

# Full Stack Development (ESE3014)

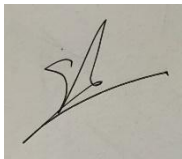

## Project Report

### Declaration of Originality

I am the originator of this work and I have appropriately acknowledged all other original sources used in this work.

I understand that Plagiarism is the act of taking and using the whole or any part of another person's work and presenting it as my own without proper acknowledgement.

I understand that Plagiarism is an academic offence and if I am found to have committed or abetted the offence of plagiarism in relation to this submitted work, disciplinary action will be enforced.

Submitted By:		
Matric Number	Student Name:	Signature
2004775I	Clive Tan	
2004913F	Alson Ng	

**Class: PE05**

**AY2021/2022 OCT SEMESTER**

## **Content Page**

1. Project Brief
  - 1.1 Introduction
  - 1.2 Overview, Goals and Milestones
  - 1.3 Target Audience
  - 1.4 Competitors Research
  - 1.5 Design Requirements and Specifications
  - 1.6 Project Schedule
  - 1.7 Project Deliverables
  - 1.8 Storyboard
2. Design Documents
  - 2.1 Site Map
  - 2.2 Entity Relationship Diagram
3. Conclusion
4. Reflections
5. References
6. Appendix

## 1. Project Brief

### 1.1. Introduction

**Business/Company:** Metata Enterprise Pte Ltd

**Project Title:** Develop an e-commerce platform to provide a cheap, convenient, and safe environment to purchase their desired items.

**Project Group:** PE05 Group 2

**Group Leader:** Alson Ng

**All Group Member(s):** Alson Ng, Clive Tan

### 1.2. Overview, Goals and Milestones

Matata Enterprise Pte Ltd is an online shopping platform that allows customers to purchase their desired goods with a low price guarantee. Due to the recent COVID-19 pandemic, it is inconvenient for shoppers to go to the market, shopping mall, and shophouses to purchase their items or daily needs like clothing, electronics, and home appliances, as they are afraid of catching the virus.

Project Goals:	
<ul style="list-style-type: none"><li>• Provide a convenient and safe platform for our customers to purchase their goods.</li><li>• Low price guarantee compared to other online shopping platforms</li><li>• We guarantee a good and satisfactory service for our customer</li></ul>	
Personal Goals:	Group Member:
I aim to complete my project by 24/ 01/ 2022.  I shall take initiative to find out the information needed.  I shall check the project rubric to ensure all items are done before submission.	Clive Tan
I aim to complete my project by 24/ 01/ 2022.  I shall take initiative to find out the information needed.  I shall check the project rubric to ensure all items are done before submission.	Alson Ng

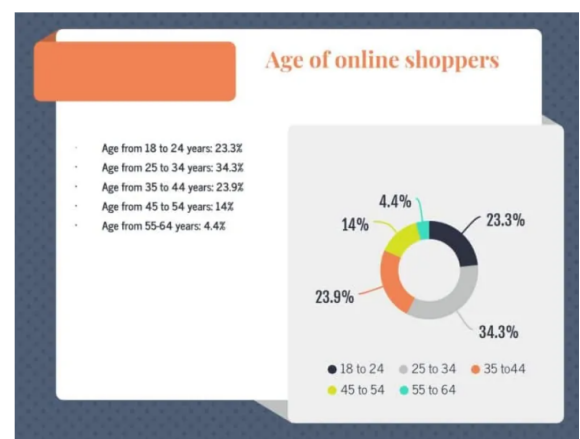
Milestones / Tasks	Deadline	Completion Date	Status (early, on-time, delayed)
Microsoft SQL Server Express	26th Oct 2021	26th Oct 2021	On-time
Microsoft Visual Studio Community Edition	21st Nov 2021	19 Nov 2021	Early
Draft initial project brief	14th Nov 2021	14th Nov 2021	On-time
Design Entity Relationship Diagram	10th Dec 2021	18th Jan 2022	Delayed
Set up GitHub for version control	10th Dec 2021	20th Nov 2021	On-time
Build a basic application <ul style="list-style-type: none"> <li>User Login</li> <li>Landing Page</li> <li>Page Navigation</li> </ul>	29th Nov 2021	27th Nov 2021	Delayed
Storyboard	28th Nov 2021	27th Nov 2021	Delayed
CRUD	2nd Jan 2022	1st Jan 2022	Delayed

### 1.3. Target Audience

Metata e-commerce based in Singapore aims to focus on the age group of 18 to 44 or any institutions that are likely to have similar purchasing interests and are eager to purchase our company's products and services.

Our company is still ongoing, and our current main priority's product is clothing. Customers who are interested in clothes, comfortable with using card payments and do not like to shop in the shopping mall are welcome to our platform.

At the moment our Metata platform will be on the internet via desktop and in the future, we will expand to the use of the mobile app.





## 1.4. Competitors Research

### A. Amazon.com

Amazon headquarters are in Seattle, Washington. Amazon.com is a vast Internet-based enterprise that sells books, music, movies, housewares, electronics, toys, and many other goods, either directly or as the middleman between other retailers and Amazon.com's millions of customers.

#### Advantages:

- Over 240 million Amazon customers worldwide [2]
- Well established Amazon partner program for affiliates [2]
- It generates immediate trust [3]

#### Disadvantages:

- (\$15) Expensive shipping fee compare to other e-commerce in Singapore [1]
- Bad customer service support[4]  
Amazon Sales Charge - depending on the product category between 7% and 20%[2]

### B. (Alibaba Group) TaoBao PTE. LTD

TaoBao is owned by Alibaba Group which is an online shopping platform as they are more focused on targeting the age group from 15 to 29.[6] Taobao Mall which offers brands from names like Adidas, Fast Retailing, and Lenovo Group that run a series of commercials in Mandarin and Cantonese under the Strapline “no one goes out does not mean no one is shopping”. [6] It has grown from 2% to around 7% of China’s total retail

market over the coming three years.[6] Furthermore, shoppers can have a satisfying shopping experience of choosing from over 30 000 major brands of genuine and high-quality products in the comfort of their home.[6]

However, there are a few issues found in TaoBao:

- Languages which shoppers who do not speak or understand Mandarin and Cantonese [9]
- Logistics as there is no information and update during the time the TaoBao sellers deliver their goods to the warehouse for consolidated shipment from TaoBao.com.[7]
- Scamming issues as such selling counterfeit products such as watches, handbags, and other goods.[8]
- Purchasing issues [9]
- Parcel tracking issues [9]

### 1.5. Design Requirements and Specifications

- Create individual entities: Brand, ShopOrder, Product CRUD for each classes
- The user will able to register, login and logout based on our Metata website
- User can place an order for the item that want and make payment
- User have to login to see page example Brand page.

