

# README

## Let's Shop

Ver 1.0

<b>Created by</b>	Trac Duc Anh Luong	<b>Created date</b>	10/03/2024
<b>Updated by</b>		<b>Updated date</b>	

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# Overview

An e-commerce website to sell electronic products for an existing store in Hanoi.

## Important Docs

1. README: This document
2. Entity Design: [Entity Design](#)
3. Detail Design: [Detail Design](#)
4. Testing Checklist: View testing tasks on [ClickUp](#)
5. Source code: [Code](#)

## Architecture

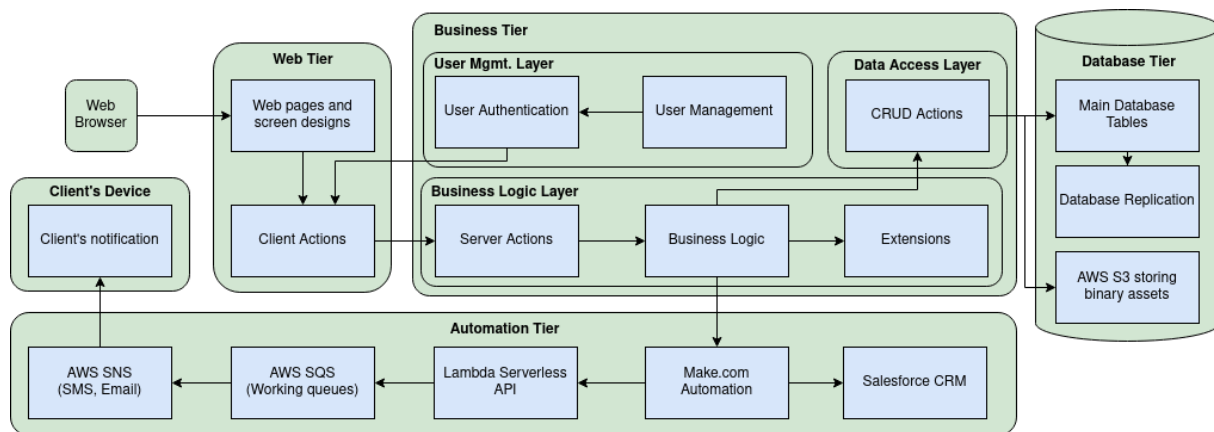


Figure 1: System architecture

**Strong cohesion and weak coupling:** The block diagram shows a layered architecture that can achieve strong and weak coupling. In a layered architecture, each layer has a specific responsibility and interacts with other layers through well-defined interfaces. This makes the code easier to understand, maintain, and modify.

- **Strong cohesion:** The blocks in the diagram have well-defined responsibilities. For instance, the “Web Tier User Mgmt. Layer” block likely handles user management tasks, while the “Business Logic Layer” block might handle complex application logic.
- **Weak coupling:** The layers seem loosely coupled. This means that a change in one layer, like the “Web Tier,” should not require widespread changes in other layers, like the “Business Logic Layer” or the “Data Access Layer.”

**MVC design pattern:** The architecture uses the MVC (Model-View-Controller) design pattern. The Model is the Database Tier, the View is the Web Tier, and the Controller is the Business Logic Tier.

# Sitemap

## Customer Flow

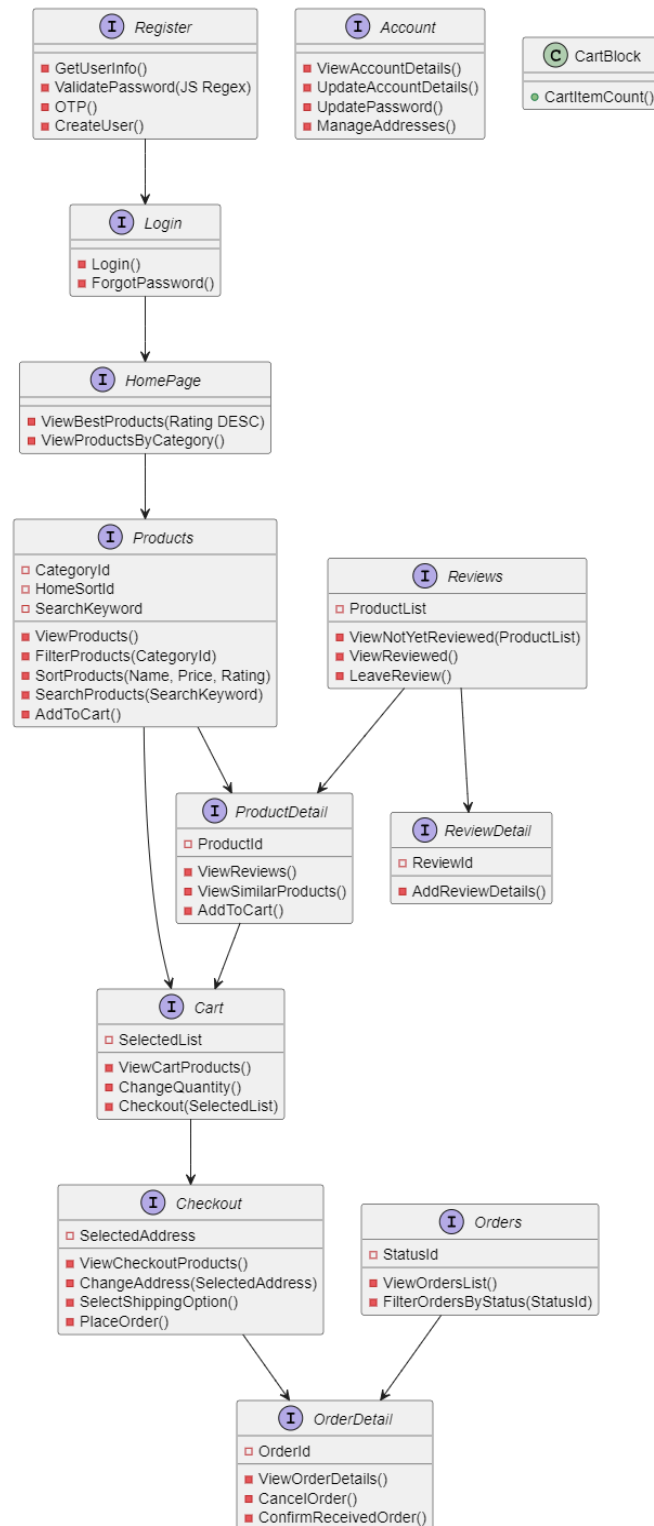


Figure 2: Customer Flow

## Admin Flow

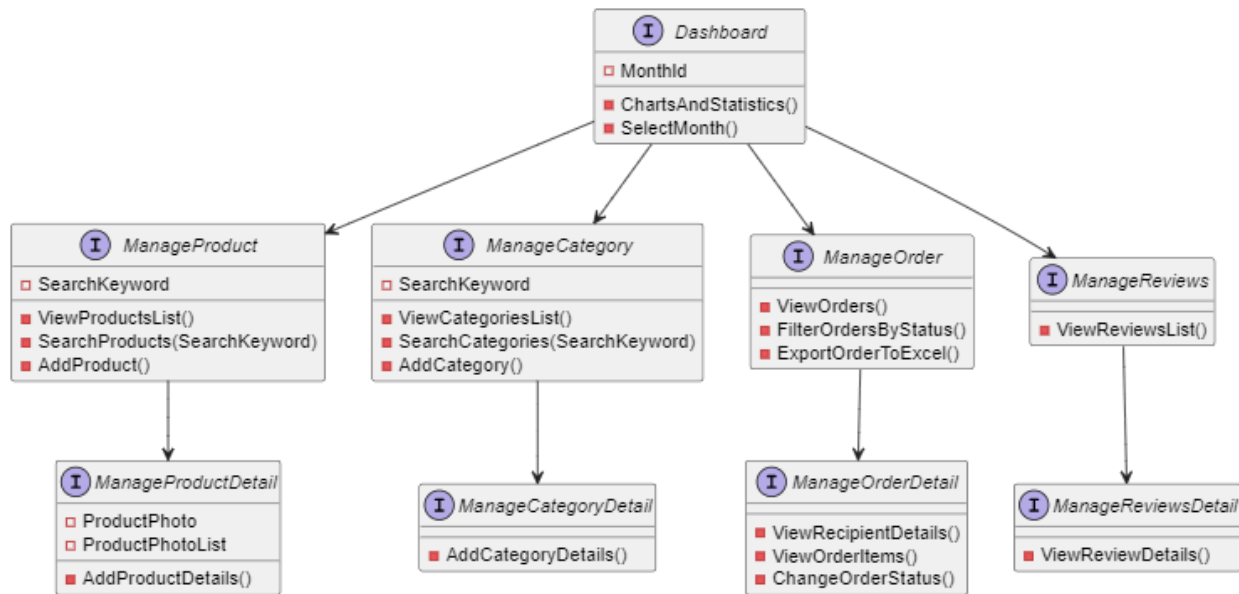
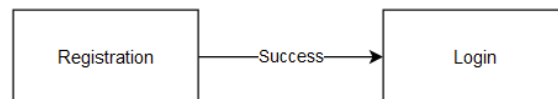


Figure 3: Admin Flow

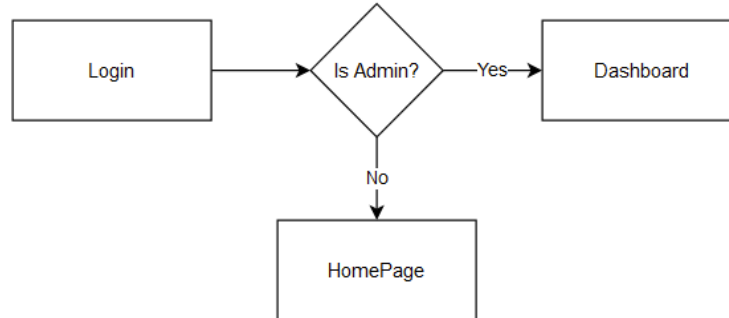
## Screens Overview

### 1. Registration



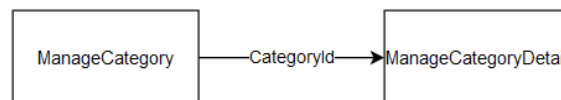
Main Functions		<ol style="list-style-type: none"> <li>1. Get and validate new customers' information</li> <li>2. Send OTP to customers' emails to authenticate</li> <li>3. Redirects to Login screen</li> </ol>
Evaluation	Complexity	Hard
	Reasoning	<ol style="list-style-type: none"> <li>1. The validations must catch all edge cases</li> <li>2. The displayed timer to count down before the OTP expires can only be implemented with custom JavaScript</li> </ol>

## 2. Login



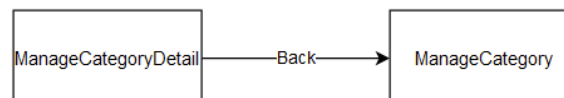
Main Functions		<ol style="list-style-type: none"> <li>1. Login to the website if users enter the correct credentials</li> <li>2. Redirects to the HomePage or Dashboard, depending on the users' roles</li> <li>3. Send a new password to the users' email if they forgot their password</li> </ol>
Evaluation	Complexity	Medium
	Reasoning	<ol style="list-style-type: none"> <li>1. Important entry point of the system</li> <li>2. Need to set cookies for the browser's session</li> </ol>

