



# **CAPSTONE PROJECT REPORT**

## **Smart online electronics sales system**

### **Report 3 – Software Requirement Specification**

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# I. Software Requirement Specification

## 1. Product Overview

Electronic store is an e-commerce website, specializing in providing electronic devices, helping customers place online orders quickly and conveniently. Customers can register as members to shop and pay conveniently with VNPay. In addition, the Website also suggests products that users often buy to help customers choose quickly, saving time searching. The website will support users 24/7 with an extremely fast Chatbot chat feature supported by AWS Lex, providing a good experience for customers.

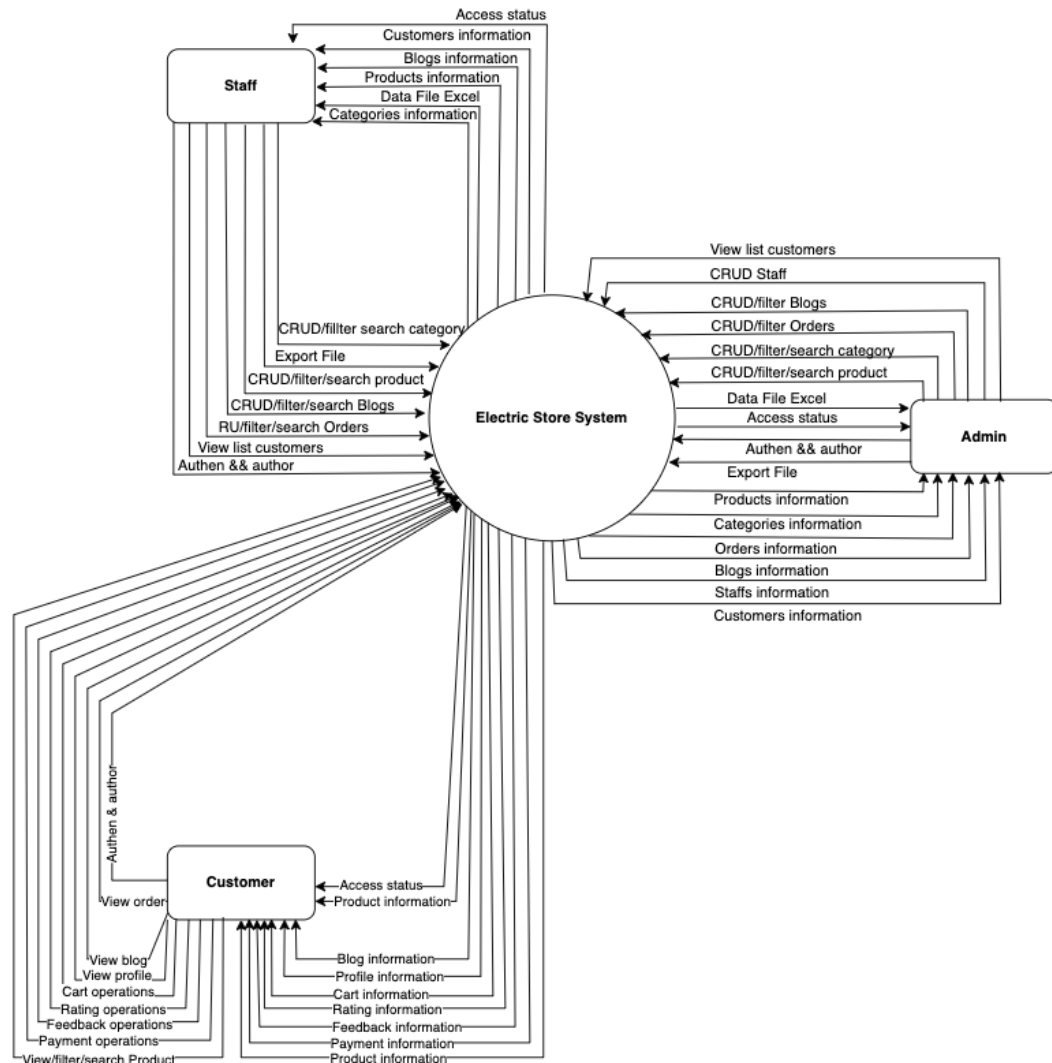


Figure 1 - Product Overview

## 2. User Requirements

### 2.1 Actors

*Table 1 - Actors list and description*

#	Actor	Description
1	Administrator	The Administrator holds the highest authority and is responsible for overseeing the entire system. Their duties include managing user data, employee accounts, product management, and revenue statistics.
2	Staff	Staff members operate under the authority of the Administrator. Their responsibilities include processing user orders, managing products, handling orders, maintaining blogs, and editing product information.
3	Customer	Customers are buyers who need to register an account to make purchases.
4	Guest	Guests are visitors who can view the prices of available items in the store without registering an account.
5	VNPay	VNPay is a payment service provider that facilitates easier payment processing.
6	AWS Lex	AWS Lex is a chatbot service provider that enhances customer service efficiency by providing quick and convenient responses to customer inquiries.
7	Kommunikate	Kommunikate is another chatbot service provider that helps staff respond to customer inquiries quickly and efficiently.
8	DigitalOcean	DigitalOcean provides scalable virtual machines, known as Droplets, for web hosting and VPS hosting, including managed PostgreSQL databases..

## 2.2 Use Cases

### 2.2.1 Diagram(s)

Use Case Diagram - Admin:



Figure 2 - Use Case Diagram - Admin

Use Case Diagram - Staff:

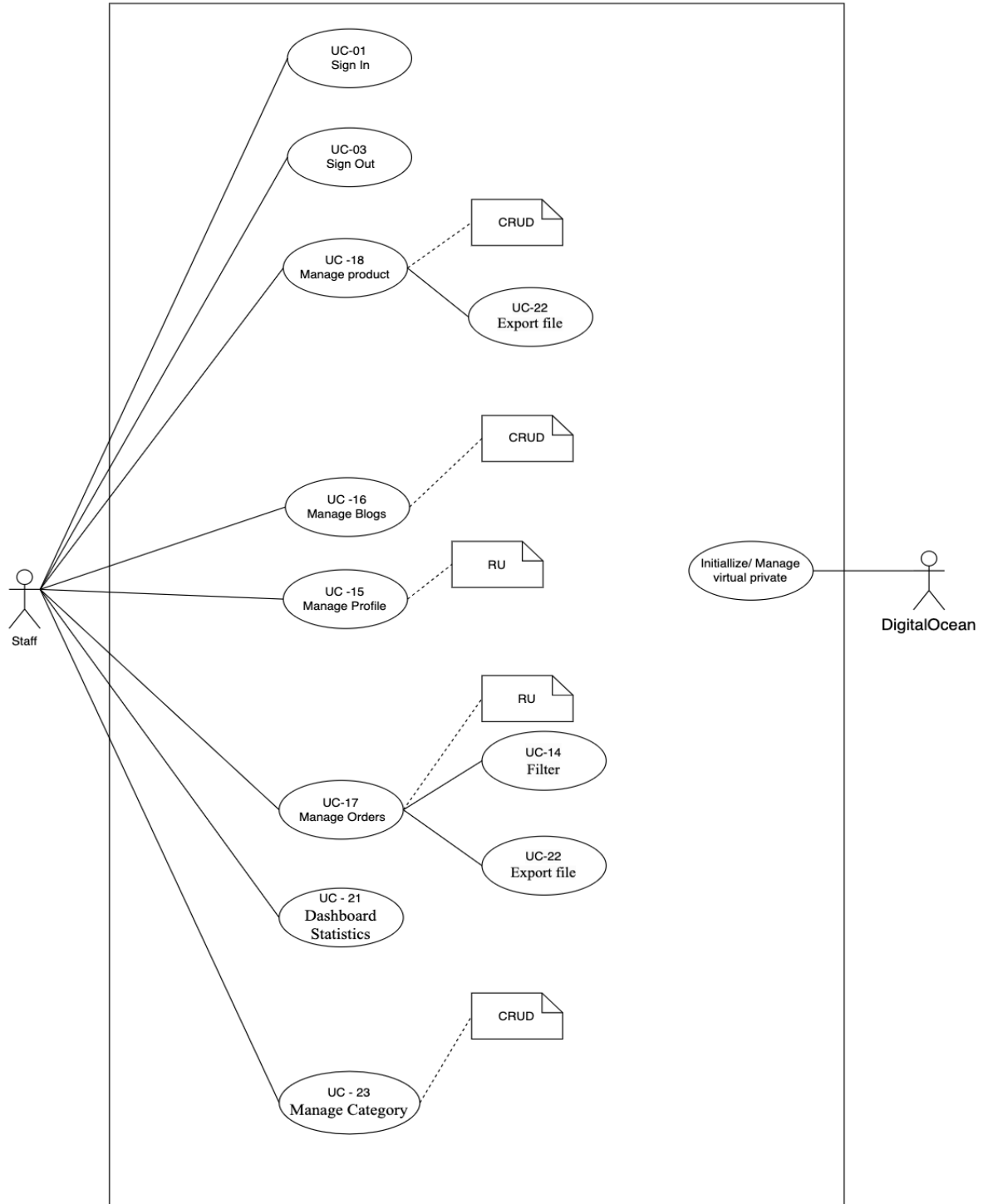


Figure 3 - Use Case Diagram - Staff

## Use Case Diagram - Customer:

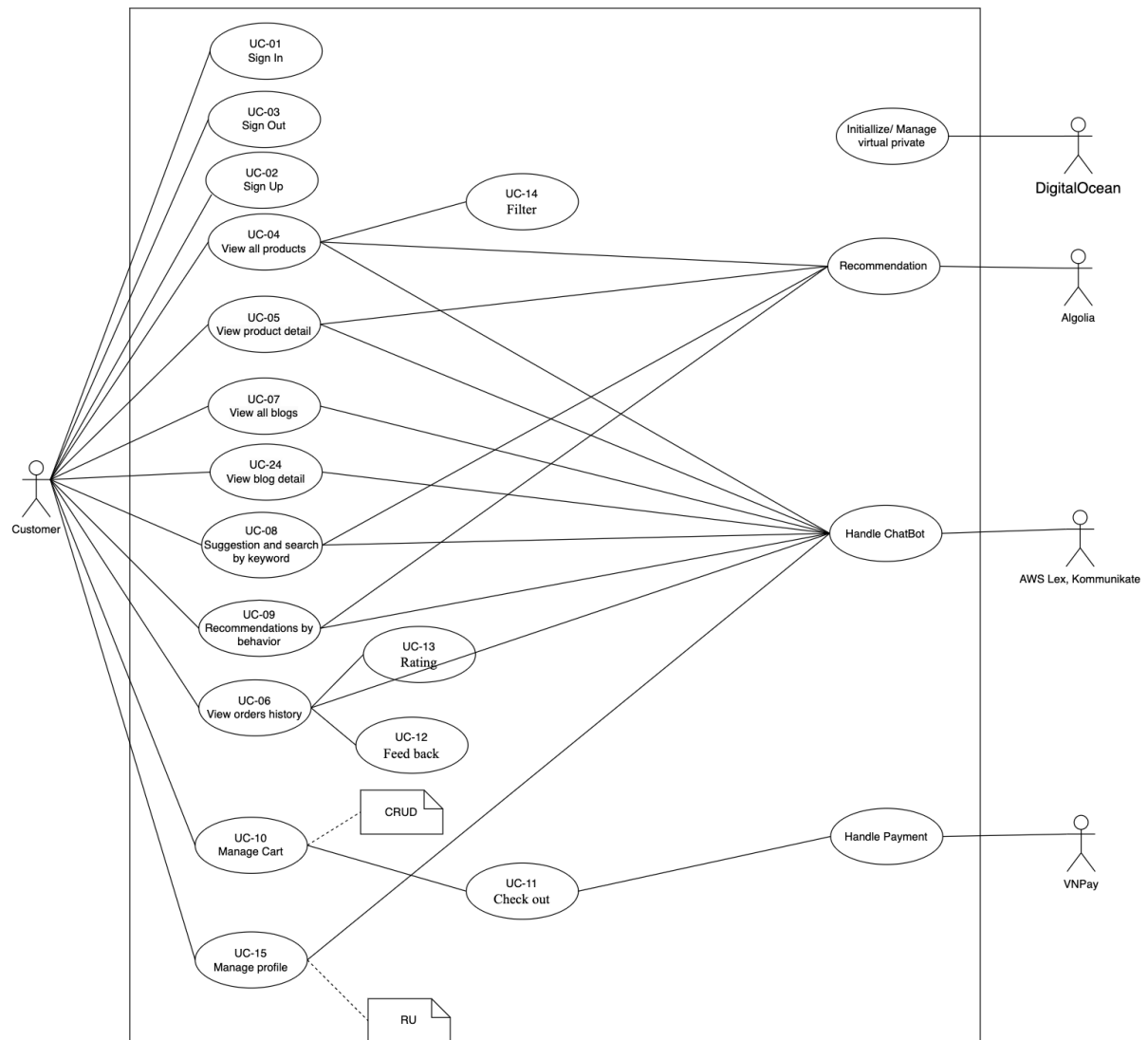


Figure 4 - Use Case Diagram - Customer



## Use Case Diagram - Guest:

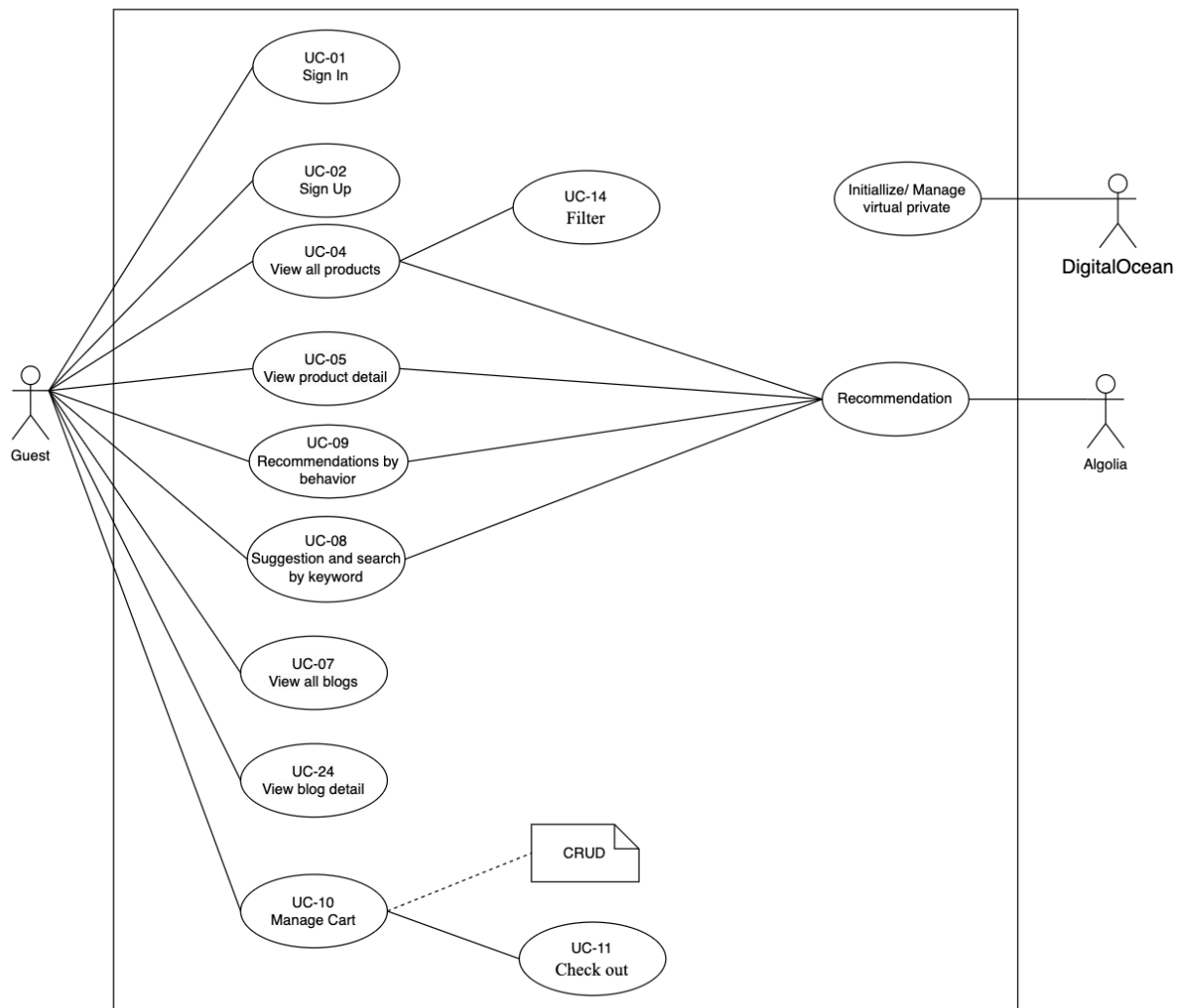


Figure 5 - Use Case Diagram - Guest

## 2.2.2 Descriptions

Table 2 – Use Case Description

ID	Use Case	Actors	Use Case Description
UC - 01	Sign in	Guest, Customer, Staff, Admin	This feature allows all users log in to the system to verify their roles and provide them with access to features allowed in the system.

ID	Use Case	Actors	Use Case Description
UC - 02	Sign up	Guest, Customer, Staff	This features allows users register for account
UC - 03	Sign out	Customer, Staff, Admin	After the user has logged in to the system, this features allows user can log out of the system
UC - 04	View all products	Guest, Customer	Allows users to browse all available products.
UC - 05	View product detail	Guest, Customer	Provides detailed information about a specific product.
UC - 06	View orders history	Customer	Displays a list of past orders made by the user.
UC - 07	View all blogs	Guest, Customer	Shows all blog posts available on the platform.
UC - 08	Suggestion and search by keyword	Guest, Customer	Enables users to search for items and get suggestions based on keywords.
UC - 09	Recommendations by behavior	Guest, Customer	Suggests products based on user behavior and preferences.
UC - 10	Manage Cart (CRUD)	Customer	Allows users to create, read, update, and delete items in their cart.
UC - 11	Check out	Customer	Facilitates the process of purchasing items in the cart

ID	Use Case	Actors	Use Case Description
UC - 12	Feedback	Customer	Enables users to provide feedback on products or services.
UC - 13	Rating	Customer	Allows users to rate products.
UC - 14	Filter	Guest, Customer, Staff, Admin	Helps users to filter products based on various criteria.
UC - 15	Manage Profile (RU)	Customer, Staff, Admin	Users can read and update their profile information.
UC - 16	Manage Blogs (CRUD)	Staff, Admin	Allows users to create, read, update, and delete blog posts
UC - 17	Manage Orders (RU)	Staff, Admin	Allows users to read and update order information.
UC - 18	Manage Product (CRUD)	Staff, Admin	Admins can create, read, update, and delete product information.
UC - 19	Manage Staff (CRUD)	Admin	Admins can create, read, update, and delete staff information.
UC - 20	Manage Customer (R)	Admin	Admins can read customer information.
UC - 21	Dashboard Statistics	Staff, Admin	Provides statistical data and insights on platform usage.
UC - 22	Export File	Staff, Admin	Allows users to export data files.

ID	Use Case	Actors	Use Case Description
UC - 23	Manage Category (CRUD)	Staff, Admin	Admins can create, read, update, and delete product categories.
UC - 24	View blog detail	Guest, Customer	Guest and Customer can read blog detail.

### 2.2.3 Use Case Description

#### 2.2.3.1 Sign in

Table 3 – Sign In use case description

<b>ID and Name:</b>	UC - 01 Sign in		
<b>Created By:</b>	Tran Gia Cuong	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Guest, Customer, Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	User wants to log in to the system. User clicks the “Sign In” button on the homepage.		
<b>Description:</b>	This feature allows all users log in to the system to verify their roles and provide them with access to features allowed in the system.		
<b>Preconditions:</b>	1. User not login yet. 2. User already has account		
<b>Post-conditions:</b>	<b>Success:</b> Actor will be redirected to Homepage of the system. <b>Failed:</b> System inform “Sign in failed. Check the details you provided are correct.”.		
<b>Normal Flow:</b>	1. User accesses the homepage. 2. Hover user icon on Navigation bar. 3. Click on Log In button. 4. System open the login page of Google. 5. User enters email and password into the input fields on the Google form. 6. User clicks Sign in to submit the sign in form 7. System checks account information. If the account exists in		

	the system, the system will notify " <b>Successful login</b> " and return to the Home page.
<b>Alternative Flows:</b>	<b>Step 5:</b> User choose any Google account available in Google form
<b>Exception:</b>	<p><b>Step 5:</b> If the input field is empty, invalid Information or in the wrong format, the system will display an error message "<b>Sign in failed. Check the details you provided are correct.</b>".</p> <p><b>Step 7:</b> If the account information does not exist on the system, the system will display an error message "<b>Sign in failed. Check the details you provided are correct.</b>".</p> <p><b>Step 6:</b> The system cannot authenticate the account The system notifies "<b>Sign in failed. Check the details you provided are correct.</b>".</p>
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	High
<b>Business Rules:</b>	BR-18
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	Internet connection is available.