### 1.6. Project Schedule

Task ID	Task Name	Completed date (MM/DD/YY YY)	Deadline (MM/DD/YY YY)	Week 1	Week 6	Week 8	Week 10	Week 11	Week 12
1	Microsoft SQL Server Express	8/26/2021	8/26/2021	Checked					
2	Microsoft Visual Studio Community Edition	11/19/2021	11/21/2021		Check				
3	Draft initial project brief	11/14/2021	11/14/2021		Check				
4	Design ER diagram	1/18/2022	12/10/2021			Check			
5	Set up GitHub for Version control	11/20/2021	11/20/2021				Check		
6	Build a basic application	11/27/2021	11/29/2021					Check	
7	Storyboard	11/27/2021	11/28/2021					Check	
8	CRUD	1/2/2022	2/2/2022						Check

### 1.7. Project Deliverables

Task/Features	Student A	Student B
ER Diagram (ShopOrder/Payment/User/Delivery)	-	Clive
ER Diagram (Staff/OrderItem/Product/Brand/Category)	Alson	-
Site Map	-	Clive
Storyboard	Alson	-
Report Introduction	-	Clive
Report Target Audience	Alson	-
Report Competitors Research (Amazon)	Alson	-
Report Competitors Research (Tabao)	-	Clive
Report Design requirements and specifications	Alson	-
Project Schedule	-	
Visual Studio (ShopOrder/Payment/User/Delivery)	-	Clive
Visual Studio (Staff/OrderItem/Product/Brand/Category)	Alson	-

### 1.8. Storyboard

In this section, you are encouraged to use a wireframe to start designing how the different web pages in your website should like it?

Register - OnlineShopping x +

localhost:44384/identity/Account/Register?returnUrl=%2Fauthentication%2Flogin

OnlineShopping Register Login

## Register

Create a new account.

Email  
user1@localhost.com

First Name  
Alson

Last Name  
user1@localhost.com

Password  
\*\*\*\*\*

Confirm password  
\*\*\*\*\*

Register

Log in - OnlineShopping x +

localhost:44384/identity/Account/Login?ReturnUrl=%2Fconnect%2Fauthorize%2Fcallback%3Fclient\_id%3DOnlineShopping.Client%26redirect\_uri%3Dhttps%253A%252F%252Flocalhost%253A44384%252Fauthentication%252Flogin-callback%26response\_type...

OnlineShopping Register Login

## Log in

Use a local account to log in.

Email  
user1@localhost.com

Password  
\*\*\*\*\*

☐ Remember me?

Log in

[Forgot your password?](#)

[Register as a new user](#)

[Resend email confirmation](#)

OnlineShopping x +

localhost:44384

OnlineShopping

Hello,  
user1@localhost.com  
Log out

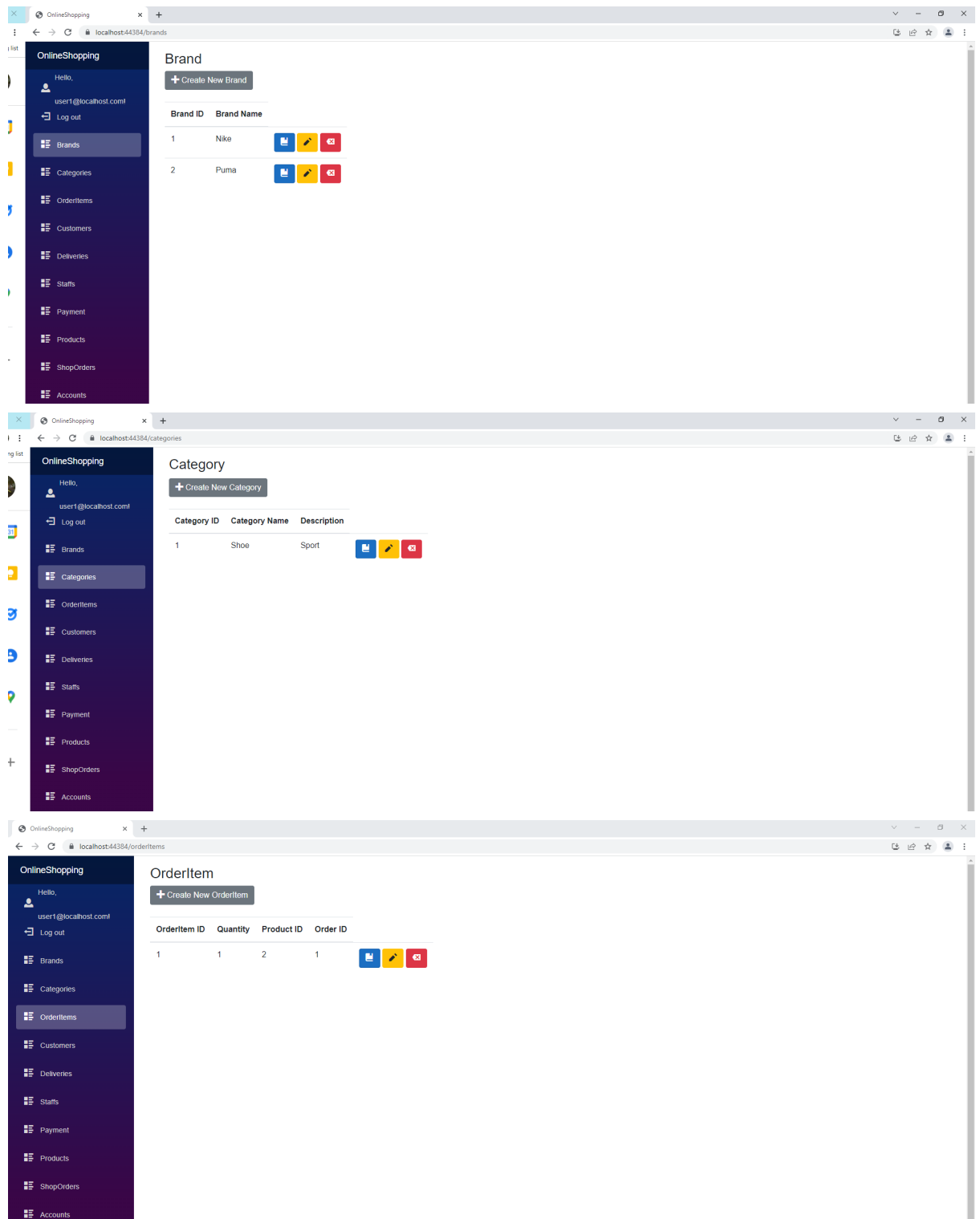
- Brands
- Categories
- OrderItems
- Customers
- Deliveries
- Staffs
- Payment
- Products
- ShopOrders
- Accounts

## Dear Users!

Welcome to Metata Online Shopping Platform.

How is Blazor working for you? Please take our [brief survey](#) and tell us what you think.





OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Customer

Create New Customer

Customer ID	Email	Password	Full Name	Billing address	Country	Phone	Default shipping address
1	Lili@gmail.com	wordpass	Lili Ong Mei Yee	304A Ang Mo Kio Ave 1	Singapore	98274231	304A Ang Mo Kio Ave 1

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Deliveries

Create New Delivery

Delivery ID	Delivery Date	Staff ID
1	8/27/2022 12:00:00 AM	1

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Staffs

Create New Staff

Staff ID	Staff Name	Gender	Staff Password	Staff Email
1	Kelvin	Male	password	Kelvin@gmail.com

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Payments

Create New Payment

Payment ID	Payment Method	Datetime	ShopOrder ID	ShopOrder Date	ShopOrder Status
5	visa	3/24/2022 12:00:00 AM	1	4/23/2022 12:00:00 AM	hii

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Product

Create New Product

Product ID	Product Name	Product Price	Description	Stocks	Category Name	Brand Name
2	Nike Air Sport	\$150	Good For Running	100	Shoe	Nike

