example, if you set the Windows display 'Scale and layout' setting on your Surface Book, which has a 3000x2000 physical display, to 200%, then Visual Studio would see a logical screen resolution of 1500x1000, meeting the minimum 1366x768 requirement.

#### 2.2 Installation Instruction

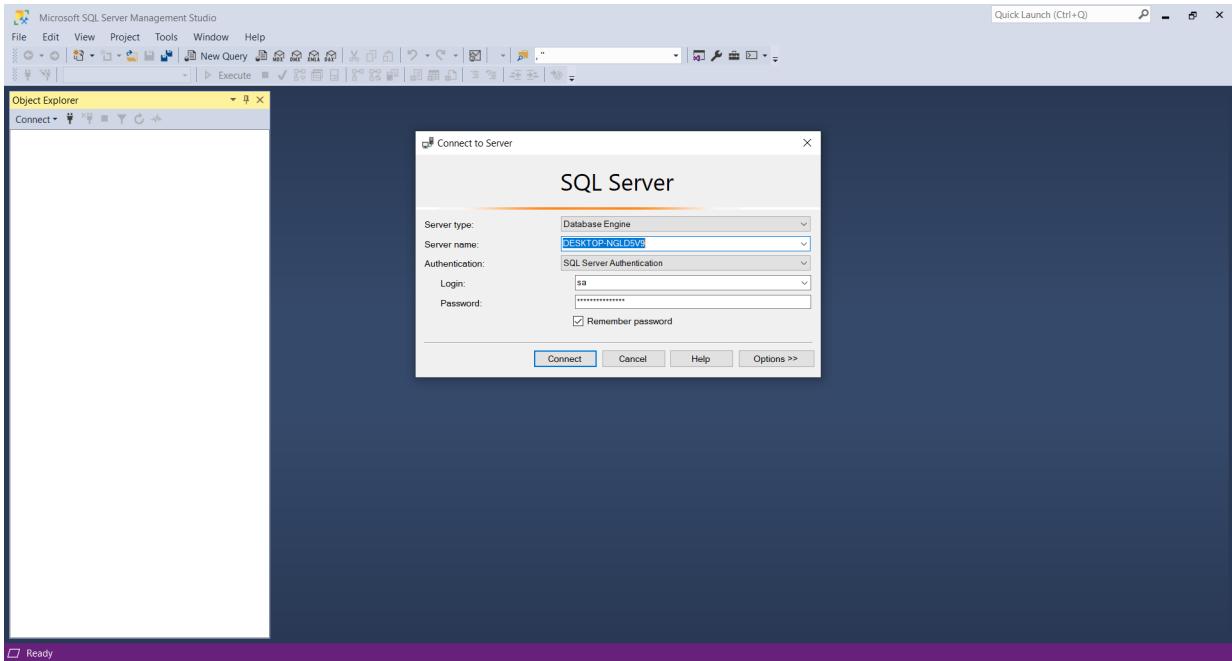
##### 2.2.1. *Install prerequisite programs:*

- Download and install Visual Studio 2022 from this link:  
<https://visualstudio.microsoft.com/thank-you-downloading-visual-studio/?sku=Community&channel=Release&version=VS2022&source=VSLandingPage&cid=2030&passive=false>

- Download and install Microsoft SQL Server Management Studio 18 from this link:  
[https://learn.microsoft.com/en-us/sql/ssms/release-notes-ssms?view=sql-server-ver16#1812\\_1](https://learn.microsoft.com/en-us/sql/ssms/release-notes-ssms?view=sql-server-ver16#1812_1)

### **2.2.2. Set up the database:**

- Log in to the local database server



*Figure 2.2.2.1: Login to local database server*

- Open the database script and run it to create the database

```

USE [master]
GO
/***** Object: Database [VHeaven] Script Date: 6/28/2023 10:40:02 PM *****/
CREATE DATABASE [VHeaven]
CONTAINMENT = NONE
ON [PRIMARY]
( NAME = 'VHeaven', FILENAME = 'C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER\MSSQL\DATA\VHeaven.mdf' , SIZE = 8192KB , MAXSIZE = UNLIMITED)
LOG ON
( NAME = 'VHeaven_log', FILENAME = 'C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER\MSSQL\DATA\VHeaven_log.ldf' , SIZE = 8192KB , MAXSIZE = 512MB,
WITH CATALOG_COLLATION = DATABASE_DEFAULT
GO
ALTER DATABASE [VHeaven] SET COMPATIBILITY_LEVEL = 150
GO
IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))
begin
EXEC [VHeaven].[dbo].[sp_fulltext_database] @action = 'enable'
end
GO
ALTER DATABASE [VHeaven] SET ANSI_NULL_DEFAULT OFF
GO
ALTER DATABASE [VHeaven] SET ANSI_NULLS OFF
GO
ALTER DATABASE [VHeaven] SET ANSI_PADDING OFF
GO
ALTER DATABASE [VHeaven] SET ANSI_WARNINGS OFF
GO
ALTER DATABASE [VHeaven] SET ARITHABORT OFF
GO
ALTER DATABASE [VHeaven] SET AUTO_CLOSE OFF
GO
ALTER DATABASE [VHeaven] SET AUTO_SHRINK OFF
GO
ALTER DATABASE [VHeaven] SET AUTO_UPDATE_STATISTICS ON
GO
ALTER DATABASE [VHeaven] SET CURSOR_CLOSE_ON_COMMIT OFF
GO
ALTER DATABASE [VHeaven] SET CURSOR_DEFAULT GLOBAL
GO

```

*Figure 2.2.2.2: Execute the database script*

**2.2.3. Deploy project to the web:**  
**Deploy the database to Azure SQL Server**

- Open Microsoft Azure Portal and sign in to your Microsoft account

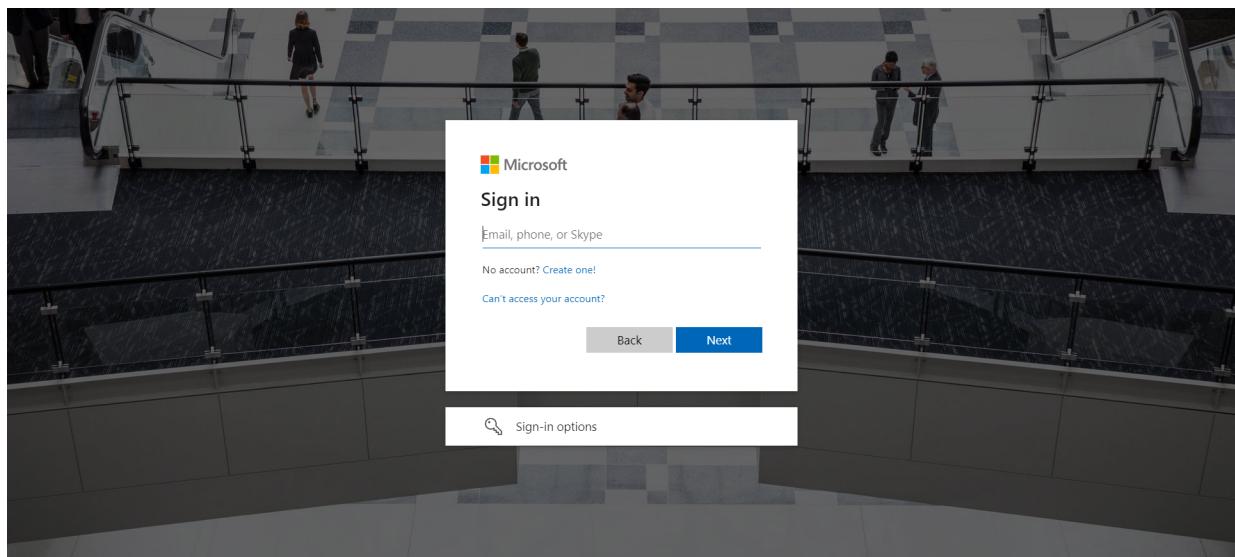


Figure 2.2.3.1: Sign in to your Microsoft account

Name	Type	Last Viewed
book-management_group	Resource group	17 hours ago
VMS_Merge	SQL database	18 hours ago
book-management	App Service	23 hours ago
vms-merge	SQL server	24 hours ago
book-e-commerce	App Service	a day ago
Failure Anomalies - book-management	Smart detector alert rule	a day ago

Figure 2.2.3.2: Open Azure Portal

- Create an SQL Server on Azure

Name	Type	Last Viewed
book-management_group	Resource group	17 hours ago
VMS_Merge	SQL database	18 hours ago
book-management	App Service	23 hours ago
vms-merge	SQL server	24 hours ago
book-e-commerce	App Service	a day ago
Failure Anomalies - book-management	Smart detector alert rule	a day ago

Figure 2.2.3.3: Create an Azure SQL server

Figure 2.2.3.4: Fill in details for the SQL server

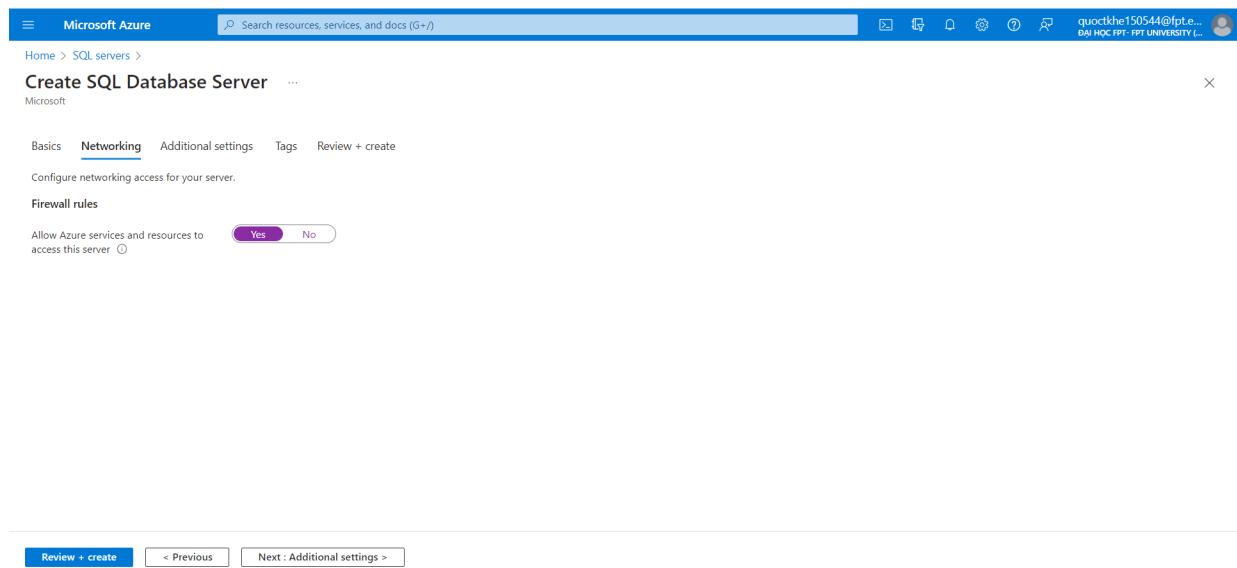


Figure 2.2.3.5: Allow Azure services and resources to access server

- Open your local database server, right-click the newly created database on the side bar and choose Tasks > Deploy Database to Microsoft Azure SQL Database

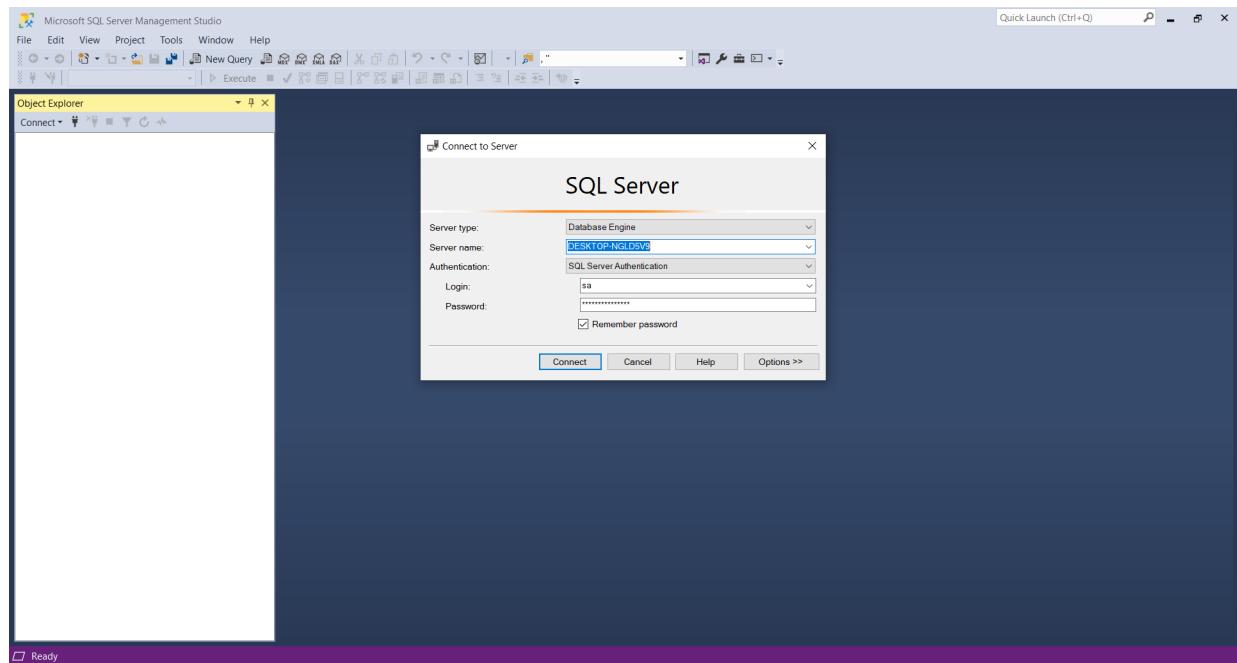
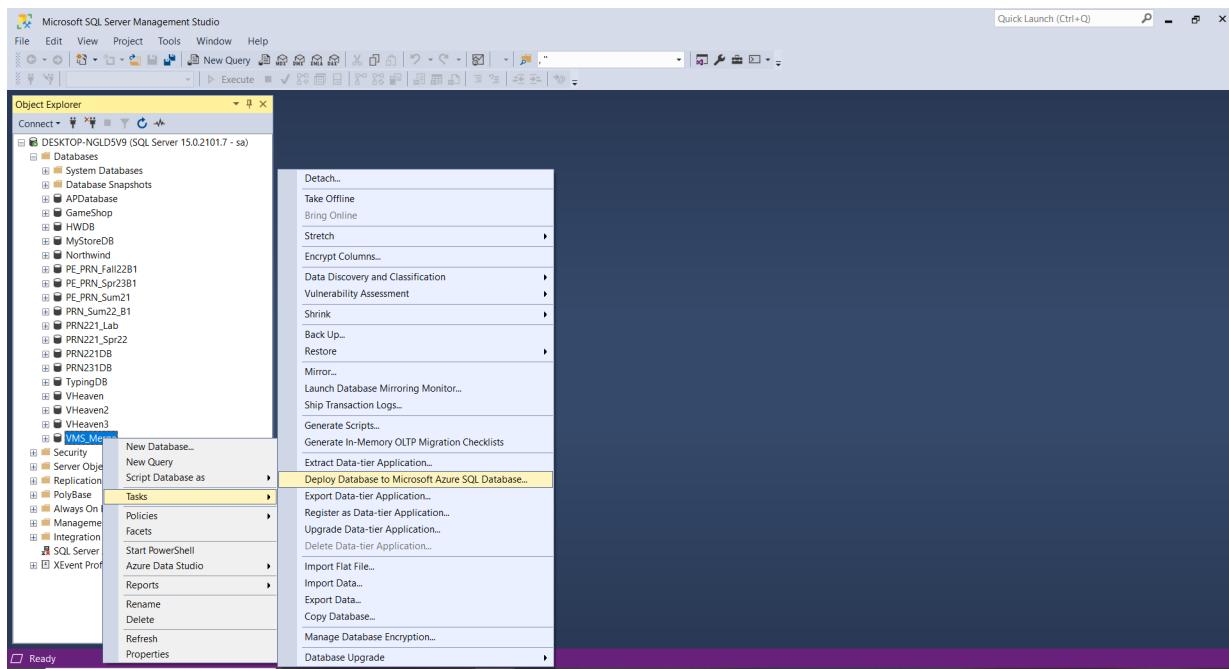
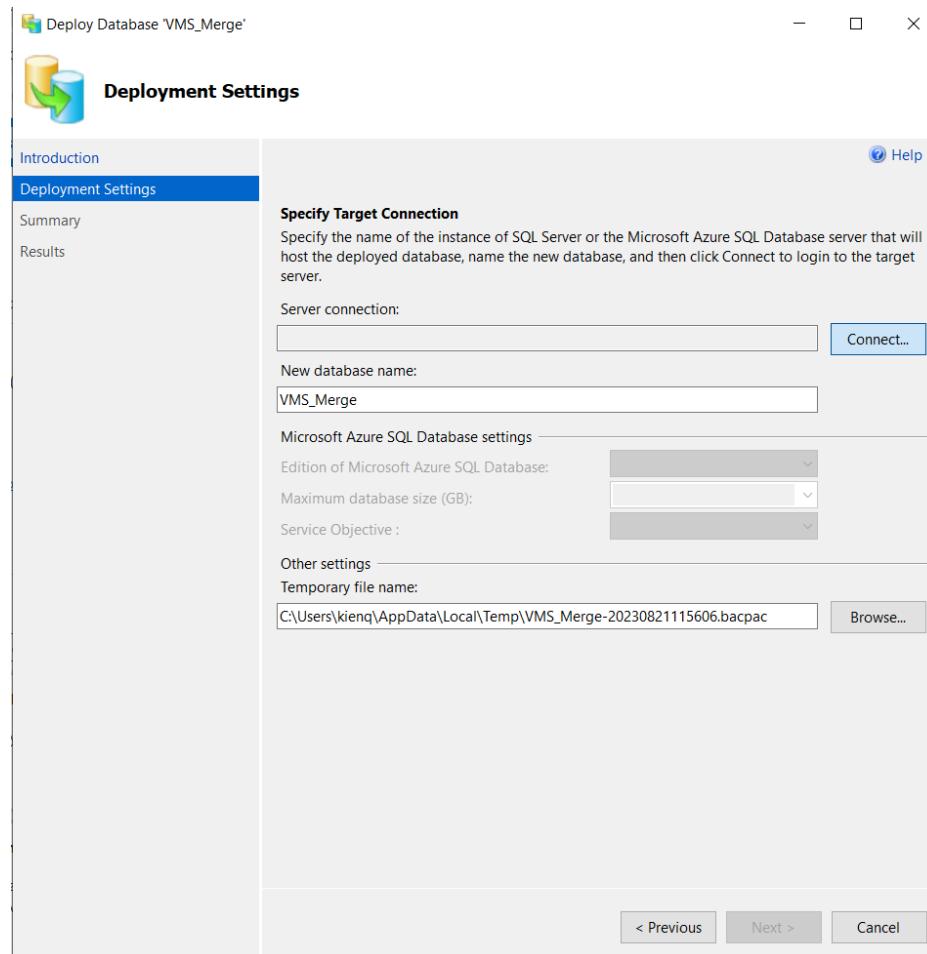