## 3. ManageCategory



Main Functions		<ol style="list-style-type: none"> <li>1. Display a list of categories</li> <li>2. Open the details of a category when users click on a record</li> </ol>
Evaluation	Complexity	Easy
	Reasoning	Can be created using OutSystems' scaffolding functionality

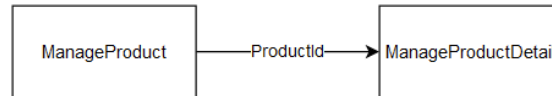
## 4. ManageCategoryDetail



Main Functions		<ol style="list-style-type: none"> <li>1. Display the details of a category on a form</li> <li>2. Users can edit and save new details of the selected category</li> </ol>
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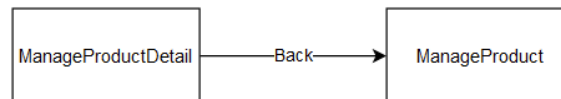
Evaluation	Complexity	Easy
	Reasoning	<ol style="list-style-type: none"> <li>1. Can be created using OutSystems' scaffolding functionality</li> <li>2. Add duplicate checking</li> </ol>

### 5. ManageProduct



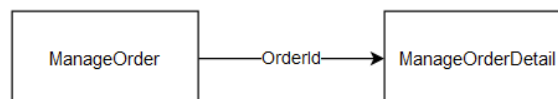
Main Functions		<ol style="list-style-type: none"> <li>1. Display a list of products</li> <li>2. Open the details of a product when users click on a record</li> </ol>
Evaluation	Complexity	Easy
	Reasoning	Can be created using OutSystems' scaffolding functionality

### 6. ManageProductDetail



Main Functions		<ol style="list-style-type: none"> <li>1. Display the details of a category on a form</li> <li>2. Users can edit and save new details of the selected category</li> <li>3. Add a feature for multiple images and thumbnail selection</li> </ol>
Evaluation	Complexity	Medium
	Reasoning	<ol style="list-style-type: none"> <li>1. Can be created using OutSystems' scaffolding functionality</li> <li>2. Add duplicate checking</li> <li>3. List of binary data for images</li> </ol>

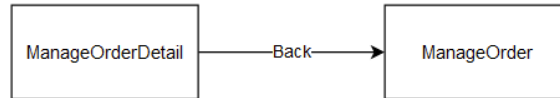
### 7. ManageOrder



Main Functions		<ol style="list-style-type: none"> <li>1. Display the list of orders</li> <li>2. Display count of orders by status</li> <li>3. Filter orders by status</li> <li>4. Export order to Excel by month</li> <li>5. Open the details of an order when users click on a record</li> </ol>
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Evaluation	Complexity	Hard
	Reasoning	<ol style="list-style-type: none"> <li>1. Exporting Excel must be precise with all cells</li> <li>2. Important feature that is difficult to implement</li> </ol>

#### 8. ManageOrderDetail



Main Functions		<ol style="list-style-type: none"> <li>1. Display the details of an order on a form and the customer's details on another form</li> <li>2. Update order's status</li> </ol>
Evaluation	Complexity	Medium
	Reasoning	<ol style="list-style-type: none"> <li>1. Get user details accordingly to order id on after fetch</li> <li>2. Implement the Wizard/Navigation for order status progress display</li> </ol>



# Entity Design

Ver 1.0

<b>Created by</b>	Trac Duc Anh Luong	<b>Created date</b>	02/03/2024
<b>Updated by</b>		<b>Updated date</b>	

# Entity Diagram

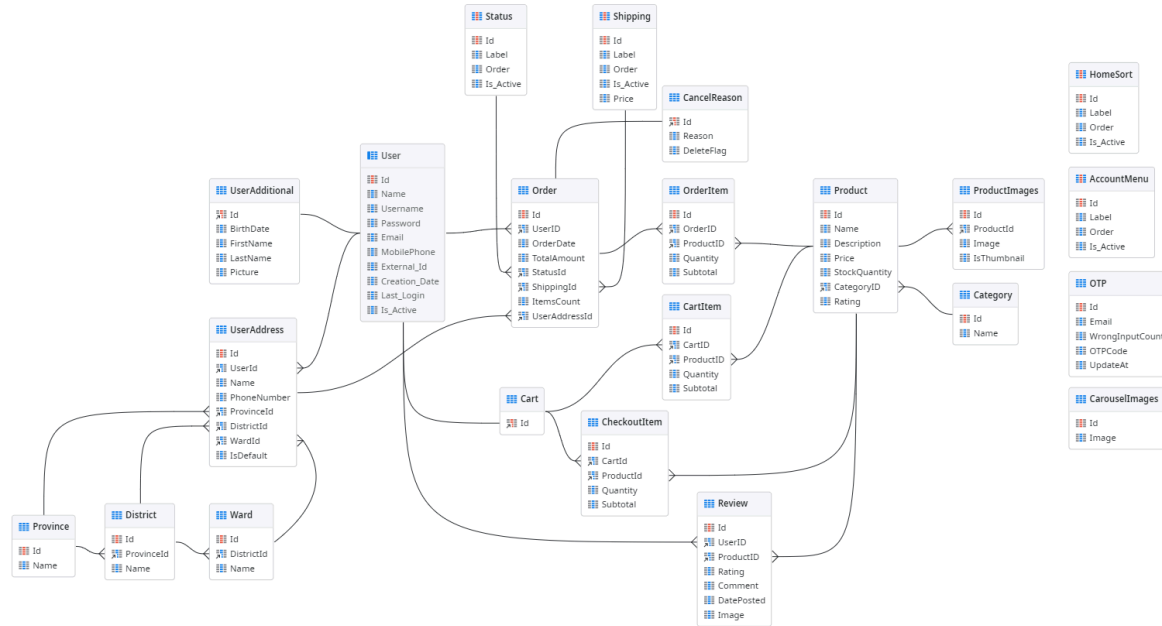


Figure 1: Entity Relationship Diagram

## Entity List

No.	Entity Name	Entity Type	Description
1	User	Entity	End-user of the applications. Shared between eSpaces with the same user provider (defined in Service Studio).
2	UserAdditional	Entity	Stores additional user information like birthdate, picture, first name, and last name.
3	UserAddress	Entity	Stores users' shipping information and reference to Province, District, and Ward (Vietnamese geological address name).
4	Province	Entity	Stores records of Vietnamese provinces.
5	District	Entity	Stores records of Vietnamese districts and reference to Province.
6	Ward	Entity	Stores records of Vietnamese districts and reference to District.
7	Cart	Entity	Reference to UserId.
8	CartItem	Entity	Serves as a joining entity between Cart and Product entities.

9	CheckoutItem	Entity	Serves as a joining entity between Cart and Product entities.
10	Order	Entity	Stores general information about an order and the user's shipping information.
11	OrderItem	Entity	Serves as a joining entity between Order and Product entities.
12	CancelReason	Entity	Expands the Order entity, contains cancel reason if an Order has the "Cancel" status.
13	Shipping	Static Entity	Includes static records of shipping options for the service.
14	Status	Static Entity	Includes static records of an order status.
15	Review	Entity	Serves as a joining entity between User and Product entities.
16	Product	Entity	Contains information about the shop's products.
17	ProductImages	Entity	Includes images of the products. 1 product can have multiple images.
18	Category	Entity	Includes categories for easier sorting and searching products.
19	OTP	Entity	Holds one-time password information.
20	CarouselImages	Entity	Binary data for carousel images on the home page.
21	HomeSort	Static Entity	Records for the sorting drop-down on the products page.
22	AccountMenu	Static Entity	Records for displaying different tabs on the account page.

## Entity Definitions

### User

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Integer	-	Yes	Identifier, Autonumber
2	Name	Text	256	No	
3	Username	Text	250	No	
4	Password	Text	256	No	
5	Email	Email	250	No	
6	MobilePhone	Phone Number	20	No	

7	External_Id	Text	36	No	
8	Creation_Date	Date Time	-	Yes	
9	Last_Login	Date Time	-	No	
10	Is_Active	Boolean	-	Yes	

## UserAdditional

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Integer	-	Yes	User Identifier, FK
2	Birthdate	Date	-	Yes	
3	FirstName	Text	50	Yes	
4	LastName	Text	50	Yes	
5	Picture	Binary	-	No	

## UserAddress

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	UserId	Integer	-	No	User Identifier, FK
3	Name	Text	50	No	
4	PhoneNumber	Text	-	No	
5	ProvinceId	Long Integer			Province Identifier, FK
6	DistrictId	Long Integer	-	No	District Identifier, FK
7	WardId	Long Integer	-	No	Ward Identifier, FK
8	IsDefault	Text	-	No	

## Province

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier

2	Name	Text	50	Yes	
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## District

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier
2	ProvinceId	Long Integer	-	Yes	Province Identifier, FK
2	Name	Text	50	Yes	

## Ward

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier
2	DistrictId	Long Integer	-	Yes	District Identifier, FK
2	Name	Text	50	Yes	

## Cart

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	User Identifier, FK

## CartItem

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	CartId	Long Integer	-	Yes	Cart Identifier, FK
3	ProductId	Long Integer	-	Yes	Product Identifier, FK
4	Quantity	Integer	-	Yes	
5	Subtotal	Currency	-	Yes	

## CheckoutItem

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	CartId	Long Integer	-	Yes	Cart Identifier, FK
3	ProductId	Long Integer	-	Yes	Product Identifier, FK
4	Quantity	Integer	-	Yes	
5	Subtotal	Currency	-	Yes	

## Order

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	UserId	Integer	-	Yes	User Identifier, FK
3	OrderDate	Date Time	-	Yes	
4	TotalAmount	Currency	-	Yes	
5	StatusId	Long Integer	-	Yes	Status Identifier, FK
6	ShippingId	Long Integer	-	Yes	Shipping Identifier, FK
7	ItemsCount	Integer	-	Yes	
8	UserAddressId	Long Integer	-	Yes	UserAddress Identifier, FK

## OrderItem

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	OrderId	Long Integer	-	Yes	Order Identifier, FK
3	ProductId	Long Integer	-	Yes	Product Identifier, FK
4	Quantity	Integer	-	Yes	
5	Subtotal	Currency	-	Yes	

## CancelReason

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	Reason	Text	250	Yes	
3	DeleteFlag	Boolean	-	Yes	

## Shipping

Id	Label	Order	Is_Active	Price
Express	Express delivery	1	True	2.00
Rush	Rush delivery	2	True	5.00
Economical	Economical delivery	3	True	1.00

## Status

Id	Label	Order	Is_Active
Pending	Pending	1	True
Processing	Processing	2	True
Shipped	Shipped	3	True
Completed	Completed	4	True
Cancelled	Cancelled	5	True

## Review

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	UserId	Integer	-	Yes	User Identifier, FK
3	ProductId	Long Integer	-	Yes	Product Identifier, FK
4	Rating	Decimal	37	Yes	

5	Comment	Text	200	No	
6	DatePosted	Date Time	-	Yes	
7	Image	Binary	-	No	

## Product

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	Name	Text	50	Yes	
3	Description	Text	2000	Yes	
4	Price	Currency	-	Yes	
5	StockQuantity	Integer	-	Yes	
6	CategoryId	Long Integer	-	Yes	Category Identifier, FK
7	Rating	Decimal	37	No	

