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# **Group Project Documentation Basic Cross-Platform Application Programming with .NET**

## ***Gift E-commerce Application***

**Prepared by Group 6**

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**Ho Chi Minh City, 2023**

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## Revision History

Name	Date	Reason For Changes	Version
Team 6	July 19, 2023	Last updated version.	1.0.0

# 1. Project Introduction

## 1.1 Product Perspective

The Gift e-commerce application is a Windows Form application that serves as an online storefront for a gift shop. It allows customers to conveniently browse, select, and purchase from a wide range of options. The application integrates with a backend system for user management, order processing, and statistical handling. It offers features like account creation, order tracking, and notifications for customers, while providing administrative functions for the gift shop staff. The goal is to provide a seamless and engaging user experience, streamline the gift shopping process, and enhance customer satisfaction.

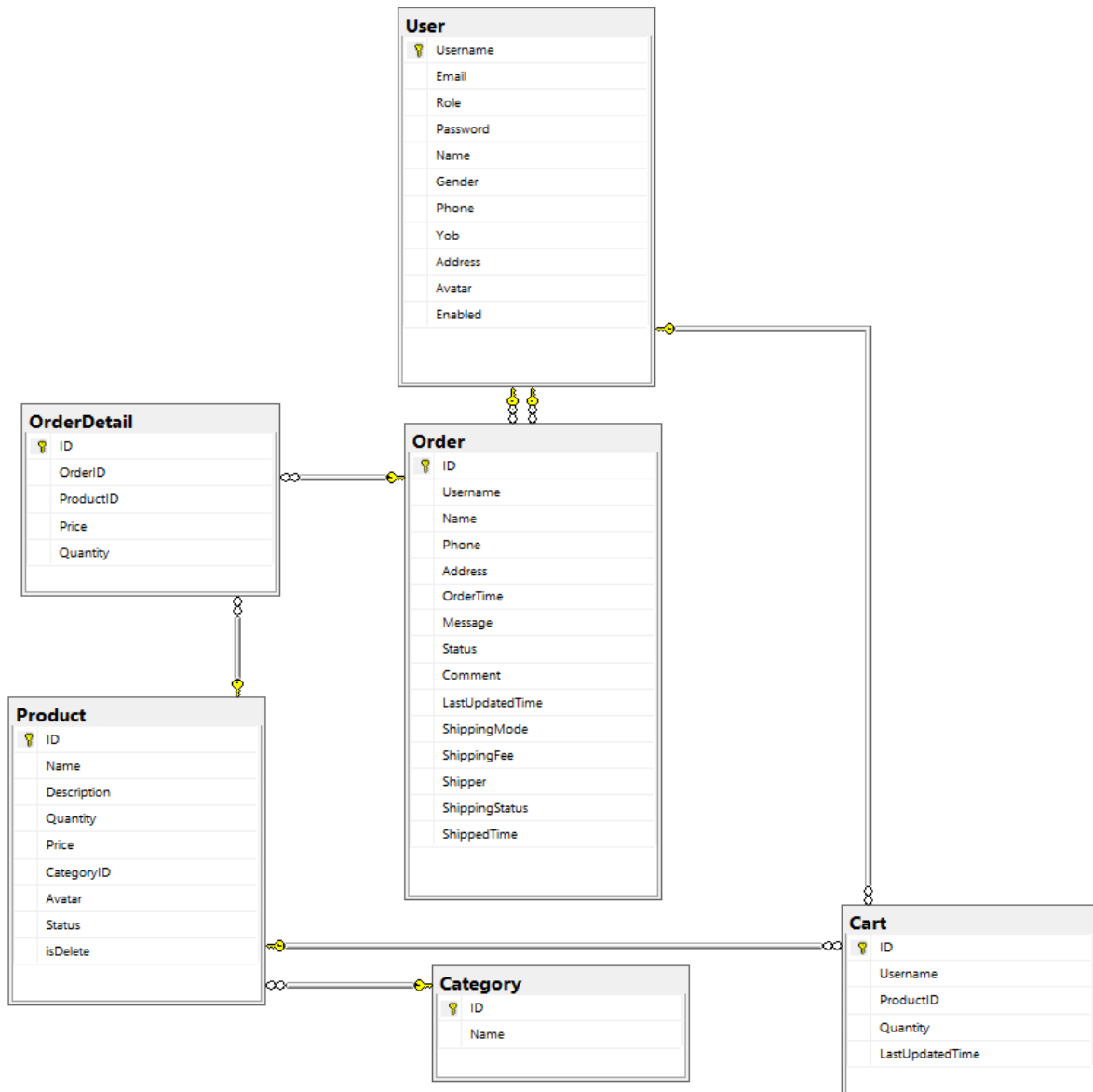
## 1.2 User Classes and Characteristics

**Customers:** They are the primary users of the application and expect a user-friendly interface. They may have varying levels of technical expertise and prefer features like saved preferences, order tracking, and personalised notifications.

**Staff:** These users have administrative privileges and are responsible for managing the backend system. They have tools for tasks such as updating product information, managing orders, and processing orders.

**Admin:** Their tasks include user management, view statistics of the shop.

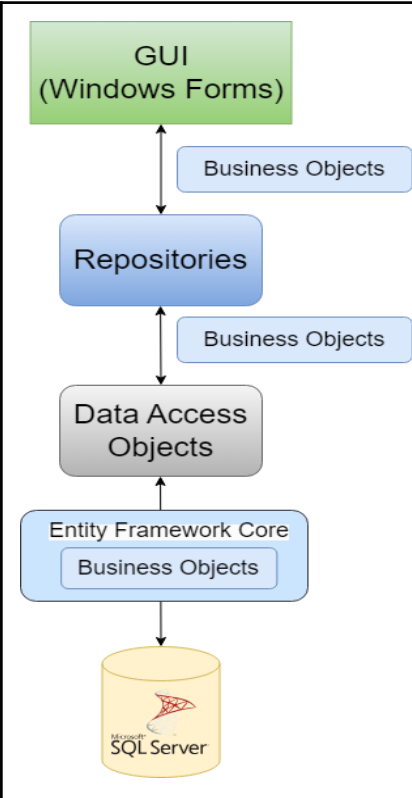
## 2. Database Design



No	Package	Description
01	<b>User</b>	contains users' information Primary keys: email
02	<b>Order</b>	contains information about orders. Primary keys: id Foreign keys: -Username
03	<b>OrderDetail</b>	contains information about order details. Primary keys: id Foreign keys: -OrderId

		-ProductId
04	<b>Product</b>	-contains information about the product. -Primary keys: id -Foreign keys -CategoryID
05	<b>Category</b>	contains a product category list. Primary keys: id
06	<b>Cart</b>	contains customer's product in cart information. Primary keys: ID Foreign keys: -Username -ProductID