Figure 2.2.3.6: Login to local database server



*Figure 2.2.3.7: Deploy database to Azure SQL Database*

- Click “Connect” in Server Connection, enter the Azure SQL Server name, login credentials and click “Connect”



*Figure 2.2.3.8: Click “Connect”*

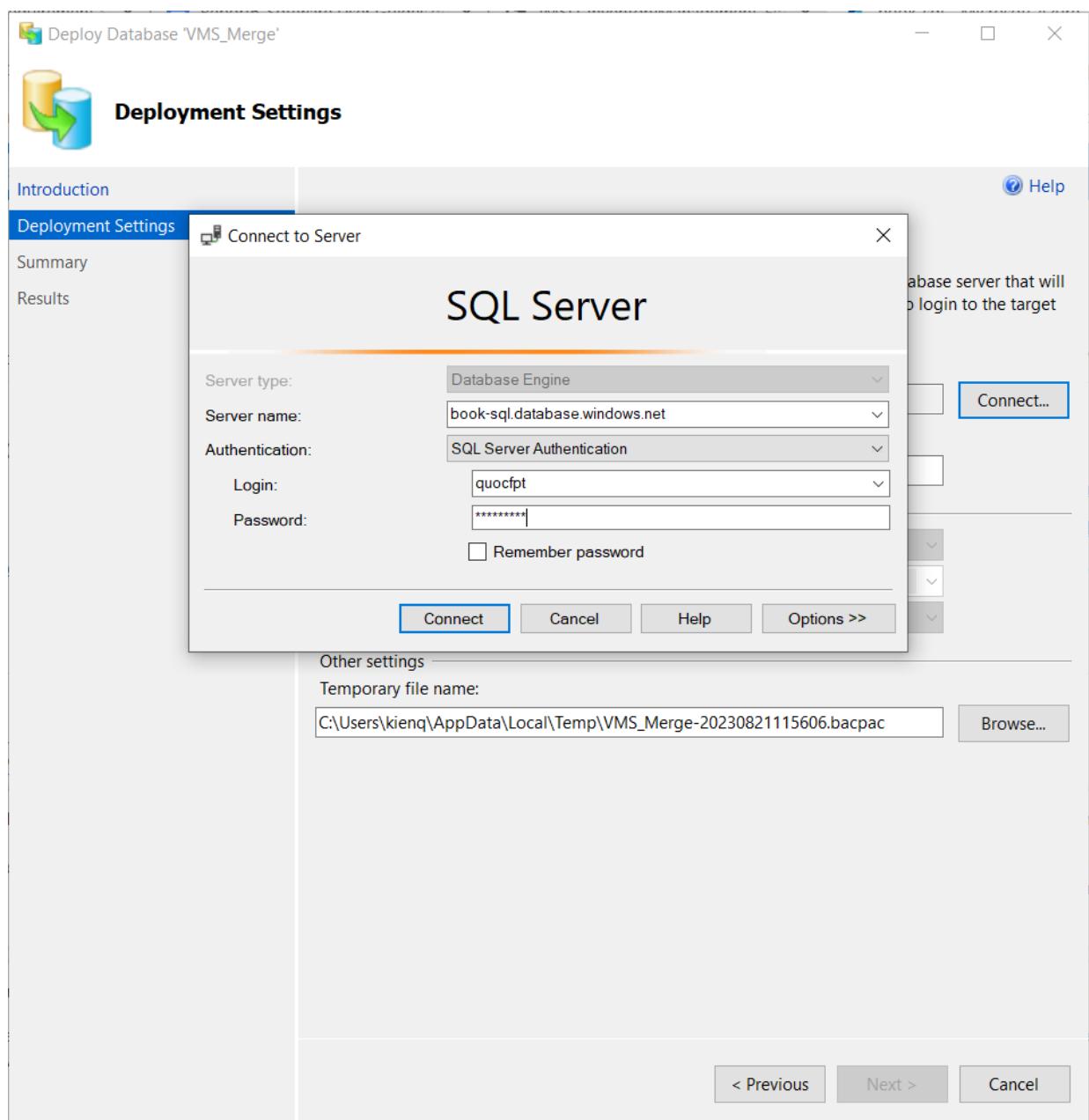
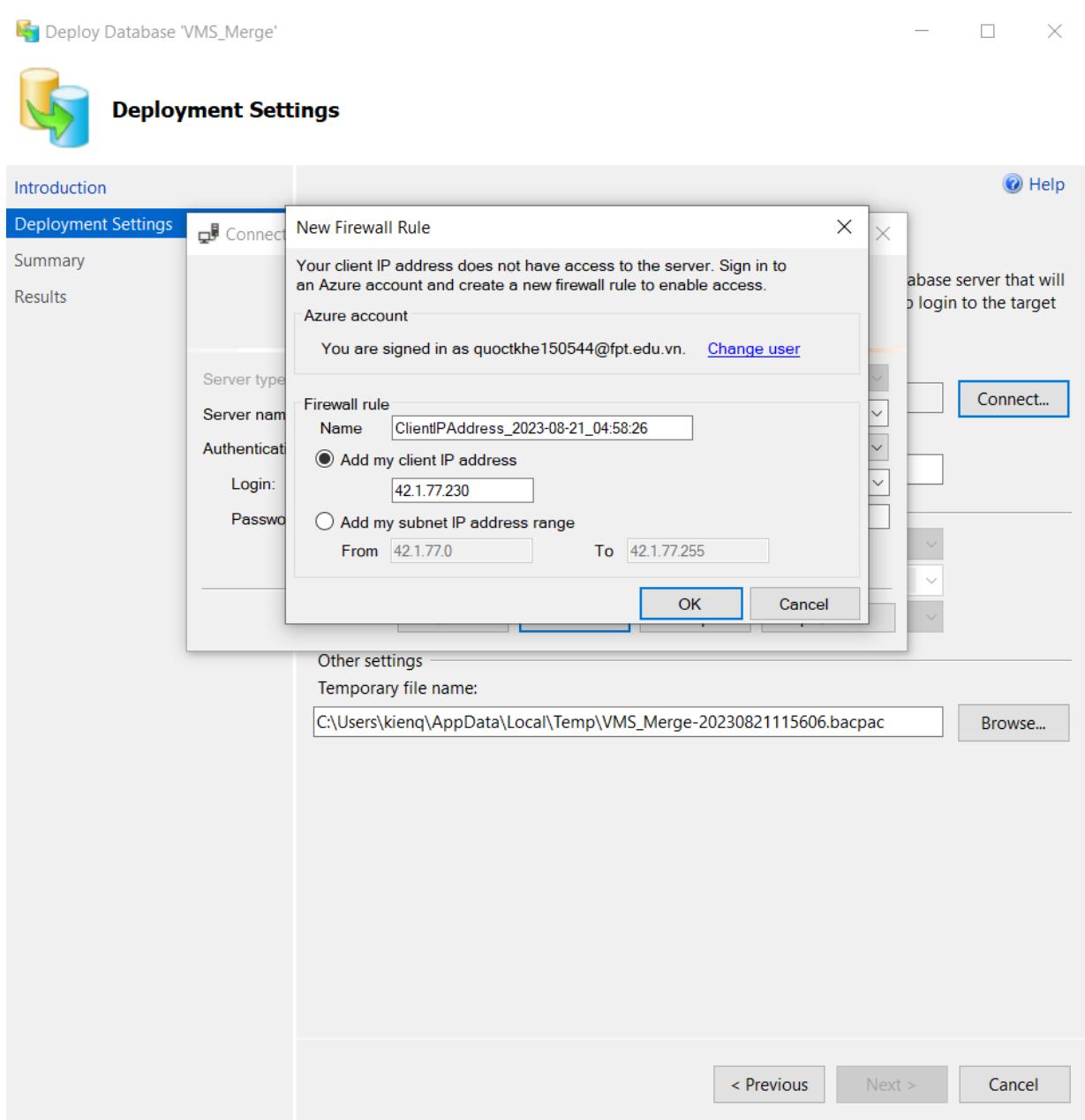


Figure 2.2.3.9: Enter Azure SQL Server name and login credentials

- Sign in to your Microsoft account and add the new firewall rule



*Figure 2.2.3.10: Add new firewall rule*

- Wait until the database is finished deployed on Azure SQL server

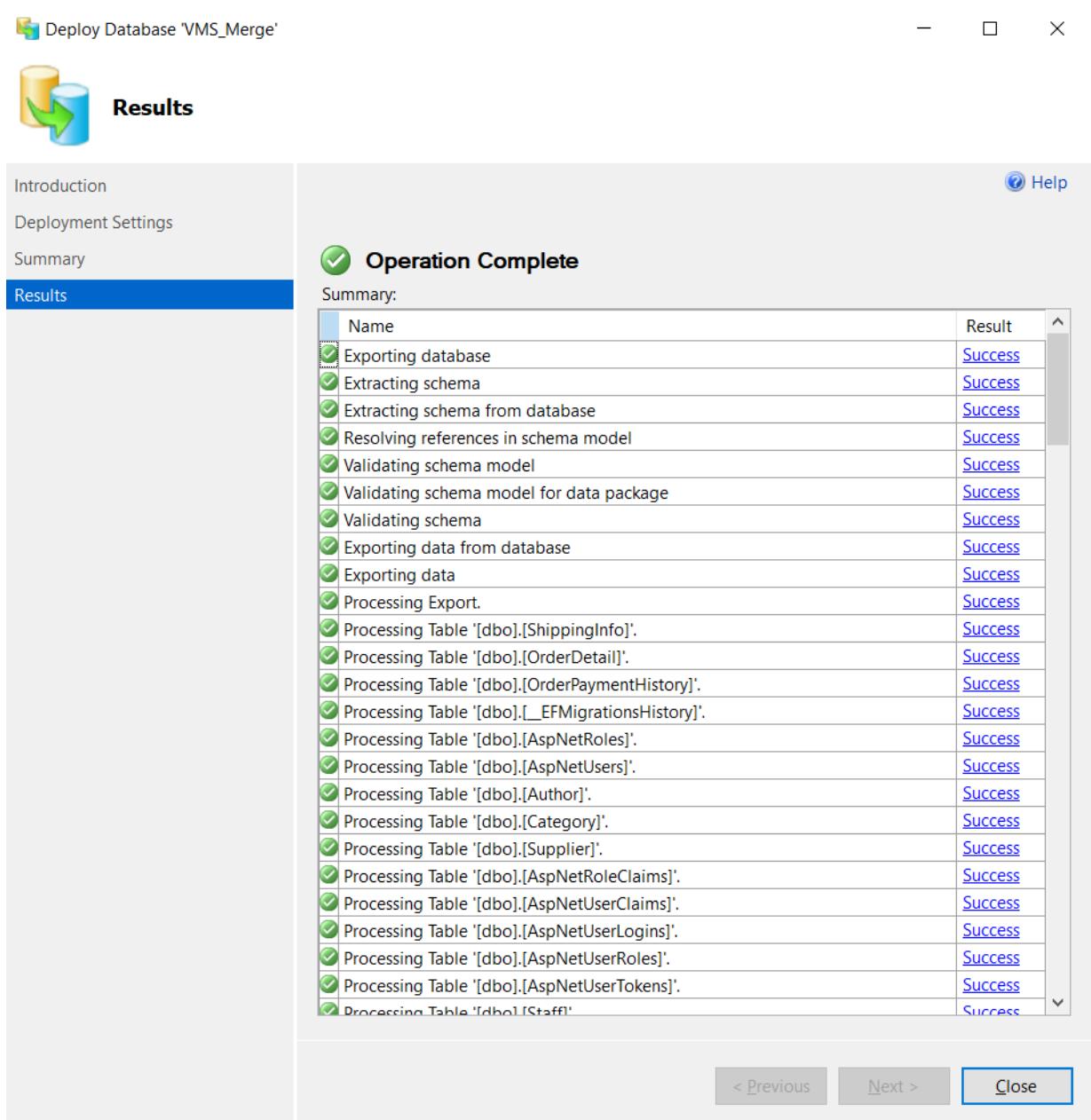
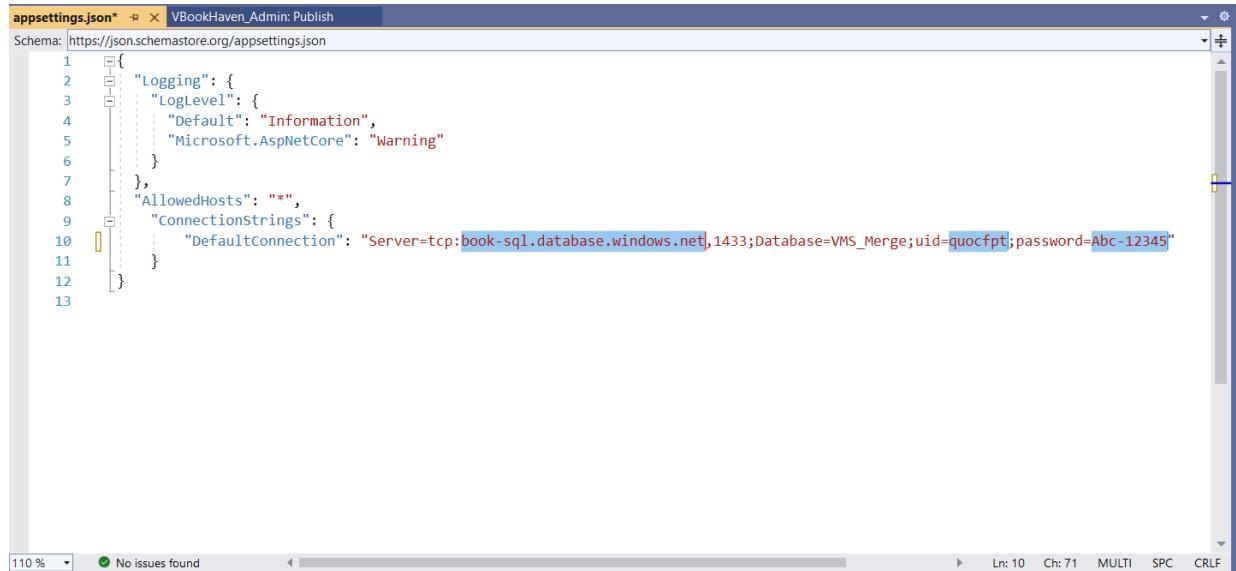