## ProductImages

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	ProductId	Long Integer	-	Yes	Product Identifier, FK
3	Image	Binary	-	Yes	
4	IsThumbnail	Boolean	-	Yes	

## Category

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	Name	Text	50	Yes	



## OTP

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	Email	Email	250	Yes	
3	WrongInputCount	Integer	-	Yes	
4	OTPCode	Text	50	Yes	
5	UpdatedAt	Date Time	-	Yes	

## CarouselImages

No.	Attribute	Data Type	Length	Is Mandatory	Notes
1	Id	Long Integer	-	Yes	Identifier, Autonumber
2	Image	Binary	-	Yes	

## HomeSort

Id	Label	Order	Is_Active
Name	Name	1	True
PriceLowToHigh	Price - Low To High	2	True
PriceHighToLow	Price - High To Low	3	True
Rating	Rating	4	True

## AccountMenu

Id	Label	Order	Is_Active
BasicDetails	Basic Details	1	True
Password	Password	2	True
Addresses	Addresses	3	True

# Detail Design

Registration Screen

Ver 1.0

<b>Created by</b>	Trac Duc Anh Luong	<b>Created date</b>	11/03/2024
<b>Updated by</b>		<b>Updated date</b>	

# Overview

## Screen Layout

The screenshot shows a web browser window with the URL `personal-1gh7uatw.outsystemscloud.com/EcommerceWebsite/Register`. The page title is "Register". The form contains the following elements:

- 1**: A "Picture" input field with a placeholder image and a "Change" link below it.
- 2**: "First Name \*" text input field.
- 3**: "Email \*" text input field.
- 4**: "Mobile Phone \*" text input field.
- 5**: "Password \*" text input field.
- 6**: An eye icon to toggle password visibility.
- 7**: "Last Name \*" text input field.
- 8**: "Address \*" text input field.
- 9**: "Date of birth \*" text input field.
- 10**: "Confirm Password \*" text input field.
- 11**: An eye icon to toggle confirm password visibility.
- 12**: A link "Already have an account? Log in here".
- 13**: A blue "Register" button.
- 14**: A red "Clear" button.

Figure 1: Default screen

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Picture	Input	-	Binary	UserAdditional	Picture
2	First Name	Input	50	Text	UserAdditional	FirstName
3	Email	Input	250	Email	User	Email
4	Mobile Phone	Input	20	Mobile Phone	User	MobilePhone
5	Password	Input	256	Password	User	Password
6	Show password	Icon	-	-	-	-
7	Last Name	Input	50	Text	UserAdditional	LastName
8	Address	Input	200	Text	UserAddress	Address
9	Date of birth	Input	-	Date	UserAdditional	BirthDate

10	Confirm Password	Input	256	Password	-	-
11	Show confirm password	Icon	-	-	-	-
12	Login	Link	-	-	-	-
13	Register	Button	-	-	-	-
14	Clear	Button	-	-	-	-

Figure 2: Screen items

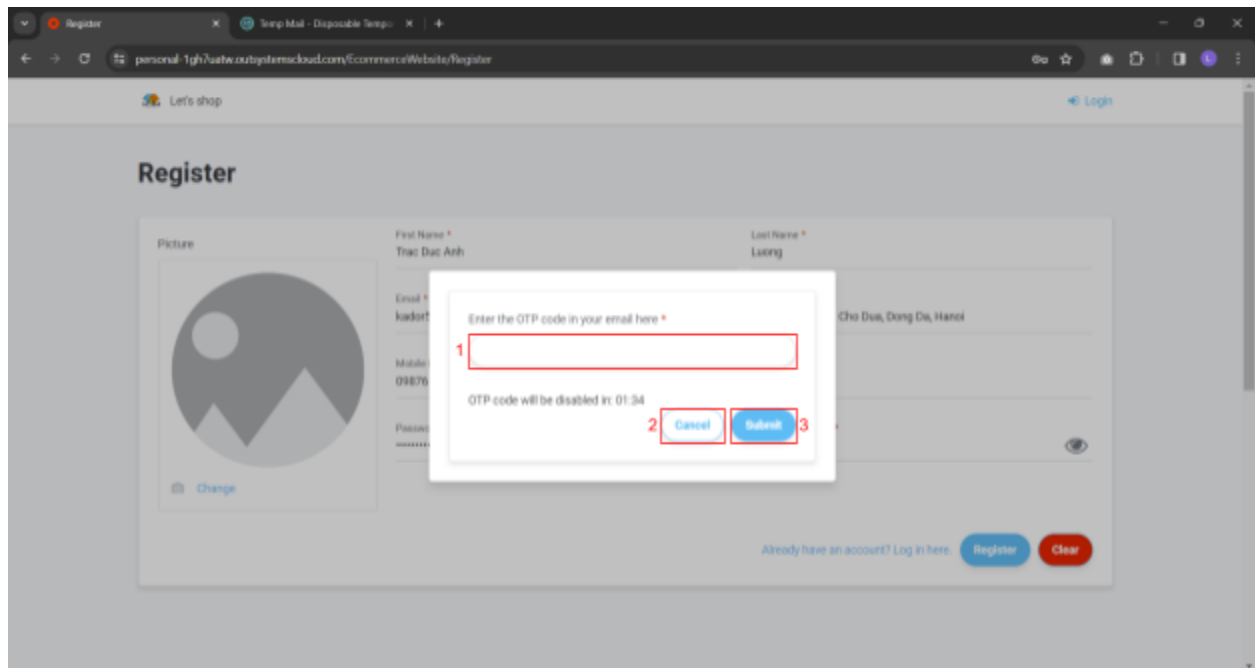


Figure 3: Enter OTP popup

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Email	Input	250	Email	User	Email
2	Cancel	Button	-	-	-	-
3	Submit	Button	-	-	-	-

