

Final Report

Enterprise Systems Development Concepts

Truong Anh Hi-520H0356
Doan The Khoi Nguyen-520H0265
Truong Quang Khoi-520H0546

Lecturer: Duong Huu Phuc
Spring, 2023

Contents

1 System Overview	4
1.1 Project Introduction	4
1.2 System Specification	4
1.3 Scope of the project	5
1.4 Practical Implication	5
1.5 Reporting Structure	5
2 System Requirements Analysis and Design	6
2.1 System requirements gathering	6
2.2 System Functional Requirements	6
2.3 Non-functional requirements of the system	7
2.4 System Functionality Diagram	8
2.4.1 Use-case diagram	8
2.4.2 Use-case Descriptions	9
2.5 Data Flow Diagrams	15
2.5.1 Context Diagram	15
2.5.2 Level-0 Diagram	16
2.6 System Database Diagrams	17
2.6.1 Entity-Relationship Diagram	17
2.6.2 SQL Physical Diagram	18
3 System Implementation	19
3.1 HTML	19
3.2 CSS	19
3.3 JavaScript	19
3.4 jQurey	19
3.5 Bootstrap	19
3.6 ASP .NET	19
3.7 C#	20
3.8 MSSQL	20
3.9 Integration	20
4 System Demonstration	21
4.1 System Demo Scenarios	21
4.2 System Demo	22

5 Appendix	27
5.1 Interview	27
5.2 Questionnaire	27

1 System Overview

1.1 Project Introduction

In today's digital age, music is primarily consumed through digital streaming services and online downloads. However, some people still prefer the tactile experience of listening to music on cassette tapes. To cater to this niche market, we are developing a website that will sell cassette tapes.

1.2 System Specification

A website where customers can buy vinyl records, cassettes, find their favorite products, read news, blogs about singers appearing in products, order through the website or create your own customer cassette tape.

Guest are customers who do not need to log in to access the website they can view information about products, read news and search for products, guest can log in, register for an account including basic information. Guest can add products to the cart then continue to purchase to proceed to payment later, place an order without logging in, by check out they can filling in the required information form properly. After that they can pay to complete and the customer can create a cassette with the available designs in the store and the music can be selected to order.

Member Customer, who is guest but has successfully logged into the system: has the same function as a guest but they will have more personal information, password, and all of information can be changed. They can edited and can view purchase history.

Warehouse Staff: They Need to log in to the administrator system with the function of Warehouse Staff. They can add, delete and edit products in the system, check the amount of inventory to update and manage products.

Sale staff: They Need to log in to the administrator as a sale staff, they can manage orders placed on the system, check order status, approve or accept orders. They can cancel the order if necessary.

Administrator: They Need to log in to the system as an administrator, They can manage employees by managed employees account, including: creating new accounts, deleting accounts, editing information , add employee permission and track employee activities on the system. They can perform the functions of a warehouse staff or a sale staff. They can Managed voucher, blogs, including Add, delete or update. They Can view statistics data, number of products sold and number of orders.

Shipper: They need to log in to the system as a shipper, they can see the order information to be delivered, they can confirm that the order will be delivered and update the delivery status.

1.3 Scope of the project

Limits on objects and functions:

1. Our project just focus on some main function and object around it, in analyst phase, we show some detail function but in final products some detail will be missing.
2. Limits on technology: We using mainly C# and asp.net with some kind of language around it to support it.

1.4 Practical Implication

Providing access to rare or hard-to-find music can be one of the most significant practical implications of a website selling cassettes. While many music fans enjoy the convenience of streaming services and digital downloads, some prefer the unique sound qualities and album art of cassettes. Additionally, some music may only be available on cassette and may not have been released digitally or on CD.

1.5 Reporting Structure

1. System Overview
2. System Requirements Analysis and Design
3. System Implementation
4. Demo
5. Conclusion

2 System Requirements Analysis and Design

2.1 System requirements gathering

In order to gather system requirements, two methods were utilized: interviews and questionnaires.

2.2 System Functional Requirements

1. Login.
2. Registry.
3. Browse catalog.
4. Create customer cassette.
5. Managed cart.
6. Place an order.
7. Check out.
8. View Order.
9. Managed account.
10. Managed product.
11. Managed staff.
12. Managed voucher.
13. Managed blog.
14. View statistic data.
15. Managed order.

2.3 Non-functional requirements of the system

1. Easy-to-see interface, attracting viewers.
2. The system ensures reliability in securing user information.
3. The system works efficiently, without interruption when in use.
4. The system is maintainable and upgradeable.
5. The system makes it easy for users to manage.
6. The data in the system needs to be correct.
7. The system can support multiple languages.
8. The system needs to be suitable for Vietnamese culture.
9. The system can develop new features.