Figure 2.2.3.11: Finished deploying database to Azure SQL server

## **Deploy the backend project to the Azure Web Server**

- Open the solution in Visual Studio, then edit the appsettings.json file in VBookHaven, VBookHave\_DataAccess and VBookHaven\_Admin projects: In attribute “DefaultConnection”, change the Server name to the Azure SQL Server name, and change uid and password to its log in credential



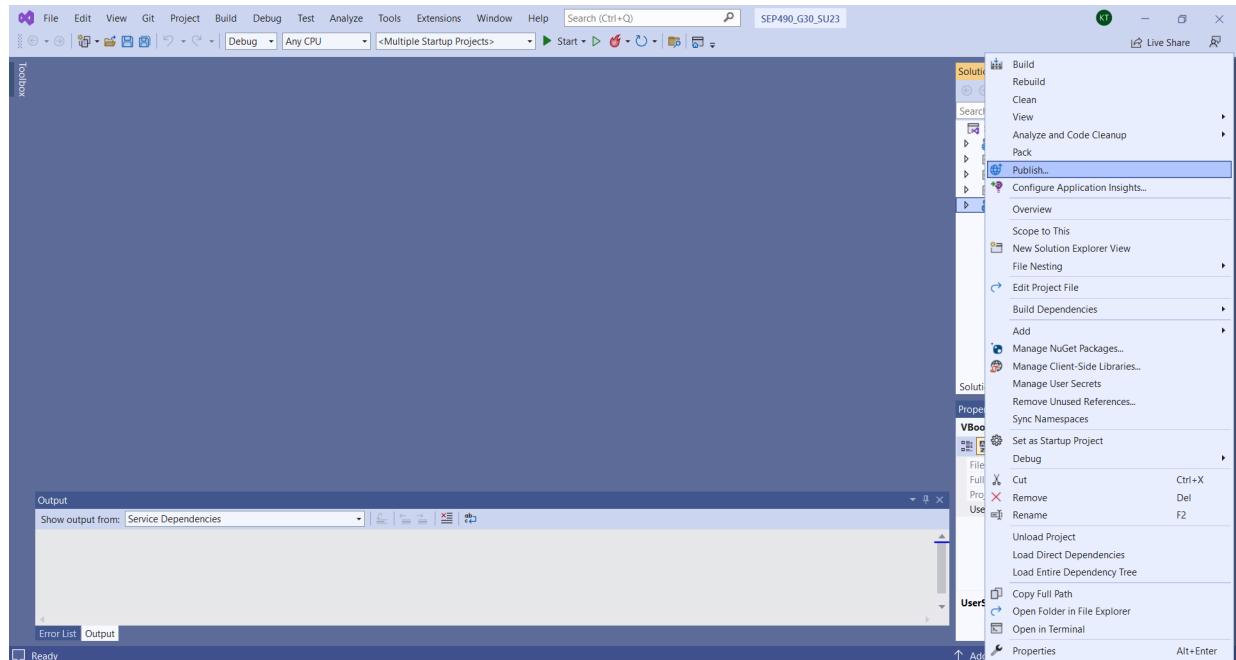
The screenshot shows the Visual Studio code editor with the file "appsettings.json" open. The code is as follows:

```
1  {
2     "Logging": {
3         "LogLevel": {
4             "Default": "Information",
5             "Microsoft.AspNetCore": "Warning"
6         }
7     },
8     "AllowedHosts": "*",
9     "ConnectionStrings": {
10        "DefaultConnection": "Server=tcp:book-sql.database.windows.net,1433;Database=VMS_Merge;uid=quocfpt;password=Abc-12345"
11    }
12 }
```

The "DefaultConnection" string is highlighted in red, indicating it is selected for modification.

*Figure 2.2.3.12: Edit appsettings.json*

- Right click project “VBookHaven\_Admin” and choose “Publish”



*Figure 2.2.3.13: Publish VBookHaven\_Admin project*

- Choose Azure > Azure App Service (Windows), then click “Create New” to create a new Azure App Service

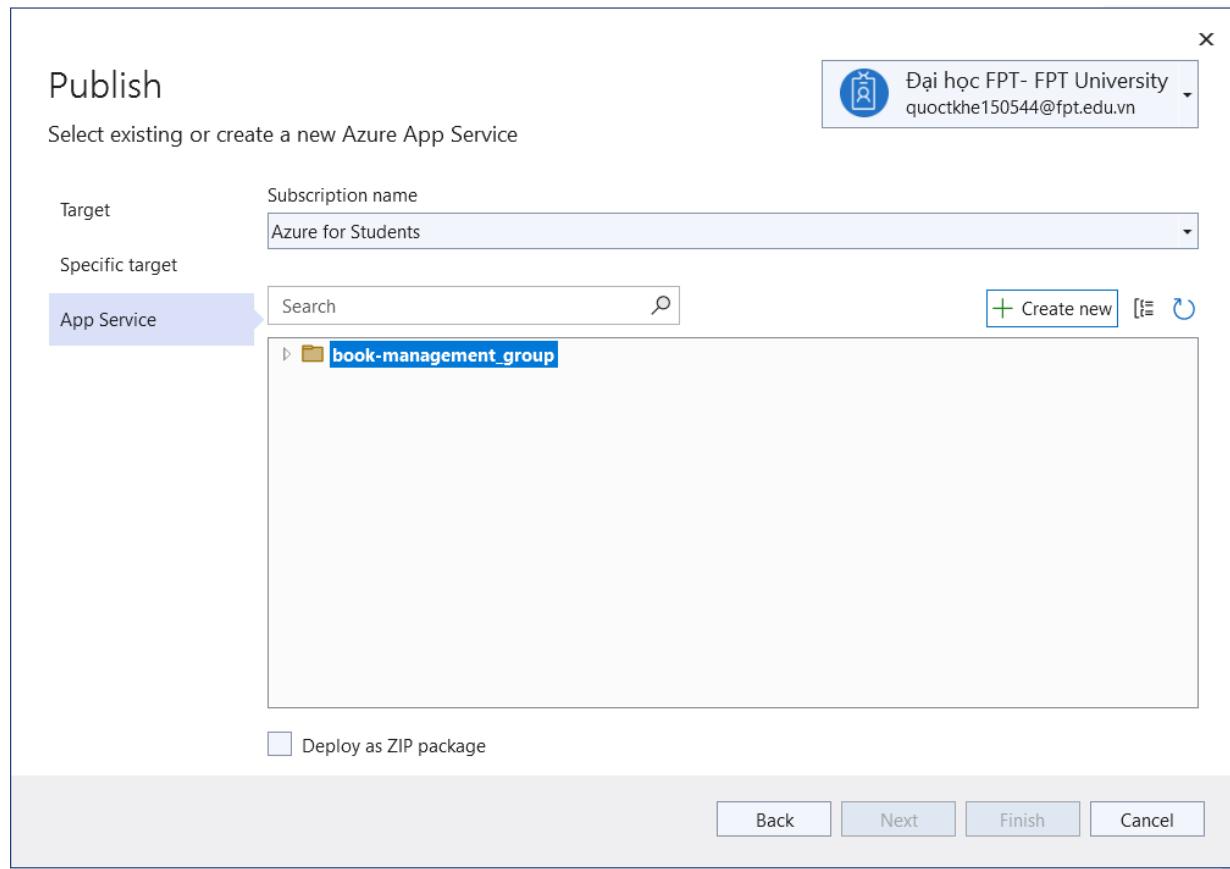


Figure 2.2.3.14: Click “Create New” to create new Azure App Service

- Choose a name for the App Service then click “Create”. After it’s finished, click “Finish”

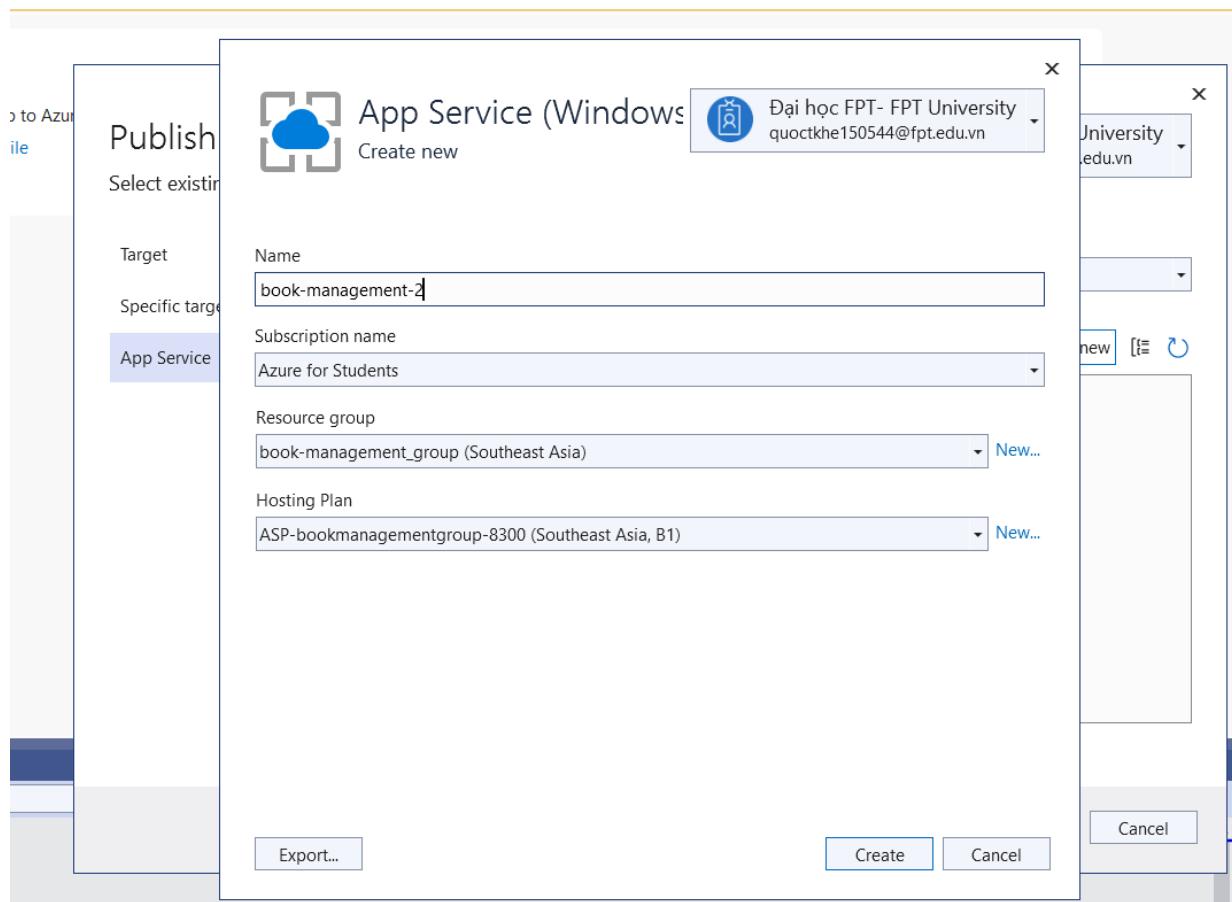


Figure 2.2.3.15: Create new Azure App Service

- Click “Publish” and wait until it’s done

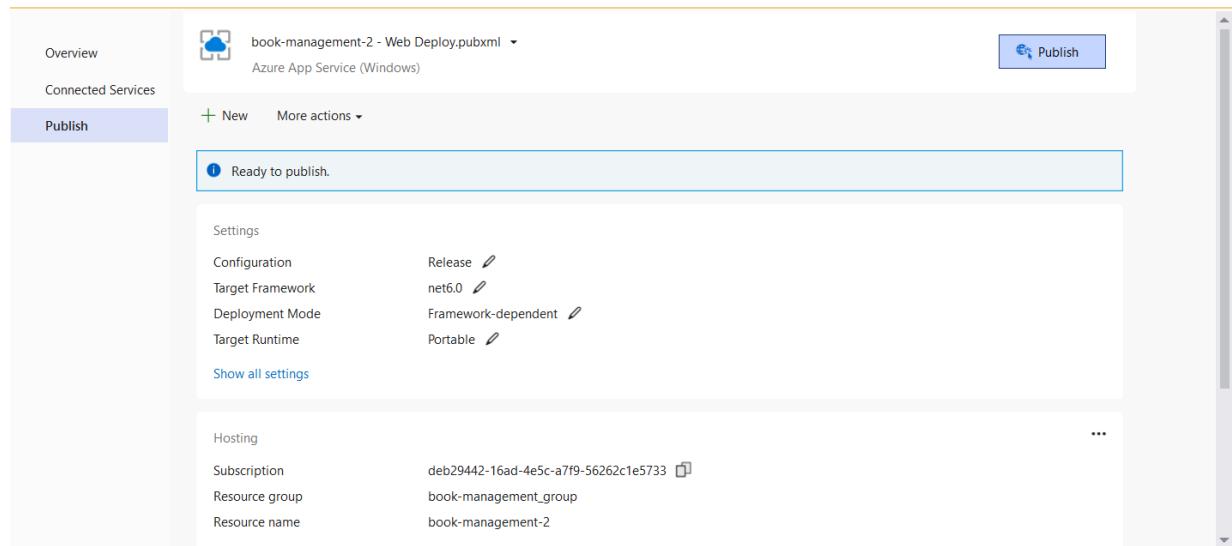
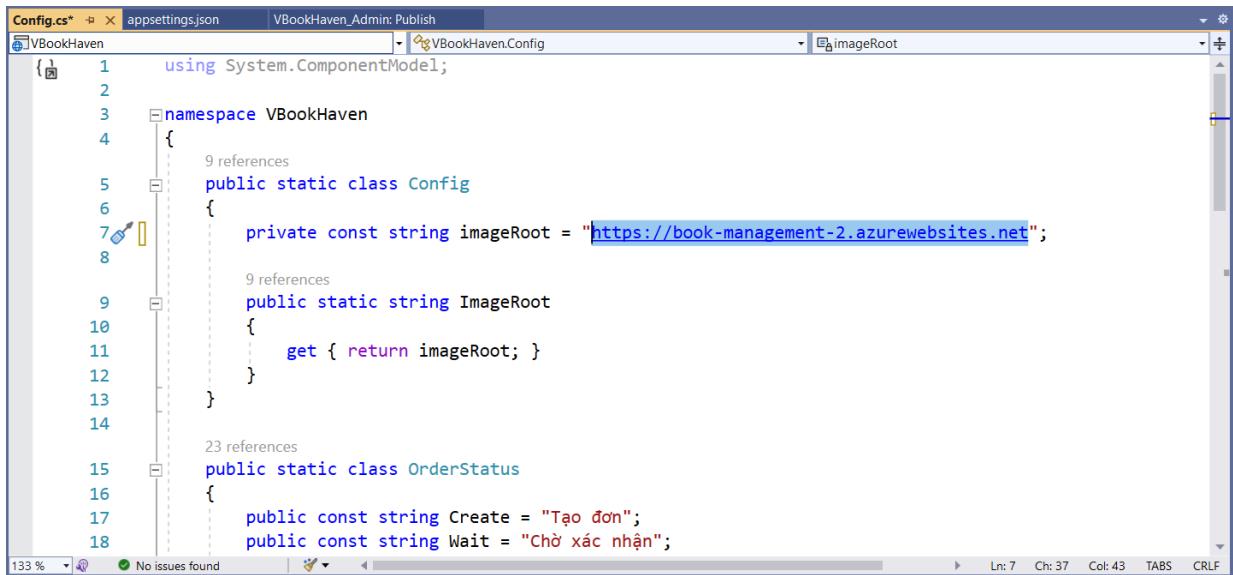