Figure 4: Popup items

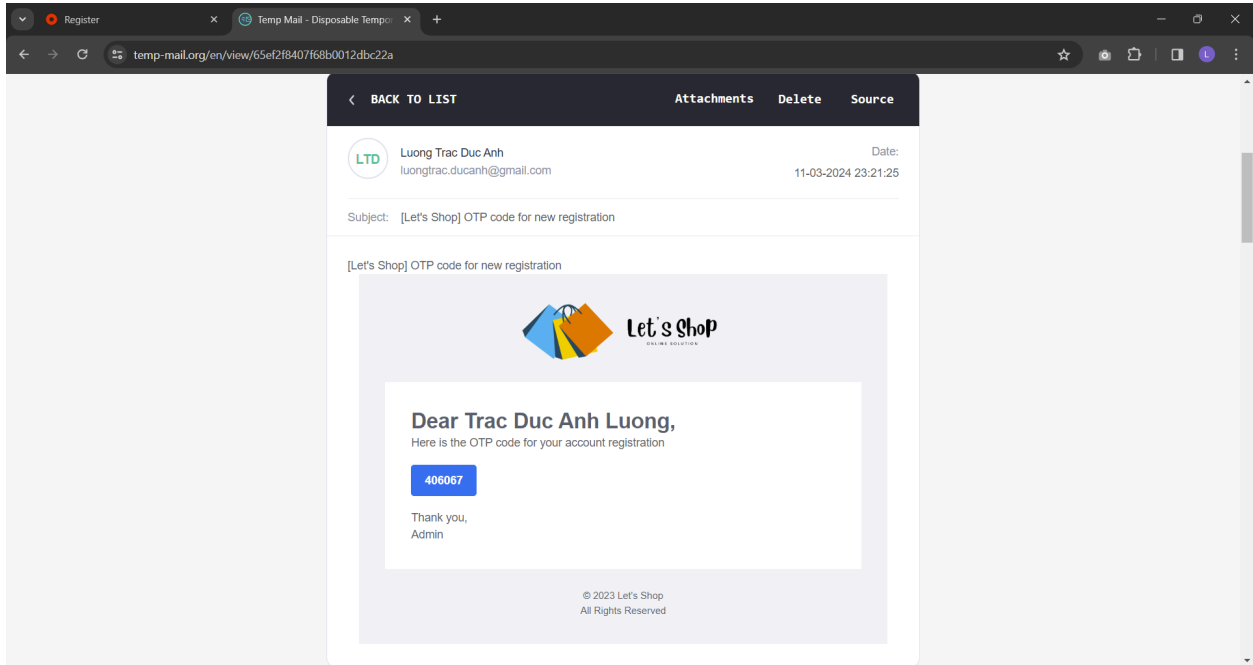


Figure 5: OTP sent

## Processing Detail

### 1. Initial display

Item Name	Status
Email	Empty
Password	Empty
Remember me	Uncheck

Figure 5: Screen initial display

Item Name	Status
Email	Empty

Figure 6: Popup initial display

## 2. Processing flow

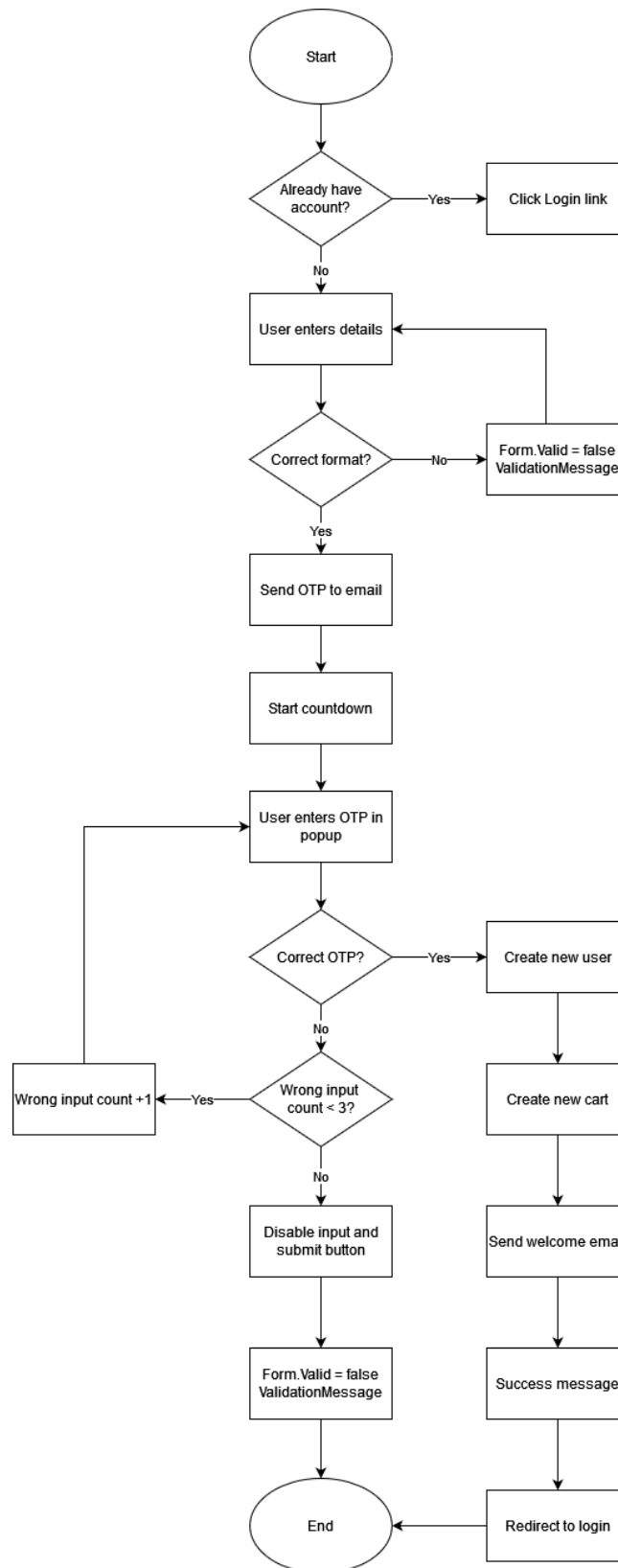


Figure 7: Processing flow

3. If the user already has an account, click the login link to redirect to the login screen.
4. The user enters all required fields marked with red asterisks.
5. When the user clicks “Register”, check all data filled in the form with the following rules:
  - a. Check if mail exists by querying the User table.
  - b. Validate phone number using a Vietnamese phone regex.
  - c. Validate password with required attributes:
    - i. Length  $\geq 8$
    - ii. 1 special character () required: `/[!@#$%^&*()_+\\-=\\[\\\\{};':"\\|,.<>\\/?]+/`
    - iii. 1 uppercase character required
    - iv. 1 lowercase character required
    - v. 1 number required
  - d. Validate birthdate
    - i. The user is  $\geq 18$  years old
    - ii. Birthdate cannot be in the past
  - e. Confirm password must match
6. Based on the output of process 5.
  - a. If all validations passed, proceed the next step
  - b. If 1 or more requirement is not fulfilled, give the accordion validation message and highlight the incorrect input in red
    - i. "Email already exists"
    - ii. "Invalid phone number"
    - iii. "You have to be 18 or older to register"
    - iv. "Birthdate cannot be in the future"
    - v. "Password does not meet requirement"
    - vi. "Confirm password does not match"
7. Send the OTP and start 2-minute countdown
  - a. Insert the code to the OTP table using the function: `GeneratePassword(6, False)`
  - b. Send the OTP to user email
  - c. Popup to enter OTP with countdown timer
8. If OTP is correct, proceed to next step
  - a. If OTP is incorrect, increment the `WrongInputCount`
  - b. `WrongInputCount > 3` will disable the submit button and expires the OTP code
9. Create records in the User, UserAdditional, and Cart tables.

# Detail Design

Login Screen

Ver 1.0

<b>Created by</b>	Trac Duc Anh Luong	<b>Created date</b>	02/03/2024
<b>Updated by</b>		<b>Updated date</b>	



# Overview

The login screen uses email and password for registered customers and admins.

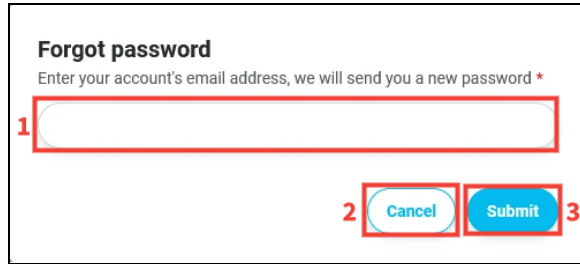
## Screen Layout



Figure 1: Default screen

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Email	Input	250	Text	User	Email
2	Password	Input	-	Password	User	Password
3	Eye	Icon	-	-	-	-
4	Remember me	Checkbox	-	Boolean	-	-
5	Forgot password	Link	-	-	-	-
6	Login	Button	-	-	-	-
7	New user? Sign up here.	Link	-	-	-	-

Figure 2: Screen items



**Forgot password**  
Enter your account's email address, we will send you a new password \*

1

2  3

Figure 3: Forgot password popup

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Email	Input	250	Email	User	Email
2	Cancel	Button	-	-	-	-
3	Submit	Button	-	-	-	-

Figure 4: Popup items

## Processing Detail

### 1. Initial display

Item Name	Status
Email	Empty
Password	Empty
Remember me	Uncheck

Figure 5: Screen initial display

Item Name	Status
Email	Empty

Figure 6: Popup initial display

## 2. Processing flow

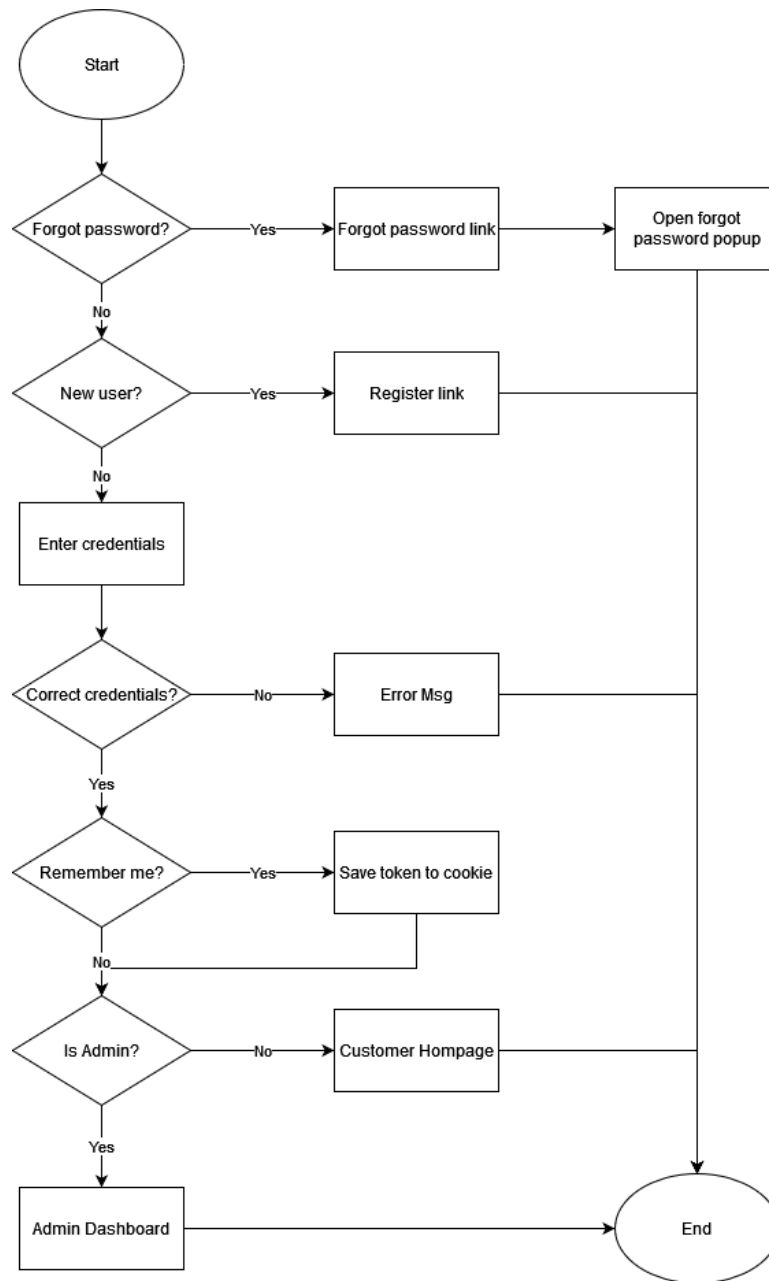
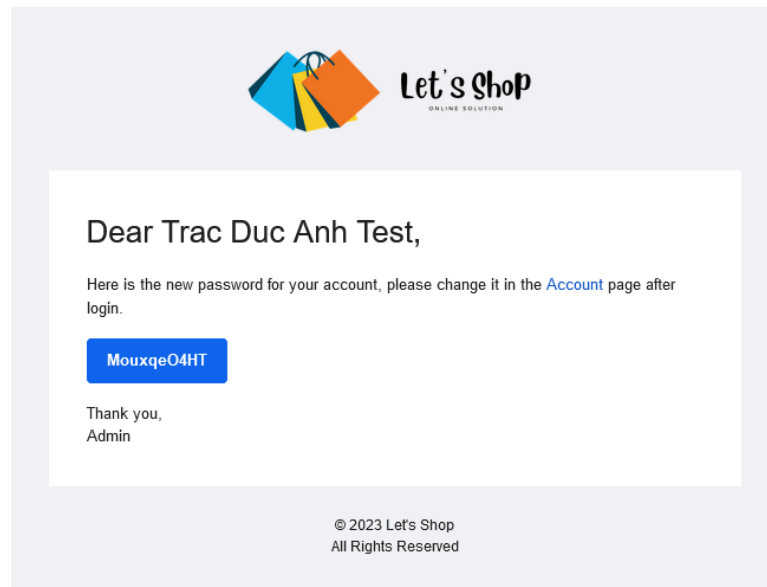


Figure 7: Processing flow

3. The user enter Email and Password to respective fields
  - a. The password is set to hidden initially.
  - b. Clicking the “Eye” icon will toggle to show/hide the password.
2. Checking “Remember me” to save the login token to the client’s browser
3. When the user clicks “Login”
  - a. The loading animation appears
  - b. The items in section 1 are validated

- c. If either Email or Password is empty, that field's Valid attribute is set to False and shows the validation message: "This field is required"
  - d. If either Email or Password is incorrect, the error message "Invalid username or password." is shown
  - e. If the credentials are correct, the server continues to check if the logged-in user has Admin or Customer role
    - i. If the user is Admin, redirect the user to the Dashboard in the Admin Flow
    - ii. If the user is Customer, redirect the user the the Home Page in the Customer Flow
4. When the user clicks the "Forgot password?" link
- a. The "Forgot password" popup is shown
  - b. The user enters their registered email
    - i. If the field is empty, the field valid attribute is set to false, and show the validation message: "This field is required"
    - ii. If the field is not empty, the loading animation appears
  - c. The entered Email is checked if it exists in the DB
  - d. If the email exists
    - i. Sends a new password to that email



*Figure 8: Forgot password email*

- ii. The Email field on the screen is filled with the email entered in the Forgot Password popup
  - e. If the email does not exist
    - i. The Email input valid attribute is set to False
    - ii. Show the validation message: "Email address is not associated with a Let's Shop account"
5. When the user clicks the "New user? Sign up here." link, they are redirected to the Register page in the Customer flow.

# Detail Design

Manage Category & Manage Category Detail

Ver 1.0

<b>Created by</b>	Nguyen Cong Anh	<b>Created date</b>	15/03/2024
<b>Updated by</b>		<b>Updated date</b>	

# Overview

The “Manage Category” screen displays the list of product categories.

The “Manage Category Detail” screen allows users to enter the details of categories.