### 3. System Architecture

 <p>The diagram illustrates a multi-layered system architecture. At the top is the 'GUI (Windows Forms)' in a green box. Below it is a blue box for 'Repositories'. Between the GUI and Repositories, and between Repositories and the next layer, are small blue boxes labeled 'Business Objects'. The next layer is a grey box for 'Data Access Objects'. Below that is a blue box for 'Entity Framework Core' which contains a smaller 'Business Objects' box. At the bottom is a yellow cylinder representing the 'Microsoft SQL Server' database. Arrows indicate the flow of data and control between these components: GUI to Repositories, Repositories to Data Access Objects, Data Access Objects to Entity Framework Core, and Entity Framework Core to the SQL Server database.</p>			
No	Component	Description	
01	<b>BusinessObjects</b>	<p><i>BusinessObjects can be employed to handle the business logic and data processing of the application.</i></p> <p><i>It acts as an intermediary between the presentation layer and the data access layer, encapsulating the business rules and operations.</i></p> <p><i>BusinessObjects can be utilised to perform tasks such as data validation, calculations, aggregations, and applying business rules to the retrieved data.</i></p>	
02	<b>DataAccessObjects</b>	<p><i>The Data Access Layer (DAL) is responsible for managing the interaction between the application and the data storage systems.</i></p> <p><i>It consists of the DataAccessObjects that encapsulate the details of data access and provide a consistent interface for accessing the data.</i></p>	

	03	<b><i>Repositories</i></b>	<p><i>Repositories act as a bridge between the BLL and the underlying data storage.</i></p> <p><i>They provide methods for querying, updating, and deleting data, as well as managing relationships and performing complex data operations.</i></p> <p><i>The repositories abstract the complexities of the data storage technology and provide a simplified interface for the BLL to interact with the data</i></p>
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## 4. Implementation

### 4.1. Deployment Considerations

**Target Operating System:** Identify the target operating system(s) for deployment, such as Windows 10, Windows Server, or other supported versions. Ensure that the application is compatible with the selected operating system(s).