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

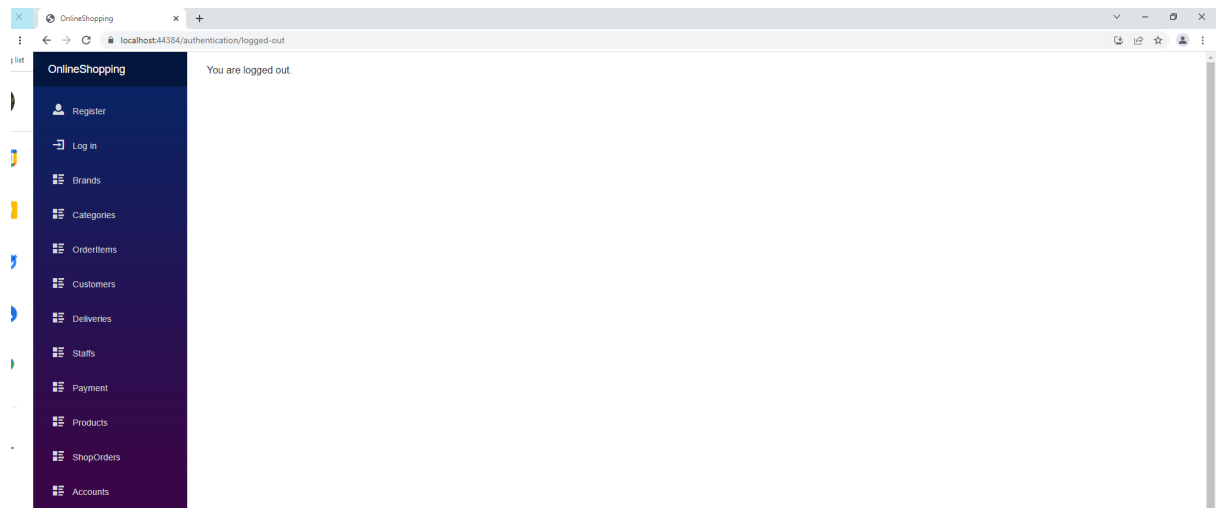
ShopOrders

Accounts

ShopOrder

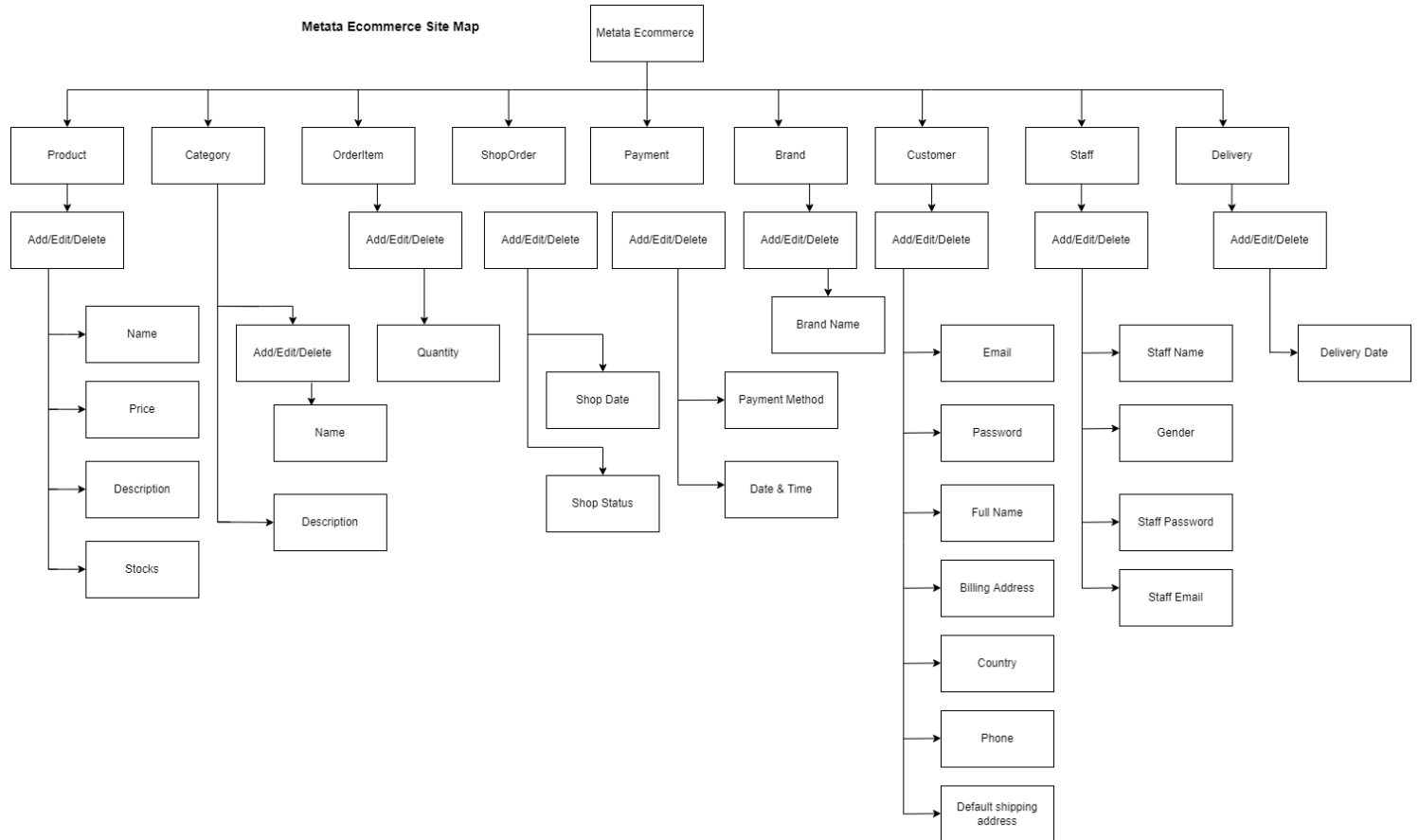
Create New ShopOrder

ShopOrder ID	ShopOrder Date	ShopOrder Status	Customer Full Name	Customer Email	Staff Name	Staff Email	Delivery Date
1	4/23/2022 12:00:00 AM	hii	Lili Ong Mei Yee	Lili@gmail.com	Kelvin	Kelvin@gmail.com	8/27/2022 12:00:00 AM

