User Guide - APS (Advanced Purchase System)

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1   Introduction

Welcome to the "Advanced Purchase System" (APS) project. The APS is a comprehensive software solution designed to streamline the purchasing process for both customers and sellers. This system facilitates seamless interactions between buyers and sellers, ensuring an efficient and user-friendly experience. Additionally, it provides administrators with powerful tools to manage and oversee the entire purchasing ecosystem.

2   Key Features

Customer Functionality:

- Browse and search for items available for purchase.

- Add items to a personal shopping cart and review the cart's contents.

- Make purchases and view purchase history for better management of transactions.

Seller Functionality:

- Manage inventory by adding, updating, or removing items.

- View statistics to track sales and inventory performance.

- Access tools for managing financial aspects related to sales.

  Admin Functionality:

- Oversee inventory across the entire system.

- Manage seller accounts and monitor system-wide statistics.

- Access detailed purchase history and manage inventory updates.

3 System Architecture

The APS is structured into distinct modules representing different types of users: customers, sellers, and administrators. Each module encapsulates the functionalities specific to its user type, enabling modular development and easy maintenance. The system employs file handling for data persistence, ensuring that inventory, sales, and user information are reliably stored and retrieved.

4 Code Structure

4.1 User Class

```
class User
protected:
std::string name;
std::string surname;
std::string password;
public:
User(const std::string name, const std::string surname, const std::string password)
: name(name), surname(surname), password(password)
std::string getName() const  return name;
std::string getSurname() const  return surname;
std::string getPassword() const  return password;
```

4.2 Customer Class

```
class Customer : public User
int id;
std::vector¡std::pair¡std::string, int¿¿ cart;
public:
Customer(const std::string name, const std::string surname, const std::string password, int id)
: User(name, surname, password), id(id)
int getId() const  return id;
void seeItems();
void searchItems(const std::string searchItem);
void addItemToCart(const std::string item, int quantity, double itemValue);
bool updateStock(const std::string item, int quantityChange);
void removeItemFromCart(const std::string item, int quantity);
void viewCart();
void continueToPurchase();
void updateSellerAndStoreFunds(int sellerId, double totalValue);
void viewHistory();
;
```

4.3 Admin Class

class Admin
std::string nickname;
std::string password;
public:
Admin(const std::string nickname, const std::string password)
: nickname(nickname), password(password)
std::string getNickname() const return nickname;
std::string getPassword() const return password;
void seeInventory() const;
void updateInventory();
void addItemToInventory(const std::string itemName, double price, int quantity);
void deleteItemFromInventory(const std::string itemName);
void changeItemInInventory();
void seeSellers() const;
void removeSeller(const std::string sellerName);
void seeItemsPerSeller(const std::string sellerName) const;
void seeCustomersHistory() const;
void seeStatistics() const;
;

4.4 Utility Functions

void clearScreen()
system($\text{CLEAR}_C OMMAND$);

$voidshowLogo(conststd::stringuserType)std::cout << "APS-" << userType << "";$

5   Usage Instructions

To use the APS, compile and run the provided code. The main menu will guide you through registering and logging in as a customer, seller, or admin.

- Register: Choose your role (Customer or Seller) and provide the required details

- Login: Use your credentials to log in and access the respective functionalities

- Admin Access: Admins can log in using their credentials and manage the system.

6   Conclusion

The "Advanced Purchase System" (APS) represents a robust solution for managing and simplifying the purchasing process. Whether you are a customer looking to streamline your shopping experience, a seller aiming to efficiently manage your inventory, or an admin overseeing the entire system, APS offers a comprehensive suite of tools designed to meet your needs.