## Screen Layout

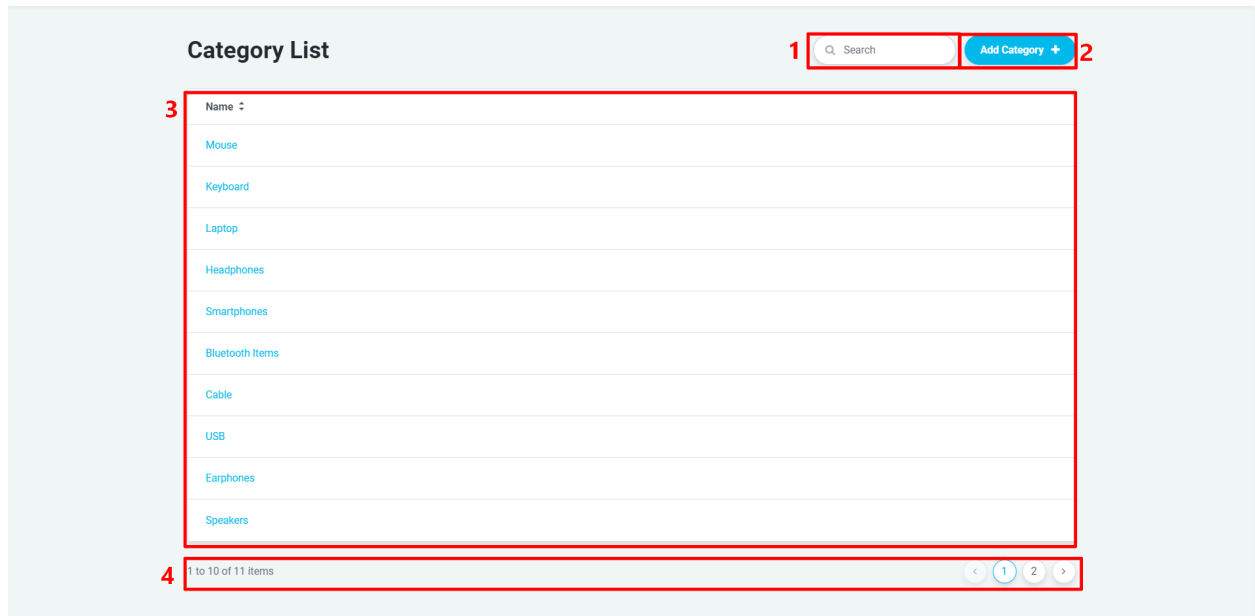


Figure 1: ManageCategory Screen

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Search	Input	50	Text	Category	CategoryName
2	Add Category	Button	-	-	-	-
3	Category Detail	Table	-	-	Category	CategoryName
4	Page navigation	Navigate	-	-	-	-

Figure 2: ManageCategory Screen items

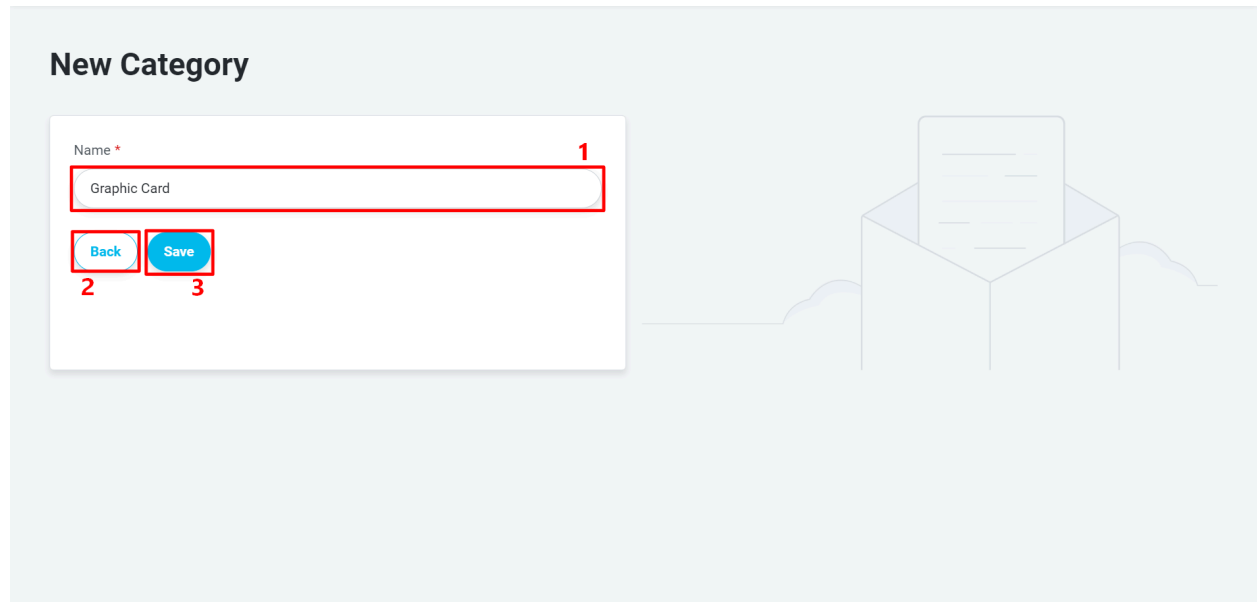


Figure 3: ManageCategoryDetail Screen items

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Name	Input	50	Text	Category	CategoryName
2	Back	Button	-	-	-	-
3	Save	Button	-	-	-	-

Figure 4: Popup items

## Processing Detail

### A. Initial display

Item Name	Status
Category List	List of categories get from database
Category information	Information of each specific category (Name)
Total number of Categories	Total number of categories in the system
Search	Empty

Figure 5: ManageCategory Screen initial display

Item Name	Status
Name	Empty (if Add new Category), CategoryName (if Edit existing Category)

