

COFFEE SHOP MANAGEMENT

Faculty: Ho Hoan Kiem

Team Member :

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Ho Chi Minh City, Feb 14 2021

Table of Contents

I. Introduction

- Problem Definition4
- Customer Request Specification5

II. System modeling

- Use Case Diagram8
- Class Diagram
- Sequence Diagram16
- ERD17
- Entity Description18
- Table Design21
- Table Relationship Diagram23

III. System Interface And Report

- Interface Design25
- Tasksheet34

Introduction

Problem Definition

1. The Object of The Project

This project will aim to create a Sales Management system. This will be accessible to all employees and managers with a valid User ID and password. The system will provide the following features:

- Order the products
- Pay the bill
- Manage / change account information
- View store sales
- View product information of the store
- View available accounts on the system (admin only)

Customer Request Specification

2. Functional Requirements

Following is a list of some of the system's functions:

- Staff and admin must have a valid User ID and password to log into the system
- If enter an incorrect password or User ID, the system will notify the user.
- If enter the correct User ID and password, the system will display an interface to create a invoice and order products.
- After creating an invoice and adding products to the invoice, the staff will press the checkout button to print the invoice and update the invoice into the database.
- Invoice information including creation time, waiter name, bill status has been paid or not.
- With a staff account, the user can change the staff's name and password of that account.
- With the admin account, user can manage the store's list of accounts, product listings and view store sales.
- In the revenue section, users can view invoice details and total revenue for a specified period of time. (admin only)
- User can add, edit, delete or update product information.(admin only)
- User can add, edit, delete or update Account information.(admin only)

3. Hardware/ Software Requirements

By adding new technologies such as ASP.NET 4.5 and 3-tier architecture, the application becomes more interactive with users, security and easily updated.

System Requirement

▪ For Users

○ Hardware

- CPU: Core i3-3225 - 2.0 GHz or higher
- RAM: 2GB or higher

○ Software

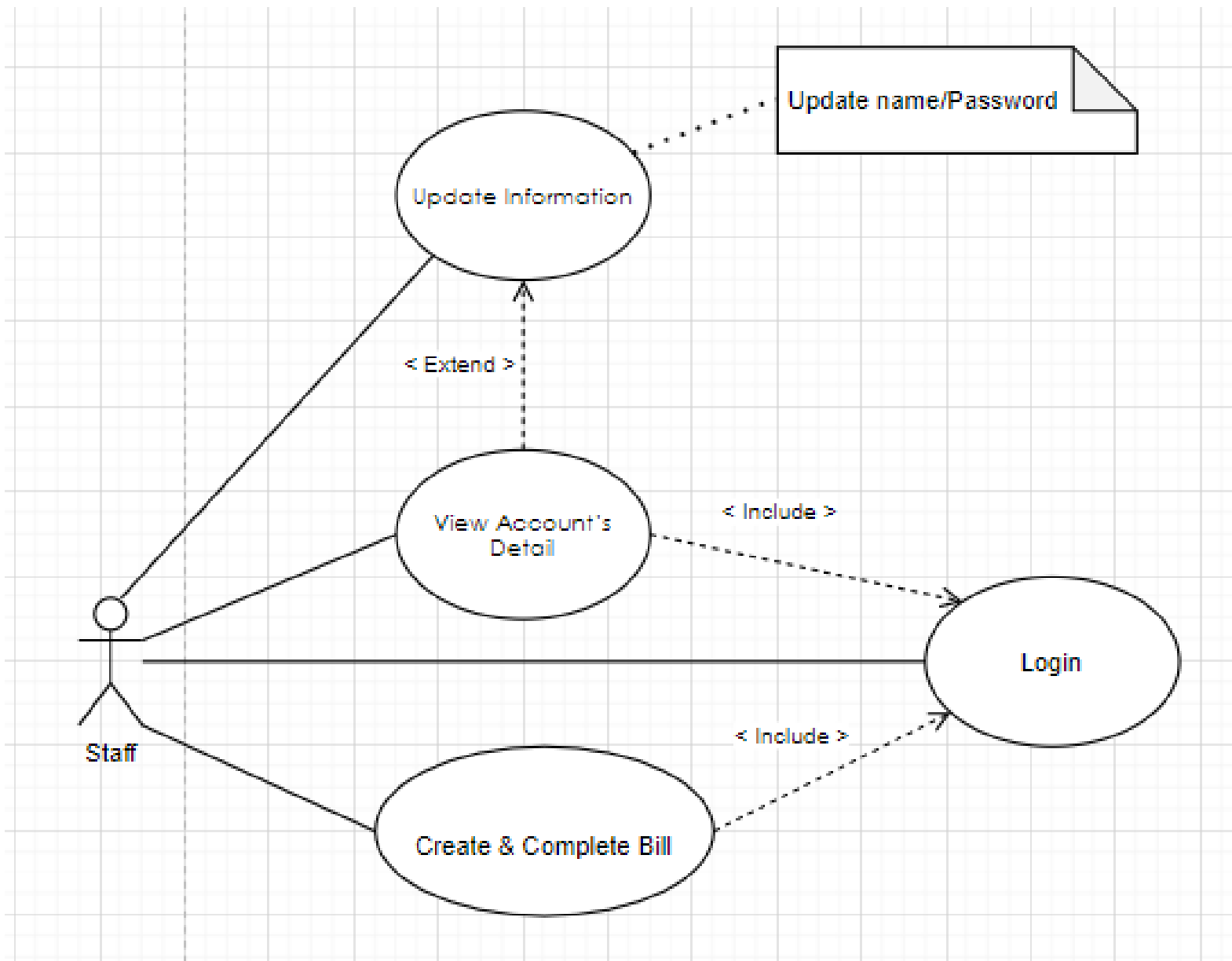
Coffee Shop Management

- OS: Windows 7/8/10....
- **For Software Developers**
 - **Hardware**
 - CPU: Core i3-3225 - 2.0 GHz or higher
 - RAM: 2GB or higher
 - **Software**
 - OS: Windows 7/8/10...
 - Environment: Microsoft .NET Framework 4.5
 - Database Management System: Microsoft SQL Server 2005
 - IDE: Microsoft Visual Studio 2019