Screen:

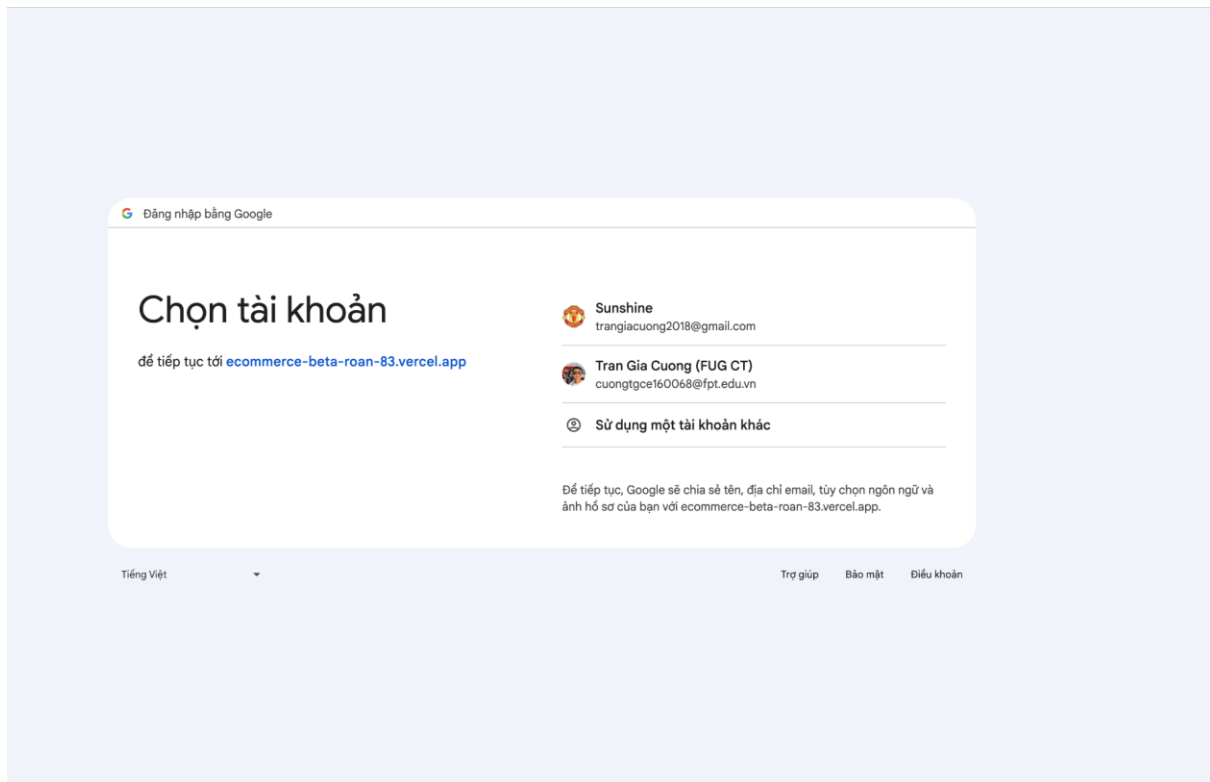


Figure 1 - Sign in

### 2.2.3.2 Sign up

Table 4 – Sign up use case description

<b>ID and Name:</b>	UC - 02 Sign up		
<b>Created By:</b>	Tran Gia Cuong	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Guest, Customer	<b>Secondary Actors:</b>	N/A
<b>Trigger:</b>	Actor wants to register as a member of the system. User clicks the “Sign Up” button on the homepage		
<b>Description:</b>	This feature allows users to register as members of the system		
<b>Preconditions:</b>	1. User must have access to the sign-up page. 2. User does not have an account. 3. User not login yet		
<b>Post-conditions:</b>	<b>Success:</b> The user's account is created, and they will be redirected to the home page of the system <b>Failed:</b> System inform "Registration failed".		

<b>Normal Flow:</b>	<ol style="list-style-type: none"> <li>1. User accesses the homepage.</li> <li>2. Hover user icon on Navigation bar.</li> <li>3. Click on Log In button.</li> <li>4. System open the login page of Google.</li> <li>5. User enters email and password into the input fields on the Google form.</li> <li>6. User clicks Sign in to submit the sign in form</li> <li>7. System checks account information. If the account exists in the system, the system will notify "<b>Successful login</b>" and return to the Home page.</li> </ol>
<b>Alternative Flows:</b>	<b>Step 5:</b> User choose any Google account available in Google form
<b>Exception:</b>	<p><b>Step 5:</b> If the input field is empty, invalid Information or in the wrong format, the system will display an error message "<b>Sign in failed. Check the details you provided are correct.</b>".</p> <p><b>Step 6:</b> The system cannot authenticate the account The system notifies "<b>Sign in failed. Check the details you provided are correct.</b>".</p> <p><b>Step 7:</b> If the account information does not exist on the system, the system will display an error message "<b>Sign in failed. Check the details you provided are correct.</b>".</p>
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	High
<b>Business Rules:</b>	BR-18
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	Internet connection is available.

Screen:

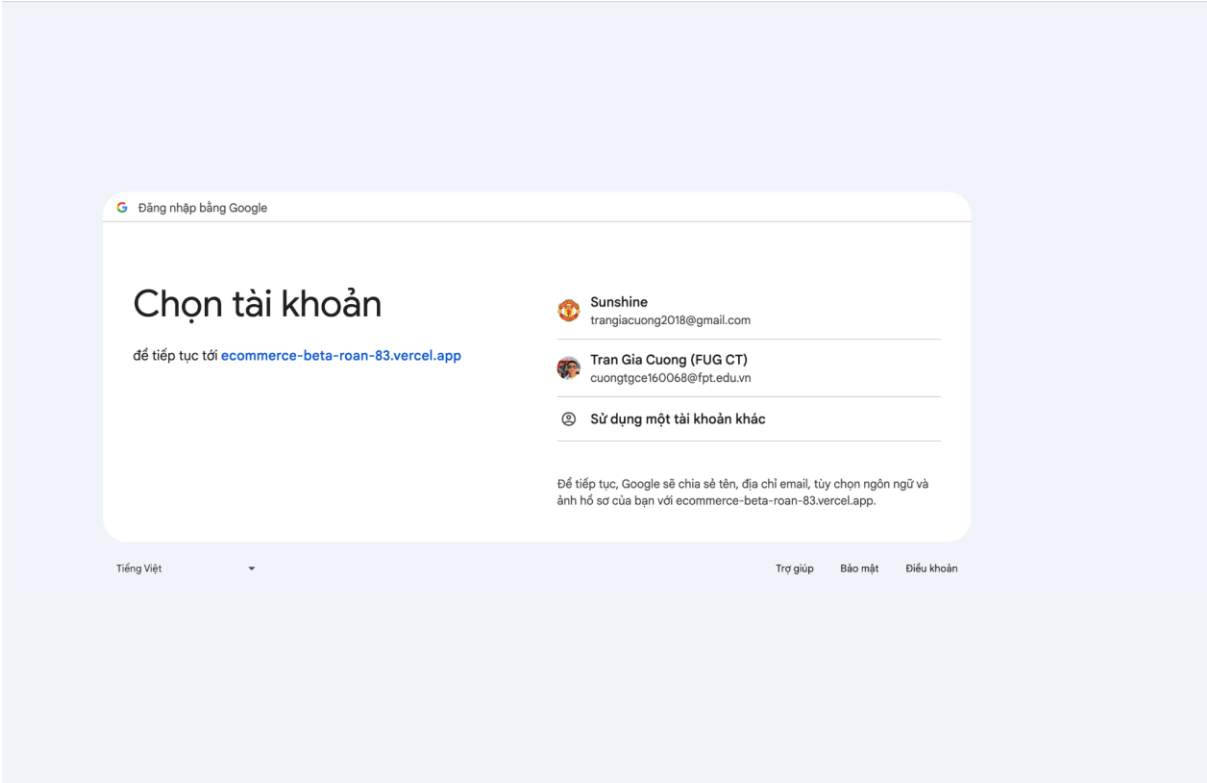


Figure 2 – Sign Up

2.2.3.3 Sign out

Table 5 - Sign out use case description

ID and Name:	UC - 03 Sign out		
Created By:	Tran Gia Cuong	Date Created:	21/5/2024
Primary Actor:	Customer, Staff, Admin	Secondary Actors:	
Trigger:	Click on Sign Out button		
Description:	After the user has logged in to the system, this features allows user can log out of the system		
Preconditions:	1. The user must be currently logged in to the system.		
Post-conditions:	<b>Success:</b> 1. The user is logged out of the system. 2. The user is redirected to the system's home page.		
Normal Flow:	1. The user navigates to the sign-out functionality within the system		



	<ol style="list-style-type: none"> <li>2. The user hover on user icon</li> <li>3. Click on the sign-out option</li> <li>4. The system processes the sign-out request</li> <li>5. The user is logged out of the system</li> <li>6. The system redirects the user to the home page</li> </ol>
<b>Alternative Flows:</b>	<b>Step 1:</b> If the user's session has expired due to inactivity, the system may automatically log them out and redirect them to the login page.
<b>Exception:</b>	<b>Step 3.</b> If there is a technical problem during the logout process (e.g. server, database error), the system may display an error message " <b>An error occurred during processing, please try again</b> "
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	High
<b>Business Rules:</b>	N/A
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	Internet connection is available.

Screen:

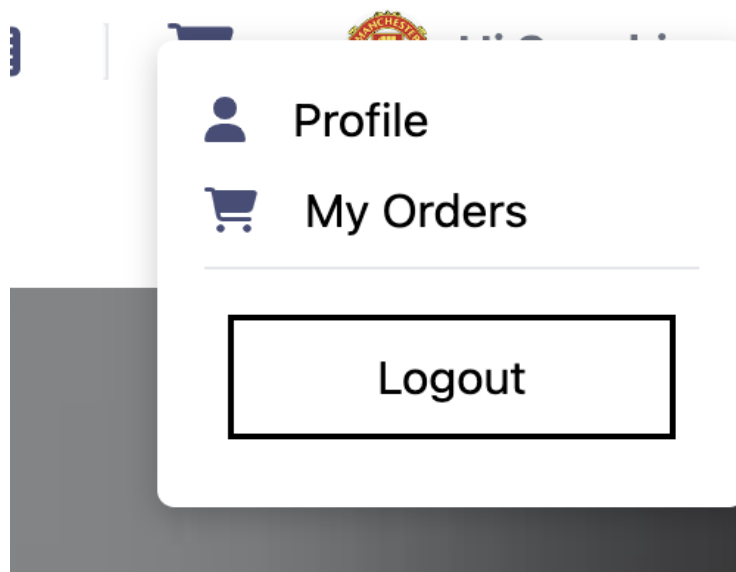


Figure 3 – Sign Out

#### 2.2.3.4. View All Product

Table 6 – Show product description

<b>ID and Name:</b>	UC - 04 View All Products		
<b>Created By:</b>	Tran Chi Do	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Guest, Customer, Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	Users are navigated to the product section by visiting the home page or through other features.		
<b>Description:</b>	This feature allows users to view the list of products available in the system including: images, prices, product categories.		
<b>Preconditions:</b>	1. The system must be operational and able to retrieve product information from the database. 2. The product must have information in the database.		
<b>Post-conditions:</b>	<b>Success:</b> 1. The system displays a list of products available in the system. 2. The Users can continue to view additional details or adding it to the shopping cart. <b>Failed:</b> 1. The system displays the message " <b>No products to display</b> "		
<b>Normal Flow:</b>	1. The user navigates to the product catalog section within the system. 2. The system retrieves product data from the database. 3. The system displays a list of products, including relevant details such as name, description, and price.		
<b>Alternative Flows:</b>	<b>Step 3:</b> If the user applies additional filters (e.g., category, price range), the system refines the search results accordingly. <b>Step 3:</b> If the system has no products: The system displays the message " <b>No products to display</b> "		
<b>Exception:</b>	<b>Step 2:</b> If there is a technical problem during the logout process (e.g. server, database error), the system may display an error message " <b>An error occurred during processing, please try again</b> " <b>Step 2:</b> The system is down or unreachable: The user will not be able to access the product management interface. <b>Step 3:</b> Insufficient permissions: The user tries to edit a product		

	without the necessary permissions and will be denied access.		
<b>Priority:</b>	High.		
<b>Frequency of Use:</b>	Frequency.		
<b>Business Rules:</b>	BR - 01, BR - 09, BR - 10.		
<b>Other Information:</b>			
<b>Assumptions:</b>	Internet connection is available.		

#### Screen:

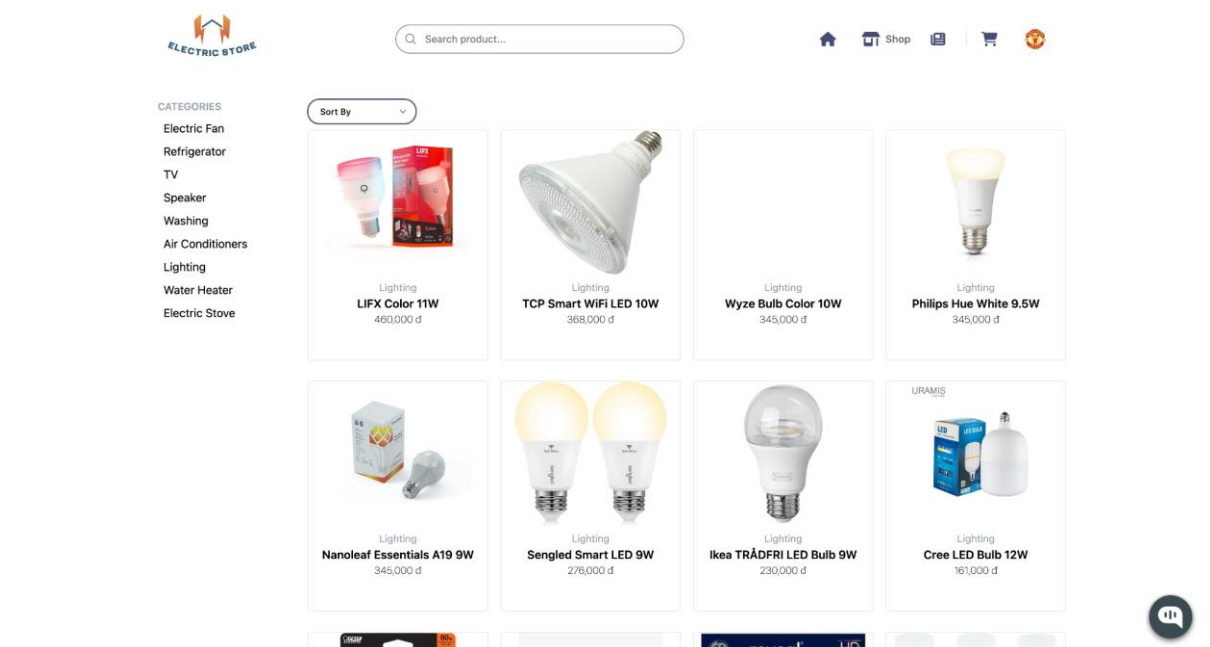


Figure 4 - View All Product

#### 2.2.3.5. View product details


Table 7 - Show product details description






<b>ID and Name:</b>	UC - 05 View product details		
<b>Created By:</b>	Tran Chi Do	<b>Date Created:</b>	22/5/2024


<b>Primary Actor:</b>	Guest, Customer, Staff,	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The Users select a product from any page to view detailed information.		
<b>Description:</b>	This use case describes the process of any user (Guest, Customer) who wants to view detailed product information.		
<b>Preconditions:</b>	<ol style="list-style-type: none"> <li>1. The system must be operational and able to retrieve product information from the database.</li> <li>2. The product must have information in the database.</li> </ol>		
<b>Post-conditions:</b>	<b>Success:</b> <ol style="list-style-type: none"> <li>1. The system displays detailed product information that the user selects</li> </ol>		
<b>Normal Flow:</b>	<ol style="list-style-type: none"> <li>1. User selects a specific product from any page on the system or search results.</li> <li>2. The system retrieves detailed information about the selected product from the database.</li> <li>3. The system displays detailed product information to users, including: <ul style="list-style-type: none"> <li>● Product's name</li> <li>● Description</li> <li>● Price</li> <li>● availability</li> <li>● Image</li> <li>● Specifications</li> <li>● Add to cart button</li> </ul> </li> </ol>		
<b>Alternative Flows:</b>	N/A		
<b>Exception:</b>	<p><b>Step 4:</b> If there is a technical problem during the logout process (e.g. server, database error), the system may display an error message "An error occurred during processing, please try again"</p> <p><b>Step 5:</b> The system is down or unreachable: The user will not be able to access the product management interface</p> <p><b>Step 5:</b> Insufficient permissions: The user tries to edit a product without the necessary permissions and will be denied access.</p>		
<b>Priority:</b>	High		

Frequency of Use:	Frequent
Business Rules:	BR - 01, BR - 09, BR - 10, BR - 15
Other Information:	
Assumptions:	Internet connection is available.

Screen:







### Feit Electric Filament LED Bulb 8W

Upgrade your lighting to Feit Electric's elegant Exposed White Filament LED Bulbs for a fresh take on vintage bulbs. These first-of-their-kind white filament bulbs take a traditional clear glass A-shape bulb and add lower-profile white filaments. Unlike yellow filaments, these blend into any décor style for a timeless look that complements any room. Their dimmable 2700K Soft White glow is ideal for creating a relaxing and comfortable atmosphere, with no harsh glare. Use these bulbs in any fixture with a medium E26 base for a variety of general-purpose and decorative lighting applications. BPA1560927CAWFIL/2 bulbs emit 750 lumens of light while using just 8 watts, up to 86.7% less energy than standard 60-watt incandescent bulbs. A 90+ CRI infuses vibrance into your space, bringing out truer colors and more natural skin tones. Get up to 15,000 hours of life with an estimated energy cost of only \$0.96 per year. Create a stylish feel that instantly enhances both home and commercial spaces.

★ ★ ★ ★ ★ (0)

161,000 ₪

Choose a Quantity


- 1 +

Only 139 items left!  
Don't miss it


Add to Cart

#### User Reviews


Similar




Refrigerator  
**Hitachi R-WB480PND2**  
20,990,000 ₪




Washing  
**Aqua 8.8 KG AQW-FR88GT.BK Washer**  
4,790,000 ₪



Lighting  
**Sylvania Ultra LED 8W**  
138,000 ₪



Lighting  
**Feit Electric LED Bulb 8W**  
127,000 ₪



Lighting  
**GE LED Dimmable 8W**  
138,000 ₪

Figure 5 - View product details

### 2.2.3.6. View the history of orders

Table 8 - View the history of orders description

<b>ID and Name:</b>	UC - 06 View the history of orders		
<b>Created By:</b>	Tran Chi Do	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Customer	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The Customer clicks on the "Orders Management" option and selects "Order History" from the menu.		
<b>Description:</b>	This use case describes the process by which a Customer can view the history of their orders in the system.		
<b>Preconditions:</b>	<ol style="list-style-type: none"><li>1. The Customer must be logged into the system.</li><li>2. The Customer must have placed at least one order in the system.</li></ol>		
<b>Post-conditions:</b>	<ol style="list-style-type: none"><li>1. The order history is displayed to the Customer.</li><li>2. The Customer can see details of each order, including order date, items ordered, status, and total amount.</li></ol>		
<b>Normal Flow:</b>	<ol style="list-style-type: none"><li>1. <b>User Authentication:</b> The customer logs into the system.</li><li>2. <b>Navigate to Orders Section:</b> The Customer clicks on the "Orders" option from the main menu.</li><li>3. <b>Select Order History:</b> The Customer selects "Order History" from the orders menu.</li><li>4. <b>Display Order History:</b> The system retrieves the order history for the Customer and displays it.</li></ol>		
<b>Alternative Flows:</b>	<p><b>A1: No Orders Found</b> 4a: If the system does not find any orders for the Customer, it displays a message indicating that no orders were found.</p> <p><b>A2: System Error</b> 4a: The system encounters an error while retrieving the order history. 4b: The system displays an error message and suggests retrying. 4c: The Customer attempts to view the order history again or contacts technical support if the problem persists.</p>		

<b>Exception:</b>	<b>E1: No Orders Found</b> <ol style="list-style-type: none"> <li>1. The user clicks on the "Orders" link (step 2 of the Normal Flow).</li> <li>2. The system retrieves the user's order history and finds no past orders.</li> <li>3. The system displays a message indicating that no orders were found and suggests the user browse products and place an order.</li> <li>4. The user can choose to navigate to other parts of the website.</li> </ol>
<b>Priority:</b>	High
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>• The user interface should be responsive and accessible on various devices (e.g., desktops, tablets, smartphones).</li> <li>• Users should receive notifications for any significant updates related to their orders.</li> <li>• The system should log all activities related to viewing order history for compliance and auditing purposes.</li> </ul>
<b>Assumptions:</b>	<ul style="list-style-type: none"> <li>• Users have basic training on how to navigate and use the system interface.</li> <li>• Network connectivity is stable during the process.</li> </ul>

Screen:

