

**Fundamental of programming Project**

**(Documentation part)**

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• Online Shopping System Documentation

* **Introduction**

The Online Shopping System is a command-line application that allows users to browse, add items to cart, place orders, and manage their account details for an online store. The system provides functionalities for both new users to sign up and existing users to sign in. It maintains a catalog of products with their specifications, prices, and quantities.

* **Features**

**User Authentication:**

* Sign Up: New users can create an account by providing their name, password, ID, year, department, and Telebirr account number.
* Sign In: Existing users can sign in by entering their username and password.

**Catalog Management:**

* Display Catalog: Users can view the available items in the catalog along with their specifications, prices, and quantities.

**Cart Management:**

* Add to Cart: Users can add items from the catalog to their shopping cart. The item is removed from the catalog and added to the user's cart.
* Remove from Cart: Users can remove items from their shopping cart, and the item is added back to the catalog.
* Display Cart: Users can view the items in their shopping cart along with the total price.

**Order Placement:**

* Order: Users can place an order for the items in their shopping cart. The order details, including the items and total price, are displayed.

**Account Management:**

* Account Detail: Users can view their account information, including their name, password, ID, year, department, and Telebirr account number.
* **Miscellaneous:**

About Us: Displays information about the program and the online shopping management system.

Logout: Allows users to log out from their account and return to the log page.

Exit: Allows users to exit the program.

* **Implementation Details**

The Online Shopping System is implemented in C++ using object-oriented programming concepts. The main program is divided into several functions, each responsible for a specific task or functionality. Here are the key functions used in the program:

* **intro():** Displays the introductory message and prompts the user to press Enter to get started.
* **logpage():** Displays the log page options, including Sign In and Sign Up.
* logging(): Handles the user's choice on the log page. If the user chooses Sign In, the signin() function is called. If the user chooses Sign Up, the signup() function is called.
* **signin():** Prompts the user to enter their name and password. It reads the account information from the "log.txt" file and verifies the entered credentials. If the credentials are valid, the user is logged in; otherwise, an error message is displayed.
* **signup():** Prompts the user to enter their account details, including name, password, ID, year, department, and Telebirr account number. It writes the account information to the "log.txt" file to create a new account.
* **accountDetail():** Retrieves the account information for the logged-in user from the "log.txt" file and displays it.
* **displayCatalog():** Iterates through the products array and displays the available items in the catalog along with their specifications, prices, and quantities.
* **addTocart():** Prompts the user to enter the index of the item they want to add to their cart. It checks if the item is in stock and adds it to the user's cart if available. The item is removed from the catalog.
* **removeFromCart():** Prompts the user to enter the index of the item they want to remove from their cart. It removes the item from the cart and adds it back to the catalog.
* **displayCart():** Displays the items in the user's shopping cart along with the total price.
* **order():** Places an order for the items in the user's shopping cart. It displays the order details, including the items and total price.
* **logout():** Logs out the user by setting the aftersignin flag to false, which returns the user to the log page.
* **aboutus():** Displays information about the program and the online shopping management system.
* **Data Structures**

**struct Product:** Represents a product in the catalog. It contains the type, model, specifications (CPU, RAM, storage, condition), price, and quantity.

**Product products[]:** An array of Product objects representing the catalog of available items.

struct Specs: Represents the specifications of a product, including CPU, RAM, storage, and condition.

**Product Mycart[]:** An array of Product objects representing the user's shopping cart.

* **File Handling**

The program uses file handling to store and retrieve user account information. The "log.txt" file is used to store the account details of registered users. When a new usersigns up, their account information is written to the "log.txt" file. During sign-in, the program reads the "log.txt" file to verify the entered credentials.

* **User Interface**

The user interface is implemented using the command-line interface (CLI). Users interact with the program by entering numeric choices corresponding to the available options displayed on the screen. The program provides clear prompts and messages to guide the user through the different functionalities.

* **How to Run the Program**

To run the Online Shopping System program, follow these steps:

Compile the "online\_shopping.cpp" file using a C++ compiler.

Execute the compiled executable file.

The program will display an introductory message and prompt you to press Enter to get started.

The log page options will be displayed. Enter the corresponding number to choose either Sign In or Sign Up.

Follow the prompts and instructions on the screen to navigate through the program's functionalities.

* **Conclusion**

The Online Shopping System is a command-line application that provides users with the ability to browse, add items to cart, place orders, and manage their account details for an online store. It offers features such as user authentication, catalog management, cart management, order placement, and account management. The program is implemented in C++ using object-oriented programming concepts, file handling, and a command-line interface.