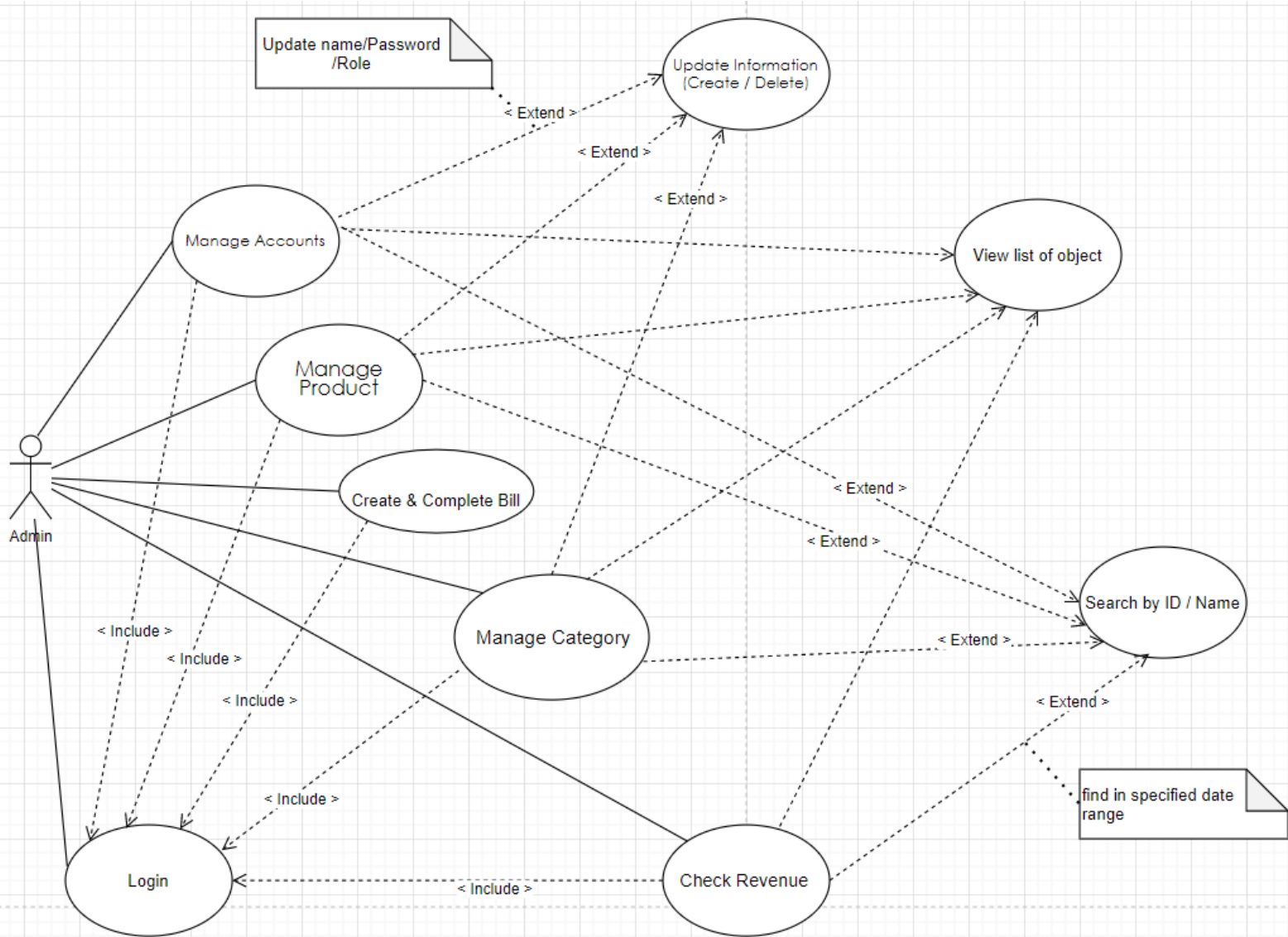
System modeling

USE CASE DIAGRAM

Staff:



Administrators :



USE CASE DESCRIPTION

1. Actor

- **Staff:** As an employee of the store, an account provided by the admin is required to access the system.
- **Administrator:** The person(s) that manage and maintain this system

2. Use Case :

Usecase	Login
Short Description	Log in system to use any function of staff or admin
Pre-Conditions	
Post-Conditions	
Main flow	_User inputs the login information : <ul style="list-style-type: none"> • Login ID • Password _User click on the “ Đăng nhập ” button _System check the Login ID and Password. _If Login ID and Password are valid, system will move user to invoice creation page.
Alternative flow (s)	_If Login ID field or Password field is invalid form or blank when user clicks on the “Đăng nhập” button, system will notify the error.

Usecase	View Account’s Detail
Short Description	View all information about Login Account
Pre-Conditions	
Post-Conditions	
Main flow	_User can view all information for the account they are using.
Alternative flow (s)	_If server notifies any error when it’s processing, system must be write report into Log file.

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Usecase	Update information
Short Description	Update / Edit full name or password
Pre-Conditions	
Post-Conditions	
Main flow	<p>_ User can edit their name and password at View Account's Detail form.</p> <p>_ Once the information has been updated, the user will press the " Cập Nhật " button to update new information to the database.</p> <p>_ If the update is successful, the system will display a message.</p>
Alternative flow (s)	_ If server notifies any error when it's processing, system must be write report into Log file.

Usecase	Create & complete bill
Short Description	Create a new invoice and add the products that the customer has ordered to that invoice.
Pre-Conditions	
Post-Conditions	
Main flow	<p>_ The User/Admin clicks on the button " Tạo mới hóa đơn ".</p> <p>_ The new invoice will be added to the database.</p> <p>_ Then add products to the invoice:</p> <ul style="list-style-type: none"> • Choose product type. • Choose the product name. • Choose quantity. • Press the button " Thêm món ". <p>_ After successfully adding the product, the User/Amin presses the " Thanh toán " button to print the bill and update the bill's detail to the database.</p> <p>_ If the checkout is successful, the system will display a message.</p>
Alternative flow (s)	_ If server notifies any error when it's processing, system must be write report into Log file.

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Usecase	Manage Account
Short Description	Manage information of accounts, edit, create, delete account
Pre-Conditions	
Post-Conditions	
Main flow	<p>_Admin can view list of accounts of system.</p> <p>_Admin can create new account:</p> <ul style="list-style-type: none"> • Press a button “ thêm ”. • Input User ID. • Input full name. • Set role. • Default password is 0 (User can edit in View account’s detail form). • Press a button “ thêm ”. <p>_If the Create is successful, the system will display a message.</p> <p>_Admin can update account’s information :</p> <ul style="list-style-type: none"> • Click the account want to update. • Edit information. • Press button “ Sửa ” <p>_If the Update is successful, the system will display a message</p> <p>_Admin can delete an account by press a button “ Xóa ”.</p> <p>_If the Delete is successful, the system will display a message.</p>
Alternative flow (s)	<p>_If User ID is existed, system will display a message.</p> <p>_If there is a constraint on the database, the system will display a notice.</p> <p>_If server notifies any error when it’s processing, system must be write report into Log file.</p>