Figure 2.2.3.16: Publish project to app service

- Change the “imageRoot” attribute in “Config” class in VBookHaven project to the url of the deployed VBookHaven\_Admin project’s URL, then deploy the VBookHaven project to Azure Web similarly.



```

Config.cs*  appsettings.json  VBookHaven_Admin: Publish
VBookHaven  VBookHaven.Config
1  using System.ComponentModel;
2
3  namespace VBookHaven
4  {
5      public static class Config
6      {
7          private const string imageRoot = "https://book-management-2.azurewebsites.net";
8
9          public static string ImageRoot
10         {
11             get { return imageRoot; }
12         }
13     }
14
15    public static class OrderStatus
16    {
17        public const string Create = "Tạo đơn";
18        public const string Wait = "Chờ xác nhận";
19    }
}

```

Figure 2.2.3.17: Edit “imageRoot” in “Config” class in VBookHaven project

### 3. User Manual

#### 3.1 Overview

This is a document that describes an overview terms and definitions of the roles in the system

- System: BookStore Management System.
- User : Owner, Staff, Customer, Guest using the system.

#### 3.2 Authentication & Authorization

##### 3.2.1. Customer

###### 3.2.1.1. Login

- Go to the login page
- Enter “Email” and “Mật khẩu” in login form
- Click “Đăng nhập” button

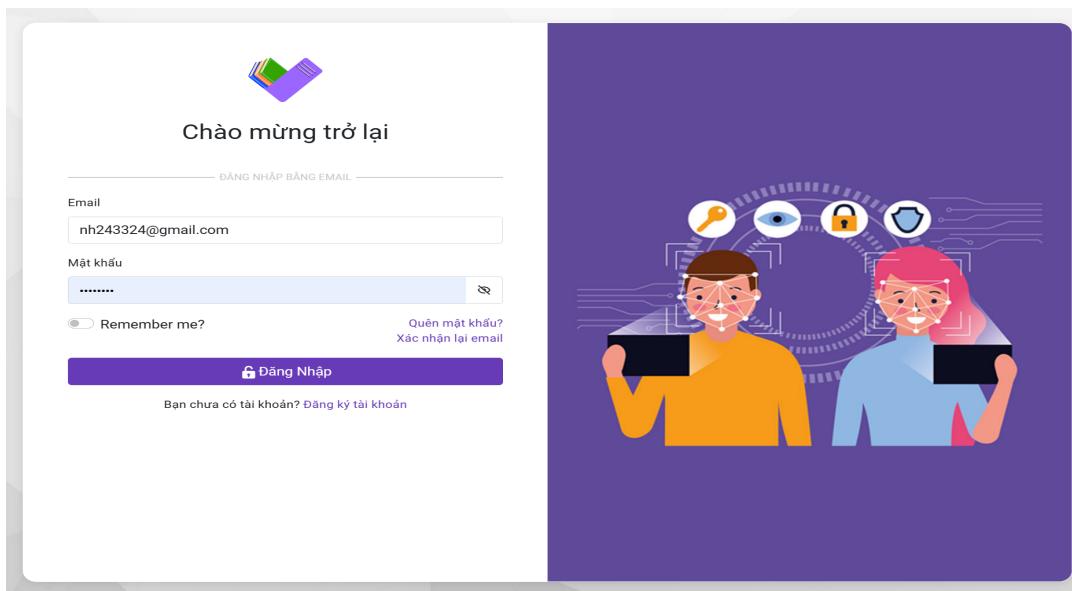


Figure 3.2.1.1.1: Login Customer Screen

###### 3.2.1.2. Sign up

- Click “Đăng ký tài khoản”
- Enter “Họ và tên”, select “Ngày sinh”, select “Giới tính”, enter “Email”, “Password”, re-enter “Password”
- Click “Sign Up”
- Check your verified email and back to the Login Screen.

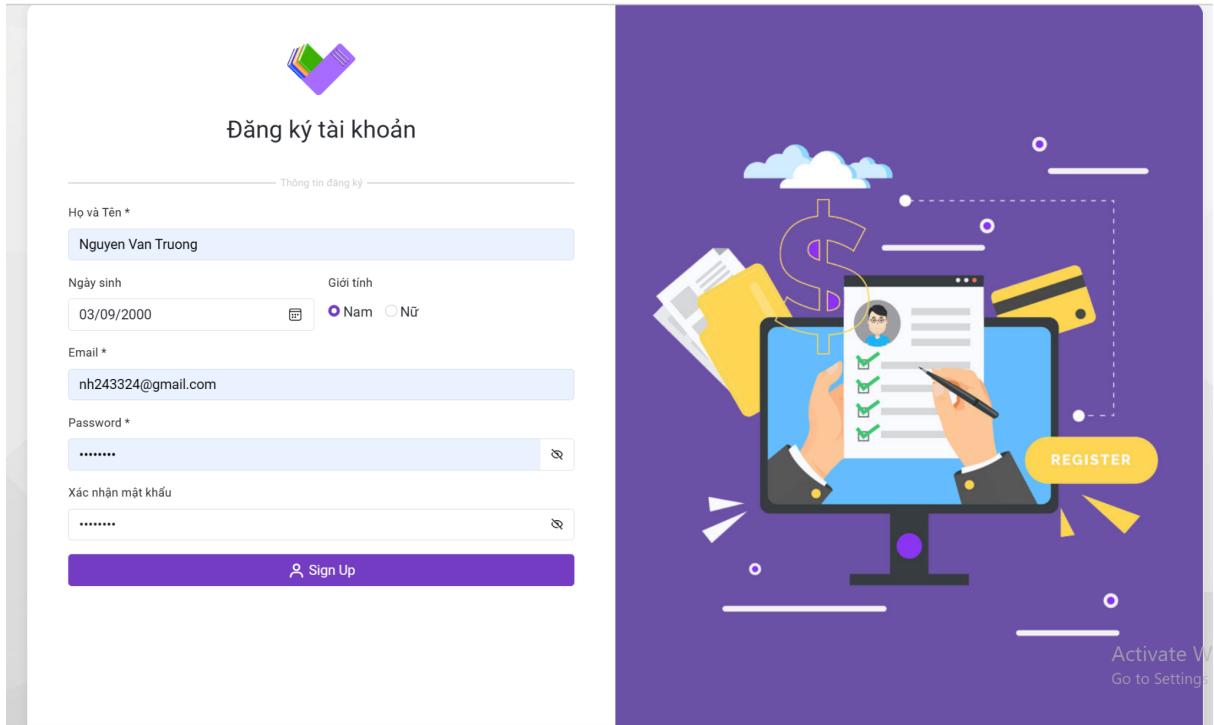


Figure 3.2.1.2.1: Input information customer

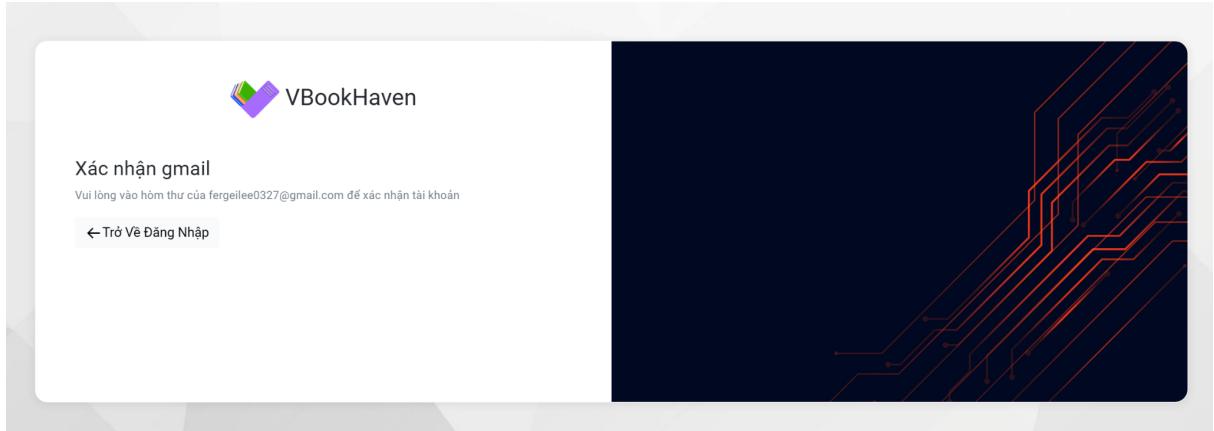


Figure 3.2.1.2.2: Screen send accept email

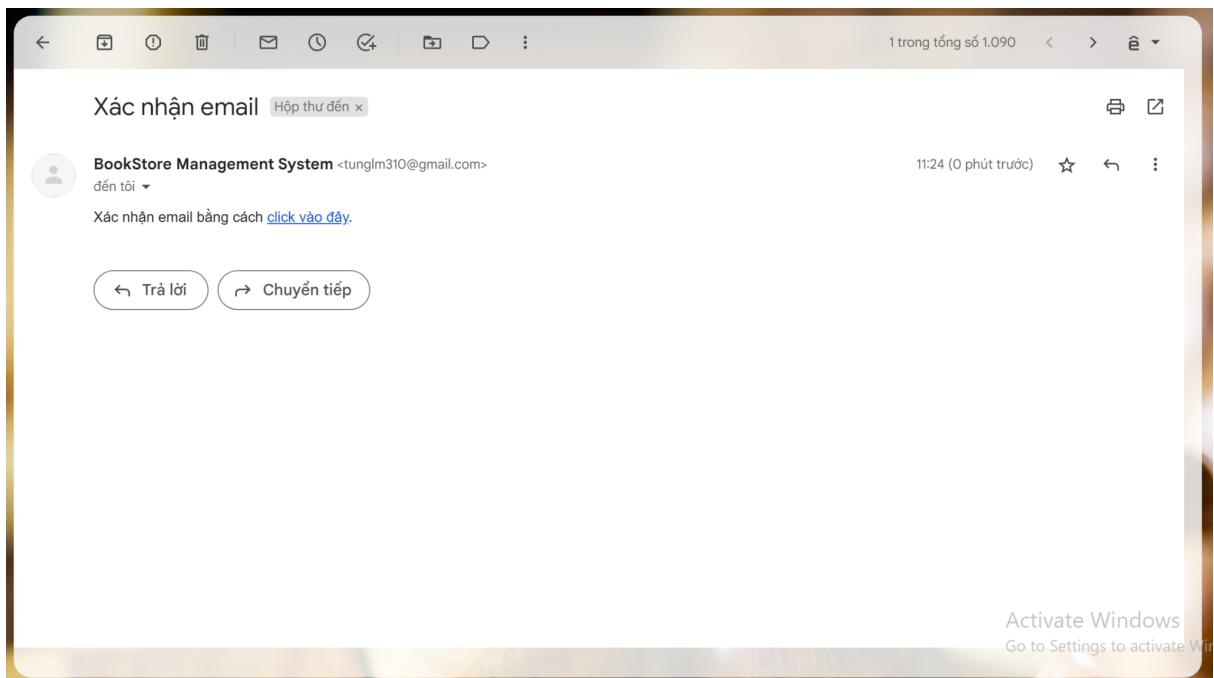


Figure 3.2.1.2.3: Screen mail details and link confirmation

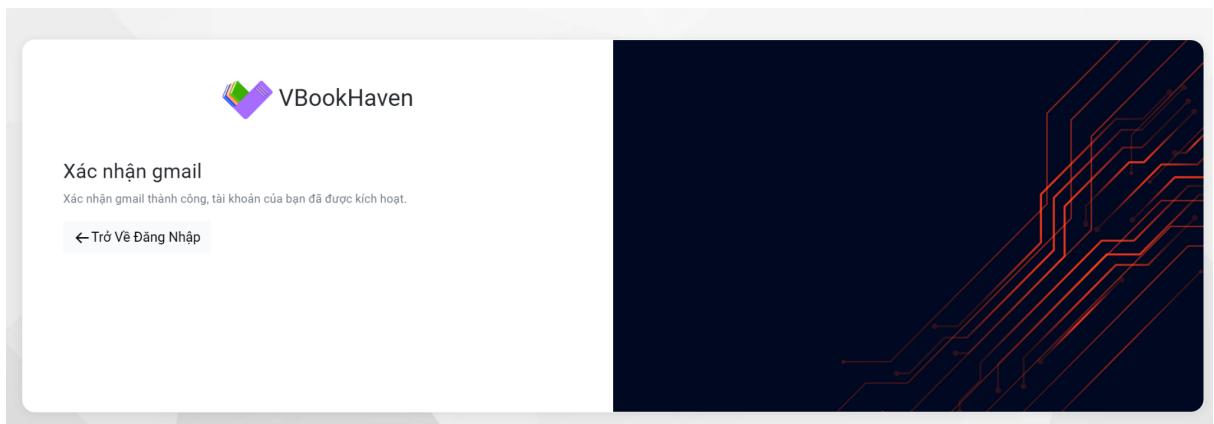


Figure 3.2.1.2.4: Screen confirm email successfully

### 3.2.1.3. Forgot password

- Click “Quên mật khẩu”
- Enter email
- Click “Gửi” button
- Check your mail and click link to reset password
- Enter new password and confirm new password