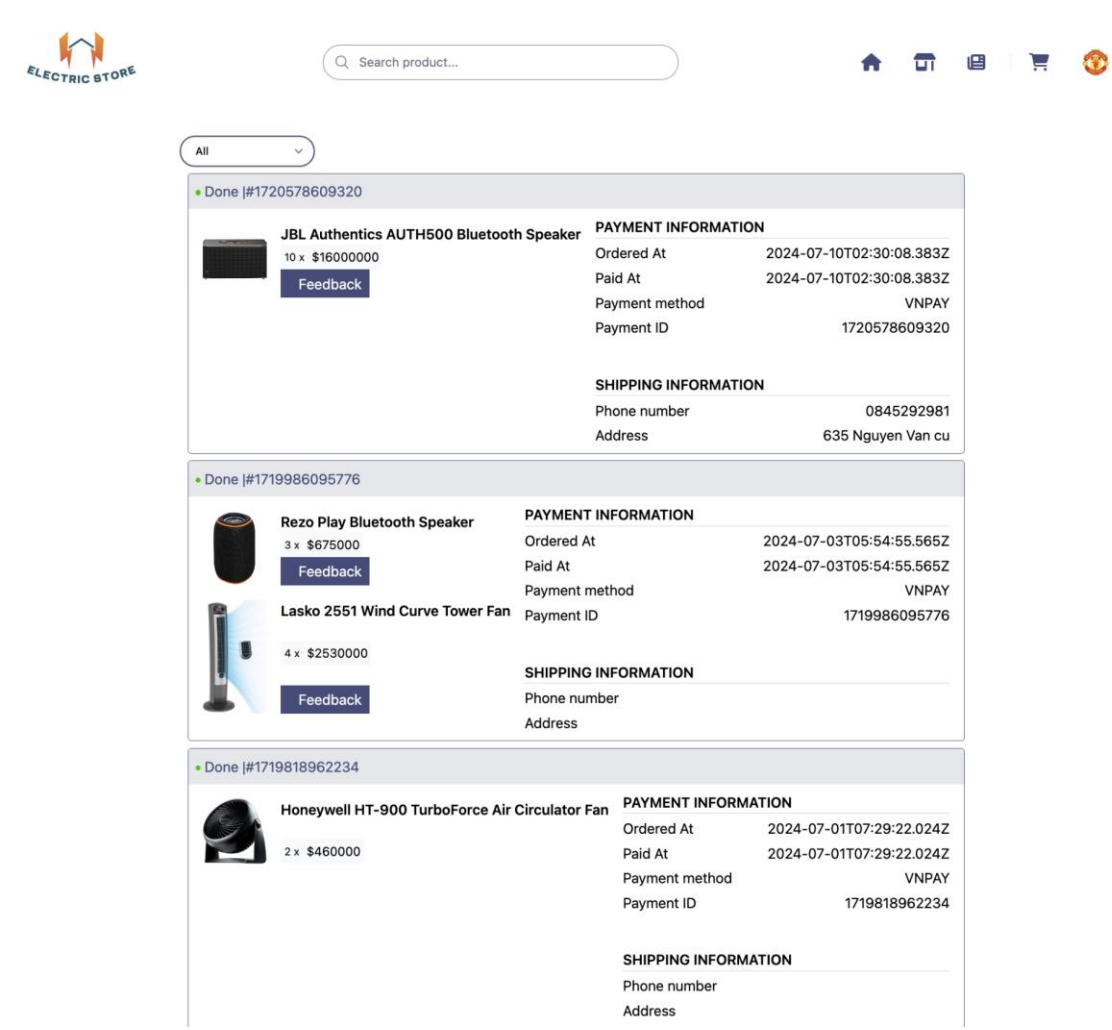


Figure 6 - View the history of orders

2.2.3.7. View all blogs

Table 9 – View all blogs description

ID and Name:	UC - 07 View all blogs		
Created By:	Quach Dang khoa	Date Created:	21/5/2024
Primary Actor:	Guest, Customer	Secondary Actors:	
Trigger:	A user initiates the process by navigating to the blog section of the system.		
Description:	This use case describes the process by which any user (Guest, Customer, Staff, Admin) views all blog posts in the system.		
Preconditions:	None. Any user can access the blog section without needing to log		



	in.
<b>Post-conditions:</b>	The user views the list of all blog posts available in the system.
<b>Normal Flow:</b>	<p><b>1. Access Blog Section:</b> The user navigates to the blog section from the main menu or homepage.</p> <p><b>2. Retrieve Blog List:</b> The system retrieves the list of all blog posts from the database.</p> <p><b>3. Display Blog List:</b> The system displays the list of blog posts to the user.</p> <p><b>4. View Blog Posts:</b> The user can scroll through the list and select any blog post to read in detail.</p>
<b>Alternative Flows:</b>	<p><b>A1: No Blog Posts Available</b></p> <p>2a. The system finds that there are no blog posts available</p> <p>2b. The system displays a message indicating that no blog posts are currently available.</p>
<b>Exception:</b>	<p>- The system is down or unreachable: The user will not be able to access the product management interface</p> <p>- Insufficient permissions: The user tries to edit a product without the necessary permissions and is denied access.</p>
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	BR-09, BR-06
<b>Other Information:</b>	<p>- The blog section should be easily accessible from the main menu or homepage.</p> <p>- Blog posts should be displayed in a user-friendly format, possibly with filters or categories for easier navigation.</p>
<b>Assumptions:</b>	<p>- Users have access to a device with internet connectivity.</p> <p>- The system has blog posts already created and stored in the database.</p>

Screen:

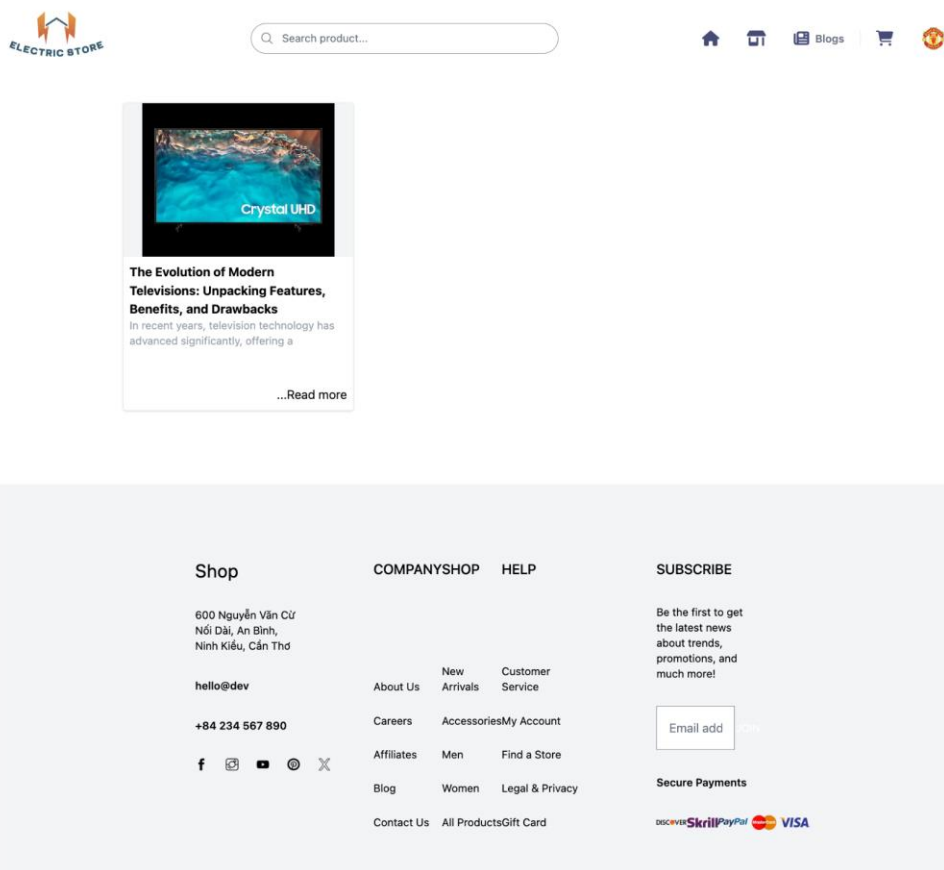


Figure 7 - View all blogs

### 2.2.3.8. Suggestion and search by keyword

Table 10 - Suggestion and search by keyword description

<b>ID and Name:</b>	UC - 08 Suggestion and search by keyword		
<b>Created By:</b>	Tran Gia Cuong	<b>Date Created:</b>	22/5/2024
<b>Primary Actor:</b>	Guest, Customer	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The Users search for products by entering keywords in the search bar.		
<b>Description:</b>	The search bar is displayed at the top of the website While searching for products, the search bar will suggest products by keyword according to the product name		
<b>Preconditions:</b>	1. The system must be operational and able to retrieve product information from the database.		

	2. The product must have information in the database.
<b>Post-conditions:</b>	<b>Success:</b> <ol style="list-style-type: none"> <li>1. The system displays a list of products based on the keyword the user entered.</li> <li>2. If no matching products are found, the system informs the user that no results are available.</li> </ol>
<b>Normal Flow:</b>	<ol style="list-style-type: none"> <li>1. The user accesses the search bar.</li> <li>2. The user enter a keyword or part of a keyword into the search bar.</li> <li>3. The user submits the search query by clicking the search button.</li> <li>4. The system processes the search query and retrieves matching products from the database.</li> <li>5. The system displays a list of products that match the entered keyword, including relevant details such as name, description, and price.</li> </ol>
<b>Alternative Flows:</b>	<b>Step 5:</b> If no matching products are found, the system displays the message " <b>No results</b> "
<b>Exception:</b>	<b>Step 4:</b> If there is a technical problem during the logout process (e.g. server, database error), the system may display an error message " <b>An error occurred during processing, please try again</b> " <b>Step 5:</b> The system is down or unreachable: The user will not be able to access the product management interface <b>Step 5:</b> Insufficient permissions: The user tries to edit a product without the necessary permissions and will be denied access.
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	BR - 01, BR - 09
<b>Other Information:</b>	Then search for products using keywords. The product will be displayed. In addition, sometimes additional products are displayed that are recommended by keyword
<b>Assumptions:</b>	Internet connection is available.

## Screen:

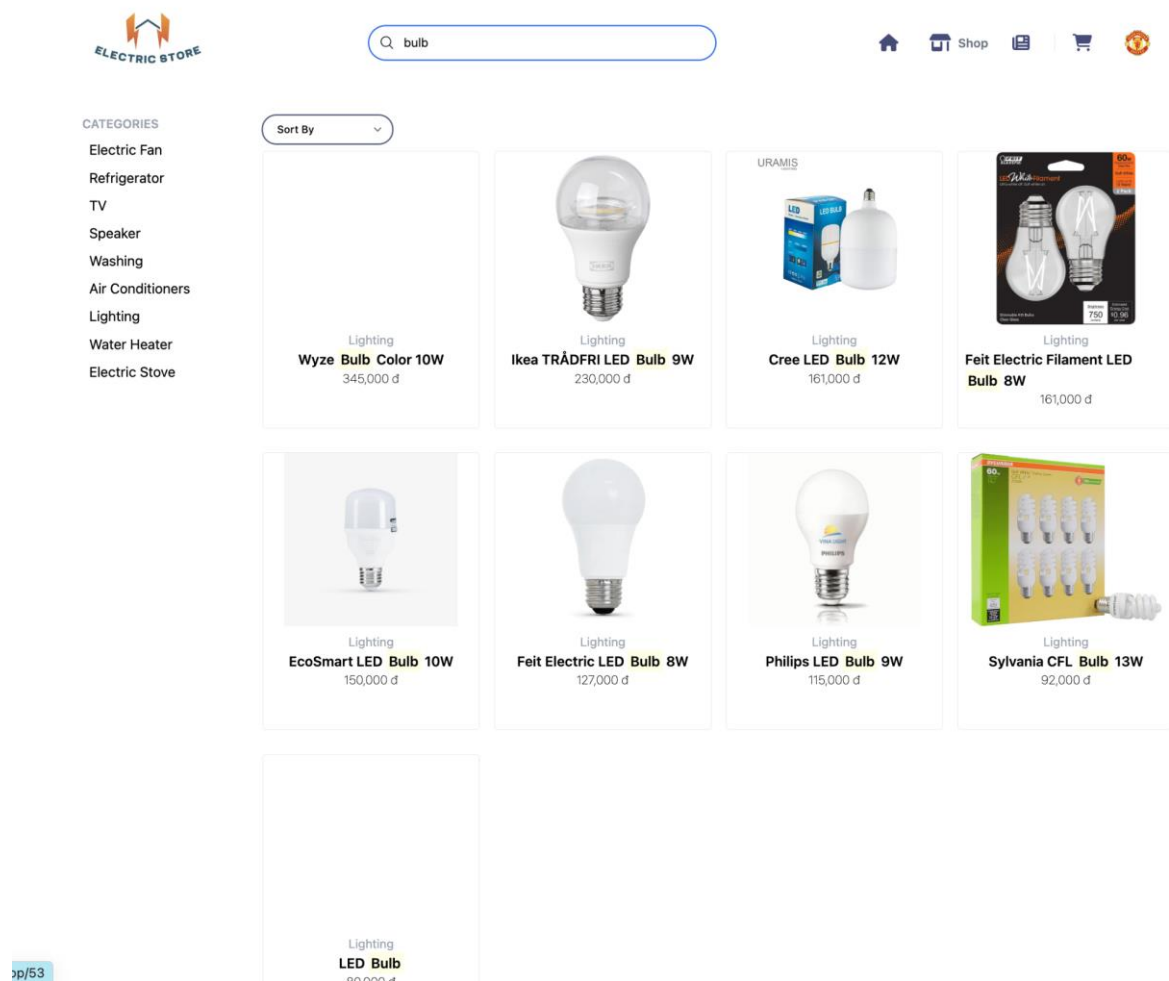


Figure 8 - Suggestion and search by keyword

### 2.2.3.9. Recommendations for behaviour

Table 11 - Recommendations for products description

<b>ID and Name:</b>	UC - 09 Recommendations for behaviour		
<b>Created By:</b>	Tran Gia Cuong	<b>Date Created:</b>	23/5/2024
<b>Primary Actor:</b>	Guest, Customer, Staff, Admin	<b>Secondary Actors:</b>	

<b>Trigger:</b>	Users visit product pages, search for products, or view product recommendations based on their personalised preferences.
<b>Description:</b>	This use case describes the process by which the system suggests products to users based on their behaviour, preferences, and shopping history.
<b>Preconditions:</b>	<ol style="list-style-type: none"> <li>1. The user must be interacting with the system (logged in or as a guest).</li> <li>2. The system must have access to user behaviour data and preferences.</li> </ol>
<b>Post-conditions:</b>	<b>Success:</b> The system displays a list of products based on user preferences.
<b>Normal Flow:</b>	<ol style="list-style-type: none"> <li>1. The user visits the product page, performs a search, or accesses the recommendations section.</li> <li>2. The system collects relevant data such as user behaviour, preferences, and shopping history.</li> <li>3. The system processes the collected data using AI Algolia or similar algorithms.</li> <li>4. The system recommends products based on user preferences.</li> <li>5. The user can interact with the recommended products (e.g., view details, add to cart).</li> </ol>
<b>Alternative Flows:</b>	<p><b>E1: Insufficient Data</b></p> <ol style="list-style-type: none"> <li>2a. The system finds insufficient data to generate personalised recommendations.</li> <li>2b. The system uses generic popular products or category-based recommendations instead.</li> </ol> <p><b>E2: System Error</b></p> <ol style="list-style-type: none"> <li>3a. The system encounters an error while processing data or generating recommendations.</li> </ol>

	3b. The system displays an error message and suggests retrying or provides default recommendations.
<b>Exception:</b>	<ul style="list-style-type: none"> <li>- The system is down or unreachable: Users will not receive any recommendations.</li> <li>- Insufficient permissions: Users without the necessary permissions may receive limited or no recommendations.</li> </ul>
<b>Priority:</b>	High
<b>Frequency of Use:</b>	Very Frequent
<b>Business Rules:</b>	BR-01, BR-10
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>- Recommendations should be updated in real-time as the user's behaviour and preferences evolve.</li> <li>- The system should support filtering and refining recommendations based on user feedback.</li> <li>- Ensure that the recommendation algorithms respect user privacy and data security guidelines.</li> </ul>
<b>Assumptions:</b>	<ul style="list-style-type: none"> <li>- Users are actively engaging with the platform, providing sufficient data for meaningful recommendations.</li> <li>- The recommendation engine is properly integrated with the user data and product catalogue.</li> <li>- Internet connection is available.</li> </ul>

## Screen:

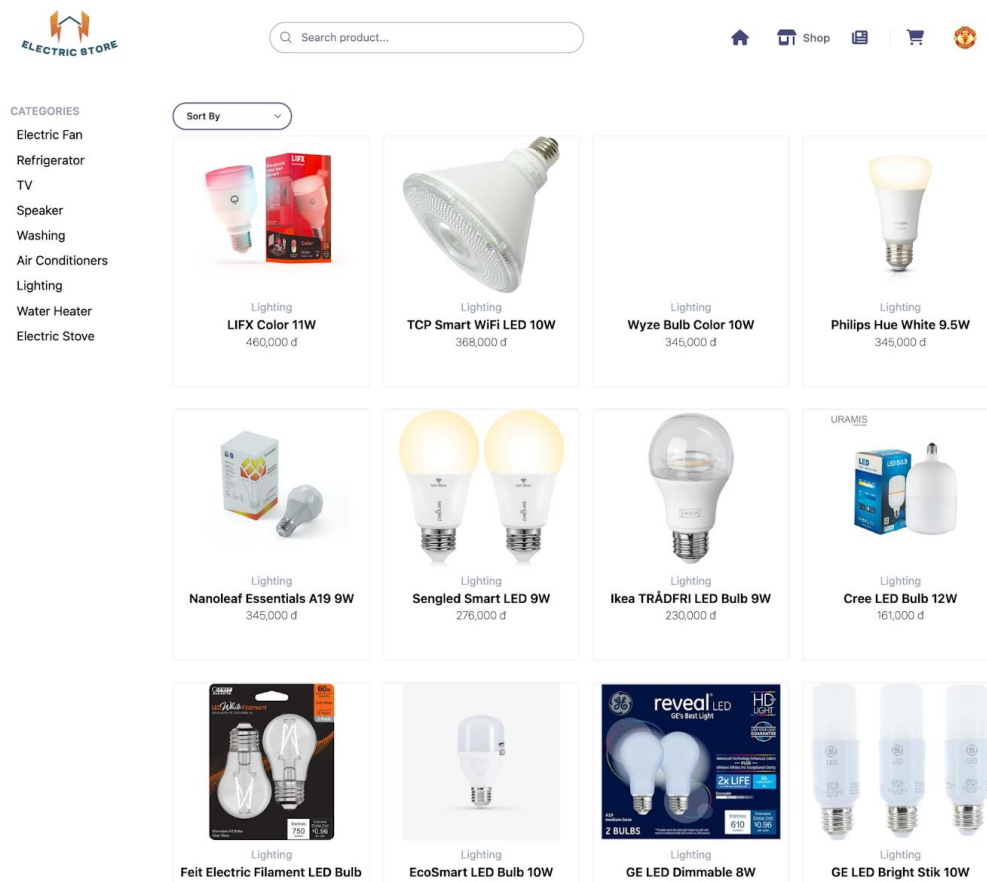


Figure 9 - Recommendations for behaviour

### 2.2.3.10. Manage cart

Table 12 - Manage cart description

<b>ID and Name:</b>	UC - 10 Manage cart		
<b>Created By:</b>	Tran Chi Do	<b>Date Created:</b>	23/5/2024
<b>Primary Actor:</b>	Customer	<b>Secondary Actors:</b>	
<b>Trigger:</b>	A user selects the option to view their cart from any page within the system.		
<b>Description:</b>	This use case describes the process by which users view the contents of their shopping cart.		
<b>Preconditions:</b>	1. The user must be interacting with the system (logged in or as a		

	<p>guest).</p> <p>2. The system is online and functioning correctly</p>
<b>Post-conditions:</b>	<p><b>Success:</b> The user views the current contents of their shopping cart, including item details and total price.</p>
<b>Normal Flow:</b>	<p><b>UC10 - 01 Add to cart</b></p> <ol style="list-style-type: none"> <li>1. The user navigates to the product details page or product listing.</li> <li>2. The user selects the product they wish to add to the cart.</li> <li>3. The user specifies the quantity of the product (default is 1).</li> <li>4. The user clicks the "Add to Cart" button.</li> <li>5. The system validates the input and updates the cart contents in the database or session storage.</li> <li>6. The system provides feedback to the user indicating that the product has been successfully added to the cart, and displays the updated cart contents.</li> </ol> <p><b>UC10 - 02 Edit cart</b></p> <ol style="list-style-type: none"> <li>1. The user navigates to the cart page and selects the option to edit the cart.</li> <li>2. The system displays the current cart contents, including item names, quantities, and prices.</li> <li>3. The user modifies item quantities or removes items as needed.</li> <li>4. The user confirms the changes to update the cart.</li> <li>5. The system validates the changes and updates the cart contents in the database or session storage.</li> <li>6. The system provides feedback to the user indicating that the cart has been successfully updated, and displays the updated cart contents.</li> </ol> <p><b>UC10 - 03 Remove Product from Cart</b></p> <ol style="list-style-type: none"> <li>1. The user selects a product to remove from the cart.</li> <li>2. The system updates the cart contents by removing the selected product.</li> <li>3. The system displays the updated cart contents, including item names, quantities, prices, and total cost.</li> </ol>