**Hardware Requirements:** Determine the minimum hardware requirements for running the application, including processor, memory, and storage specifications. Communicate these requirements to end-users or system administrators.

**Installation Package:** Create an installation package for the application using tools like Visual Studio Installer or third-party packaging solutions. The package should include all necessary files, dependencies, and prerequisites required for the application to run successfully.

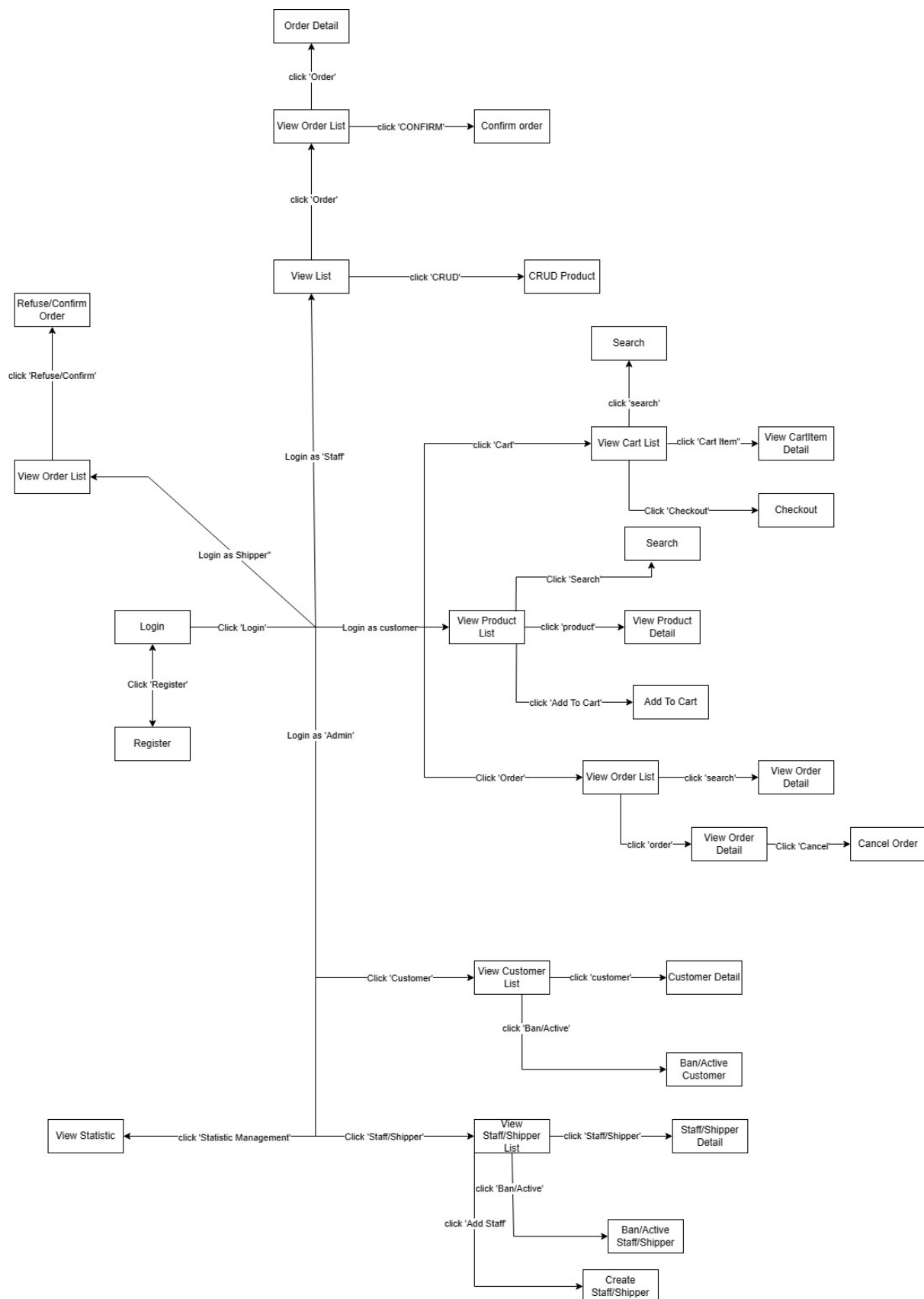
**Prerequisites and Dependencies:** Identify any additional software components or frameworks (such as .NET Core runtime) that are required for the application to function properly. Include these dependencies in the installation package or provide clear instructions for users to install them separately.