Usecase	Manage Product
Short Description	Manage information of Product, edit, create, delete Product
Pre-Conditions	
Post-Conditions	
Main flow	<p>_Admin can view list of Product of system.</p> <p>_Admin can create new Product:</p> <ul style="list-style-type: none"> • Press a button “ thêm ”. • Input Product ID. • Input Product name. • Choose type of Product. • Input price. • Press a button “ thêm ”. <p>_If the Create is successful, the system will display a message.</p> <p>_Admin can update Product's information :</p> <ul style="list-style-type: none"> • Click the Product want to update. • Edit information. • Press button “ Sửa ” <p>_If the Update is successful, the system will display a message</p> <p>_Admin can delete an Product by press a button “ Xóa ”.</p> <p>_If the Delete is successful, the system will display a message.</p>
Alternative flow (s)	<p>_If Product ID is existed, system will display a message.</p> <p>_If there is a constraint on the database, the system will display a notice.</p> <p>_If server notifies any error when it's processing, system must be write report into Log file.</p>

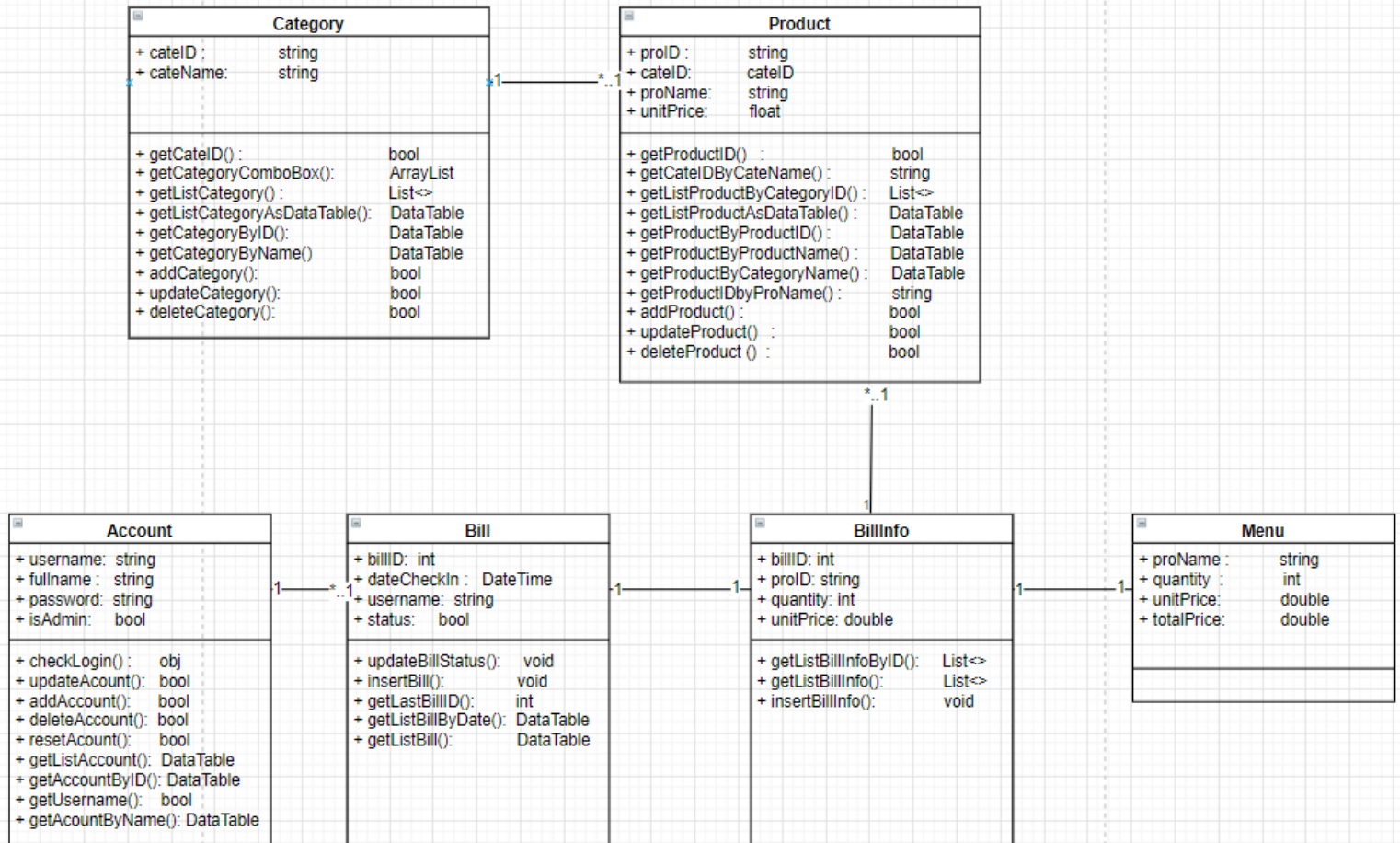
Usecase	Manage Category
Short Description	Manage information of Category, edit, create, delete Category
Pre-Conditions	
Post-Conditions	
Main flow	<p>_Admin can view list of Category of system.</p> <p>_Admin can create new Category:</p> <ul style="list-style-type: none"> • Press a button “ thêm ”. • Input Category ID. • Input Category name. • Press a button “ thêm ”. <p>_If the Create is successful, the system will display a message.</p> <p>_Admin can update Category’s information :</p> <ul style="list-style-type: none"> • Click the Category want to update. • Edit information. • Press button “ Sửa ” <p>_If the Update is successful, the system will display a message</p> <p>_Admin can delete an Category by press a button “ Xóa ”.</p> <p>_If the Delete is successful, the system will display a message.</p>
Alternative flow (s)	<p>_If Category ID is existed, system will display a message.</p> <p>_If there is a constraint on the database, the system will display a notice.</p> <p>_If server notifies any error when it’s processing, system must be write report into Log file.</p>