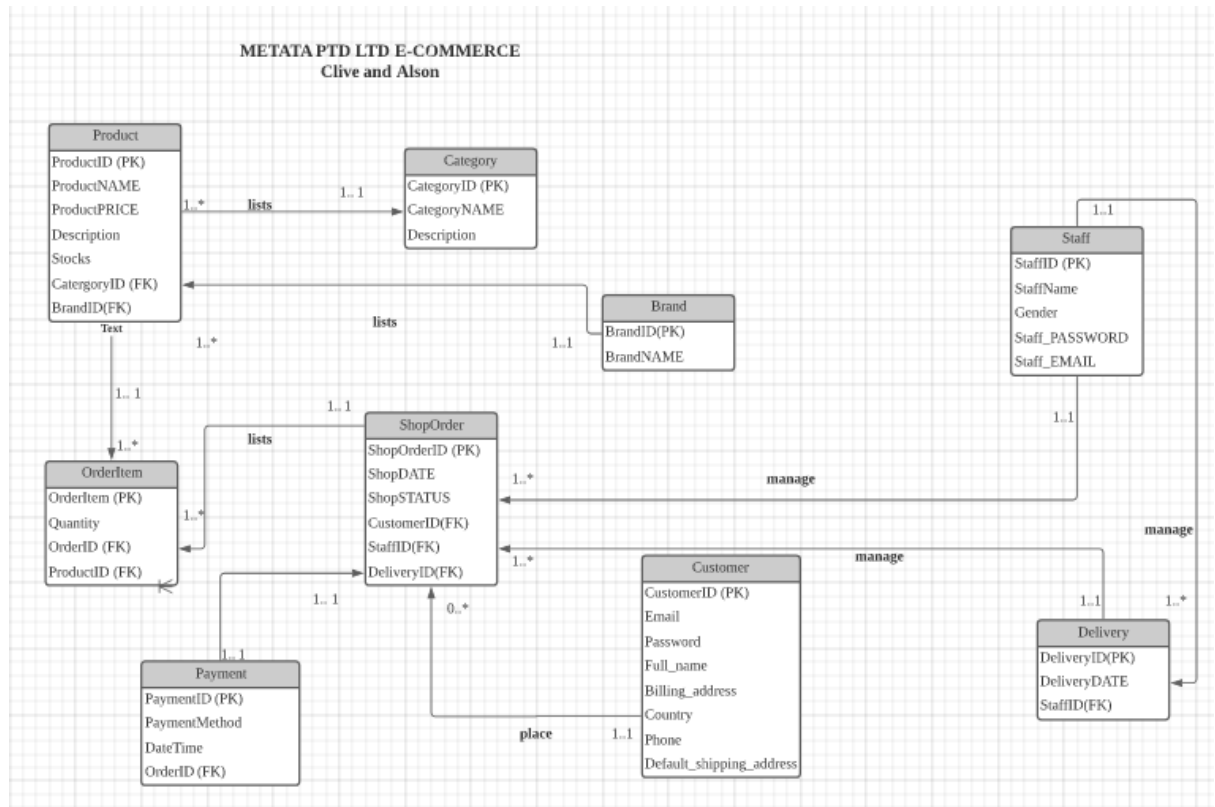


## 2. Design Documents

### 2.3. Site Map



## 2.4. Entity Relationship Diagram



## 3. Conclusion

Our website is far behind the competitors mentioned above as compared to the completion of our website, for example, the design and database are not stable and secure for users. The website is not ready for payment like a partner for online payment visa, MasterCard, and Paypal.

## 4. Reflections

**Alson:** I learned that making the pages has a lot of code needed to write and they are linked, so it is case-sensitive making sure there is no error before proceeding to the next part. My time management is bad as no self-discipline cause the delay of the project. I will do the login and landing page earlier as I don't know what we are able to do without the ER diagram. The most difficult part will be adding the database as the entities in our project has Image so causes us unable to add to them. In the end, we have to change the migration personally.

**Clive:** I have learned how to create basic features like login, pages, and register based on the tutorial. For this project, I did not manage my time wisely and have been struggling with it. What did go right was at the start we were on the right track, however, due to the fact we got delayed our project because our ER

diagram needed to be changed and updated. To be honest, this project is one of the toughest among the other projects that I did. I felt that it is because there is much software we need to learn in the subject and the pace was too fast. I would be able to manage the project by having more time to understand and learn from the basics of Visual Studio 2019. Another reason that got me off track was when my visual studio 2019 had some problem while doing lab 8 and the software could not work. Hence, I have to reinstall the visual studio and redo everything again.

## 5. References

- <https://www.britannica.com/topic/Amazoncom> [1]
- [https://www.simonconsulting.at/amazon-vn\\_EN.html](https://www.simonconsulting.at/amazon-vn_EN.html) [2]
- <https://www.doofinder.com/en/blog/selling-on-amazon-advantages-and-disadvantages> [3]
- <https://www.trustpilot.com/review/www.amazon.com> [4]
- <https://www.warc.com/newsandopinion/news/taobao-mall-targets-chinese-online-shoppers/27444> [6]
- <https://goodhopefreight.com/taobao-shipping/no-updated.html> [7]
- <https://www.digitalcommerce360.com/2019/05/30/why-its-so-hard-to-root-out-fake-goods-in-china-ecommerce/> [8]
- <http://ejournal.aibpm.org/index.php/IJTHAP/article/view/594> [9]

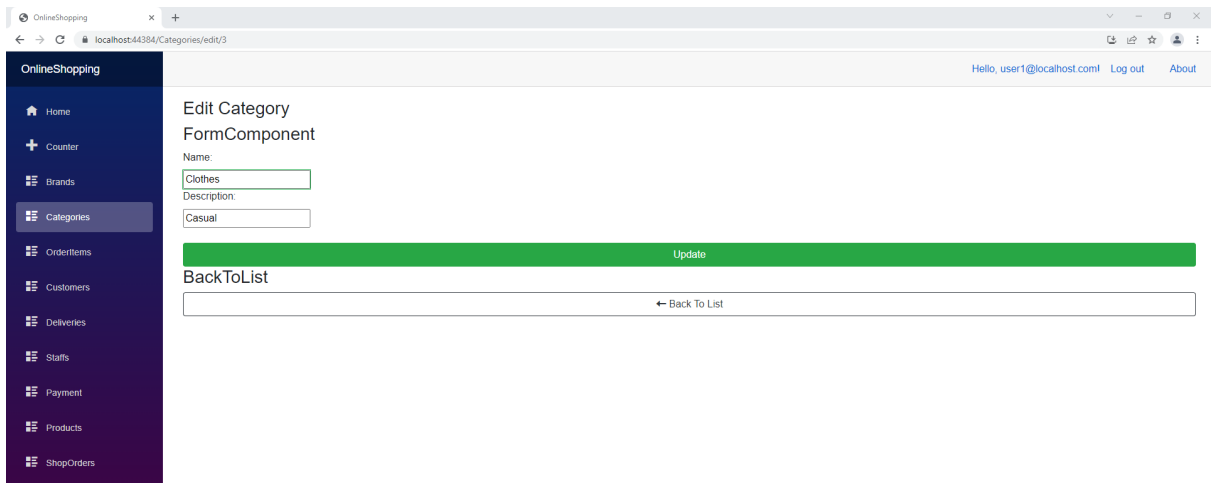
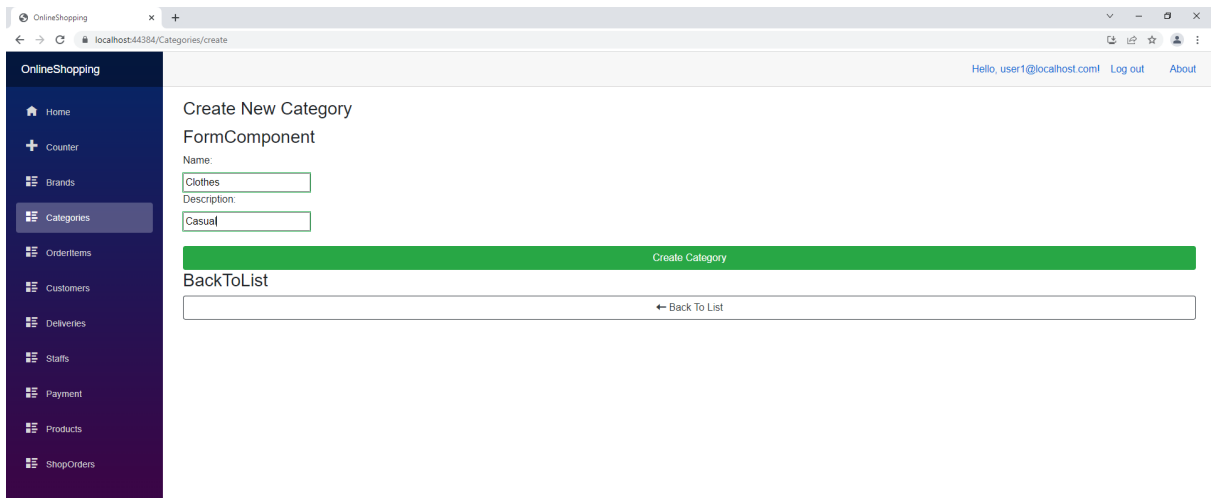
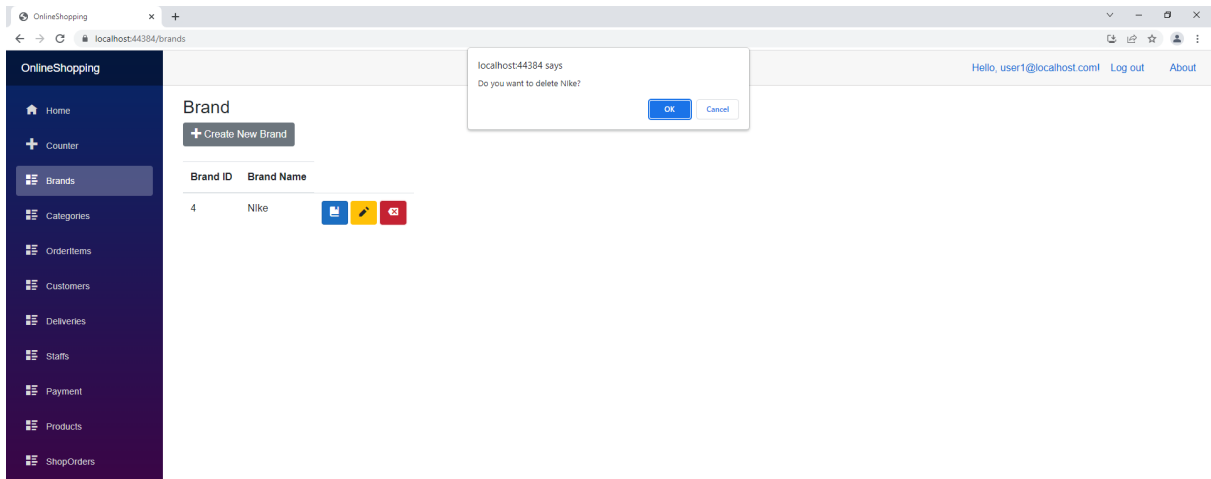
## 6. Appendix