**Configuration Settings:** Define and document any configuration settings required the application, such as database connection strings, API keys, other environment-specific variables. Consider using configuration files or registry settings to manage these configurations during deployment.

**Testing and Quality Assurance:** Conduct thorough testing of the application before deployment to identify and fix any bugs issues. Perform functional testing, compatibility testing, and performance testing to ensure the application meets the desired quality standards.

**Rollback Plan:** Prepare a rollback plan in case any issues arise during the deployment process. This plan should outline steps to revert to the previous version of the application or restore the system to its previous state.

## 4.2. Screenshots and explanations





Login | Hommie Store

Login

Email/Username

Password

Don't have an account yet?

[Register now](#)

Login

Reset

CUSTOMER

Home

Welcome asdas!

Home

My Cart

My Order

My Profile

Search

Auto Filting

Reset

Product Name

Category

Select the category

Sorting

Sort by

Unit Price

Unit Price Min


Unit Price Max

Units In Stock

Units In Stock Min

Units In Stock Max

Hộp đựng bút TOTORO



Hộp đựng bút TOTORO

Price: 59000

Available: 999

Add To Cart

Description

Hộp Đựng Bút Totoro Siêu Dễ Thương - Hộp Đựng Đồ Dùng Học Tập. Hộp bút in hình dễ thương. Chất liệu da PU, lót vải bố bên trong. Khóa may chắc chắn.

<< Back

1

Next >>

	Name	Description	Quantity	Price
1	Hộp đựng bút TOTORO	Hộp Đựng Bút Totoro Siêu Dễ Thương ...	999	59000
2	Cốc Sứ Nốt Nhạc	Cốc sứ nốt nhạc được làm từ chất liệu...	999	139000
3	Cốc Phát Sáng	Cốc phát sáng làm từ chất liệu nhựa c...	999	89000
4	Đồng Hồ Cổ Để Bàn	Đồng hồ cổ để bàn được là theo phon...	999	499000

Close

Cart

Welcome asdas!

HomeMy CartMy OrderMy Profile

Search

Auto FiltingReset


Product Name

Category

Sorting

TOTAL: 0

Product Name



Hộp đựng bút TOTORO

Price: 59000Available: 993Quantity: 1

CheckoutDelete

Description

Hộp Đựng Bút Totoro Siêu Dễ Thương - Hộp Đựng Đồ Dùng Học Tập. Hộp bút in hình dễ thương. Chất liệu da PU, lót vải bố bên trong. Khóa may chắc chắn.

<< Back1Next >>

Choose	Quantity	Product
<input checked="" type="checkbox"/>	1	Hộp đựng bút TOTORO
<input type="checkbox"/>	1	Cốc Sứ Nốt Nhạc

Order

Welcome asdas!

HomeMy CartMy OrderMy Profile

Sort In Ascending Date Order

Filt by Date

Start Date


End Date

Auto Filting

Order Detail Information

Product

Cốc Phát Sáng



Price: 89000

Quantity: 1

Total: 89000

Search

All status

Clean all filters

	Id	Name	Phone	Address	OrderTime	Status	Comment	ShippingM	ShippingFe	ShippingSte	ShippedTim	
▶	1	10	Duy Đức	0934968395	Thu Duc ...	7/18/2023...	ORDERED		True	20000		7/19/2023...
	2	9	Duy Đức	0934968395	Thu Duc ...	7/17/2023...	SUCCESS...		True	20000		7/19/2023...
	3	1	Duy Đức	09348984...	Thu Duc ...	6/15/2023...	ORDERED		True	10000		7/19/2023...
	4	2	Quyết Trần	09765464...	Thu Duc ...	5/14/2023...	FAIL		True	20000		7/19/2023...