Coffee Shop Management

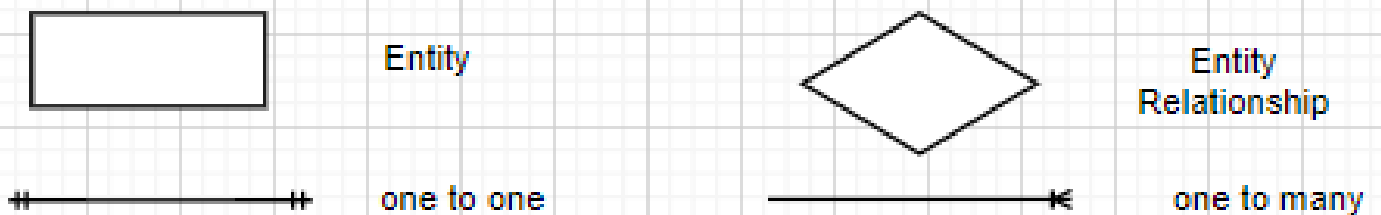
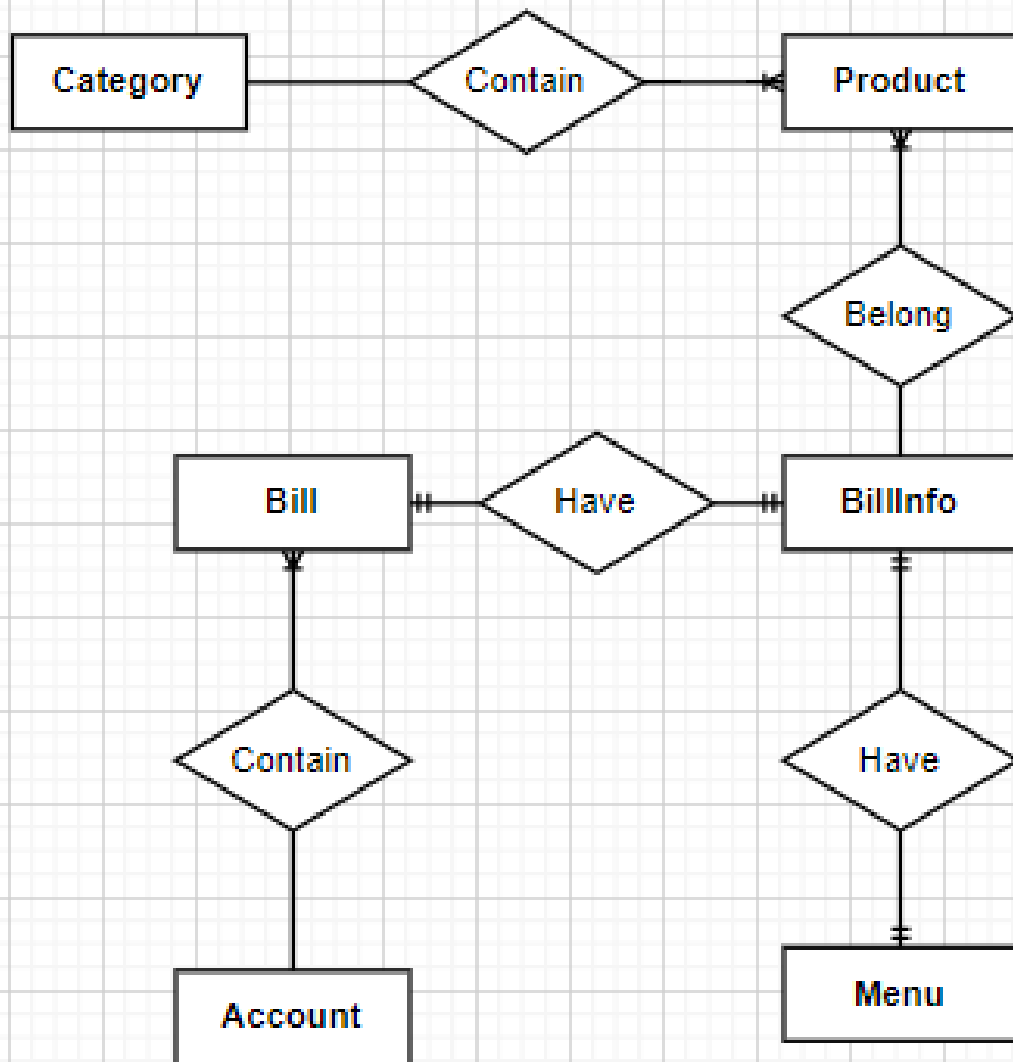
Usecase	Check Revenue
Short Description	View list of invoice and invoice's details
Pre-Conditions	
Post-Conditions	
Main flow	<ul style="list-style-type: none">_Admin can view all Invoices of store._Can filter the list of invoice and total revenue in range of date.
Alternative flow (s)	<ul style="list-style-type: none">_If server notifies any error when it's processing, system must be write report into Log file.

Usecase	Search
Short Description	Search all information about selected object form.
Pre-Conditions	
Post-Conditions	
Main flow	<ul style="list-style-type: none">_Admin can search information of selected object by Inputs the ID or Name or type(Product) want to find._Admin press a button “ Tìm kiếm ” ._System shows the result to the admin.
Alternative flow (s)	<ul style="list-style-type: none">_If server notifies any error when it's processing, system must be write report into Log file.

CLASS DIAGRAM

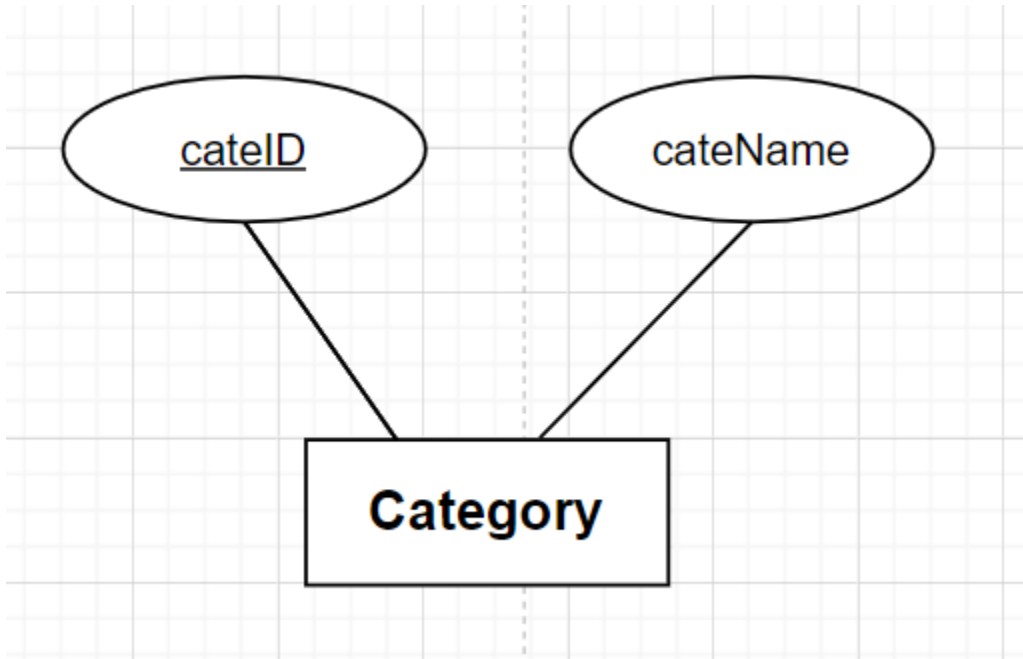


ENTITY RELATIONSHIP DIAGRAM (ERD)

