

31927 - Applications Development with .NET

32998 - .NET Applications Development

SPRING 2023  
ASSIGNMENT-2  
.Net Windows Form Application

Group 30

Group Members:  
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30/10/2023

## Introduction and Summary of Project

The Online Shopping Platform project is designed to provide users with a seamless and convenient online shopping experience. This platform encompasses a variety of features and interfaces that enable users to register, log in, browse and purchase products, manage their shopping carts, and oversee their orders. Additionally, it offers an efficient system for managing product inventory.

The primary purpose of this project is to create a user-friendly and efficient online shopping platform that meets the following key objectives:

**User Registration and Login:** The platform allows users to create accounts, providing a personalized shopping experience and ensuring security through user authentication. And it can identify the type of user, and then open the page corresponding to the user. For example, a customer account will open the customer page and a merchant account will open the merchant page. Unused pages correspond to different functions, so a login page is needed to identify their identity.

**Customer Shopping Page:** Users can browse through a wide range of products, and view detailed information about each product including their name, their price, their stocks and their picture. In addition, users can open a specific product detail page with the product's description and more detailed information. And they can add products with custom quantities to their shopping carts. Also, there are search and category features to help the customer find the product by name or category.

**Shopping Cart:** The shopping cart feature allows users to view and modify the items in their cart, update quantities, and remove items if needed. Users can also view the total cost of their selected products.

**Checkout Page:** The checkout feature allows user to view the total price and enter their personal information for example name, phone, email and address, and a Congratulations popup windows, and update the product database with the shopping cart information

**Order Management:** Merchants can view customer order information and manage customer orders in the order management interface. As well as the option to send an email to the customer with a reminder that the order was placed successfully.

**Inventory Management:** For administrators and sellers, the platform provides tools for managing product inventory. They can add new products, update existing product details, track stock levels, and remove items from the inventory when necessary. By providing these features, the Online Shopping Platform aims to create a convenient, efficient, and enjoyable shopping experience for users while streamlining inventory management for sellers.

## Development approach

The development model for this project employs agile development, breaking the entire project into sequential workflows and assigning staff to complete tasks. Work is done in portions, followed by discussions and integration, then tasks are reassigned, repeating this process until the project objectives are achieved. This approach helps us deliver a complete project in the shortest possible time, as tight communication and brief work cycles prevent the extensive occurrence of errors or conflicts.

For this project, we used GitHub as our version control tool. GitHub is a platform and cloud-based service for software development and version control using Git, allowing developers to store and manage their code. Using it as a version control tool, effectively enhances project progress, including updates, merges, and reverting incorrect versions.

Regarding the code, the project uses the .NET framework for Windows applications, whose simplicity, convenience, and clarity of tools, usage procedures, and workflows have saved us a significant amount of time that would have otherwise been spent on repetitive programming.

In terms of data access, the project employs LINQ frameworks and libraries. Language-Integrated Query (LINQ) is the name for a set of technologies based on the integration of query capabilities directly into the C# language. Traditionally, queries against data are expressed as simple strings without type checking at compile time or IntelliSense support. It assists in data reading, searching, modification, addition, and deletion. This effectively reduces the code's performance demands, providing better assistance with shorter code.

This project uses the login form as the starting interface. In the login form, users can enter their username and password, which are used to determine the user's identity. The user data is stored in a txt file named userDB.txt under the default path of the program. Therefore, the File class in System.IO will be used in the login form to perform file processing on userDB.txt.