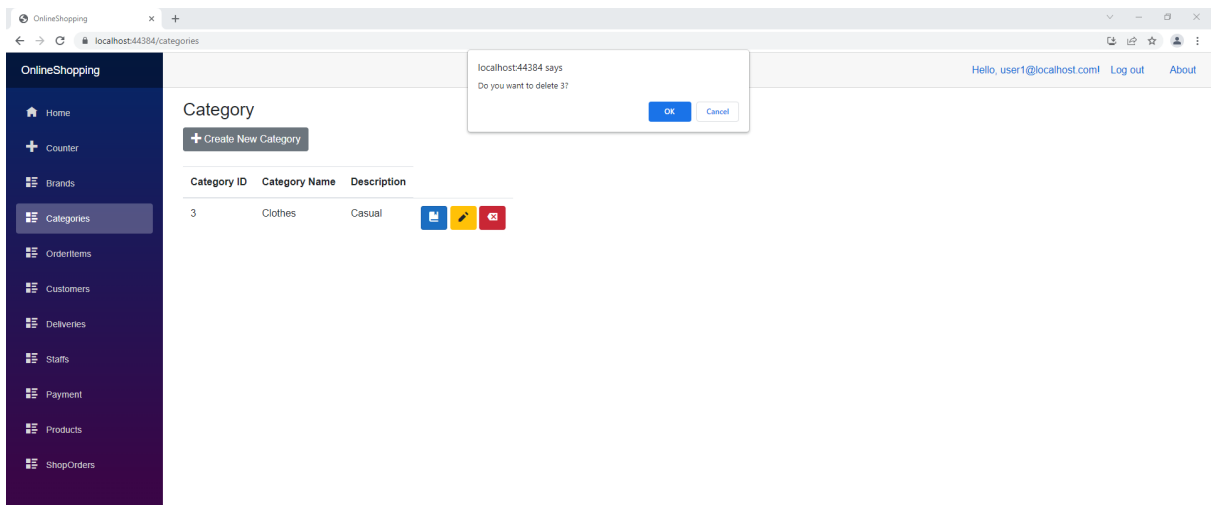
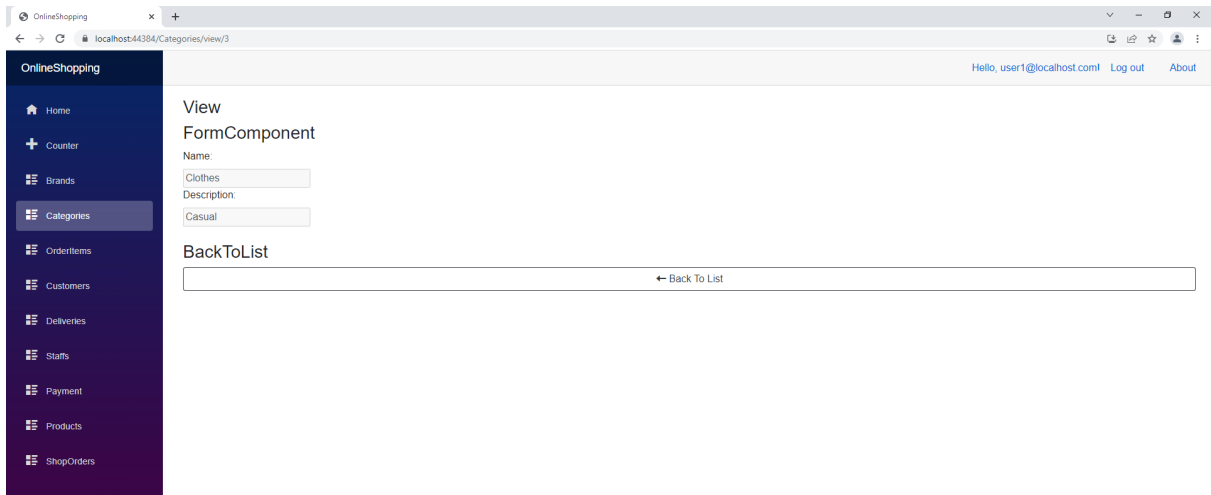
The screenshots show the 'OnlineShopping' application interface. The sidebar on the left contains the following navigation links: Home, Counter, Brands, Categories, OrderItems, Customers, Deliveries, Staffs, Payment, Products, and ShopOrders. The main content area displays the following information:

- Create New Brand:** A form with a 'Name' field containing 'Nika'. A green 'Create Brand' button is at the bottom. Below the form is a 'BackToList' button.
- Edit Brand:** A form with a 'Name' field containing 'Nike'. A green 'Update' button is at the bottom. Below the form is a 'BackToList' button.
- View:** A form with a 'Name' field containing 'Nike'. Below the form is a 'BackToList' button.

The top right of each page shows the user's name 'Hello, user1@localhost.com!' and links for 'Log out' and 'About'.







OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Create New Order Items

Quantity:

1

Product:

Nike Air Sport - \$150

Order:

4/23/2022 12:00:00 AM - hii

Create Order Item

BackToList

Back To List

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

View

Quantity:

1

Product:

Nike Air Sport - \$150

Order:

4/23/2022 12:00:00 AM - hii

BackToList

Back To List

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Edit OrderItem

Quantity:

1

Product:

Nike Air Sport - \$150

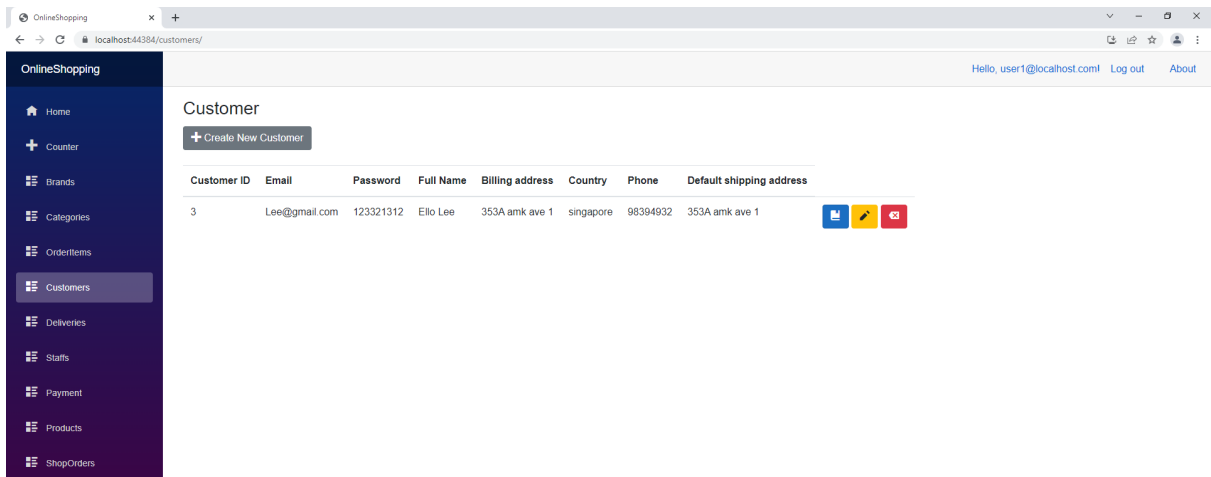
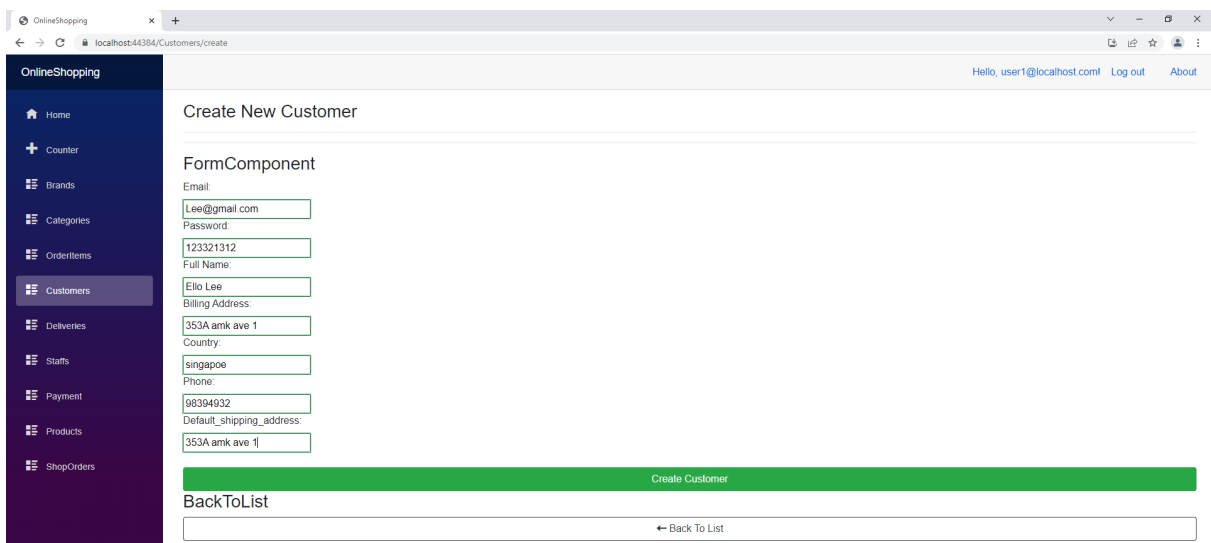
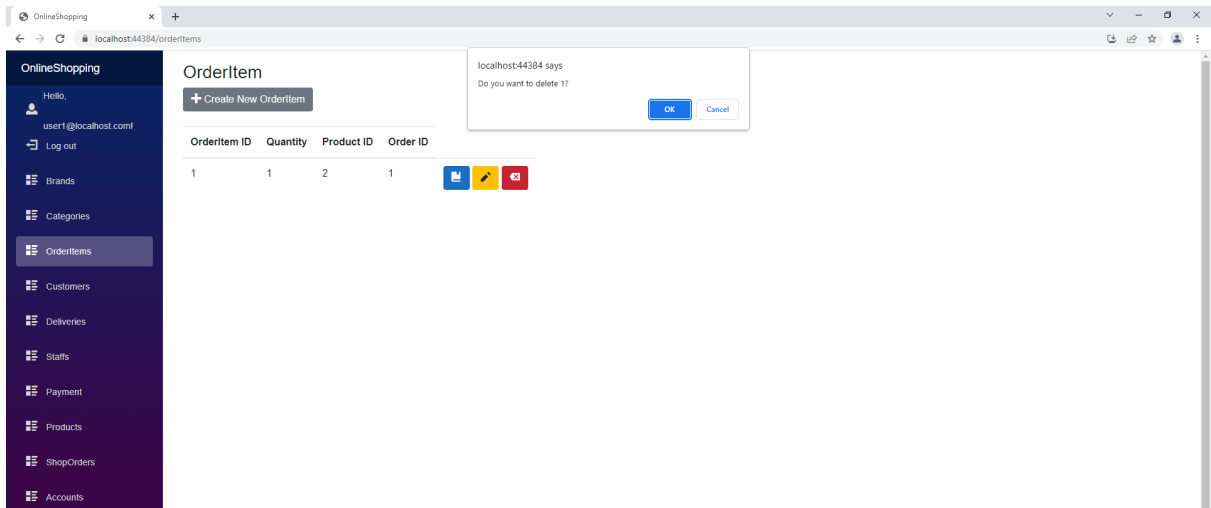
Order:

4/23/2022 12:00:00 AM - hii

Update

BackToList

Back To List



OnlineShopping

localhost:44384/Customers/edit/3

Hello, user1@localhost.com | Log out | About

Home

Counter

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Edit Customer

FormComponent

Email:  
Lee@gmail.com

Password:  
123321312

Full Name:  
Elo Lee

Billing Address:  
353A amik ave 1

Country:  
singapore

Phone:  
98394932

Default\_shipping\_address:  
353A amik ave 1

Update

BackToList

Back To List

OnlineShopping

localhost:44384/Customers/view/3

Hello, user1@localhost.com | Log out | About

Home

Counter

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

View

FormComponent

Email:  
Lee@gmail.com

Password:  
123321312

Full Name:  
Elo Lee

Billing Address:  
353A amik ave 1

Country:  
singapore

Phone:  
98394932

Default\_shipping\_address:  
353A amik ave 1

BackToList

Back To List

OnlineShopping

localhost:44384/customers

Hello, user1@localhost.com | Log out | About

localhost:44384 says  
Do you want to delete 3?