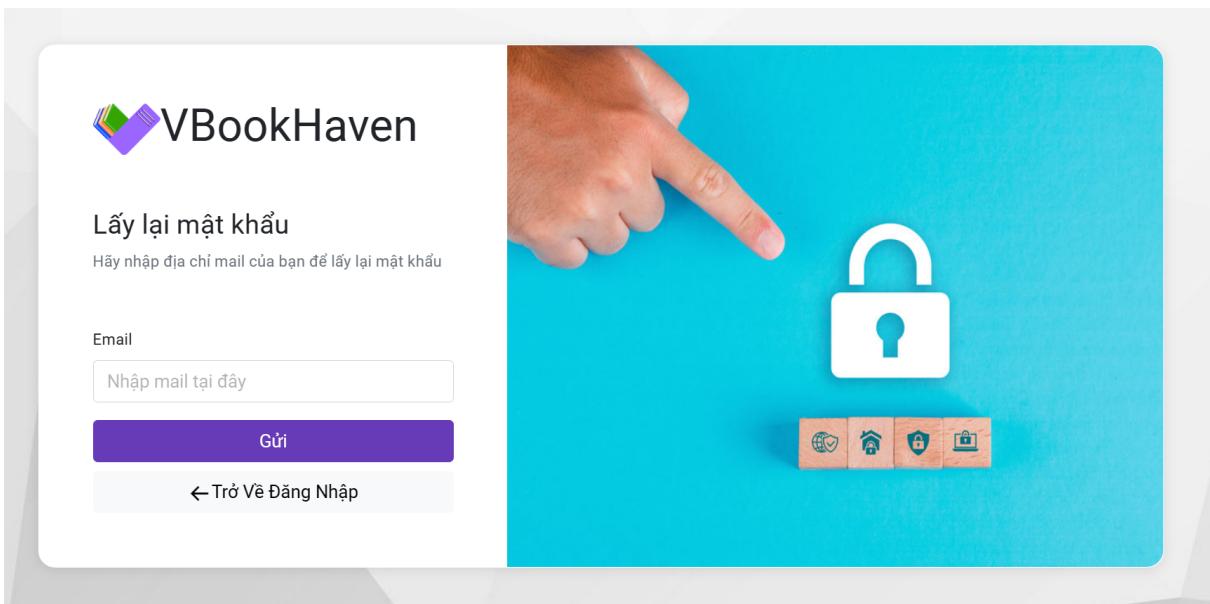


Figure 3.2.1.3.1.: Screen enter email

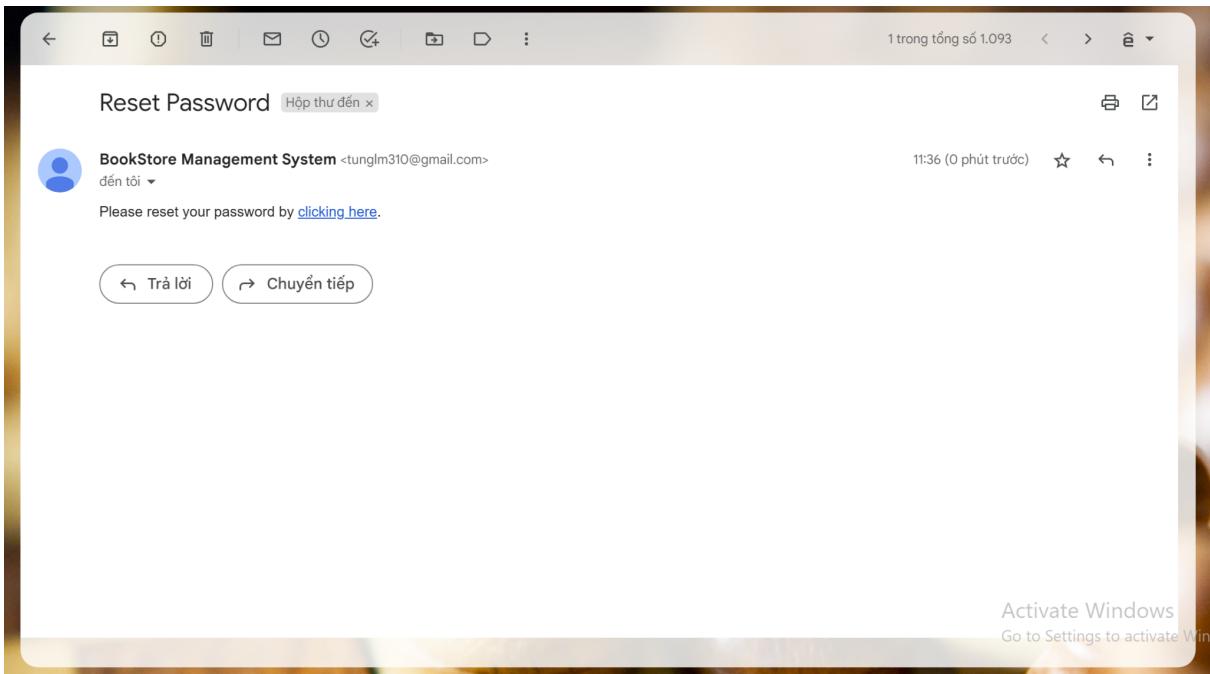
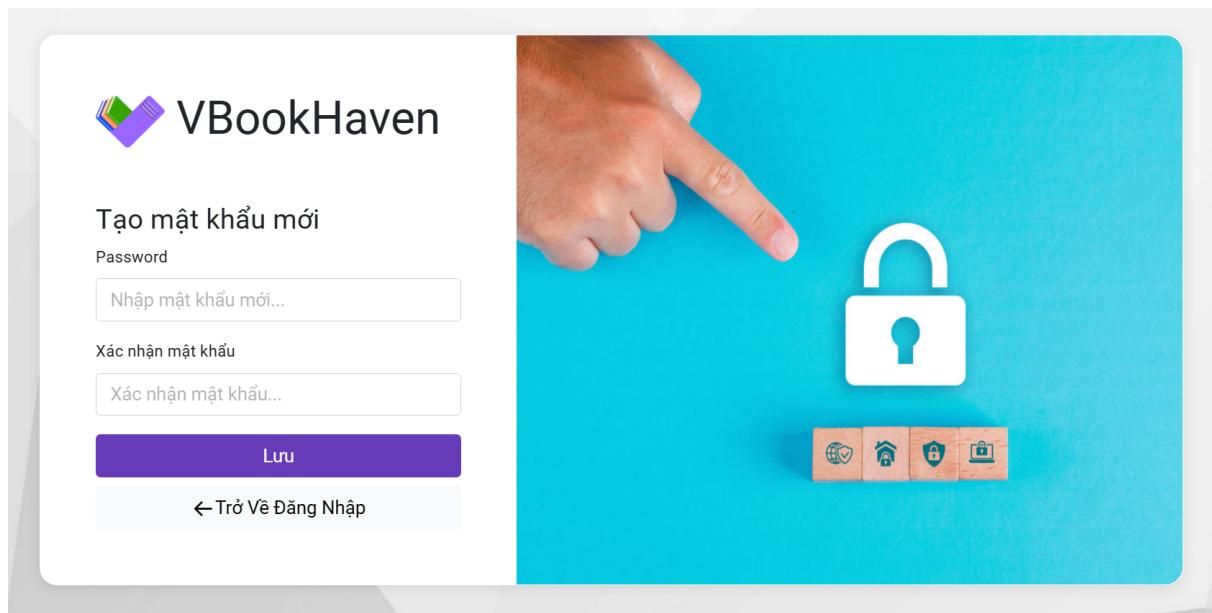


Figure 3.2.1.3.2: Email confirm

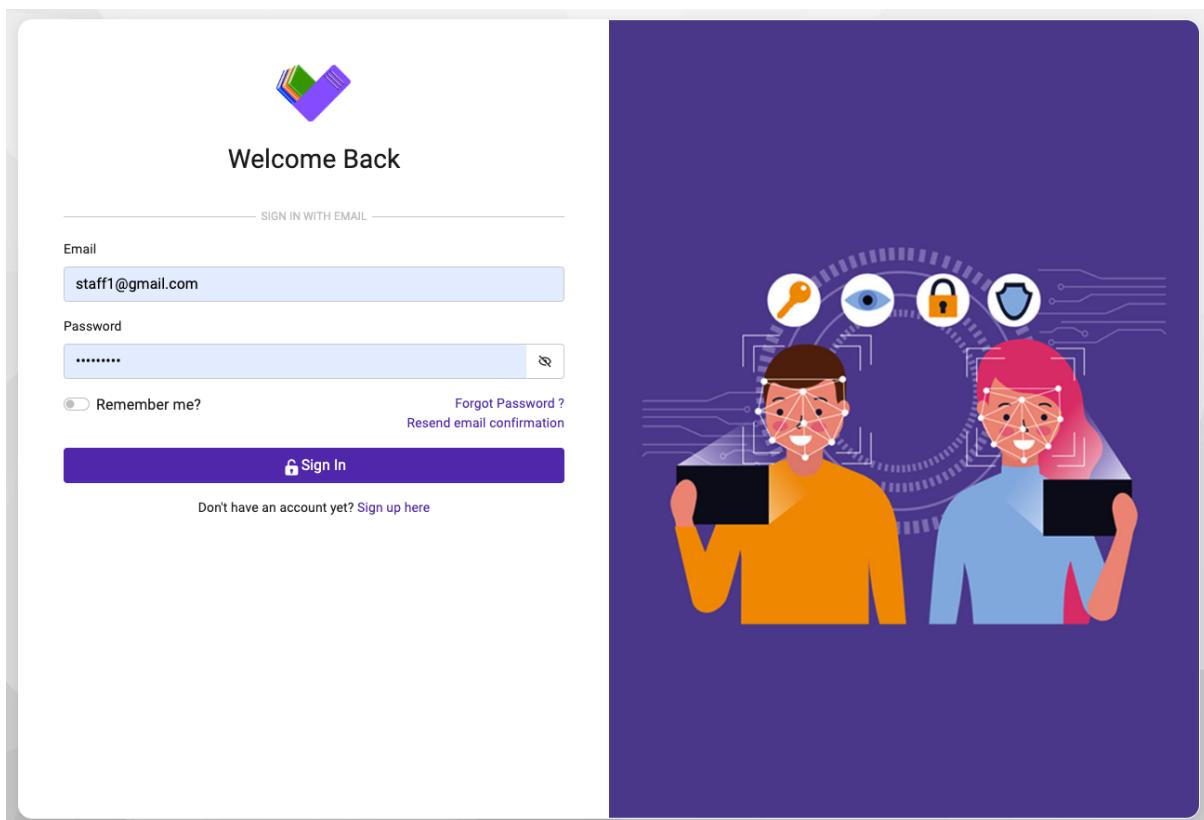


*Figure 3.2.1.3.3: Create new password*

### **3.2.2 Owner, Staff**

#### **3.2.2.1 Login**

- Go to the login page
- Enter “Email” and “Mật khẩu” in login form
- Click “Đăng nhập” button



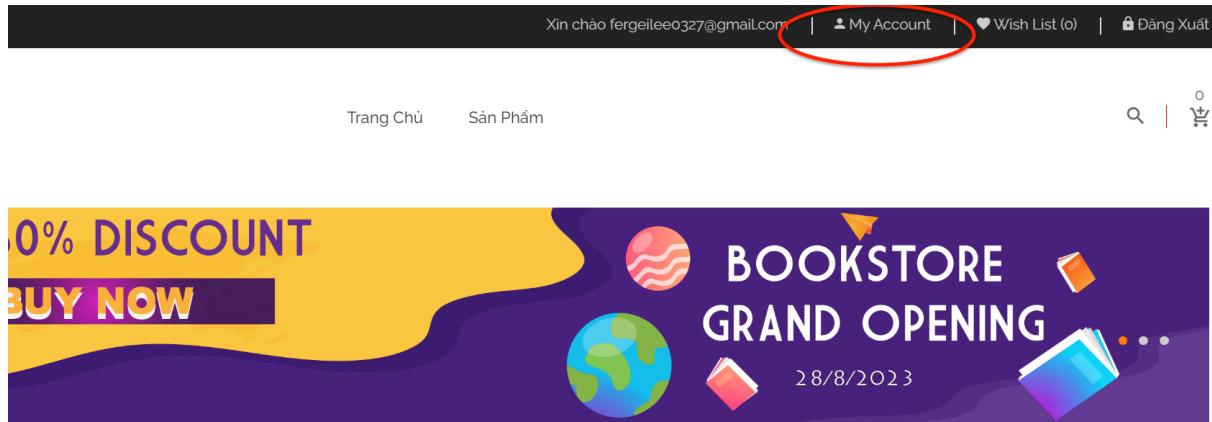
*Figure 3.2.2.1.1: Screen Login*

### 3.3 Manage profile

#### 3.3.1 Customer

##### 3.3.1.1 View profile

- Login to Homepage
- Click “My Account”
- Click “Thông tin tài khoản”



#### IN CHẠY

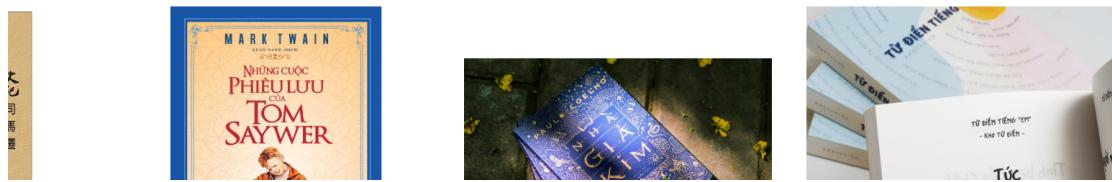


Figure 3.3.1.1.1: Click My Account

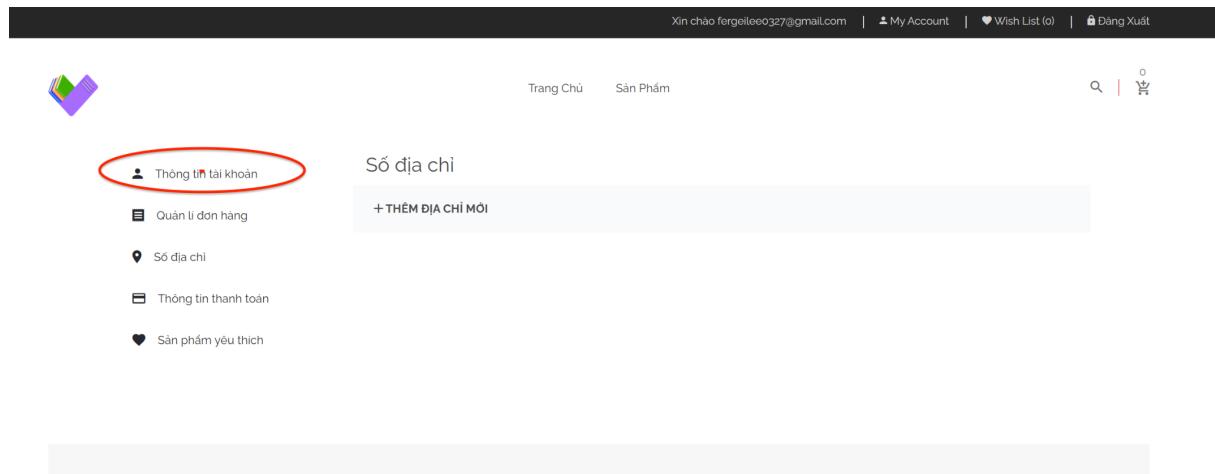


Figure 3.3.1.1.2: Click “Thông tin tài khoản”

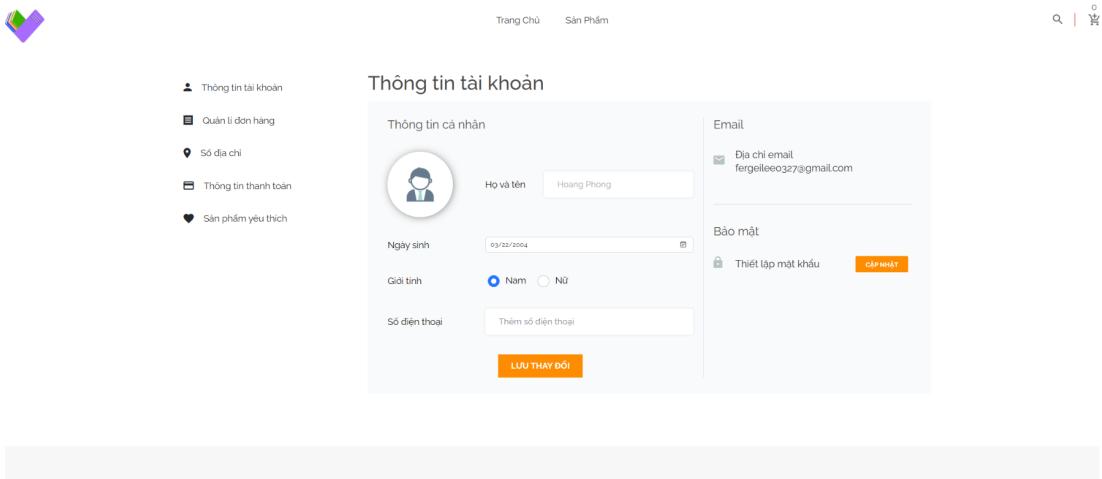


Figure 3.3.1.1.3: Details Profile Customer

### 3.3.1.2 Update profile

- Click “Thông tin cá nhân”
- Choose new avatar click to avatar and upload picture
- Edit new name
- Edit “Ngày sinh”
- Edit “Giới tính”
- Edit “Số điện thoại”
- Click “Lưu thay đổi”
- Update password click “Cập nhật”