2.4 System Functionality Diagram

2.4.1 Use-case diagram

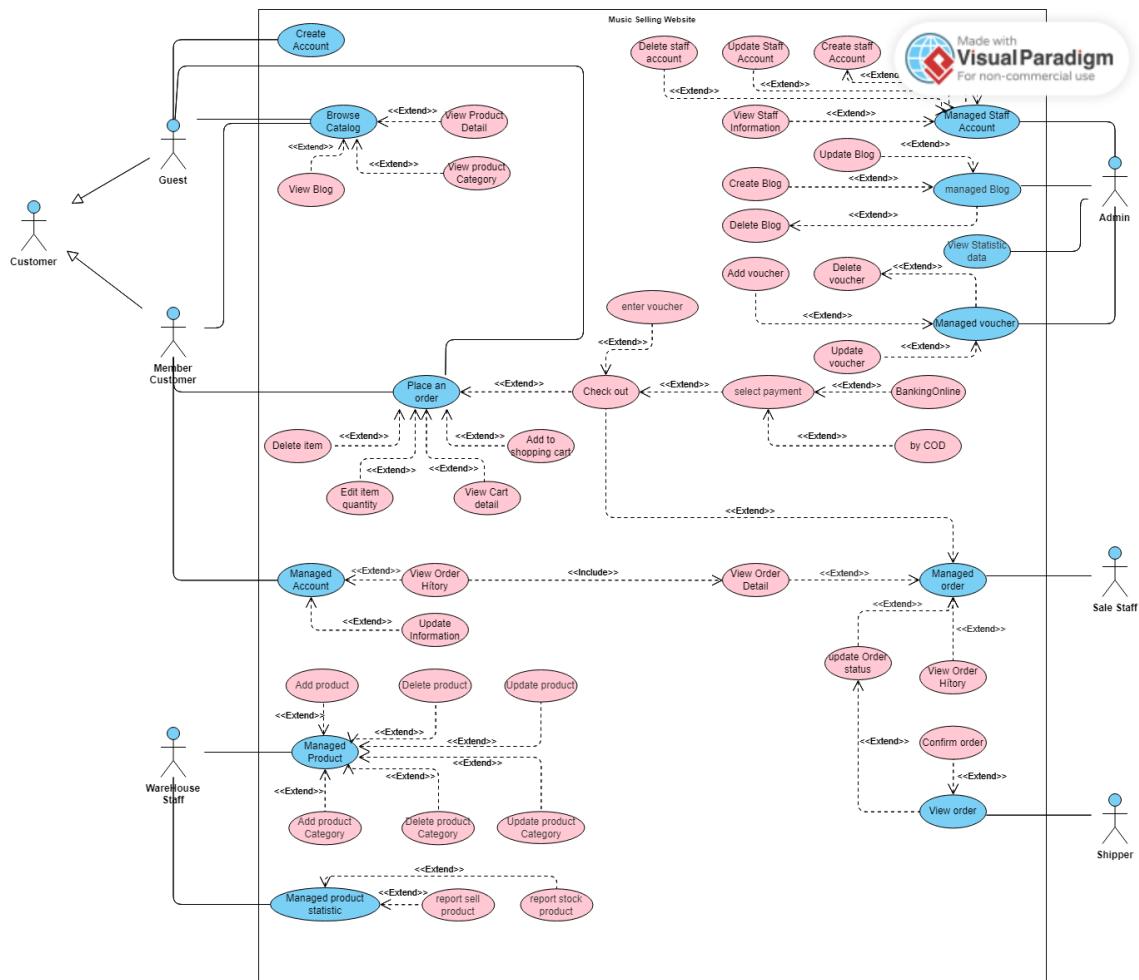


Figure 1: Use-case Diagram

2.4.2 Use-case Descriptions

Use case: Create Account	ID: UC01	Priority: Must have								
Actor: Customer										
Description: - System will provide a form to user entering their information - System will create their account when all information correct.										
Trigger: Users using create account function										
Preconditions: - Customer not log in account to sign up account										
Normal Course:	Information for Steps: 1. User using sign up function 2. User entering their information 3. User complete the form to registry									
	1.1 System will show the registry form 2.1 System must review the information is correct or not 3.1 The system will save the data of user.									
Postconditions: System will show a notification that "you are success" and user can login										
Summary: <table style="width: 100%;"><thead><tr><th style="text-align: center;">Input</th><th style="text-align: center;">Source</th><th style="text-align: center;">Outputs</th><th style="text-align: center;">Destinations</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table>			Input	Source	Outputs	Destinations				
Input	Source	Outputs	Destinations							

Figure 2: Use-case 01.

Use case: Browse Catalog	ID: UC02	Priority: Must have								
Actor: All										
Description: - User can see the product list, view product detail, view product category, view blog										
Trigger: Khách hàng tiến hành vào website										
Preconditions: none										
Normal Course:	Information for Steps: 1. User entering the website 2. User click to blog to see the detail 3. User click to category to see the detail									
	1.1 System will show the product 2.1 System will show the detail of blog. 3.1 System will show the product is sorted by category									
Postconditions: Can see blog, product, category after entering to website and using function										
Summary: <table style="width: 100%;"><thead><tr><th style="text-align: center;">Input</th><th style="text-align: center;">Source</th><th style="text-align: center;">Outputs</th><th style="text-align: center;">Destinations</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table>			Input	Source	Outputs	Destinations				
Input	Source	Outputs	Destinations							

Figure 3: Use-case 02.

Use case: Create Customer cassette	ID:UC03	Priority: Medium		
Actor: Customer				
Description: customer want to create their own cassette with their own appearance and music				
Trigger: Customer using create cassette function				
Preconditions: None				
Normal Course: 1 Customer entering create cassette 2. Customer create cassette 3. Customer enter the music they want into cassette	Information for Steps: 1.1 The system will show the page of introduce about create cassette. 2.1 The system will show label and color of cassette appearance to choose. 2.2 the system will show form to entering name. 3.1 The system will show form to fill your music playlist or chosen available playlist. 3.2 If all the information is correct the customer can check out.			
Postconditions: Can create cassette and order it.				
Summary:				
Input	Source	Outputs	Destinations	

Figure 4: Use-case 03.

Use case: place an order	ID:UC04	Priority: Must have		
Actor: Customer				
Description: - When customer order product, the product will have in cart - In customer cart, customer can add product, update product and delete product. - Customer can check out after filling all information.				
Trigger: Khách hàng thêm sản phẩm vào giỏ hoặc vào mục giỏ hàng				
Preconditions: none				
Normal Course: 1. Customer add product to cart 2. Customer enter cart 3. Customer update, add or delete the product 4. Customer check out	Information for Steps: 1.1 System will automatically add product in to customer cart. 2.1 System will show the customer cart and product customer have place an order. 3.1 System will update realtime data, depend on customer using function. 4.1 System will show form to filling information include basic information, payment method and voucher. 4.2 After all information is correct the system will show success order.			
Postconditions: - Customer success add product to cart - Customer can view information in cart and update it - Customer can order successfully.				
Summary:				
Input	Source	Outputs	Destinations	

Figure 5: Use-case 04.

Use case: Managed account	ID: UC05	Priority: must have								
Actor: Member Customer										
Description: Customer can view order history and update information.										
Trigger: Customer entering managed account place and using it function										
Preconditions: Customer already login.										
Normal Course: 1. Customer view Order history 2. Customer view detail order 3. Customer update information	Information for Steps: 1.1 System will show the data that of customer order history 2.1 System will show the data of customer detail order want to see. 3.1 System will show the customer information form to entering 3.2 If all the data correct, the system will update the data									
Postconditions: - Customer can view order history and detail order clearly. - Customer can success update information										
Summary: <table><thead><tr><th>Input</th><th>Source</th><th>Outputs</th><th>Destinations</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table>			Input	Source	Outputs	Destinations				
Input	Source	Outputs	Destinations							

Figure 6: Use-case 05.

Use case: Managed product	ID: UC06	Priority: must have								
Actor: Warehouse Staff										
Description: Warehouse staff can managed product and product category										
Trigger: Warehouse staff using their function										
Preconditions: A staff but login success with warehouse staff account.										
Normal Course: 1. Warehouse staff want to managed a product 2. Warehouse staff managed product category	Information for Steps: 1.1 System will update data depend on function of staff using 2.1 System will update data on function of staff using									
Postconditions: Using function successfully										
Summary: <table><thead><tr><th>Input</th><th>Source</th><th>Outputs</th><th>Destinations</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table>			Input	Source	Outputs	Destinations				
Input	Source	Outputs	Destinations							

Figure 7: Use-case 06.

Use case: Managed product statistic	ID: UC07	Priority: must have		
Actor: Warehouse Staff				
Description: Warehouse staff want to report a statistical data to admin				
Trigger: Warehouse staff using their function				
Preconditions: A staff but login success with warehouse staff account.				
Normal Course: 1. Warehouse staff using report sell product function 2. Warehouse staff using report stock product function	Information for Steps: 1.1 System will send a report sell product to admin 2.1 System will send a report stock product function			
Postconditions: Using function successfully				
Summary:				
Input	Source	Outputs	Destinations	

Figure 8: Use-case 07.

Use case: Managed Staff Account	ID: UC08	Priority: must have		
Actor: Admin				
Description: Admin can control staff account by create staff role, create account, update account and delete staff account				
Trigger: Admin using their function				
Preconditions: User login success with admin account.				
Normal Course: 1 Admin want to create staff role 2. Admin want to create, update, delete staff account	Information for Steps: 1.1 System will show staff role form to create 1.2 If all the information is correct, staff role will be created. 2.1 Depend on which function admin using system will update real-time.			
Postconditions: Admin can success create staff role and create, update, delete staff account				
Summary:				
Input	Source	Outputs	Destinations	

Figure 9: Use-case 08.