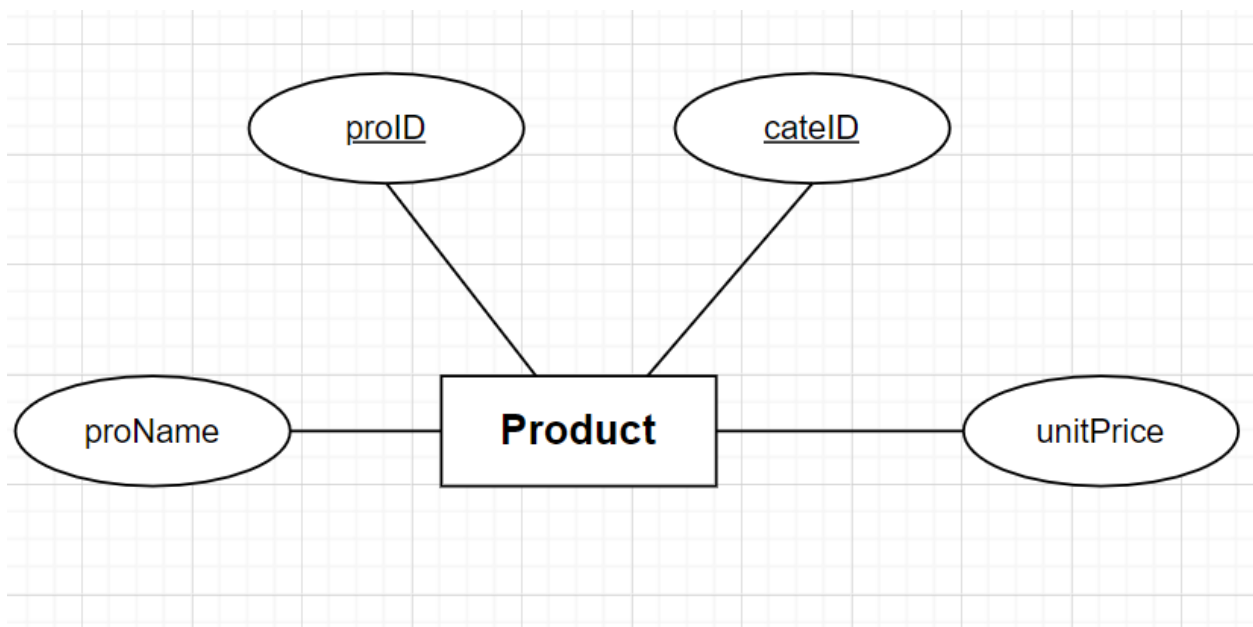


ENTITY DESCRIPTION

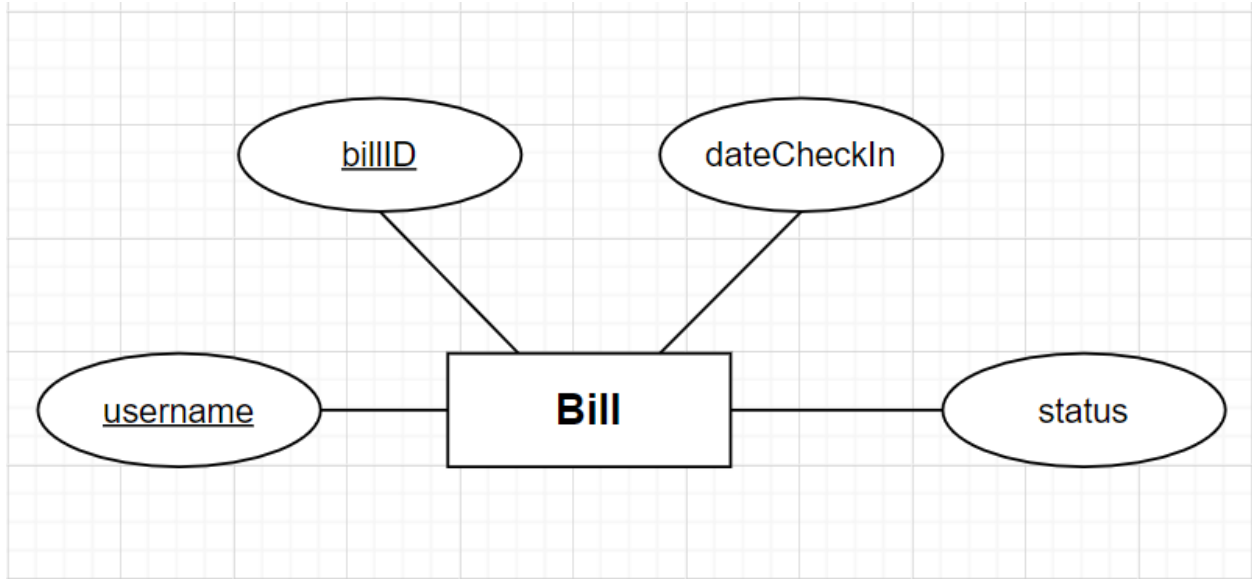
1. Category :



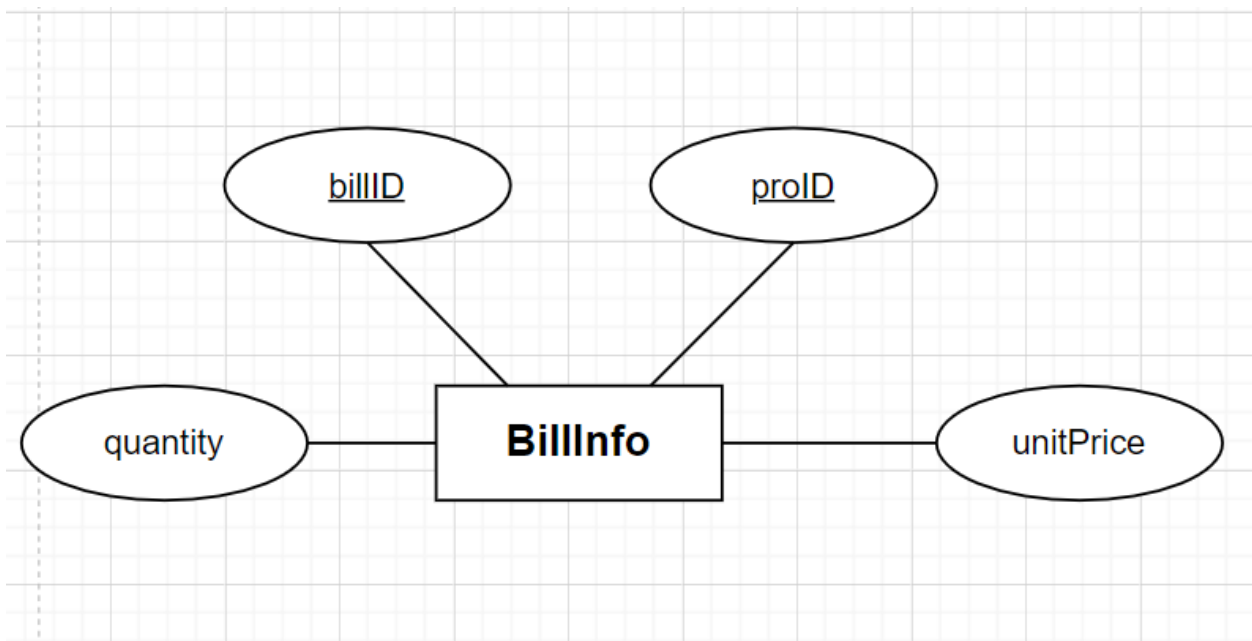
2. Product :