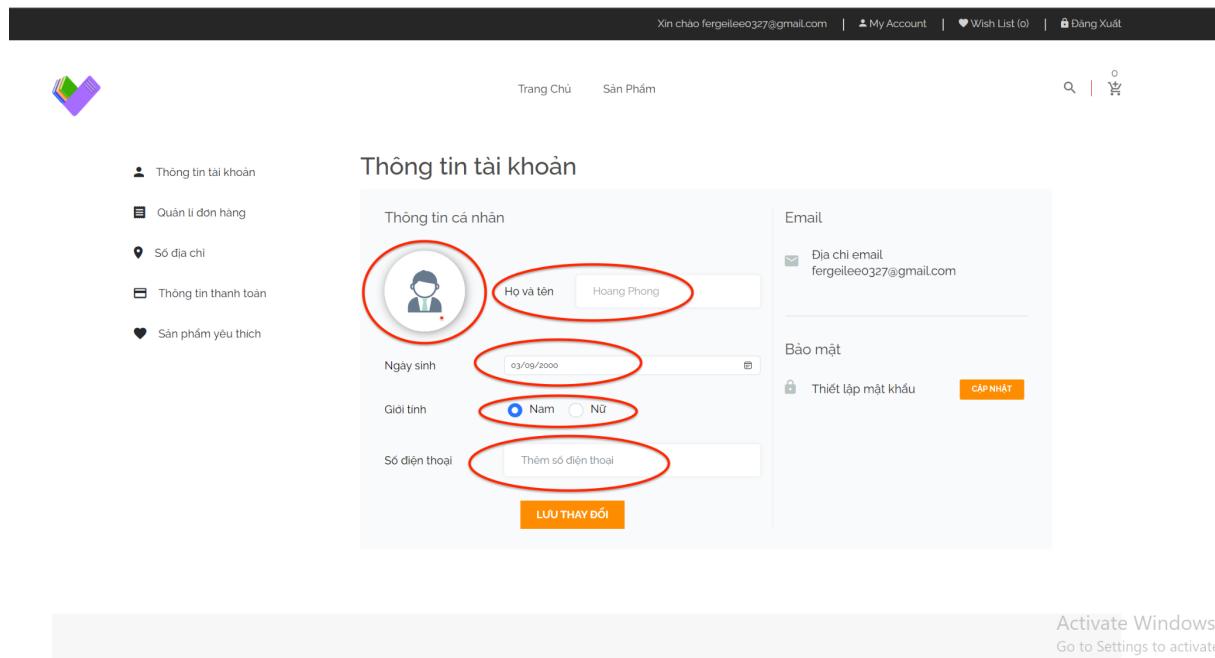


Figure 3.3.1.2.1: Update profile

Thông tin tài khoản

Thông tin cá nhân

Họ và tên: Hoang Phong

Ngày sinh: 03/28/2004

Giới tính: Nam

Số điện thoại: Thêm số điện thoại

LƯU THAY ĐỔI

Email

Địa chỉ email: fergeleeo0327@gmail.com

Bảo mật

Thiết lập mật khẩu

CẤP NHẬT

Figure 3.3.1.2.2: Update password

Thiết lập mật khẩu

Mật khẩu hiện tại  
Nhập mật khẩu hiện tại

Mật khẩu mới  
Nhập mật khẩu mới

Nhập lại mật khẩu mới  
Nhập lại mật khẩu mới

LƯU THAY ĐỔI

Figure 3.3.1.2.3: Update password

### 3.3.1.3 Edit shipping information

- Click “My Account”
- Edit “Số địa chỉ” or click “Số địa chỉ”
- Click “Thêm địa chỉ mới”
- Click “Lưu”

Xin chào fergeleeo0327@gmail.com | My Account | Wish List (0) | Đăng Xuất

Trang Chủ Sản Phẩm

Thông tin tài khoản

Quản lý đơn hàng

Số địa chỉ

Thông tin thanh toán

Sản phẩm yêu thích

Số địa chỉ

+THÊM ĐỊA CHỈ MỚI

Figure 3.3.1.3.1: Add shipping information

Thêm địa chỉ nhận hàng mới

Họ và tên: \_\_\_\_\_

Số điện thoại: \_\_\_\_\_

Tỉnh/Thành phố: Chọn Tỉnh/Thành Phố

Quận huyện: Chọn Quận/Huyện

Phường xã: Chọn Phường/Xã

Địa chỉ: \_\_\_\_\_

Đặt làm địa chỉ mặc định

LƯU

Quay lại danh sách địa chỉ

Activate Windows  
Go to Settings to activate Windows

Figure 3.3.1.3.2: Enter information

### 3.3.1.4 View order

- Click “My Account”
- Click “Quản lý đơn hàng”
- View all order “Tất cả đơn hàng”
- View order status “Chờ xác nhận”, “Đang xử lý”, “Đang vận chuyển”, “Đã giao”, “Đã huỷ”

Đơn hàng của tôi

	Tất cả đơn hàng	Chờ xác nhận	Đang xử lý	Đang vận chuyển	Đã giao	Đã hủy
#3	Sứ Ký Tư Mã Thiên (Tái Bản 2023) Giá: 198.000 VNĐ Chiết khấu: 5% Số lượng: 6				1.128.600 VNĐ	
	Từ Điển Tiếng 'Em' - Tái Bản 2021 Giá: 69.000 VNĐ Chiết khấu: 5% Số lượng: 9				589.950 VNĐ	
	Tô Bình Yên Vẽ Hạnh Phúc (Tái Bản 2022) Giá: 88.000 VNĐ Chiết khấu: 5% Số lượng: 7				585.200 VNĐ	
					Tổng tiền: 2,303,750 VNĐ	
					Xem chi tiết	Hủy đơn

Activate Windows  
Go to Settings to activate Windows

Figure 3.3.1.4.1: View “Tất cả đơn hàng”

The screenshot shows a user's account page with a sidebar on the left containing links like 'Thông tin tài khoản', 'Quản lý đơn hàng', 'Số địa chỉ', 'Thông tin thanh toán', and 'Sản phẩm yêu thích'. The main content area is titled 'Đơn hàng của tôi' (My Orders). A red circle highlights the 'Đang xử lý' (Processing) tab in the navigation bar, which is the second tab from the left. Below the tabs is a search bar with placeholder text 'Tim đơn hàng theo tên sản phẩm, mã sản phẩm' and an orange 'TÌM KIẾM' button. The order list displays three items:

- Sứ Ký Tư Mã Thiên (Tái Bản 2023) - Giá: 198.000 VND, Chiết khấu: 5%, Số lượng: 6
- Từ Điển Tiếng "Em" - Tái Bản 2021 - Giá: 69.000 VND, Chiết khấu: 5%, Số lượng: 9
- Tô Bình Yên Về Hạnh Phúc (Tái Bản 2022) - Giá: 88.000 VND, Chiết khấu: 5%, Số lượng: 7

The total amount at the bottom is 'Tổng tiền: 2,303,750 VND'.

Figure 3.3.1.4.2: View “Đang xử lý”

This screenshot is nearly identical to Figure 3.3.1.4.2, showing the same sidebar and order list. However, the red circle highlights the 'Đang vận chuyển' (In transit) tab in the navigation bar, which is the fourth tab from the left. The order list contains the same three items as Figure 3.3.1.4.2.

Figure 3.3.1.4.3: View “Đang vận chuyển”

Trang Chủ Sản Phẩm

Đơn hàng của tôi

Tất cả đơn hàng Chờ xác nhận Đang xử lý Đang vận chuyển **Đã giao** Đã hủy

Tim đơn hàng theo tên sản phẩm, mã sản phẩm **TÌM KIẾM**

#3 Giao hàng thành công

Sử Ký Tư Mã Thiên (Tái Bản 2023)  
Giá: 198.000 VND  
Chiết khấu: 5%  
Số lượng: 6

Từ Điển Tiếng "Em" - Tái Bản 2021  
Giá: 69.000 VND  
Chiết khấu: 5%  
Số lượng: 9

Tô Bình Yên Về Hạnh Phúc (Tái Bản 2022)  
Giá: 88.000 VND  
Chiết khấu: 5%  
Số lượng: 7

**Tổng tiền: 2,303,750 VND**

Xem chi tiết

Activate W Go to Settings

Figure 3.3.1.4.4: View “Đã giao”

### 3.3.2 Owner/Staff

#### 3.3.2.1 View profile

- Click “Tài khoản” on sidebar

Bookstore

Tài khoản

Nhân viên > Hồ sơ

HỒ SƠ CÁ NHÂN

Thông tin cá nhân

Họ và tên: Staff1FullName Số CMND: 123456789101

Email: staff1@gmail.com Chức vụ: Nhân viên

Số điện thoại: 0123456789 Ngày sinh: 02/02/2002 Giới tính: ♂ Nam ♀ Nữ

Địa chỉ: 123 Example Street, City, Country

Ảnh đại diện

Hủy Đổi Mật Khẩu Lưu

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Activate Windows Go to Settings to activate Windows

Figure 3.3.2.1.1: View profile Owner/Staff

### 3.3.2.2 Change Password

- Click “Đổi mật khẩu”
- After inputting old password and new password,
- Click “Lưu”

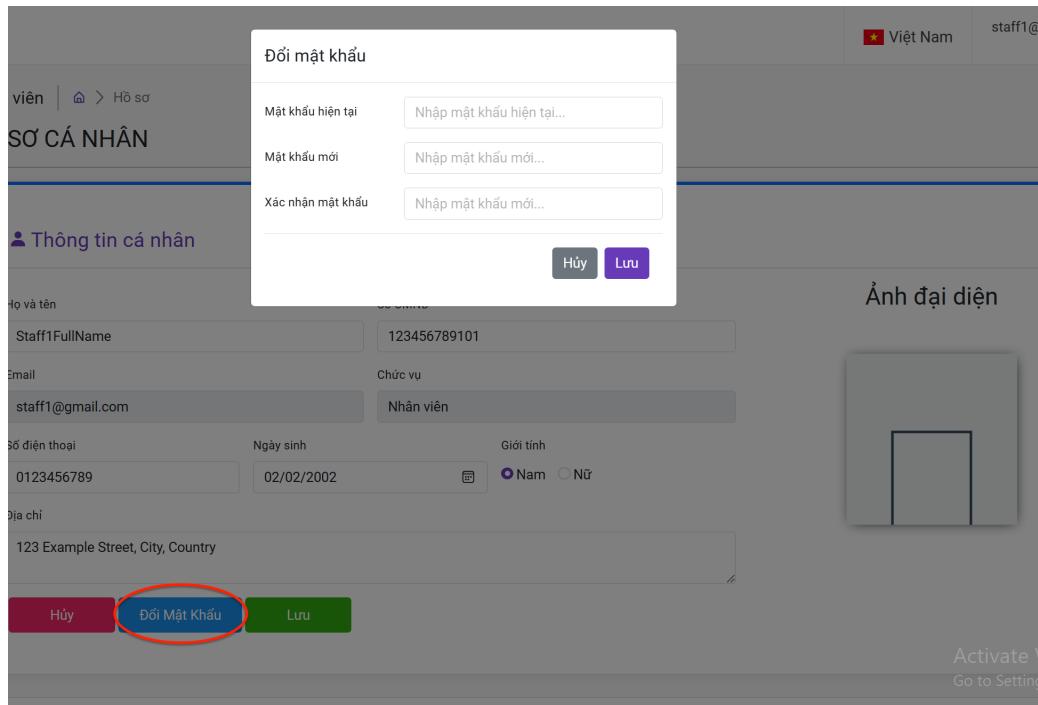


Figure 3.3.2.2.1: Change password

## 3.4 Manage Staff

### 3.4.1 View list Staff

- Click “Nhân Viên” on sidebar
- Choose “Danh sách nhân viên”

Ảnh	Tên nhân viên	Email	Số điện thoại	Địa chỉ	Chức vụ	Trạng thái	Hành động
	Staff1FullName	staff1@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input checked="" type="checkbox"/>	
	Staff2FullName	staff2@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input checked="" type="checkbox"/>	

Figure 3.4.1.1: View list Staff

### 3.4.2 Create Staff

- Click “Nhân viên” on sidebar
- Choose “Thêm nhân viên” or click “Thêm nhân viên mới” on table “Bảng quản lý nhân viên”

Figure 3.4.2.1: Create Staff

Figure 3.4.2.2: Create Staff

### 3.4.3 Update Staff

- Click button eyes on table “Bảng quản lý nhân viên”
- Edit employee's information, then click “Lưu”

The screenshot shows the 'Nhân viên' (Staff) section of the Bookstore application. On the left, there's a sidebar with navigation links: Tài khoản, Thống kê, Nhân viên (selected), Danh sách nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main area displays a table titled 'Bảng quản lý nhân viên' (Staff Management Table) with two entries. The columns include: Ảnh (Avatar), Tên nhân viên (Name), Email, Số điện thoại (Phone Number), Địa chỉ (Address), Chức vụ (Position), Trạng thái (Status), and Hành động (Actions). The 'Hành động' column contains icons for edit, delete, and view. The second row's 'View' icon is circled in red.

Figure 3.4.3.1: Update Staff

The screenshot shows the 'CẬP NHẬT THÔNG TIN NHÂN VIÊN' (Update Staff Information) page. The left sidebar is identical to Figure 3.4.3.1. The main form is titled 'Thông tin nhân viên' (Staff Information) and includes fields for: Họ và Tên (Name - Staff1FullName), Email (staff1@gmail.com), Số điện thoại (Phone Number - 0123456789), Ngày sinh (Date of Birth - 02/02/2002), Số CCCD/CMND (ID Card/Passport Number - 123456789101), Giới tính (Gender - Male selected), Địa chỉ (Address - 123 Example Street, City, Country), and a placeholder image for 'Ảnh đại diện' (Profile Picture). At the bottom are 'Hủy' (Cancel) and 'Lưu' (Save) buttons.

Figure 3.4.3.2: Update Staff

### 3.4.4 Change Staff's Status

- Click “Trạng thái” button at table “Danh sách nhân viên”

Ảnh	Tên nhân viên	Email	Số điện thoại	Địa chỉ	Chức vụ	Trạng thái	Hành động
	Staff1FullName	staff1@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input type="checkbox"/>	
	Staff2FullName	staff2@gmail.com	0123456789	123 Example Street, City, Country	Nhân viên	<input checked="" type="checkbox"/>	

Từ 1 đến 2 trên tổng 2

Figure 3.4.4.1: Change status Staff

## 3.5 Manage Products

### 3.5.1 View list products

- Click “Sản phẩm” on sidebar
- Choose “Danh sách sản phẩm”

Ảnh	Mã vạch	Tên sản phẩm	Tồn kho	Có thể bán	Giá nhập (VND)	Giá lẻ (VND)	Giá sỉ (VND)	Chi tiết
	PVN6	Tô Bình Yên Về Hạnh Phúc (Tái Bản 2022)	47	46	20	88,000	50,000	
	123456	Sứ Kỷ Tư Mã Thiên (Tái Bản 2023)	6	6	10,500	11	12	
	PVN10	Túi Bút Bi 0.5 mm Thiên Long TL-105 - Mực Đen	0	0	15,000	20,000	20,000	
	PVN2	Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)	51	49	19,982	67,000	40,000	

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Activate Windows  
Go to Settings to activate Windows.