Use case: Managed Blog	ID: UC09	Priority: Medium	
Actor: Admin			
Description : Admin can create a brand new blog for customer or update and delete it.			
Trigger: Admin using their function			
Preconditions: User login success with admin account.			
Normal Course: 1 Admin want to create blog 2. Admin want to update or delete blog	Information for Steps: 1.1 System will show create blog form to filling 1.2 If all the information is correct, a blog will be published 2.1 All of blog will be show and system will update real-time on which function admin using.		
Postconditions: Can create update and delete blog successful.			
Summary:			
Input	Source	Outputs	Destinations

Figure 10: Use-case 09.

Use case: Managed voucher	ID: UC10	Priority: medium	
Actor: Admin			
Description: Admin can create voucher for customer using it			
Trigger: Admin managed voucher			
Preconditions: User login success with admin account.			
Normal Course: 1. Admin add voucher 2. Admin want to delete or update voucher	Information for Steps: 1.1 System will show a form to entering 1.2 If the information is correct the voucher will be added. 2.1 All of Voucher will be show and system will update real-time on which function admin using.		
Postconditions: Can create update and delete voucher successful.			
Summary:			
Input	Source	Outputs	Destinations

Figure 11: Use-case 10.

Use case: Managed order	ID: UC11	Priority:		
Actor: Sale staff				
Description: Staff can view all order of customer and modify it.				
Trigger: Sale staff using it function				
Preconditions: A Staff login success with sale staff account				
Normal Course:	Information for Steps:			
1. A staff want to managed order	1.1 system will show all of managed order			
2 A staff want to update status order	2.1 System will show the update status order type to select.			
3. A staff want to view order detail	3.1 System will show order detail in order staff has choose.			
Postconditions: Using function successfully				
Summary:				
Input	Source	Outputs	Destinations	

Figure 12: Use-case 11.

Use case: View order	ID: UC12	Priority: Must Have		
Actor: Shipper				
Description: Shipper can see information of order they need to deliver and update status of it				
Trigger: Shipper using it function				
Preconditions: A staff login success with shipper account				
Normal Course:	Information for Steps:			
1. Shipper view all of order need to delivery	1.1 System will show all of order need to delivery			
2. Shipper want to confirm order or update order status	2.1 System will show the status of order 2.2 Depend on which function shipper using, system will update real-time.			
Postconditions:				
- Can view all of order need to delivery. - Can update status of order.				
Summary:				
Input	Source	Outputs	Destinations	

Figure 13: Use-case 12.

2.5 Data Flow Diagrams

2.5.1 Context Diagram

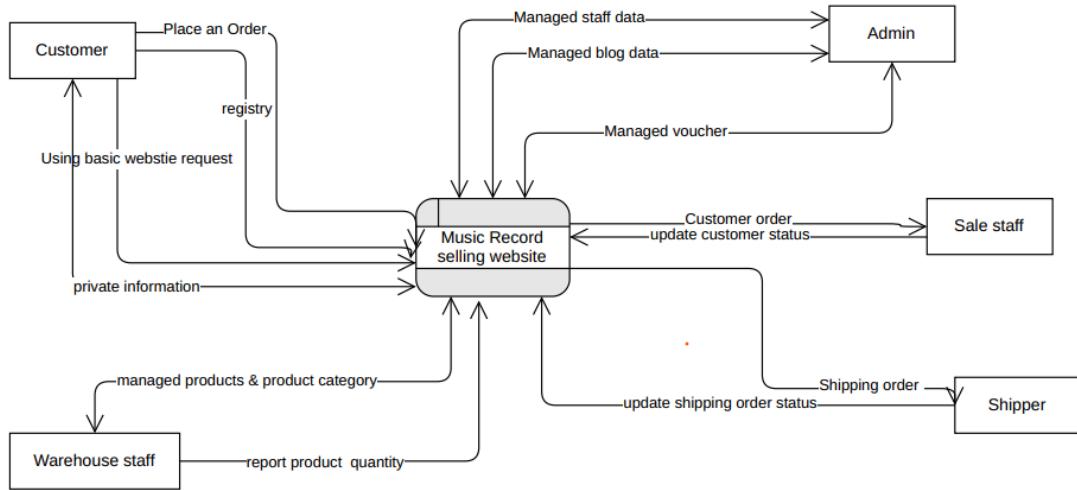


Figure 14: Context diagram.