Figure 6: Popup initial display

## B. Processing flow

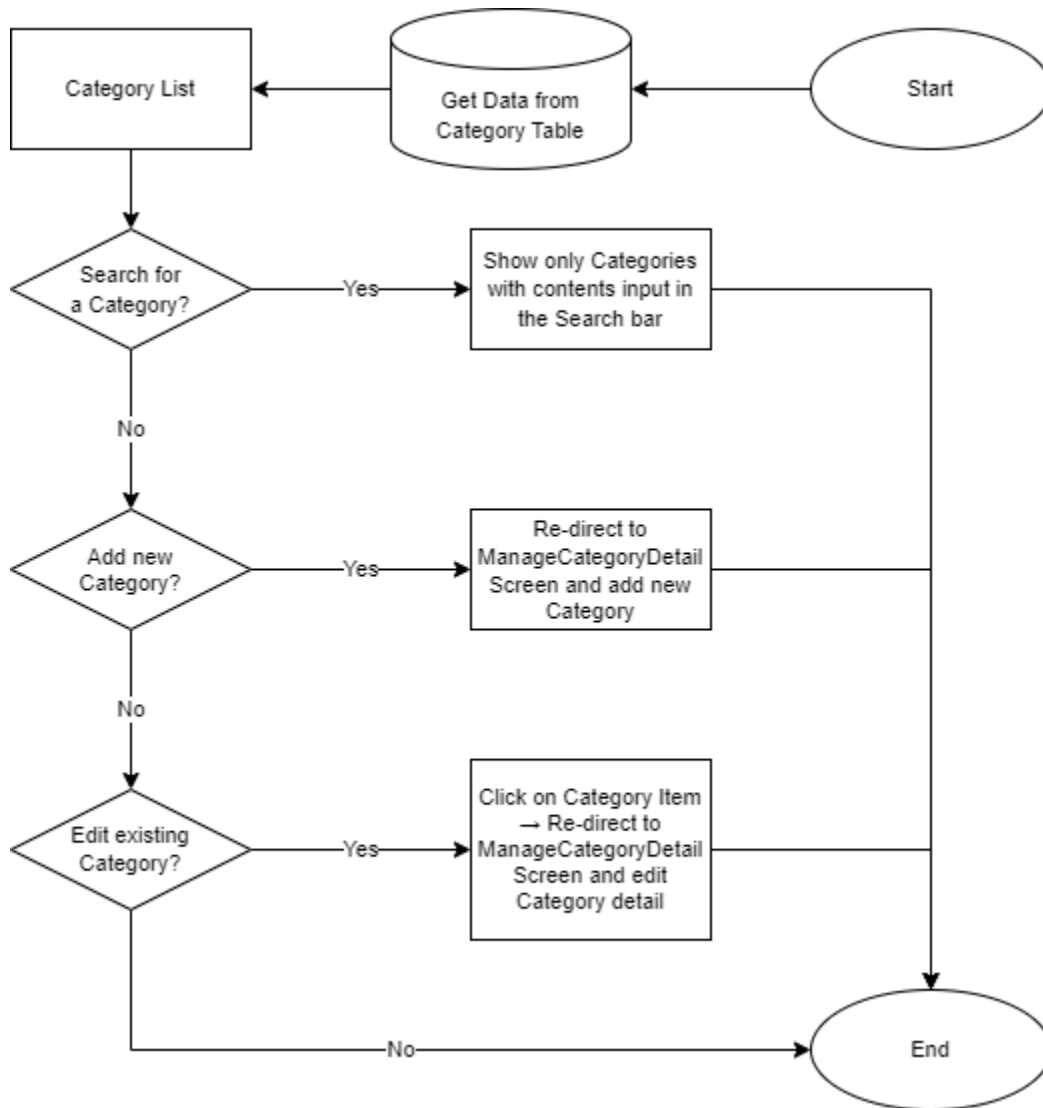


Figure 7: ManageCategory Processing flow



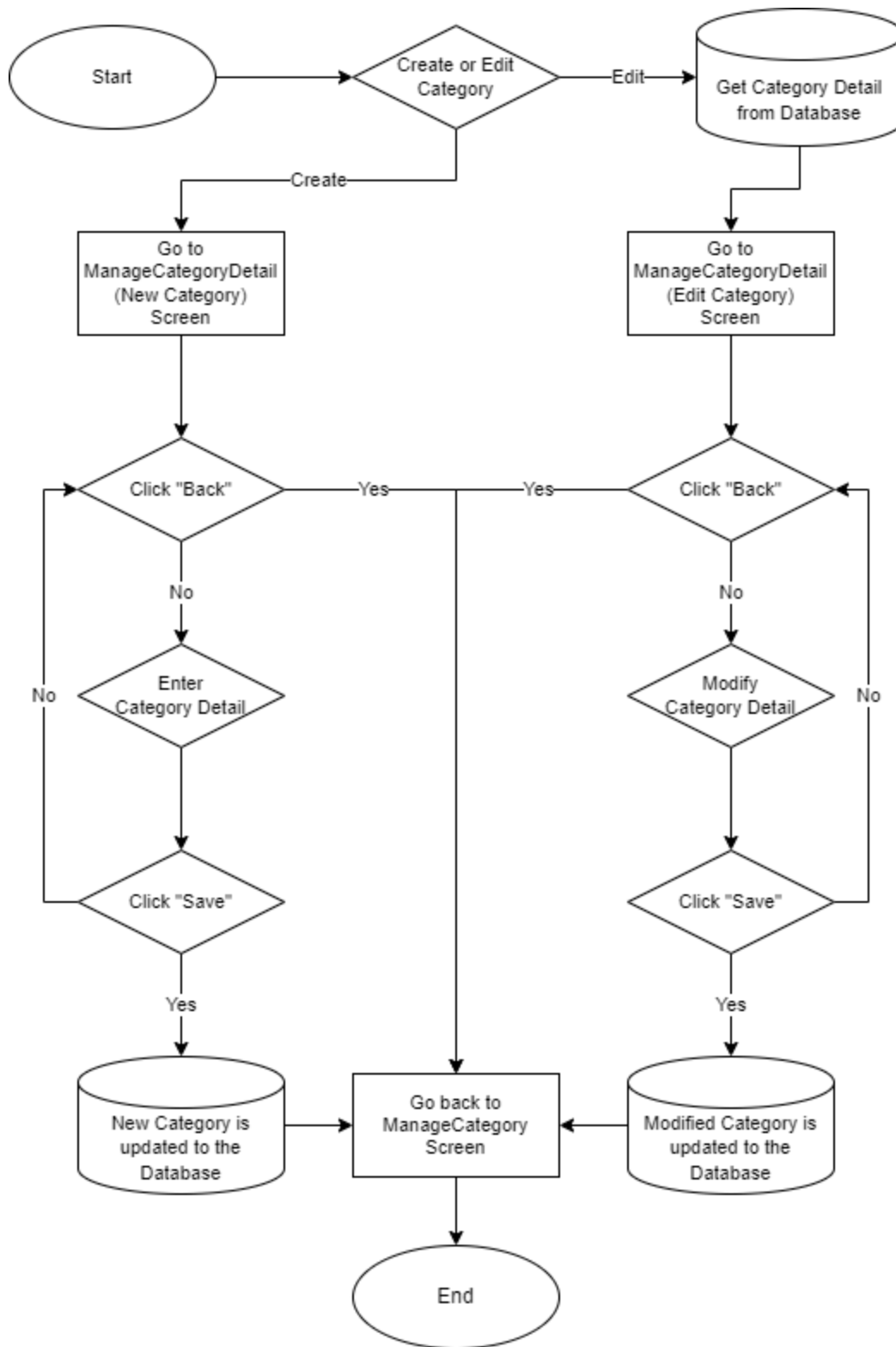


Figure 7: ManageCategoryDetail Processing flow

1. The page initially shows a list of products which is obtained from the table Products and their information which is obtained Name, CategoryName, Price, StockQuantity.
2. The admin can search for a specific category with information inputted in the search bar
3. The admin decides if they want to add a new category:
  - If yes, the admin can click on the “Add Category” button to add a new category.
  - The “New Category” page initially shows a form to enter the name for the new category. These details will later be inserted to the table Category in the database.
  - If the admin wants to stop adding a new category, click “Back”; otherwise, enter the Category Name and click “Save”.
4. The admin decides if they want to edit an existing category:
  - If yes, the admin can click on the existing category that they want to edit.
  - The “Edit Category” page is initially the same as the “New Category” page, except for the Category Name field which is now the name of the existing category.
  - If the admin wants to stop editing the existing category, click “Back”; otherwise, modify the Category Name and click “Save”.
5. The admin decides if they want to sort the products so they are listed in order by their Name:
  - If yes, the admin can click on the table header “Name” to list categories from A to Z, one more time for Z-to-A.

# Detail Design

Manage Product Screen

Ver 1.0

<b>Created by</b>	Tran Dat Dinh	<b>Created date</b>	14/03/2024
<b>Updated by</b>		<b>Updated date</b>	

# Overview

The Manage Product screen provides admins a list of products with the information of each item, total items available and the feature to add a new product.

## Screen Layout











Product List

1

2

3

4

Name	Category	Price	Stock Quantity
 Dell Laptop	Laptop	\$99.99	31
 Logitech Mouse	Mouse	\$9.99	21
 Dell Keyboard	Keyboard	\$12.99	40
 Asus Zenbook 14	Laptop	\$119.99	0
 Laptop MSI	Laptop	\$97.99	15
 Lenovo Laptop	Laptop	\$108.99	15
 Surface Laptop	Laptop	\$134.99	22
 Surface Book	Laptop	\$129.99	17
 Amazon Keyboard	Keyboard	\$8.99	46
 Blitzwolf Keyboard	Keyboard	\$15.99	19

1 to 10 of 25 items

1 2 3

Figure 1: Default screen

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Search	Search Bar	-	-	-	-
2	Add Product	Button	-	-	-	-
3	Product Detail	Table	-	-	Product	ProductId, ProductName, ProductCategoryName, ProductPrice, ProductStockQuantity, ProductImage
4	Page navigation	Navigate	-	-	-	-

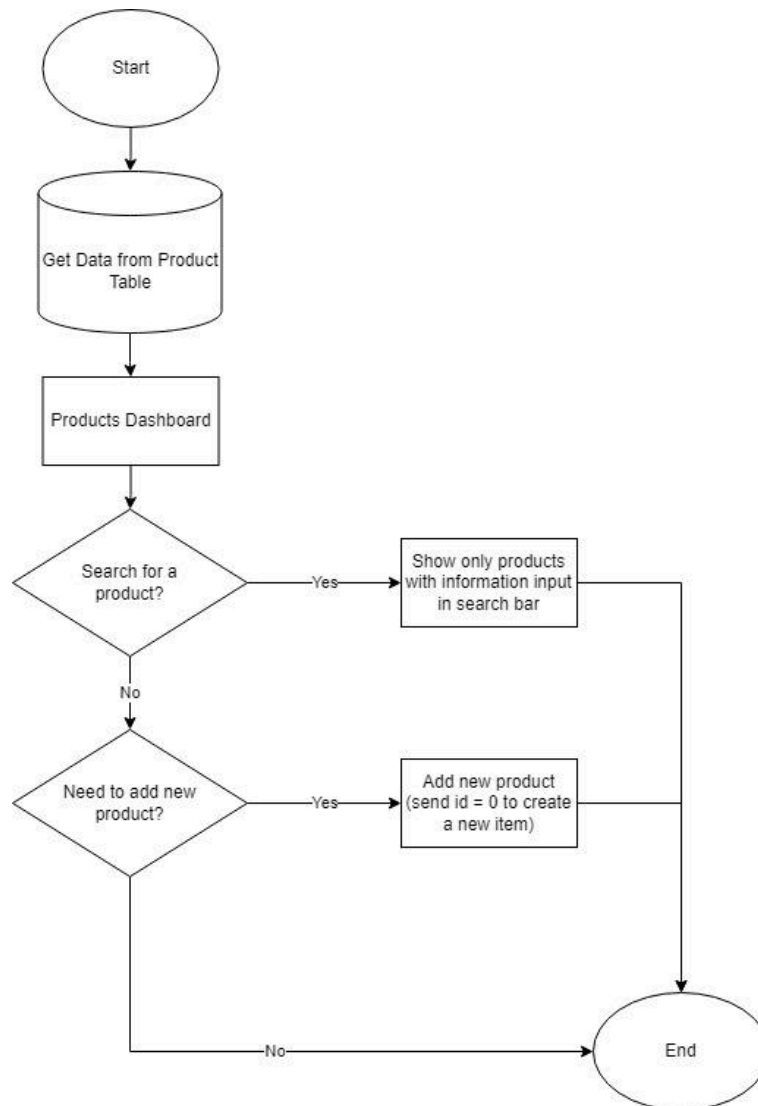
## Processing Detail

### A. Initial display

Item Name	Status
Products list	List of products get from database
Products information	Information of each specific products (Name, Image, Category, Price and Stock Quantity)
Total number of Products	Total number of products in the system

*Figure 2: Product screen initial display*

### B. Processing flow



*Figure 3: Processing flow*

1. The page initially shows a list of products which is obtained from the table Products and their information which is obtained Name, CategoryName, Price, StockQuantity.
2. The admin can search for a specific product with information inputted in the search bar
3. The admin decides if they want to add a new product:
  - If yes, the admin can click on the “Add Product” button to add a new product
4. The admin decides if they want to sort the products so they are listed in order by their Name, Category, Price or Stack Quantity:
  - If yes, the admin can click on the table header of which table order they want to view

# Detail Design

Manage Product Details

Ver 1.0

Created by	Nguyen Gia Minh	Created date	13/03/2024
Updated by		Updated date	

# Overview

The Manage Product Detail screen allows admins to view details of product items as well as making changes to these details or create a new one. Once complete editing an existing one or creating a new one, admins can save these changes and they will be updated and applied to all related screens.

## Screen Layout

### A. Edit Product Details

The screenshot shows the 'Edit Product' screen. The form contains the following fields:

- Name \***: Dell Laptop
- Description \***: Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor in
- Price \***: 99,99
- Stock Quantity \***: 31
- Category \***: Laptop
- Product Thumbnail**: (empty)

A red box highlights the form fields, and a number '1' is next to the Name field.

Figure 1. Edit Product Details Screen (1)

The screenshot shows the 'Edit Product' screen, specifically the 'Product Thumbnail' and 'Additional Images' sections.

- Product Thumbnail**: A laptop image is displayed. A red box highlights the 'Change' button next to the image, and a number '3' is next to it.
- Additional Images**: A landscape image is displayed.



Figure 2. Edit Product Details Screen (2)

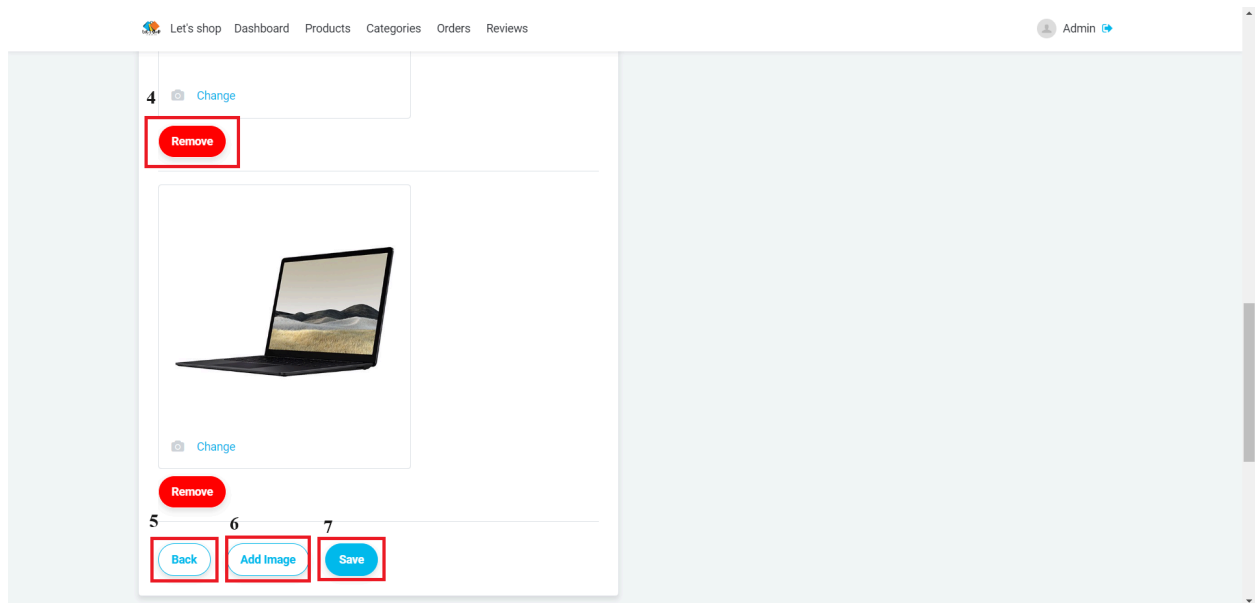


Figure 3. Edit Product Details Screen (3)