The System.IO namespace has various different classes for performing various file operations such as creating and deleting files, reading or writing files, closing files, etc. System.IO's File class provides static methods such as ReadAllText and WriteAllText. In this project, the ReadAllText method is used to read the user information in userDB.txt and determine whether the information the user just entered is accurate. In the Register Form, Use the AppendText method in Register

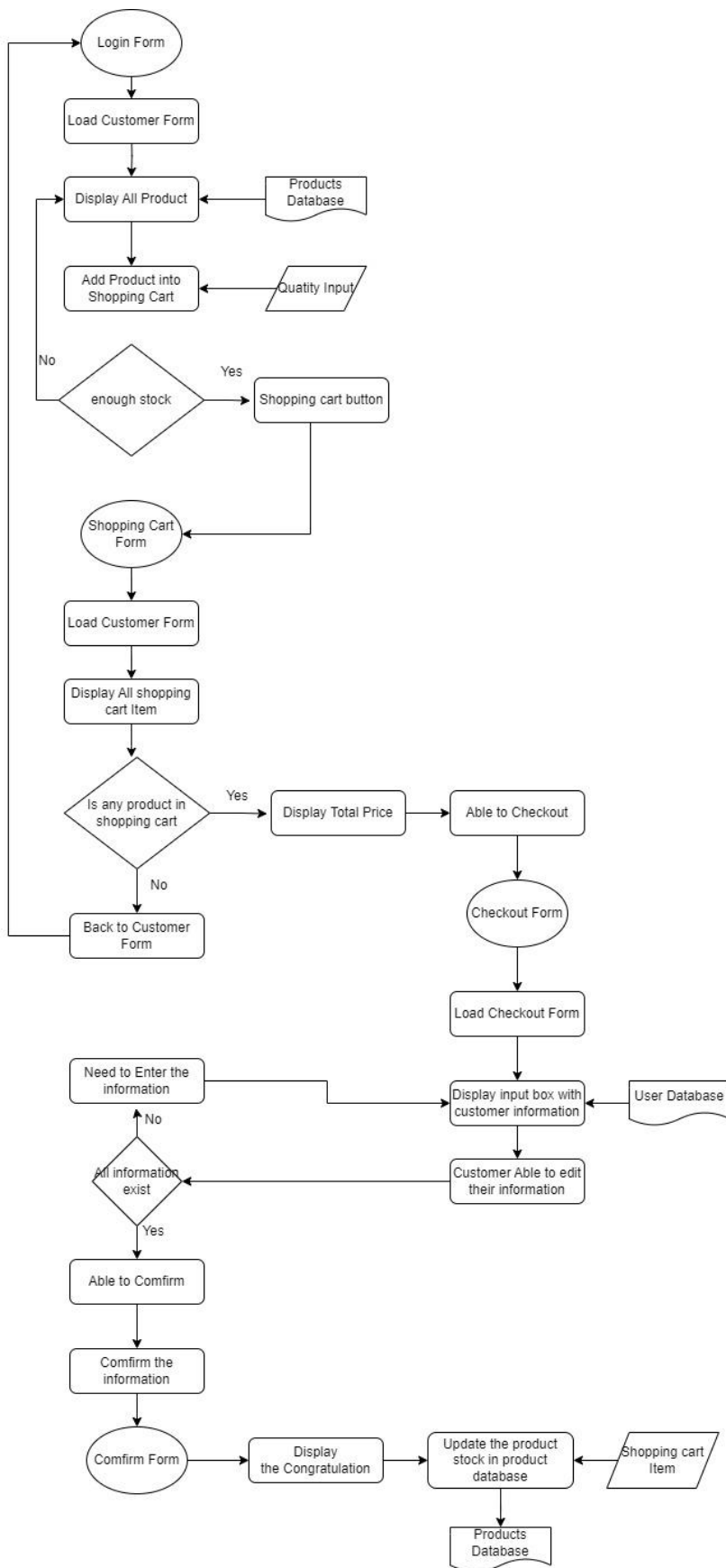
Form to write user-provided data to the database file and create, update and maintain the database file.