2.5.2 Level-0 Diagram

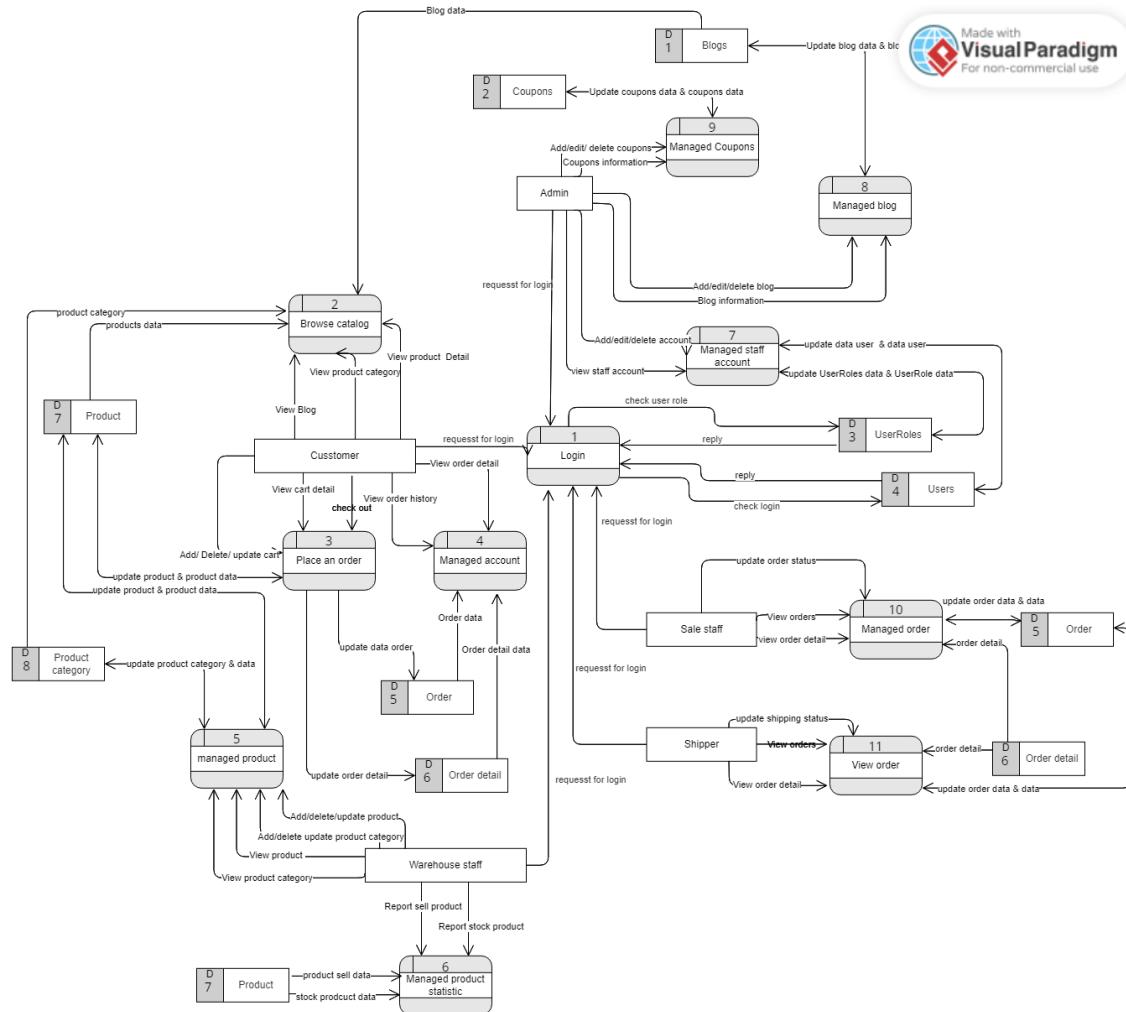


Figure 15: Level-0 diagram.

2.6 System Database Diagrams

2.6.1 Entity-Relationship Diagram

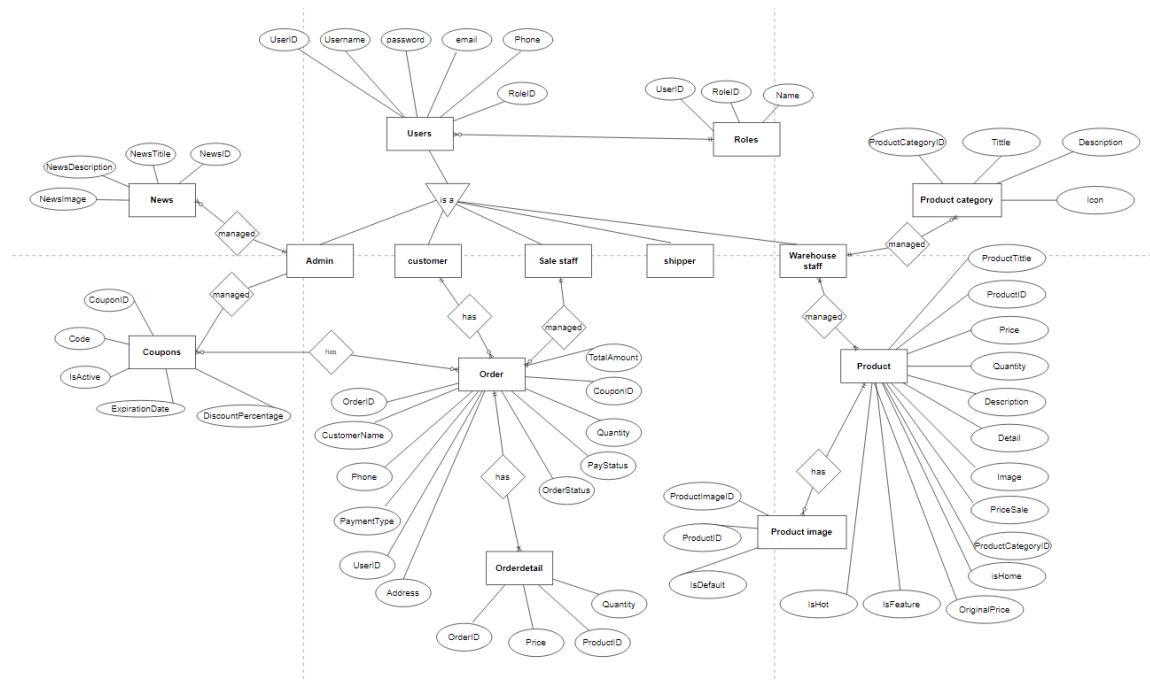


Figure 16: ERD diagram.

2.6.2 SQL Physical Diagram

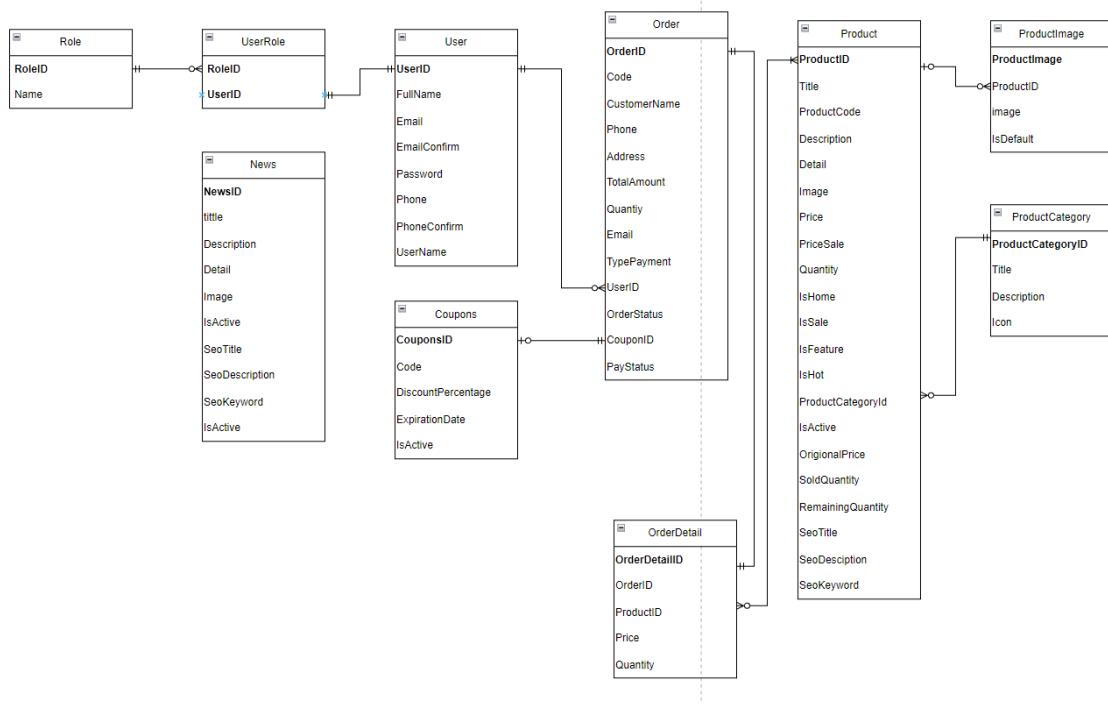


Figure 17: SQL Physical diagram.

3 System Implementation

3.1 HTML

HTML is the backbone of any web page, and is used to create the structure and content of the page. It is widely supported by all modern browsers, and provides a standard way of describing the content of a web page.

3.2 CSS

CSS is used to style and format the HTML content on a web page. It allows you to control the layout, color, font, and other visual aspects of your website, and is essential for creating a visually appealing and user-friendly website.

3.3 JavaScript

JavaScript is a powerful programming language that is used to add interactivity and dynamic functionality to your website. It can be used to create animations, respond to user input, and manipulate the content of the page in real-time.