## B. Create New Product

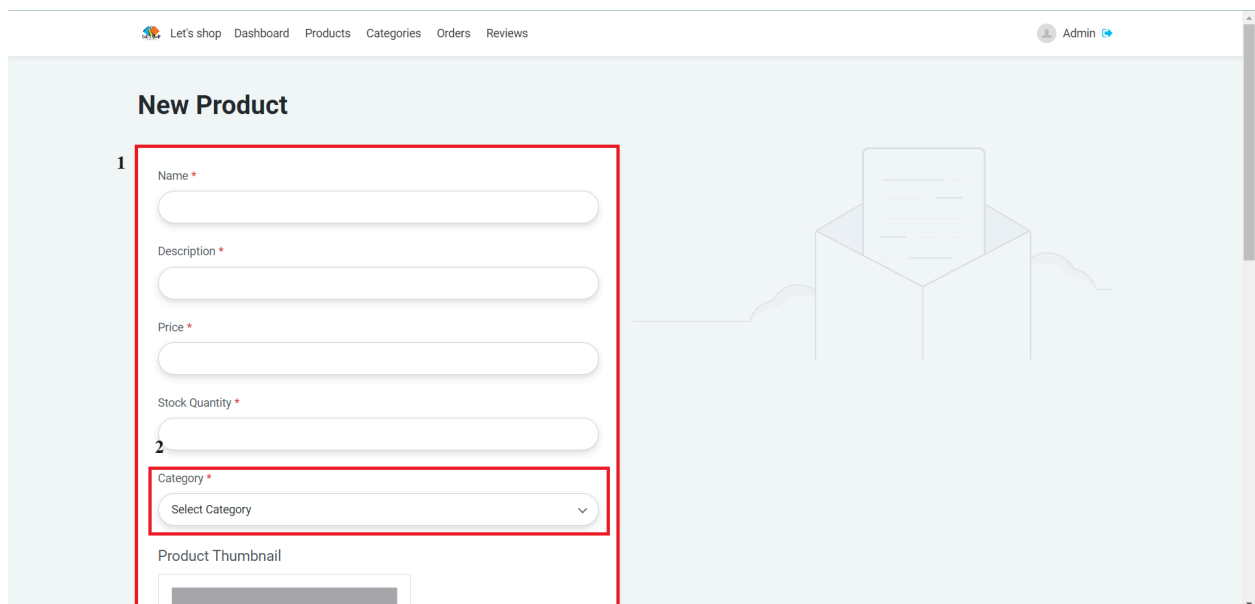


Figure 4. Create New Product Screen (1)

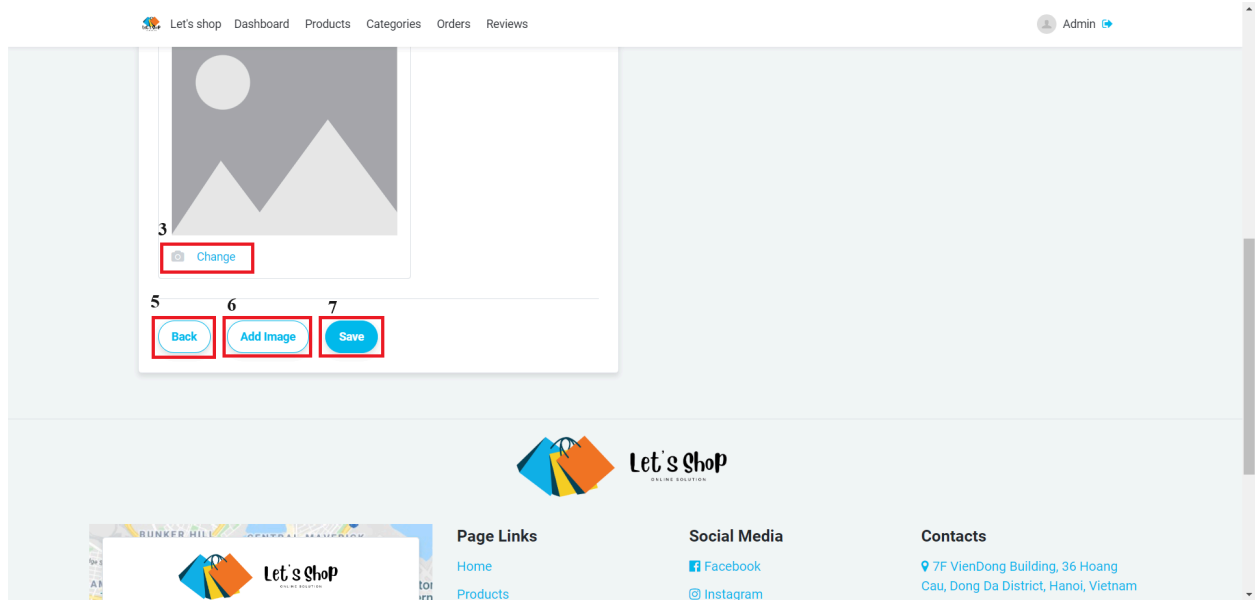


Figure 5. Create New Product Screen (2)

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Product Details	Form	-	-	Product	Name, Description, Price, StockQuantity, CategoryId, Image
2	Category	Dropdown list	-	-	Category	Name
3	Image Change	Container	-	-	ProductPhoto	Id, ProductId, Image
4	Image Remove	Button	-	-		
5	Back	Button	-	-	-	-
6	Add Image	Button	-	-	ProductPhoto	Id, ProductId, Image
7	Save	Button	-	-	-	-

Figure 6. Screen Items

# Processing Details

## A. Initial Display

Item Name	Status
Product Details	Details that admins fill in to create a new product or details of a product in the database
Category	List of categories from the database
Image Change	An option to update the image of that product
Image Remove	An option to remove the existed image of that product
Add Image	An option to add a new image as additional image for that product

*Figure 7. Screen Initial Display*

## B. Processing Flow

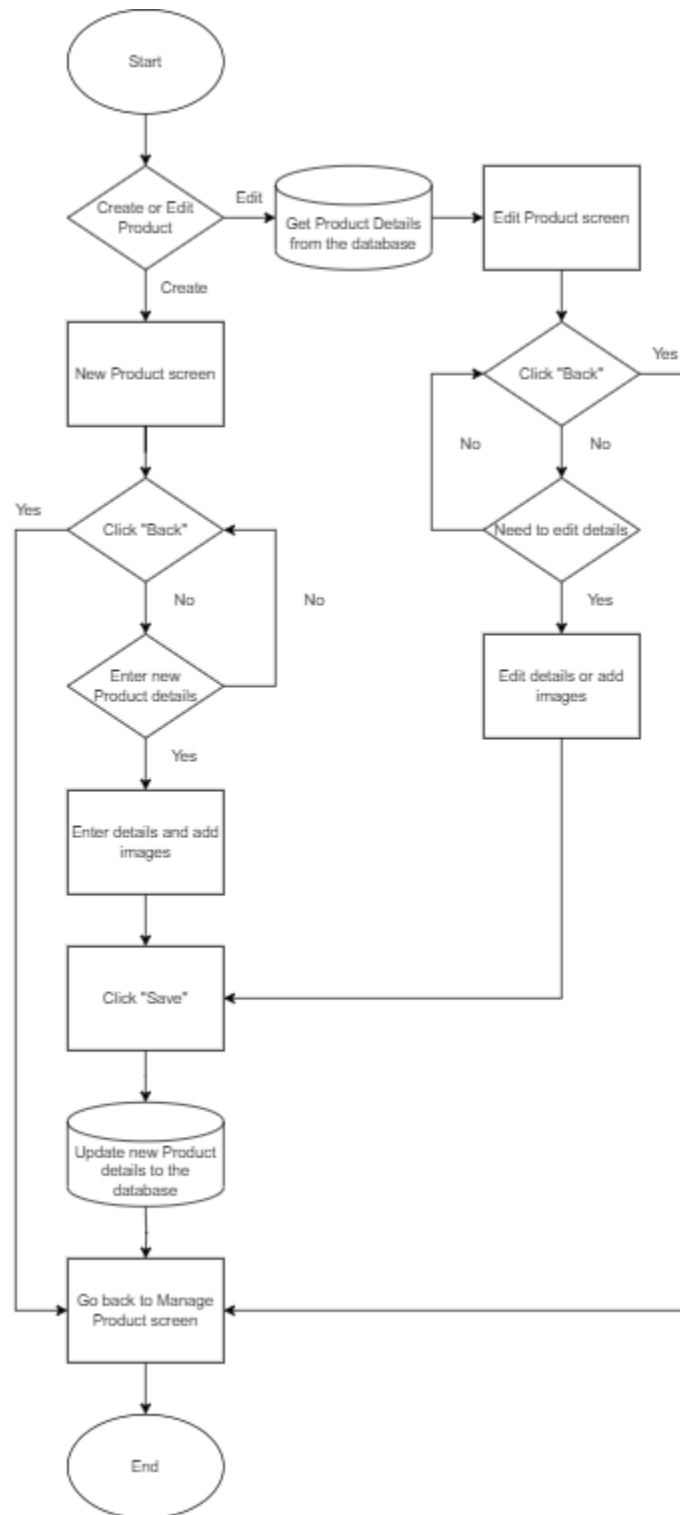


Figure 8. Processing Flow

1. The Edit Product page initially shows details of the product which is obtained from the table Product and its image details from the ProductPhoto table, including the Identification of that product and Image name.
2. The New Product page initially shows a form to enter details for the new product. These details will later be inserted to the table Product and ProductPhoto as described above.
3. The product details are read only.
4. The admins can edit details:
  - If they want to stop editing, they can just simply click the “Back” button to head back to the Manage Product page.
  - If they want to edit, they can choose a category from the Category dropdown list, update a new image from their device, remove an image or click the “Add Image” to add a new image as Additional Image for that product.
5. The admins can create a new product:
  - If they want to stop creating, they can just simply click the “Back” button to head back to the Manage Product page.
  - If they want to add a new one, they can choose a category from the Category dropdown list, update a new image from their device, enter other details for that product.
6. The admins have to click the “Save” button to save changes to the product details. The product list will also be updated after that.

# Detail Design

Order Managing

Ver 1.0

Created by	Nguyen Minh Nghia	Created date	12/03/2024
Updated by		Updated date	

# Overview

The Manage Order screen provides admins a list of orders with basic information of each order, some status of total orders.

## Screen Layout

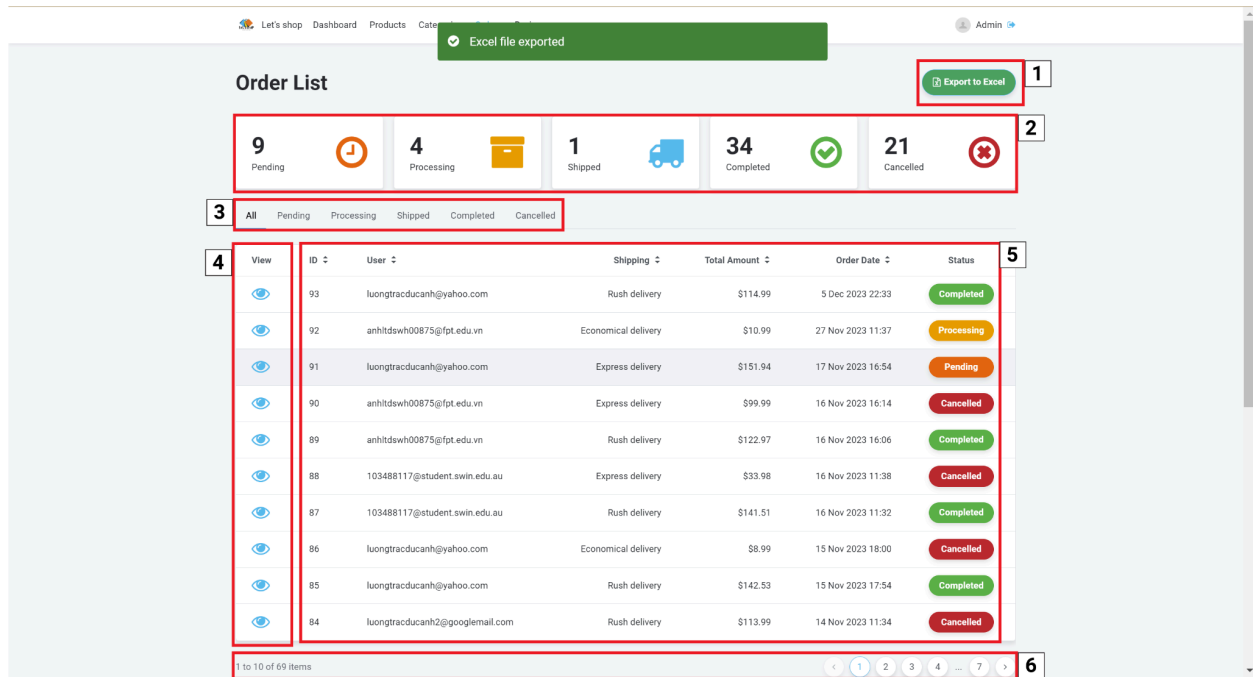


Figure 1: Default screen

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Export Excel	Button	-	-	-	-
2	Orders Status Summary	Card	-	-	Order	OrderID, StatusId
3	Order Status filter	Filter	-	-	Order	StatusId
4	View	Button	-	-	-	-
5	Order Detail	Table	-	-	Order	OrderID, UserId, ShippingID, TotalAmount, OrderDate, StatusId
6	Page navigation	Navigate	-	-	-	-