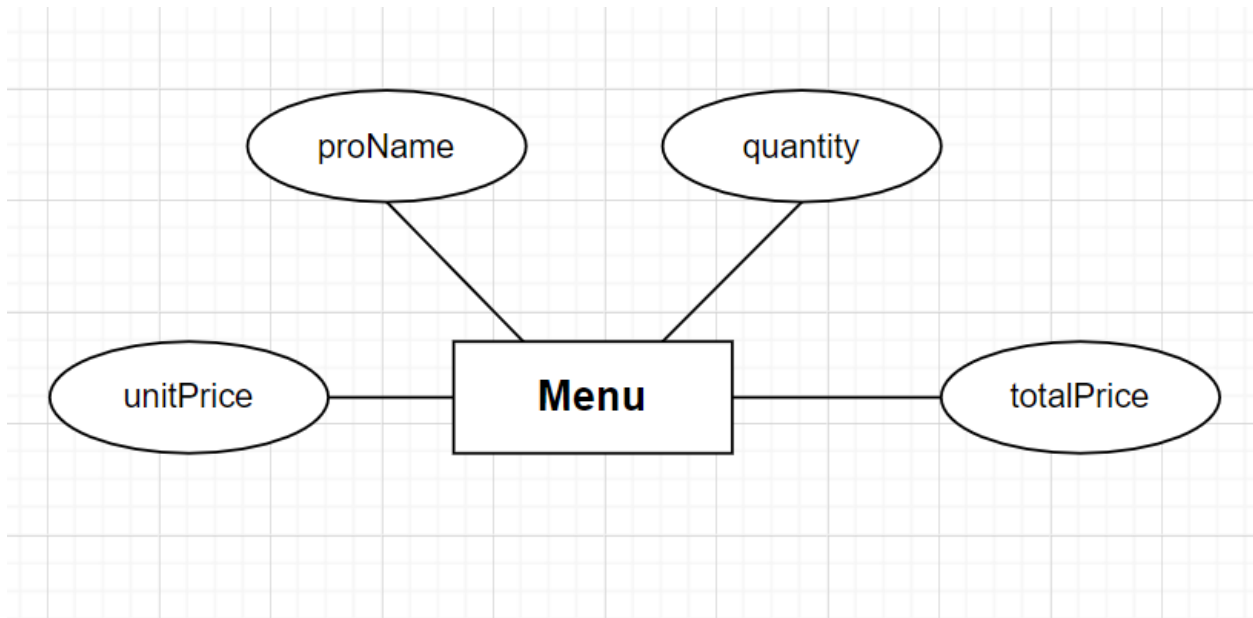
3. Bill :



4. BillInfo :



5. Menu :



6. Account :

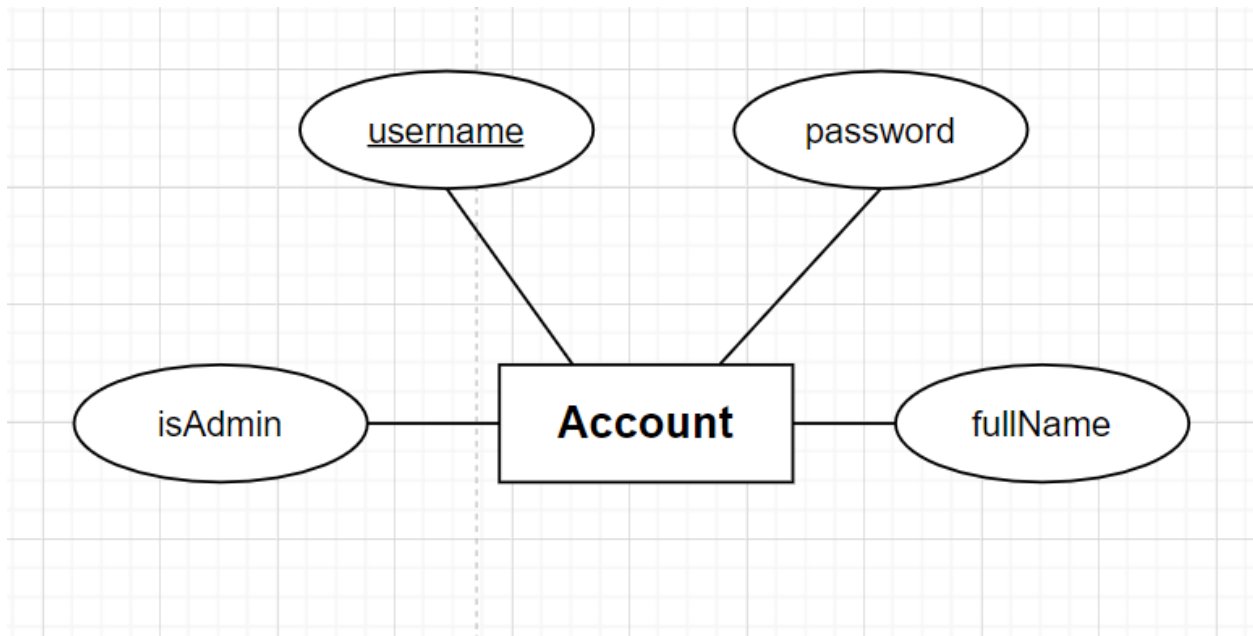


Table Design

1. User

No	Colum Name	Data Type	Size	Check	Description
1	✓ Username	Varchar	30	Not null	User's id
2	Fullname	Nvarchar	250	Not null	User's full name
3	Password	Varchar	20	Not null	User's password
4	isAdmin	Bit		Not null	User's role

2. Category

No	Colum Name	Data Type	Size	Check	Description
1	✓ CateID	Varchar	30	Not null	Category ID
2	CateName	Nvarchar	250	Not null	Category name

3. Product (Food & Beverage)

No	Colum Name	Data Type	Size	Check	Description
1	✓ ProID	Varchar	30	Not null	Product ID
2	CateID	Varchar	30	Not null	Category ID
3	ProName	Nvarchar	250	Not null	Product name
4	unitPrice	Float		Not null	Unit price of the product

4. Bill

No	Colum Name	Data Type	Size	Check	Description
1	✓ BillID	Int	Identity	Not null	Bill's Id
2	dateCheckIn	Date		Not null	Date create bill
3	Username	Varchar	30	Not null	User's ID
4	billStatus	Bit		Not null	Bill's status