3.4 jQurey

jQuery is a popular JavaScript library that simplifies the process of writing JavaScript code. It provides a range of pre-built functions and tools for common tasks, such as event handling, animation, and DOM manipulation.

3.5 Bootstrap

Bootstrap is a popular front-end framework that provides a range of pre-built HTML, CSS, and JavaScript components for building responsive, mobile-friendly websites. It is easy to use and customize, and provides a solid foundation for building modern, professional-looking websites.

3.6 ASP .NET

ASP.NET is a popular web application framework developed by Microsoft, which provides developers with a robust set of tools for building dynamic web applications. It is known for its scalability, security, and ease of use.

3.7 C#

C# is a modern, object-oriented programming language developed by Microsoft, which is widely used for building Windows applications, web applications, and games. It is a powerful language that is easy to learn and use, and provides developers with a range of features and tools for building high-quality software.

3.8 MSSQL

MSSQL is a powerful, enterprise-level relational database management system developed by Microsoft, which is widely used for storing and managing large amounts of data. It is known for its scalability, reliability, and security, and provides developers with a range of features and tools for building high-performance databases.

3.9 Integration

ASP.NET, C#, and MSSQL are designed to work well together, allowing developers to build highly integrated and scalable e-commerce websites. The integration of these technologies allows for the development of secure and high-performance e-commerce websites that are able to handle large amounts of data and traffic.

To sum up, the combination of ASP.NET, C#, and MSSQL is a great choice for building e-commerce websites because of their robust features, scalability, and security. The integration of these technologies also allows for the development of highly customized and feature-rich e-commerce websites that are able to meet the needs of customers and businesses alike.

4 System Demonstration

4.1 System Demo Scenarios

- Purpose: The purpose of this system demo script is to acquaint and instruct our esteemed clientele on utilizing our e-commerce website effectively. The script encompasses a comprehensive guide to navigate the website, including browsing available products, placing orders, making payments, and tracking orders throughout the fulfillment process.
- Context: We presume that the customer has already accessed the website's homepage and is interested in procuring a product.

Steps to follow:

1. Filter products:
 - Use the toolbar on the left side of the page to filter products by category or price range.
 - Select a product from the filtered results by category or price.
2. View product information and add it to the shopping cart:
 - Click on the product to see details, including images, descriptions, and prices.
 - Choose the desired quantity to order.
 - Press the "Add to Cart" button to place the product in your shopping cart.
3. Review the shopping cart and proceed with the order:
 - Access the shopping cart by clicking the cart icon in the upper right corner of the screen. Review the list of products in the cart, adjust quantities, or remove products if necessary.
 - You can enter the coupon code to reduce price.
 - Press the "Checkout" button to begin the ordering process.
4. Enter shipping information and make a payment:
 - Enter shipping information, including name, phone number, email, and delivery address.

- Choose the payment method, such as online payment or COD (Cash on Delivery).
 - Confirm the information and press the "Place Order" button to complete the ordering process.
5. Track the order:
- Log in to the account you used to make the purchase and go to the "Order History" section to view information and the status of placed orders.

The anticipated result of this system demo script is to enable customers to effortlessly and expeditiously browse available products, place orders, make payments, and track order status on our e-commerce website, following the provided instructions.

4.2 System Demo

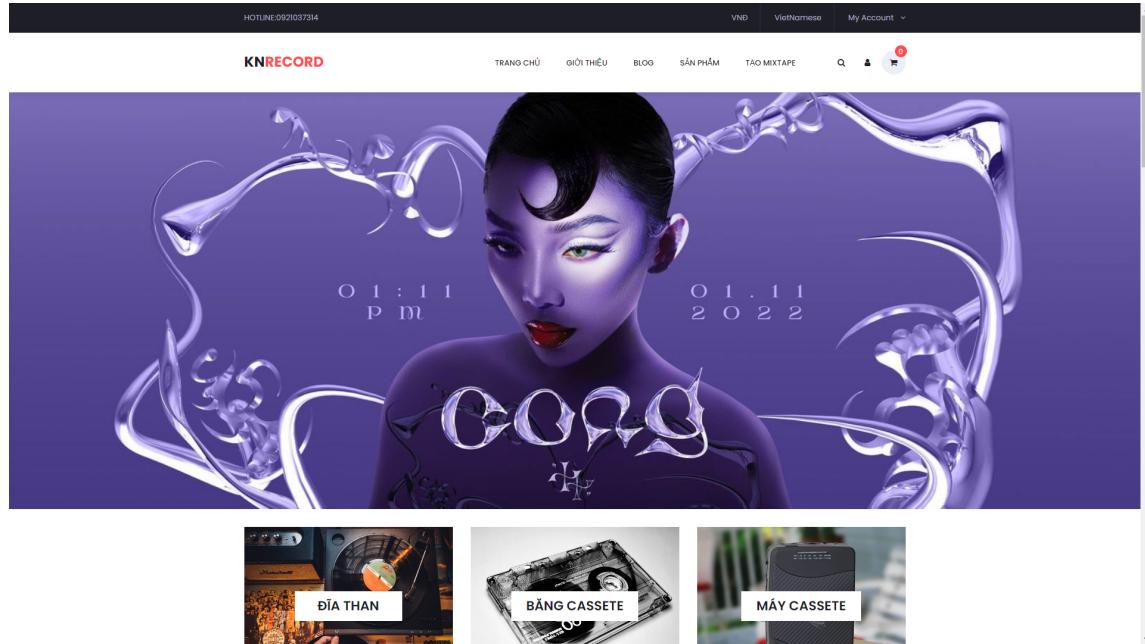


Figure 18: Home page.

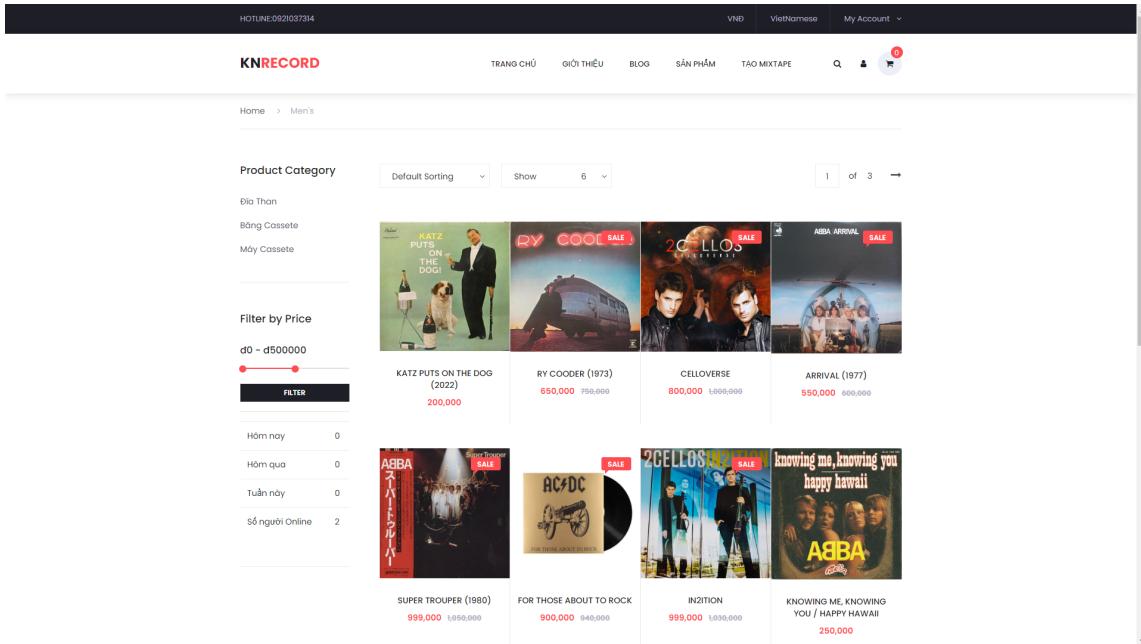


Figure 19: Product page.