	<p><b>UC10 - 04 View cart information</b></p> <ol style="list-style-type: none"> <li>1. The user selects the cart icon or "View Cart" option.</li> <li>2. The system retrieves the cart contents from the database or session storage.</li> <li>3. The system displays the cart contents, including item names, quantities, prices, and total cost.</li> <li>4. The user can review the cart items, update quantities, remove items, or proceed to checkout.</li> </ol>
Alternative Flows:	<p><b>UC10 - 01 View cart information</b></p> <p><b>AF1: Empty Cart</b></p> <ol style="list-style-type: none"> <li>2a. The system finds that the cart is empty.</li> <li>2b. The system displays a message indicating the cart is empty and suggests browsing products.</li> </ol> <p><b>AF2: System Error</b></p> <ol style="list-style-type: none"> <li>3a. The system encounters an error while retrieving cart data.</li> <li>3b. The system displays an error message and suggests retrying.</li> </ol> <p><b>UC10 - 02 Edit cart</b></p> <p><b>AF1: Invalid Quantity Entry</b></p> <ol style="list-style-type: none"> <li>3a. The user enters an invalid quantity (e.g., non-numeric value, negative number).</li> <li>3b. The system highlights the invalid field and displays an error message.</li> <li>3c. The user corrects the quantity and proceeds to update the cart.</li> </ol> <p><b>AF2: System Error</b></p> <ol style="list-style-type: none"> <li>5a. The system encounters an error while updating the cart.</li> <li>5b. The system displays an error message and suggests retrying.</li> <li>5c. The user attempts to update the cart again or contacts technical support if the problem persists.</li> </ol> <p><b>UC10 - 03 Add to cart</b></p> <p><b>AF1: Invalid Quantity Entry</b></p> <ol style="list-style-type: none"> <li>3a. The user enters an invalid quantity (e.g., non-numeric value, negative number).</li> <li>3b. The system highlights the invalid field and displays an error message.</li> <li>3c. The user corrects the quantity and proceeds to add the product to the cart.</li> </ol> <p><b>AF2: System Error</b></p>

	<p>5a. The system encounters an error while updating the cart.</p> <p>5b. The system displays an error message and suggests retrying.</p> <p>5c. The user attempts to add the product again or contacts technical support if the problem persists.</p>
<b>Exception:</b>	<ul style="list-style-type: none"> <li>- The system is down or unreachable: Users will not be able to view their cart.</li> <li>- Insufficient permissions: Guests may have limited functionality compared to registered users.</li> </ul>
<b>Priority:</b>	High
<b>Frequency of Use:</b>	Very Frequent
<b>Business Rules:</b>	BR-11
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>- The cart interface should be user-friendly and provide real-time updates on changes to item quantities or prices.</li> <li>- Cart information should persist across sessions for logged-in users.</li> <li>- Ensure cart data integrity and consistency, especially during high traffic.</li> </ul>
<b>Assumptions:</b>	<ul style="list-style-type: none"> <li>- Users understand how to add items to the cart and navigate to the cart page.</li> <li>- The system can reliably retrieve and display cart data in real-time.</li> <li>- Internet connection is available.</li> <li>- Maintain cart data integrity and consistency, especially during high traffic.</li> </ul>

Screen:

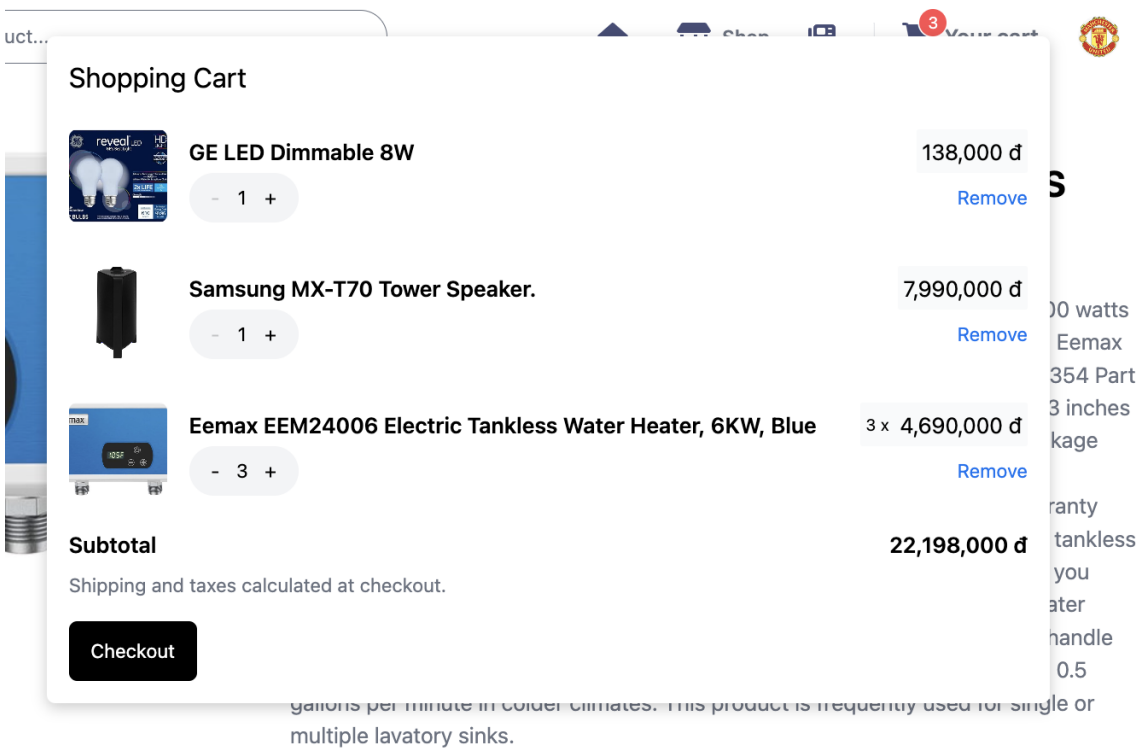


Figure 10 - Manage cart

2.2.3.11. Checkout

Table 13 - Continue Shopping or Proceed to checkout description

ID and Name:	UC - 11 Checkout		
Created By:	Tran Chi Do	Date Created:	21/5/2024
Primary Actor:	Customer	Secondary Actors:	
Trigger:	The cart has products, the user selects the checkout option from within the cart.		
Description:	Checkout allows customers to make a payment after adding products to their cart. Once customers have finished selecting products and adding them to their cart, they can choose the checkout option to start the payment process. At this step, the system will display various payment options, including VNPay.		

<p><b>Preconditions:</b></p>	<ol style="list-style-type: none"> <li>1. <b>Login information:</b> The customer must be logged into their account or provide the necessary information for guest checkout.</li> <li>2. <b>Shipping address:</b> The customer must provide a valid shipping address.</li> <li>3. <b>Cart is not empty:</b> The customer must have at least one product in the cart.</li> <li>4. <b>Payment information:</b> The customer must enter the necessary payment information (card number, expiration date, CVV, etc.).</li> <li>5. <b>Inventory check:</b> The system must confirm that all products in the cart are still in stock to complete the order.</li> </ol>
<p><b>Post-conditions:</b></p>	<p><b>Success:</b></p> <ol style="list-style-type: none"> <li>1. The order is successfully placed and recorded in the system</li> <li>2. The user receives an order confirmation with the details of the purchase</li> </ol>
<p><b>Normal Flow:</b></p>	<ol style="list-style-type: none"> <li>1. <b>Customer logs in:</b>The customer must log in to their account to continue shopping.</li> <li>2. <b>Customer adds products to the cart:</b> After logging in, the customer selects the desired products and adds them to the cart from the product details page.</li> <li>3. <b>Customer accesses the cart:</b> The customer clicks on the cart icon to view the added products.</li> <li>4. <b>Customer selects the Checkout option:</b> The customer clicks on the "Checkout" button to start the checkout process.</li> <li>5. <b>Enter shipping address:</b> The customer provides a valid shipping address.</li> <li>6. <b>Select payment method:</b> The customer chooses a payment method (e.g., credit card, VNPay, e-wallet, bank transfer).</li> <li>7. <b>Enter payment information:</b> The user enters the necessary payment information (card number, expiration date, CVV, etc.).</li> <li>8. <b>Order placed successfully:</b>The order is successfully placed and recorded in the system.</li> </ol>

<p><b>Alternative Flows:</b></p>	<p><b>AF1: Customer is not logged in</b></p> <ol style="list-style-type: none"> <li>1. <b>Customer accesses the product details page:</b> The customer tries to add a product to the cart.</li> <li>2. <b>System prompts login:</b>The system prompts the customer to log in or create an account.</li> <li>3. <b>Customer logs in or creates an account:</b> The customer logs in to their existing account or creates a new account.</li> <li>4. <b>Customer adds products to the cart:</b> After logging in or creating an account, the customer selects the desired products and adds them to the cart.</li> <li>5. <b>Continue with the normal flow:</b> The customer continues with the normal flow from step</li> </ol> <p><b>AF2: Shipping address is invalid</b></p> <ol style="list-style-type: none"> <li>1. <b>Customer enters an invalid shipping address:</b> The customer provides an address that the system cannot verify or that does not meet shipping criteria.</li> <li>2. <b>System prompts for a valid address:</b> The system notifies the customer that the address is invalid and requests a new address.</li> <li>3. <b>Customer enters a valid shipping address:</b> The customer provides a valid shipping address.</li> <li>4. <b>Continue with the normal flow:</b> The customer continues with the normal flow from step 5.</li> </ol> <p><b>AF3: Payment method is declined</b></p> <ol style="list-style-type: none"> <li>1. <b>Customer selects a payment method:</b> The customer chooses a payment method and enters the necessary information.</li> <li>2. <b>Payment is declined:</b> The system attempts to process the payment, but it is declined (e.g., insufficient funds, incorrect information).</li> <li>3. <b>System prompts for a new payment method:</b> The system notifies the customer that the payment was declined and requests a new payment method.</li> <li>4. <b>Customer selects a different payment method:</b>The customer chooses a different payment method and enters the necessary information.</li> <li>5. <b>Continue with the normal flow:</b>The customer continues with the normal flow from step</li> </ol>
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Exception:	<p><b>E1: System error during login</b></p> <ol style="list-style-type: none"> <li><b>Customer attempts to log in:</b> The customer enters their login information and clicks the login button.</li> <li><b>System error occurs:</b> The system encounters an error and cannot process the login request.</li> <li><b>System displays error message:</b> The system notifies the customer of the error and requests them to try again later.</li> <li><b>Customer retries or contacts support:</b> The customer can retry logging in later or contact customer support for assistance.</li> </ol> <p><b>E2: System error when adding product to cart</b></p> <ol style="list-style-type: none"> <li><b>Customer attempts to add product to cart:</b> The customer selects a product and clicks the "Add to Cart" button.</li> <li><b>System error occurs:</b> The system encounters an error and cannot add the product to the cart.</li> <li><b>System displays error message:</b> The system notifies the customer of the error and requests them to try again later.</li> <li><b>Customer retries or selects another product:</b> The customer can retry adding the product later or select another product.</li> </ol> <p><b>E3: System error during payment processing</b></p> <ol style="list-style-type: none"> <li><b>Customer enters payment information and confirms order:</b> The customer enters the necessary payment information and clicks the "Confirm Order" button.</li> <li><b>System error occurs:</b> The system encounters an error and cannot process the payment.</li> <li><b>System displays error message:</b> The system notifies the customer of the error and requests them to try again later.</li> <li><b>Customer retries or selects a different payment method:</b> The customer can retry the payment later or select a different payment method.</li> </ol> <p><b>E4: Network connection error</b></p> <ol style="list-style-type: none"> <li><b>Customer performs any action:</b> The customer is performing any action during the checkout process (logging in, adding products to the cart, entering shipping information, making a payment).</li> <li><b>Network connection error occurs:</b> The customer's network connection is interrupted or lost.</li> <li><b>System displays error message:</b> The system notifies the customer of the network connection error and requests them to</li> </ol>
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	<p>check their connection.</p> <p>4. <b>Customer checks network connection:</b> The customer checks and restores their network connection, then retries the action.</p> <p><b>E5: Session timeout</b></p> <ol style="list-style-type: none"> <li>1. <b>Customer performs any action after a long period of inactivity:</b> The customer has not performed any action for an extended period, causing their session to expire.</li> <li>2. <b>System displays session timeout message:</b> The system notifies the customer that their session has expired and requests them to log in again.</li> <li>3. <b>Customer logs in again:</b> The customer logs back into their account to continue the checkout process.</li> </ol>
<b>Priority:</b>	High
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	-
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	- Internet connection is available.

## Screen:

**ELECTRIC STORE**

Search product...

Full name  
Sunshine

Email address  
trangiacuong2018@gmail.com

Phone number

Shipping address

VNPay

Pay

**Order summary (3)**

	GE LED Dimmable 8W Qty. 1	138,000 đ <a href="#">Remove</a>
	Samsung MX-T70 Tower Speaker. Qty. 1	7,990,000 đ <a href="#">Remove</a>
	Eemax EEM24006 Electric Tankless Water Heater, 6KW, Blue Qty. 3	3 4,690,000 đ <a href="#">Remove</a>
<b>Total</b>		<b>22,198,000 đ</b>

**Shop**  
600 Nguyễn Văn Cừ  
Núi Dài, An Bình,  
Ninh Kiều, Cần Thơ  
hello@dev  
+84 234 567 890

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Figure 11 - Checkout

## 2.3.12. Feedback

Table 14 - Feedback

<b>ID and Name:</b>	UC - 12 Feedback		
<b>Created By:</b>	Tran Chi Do	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Customer	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The user completes a successful payment, and the order appears in "My Orders". A pop-up appears allowing the user to provide ratings and feedback.		
<b>Description:</b>	This use case describes the process where a customer provides feedback for their order after completing a purchase. The feedback option appears in "My Orders" only if the customer has successfully paid for their order. When the customer clicks on		



	feedback, a pop-up window appears allowing them to rate and provide feedback.
<b>Preconditions:</b>	<ol style="list-style-type: none"> <li>1. The customer must be logged into the system.</li> <li>2. The customer must have successfully completed payment and have orders listed in "My Orders".</li> <li>3. The system is online and functioning correctly.</li> </ol>
<b>Post-conditions:</b>	<p><b>Success:</b> The user submits feedback for their order, which is stored in the system for review.</p> <p><b>Failure:</b> The user encounters an error while submitting feedback and is informed to try again.</p>
<b>Normal Flow:</b>	<ol style="list-style-type: none"> <li>1. The customer navigates to "My Orders" after completing a purchase.</li> <li>2. The system displays the customer's previous orders.</li> <li>3. The customer selects the order they wish to provide feedback for.</li> <li>4. The system retrieves order details from the database.</li> <li>5. The system displays order details, including the feedback option if the order has been successfully paid for.</li> <li>6. The customer selects the option to provide feedback for their order.</li> <li>7. The system displays a pop-up window with a feedback form.</li> <li>8. The customer fills out the feedback form, providing ratings and comments as necessary.</li> <li>9. The customer submits the feedback form.</li> <li>10. The system verifies the feedback input.</li> <li>11. The system stores the feedback in the database.</li> <li>12. The system confirms to the customer that their feedback has been successfully submitted.</li> </ol>
<b>Alternative Flows:</b>	<p><b>AF1: Order Not Found</b></p> <ol style="list-style-type: none"> <li>1. The customer navigates to "My Orders" after successfully logging in.</li> <li>2. The system finds that the customer has no orders listed in "My Orders".</li> <li>3. The system displays a message informing the customer that</li> </ol>

	<p>there are no orders available to provide feedback for.</p> <p><b>AF2: System Error</b></p> <ol style="list-style-type: none"> <li>1. During the navigation to "My Orders" or selection of an order:</li> <li>2. The system encounters an error while retrieving order details or verifying payment status.</li> <li>3. The system displays an error message and suggests that the customer retry the action later.</li> </ol> <p><b>AF3: Unpaid Order</b></p> <ol style="list-style-type: none"> <li>1. The customer navigates to "My Orders" after successfully logging in.</li> <li>2. The system displays the customer's previous orders.</li> <li>3. The customer selects a specific order they wish to provide feedback for.</li> <li>4. The system verifies that the selected order has not been successfully paid for.</li> <li>5. If the order has not been paid for, the system does not display the option to provide feedback.</li> <li>6. The system informs the customer that only paid orders can be reviewed and suggests they complete the payment process.</li> </ol>
<b>Exception:</b>	<ul style="list-style-type: none"> <li>● The system is down or inaccessible: The customer will be unable to view their orders or provide feedback.</li> <li>● Insufficient permissions: Only registered customers who have successfully paid for their order can provide feedback.</li> </ul>
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Occasional (Post-purchase activity)
<b>Business Rules:</b>	
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>● The feedback interface should be user-friendly and allow customers to easily rate and provide comments.</li> <li>● Feedback should be timestamped and linked to the corresponding order.</li> <li>● Ensure data integrity and consistency of feedback, especially during periods of high traffic.</li> </ul>

<b>Assumptions:</b>	<ul style="list-style-type: none"><li>● Customers understand how to navigate to "My Orders" and select an order for feedback.</li><li>● The system can reliably retrieve and display order data in real-time.</li><li>● Internet connection is available.</li></ul>
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Screen:

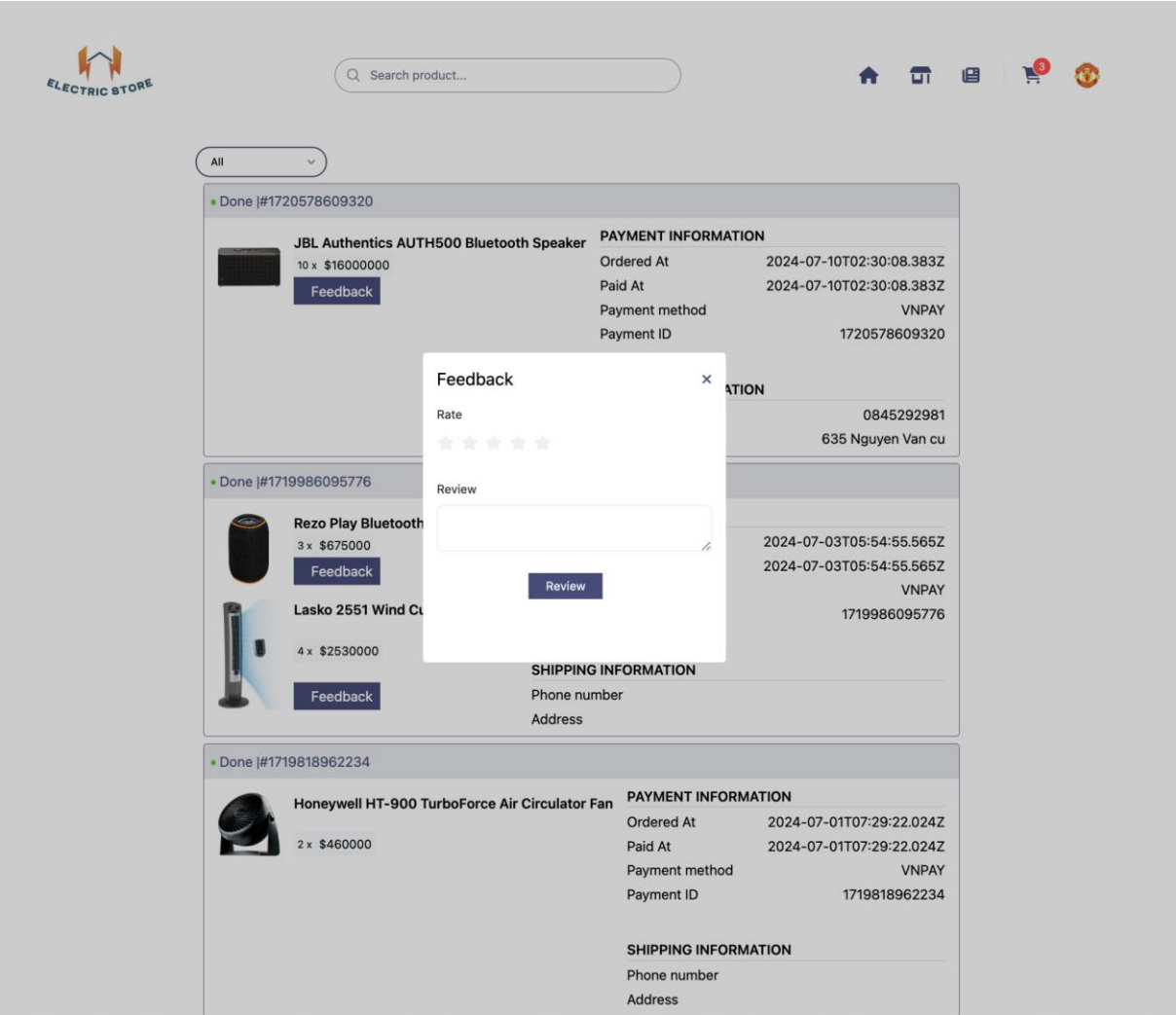


Figure 12 - Feedback

### 2.2.3.13. Rating

Table 15 - Ratings

<b>ID and Name:</b>	UC - 13 Rating		
<b>Created By:</b>	Tran Chi Do	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Customer	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The customer accesses "My Orders" and selects the rating option after successfully logging in and completing a purchase.		
<b>Description:</b>	This use case describes the process where a customer rates their order after completing a purchase. The rating option appears in "My Orders" only if the customer has successfully paid for their order. When the customer clicks on the rating option, a pop-up window appears allowing them to rate the order.		
<b>Preconditions:</b>	<ol style="list-style-type: none"><li>1. The customer must be logged into the system.</li><li>2. The customer must have successfully completed payment and have orders listed in "My Orders".</li><li>3. The system is online and functioning correctly.</li></ol>		
<b>Post-conditions:</b>	<b>Success:</b> <ol style="list-style-type: none"><li>1. Customer rating is successfully stored in the system.</li><li>2. The customer receives confirmation that their rating has been successfully submitted.</li></ol> <b>Failure:</b> <ol style="list-style-type: none"><li>1. The system encounters an error and the rating is not stored.</li><li>2. The customer receives a message indicating that their rating could not be submitted and to try again later.</li></ol>		
<b>Normal Flow:</b>	<ol style="list-style-type: none"><li>1. The customer navigates to "My Orders" after completing a purchase.</li><li>2. The system displays the customer's previous orders.</li><li>3. The customer selects the order they wish to rate.</li><li>4. The system retrieves order details from the database.</li><li>5. The system displays order details, including the rating option if the order has been successfully paid for.</li><li>6. The customer selects the option to rate their order.</li><li>7. The system displays a pop-up window with a rating form.</li></ol>		