OK | Cancel

Create New Customer

Customer ID	Email	Password	Full Name	Billing address	Country	Phone	Default shipping address	
3	Lee@gmail.com	123321312	Elo Lee	353A amik ave 1	singapore	98394932	353A amik ave 1	<div></div>

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Create New Deliveries

Delivery Date:

01/01/0001

Staff ID :

Kelvin - Kelvin@gmail.com

Create Delivery

BackToList

Back To List

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Edit Delivery

Delivery Date:

27/08/2022

Staff ID :

Kelvin - Kelvin@gmail.com

Update

BackToList

Back To List

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

View

Delivery Date:

27/08/2022

Staff ID :

Kelvin - Kelvin@gmail.com

BackToList

Back To List

OnlineShopping

localhost:44384/deliveries

OnlineShopping

Hello,  
user1@localhost.com!  
Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Deliveries

Create New Delivery

Delivery ID	Delivery Date	Staff ID
1	8/27/2022 12:00:00 AM	1

localhost:44384 says  
Do you want to delete it?

OKCancel

OnlineShopping

localhost:44384/Staffs/create

OnlineShopping

Home

Counter

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Create New Staff

Staff Name:  
Clive

Gender:  
Male

Staff Password:  
123321123

Staff Email:  
tan@gmail.com

Create Staff

BackToList

Back To List

OnlineShopping

localhost:44384/staffs/

OnlineShopping

Home

Counter

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

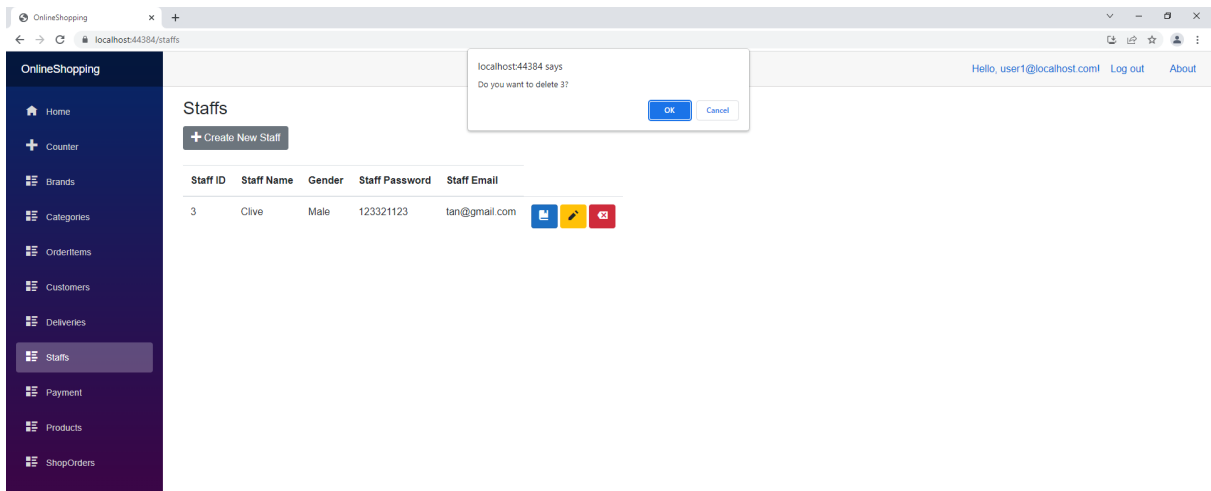
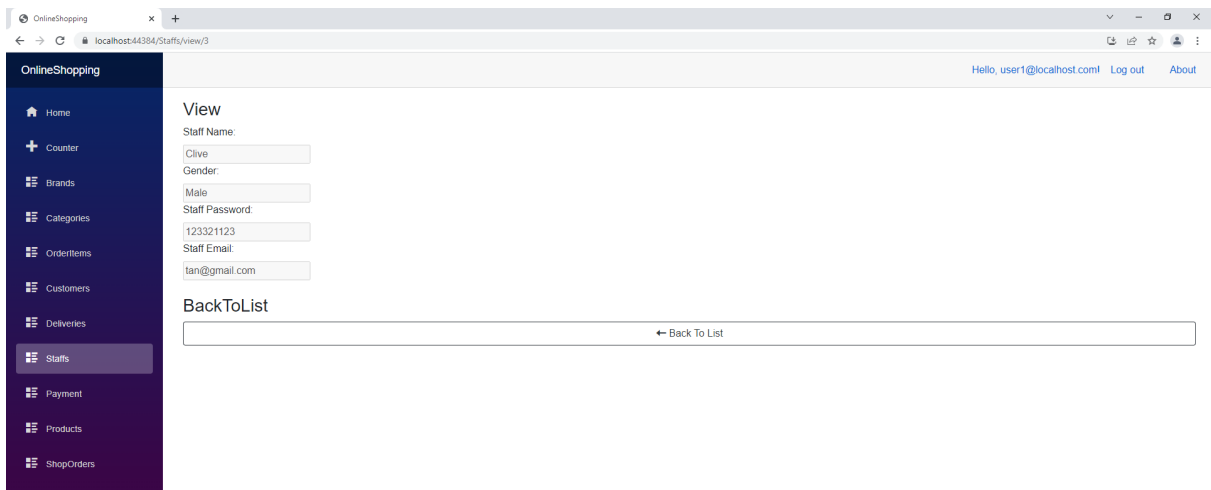
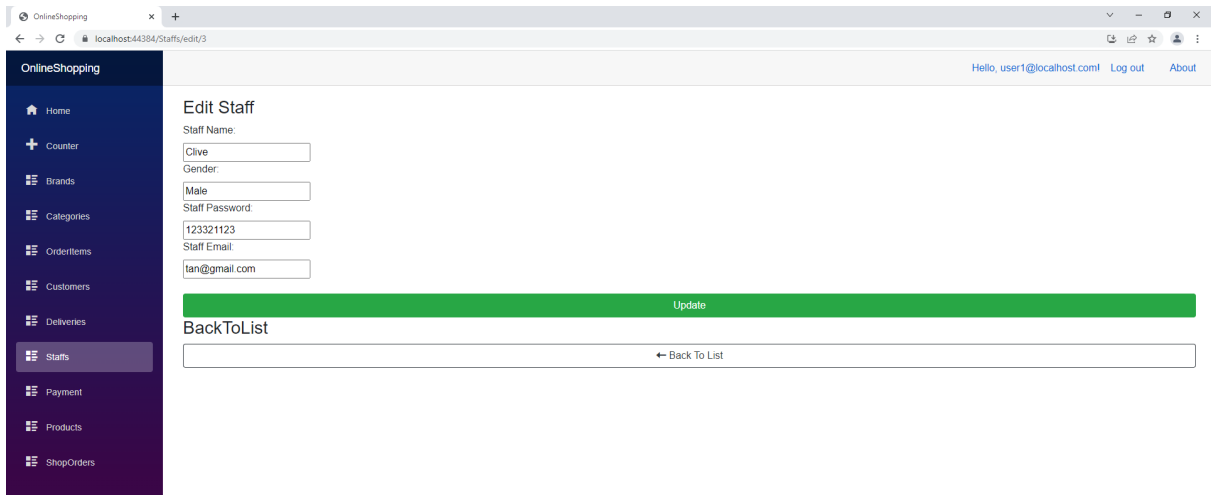
Products

ShopOrders

Staffs

Create New Staff

Staff ID	Staff Name	Gender	Staff Password	Staff Email
3	Clive	Male	123321123	tan@gmail.com





OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Create New Payment

Payment Method:

visa

Date Time:

01/01/0001

Order ID :