This screenshot shows a detailed view of a specific product, the 'CELLOVERSE' vinyl record by 2Cellos. The product page includes:

- Image:** A large image of the vinyl record cover featuring two men.
- Title:** CELLOVERSE
- Description:** LP, Dia Thon (Vinyl)
- Views:** 1,000,000
- Price:** 800,000
- Rating:** ★★★★☆
- Quantity:** A dropdown menu set to 1, with plus and minus buttons.
- Add to Cart:** A red 'ADD TO CART' button.
- Links:** 'Description' and 'Reviews (2)'.
- Table:** 'THÔNG TIN ĐĨA' (Record Information) showing details like Type: Blues, Classical, Pop, Rock; Color: Black; Format: 1xLP, Dia Thon (Vinyl).
- Table:** 'TRACKLIST' showing tracks like 'The Trooper (Overture)', 'Thunderstruck (Intro) – Vivaldi Cello Sonata', 'No 4 in E Minor', 'Thunderstruck', 'Hysteria', and 'Shape Of My Heart'.

Figure 20: Detail of product page.

HOTLINE:0921037314

VND Vietnamese My Account

KNRECORD

TRANG CHỦ GIỚI THIỆU BLOG SẢN PHẨM TẠO MIXTAPE

Home > Giỏ hàng

STT	Ảnh sản phẩm	Tên sản phẩm	Danh mục	Giá	Số lượng	Thành tiền
1		CELLOVERSE	Đĩa Than	800,000	1	800,000

Tổng: 800,000

Xóa Thanh toán

Newsletter
Subscribe to our newsletter and get 20% off your first purchase

Your email

SUBSCRIBE

Blog FAQs Contact us

f t i g

Figure 21: Cart page.

KNRECORD

TRANG CHỦ GIỚI THIỆU BLOG SẢN PHẨM TẠO MIXTAPE

Thanh toán

Bạn hãy kiểm tra lại thông tin đơn hàng cho chính xác!

Thông tin khách hàng		GIỎ HÀNG	
Họ tên khách hàng	Doan The Khoi Nguyen	Sản phẩm	CELLOVERSE 800,000
Số điện thoại	0921037314	Mã giảm giá:	30Black
Địa chỉ	19 Nguyen Huu Tho Tan Phong	Áp dụng	Mã giảm giá đã được áp dụng.
Email	khoinguyen2866@gmail.com	Tổng tiền	640,000
Hình thức thanh toán	COD		

Đặt hàng

Figure 22: Payment page.

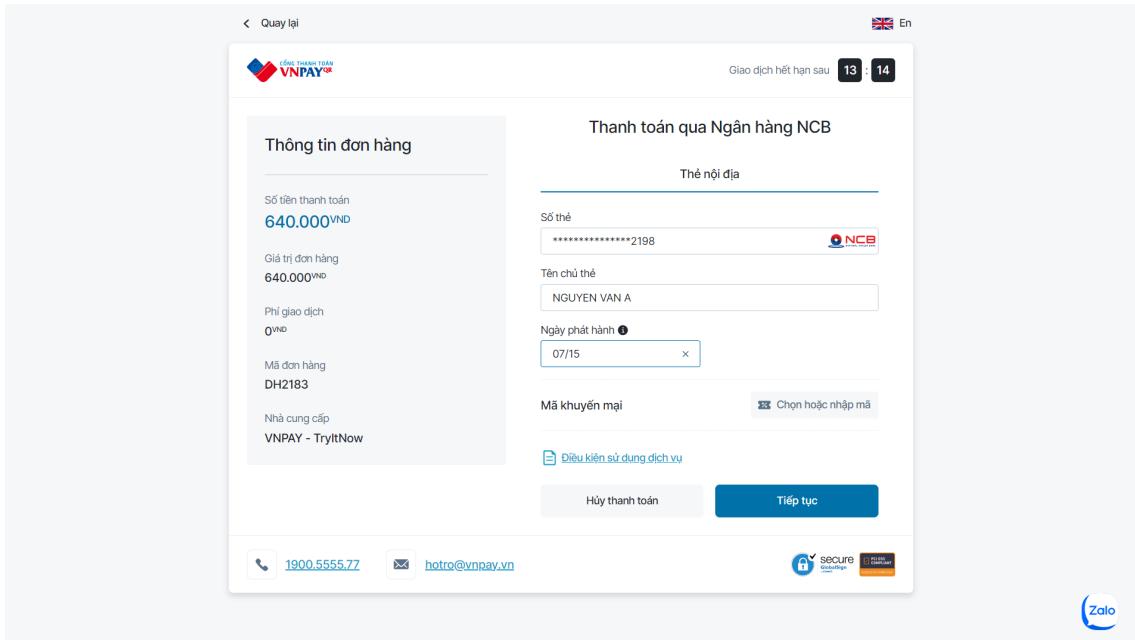


Figure 23: Banking page.

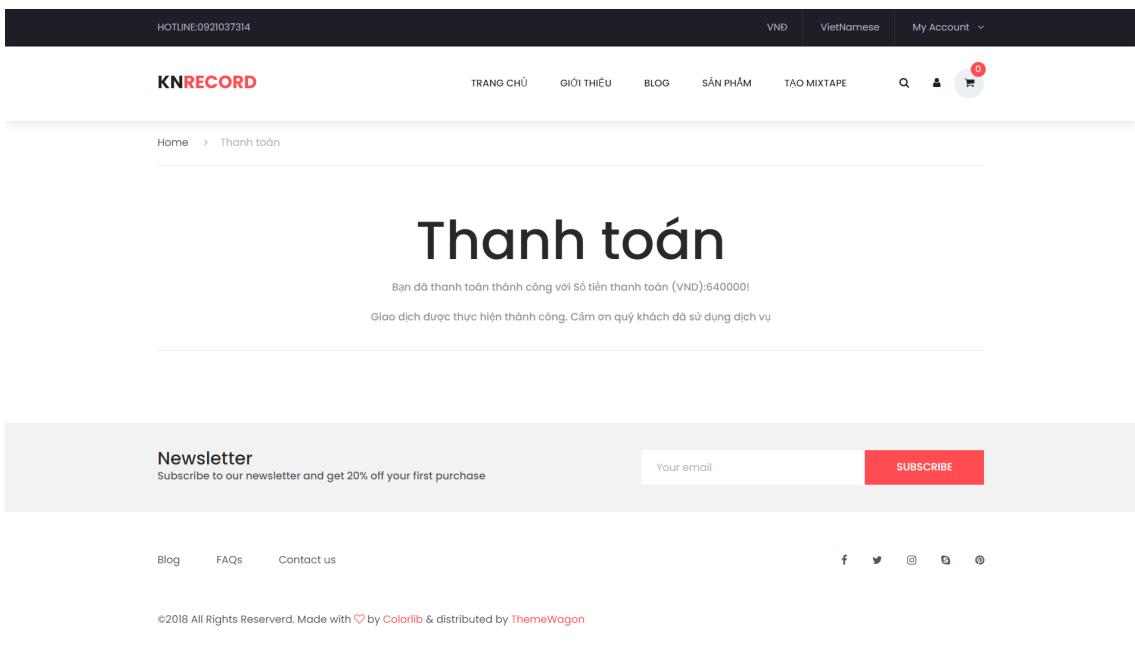


Figure 24: Payment confirmation page.