	<ol style="list-style-type: none"> <li>8. The customer fills out the rating form, providing their rating.</li> <li>9. The customer submits the rating form.</li> <li>10. The system verifies the rating input.</li> <li>11. The system stores the rating in the database.</li> <li>12. The system confirms to the customer that their rating has been successfully submitted.</li> </ol>
<b>Alternative Flows:</b>	<p><b>AF1: Order Not Found</b></p> <ol style="list-style-type: none"> <li>2a. The system finds that the customer has no orders listed in "My Orders".</li> <li>2b. The system displays a message indicating that there are no orders to rate.</li> </ol> <p><b>AF2: System Error</b></p> <ol style="list-style-type: none"> <li>4a. The system encounters an error while retrieving order details.</li> <li>4b. The system displays an error message and suggests retrying.</li> </ol> <p><b>AF3: Unpaid Order</b></p> <ol style="list-style-type: none"> <li>5a. The system detects that the order has not been paid for.</li> <li>5b. The system does not display the rating option and informs the customer that only paid orders can be rated.</li> </ol>
<b>Exception:</b>	<ul style="list-style-type: none"> <li>● The system is down or inaccessible: The customer will be unable to view their orders or provide a rating.</li> <li>● Insufficient permissions: Only registered customers who have successfully paid for their order can provide a rating.</li> </ul>
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Occasional (Post-purchase activity)
<b>Business Rules:</b>	-
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>● The rating interface should be user-friendly and allow customers to easily provide their rating.</li> <li>● Ratings should be timestamped and linked to the corresponding order.</li> <li>● Ensure data integrity and consistency of ratings, especially during periods of high traffic.</li> </ul>

<b>Assumptions:</b>	<ul style="list-style-type: none"><li>• Customers understand how to navigate to "My Orders" and select an order for rating.</li><li>• The system can reliably retrieve and display order data in real-time.</li><li>• Internet connection is available.</li></ul>
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**Screen:**

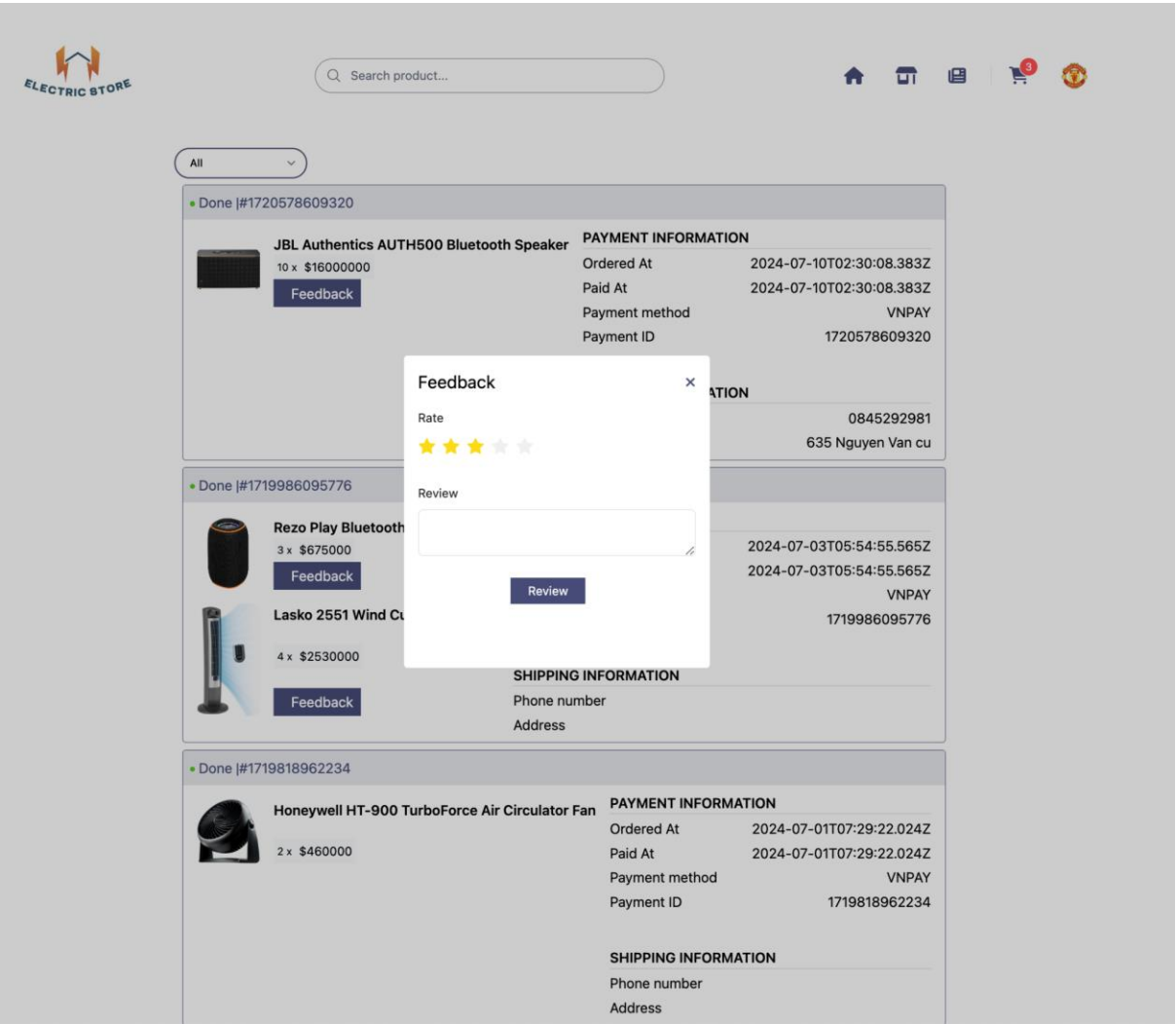


Figure 13 - Rating

#### 2.2.3.14. Filter

Table 16 – Filter description

<b>ID and Name:</b>	UC - 14 Filter		
<b>Created By:</b>	Quach Dang Khoa	<b>Date Created:</b>	24/5/2024
<b>Primary Actor:</b>	Guest, Customer, Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	User accesses the filter feature in the system.		
<b>Description:</b>	Users (Guest, Customer, Staff, Admin) can filter and search for specific information.		
<b>Preconditions:</b>	N/A		
<b>Post-conditions:</b>	Filtered information is displayed based on user criteria.		
<b>Normal Flow:</b>	<p><b>Select Filter Option</b></p> <ol style="list-style-type: none"><li>1. User selects the option to apply filters.</li><li>2. Options may include criteria such as date range, category, price range, etc.</li></ol> <p><b>Apply Filters</b></p> <ol style="list-style-type: none"><li>1. User specifies filter criteria (e.g., select a date range, choose a category).</li><li>2. System applies the selected filters to the data set.</li></ol> <p><b>View Filtered Results</b></p> <ol style="list-style-type: none"><li>1. System displays the filtered results based on the applied criteria.</li><li>2. Results are presented in a list or grid format, depending on the context.</li></ol> <p><b>Refine Filters</b></p> <ol style="list-style-type: none"><li>1. User can refine or adjust the applied filters if needed.</li><li>2. System updates the displayed results dynamically as filters are refined.</li></ol>		

<b>Alternative Flows:</b>	N/A
<b>Exception:</b>	N/A
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	High (depending on the system and its functionalities)
<b>Business Rules:</b>	BR-02
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	<p>The system provides adequate user interface elements for selecting and applying filters.</p> <p>Users understand how to use the filter feature effectively based on provided instructions or UI hints.</p>



Screen:

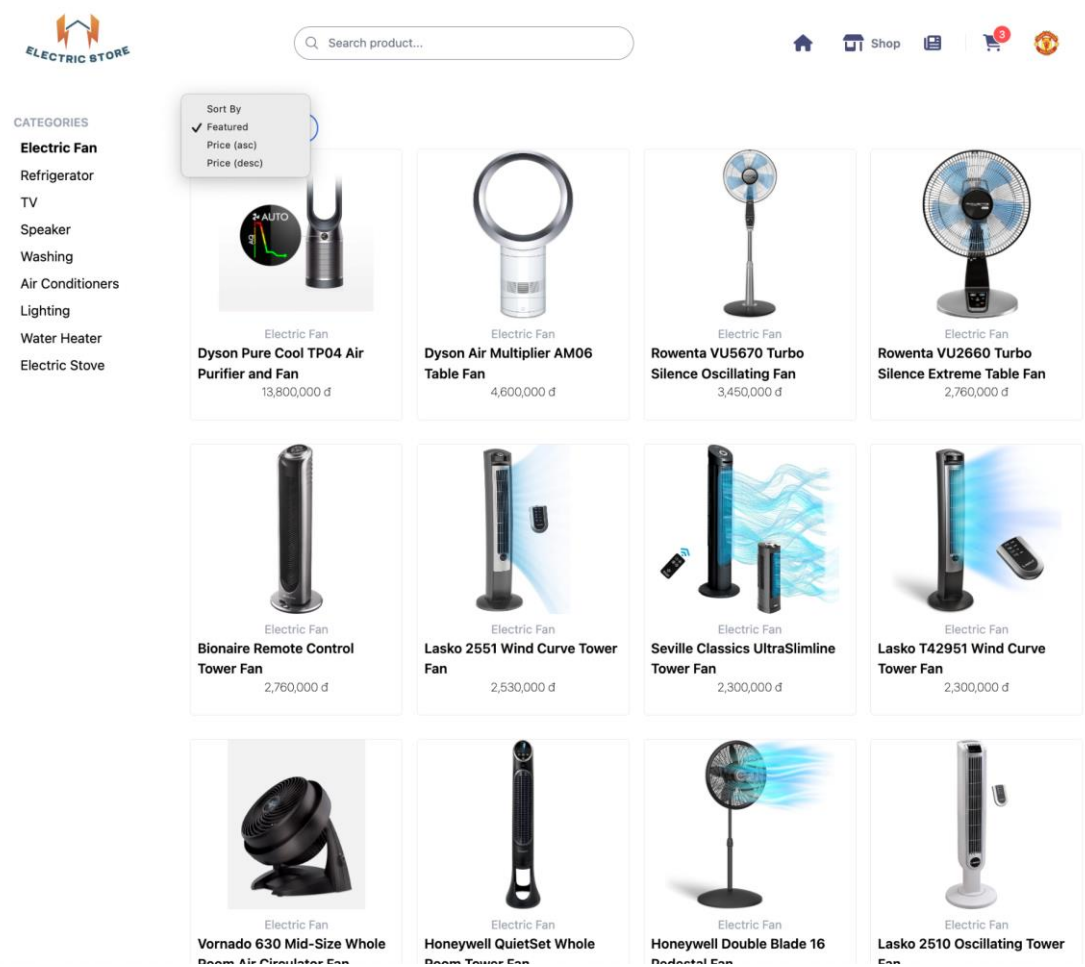


Figure 14 - Filter

2.2.3.15. Manage Profile

Table 17 - Manage Profile description

ID and Name:	UC - 15 Manage Profile		
Created By:	Tran Quoc Thai	Date Created:	21/5/2024
Primary Actor:	Staff, Admin	Secondary Actors:	
Trigger:	Staff or Admin initiates the process by selecting the manage profile option from the navigation bar.		

<b>Description:</b>	This use case describes the process by which a user can view and update their profile information.
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>• The user must be logged into the system.</li> <li>• The user must have access to the profile management interface.</li> <li>• Only viewing and updating profile actions are allowed.</li> </ul>
<b>Post-conditions:</b>	The system displays the updated profile information.
<b>Normal Flow:</b>	<p><b>UC-15-01: Manage Profile (Customer view profile)</b></p> <ol style="list-style-type: none"> <li>1. <b>Customer Authentication:</b> Customer logs into the system.</li> <li>2. <b>Navigate to Manage Profile:</b> Customer navigates to the " Profile" section via the navigation bar.</li> <li>3. <b>View Profile:</b> The system displays the current profile information of the Customer: <ul style="list-style-type: none"> <li>• Customer's full name</li> <li>• Customer's Email</li> </ul> </li> </ol> <p><b>UC-15-02: Manage Profile (Admin/Staff view profile)</b></p> <ol style="list-style-type: none"> <li>1. <b>Admin or Staff Authentication:</b> Staff or Admin logs into the system.</li> <li>2. <b>Navigate to Manage Profile:</b> Staff or Admin navigates to the "Profile" section via the navigation bar.</li> <li>3. <b>View Profile:</b> The system displays the current profile information of the Staff or Admin: <ul style="list-style-type: none"> <li>• Admin/Staff's full name</li> <li>• Admin/Staff's Email</li> <li>• Admin/Staff's password</li> <li>• Admin/Staff's confirm password(using for update)</li> </ul> </li> </ol> <p><b>UC-15-03: Manage Profile (Admin/Staff update profile)</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Update Profile:</b> Staff or Admin selects the option to update the profile information.</li> <li>2. <b>Enter confirm password:</b> Staff or Admin enters the necessary confirm password</li> <li>3. <b>Save Changes:</b> Staff or Admin clicks the "Save" button to save the updated information.</li> </ol>

<p><b>Alternative Flows:</b></p>	<p><b>A1: Staff or Admin Not Authenticated</b></p> <p>2a. The system detects that the Staff or Admin is not logged in.  2b. The system redirects the Staff or Admin to the login page.  2c. The Staff or Admin provides login credentials.  2d. The system authenticates the Staff or Admin.  2e. The system redirects the Staff or Admin to the "Manage Profile" section.</p> <p><b>A2: Invalid Data During Update</b></p> <p>3a. The Staff or Admin enters invalid data while updating the profile.  3b. The system detects the invalid data.  3c. The system displays an error message and prompts the Staff or Admin to enter valid data.  3d. The Staff or Admin re-enters correct and valid information.</p>
<p><b>Exception:</b></p>	<p><b>E1: The system is down or unreachable:</b></p> <ul style="list-style-type: none"> <li>• Staff or Admin will not be able to access the manage profile interface.</li> <li>• The system should display an appropriate error message to Staff or Admin.</li> </ul> <p><b>E2: Insufficient permissions:</b></p> <ul style="list-style-type: none"> <li>• Staff or Admin attempts to manage the profile without the necessary permissions and is denied access.</li> <li>• The system displays a message indicating insufficient permissions.</li> </ul>
<p><b>Priority:</b></p>	<p>High</p>
<p><b>Frequency of Use:</b></p>	<p>Frequent</p>
<p><b>Business Rules:</b></p>	
<p><b>Other Information:</b></p>	<ul style="list-style-type: none"> <li>• The user interface should be responsive and accessible on various devices.</li> <li>• Only Staff or Admin with appropriate permissions can manage their profiles.</li> </ul>

<b>Assumptions:</b>	Network connectivity is stable during the profile management process.
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## Screen:

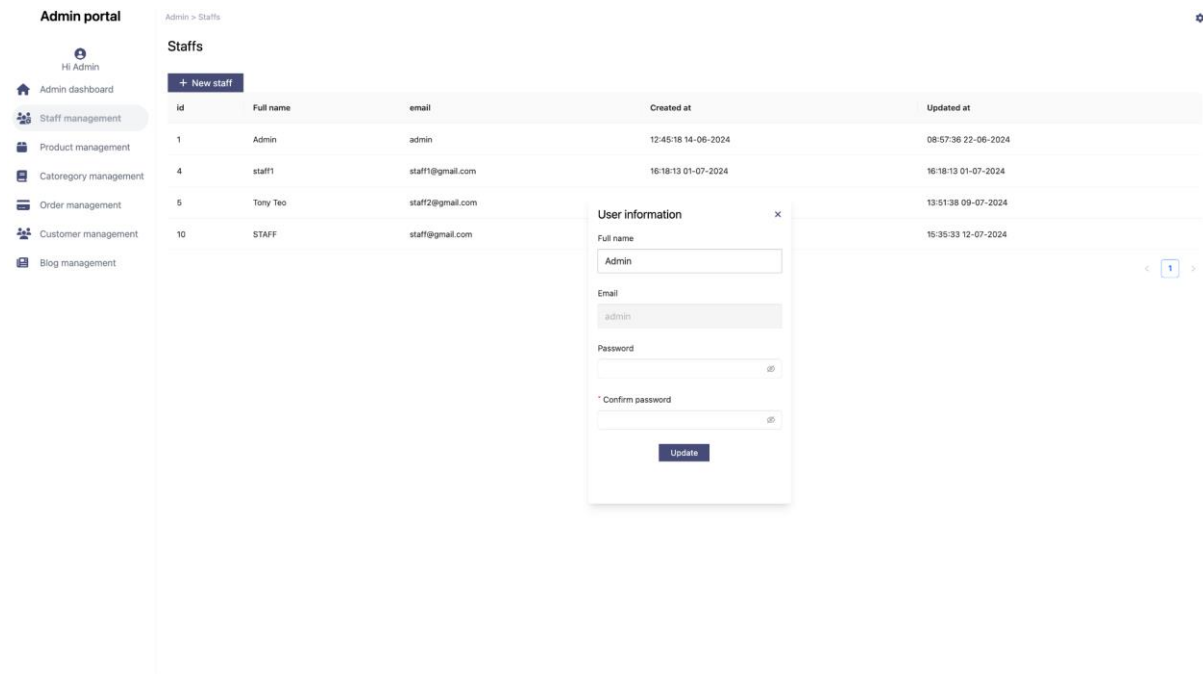


Figure 15 - Manage Profile

### 2.2.3.16. Manage Blogs

Table 18– Manage Blogs description

<b>ID and Name:</b>	UC - 16 Manage Blogs		
<b>Created By:</b>	Quach Dang Khoa	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	User clicks the blog management link in the sidebar		
<b>Description:</b>	Users (Staff or Admin) manage and edit blog posts.		
<b>Preconditions:</b>	User is already logged in.		
<b>Post-conditions:</b>	<ul style="list-style-type: none"> <li>The system displays the updated blog information.</li> </ul>		

	<ul style="list-style-type: none"> <li>● The system reflects the changes made to the blog posts (creation, update, or deletion).</li> </ul>
Normal Flow:	<p><b>UC-16-01: View List of Blog Posts</b></p> <ol style="list-style-type: none"> <li>1. <b>Staff or Admin Authentication:</b> Staff or Admin logs into the system.</li> <li>2. <b>Navigate to Manage Products:</b> Staff or Admin navigates to the "Blogs management" section via the navigation bar.</li> <li>3. <b>View blogs:</b> The system displays a list of blog.</li> </ol> <p><b>UC-16-02: Create Blog Post</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Create Blogs:</b> Staff or Admin selects the option to create a new blog.</li> <li>2. <b>Enter Product Information:</b> Staff or Admin enters the necessary blog information.</li> <li>3. <b>Create Blogs:</b> Staff or Admin clicks the "Create" button to save the new blogs.</li> </ol> <p><b>UC-16-03: Update Blog Post</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Blog to Update:</b> Staff or Admin selects an existing blog to update.</li> <li>2. <b>Update Blogs Information:</b> Staff or Admin updates the necessary blog information.</li> <li>3. <b>Save Changes:</b> Staff or Admin clicks the "Update" button to save the changes.</li> </ol> <p><b>UC-16-04: Delete Blog Post</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Blog to Delete:</b> Staff or Admin selects an existing blog to delete.</li> <li>2. <b>Confirm Deletion:</b> Staff or Admin confirms the deletion.</li> </ol>
Alternative Flows:	<p><b>A1: User Not Authenticated</b></p> <ol style="list-style-type: none"> <li>1a. The system detects that the user is not logged in.</li> <li>1b. The system redirects the user to the login page.</li> <li>1c. The user provides login credentials.</li> <li>1d. The system authenticates the user.</li> <li>1e. The system redirects the user to the blog management section.</li> </ol> <p><b>A2: Invalid Data During Blog Post Creation/Update</b></p> <ol style="list-style-type: none"> <li>2a. The user enters invalid data while creating or updating a blog</li> </ol>