## Flowchart

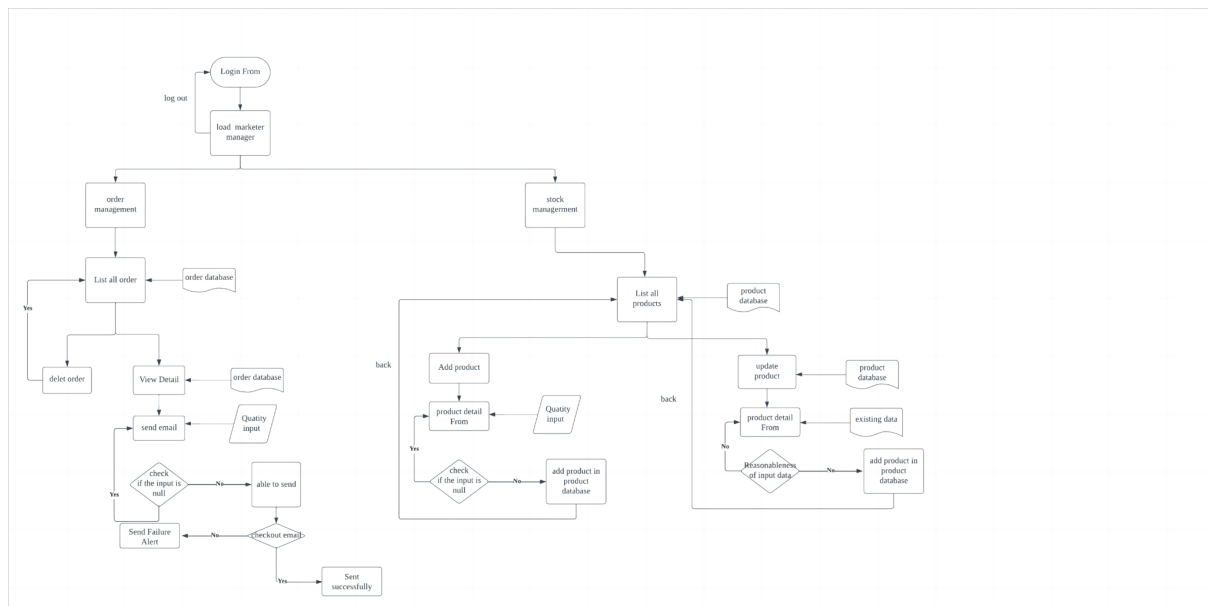
### 1. Login/ Register FlowChart



## 2. Customer Flowchart



### 3. Merchant Flowchart



### Role of team members

GroupMember	Role(Work on which part)	Description
Longchao Li	<p>Developer(Custome Form and its following form)</p> <p>Version Controller (Merge each member's work and fix problems causing it)</p> <p>Report(Customer Flowchart and Some of Development Approach)</p>	<p>Complete the preliminary customer page and shopping cart design and development, which includes a customer page instance, product display, product database, search for specific products through text, product classification function, add a shopping cart function, and calculate the total price of the products in the shopping cart, the function of removing items from the shopping cart, updating/adding/deleting items in the database, etc.</p> <p>The version control aspect is mainly to integrate all versions into a new total version, such as integrating the login page, user page and business page so that they can be used consistently, and fixing some bugs if they exist.</p>
Wenjun An	Developer(Login/Registration Form and Checkout/Confirmation	Complete the Login/Registration and Checkout/Confirmation page provide an entrance for users to enter the program,

	<p>Form) Interface design(responsible layout design of the program.)</p> <p>Report(Login Flowchart and Some of Development Approach)</p>	<p>and guide users to create and use accounts correctly. Create, update and maintain user database files.</p> <p>Responsible for the color/text/controls/image layout design of the entire program.Increase the consistency between pages and improve the comprehensiveness of the program</p>
<p>Zheng Guan 13842075</p>	<p>Developer( marketer Form and its following form) Report (Flowchart and Introduction)</p>	<p>Completed the initial design and development of the customer management page and order management interface, which includes order display, order database, sending customer information via email, managing customer orders, removing items from the inventory system, and updating/adding/deleting functions for items in the database.</p>