Order >> 10

Receiver

Duy Đức

Order Time

Jul 18, 2023 08:59

Address

Thu Duc City

Phone

0934968395

Message

Shipping Fee

20000

Total

227000

Status

ORDERED

Cancel Order

	Product	Total	Price	Quant	
▶	1	Cốc Phát Sáng	89000	89000	1
	2	Hộp đựng bút TOTORO	118000	59000	2

Profile

Welcome asdas!

HomeMy CartMy OrderMy Profile

User Information

User Name

duyduc

Phone

0124121123

Email

a@gmail.com

Year of Birth

2002

Role

CUSTOMER

Address

Thu Duc City

Name

asdas

Gender

Male

Edit

SHIPPER

Welcome thien! [SHIPPER Mode]

Ordered

SHIPPING ORDERS

	Name	Phone	Address	OrderTime	Message	Status	Comment	Shippingfee
▶ 1	Duy Đức	09348984112	Thu Duc City	6/15/2023 4:01 ...		ORDERED		10000
2	Duy Đức	0934968395	Thu Duc City	7/17/2023 4:28 ...		SUCCESSFUL		20000
* 3								

Product

Hộp đựng bút TOTORO

Product	Price	Quantity
▶ Hộp đựng bút ...	129000	4

Count Item4All Total516000

Product Info

Price:129000

Quantity4

NameDuy ĐứcAddressThu Duc City

Phone09348984112Total516000

STAFF

Home

Welcome Quyet Tranasdasd! [Staff Mode]

ProductOrderProfileShipper

Search

Auto FillingReset

Product Name

Category

Select the category

Sorting

Sort by

Unit Price

Unit Price Min

Unit Price Max


Units In Stock

Units In Stock Min

Units In Stock Max

AddDelete

Hộp đựng bút TOTORO



Hộp đựng bút TOTORO

Price: 59000Available: 999

Create Order

Description

Hộp Đựng Bút Totoro Siêu Dễ Thương - Hộp Đựng Đồ Dùng Học Tập. Hộp bút in hình dễ thương. Chất liệu da PU, lót vải bố bên trong. Khóa may chắc chắn.

<< Back1Next >>

	Name	Description	Quantity	Price
1	Hộp đựng bút TOTORO	Hộp Đựng Bút Totoro Siêu Dễ Thương ...	999	59000
2	Cốc Sứ Nốt Nhạc	Cốc sứ nốt nhạc được làm từ chất liệu ...	999	139000
3	Cốc Phát Sáng	Cốc phát sáng làm từ chất liệu nhựa củ...	999	89000
4	Đồng Hồ Cổ Để Bàn	Đồng hồ cổ để bàn được là theo phon...	999	499000

Order

Welcome Quyet Tranasdasd! [Staff Mode]

ProductOrderProfileShipper

Search

All status

Search

Clean all filters

Sort In Ascending Date Order

Filt by Date

Start Date

Saturday , January 31, 2015

End Date

Wednesday, July 19, 2023

Auto Filling

OrderDetail

Receiver

Order Time

Jul 19, 2023 10:48

Address

Phone

Message

Shipping Fee

Total

Status

Added Shipping Fee

Comment

ViewCreate Order

	Name	Phone	Address	OrderTime	Message	Status	Comment
1	Duy Đức	0934968395	Thu Duc City	7/18/2023 8:32 ...		ORDERED	
2	Duy Đức	0934968395	Thu Duc City	7/17/2023 4:28 ...		SUCCESSFUL	
3	Duy Đức	09348984112	Thu Duc City	6/15/2023 4:01 ...		ORDERED	
4	Quyet Trăn	09765464645	Thu Duc City	5/14/2023 4:01 ...		FAIL	
5							

Profile



ADMIN

Customer

Welcome Tan! [ADMIN Mode]

Customer

Staff

Shipper

Statistic

Revenue

Order

Search

Auto Filing

Reset

Customer Name

Status

ALL

asdas

Username

duyduc

Email

a@gmail.com

Phone

0124121123

Year Of Birth

2002

Gender

Male

Address

Thu Duc City

BAN

	Username	Email	Name	Sex	Phone	Yob	Address
▶	duyduc	a@gmail.com	asdas	Male	0124121123	2002	Thu Duc City
	passersby	passersby@gmail.c...	Passersby	Male	0900000000		

Staff

Welcome Tan! [ADMIN Mode]