# Processing Detail

## A. Initial display

Item Name	Status
Status cards	Total number of Orders with corresponding status
Orders list	List of orders get from database
Orders basic information	Information related to specific order (ID, User's email, Shipping method, Total cost, Date, Status)
Total number of Orders	Total number of orders in the system

Figure 5: Screen initial display

## B. Processing flow

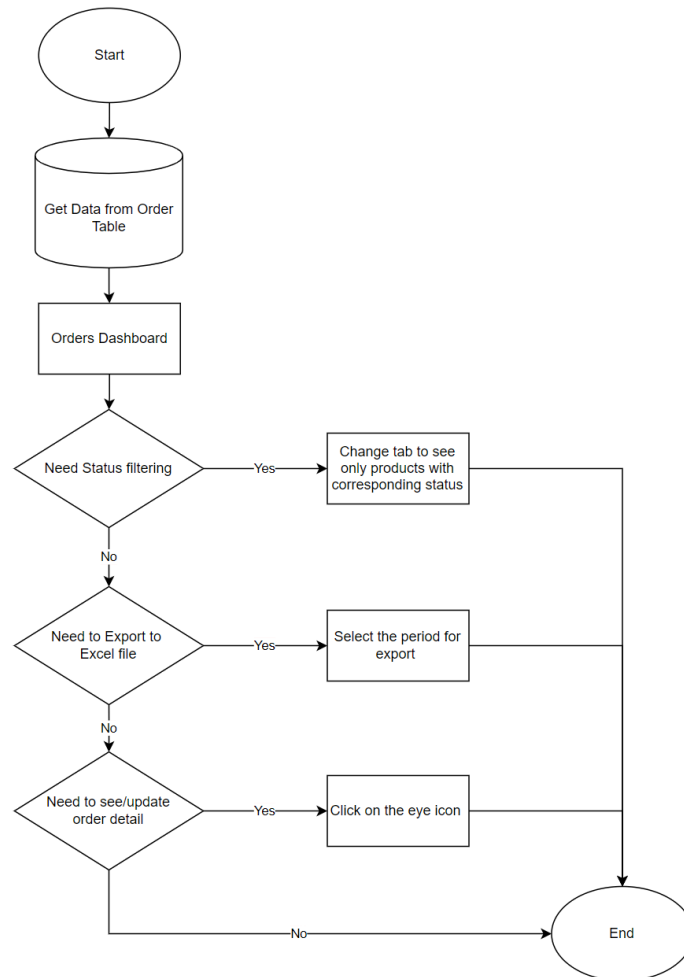


Figure 7: Processing flow



1. The page initially shows all a list of orders which is obtained from the table Orders and their information which is obtained Order, OrderItem, Product, Shipping, Status. There are several display cards at the top of the page to show the total number order in each status.
2. The admin checks the current status of the order.
3. The admin decides if they want to see the only the orders in selected status
  - If yes, the admin can click on the tabs below the display card to filter the orders.
4. The admin decides if they want to export the orders to Excel file
  - If yes, the admin can click on the Export Excel button on the right corner and select the time period to get the excel file of orders.
5. The admin decides if they want to see or update the orders' detail
  - If yes, the admin can click on the Eye icon on the View column and move to the Order Detail Page.

# Detail Design

Manage Order Details Screen

Ver 1.0

Created by	Nguyen Anh Duc	Created date	06/03/2024
Updated by		Updated date	


# Overview

The Manage Order Details screen helps admins to keep track of information about orders; customers who made those orders, as well as the delivery status of the orders.

## Screen Layout

The screenshot displays the 'Order Details' page for an order with a 'Pending' status. The page is divided into several sections:

- Order Status Progress (1):** A horizontal progress bar with four stages: Pending (active), Processing, Shipped, and Completed.
- Customer Information (2):** A form containing fields for Customer, Email (luongtrac.ducanh@gmail.com), Address, Mobile Phone, Order Date (10/27/2023 07:00 AM), and Shipping Option (Express delivery).
- Product Details (3):** A table showing the ordered items:

Product	Price	Quantity	Subtotal
 Surface Laptop	\$134.99	2	\$269.98
- Status Dropdown (4):** A dropdown menu currently set to 'Pending'.
- Action Buttons (5):** 'Back' and 'Save' buttons.
- Order Summary (6):** A box at the bottom right showing 'Order Total (2 Items): \$271.98'.

The footer includes a map of the store location (7F VienDong Building, 36 Hoang Cau, Dong Da District, Hanoi, Vietnam), page links (Home, Products, Orders, Reviews, Account, Cart), social media links (Facebook, Instagram, Youtube), and contact information (0393563123, luongtrac.ducanh@gmail.com).

Figure 1: Screen capture of details about an order with “Pending” status

No.	Item Name	Item Type	Input Length	Data Type	DB Table	Field
1	Status bar	Progress bar	-	-	Status	Label
2	Customer information	Form	-	-	User U, Order O, Shipping S	U.Name, U.Email, U.MobilePhone, O.OrderDate, S.Label
3	Products ordered	Table	-	-	Product P, OrderItem OI	P.Name, P.Price, OI.Quantity, OI.SubTotoal
4	Status list	Dropdown list	255	Text	Status	Label
5	Back	Button	-	-	-	-
6	Save	Button	-	-	-	-
7	Order total	Container	-	-	Order	TotalAmount

Figure 2: Screen items

## Processing Detail

### A. Initial display

Item Name	Status
Status bar	Order's current status
Status list	Order's current status
Customer information	Information that customers filled in when making an order
Products Ordered	List of orders products with corresponding quantity and subtotal
Order total	Sum of the subtotals (tax included)

Figure 3: Screen initial display

## B. Processing flow

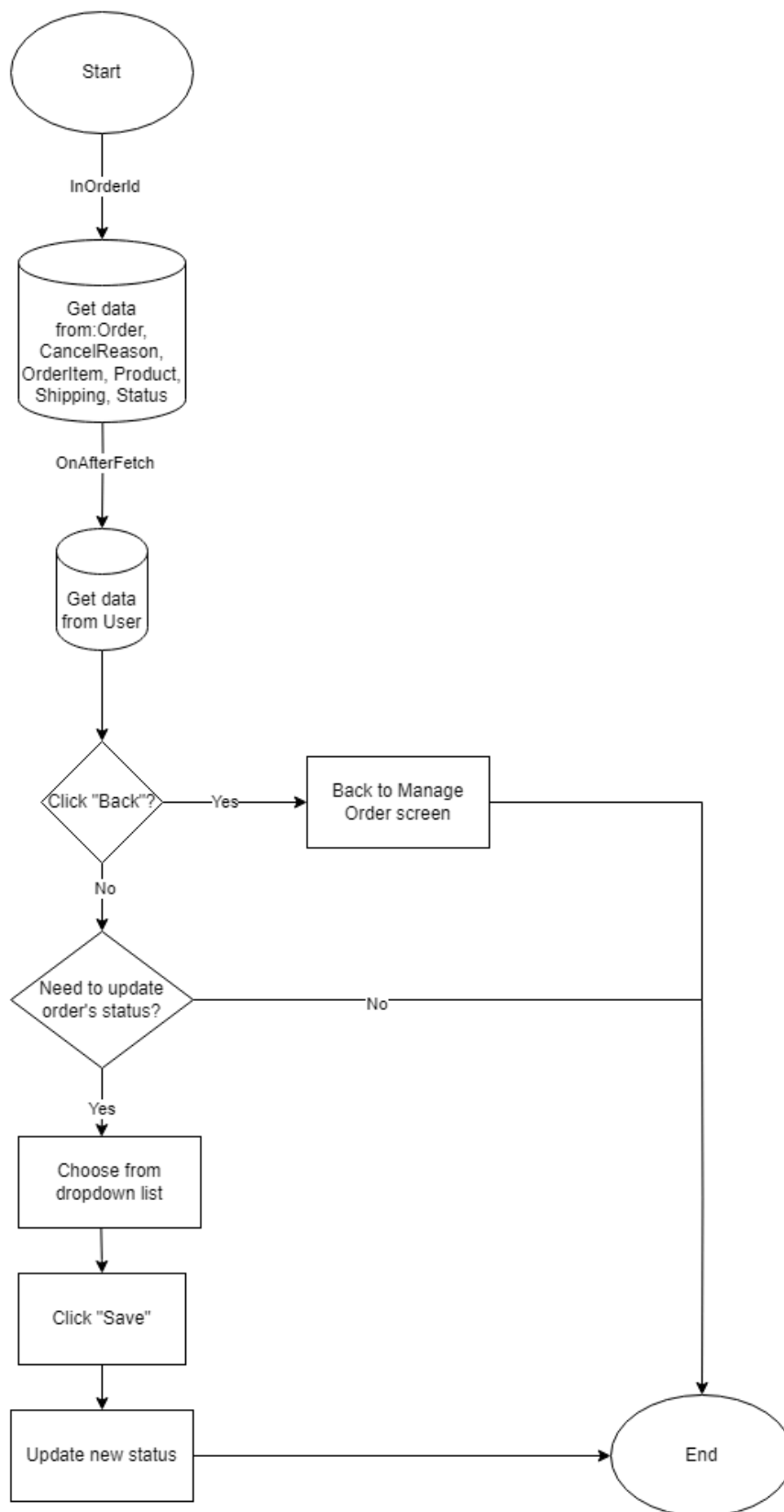


Figure 4: Processing flow

1. The page initially shows all information about customers which is obtained from the table User and their orders which is obtained from the tables Order, OrderItem, Product, Shipping, Status, CancelReason. The customer's information is read only. There is a progress bar at the top of the page to show the order's status.
2. The admin checks the current status of the order
3. The admin decides if they need to update the order's status or not
  - If no, they do not need to do any more task and can click the "Back" button to redirect back to the Manage Orders page
  - If yes, the admin can choose another status from the dropdown list. The options are: Pending, Processing, Shipping, Completed, Canceled
4. The admin clicks the "Save" to save change to the order's status. The progress bar at the top of the page will be updated accordingly.