	<p>post.</p> <p>2b. The system detects the invalid data.</p> <p>2c. The system displays an error message and prompts the user to enter valid data.</p> <p>2d. The user re-enters correct and valid information.</p>
<b>Exception:</b>	<p><b>E1: The system is down or unreachable:</b></p> <ul style="list-style-type: none"> <li>• Users will not be able to access the blog management interface.</li> <li>• The system should display an appropriate error message to users.</li> </ul> <p><b>E2: Insufficient permissions:</b></p> <ul style="list-style-type: none"> <li>• Users attempt to manage the blogs without the necessary permissions and are denied access.</li> <li>• The system displays a message indicating insufficient permissions.</li> </ul>
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Low
<b>Business Rules:</b>	BR-04, BR-06, BR-09
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>• Only users with appropriate permissions can manage blog posts.</li> </ul>
<b>Assumptions:</b>	<ul style="list-style-type: none"> <li>• Network connectivity is stable during the blog management process.</li> <li>• Users have the required permissions to manage blog posts.</li> </ul>

Screen:

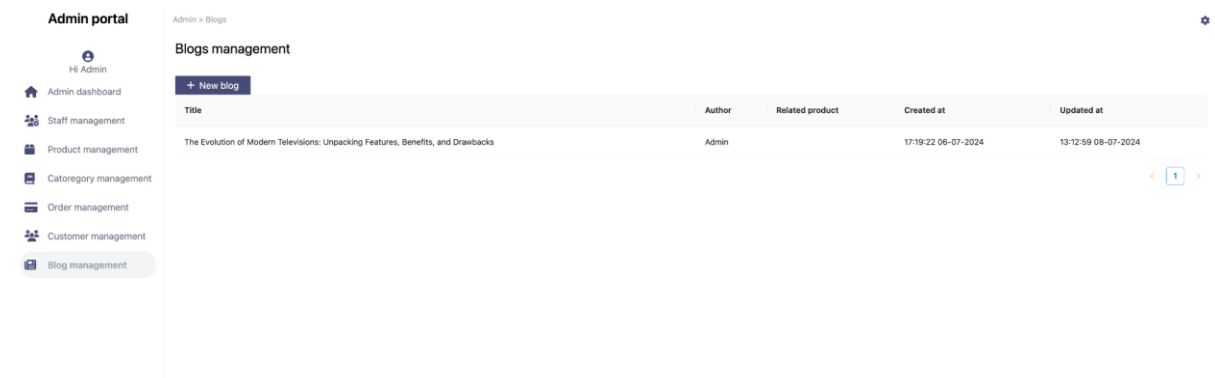


Figure 16 - Manage Blogs

### 2.2.3.17. Manage Order

Table 19 - Manage order description

<b>ID and Name:</b>	UC - 17 Manage Order		
<b>Created By:</b>	Tran Quoc Thai	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The Staff or Admin selects the "Orders Management" option and chooses a specific order to view detailed information.		
<b>Description:</b>	This use case describes the process by which a users can view detailed information about a specific order they have placed.		
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>The Staff or Admin must be logged into the system.</li> </ul>		
<b>Post-conditions:</b>	<p><b>Success:</b></p> <ul style="list-style-type: none"> <li>Customer information is successfully managed (viewed, updated, or deleted).</li> <li>The system reflects the changes made to the customer information.</li> </ul> <p><b>Failure:</b></p>		

	<ul style="list-style-type: none"> <li>● If there are errors or issues during the process (e.g., invalid data, insufficient permissions, system errors), appropriate error messages are displayed.</li> <li>● No changes are made to the customer information if the process fails.</li> </ul>
<b>Normal Flow:</b>	<p><b>UC-17-01: Manage Order (View order list)</b></p> <ol style="list-style-type: none"> <li>1. <b>Staff or Admin Authentication:</b> Staff or Admin logs into the system.</li> <li>2. <b>Navigate to Manage Orders:</b> The Staff or Admin navigates to the "Manage Orders" section via the navigation bar.</li> <li>3. <b>View Orders:</b> The system displays a list of orders.</li> </ol> <p><b>UC-17-02: Manage Order (View order details)</b></p> <ol style="list-style-type: none"> <li>1. <b>Staff or Admin Authentication:</b> Staff or Admin logs into the system.</li> <li>2. <b>Navigate to Manage Orders:</b> The Staff or Admin navigates to the "Manage Orders" section via the navigation bar.</li> <li>3. <b>View order details:</b> The system displays order details.</li> </ol> <p><b>UC-17-03: Manage Order (Update order status)</b></p> <ol style="list-style-type: none"> <li>1. <b>Staff or Admin Authentication:</b> Staff or Admin logs into the system.</li> <li>2. <b>Navigate to Manage Orders:</b> The Staff or Admin navigates to the "Manage Orders" section via the navigation bar.</li> <li>3. <b>Click "Mark as Shipped"</b></li> </ol>
<b>Alternative Flows:</b>	<p><b>AF1: Staff or Admin Not Authenticated ‘</b></p> <p><b>1a. Staff or Admin Not Logged In:</b> The system redirects the Staff or Admin to the login page.</p> <p><b>1b. Provide Login Credentials:</b> The Staff or Admin provides login credentials.</p> <p><b>1c. Redirect to Manage Orders:</b> The system authenticates the Staff or Admin and redirects them to the "Manage Orders" section.</p>



<b>Exception:</b>	<p><b>E1: The system is down or unreachable:</b></p> <ul style="list-style-type: none"> <li>● The Staff or Admin will not be able to access the manage orders interface.</li> <li>● The system should display an appropriate error message to the Staff or Admin.</li> </ul> <p><b>E2: Insufficient permissions:</b></p> <ul style="list-style-type: none"> <li>● The Staff or Admin attempts to manage orders without the necessary permissions and is denied access.</li> <li>● The system displays a message indicating insufficient permissions.</li> </ul>
<b>Priority:</b>	High
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	BR-18, BR-12, BR-13, BR-14, BR-15, BR-22
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>● The user interface should be responsive and accessible on various devices (e.g., desktops, tablets, smartphones).</li> <li>● The system should use secure protocols to protect order information during transmission.</li> <li>● Only Staff or Admin with appropriate permissions can manage orders.</li> <li>● There should be a help or support option available in case users encounter issues while managing orders.</li> </ul>
<b>Assumptions:</b>	<ul style="list-style-type: none"> <li>● Staff and Admin have basic training on how to navigate and use the system interface.</li> <li>● Network connectivity is stable during the order management process.</li> </ul>

## Screen:

Admin portal

Hi Admin

Admin dashboard

Staff management

Product management

Catoregory management

Order management

Customer management

Blog management

Admin > Orders

Order management

Start date

→ End date

Export

Payment ID	Payment Method	Status	Total	Created at
1720590435859	vnmpay	Paid	31,200,000 d	12:47:15 10-07-2024
1720590147258	vnmpay	Paid	10,800,000 d	12:42:26 10-07-2024
1720578609320	vnmpay	Done	160,000,000 d	09:30:08 10-07-2024
1720577425578	vnmpay	Done	42,800,000 d	09:10:25 10-07-2024
1720577380496	vnmpay	Done	2,760,000 d	09:09:39 10-07-2024
1720496773579	vnmpay	Done	13,800,000 d	10:46:12 09-07-2024
1720496534112	vnmpay	Paid	5,750,000 d	10:42:13 09-07-2024
1720423686336	vnmpay	Paid	15,500,000 d	14:28:05 08-07-2024
1720423090029	vnmpay	Done	2,300,000 d	14:18:09 08-07-2024
1720420558371	vnmpay	Paid	2,760,000 d	13:35:57 08-07-2024

<

1

2

3

>

Figure 17 - Manage Order

### 2.2.3.18. Manage Product

Table 20 - Manage Product description

<b>ID and Name:</b>	UC - 18 Manage Product		
<b>Created By:</b>	Tran Quoc Thai	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	Staff or Admin initiates the process by selecting the manage products option from the navigation bar.		
<b>Description:</b>	This use case describes the process by which a user can filter orders management based on a specified date range.		
<b>Preconditions:</b>	<ol style="list-style-type: none"> <li>1. The user must be logged into the system.</li> <li>2. The user must have access to the order management interface.</li> </ol>		
<b>Post-conditions:</b>	The system displays a filtered list of orders based on the specified date range.		

<p><b>Normal Flow:</b></p>	<p><b>UC-18-01: Manage Product(View)</b></p> <ol style="list-style-type: none"> <li>1. <b>Staff or Admin Authentication:</b> Staff or Admin logs into the system.</li> <li>2. <b>Navigate to Manage Products:</b> Staff or Admin navigates to the "Management Products" section via the navigation bar.</li> <li>3. <b>View Products:</b> The system displays a list of products.</li> </ol> <p><b>UC-18-02: Manage Product(Update)</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Product to Update:</b> Staff or Admin selects an existing product to update.</li> <li>2. <b>Update Product Information:</b> Staff or Admin updates the necessary product information.</li> <li>3. <b>Save Changes:</b> Staff or Admin clicks the "Add" button to save the changes.</li> <li>4. <b>Confirm Update:</b> The system updates the product information in the database and confirms the changes.</li> </ol> <p><b>UC-18-03: Manage Product(Delete)</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Product to Delete:</b> Staff or Admin selects an existing product to delete.</li> <li>2. <b>Confirm Deletion:</b> Staff or Admin confirms the deletion.</li> <li>3. <b>Delete Product:</b> The system deletes the product from the database and confirms the deletion.</li> </ol> <p><b>UC-18-04: Manage Product(Add new product)</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Create Product:</b> Staff or Admin selects the option to create a new product.</li> <li>2. <b>Enter Product Information:</b> Staff or Admin enters the necessary product information (e.g., name, description, price, category).</li> <li>3. <b>Save Product:</b> Staff or Admin clicks the "Create" button to save the new product.</li> <li>4. <b>Confirm Creation:</b> The system saves the product information in the database and confirms the creation.</li> </ol>
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<p><b>Alternative Flows:</b></p>	<p><b>AF1: Staff or Admin Not Authenticated</b></p> <ol style="list-style-type: none"> <li><b>1. Staff or Admin is not logged in:</b> The system redirects Staff or Admin to the login page.</li> <li><b>2. Staff or Admin provides login credentials:</b> The system authenticates Staff or Admin.</li> <li><b>3. Staff or Admin is redirected to the "Management Products" section.</b></li> </ol> <p><b>AF2: Invalid Data During Create or Update</b></p> <ol style="list-style-type: none"> <li><b>1. Staff or Admin enters invalid data while creating or updating a product:</b>  The system detects the invalid data.</li> <li><b>2. The system displays an error message:</b>  The system prompts Staff or Admin to enter valid data.</li> <li><b>3. Staff or Admin re-enters valid information:</b>  Staff or Admin re-enters correct and valid information.</li> </ol>
<p><b>Exception:</b></p>	<p><b>EF1: The system is down or unreachable:</b></p> <ul style="list-style-type: none"> <li>● Staff or Admin will not be able to access the manage products interface.</li> <li>● The system should display an appropriate error message to Staff or Admin.</li> </ul> <p><b>EF2: Insufficient permissions:</b></p> <ul style="list-style-type: none"> <li>● Staff or Admin attempts to manage products without the necessary permissions and is denied access.</li> <li>● The system displays a message indicating insufficient permissions.</li> </ul>
<p><b>Priority:</b></p>	<p>High</p>

<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>● The user interface should be responsive and accessible on various devices (e.g., desktops, tablets, smartphones).</li> <li>● The system should use secure protocols to protect product information during transmission.</li> <li>● Only Staff or Admin with appropriate permissions can manage products.</li> <li>● There should be a help or support option available in case users encounter issues while managing products.</li> </ul>
<b>Assumptions:</b>	<ul style="list-style-type: none"> <li>● Staff and Admin have basic training on how to navigate and use the system interface.</li> <li>● Network connectivity is stable during the product management process.</li> </ul>

## Screen:

**Admin portal**

Hi Admin
Admin dashboard
Staff management
Product management
Category management
Order management
Customer management
Blog management

Admin > Products
**Product management**

+ New product
Sync











	Name	Quantity	Price	Categories
	Panasonic Inverter 550L	20	24,990,000 d	Refrigerator
	Google Tivi Sony 4K 55 inch KD-55X75K	10	13,890,000 d	TV
	Smart Tivi NanoCell LG 4K 55 inch 55NANO765QA	10	11,390,000 d	TV
	Beko GN1416220CX	18	22,900,000 d	Refrigerator
	Smart TV QLED Samsung 4K 65 inch QA65Q608A0XXV	16	14,990,000 d	TV
	Google TV TCL LED 4K 65 inch 65P638	10	10,490,000 d	TV
	Smart TV Samsung Crystal UHD 4K 43 inch UA43AU7002KXXV	10	7,900,000 d	TV
	Smart TV LG 4K 65 inch 65UR8050PSB	10	15,390,000 d	TV
	Panasonic NR-D50T1KV	7	17,990,000 d	Refrigerator
	Whirlpool FP 263D	12	14,990,000 d	Refrigerator

Figure 18 - Manage Product

### 2.2.3.19. Manage Staffs

Table 21 – Manage Staffs description

<b>ID and Name:</b>	UC - 19 Manage Staffs		
<b>Created By:</b>	Quach Dang Khoa	<b>Date Created:</b>	23/5/2024
<b>Primary Actor:</b>	Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	Admin accesses staff management features in the system.		
<b>Description:</b>	Admin can manage staff information.		
<b>Preconditions:</b>	Admin is logged into the system.		
<b>Post-conditions:</b>	Staff information is successfully managed.		
<b>Normal Flow:</b>	<p><b>UC-19-01: View List of Staff</b></p> <ol style="list-style-type: none"><li>4. <b>Staff or Admin Authentication:</b> Staff or Admin logs into the system.</li><li>5. <b>Navigate to Manage Staff:</b> Staff or Admin navigates to the " Staff management" section via the navigation bar.</li><li>6. <b>View Staff:</b> The system displays a list of Staff.</li></ol> <p><b>UC-19-02: Create Staff</b></p> <ol style="list-style-type: none"><li>4. <b>Select Create Staff:</b> Staff or Admin selects the option to create a new Staff.</li><li>5. <b>Enter Product Information:</b> Staff or Admin enters the necessary staff information.</li><li>6. <b>Create Staff:</b> Staff or Admin clicks the "Create" button to save the new staff.</li></ol> <p><b>UC-19-03: Update Staff</b></p> <ol style="list-style-type: none"><li>4. <b>Select Staff to Update:</b> Staff or Admin selects an existing staff to update.</li><li>5. <b>Update Staff Information:</b> Staff or Admin updates the necessary staff information.</li><li>6. <b>Save Changes:</b> Staff or Admin clicks the "Update" button to save the changes.</li></ol> <p><b>UC-19-04: Delete Staff</b></p>		

	<ol style="list-style-type: none"> <li><b>Select Blog to Delete:</b> Staff or Admin selects an existing staff to delete.</li> <li><b>Confirm Deletion:</b> Staff or Admin confirms the deletion.</li> </ol>
<b>Alternative Flows:</b>	<p><b>A1: Admin Not Authenticated</b></p> <ol style="list-style-type: none"> <li><b>Admin Not Logged In:</b> The system redirects the Admin to the login page.</li> <li><b>Provide Login Credentials:</b> The Admin provides login credentials.</li> <li><b>Redirect to Manage Staff:</b> The system authenticates the Admin and redirects them to the "Management Staff" section.</li> </ol>
<b>Exception:</b>	<p>E1: The system is down or unreachable</p> <ul style="list-style-type: none"> <li>The Admin will not be able to access the manage staff interface.</li> </ul>
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	BR-02, BR-08
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	<p>Admin has the necessary permissions to manage staff information.</p> <p>The system is available and functioning correctly.</p> <p>Staff information is stored securely and is accessible for viewing and updating by authorised personnel.</p>

#### Screen:

Admin portal

Hi Admin

Admin dashboard

Staff management

Product management

Category management

Order management

Customer management

Blog management

Admin > Staffs

Staffs

+ New staff

id	Full name	email	Created at	Updated at
1	Admin	admin	12:45:18 14-06-2024	08:57:36 22-06-2024
4	staff1	staff1@gmail.com	16:18:13 01-07-2024	16:18:13 01-07-2024
5	Tony Teo	staff2@gmail.com	19:41:22 03-07-2024	13:51:38 09-07-2024
10	STAFF	staff@gmail.com	15:35:33 12-07-2024	15:35:33 12-07-2024

<

1

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Figure 19 - Manage Staffs

### 2.2.3.20. Manage Customers

Table 22 – Manage Customers description

<b>ID and Name:</b>	UC - 20 Manage Customers		
<b>Created By:</b>	Quach Dang Khoa	<b>Date Created:</b>	23/5/2024
<b>Primary Actor:</b>	Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	Admin accesses the customer management feature in the system.		
<b>Description:</b>	Admin can manage customer information.		
<b>Preconditions:</b>	Admin is logged into the system.		
<b>Post-conditions:</b>	Customer information is successfully managed.		
<b>Normal Flow:</b>	<ol style="list-style-type: none"><li>1. <b>Admin Authentication:</b> Admin logs into the system.</li><li>2. <b>Navigate to Manage Customers:</b> Admin navigates to the "Customer management" section via the navigation bar.</li><li>3. <b>View Customers:</b> The system displays a list of customers, showing details such as name, contact information, and recent activity.</li></ol>		
<b>Alternative Flows:</b>	<p><b>A1: Admin Not Authenticated</b></p> <p><b>1a. Admin Not Logged In:</b> The system redirects the Admin to the login page.</p> <p><b>1b. Provide Login Credentials:</b> The Admin provides login credentials.</p> <p><b>1c. Redirect to Manage Customers:</b> The system authenticates the Admin and redirects them to the "Manage Customers" section.</p>		
<b>Exception:</b>	<p><b>E1: The system is down or unreachable:</b></p> <ul style="list-style-type: none"><li>● The Admin will not be able to access the manage customers interface.</li></ul>		



<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Medium
<b>Business Rules:</b>	BR-02, BR-15,
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	Admin has the necessary permissions to manage customer information. The system is available and functioning correctly. Customer information is stored securely and is accessible for viewing and updating by authorised personnel.

Screen:

Admin portal

Hi Admin

Admin dashboard

Staff management

Product management

Category management

Order management

Customer management

Blog management

Admin > Users

User management

ID	Full name	Email	Created at
clxf0hu48000011tpe087269	X8 D8 TV	tranchido.tvb2018@gmail.com	12:29:58 15-06-2024
clxv0yb80000x41dfr9z7n	cuong tran	trangiacuong216@gmail.com	13:16:10 17-06-2024
clxirfmq000028ssvr6cc3	Tran Quoc Thai (FUG CT)	thaitqce160598@fpt.edu.vn	16:15:39 17-06-2024
clxrse7g00003mtuy4ly43o	Đông Khoa Quách	quachdongkhoaqrk@gmail.com	16:25:28 17-06-2024
clxlwnjm00008gsqv20ly87v	Tran Chi Do (FUG CT)	dotcce160549@fpt.edu.vn	17:52:46 17-06-2024
clxpyy5e0000pg47rbxy1gi	Bevis	bevis.pf@gmail.com	13:08:58 22-06-2024
clxt74sad00001x6bvigmm4n	Sunshine	trangiacuong2018@gmail.com	23:32:42 24-06-2024
clx5eekrg000213gkc5t1mxxp	Kendle	kendle.pf@gmail.com	12:29:31 03-07-2024
clx78zt7v0000kxif5aq34asn	Tran Gia Cuong (FUG CT)	cuongtqce160068@fpt.edu.vn	00:43:22 06-07-2024
clx9xcp0001k03varchc0f5	Quach Dang Khoa (FUG CT)	khoaqrk160561@fpt.edu.vn	16:31:03 06-07-2024

Figure 20 - Manage Customers

2.2.3.21. Dashboard Statistics

Table 23 – Dashboard Statistics description

<b>ID and Name:</b>	UC - 21 Dashboard Statistics		
<b>Created By:</b>	Tran Quoc Thai	<b>Date Created:</b>	23/5/2024
<b>Primary Actor:</b>	Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The admin navigates to the dashboard page within the admin section of the e-commerce platform.		

