

# Vision Document for Online Shopping System

## Team members:

Okubakrstos Berhe - 112409

Anh Thong Tran - 612723

Thanh Nhan Nguyen - 612745

Thai Binh Duong Nguyen - 612700

## 1. Introduction

In the past, we would need to buy lots of goods from a physical store. But the store does not always have everything the customer needs. Plus, it is not easy to get some time to go out and get them by ourselves due to busy lifestyles or lots of work.

The Internet changed the way we shop. Online shopping is rising day by day in the US and all over the world. Online shopping is the process of buying goods and services from merchants who sell on the internet in real-time without the need of going to a physical store. Buyers can literally buy anything from the internet from the comfort of their homes using their computers or mobile devices. In addition, through online shopping, customers can learn more about the product they are purchasing, compare pricing with other sellers, get coupons, search for similar products, write reviews of their purchased products, and much more.

The goal of our project is to develop a web-based user interface for online customers. The business transaction model that we aim to use is Business to consumer (B2C). The system would be easy to use and therefore make the shopping experience easy for the customers. Our goal of this system is:

- Search and View products by name or category through a website or mobile application without any account registered as a Guest.
- Add products that users want to buy into their shopping cart and buy later. Here, users can add or remove items into or out of the cart respectively or being able to buy immediately through the Buy Now function
- Before placing an order, the user needs to register a new account with their personal information (shipping addresses, email, age...) and their payment method (billing address, card information...)

to be able to become a Buyer. Additionally, users can input a coupon code to get a lower price of the total amount.

- After placing an order, the user can view, edit, delete its order with some limitation, keep track of its delivery, and give feedback regarding products they bought.
- Manage product and category (such as add, edit, delete) when they logged in as a Moderator. Moderators can add products to categories as well. Moreover, they have permission to see feedback from users.
- View a list of users, grant permissions to users, and block or unblock any user when they are logged in as an Admin.

## 2. Positioning

### 2.1 Problem Statement

The problem of	Online shopping application that allows customers easily to search and buy products from merchants online without the need of going to a crowded physical store.
Affects	Guest, Buyer, Moderator, and Admin.
the impact of which is	Physical stores are not always open 24/7, with fewer choices of products, business reach, and sales.
a successful solution would be	One tool which builds an online shopping system that allows users to search, view, and buy products. The tool also allows moderators to manage products/categories and allows admins to manage regular users. This tool will provide a Database and a user interface that is easy to use for guests, buyers, moderators, and admin.

## 2.2 Product Position Statement

For	online retailers
Who	Guest, Buyer, Moderator, and Admin.
The (product name)	online shopping system
That	users can add or remove items into or out of the cart respectively.
Unlike	Amazon and eBay
Our product	Can be Searched and Viewed by name or category through a website or mobile application without any account registered as a Guest.

## 3. Stakeholder Descriptions

### 3.1 Stakeholder Summary

Name	Description	Responsibility
Admin	View list of users	Grant user roles, block and unblock accounts
Buyer	View settings, view orders, logout, earn and redeem points, can give feedback	Can change password, edit profile and shopping address, cancel and edit pending orders, create a product review
Moderator	Can view own products, Categories, and feedbacks	Add, delete and edit products, add, delete, and edit Categories, and Assign products to category

User	User can view products, register, login, view cart	can buy, add cart, can use different payment methods, enter address and review order
------	--	--

### 3.2 User Environment

The users will use browsers (Safari, Chrome, Firefox, Microsoft Edge) on their laptops/PCs or the application on their mobiles to access the system. The system can serve at least 10,000 concurrent users as well as the number of concurrent users can increase in the future. The system can handle a user's task in a maximum of three seconds. The system must integrate payment gateway to perform payment tasks when the user makes a purchase. The system uses a B2C model and can add a B2B model in the future.

## 4. Product Overview

### 4.1 Product Perspective

There are many e-commerce websites on the internet that offer a ton of products for users. But a lot of them have non-intuitive user interfaces and cannot support a large number of users. Our product can store an unlimited number of users in our system. Our product can handle the case like if there is a peak number of users per minute, it can perform well. Our product has a friendly user interface. Our product has a search engine that allows users to look for their needed items. The users can check out the products without the need of registering an account. They can add products to the cart and checkout later. Additionally, our product allows the user to get redeeming points after their purchase. They can use the redeeming points later to get a discount on their next purchase.

### 4.2 Assumptions and Dependencies

In our inception we have decided on the following assumptions:

Our system is a web-based user interface. So that users of the system can access it by web browsers from anywhere and from any device.

Our system greatly depends on the payment gateway.

There are four users for the system: Guest, Buyer, Admin, Moderator.

Assume that the user system must fulfill the minimum requirements of hardware and software of our system. The hosting server should be able to run Java.

### 4.3 Needs and Features

No	Problem	Need	Priority	Features	Planned Release
Guest					
1	Guests want to see a list of products to view and buy	A list of categories and products, a product item has a name, image, price, and available quantity		As a guest, I can see a list of products and categories after I access the website	
2	There are a lot of products, a guest has to scroll through the list of products to seek their desire products. There should be a convenient way to find products	A method for guests to search products by a product name		As a guest, I can search for products by product name	
3	Guests want to create an account on the system to buy products, view purchase history.	A method for guests to register their account on the system		As a guest, I can register an account on the system by entering information such as email, password, name, etc	
4	After a guest registers an account, she needs a way to log in her account into the system	A method for guests to log in to their account on the system		As a guest, I can log in to my account on the system by enter username and password	