5. Bill Info

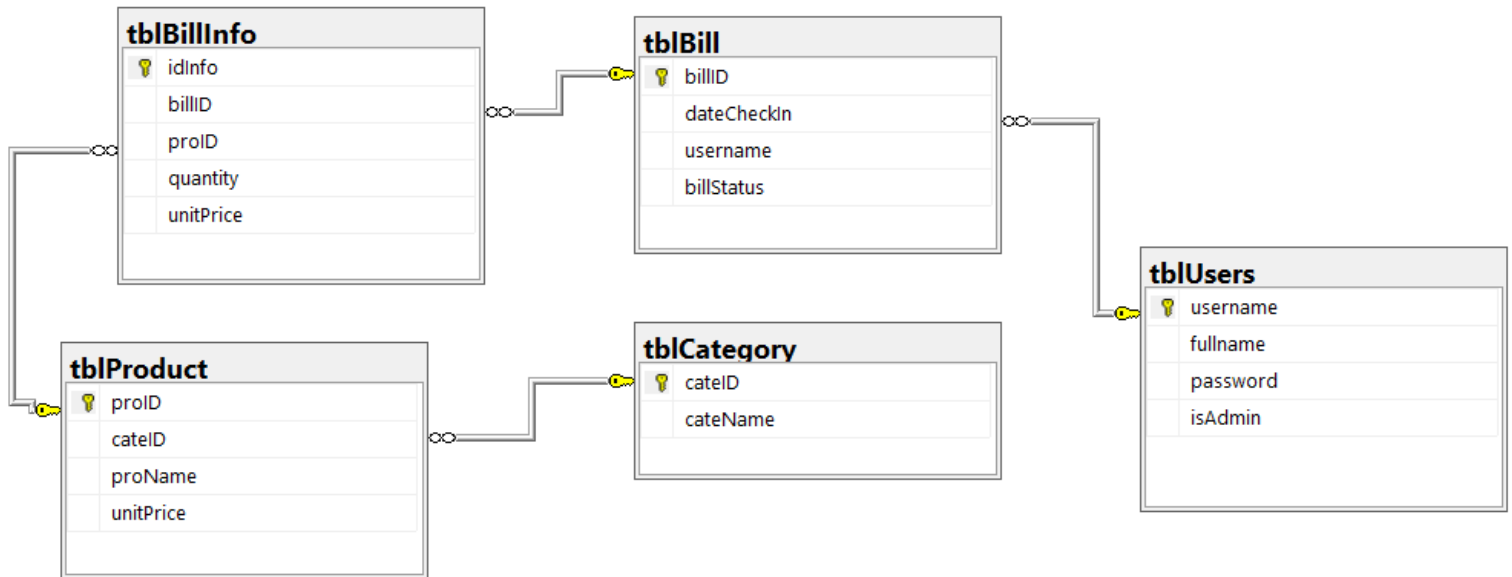
No	Colum Name	Data Type	Size	Check	Description
1	✓ IDInfo	Int	Identity	Not null	BillInfo's ID
2	BillID	Int		Not null	Bill's ID
3	ProID	Varchar	30	Not null	Product's ID

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4	Quantity	int		Not null	The number of products
5	UnitPrice	float		Not null	Unit price of the product

Note: ✓ Primary Key

Table Relationship Diagram



System Interface And Report

Interface Design

1. Login Page

The image shows a standard Windows-style login window. The title bar at the top reads 'Đăng Nhập' (Login) and includes minimize, maximize, and close buttons. The main area has a light gray background. It contains two text input fields: the first is labeled 'Tên Đăng Nhập' (Username) and the second is labeled 'Mật Khẩu' (Password). Below these fields are two buttons: 'Đăng Nhập' (Login) and 'Thoát' (Exit).

Name	Type	Event	Validation	Description
Tên Đăng Nhập	Textbox		String, not null	Input user's username
Mật Khẩu	Textbox		String, not null	Input user's password
Đăng Nhập	Button	Click		Login
Thoát	Button	Click		Exit application

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2. Create & Complete Bill

[illegible]

Quản lý Cafe Shop

Admin Tài khoản User: Đăng Hà Trung Tuyển

Coffe Thông tin cá nhân

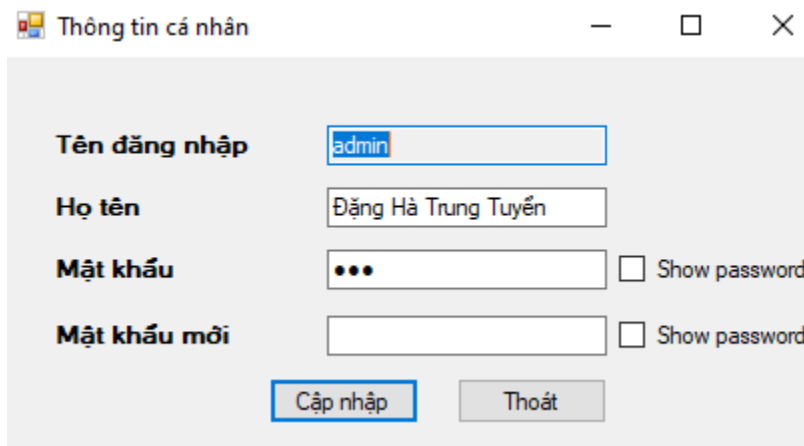
Americano Đăng xuất

Name	Type	Event	Validation	Description
Thêm món	Textbox			Add product into customer's Bill
Danh mục	Textbox		Select	Select category of product

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Sản phẩm	Button	Click	Select	Select product
Thanh toán	Button	Click		Pay
Tạo mới hóa đơn	Button	Click		Create new bill
Mã hóa đơn hiện tại	Textbox		Read only	Current Bill ID
Tổng hóa đơn	Textbox		Read only	Total bill
Danh sách	ListView		Read only	Displays all the products included in customer's bill
Số 0	NumericUpDown		Select	Add or decrease the number of products
User: Đặng Hà Trung Tuyển	ToolStripTextBox		Read only	Display current user name
Tài khoản	ToolStripMenuItem		Click	Display user menu
Thông tin cá nhân	ToolStripMenuItem	Click		View user's detail
Đăng xuất	ToolStripMenuItem	Click		Logout
Admin	ToolStripMenuItem	Click		Go to Admin Page

3. View Account's Detail and Update Information



Thông tin cá nhân

Tên đăng nhập: admin

Họ tên: Đặng Hà Trung Tuyển

Mật khẩu: ... ☐ Show password

Mật khẩu mới: ☐ Show password

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Name	Type	Event	Validation	Description
Tên đăng nhập	Textbox		String, Read only	Display username
Họ tên	Textbox		String, Not null	Display user's full name
Mật khẩu	Textbox		String, Read only, Password char	Display user's password
Mật khẩu mới	TextBox		String, Password char	Enter changed password
Show password	CheckBox	CheckedChanged	Click	Show uncovered password
Cập nhật	Button	Click		Update user's information
Thoát	Button	Click		Exit