The screenshot shows a website interface for 'KNRECORD'. At the top, there's a navigation bar with links for 'HOTLINE: 0921037314', 'VNĐ', 'Vietnamese', 'Xin chào: khoinguyen23', and a user icon. Below the navigation is a search bar with a magnifying glass icon and a shopping cart icon showing '0' items. The main content area features a red header 'Nhấn F11 để thoát khỏi chế độ toàn màn hình' (Press F11 to exit full screen mode). Below this is a table titled 'Mã đơn hàng' (Order ID) with columns for 'Ngày tạo' (Created Date), 'Tiền' (Amount), and 'Trạng thái' (Status). The table lists 15 rows of order data.

Mã đơn hàng	Ngày tạo	Tiền	Trạng thái
DH3011	11/04/2023	640,000	Chờ xử lý
DH2313	06/04/2023	650,000	Chờ xử lý
DH4182	06/04/2023	16,000	Hoàn thành
DH5137	06/04/2023	800,000	Chờ xử lý
DH1160	04/04/2023	520,000	Hoàn thành
DH1223	03/04/2023	0	Hoàn thành
DH2777	03/04/2023	26,000,000	Hủy
DH6571	03/04/2023	650,000	Hoàn thành
DH2834	02/04/2023	6,240,000	Hủy
DH5876	02/04/2023	520,000	Hoàn thành
DH1728	02/04/2023	16,000	Chờ xử lý
DH2234	31/03/2023	0	Chờ xử lý
DH6106	31/03/2023	420,000	Chờ xử lý
DH4191	31/03/2023	40,000	Hoàn thành

Figure 25: Tracking order page.

5 Appendix

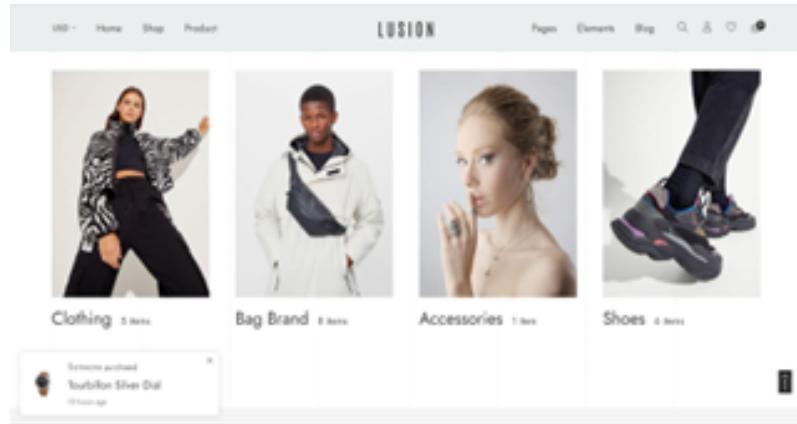
5.1 Interview

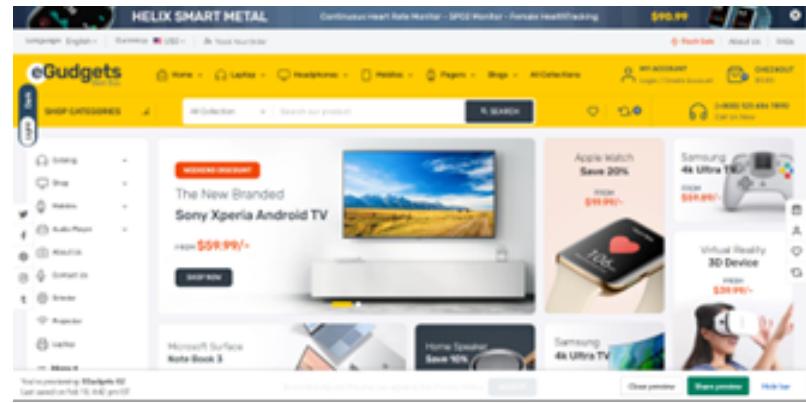
1. What are the Product and its target audience?
2. How many different types of items will you sell?
3. What information you need to create customer cassette?
4. What features should your e-commerce website contain (user registration, file upload, contact form, photos, videos, etc.)?
5. Do you want to have third-party to accept the online payment?
6. Who do you want to enter your website, include your staff?
7. What kind of features you want for each position in the staff (Can modify news and advertise,etc.)?
8. Do you have any colour preferences or look and feel for the e-commerce website?
9. Please list the names of three sites that you like and explain what you like about them?
10. What is your budget and your deadline for completing the e-commerce website?

5.2 Questionnaire

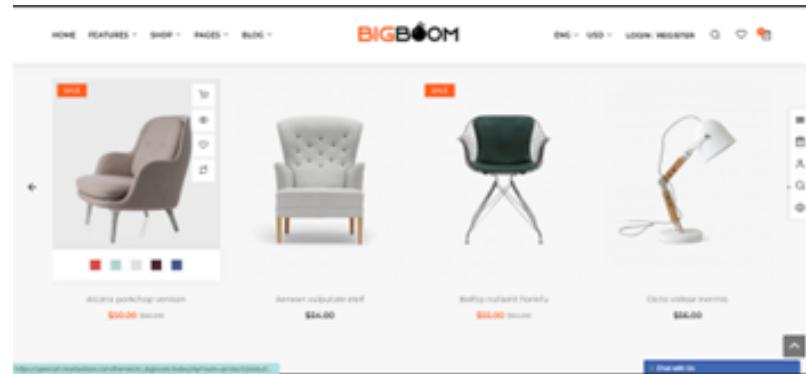
1. What do you want in your website?
 - A. News
 - B. Products
 - C. Category.
 - D. All of above.
 - E. Another:....
2. How many news will appear in single page?
 - A. None.
 - B. More than.
 - C. Less than.
 - D. Another:....

3. How many products will appear in single page?
 - A. All of products.
 - B. Around 10.
 - C. Around 20.
 - D. Another: ...
4. What kind of function will appear in home page?
 - A. Promotion for products.
 - B. Advertise new information.
 - C. Priority some products.
 - D. Another: ...
5. What kind of category you prefer?
 - A. New arrival.
 - B. Trending.
 - C. Sale.
 - D. Your shop suggestion.
 - E. Another: ...
6. Which of the homepage layouts do you prefer?