Customer

Staff

Shipper

Statistic

Revenue

Order

Search

Auto Filing

Reset

Customer Name

Status

ALL

Quyết Trầnasdasd

Username

quyettran

Email

thasd@gmail.com

Phone

0987391601

Year Of Birth

2002

Gender

Male

Address

12th District

ADD NEW STAFF

BAN

	Username	Email	Name	Sex	Phone	Yob	Address
▶	quyettran	thasd@gmail.com	Quyết Trầnasdasd	Male	0987391601	2002	12th District

Shipper

Welcome Tan! [ADMIN Mode]

CustomerStaffShipperStatisticRevenueOrder

Search

Auto FiltngReset

Customer Name

StatusALL

thien

hoangthien

thien@gmail.com

0987391600

2002

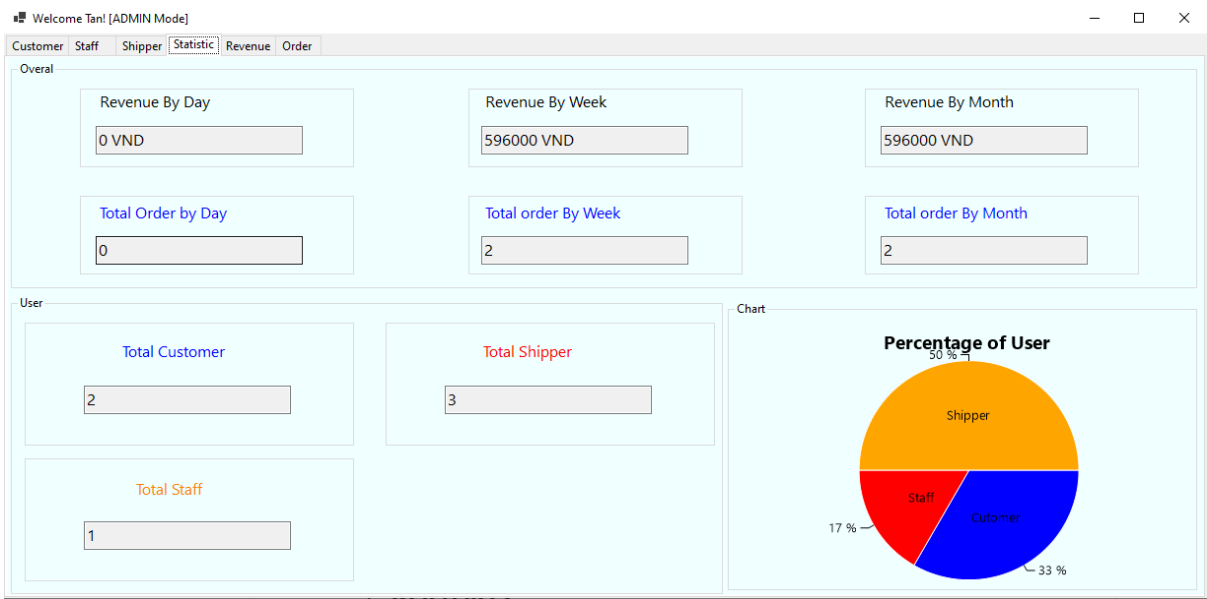
Male

quang ngai

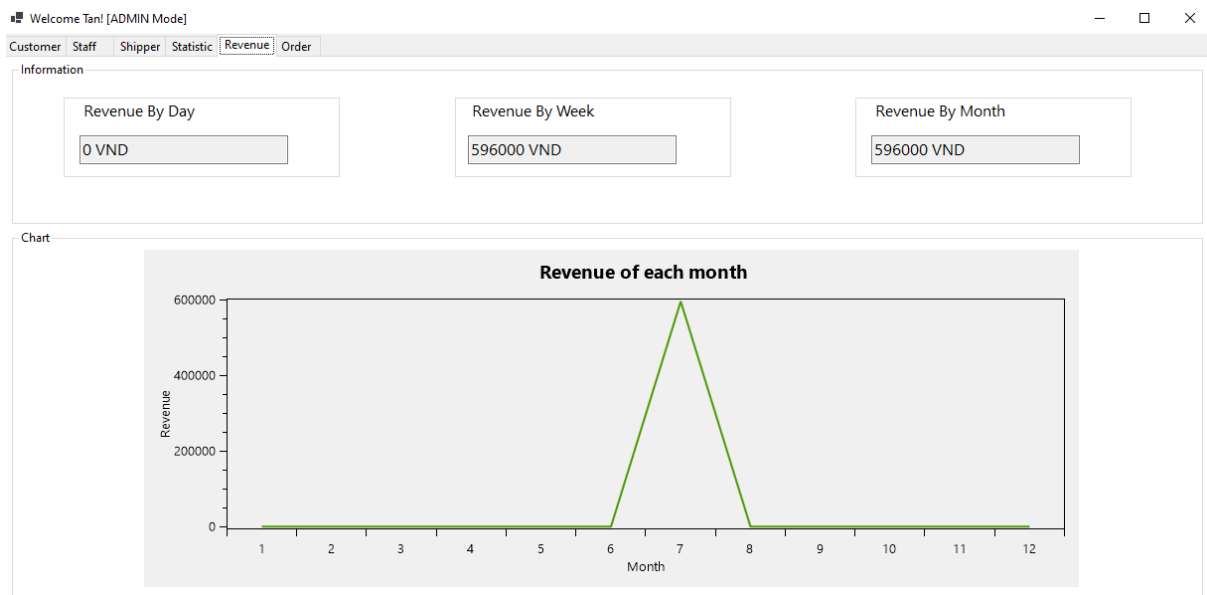
BAN

	Username	Email	Name	Sex	Phone	Yob	Address
▶	hoangthien	thien@gmail.com	thien	Male	0987391600	2002	quang ngai
	hoangthienn	thienn@gmail.com	thienn	Male	0987391601	2002	quangngai
	hoangthiennn	thiennn@gmail.com	thiennn	Male	0987391602	2002	quangngai

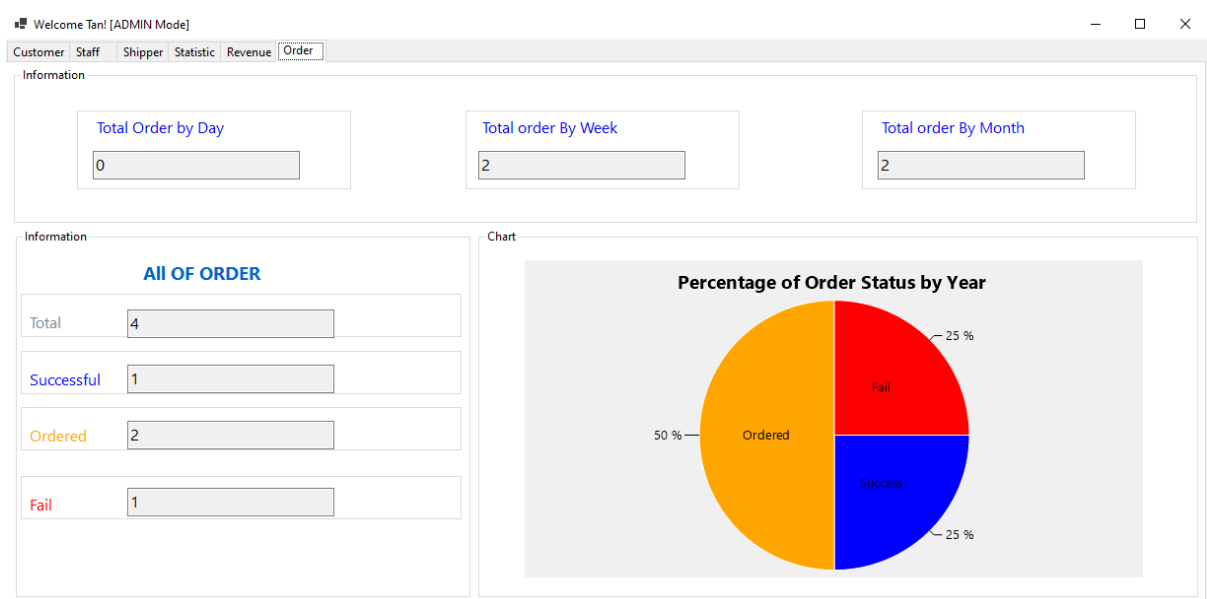
Statistic



Revenue



## Order



## 5. References