4/23/2022 12:00:00 AM - hii

Create Payment

BackToList

Back To List

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Payments

Create New Payment

Payment ID	Payment Method	Datetime	ShopOrder ID	ShopOrder Date	ShopOrder Status
5	visa	3/24/2022 12:00:00 AM	1	4/23/2022 12:00:00 AM	hii

OnlineShopping

Hello,

user1@localhost.com

Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Edit Payment

Payment Method:

visa

Date Time:

24/03/2022

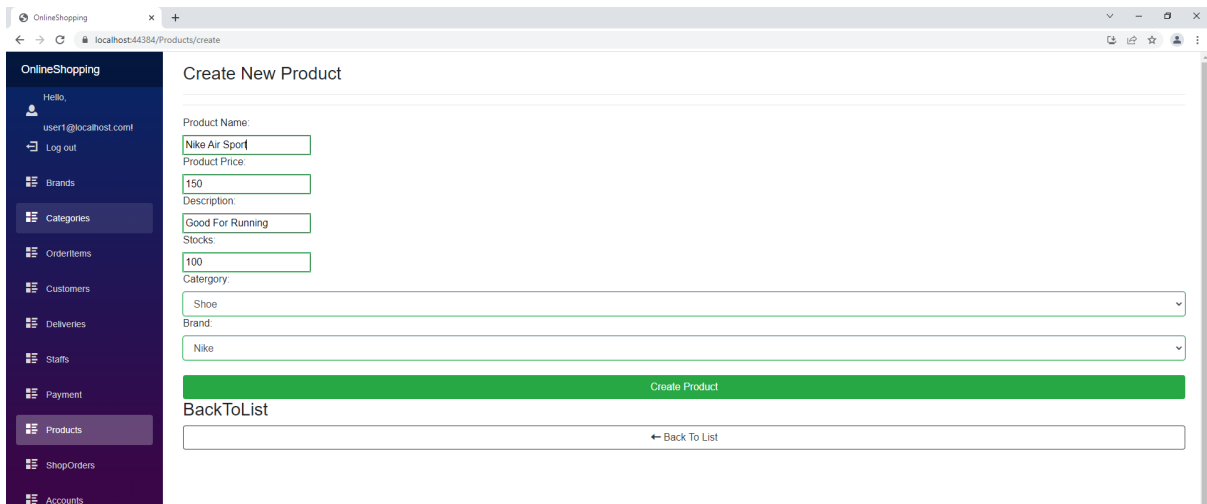
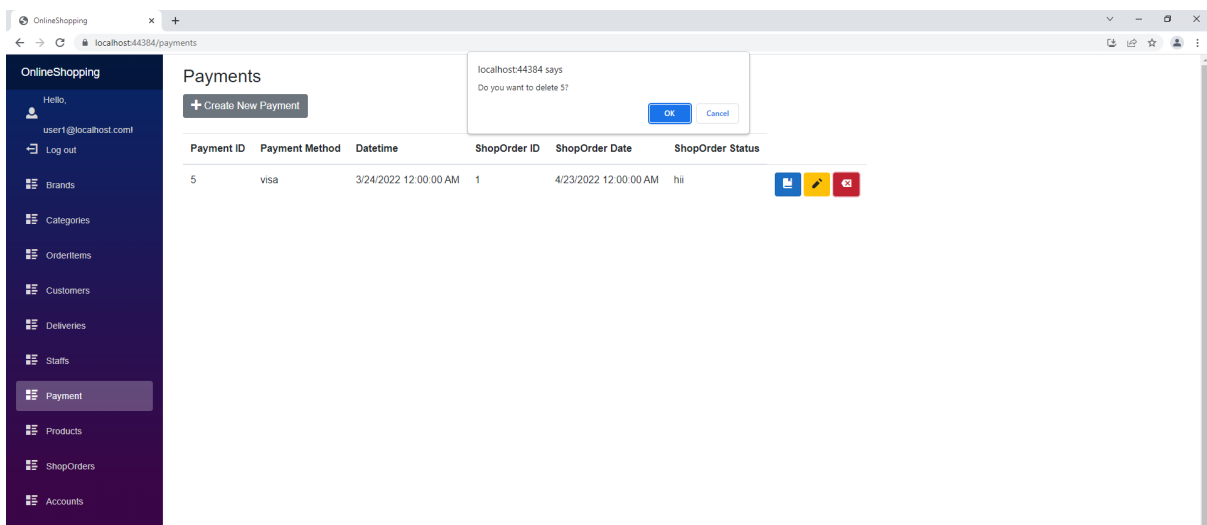
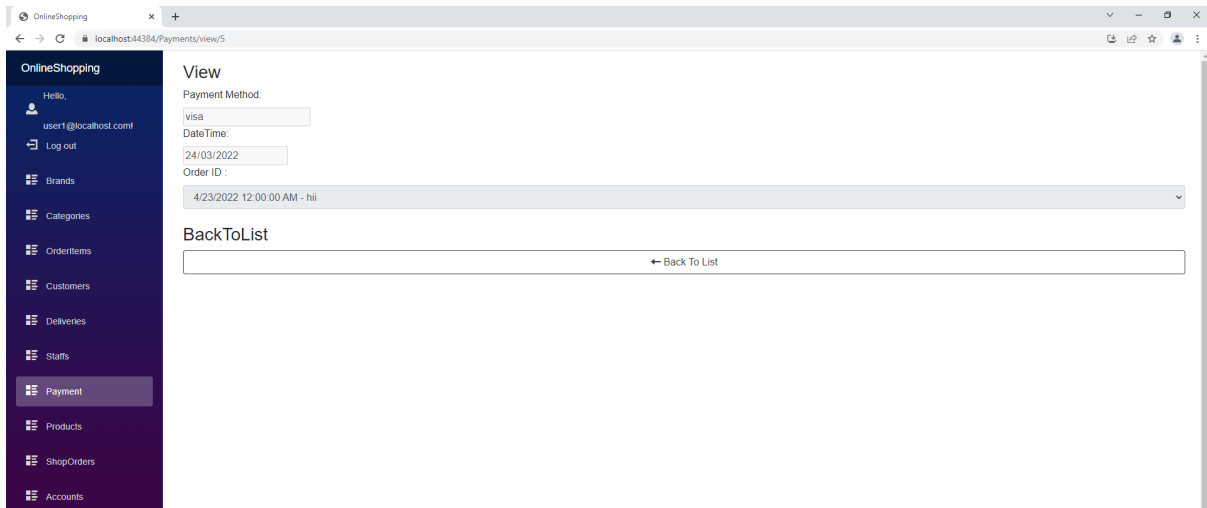
Order ID :

4/23/2022 12:00:00 AM - hii

Update

BackToList

Back To List



OnlineShopping

Hello,  
user1@localhost.com!  
Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Product

Create New Product

Product ID	Product Name	Product Price	Description	Stocks	Category Name	Brand Name
2	Nike Air Sport	\$150	Good For Running	100	Shoe	Nike

OnlineShopping

Hello,  
user1@localhost.com!  
Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

Edit Product

Product Name:  
Nike Air Sport

Product Price:  
\$150

Description:  
Good For Running

Stocks:  
100

Category:  
Shoe

Brand:  
Nike

Update

BackToList

Back To List

OnlineShopping

Hello,  
user1@localhost.com!  
Log out

Brands

Categories

OrderItems

Customers

Deliveries

Staffs

Payment

Products

ShopOrders

Accounts

View

Product Name:  
Nike Air Sport

Product Price:  
\$150

Description:  
Good For Running

Stocks:  
100

Category:  
Shoe

Brand:  
Nike

BackToList

Back To List