Figure 3.5.1.1: View list products

### 3.5.2 Create products

- Click “Tạo sản phẩm mới”
- Choose “Sách” or on table product click “Thêm sản phẩm” choose “Thêm sách”
- Choose “Văn phòng phẩm” or on table product click “Thêm sản phẩm” choose “Thêm văn phòng phẩm”

The screenshot shows the Bookstore application's product creation interface. On the left, a sidebar menu includes 'Tài khoản', 'Thống kê', 'Nhân viên', 'Nhật ký hoạt động', 'Sản phẩm' (selected), 'Khách hàng', 'Đơn hàng', and 'Nhập hàng'. Under 'Sản phẩm', 'Tạo sản phẩm mới' is expanded, with 'Sách' highlighted and circled in red. The main area has four tabs: 'Ảnh' (Image) with a file upload button; 'Thông tin chung' (General information) with fields for Mã vạch (Barcode), Tên sản phẩm (Product name), Mô tả (Description), Đơn vị (Unit), Kích thước (Dimensions), Trọng lượng (Weight), and Loại sản phẩm (Product type); 'Thông tin sách' (Book information) with fields for Số trang (Number of pages), Ngôn ngữ (Language), and Tác giả (Author); and 'Giá sản phẩm' (Product price) with fields for Giá nhập (Purchase price), Giá lẻ (Retail price), Chiết khấu lẻ (Retail discount), Giá sỉ (Wholesale price), Chiết khấu sỉ (Wholesale discount), and a note about activating Windows.

Figure 3.5.2.1: Create products

This screenshot is similar to Figure 3.5.2.1 but shows 'Văn phòng phẩm' (Stationery) selected in the sidebar instead of 'Sách'. The 'Thông tin chung' tab shows the same fields as before, but the 'Thông tin sách' tab now includes a 'Loại sản phẩm' (Product type) field set to 'Văn học' (Literature). The rest of the interface is identical to Figure 3.5.2.1.

Figure 3.5.2.2: Create products

### 3.5.3 Update products

- Click “Sản phẩm”
- Choose “Danh sách sản phẩm”
- Click button edit
- After editing product’s information, click “Lưu”

Sản phẩm | Sổ liệu sản phẩm

Bảng quản lý sản phẩm

Hiển thị: 10 kết quả

Ảnh	Mã vạch	Tên sản phẩm	Tồn kho	Có thể bán	Giá nhập (VND)	Giá lẻ (VND)	Giá sỉ (VND)	Chi tiết	Trạng thái	Hành động
	PVN7	How Business Works - Hiểu Hết Về Kinh Doanh	0	0	265,335	380,000	380,000			
	PVN1	Sứ Ký Tự Mã Thiên (Tái Bản 2023)	45	44	200,000	198,000	130,000			
	PVN9	Chúa Tể Bóng Tối - Tập 1 - Bản Giới Hạn - Tặng Kèm Character Card + Mini Clearfile	1	0	100,000	201,600	201,600			
	PVN12	Lần Đầu Lâm Bố	10	10	88,358	0	0			
	PVN15	Người Bà Tài Giỏi Vung Saga	1	1	83,328	0	0			

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Figure 3.5.3.1: Update products

Ảnh

Thông tin chung

Mã vạch: PVN7 | Tên sản phẩm: How Business Works - Hiểu Hết Về Kinh Doanh

Mô tả: Mô tả về sản phẩm...

Đơn vị: Quyển | Kích thước: VD: 30 x 40 cm | Trọng lượng: VD: 500 g

Loại sản phẩm: Văn học

Select Image(S) To Upload

Activate Windows  
Go to Settings to activate Window

Figure 3.5.3.2: Update products

- To change product’s status, click “Ngừng kinh doanh” or “Tiếp tục kinh doanh”

Figure 3.5.3.3: Update products

### 3.5.4 Create Category

- Click “Loại sản phẩm” on sidebar
- Click “Tạo nhóm”

Figure 3.5.4.1: Create Category

### 3.5.5 Update Category

- Click button edit on table “Loại sản phẩm”

The screenshot shows the 'Loại sản phẩm' (Product Category) screen in the Bookstore application. On the left, there's a sidebar with various menu items like Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm (selected), and Khách hàng. The main area displays a table of categories. The 'Sách' category is selected, indicated by a blue border. In the 'Hành động' (Action) column for 'Sách', the first icon (pencil) is circled in red, indicating it's the edit button. Other icons in the same row include a magnifying glass and a trash can. At the bottom right of the table, there are buttons for 'Tạo Nhóm' (Create Group) and 'Tạo Nhóm Con' (Create Sub-Group). The status bar at the bottom right shows 'Activate Windows Go to Settings to activate Window'.

Figure 3.5.5.1: Update products

The screenshot shows the 'Sửa nhóm' (Edit group) screen for the 'Sách' category. The sidebar on the left is identical to Figure 3.5.5.1. The main area has a title 'Sửa nhóm' and a sub-section 'Tên loại sản phẩm' with the value 'Sách' entered. Below this is a large purple 'Lưu' (Save) button. At the bottom left, there's a link 'Quay lại danh sách' (Return to list).

Figure 3.5.5.2: Update products

### 3.5.6 Create SubCategory

- Click “Loại sản phẩm” on sidebar
- Click “Tạo nhóm con”

Figure 3.5.6.1: Create SubCategory

### 3.5.7 Update SubCategory

- Click button view on table “Loại sản phẩm”
- Click button edit SubCategory

Figure 3.5.7.1: Update SubCategory

### 3.5.8 Create Author

- Click “Sản phẩm” on sidebar
- Choose “Tạo tác giả sách”
- Click “Thêm tác giả”

ID	Tác giả	Trạng thái	Hoạt động
1	Daisuke Aizawa, Touzai	ON	
2	Paulo Coelho	OFF	
3	David Baldacci	ON	
4	Liu Yong	OFF	
5	Adrian Kulp	ON	
6	Nguyen Nhat Anh	ON	
7	Tô Hoài.	ON	
8	Nam Cao.	ON	
9	Nguyễn Minh Châu.	ON	

Figure 3.5.8.1: Create Author

- Click “Lưu” to save Author

Tác giả	Trạng thái	Hoạt động
Daisuke Aizawa, Touzai	ON	
Paulo Coelho	OFF	
David Baldacci	ON	
Liu Yong	OFF	
Adrian Kulp	ON	
Nguyen Nhat Anh	ON	
Tô Hoài.	ON	
Nam Cao.	ON	
Nguyễn Minh Châu.	ON	

Figure 3.5.8.2: Create Author

### 3.5.9 Update Author

- Click “Sản phẩm” on sidebar
- Choose “Tạo tác giả sách”
- Click button edit on table “Quản lý tác giả”
- Click “Lưu”

ID	Tác giả	Trạng thái	Hành động
1	Daisuke Aizawa, Touzai	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Paulo Coelho	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	David Baldacci	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Liu Yong	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Adrian Kulp	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	Nguyen Nhat Anh	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	Tô Hoài.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	Nam Cao.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	Nguyễn Minh Châu.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 3.5.9.1: Update Author

- Click “Lưu”

Figure 3.5.9.2: Update Author

## 3.6 Manage Customer

### 3.6.1 View list Customer

- Click “Khách hàng” on sidebar
- Choose “Danh sách khách hàng”

Mã khách hàng	Tên khách hàng	Số điện thoại	Nhóm khách hàng	Tổng SL đơn hàng	Chi tiết
1	Nguyen Van Truong		Khách lẻ	2	
3	Nguyen Tien Dong	0344455556	Khách lẻ	0	
4	Nguyen Van An	0346798788	Khách sỉ	1	
5	Hoang Phong		Khách lẻ	2	
6	Nguyen Van Truong	0346798008	Khách lẻ	0	

Từ 1 đến 5 trên tổng 5

Trước Tiếp

Activate Windows  
Go to Settings to activate Windows.

Figure 3.6.1.1: View list Customer

Thông tin khách hàng

Họ và tên: Nguyen Van Truong

Ngày sinh: 02/07/2002

Giới tính:  Nam  Nữ

Số điện thoại: Nhập số điện thoại

Nhóm khách hàng:  Khách lẻ  Khách sỉ

Lưu Thay Đổi Quay Lại Thoát

Activate Windows  
Go to Settings to activate Windows.

Figure 3.6.1.2: View list Customer

### 3.6.2. Create Customer

- Click “Khách hàng” on sidebar
- Choose “Danh sách khách hàng”
- Click “Tạo mới khách hàng”

The screenshot shows a web-based application interface for managing a bookstore. On the left, there is a sidebar with various menu items: Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng (selected), Danh sách khách hàng (sub-item), Thêm khách hàng, Đơn hàng, and Nhập hàng. The main content area is titled 'Khách hàng' and 'Quản lý khách hàng'. It displays a table titled 'Danh sách khách hàng' with columns: Mã khách hàng, Tên khách hàng, Số điện thoại, Nhóm khách hàng, Tổng SL đơn hàng, and Chi tiết. There are six rows of data. At the top right of the table, there are buttons for 'Nhập File', 'Xuất File', and '+ Tạo Mới Khách Hàng' (highlighted with a red oval). Below the table, there is a message 'Từ 1 đến 5 trên tổng 5' and navigation buttons 'Trước 1 Tiếp'.

Figure 3.6.2.1: Create Customer

The screenshot shows the 'TẠO KHÁCH HÀNG MỚI' (Create New Customer) form. The sidebar on the left is identical to Figure 3.6.2.1. The main form is titled 'Thông tin khách hàng' (Customer Information). It includes fields for: Họ và tên (Name) with an input field 'Nhập tên', Nhóm khách hàng (Customer Group) with radio buttons for 'Khách lẻ' (selected) and 'Khách sỉ'; Ngày sinh (Date of Birth) with an input field 'mm/dd/yyyy' and a calendar icon; Số điện thoại (Phone Number) with an input field 'Nhập số điện thoại'; Giới tính (Gender) with radio buttons for 'Nam' and 'Nữ'; Tỉnh/Thành Phố (Province/City) with a dropdown 'Chọn Tỉnh/Thành Phố'; Quận/Huyện (District/County) with a dropdown 'Chọn Quận/Huyện'; and Phường/Xã (Neighborhood/Village) with a dropdown 'Chọn Phường/Xã'. Below these, there is a 'Địa chỉ chi tiết' (Detailed Address) input field 'Nhập địa chỉ chi tiết' and two buttons at the bottom: 'Thêm Mới' (Add New) and 'Thoát' (Exit).

Figure 3.6.2.2: Create Customer

### 3.6.3 Update Customer

- Click “Khách hàng” on sidebar
- Choose “Danh sách khách hàng”
- Click button eyes on table

The screenshot shows the 'Khách hàng' (Customer) list page. On the left is a sidebar with navigation links: Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng (which is selected and highlighted in purple), Thêm khách hàng, Đơn hàng, and Nhập hàng. The main area has a title 'Quản lý khách hàng' and a sub-section 'Danh sách khách hàng'. It displays a table with columns: Mã khách hàng, Tên khách hàng, Số điện thoại, Nhóm khách hàng, and Tổng SL đơn hàng. There are 6 rows of data. A red circle highlights the eye icon in the header of the first row. At the bottom right of the table, there are 'Trước' and 'Tiếp' buttons.

Figure 3.6.3.1: Update Customer

- Click “Cập nhật” update customer information

The screenshot shows the 'Chi tiết khách hàng' (Customer Details) page for 'Nguyen Van Truong'. The sidebar is identical to Figure 3.6.3.1. The main content area shows two tabs: 'Thông tin cá nhân' (Personal Information) and 'Thông tin mua hàng' (Purchase Information). The 'Thông tin cá nhân' tab is active, showing fields: NGÀY SINH (07-02-2002), GIỚI TÍNH (Nam), SỐ ĐIỆN THOẠI (empty), NHÓM KHÁCH HÀNG (Khách lẻ), and a 'Cập Nhật' (Update) button. The 'Thông tin mua hàng' tab shows: TỔNG SỐ ĐƠN HÀNG (2), TỔNG SỐ SẢN PHẨM ĐÃ MUA (0). Below these tabs is a table titled 'Lịch sử mua hàng' (Purchase History) with 2 rows. A red circle highlights the 'Cập Nhật' button. At the bottom right, there is a 'Thoát' (Logout) button.

Figure 3.6.3.2: Update Customer

Click “Địa chỉ” add new shipping information

The screenshot shows the Bookstore application interface. On the left, there's a sidebar with navigation links: Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main content area displays a customer profile for "Khách Hàng: Nguyen Van Truong". Below the profile, there are two tabs: "Thông tin cá nhân" (Personal Information) and "Đang giao dịch" (Current Transaction). Under "Thông tin cá nhân", there are fields for Ngày Sinh (07-02-2002), Giới Tính (Nam), and Số Điện Thoai (empty). To the right, there's a "Cập Nhật" (Update) button. Below these tabs is a table titled "Lịch sử mua hàng" (Purchase History) with columns for Số điện thoại, Địa chỉ, Phường/xã, Quận/huyện, Tỉnh/thành phố, and Hành động. The table contains three rows of data. At the bottom of this section is a "Hiển thị" (Display) dropdown set to 10 and a "kết quả" (result) link. To the right of the table is a "Thông tin mua hàng" (Purchase Information) section with fields for Tổng số đơn hàng (2) and Tổng số sản phẩm đã mua (0). Below this is a "Thêm Địa Chỉ Mới" (Add New Shipping Address) button. The bottom right corner of the page has a "Activate Windows" watermark.

Figure 3.6.3.3: Update Customer

- Click “Thêm mới”

The screenshot shows the "Thêm mới địa chỉ giao hàng" (Add new shipping address) form. On the left, there's a sidebar with the same navigation links as Figure 3.6.3.3. The main form has two tabs: "Thông tin khách hàng" (Customer Information) and "Địa chỉ giao hàng mới" (New Shipping Address). The "Thông tin khách hàng" tab is selected, displaying customer details: TÊN KHÁCH HÀNG : Nguyen Van Truong, NGÀY SINH : 2/7/2002 12:00:00 AM, GIỚI TÍNH : Nam, and SỐ ĐIỆN THOAI : . The "Địa chỉ giao hàng mới" tab is active, showing fields for Tên người nhận (Nhập tên), Số điện thoại (Nhập số điện thoại), and Địa chỉ chi tiết (Nhập địa chỉ chi tiết). Below these fields are dropdown menus for Tỉnh/Thành Phố (Chọn Tỉnh/Thành Phố), Quận/Huyện (Chọn Quận/Huyện), and Phường/Xã (Chọn Phường/Xã), each with a "Chọn..." button. At the bottom of the form are two buttons: "Thêm Mới" (Add New) and "Quay Lại" (Back).

Figure 3.6.3.4: Update Customer

### 3.7 Manage Order

#### 3.7.1 View list order

- Click “Đơn hàng” on sidebar
- Choose “Danh sách đơn hàng”

Figure 3.7.1.1: View list order

#### 3.7.2 Create order

- Click “Đơn hàng” on sidebar
- Choose “Tạo đơn hàng mới”
- Choose “Địa chỉ giao hàng”
- Input “Chi tiết đơn hàng”
- Input “Số lượng”, “Đơn giá”, “Chiết khấu”, “Thuế GTGT”, “Số tiền phải trả”
- Click “Lưu”

Figure 3.7.2.1: Create Order

### 3.7.3 Update order

- Click “Đơn hàng”
- Choose “Danh sách đơn hàng”
- Click button eyes on row order with status “Đang xử lí”

The screenshot shows the 'Order List' page in the Bookstore application. The left sidebar includes links for Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main area has tabs for 'Đơn hàng' and 'Số liệu đơn hàng'. Below is a table titled 'Bảng quản lý đơn hàng' with columns: ID, Khách hàng, Ngày tạo, Trạng thái, Tổng tiền, and Chi tiết đơn hàng. Row 6, which has a red border around it, represents an order for 'A Tung' with ID 6, created on 2023-08-20, currently in the 'Đang xử lí' (Processing) status, and a total amount of 63650 VND.