4. Manage Account

Coffee Shop Management

Admin

Doanh thu
Thực phẩm
Danh mục
Tài khoản

Tên tài khoản	Họ tên	Mật khẩu	Quyền Admin
admin	Đặng Hà Trung Tuyển	123	<input checked="" type="checkbox"/>
user1	Trần Công Minh Hiếu	123	<input type="checkbox"/>
user2	Lê Đỗ Minh Hiền	123	<input type="checkbox"/>
user3	Nguyễn Tuấn Hoàng	123	<input type="checkbox"/>

Tìm kiếm

Tên tài khoản

Họ Tên

Loại tài khoản

☐ Admin

Thêm

Sửa

Xóa

Làm mới danh sách

Name	Type	Event	Validation	Description
Thêm	Button	Click		Add/ Insert user account
Sửa	Button	Click		Update user's information
Xóa	Button	Click		Delete user account
Làm mới danh sách	Button	Click		Refresh account list
Tìm kiếm	button	Click		Searching user account
Tên tài khoản	Textbox		String, not null, read only	Display user's username / get data to insert/delete account

Coffee Shop Management

Họ tên	Textbox		String, not null	Display user's full name / get data to insert account
Loại toàn khoản	Checkbox		click	Display user's role/ get data to insert account
Danh sách	DataGridView	CellClick		Display all available account

5. Manage Product

Admin

Doanh thu Thục phẩm Danh mục Tài khoản

Mã Sản Phẩm	Tên Danh Mục	Tên Sản Phẩm	Đơn giá
CF01	Coffe	Americano	55000
CF02	Coffe	Cappuccino	55000
CF03	Coffe	Macchiato	53000
CF04	Coffe	Espresso	53000
CF05	Coffe	Mocha	50000
CK01	Cake	Chocolate Cake	39000
CK02	Cake	Tiramisu	35000
CK03	Cake	Black Forest	35000
CK04	Cake	Red Velvet	35000
CK05	Cake	Caramel	32000
IB01	Ice Blender	Oreo Milkshakes	49000
IB02	Ice Blender	Frozen Blueberry	49000
IB03	Ice Blender	Java Chip	45000
IB04	Ice Blender	White Chocolate ...	45000
IB05	Ice Blender	Matcha Smoothie	42000

Thêm Sửa Xóa Làm mới danh sách

ID
 Tên món
 Danh mục
 Đơn giá

Name	Type	Event	Validation	Description
Thêm	Button	Click		Add/ Insert product
Sửa	Button	Click		Update product
Xóa	Button	Click		Delete product
Làm mới danh sách	Button	Click		Refresh product list
Tìm kiếm	button	Click		Searching product

Coffee Shop Management

ID	Textbox		String, not null, read only	Display product's ID/ get data to insert/delete product
Tên món	Textbox		String, not null	Display product's name/ get data to insert product
Danh mục	ComboBox		String	Display product's category/ get data to insert product
Đơn giá	Textbox		Float, not null	Display product's price/ get data to insert product
Danh sách	DataGridView	CellClick		

6. Manage Category

Admin

Doanh thu Thục phẩm Danh mục Tài khoản

Mã Danh Mục	Tên Danh Mục
SP01	Coffe
SP02	Tea
SP03	Ice Blender
SP04	Cake
SP05	Sandwitch

ID
 Tên danh mục

Name	Type	Event	Validation	Description
------	------	-------	------------	-------------

Coffee Shop Management

Thêm	Button	Click		Add/ Insert category
Sửa	Button	Click		Update category
Xóa	Button	Click		Delete product
Làm mới danh sách	Button	Click		Refresh category list
Tìm kiếm	button	Click		Searching category
ID	Textbox		String, not null, read only	Display category's ID/ get data to insert/ delete category
Tên danh mục	Textbox		String, not null	Display category's name/ get data to insert category
Danh sách	DataGridView	CellClick		

7. Check Revenue

Admin

Doanh thu
Thực phẩm
Danh mục
Tài khoản

20 Tháng Ba 2021
Lọc
20 Tháng Ba 2021

Mã đơn

Thời gian

Nhân viên

Trạng thái

1	17/01/2021	Nguyễn Tuấn Ho...	<input checked="" type="checkbox"/>
2	20/02/2021	Lê Đỗ Minh Hiên	<input checked="" type="checkbox"/>
3	12/02/2021	Lê Đỗ Minh Hiên	<input checked="" type="checkbox"/>
4	10/01/2021	Trần Công Minh ...	<input checked="" type="checkbox"/>
5	09/03/2021	Trần Công Minh ...	<input checked="" type="checkbox"/>
6	05/01/2021	Đặng Hà Trung ...	<input checked="" type="checkbox"/>
7	22/02/2021	Trần Công Minh ...	<input checked="" type="checkbox"/>
8	20/03/2021	Nguyễn Tuấn Ho...	<input checked="" type="checkbox"/>
9	29/01/2021	Lê Đỗ Minh Hiên	<input checked="" type="checkbox"/>

Hiện thị tất cả hóa đơn

Tổng số hóa đơn 9

Tổng doanh thu 1.740.000,00 đ

Tên món	Số lượng	Đơn giá	Thành tiền

Tổng hóa đơn

Coffee Shop Management

Name	Type	Event	Validation	Description
Ngày tháng năm	DateTimePicker			Choose date
Lọc	Button	Click		Filter list of bills
Hiện thị tất cả hóa đơn	Button	Click		Refresh list of bills
Tổng số hóa đơn	Textbox		Read only	Display number of bills
Tổng doanh thu	Textbox		Read only	Display total Income
Tổng hóa đơn	Textbox		Read only	Display the amount of the selected bill
Danh sách bên phải	ListView			Display bill detail (product name, quantity and total price)
Danh sách bên trái	DataGridView	CellClick		Display all available bill

Task Sheet

Project Group: 4

Project Title: Coffe Shop Management

No	Task title	Planned Start Date	Planned Completed Date	Team Mate Names	Status
1	Login	01/02/1021	18/03/2021	Trung Tuyển	Done
2	Insert account			Minh Hiếu	Done
3	Update account			Minh Hiếu	Done
4	Delete account			Minh Hiếu	Done
5	Search account			Minh Hiếu	Done
6	Insert product			Tuấn Hoàng	Done
7	Update product			Tuấn Hoàng	Done
8	Delete product			Tuấn Hoàng	Done
9	Search product			Tuấn Hoàng	Done
10	Insert category			Minh Hiễn	Done
11	Update category			Minh Hiễn	Done
12	Delete category			Minh Hiễn	Done
13	Search category			Minh Hiễn	Done
14	Display account list			Trung Tuyển	Done
15	Display product list			Trung Tuyển	Done
16	Display category list			Trung Tuyển	Done
17	Display bill list			Trung Tuyển	Done
18	Display bill detail			Trung Tuyển	Done
19	Create bill			Tuấn Hoàng	Done
20	Insert product into bill			Minh Hiễn	Done
21	Payment			Minh Hiếu	Done