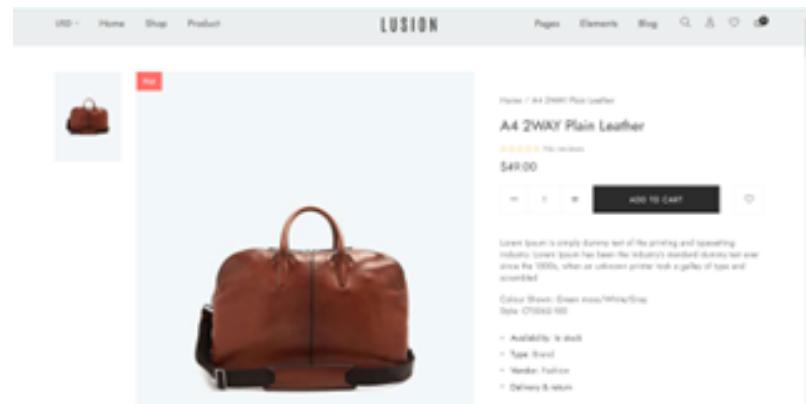
(b)



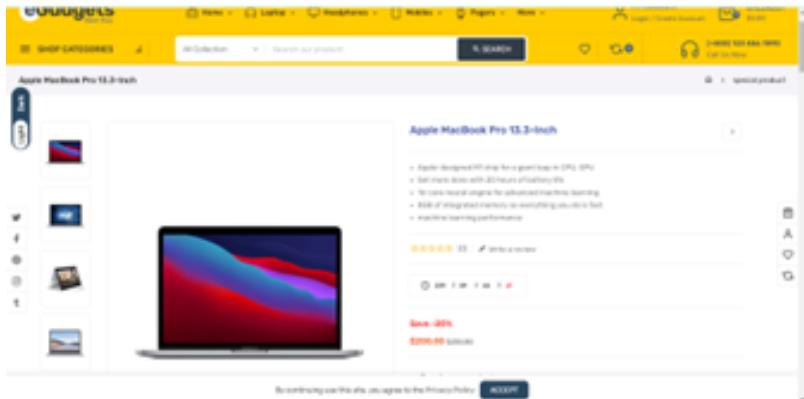
(c)

(d) None of above.

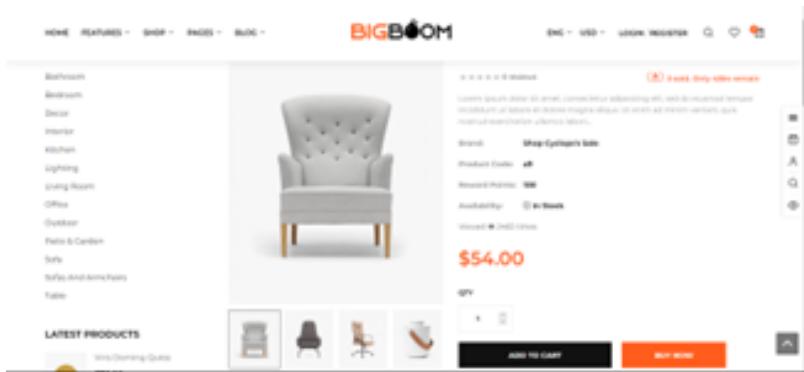
7. Which of the product detail do you prefer?



(a)



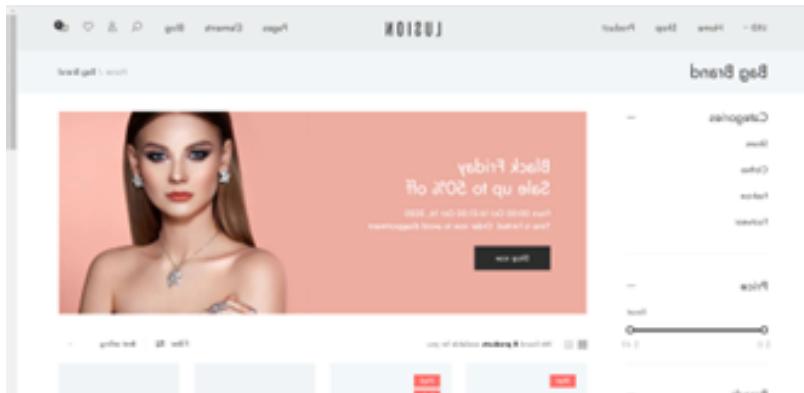
(b)



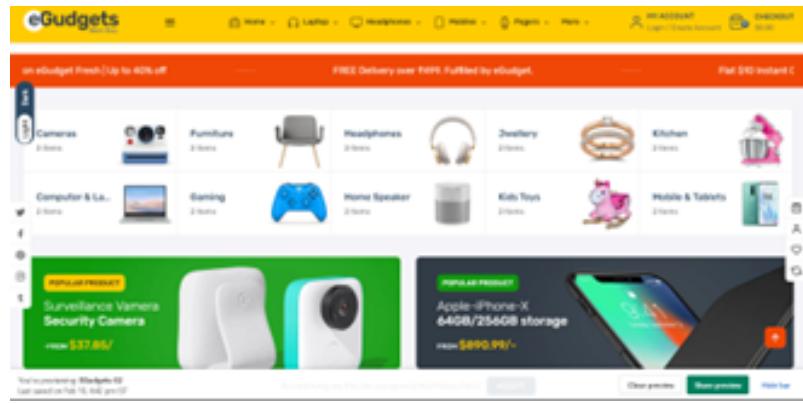
(c)

(d) None of above.

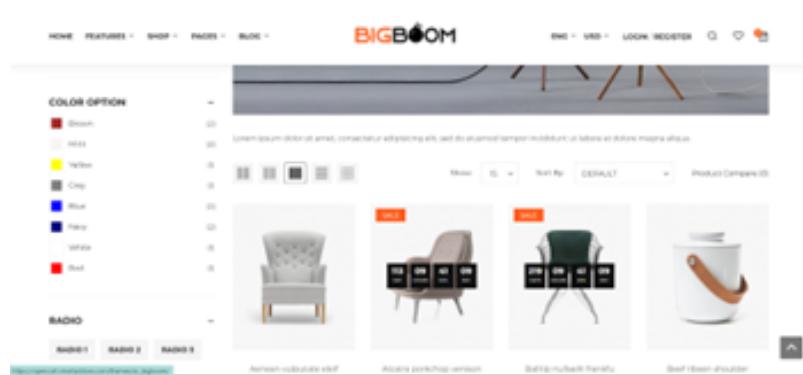
8. Which of the category layouts do you prefer?



(a)



(b)



(c)

(d) None of above.

References

- [1] Alan Dennis, Barbara Haley Wixom, Roberta M. Roth, [2018], Systems Analysis and Design, 7th Edition, John Wiley Sons, Inc., USA.
- [2] Alan Dennis, Barbara Haley Wixom, David Tegarden, [2015], Systems Analysis and Design: An Object-Oriented Approach with UML, 5th Edition, John Wiley Sons, Inc., USA.