Figure 3.7.3.1: Update Order

- Click “Giao hàng”

The screenshot shows the 'Customer Details' page in the Bookstore application. The left sidebar includes links for Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main area shows a summary of payment history and a detailed view of order #6. At the bottom, there are three buttons: 'Giao Hàng' (highlighted with a red circle), 'Hủy Đơn', and 'Quay Lại'.

Figure 3.7.3.2: Update Customer

- Click “Đã giao”

The screenshot shows the Bookstore application interface. On the left is a sidebar with navigation links: Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main content area displays the 'Lịch sử thanh toán' (Payment History) and 'Chi tiết đơn hàng' (Order Details). The 'Chi tiết đơn hàng' section lists a single item: 'Những Cuộc Phiêu Lưu Của Tom Sawyer (Tái Bản 2023)' by Quyển, quantity 1, unit price 67000 VND, discount 5%, and total amount 63650 VND. Below this is a breakdown of taxes and fees. At the bottom of the order details section, there are three buttons: 'Đã Giao' (Shipped), 'Hủy Đơn' (Cancel Order), and 'Quay Lại' (Back). The 'Đã Giao' button is circled in red.

Figure 3.7.3.3: Update Customer

- Order successfully

The screenshot shows the Bookstore application interface. The sidebar includes: Tài khoản, Thống kê, Nhân viên, Nhật ký hoạt động, Sản phẩm, Khách hàng, Đơn hàng, and Nhập hàng. The main content area shows the 'Đơn hàng' (Order) page. It features a timeline with six status steps: 'TAO ĐƠN', 'CHỖ XÁC NHẬN', 'ĐANG XỬ LÝ', 'ĐANG VẬN CHUYỂN', 'ĐÃ GIAO HÀNG', and 'ĐÃ HOÀN THÀNH'. The 'ĐÃ GIAO HÀNG' step is highlighted with a red box. To the right, there's a 'Thông tin bổ sung' (Additional Information) panel with details: Nhân viên xác nhận đơn: OwnerFullName, Ngày tạo đơn: 20/08/2023, and Ghi chú: . Below this is the 'Địa chỉ giao hàng' (Delivery Address) section with recipient information: A. Tung, 0346798008, ABC. At the bottom is the 'Lịch sử thanh toán' (Payment History) section, which is identical to Figure 3.7.3.3.

Figure 3.7.3.4: Update Customer

### 3.8 Manage Purchase Order

#### 3.8.1. View list purchase order

- Click “Nhập hàng” on sidebar
- Choose “Danh sách hóa đơn nhập”

Figure 3.8.1.1: View list Purchase

#### 3.8.2 Create purchase order

- Click “Nhập hàng” on sidebar
- Choose “Thêm hóa đơn nhập”
- Choose “Nhà cung cấp”
- Choose “Chi tiết đơn hàng”
- Input “Số lượng”, “Đơn giá”, “Chiết khấu”, “Thuế GTGT”, “Số tiền đã trả”

Figure 3.8.2.1: Create Purchase order

### 3.8.3 Update purchase order

- Click “Nhập hàng”

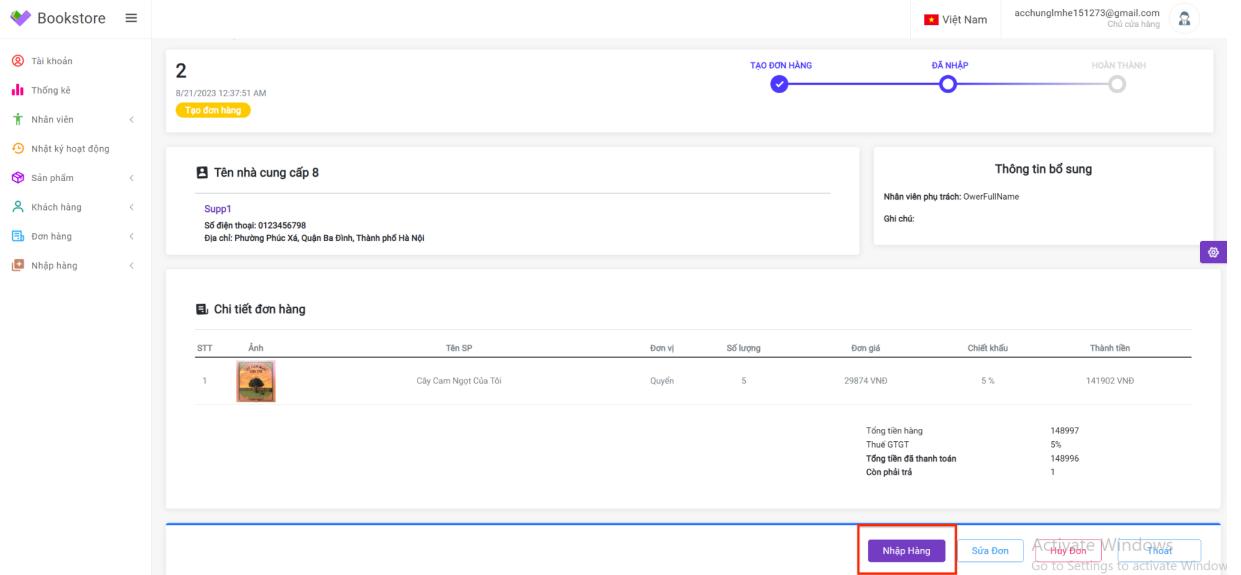


Figure 3.8.3.1: Update Purchase order

- Purchase order successfully

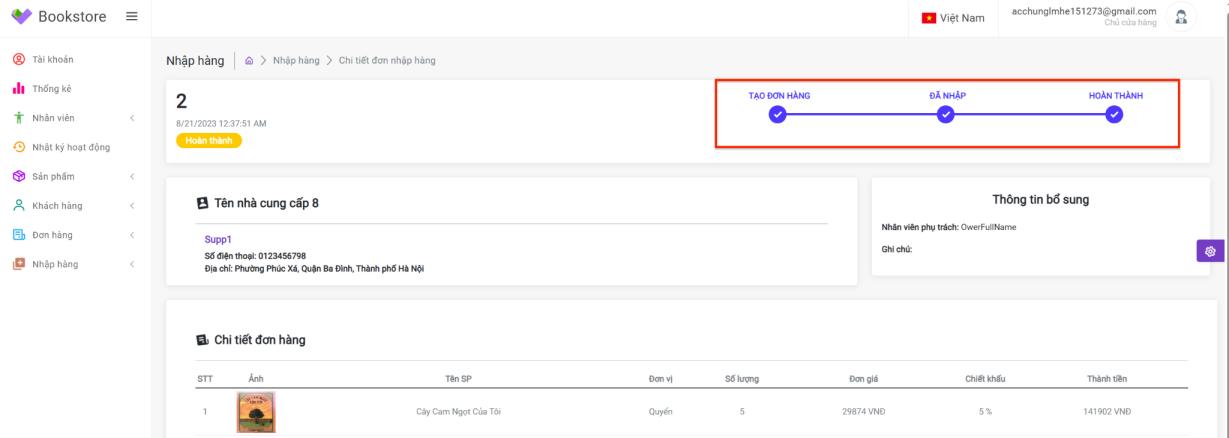


Figure 3.8.3.2: Update Purchase order

### 3.9 Manage Supplier

#### 3.9.1 View supplier

- Click “Nhập hàng”
- Choose “Nhà cung cấp”

Figure 3.9.1.1: View list Supplier

#### 3.9.2 Create supplier

- Click “Nhập hàng”
- Choose “Nhà cung cấp”
- Click “Tạo nhà cung cấp”

Figure 3.9.2.1: Create Supplier

- Input “Thông tin nhà cung cấp”
- Click “Tạo”

**Thông tin nhà cung cấp**

Tên Nhà Cung Cấp  
Nhập tên

Số điện thoại  
Nhập số điện thoại

Tỉnh/Thành Phố  
Chọn Tỉnh/Thành Phố

Quận/Huyện  
Chọn Quận/Huyện

Phường/Xã  
Chọn Phường/Xã

Địa chỉ chi tiết  
Nhập địa chỉ chi tiết

Ghi Chú  
Nhập ghi chú

**Tạo**

Activate Windows  
Go to Settings to activate Windows

Figure 3.9.2.2: Create Supplier

## 3.10 Customer Order

### 3.10.1 Create Order

- Search for your desired product

Trang Chủ

tìm

Sắp xếp theo : Sản phẩm mới nhất

Sản phẩm 1-1 trên tổng cộng 1.

**LOẠI SẢN PHẨM**

Sách

- Văn học
- Kinh Tế
- Tâm lý - Kỹ năng sống
- Sách nuôi dạy con
- Sách thiếu nhi
- Tiểu sử - Hồi ký
- Sách giáo khoa
- Sách ngoại ngữ
- Dụng cụ văn phòng

Văn phòng phẩm

- Bút - Viết
- Dụng cụ học sinh
- Dụng cụ vẽ
- Sản phẩm vải giấy
- Sản phẩm khác
- Sản phẩm điện tử
- Dụng cụ văn phòng

**GIÁ**

SƯ KÝ TƯ MÃ THIÊN (TÀI BẢN 2023)

198000 VND

188100 VND

Figure 3.10.1.2: Product search result

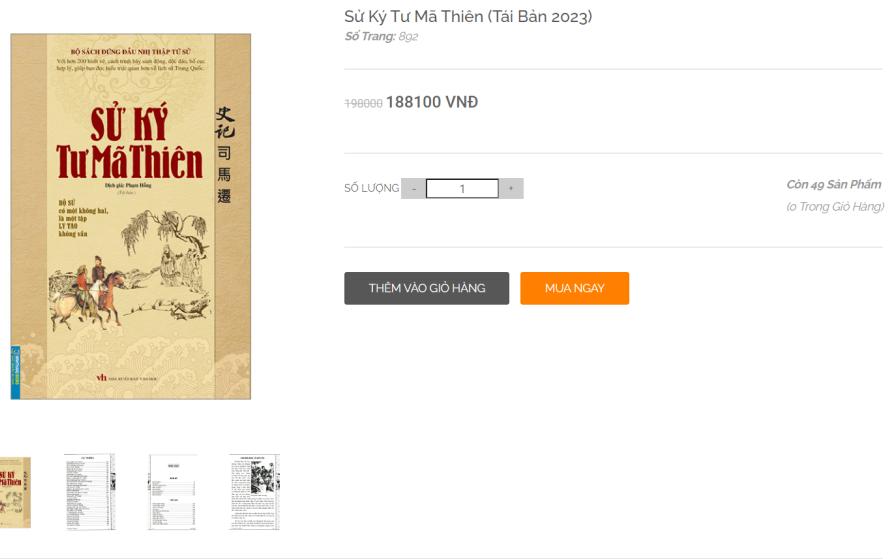


Figure 3.10.1.3: View Product detail

- Click “Thêm vào giỏ hàng” or “Mua ngay” to add products to cart

Sản Phẩm	Số Lượng	Giá
Những Câu Chuyện Của Tom Sawyer (Tái Bản 2023)	3	190,950 VND
Nhà Già Kim (Tái Bản 2020)	3	171,000 VND
<b>TOTAL = 361950 VND</b>		

Figure 3.10.1.4: Product in cart

SẢN PHẨM	GIÁ THÀNH	KHUYẾN MẠI	SỐ LƯỢNG	THÀNH TIỀN	XÓA
CHIẾN BINH CẦU VỒNG (TÀI BẢN 2...)	0 VND	0%	<input type="button" value="−"/> <input type="text" value="1"/> <input type="button" value="+"/>	0 VND	
NGƯỜI BÀ TÀI GIỎ VUNG SAGA	0 VND	0%	<input type="button" value="−"/> <input type="text" value="1"/> <input type="button" value="+"/>	0 VND	

TỔNG CỘNG  
**0 VND**

Activate Windows  
Go to Settings to activate Win

Figure 3.10.1.5: View Cart

- Click “Đặt hàng”
- Add “Địa chỉ giao hàng”
- Click “Đặt hàng”

**ĐỊA CHỈ GIAO HÀNG**

Hoang Phong  
Pai lung , Ha giang, Xã Pai Lung, Huyện Mèo Vạc, Tỉnh Hà Giang  
03467978008

**DON HÀNG**

Những Cuộc Phiêu Lưu Của Tom Sawyer (Tài Bản 2023) x 3	190950 VND
Nhà Già Kim (Tài Bản 2020) x 3	171000 VND
<b>Tổng cộng</b>	<b>361950 VND</b>

Activate Windows

Figure 3.10.1.6: Create order

### 3.10.2 View Order

- Click “My Account”
- Choose “Quản lý đơn hàng”

The screenshot shows a user interface for managing orders. At the top, there are navigation links: Trang Chủ, Sản Phẩm, a search bar, and a shopping cart icon. On the left, a sidebar lists account information: Thông tin tài khoản, Quản lý đơn hàng, Số địa chỉ, Thông tin thanh toán, and Sản phẩm yêu thích. The main area is titled 'Đơn hàng của tôi' (My Orders) and contains a table with two rows of order details. Each row includes a thumbnail image, product name, price (0 VND), discount percentage (0%), quantity (1), and total amount (0 VND). A red circle highlights the 'Tổng tiền: 0 VND' (Total amount: 0 VND) text at the bottom right of the table. Below the table are two buttons: 'Xem chi tiết' (View details) and 'Hủy đơn' (Cancel order).

Figure 3.10.2.1: View all orders

The screenshot shows a detailed view of order #1. At the top, there are navigation links: Trang Chủ, Sản Phẩm, a search bar, and a shopping cart icon. On the left, a sidebar lists account information: Thông tin tài khoản, Quản lý đơn hàng, Số địa chỉ, Thông tin thanh toán, and Sản phẩm yêu thích. The main area is titled 'Chi tiết đơn hàng #1 - Chờ nhân viên xác nhận' (Order detail #1 - Pending staff confirmation) and displays the recipient's address: NGUYEN VAN TRƯƠNG, Địa chỉ: ABC, Số điện thoại: 0346798008. Below this is a table showing the items in the order:

Sản phẩm	Số lượng	Đơn giá	Chiết khấu	Thành tiền
Chiến Bình Cầu Vồng (Tái Bản 2020)	1	0 VND	0%	0 VND
Chi tiết				
Người Bà Tài Giới Vùng Saga	1	0 VND	0%	0 VND
Chi tiết				
Tổng cộng				0 VND

At the bottom, there is a button labeled 'Hủy đơn' (Cancel order) and a link to go back to the previous page.

Figure 3.10.2.2: View order detail

The screenshot shows a web application for managing orders. On the left, there's a sidebar with various links: Thông tin tài khoản, Quản lý đơn hàng, Số địa chỉ, Thông tin thanh toán, and Sản phẩm yêu thích. The main area is titled "Đơn hàng của tôi" (My Orders). It displays a list of items with columns for Product Name, Price, Discount, Quantity, and Status. The first item is "Chiến Bình Cầu Võng (Tái Bản 2020)" with a status of "Chờ xác nhận" (Pending Confirmation), which is highlighted with a red box. The second item is "Người Bà Tài Giới Vùng Saga" with a status of "o VND". At the bottom right of the order list, it says "Tổng tiền: o VND" and has two buttons: "Xem chi tiết" and "Hủy đơn".

Figure 3.10.2.3: View order list