5	After a guest views detail of a product, she wants to buy this product immediately without reviewing the cart	A method for guests to buy their desire product immediately in the product detail screen		As a guest, I can “buy now” a product on the product detail screen. A “check out” screen will display after I use this function.	
6	After a guest views detail of a product, she wants to add her desire products to the cart	A method for guests to add their desire products to the cart in the product detail screen		As a guest, I can “add to cart” my desire product on the product detail screen	
7	After a guest views a list of products, she wants to see product information such as available quantity, size, product’s properties, product’s review.	A method for guests to view a product detail		As a guest, I can view detail of a product by viewing a product detail screen	
8	After selecting products, a guest wants to see how many items in the cart, view a total price, and start ordering the desire products	A method for guests to view the cart		As a guest, I can view the cart to see items in it.	
9	If a guest forgot their login password, she needs a way to reset her password.	A method for guests to forgot and reset their password.		As a guest, I can use the “forgot” password function by entering my registered email.	
<b>Buyer</b>					

1	Buyers want to see a list of products to view and buy	A list of categories and products, a product item has a name, image, price, and available quantity		As a buyer, I can see a list of products and categories after I access the website	
2	There are a lot of products, a buyer has to scroll through the list of products to seek their desired products. There should be a convenient way to find products	A method for buyers to search products by a product name		As a buyer, I can search for products by product name	
4	After a buyer return to the website, she needs a way to log in her account into the system	A method for buyers to log in to their account on the system		As a buyer, I can log in to my account on the system by entering username and password	
5	After a buyer views the detail of a product, she wants to buy this product immediately without reviewing the cart	A method for buyers to buy their desire product immediately in the product detail screen		As a buyer, I can “buy now” a product on the product detail screen. A “check out” screen will display after I use this function.	
6	After a buyer views the detail of a product, she wants to add her desire products to the cart	A method for buyers to add their desire products to the cart in the product detail screen		As a buyer, I can “add to cart” my desire product on the product detail screen	

7	After a buyer views a list of products, she wants to see product information such as available quantity, size, product's properties, product's review.	A method for buyers to view a product detail		As a buyer, I can view detail of a product by viewing a product detail screen	
8	After selecting products, a buyer wants to see how many items in the cart, view a total price, and start ordering the desire products	A method for buyers to view the cart		As a buyer, I can view the cart to see items in it.	
9	If a buyer forgot her password, she needs a way to reset her password.	A method for buyers to reset their password.		As a buyer, I can use the "forgot" password function by entering my registered email.	
10	After a buyer login to her account, he wants to log out her current account, and then log in to a different account	A method for buyers to log out their accounts		As a buyer, I can log out of my account	
11	A buyer wants to have a way to change her password, edit her profile information, and also edit the default shipping address	A method for buyers to modify settings		As a buyer, I can access and modify settings such as password, default shipping address, and profile information	
12	A buyer wants to view their orders to keep track	A method for buyers to see a list of order		As a buyer, I can see my order list	



	of current order status if it exists, check history.			with the order's status.	
13	After each shopping time, a buyer gets an amount of redeeming points. A buyer wants to redeem her redeem point to get coupons	A method for buyers to see redeeming points, and also redeem a coupons		As a buyer, I can see my redeem points, and also redeem a coupons	
<b>Moderator</b>					
1	After a moderator return to the website, she needs a way to log in her account into the system	A method for moderators to log in to their account on the system		As a moderator, I can log in to my account on the system by entering username and password	
2	If a moderator forgot her password, she needs a way to reset her password.	A method for a moderator to reset their password.		As a moderator, I can use the "forgot" password function by entering my registered email.	
3	After a moderator login to her account, she wants to log out her current account, and then log in to a different account	A method for moderators to log out their accounts		As a moderator, I can log out of my account	
4	A moderator wants to have a way to change her password.	A method for moderators to modify password		As a moderator, I can access and modify my current password	

5	A moderator wants to create a new category and manage current categories	A method for moderators to manage categories		As a moderator, I can view, add, edit, delete categories	
6	A moderator wants to create a new product, add a product to a category, and manage current products	A method for moderators to manage products		As a moderator, I can view, add, edit, delete products. I also can add a product to a category	
7	A moderator should have a way to view the feedback of users about products	A method for moderators to view a list of user feedback about products		As a moderator, I can view a list of user feedback about products	
<b>Admin</b>					
1	After an admin return to the website, she needs a way to log in her account into the system	A method for moderators to log in to their account on the system		As an admin, I can log in to my account on the system by entering username and password	
3	After an admin login to her account, she wants to log out of her current account, and then log in to a different account	A method for admins to log out their accounts		As an admin, I can log out of my account	
4	An admin wants to have a way to change her password.	A method for admins to modify password		As an admin, I can access and modify my current password	

5	An admin wants to have ways to view users, also grant user role, or block/unblock user	A method for admins to manage users.		As an admin, I can view a list of users, also grant user role, or block/unblock user	
---	--	--------------------------------------	--	--	--

#### 4.4 Alternatives and Competition

We aim to build a large scale system that supports a large number of users. There are a lot of online shopping systems as competitors out there on the internet. Our competitors are large size e-commerce websites. While the existing systems have some advantages such as site reliability, better reach, relationship with online retailers, there are some major weaknesses that the existing systems still have: time consuming because of the non-intuitive user interface, expensive to maintain, and lack of rewards for users.

#### 5. Other Product Requirements

- The product must serve at least 10,000 concurrent users and have 99.9% uptime available.
- The product must be able to scale fastly and automatically to serve a large number of concurrent users in the future.
- The product must handle a user's task in a maximum of three seconds.
- The product must cover security problems and not save user's sensitive information at all.
- The product can serve users by application on their mobiles.