<b>Description:</b>	The dashboard asynchronously fetches statistical data from the server using the API function. This includes statistics for new users, orders, products, and revenue. The dashboard displays several cards, each dedicated to a specific statistic.
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>- The actor must be logged in with an admin role.</li> <li>- The admin dashboard is accessible.</li> </ul>
<b>Post-conditions:</b>	<ul style="list-style-type: none"> <li>- The admin has an overview of the platform's key performance indicators (KPIs) directly from the dashboard.</li> <li>- The admin can make informed decisions based on the displayed statistics.</li> </ul>
<b>Normal Flow:</b>	<ol style="list-style-type: none"> <li>1. The admin navigates to the dashboard page within the admin section of the e-commerce platform.</li> <li>2. The dashboard asynchronously fetches statistical data from the server using the API function. This includes statistics for new users, orders, products, and revenue.</li> <li>3. The dashboard displays several cards, each dedicated to a specific statistic: <ul style="list-style-type: none"> <li>- New User Card: Shows the number of new users today and the total number of users.</li> <li>- Order Card: (Details not provided, but assumed to show order statistics such as total orders and new orders for the day.)</li> <li>- Product Card: (Details not provided, but assumed to show product statistics such as total products and newly added products.)</li> <li>- Revenue Chart: (Details not provided, but assumed to display revenue over time in a graphical format.)</li> <li>- Product Ranking: (Details not provided, but assumed to rank products based on criteria such as sales or views.)</li> <li>- User Ranking: (Details not provided, but assumed to rank users based on criteria such as purchase volume or activity.)</li> </ul> </li> </ol>
<b>Alternative Flows:</b>	None
<b>Exception:</b>	If the data cannot be fetched, the dashboard displays a loading indicator or an error message, depending on the nature of the

	failure.
<b>Priority:</b>	Medium
<b>Frequency of Use:</b>	Potentially high, as admins and staff may frequently check the dashboard for updates on the platform's performance.
<b>Business Rules:</b>	- BR-01, BR-02, BR-03, BR-04, BR-10, BR-11
<b>Other Information:</b>	N/A
<b>Assumptions:</b>	N/A

## Screen:

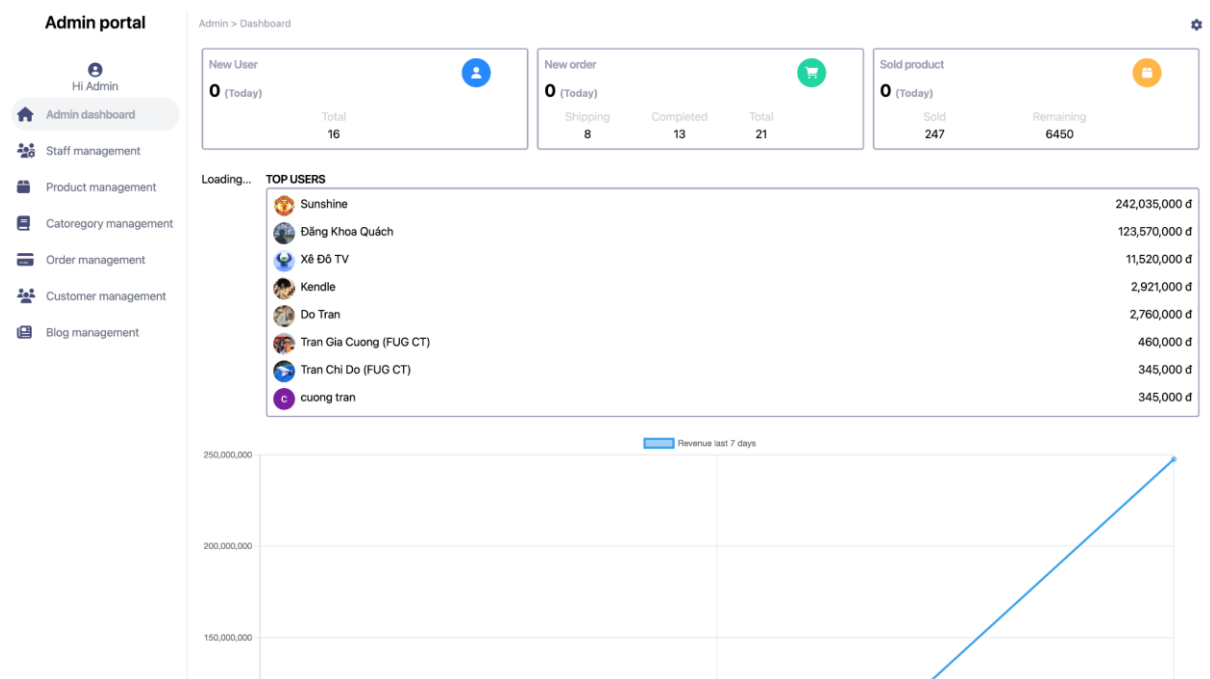


Figure 21 - Dashboard Statistics

### 2.2.3.22. Export File

Table 24 – Export File description

<b>ID and Name:</b>	UC - 22 Export File		
<b>Created By:</b>	Tran Quoc Thai	<b>Date Created:</b>	23/5/2024
<b>Primary Actor:</b>	Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The user initiates the export by selecting the "Export Revenue Report" option from the website's reporting interface.		
<b>Description:</b>	This use case describes the process by which a user exports a revenue report to an Excel file. The report includes detailed revenue data for a specified period, which the user can further analyse or share with stakeholders.		
<b>Preconditions:</b>	<ul style="list-style-type: none"><li>• The user is logged into the application with appropriate permissions to access and export revenue reports.</li><li>• Revenue data for the selected period is available in the system.</li><li>• The system is capable of generating and exporting Excel files.</li></ul>		
<b>Post-conditions:</b>	<b>Success:</b> <ol style="list-style-type: none"><li>1. The user receives an Excel file containing the requested revenue report.</li><li>2. The file is correctly formatted and contains all relevant data for the specified period.</li><li>3. The user is notified of the export completion, and the file is either downloaded to their local system or made available via a download link.</li></ol>		
<b>Normal Flow:</b>	<ol style="list-style-type: none"><li>1. The user logs into the website.</li><li>2. The user click "<b>Order management</b>"</li><li>3. The user selects the desired period and any other relevant filters for the revenue report.</li><li>4. The user clicks on the "<b>Export</b>" button.</li><li>5. The system processes the request and generates the revenue report.</li><li>6. The system formats the report data into an Excel file.</li><li>7. The system either prompts the user to download the file or provides a download link.</li></ol>		

	8. The user is notified that the export is complete, and the Excel file is available.
Alternative Flows:	N/A
Exception:	<b>E1: User Not Authenticated</b> The user is not logged in or lacks the necessary permissions. <b>E3: No Data Available</b> There is no revenue data for the selected period.
Priority:	High
Frequency of Use:	Frequent
Business Rules:	N/A
Other Information:	N/A
Assumptions:	Network connectivity is stable during the information retrieval process.

Screen:

Admin portal

Hi Admin

Admin dashboard

Staff management

Product management

Admin > Orders

Order management

2024-06-04 → 2024-07-25

Export

Payment ID	Payment Method	Status	Total	Created at
1720590435859	vnpay	Paid	31,200,000 đ	12:47:15 10-07-2024
				12:42:26 10-07-2024
				09:30:08 10-07-2024
				09:10:25 10-07-2024
				09:09:39 10-07-2024
				0:46:12 09-07-2024
				0:42:13 09-07-2024
				4:28:05 08-07-2024
				4:18:09 08-07-2024
				3:35:57 08-07-2024

export-1720885299.csv

Open with WPS Office

paymentMethod	paymentId	productId	productName	price	quantity	total	buyerId	buyerName	createdAt
vnpay	1720590435859	158	Bosch PV3631FB1E 3-Zone Built-In Induction Cooktop	1200000	26	31200000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	12:47 10-07-2024
vnpay	1720590147258	158	Bosch PV3631FB1E 3-Zone Built-In Induction Cooktop	1200000	9	10800000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	12:42 10-07-2024
vnpay	1720578609320	70	JBL Authentics AUTH500 Bluetooth Speaker	16000000	10	160000000	clxt74ead0000k5bvgimrm4n	Sunshine	09:30 10-07-2024
vnpay	1720577425578	37	Smart TV Casper OLED 4K 55 inch SSCGS810	42900000	1	42900000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	09:10 10-07-2024
vnpay	1720577380496	116	Vornado 660 Large Whole Room Air Circulator Fan	2760000	1	2760000	clx7f8k040003o1htfyv902h	Do Tran	09:09 10-07-2024
vnpay	1720496773579	116	Vornado 660 Large Whole Room Air Circulator Fan	2760000	5	13800000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	10:46 09-07-2024
vnpay	1720496534112	56	LIFX Color 11W	460000	5	2300000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	10:42 09-07-2024
vnpay	1720496534112	61	Wyze Bulb Color 10W	345000	10	3450000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	10:42 09-07-2024
vnpay	1720423686336	56	LIFX Color 11W	460000	5	2300000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	14:28 08-07-2024
vnpay	1720423686336	158	Bosch PV3631FB1E 3-Zone Built-In Induction Cooktop	1200000	11	13200000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	14:28 08-07-2024
vnpay	1720423090029	56	LIFX Color 11W	460000	5	2300000	clxirse7g00003ntuuy4iy43o	Bằng Khoa Quách	14:18 08-07-2024
vnpay	1720420558371	116	Vornado 660 Large Whole Room Air Circulator Fan	2760000	1	2760000	clx7seekrg000213gk5t1mxxp	Kendle	13:35 08-07-2024
vnpay	1720419488451	51	Cree LED Bulb 12W	161000	1	161000	clx7seekrg000213gk5t1mxxp	Kendle	13:18 08-07-2024
vnpay	1720268949265	56	LIFX Color 11W	460000	1	460000	clx7bzl17v0000krfSaq34asn	Tran Gia Cuong (FUG CT)	19:29 06-07-2024
vnpay	1720266022487	61	Wyze Bulb Color 10W	345000	1	345000	clxluwvnm00008gsqvdyli87v	Tran Chi Do (FUG CT)	18:40 06-07-2024
vnpay	1719986095776	68	Rezo Play Bluetooth Speaker	675000	3	2025000	clxt74ead0000k5bvgimrm4n	Sunshine	12:54 03-07-2024
vnpay	1719986095776	119	Lasko 2551 Wind Curve Tower Fan	2530000	4	10120000	clxt74ead0000k5bvgimrm4n	Sunshine	12:54 03-07-2024
vnpay	1719818962234	109	Honeywell HT-900 TurboForce Air Circulator Fan	460000	2	920000	clxt74ead0000k5bvgimrm4n	Sunshine	14:29 01-07-2024
vnpay	1719248854755	126	Rowenta VU2660 Turbo Silence Extreme Table Fan	2760000	3	8280000	clxt74ead0000k5bvgimrm4n	Sunshine	00:07 25-06-2024
vnpay	1719248854755	92	Bosch 9 kg WGA14400SG Washer	9490000	1	9490000	clxt74ead0000k5bvgimrm4n	Sunshine	00:07 25-06-2024
vnpay	1719248854755	87	Samsung Inverter 9 kg WW90T634DLN/SV Washer	15090000	3	45270000	clxt74ead0000k5bvgimrm4n	Sunshine	00:07 25-06-2024
vnpay	1719248854755	27	Android TV TCL HD 32 inch 32S5400A	4090000	1	4090000	clxt74ead0000k5bvgimrm4n	Sunshine	00:07 25-06-2024
vnpay	1719248854755	111	Lasko 3300 Wind Machine Air Circulator Fan	920000	2	1840000	clxt74ead0000k5bvgimrm4n	Sunshine	00:07 25-06-2024
vnpay	1718786213119	139	Voltas 1.4 ton 5 Star	11440000	1	11440000	clxfshu48000011xtpeo87269	X8 D6 TV	15:36 19-06-2024
vnpay	171877754080	1	LED Bulb	80000	1	80000	clxfshu48000011xtpeo87269	X8 D6 TV	13:15 19-06-2024

Figure 22 - Export File

### 2.2.3.23. Manage Category

Table 25 – Manage Category description

<b>ID and Name:</b>	UC - 23 Manage Category		
<b>Created By:</b>	Quach Dang Khoa	<b>Date Created:</b>	23/5/2024
<b>Primary Actor:</b>	Staff, Admin	<b>Secondary Actors:</b>	
<b>Trigger:</b>	The Staff or Admin selects the "Categories Management" option to view, create, update, or delete categories.		
<b>Description:</b>	This use case describes the process by which users can manage (create, read, update, delete) categories.		
<b>Preconditions:</b>	<ul style="list-style-type: none"><li>• The Staff or Admin must be logged into the system.</li><li>• The Staff or Admin must have appropriate permissions to manage categories.</li></ul>		
<b>Post-conditions:</b>	<p><b>Success:</b></p> <ul style="list-style-type: none"><li>• Categories are managed successfully (viewed, created, updated, or deleted).</li><li>• The system reflects the changes made to the categories.</li></ul> <p><b>Failure:</b></p> <ul style="list-style-type: none"><li>• If there are errors or issues during the process (e.g., invalid data, insufficient permissions, system errors), appropriate error messages are displayed.</li><li>• No changes are made to the categories if the process fails.</li></ul>		
<b>Normal Flow:</b>	<p><b>UC-23-01: View List of Categories</b></p> <ol style="list-style-type: none"><li>1. <b>Staff or Admin Authentication:</b> Staff or Admin logs into the system.</li><li>2. <b>Navigate to Manage Categories:</b> The Staff or Admin navigates to the "Category management" section via the navigation bar.</li><li>3. <b>View Categories:</b> The system displays a list of categories.</li></ol> <p><b>UC-23-02: Create New Category</b></p> <ol style="list-style-type: none"><li>1. <b>Select Create Category:</b> The Staff or Admin selects the option to</li></ol>		

	<p>create a new category.</p> <ol style="list-style-type: none"> <li>2. <b>Enter Category Information:</b> The Staff or Admin enters the necessary information for the new category.</li> <li>3. <b>Save New Category:</b> The Staff or Admin clicks the "Create" button to create the new category.</li> </ol> <p><b>UC-23-03: Update Category</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Category to Update:</b> The Staff or Admin selects a category to view details or manage.</li> <li>2. <b>Update Category Information:</b> The Staff or Admin updates the category information as needed.</li> <li>3. <b>Save Changes:</b> The Staff or Admin clicks the "Update" button to save the changes.</li> </ol> <p><b>UC-23-04: Delete Category</b></p> <ol style="list-style-type: none"> <li>1. <b>Select Category to Delete:</b> The Staff or Admin selects a category to delete.</li> <li>2. <b>Confirm Deletion:</b> The Staff or Admin confirms the deletion.</li> </ol>
<b>Alternative Flows:</b>	<p><b>AF1: Staff or Admin Not Authenticated</b></p> <ol style="list-style-type: none"> <li>1a. <b>Staff or Admin Not Logged In:</b> The system redirects the Staff or Admin to the login page.</li> <li>1b. <b>Provide Login Credentials:</b> The Staff or Admin provides login credentials.</li> <li>1c. <b>Redirect to Manage Categories:</b> The system authenticates the Staff or Admin and redirects them to the "Manage Categories" section.</li> </ol>
<b>Exception:</b>	<p><b>E1: The system is down or unreachable:</b></p> <ul style="list-style-type: none"> <li>• The Staff or Admin will not be able to access the manage categories interface.</li> </ul>
<b>Priority:</b>	High
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	BR-19, BR-20, BR-15

<b>Other Information:</b>	Network connectivity should be stable during the category management process.
<b>Assumptions:</b>	Network connectivity is stable during the information retrieval process.

**Screen:**

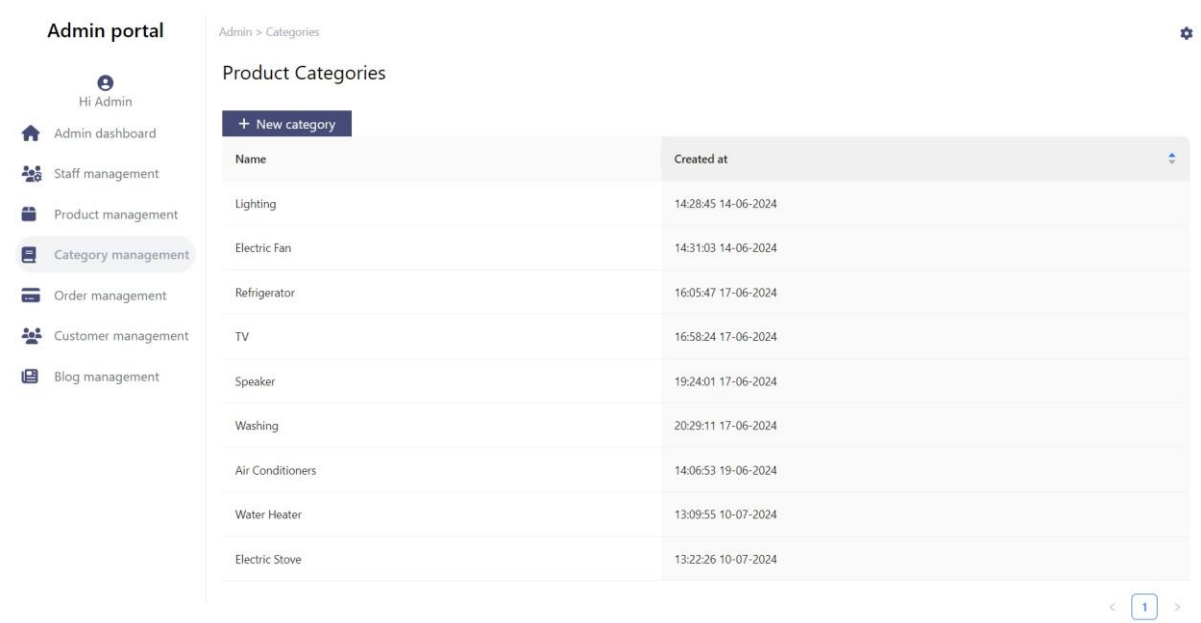


Figure 23 - Manage Category

**2.2.3.24. View blog detail**

Table 26 – View blog detail description

<b>ID and Name:</b>	UC - 24 View blog detail		
<b>Created By:</b>	Tran Quoc Thai	<b>Date Created:</b>	21/5/2024
<b>Primary Actor:</b>	Guest, Customer	<b>Secondary Actors:</b>	
<b>Trigger:</b>	A user initiates the process by selecting a blog post from the list.		
<b>Description:</b>	This use case describes the process by which any user views the details of a blog post in the system.		
<b>Preconditions:</b>	None. Any user can access the blog post details without needing to log in.		



<b>Post-conditions:</b>	The user views the details of the selected blog post.
<b>Normal Flow:</b>	<ol style="list-style-type: none"> <li>1. <b>User Authentication:</b> The customer logs into the system.</li> <li>2. <b>Navigate to Orders Section:</b> The Customer clicks on the "Blogs" option from the main menu.</li> <li>3. <b>Select any blog:</b> The Customer selects <b>any blog</b> from the blogs list.</li> <li>4. <b>View blog detail:</b> The system gets the blog detail information and then displays it to the user. <ul style="list-style-type: none"> <li>• Blog's media</li> <li>• Blog's title</li> <li>• Blog's content</li> </ul> </li> </ol>
<b>Alternative Flows:</b>	- Users make direct queries to the blog from the URL
<b>Exception:</b>	- The system is down or unreachable: The user will not be able to access the blog interface
<b>Priority:</b>	Low
<b>Frequency of Use:</b>	Frequent
<b>Business Rules:</b>	N/A
<b>Other Information:</b>	<ul style="list-style-type: none"> <li>- Blog post details should be easily accessible from the blog list.</li> <li>- Blog post details should be displayed in a user-friendly format.</li> </ul>
<b>Assumptions:</b>	<ul style="list-style-type: none"> <li>- Users have access to a device with internet connectivity.</li> <li>- The system has blog posts already created and stored in the database.</li> </ul>

Screen:

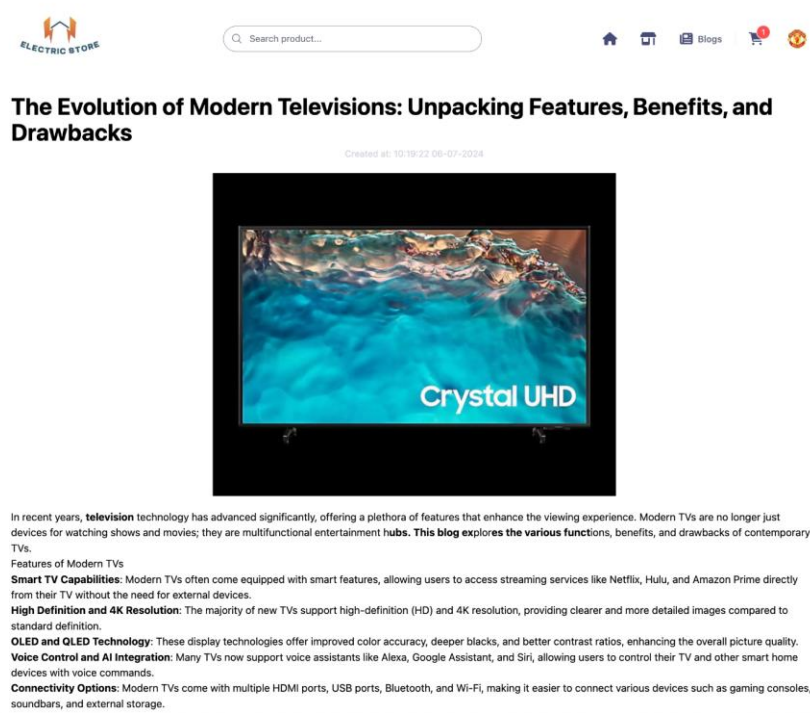


Figure 24 - View blog detail

3. Functional Requirements

3.1 System Functional Overview

3.1.1 Screens Flow

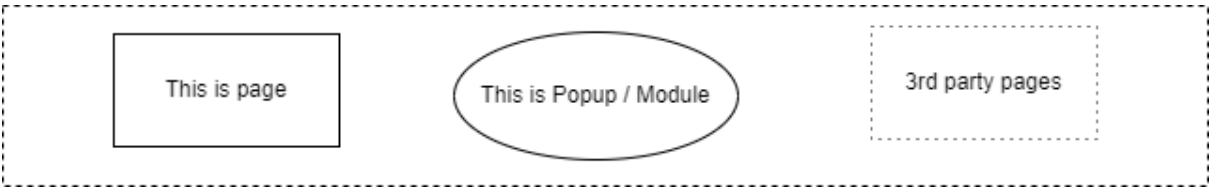


Figure – Note for Screens Flow

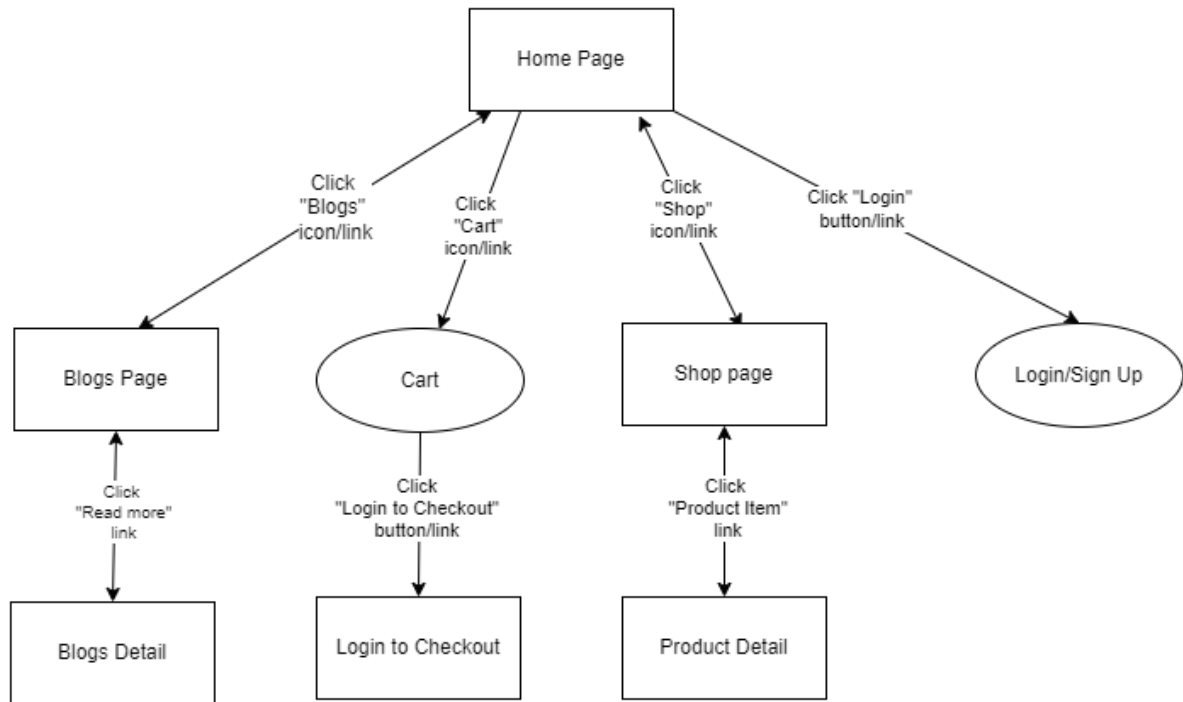


Figure - Screen Flow - Guest

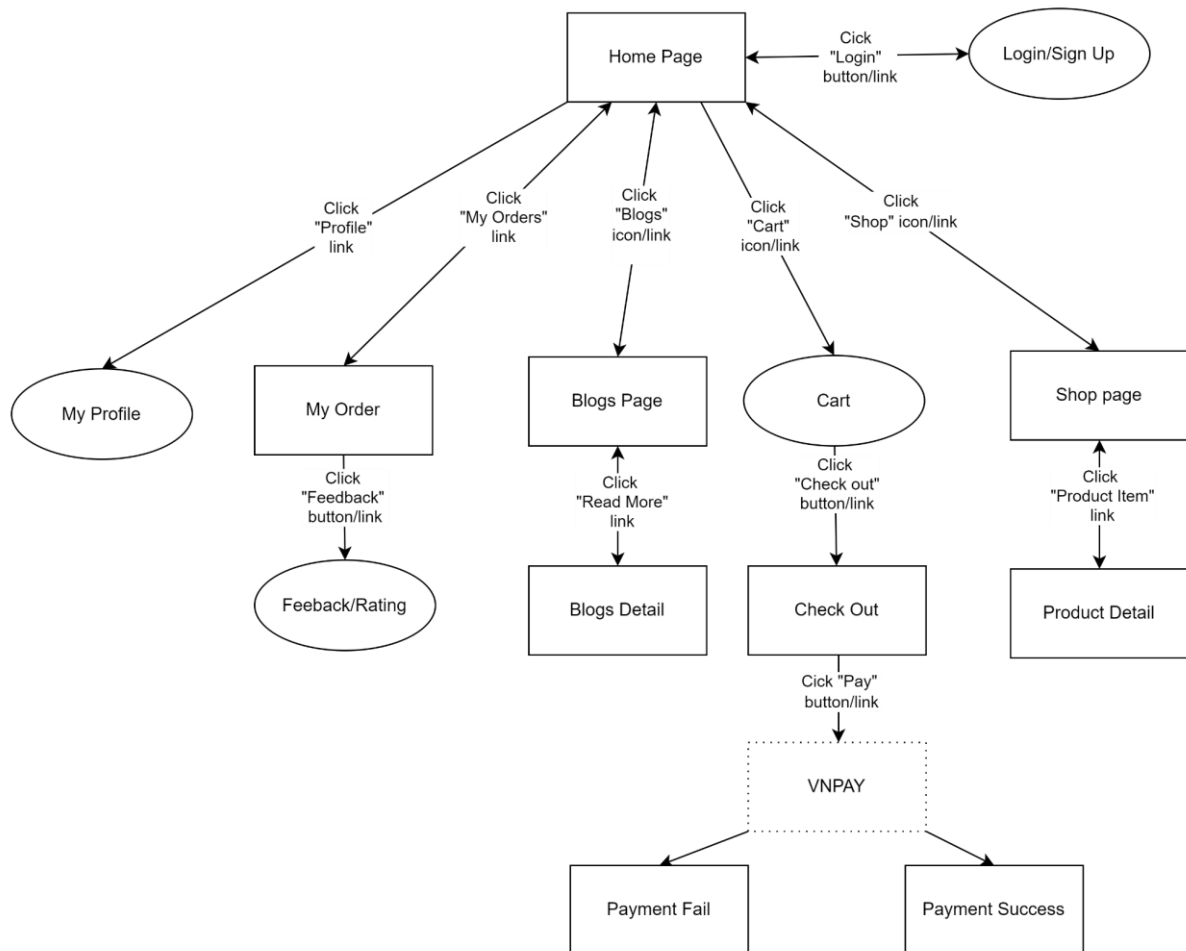


Figure - Screen Flow -Customer

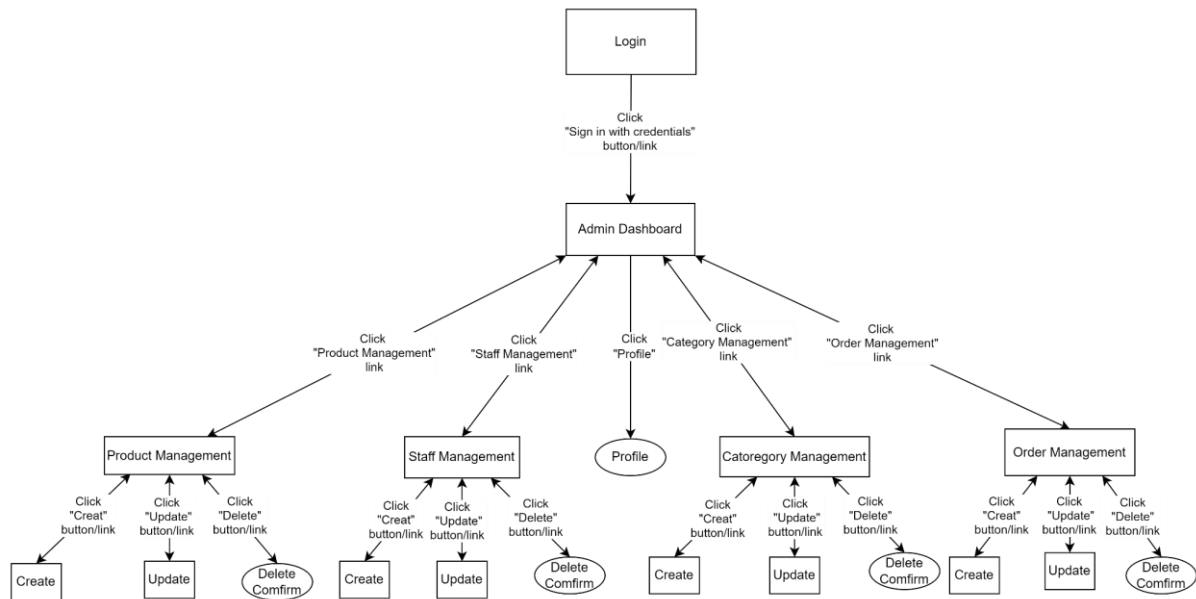


Figure - Screen Flow -Staff/Admin

### 3.1.2 Screen Descriptions

Table 26 – Screen Description

#	Feature	Screen	Description
1	Login/Sign up	Login Screen	
2	My Profile	User Profile Screen	
3	Product List	Product Screen	
4	Product Details	Product Detail Screen	
5	My Order	My Order Screen	
6	Blog List	Blog Screen	
7	Blog Details	Blog Detail Screen	
8	Check Out	Check Out Screen	
9	Payment Success	Payment Success Screen	
10	Payment Fail	Payment Fail Screen	

### 3.1.3 Screen Authorization

Table 27 – Screen Authorization

Screen	Admin	Staff	Customer	Guest
Sign In	X	X	X	

Screen	Admin	Staff	Customer	Guest
Sign Up				X
Sign Out	X	X	X	
View all products			X	X
View product detail			X	X
View orders history			X	
View all blogs			X	X
Suggestion and search by keyword			X	X
Recommendations by behaviour			X	X
Manage Cart (CRUD)			X	
Check out			X	
Feedback			X	
Rating			X	
Filter	X	X	X	X
Manage Profile (RU)	X	X	X	
Manage Blogs (CRUD)	X	X		
Manage Orders (RU)	X	X		
Manage Product (CRUD)	X	X		
Manage Staff (CRUD)	X			
Manage Customer (R)	X			
Dashboard Statistics	X	X		
Export File	X	X		
Manage Category (CRUD)	X	X		

### 3.1.4 Non-Screen Functions

Table 28 - Non-Screen Functions

#	Feature	System Function	Description
1	User Management	User Data Synchronisation	A scheduled batch job that synchronises user data across different services and databases to maintain consistency.
2	Order Management	Order Processing Service	A backend service that processes orders, updates order statuses, and manages order-related notifications.
3	Product Management	Product Recommendation API	An API service that uses AI (powered by Algolia) to provide product recommendations based on user behaviour and preferences.

#	Feature	System Function	Description
4	Product Management	Product Statistics Export	A batch job that compiles product statistics and exports them into Excel files for admin and staff users.
5	Dashboard	Revenue Report Generation	A service that generates detailed revenue reports (daily, monthly, yearly) and allows for exporting these reports to Excel.
6	Search Optimization	Search Indexing Service	A service that updates and maintains the search index to ensure fast and relevant search results for product queries.
7	Payment Integration	Payment Processing API	An API that handles payment transactions securely using VNPay, ensuring accurate processing and record-keeping.
8	Chatbot Integration	Chatbot Service	A service using AWS Lex/DialogFlow ES to provide customer support and product recommendations through chat interactions
9	Data Backup	Database Backup Job	A scheduled job that performs regular backups of the database to ensure data integrity and disaster recovery.

### 3.1.5 Entity Relationship Diagram

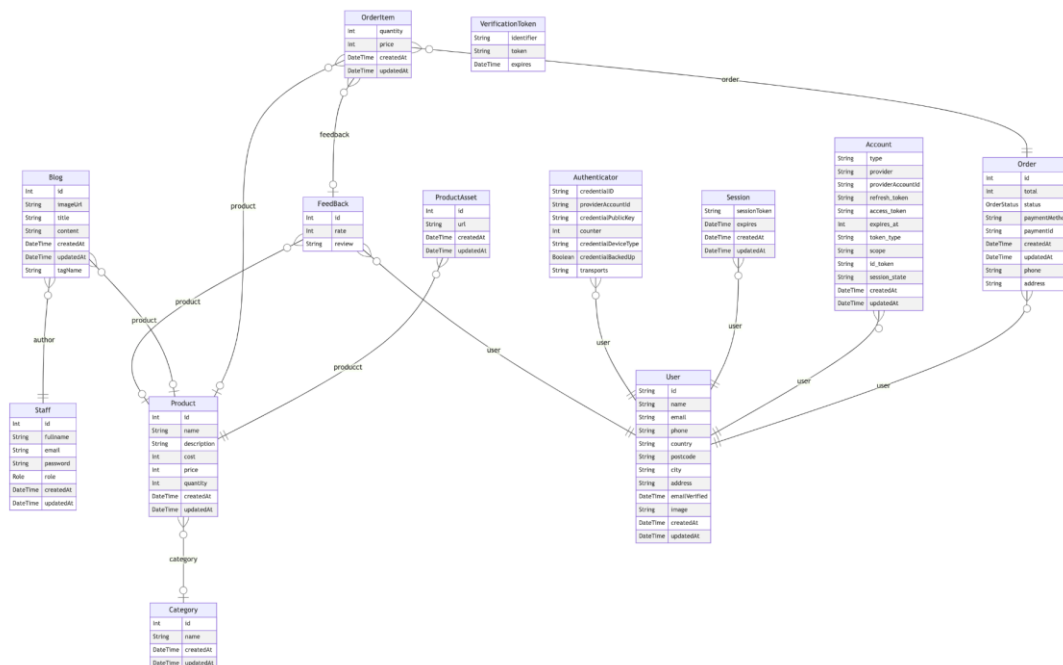


Figure 25 - Entity Relationship Diagram

## **Entities Description**

*Table 29 - Entities Description*

#	Entity	Description
1	Customer	People who buy products of shop
2	Information order	Information of order
3	Orders	Order of customer
4	Product	All product of shop
5	Category	Category of product

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

### **4.1 External Interfaces**

#### **4.1.1 User Interfaces**

- UI-1: The user interface must be intuitive and easy to navigate, allowing users to accomplish tasks without extensive training.
- UI-2: Error messages must be clear and provide actionable solutions.
- UI-3: The UI must load within 3 seconds on a standard broadband connection.

#### **4.1.2 Software Interfaces**

- SI-1: APIs should be compatible with various programming languages and platforms.
- SI-2: APIs must enforce authentication and authorization mechanisms.
- SI-3: The UI must be fully responsive and functional across all major devices and screen sizes, including mobile phones, tablets, and desktops.

### **4.2 Quality Attributes**

#### **4.2.1 Usability**

- The application must be user-friendly and easy to use after training.
- Provide clear, easy-to-understand instructions and user support when needed.
- Provide comprehensive onboarding tutorials and documentation. Include interactive guides and walkthroughs for new users.
- Use familiar symbols and terminology to reduce user training time.

#### **4.2.2 Reliability**

- Ensure the system has an uptime of at least 99.99%.
- Implement redundant systems and failover mechanisms.
- Implement regular data backups and recovery processes.
- Ensure that the system can restore operations within 15 minutes of a failure.

#### **4.2.3 Performance**

- Optimize database queries and reduce server-side processing time.
- Ensure that all user actions receive a response within 2 seconds.

#### **4.2.4 Security**

- Authentication: Users should be securely authenticate before accessing sensitive functionalities.
- Authorization: Access control mechanisms should restrict users to only the functionalities they are authorised to use.
- Data Encryption: Sensitive data, such as user credentials and payment information, should be encrypted during transmission and storage.
- Protection Against Attacks: The system should implement measures to protect against common security threats such as SQL injection, cross-site scripting (XSS), and cross-site request forgery (CSRF).

#### **4.2.5 Scalability**

- Horizontal Scalability: The system should be able to scale horizontally by adding more servers or instances to accommodate increased user traffic.
- Vertical Scalability: The system should also be able to scale vertically by upgrading hardware resources such as CPU and memory.
- Load Balancing: Implement load balancing mechanisms to distribute incoming traffic evenly across multiple servers.
- Database Scalability: The database should be designed to scale along with the application, ensuring performance is maintained as the data volume grows.
- Elasticity: The system should dynamically allocate and deallocate resources based on demand to optimise performance and cost.

#### **4.2.6 Maintainability**

- Modularity: The system should be modularly designed, allowing for easy maintenance and updates to individual components without impacting the entire system.
- Documentation: Comprehensive documentation should be provided for system architecture, codebase, APIs, and deployment procedures to aid in maintenance and troubleshooting.
- Version Control: Utilise version control systems such as Git to manage changes to the codebase and facilitate collaboration among developers.
- Testing and QA: Implement automated testing and continuous integration pipelines to ensure code quality and facilitate the deployment of updates with minimal risk.
- Error Handling and Logging: Implement robust error handling mechanisms and logging to aid in identifying and troubleshooting issues during maintenance.



## 5. Requirement Appendix

### 5.1 Business Rules

Table 30 – Business rules

ID	Rule Definition
BR-01	Smart sales information system combined with product introduction according to customer behaviour and habits.
BR-02	The system is capable of managing user roles with different permissions for Admin, Staff, Customer, and Guest.
BR-03	The system allows Admin/Staff to give permissions such as view order information, filter by date, create order statistics, and export to Excel file.
BR-04	The system allows Admin/Staff to manage such as View, Add, Edit, Delete product information, and create product statistics with the ability to export to Excel files.
BR-05	The system must allow roles to log in and register (except guests).
BR-06	The system allows Staff to manage blogs: view, edit, delete.
BR-07	The system allows users to manage information: password, Name...
BR-08	The system allows the Admin to create Staff.
BR-09	The system allows the user to search by keyword.
BR-10	The system uses AI Algolia to recommend products according to user behavior, shopping history, and preferences.
BR-11	The system allows users to view cart information, add products to the cart, edit to cart, and checkout.
BR-12	The system uses ReactJS for the front-end development.
BR-13	The system uses TailwindCSS and Ant for the UI library.
BR-14	The system uses node.js for the back-end development
BR-15	The system user Firebase for database management

ID	Rule Definition
BR-16	The system supports convenient payment methods for users
BR-17	The system uses AWS Lex or DialogFlow ES for chatbot functionality.
BR-18	The System required validate when login in the system
BR-19	Only Staff or Admin with appropriate permissions can manage categories.
BR-20	The system should use secure protocols to protect category information during transmission.
BR-21	Only Staff or Admin with appropriate permissions can manage orders.
BR-22	Only Admin or Staff with appropriate permissions can manage customer information.

## 5.2 Common Requirements

Table 30 - Common Requirements

ID	Rule Definition
CR-01	The system must have a user authentication mechanism for Login, Register, and Logout functions. (For example: OTP, authenticate by google email).
CR-02	The user interface should be intuitively designed using ReactJS with TailwindCSS and Antd libraries.
CR-03	When an Admin/Customer/Staff changes the password, you must re-enter the password you are using to be able to change it.
CR-04	The system must support secure payment methods, including VNPayto process transactions.
CR-05	Use Node.js as a back-end for backend development to handle API requests and business logic.
CR-06	The system uses Firebase to manage the database, ensuring high security, and fast querying against it.

ID	Rule Definition
CR-07	The system must integrate chatbots using AWS Lex or DialogFlow ES for automatic customer support.

### 5.3 Application Messages List

Table 31 - Application Messages List

#	Message code	Message Type	Context	Content
1	MSG01	Inline error message	Error during HTTP request or Algolia request processing	We have some error
2	MSG02	Inline error message	Specific product not found during the search or add to cart process	Sorry, your product is not found.
3	MSG03	Confirmation request	User is asked to confirm a product match	Are you looking for {product name}?
4	MSG04	Confirmation request	User is asked to confirm adding a product to the cart	Do you want to add {product name} to your cart?
5	MSG05	Inline closing message	Conversation ends without successful action or after confirmation	May I help you something else?
6	MSG06	Rich text response	Display categories with associated actions (open link or show products)	Categories with actions payload
7	MSG07	Rich text response	Display products within a category with associated actions	Products with actions payload

#	Message code	Message Type	Context	Content
8	MSG08	Rich text response	Display detailed information about a specific product	Product detail with actions payload
9	MSG09	Rich text response	Provide a link for adding a specific product to the cart	Incorrect user name or password. Please check again.
10	MSG10	Toast message	Error when fetching categories or products	We have some error.
11	MSG11	Toast message	Closing the dialog after a successful operation	There is some error
12	MSG12	Plain text response	Response after a successful operation	Add asset successfully
13	MSG13	Plain text response	Response after successfully adding a product to the cart	May I help you something else?