Transaction Tracking and Management System

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GROUP 7

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Introduction

“Transaction Tracking System for Small Business Owners”

Many small business owners struggle to accurately track their sales, payments, and inventory because they only rely on manual, handwritten recording *(Wynn & Kuhn, 2021)*. The Transaction Tracking and Management System simplifies sales, payment, and inventory tracking for small business owners. The users can record transactions digitally, and the system automatically generates organized receipts that can be viewed or printed using Notepad, making business management more efficient, easier, and more accurate

The Problem

“Transaction Tracking System for Small Business Owners”

1. Manual Tracking takes too much time.
2. Manual tracking can lead to lost or incomplete data.
3. Human manual computations mistakes affects the accurancy of the records.
4. Manual tracking of transactions takes too much time.

Design of an Transaction Tracking and Management System

Project Objectives

1. Develop a system that:

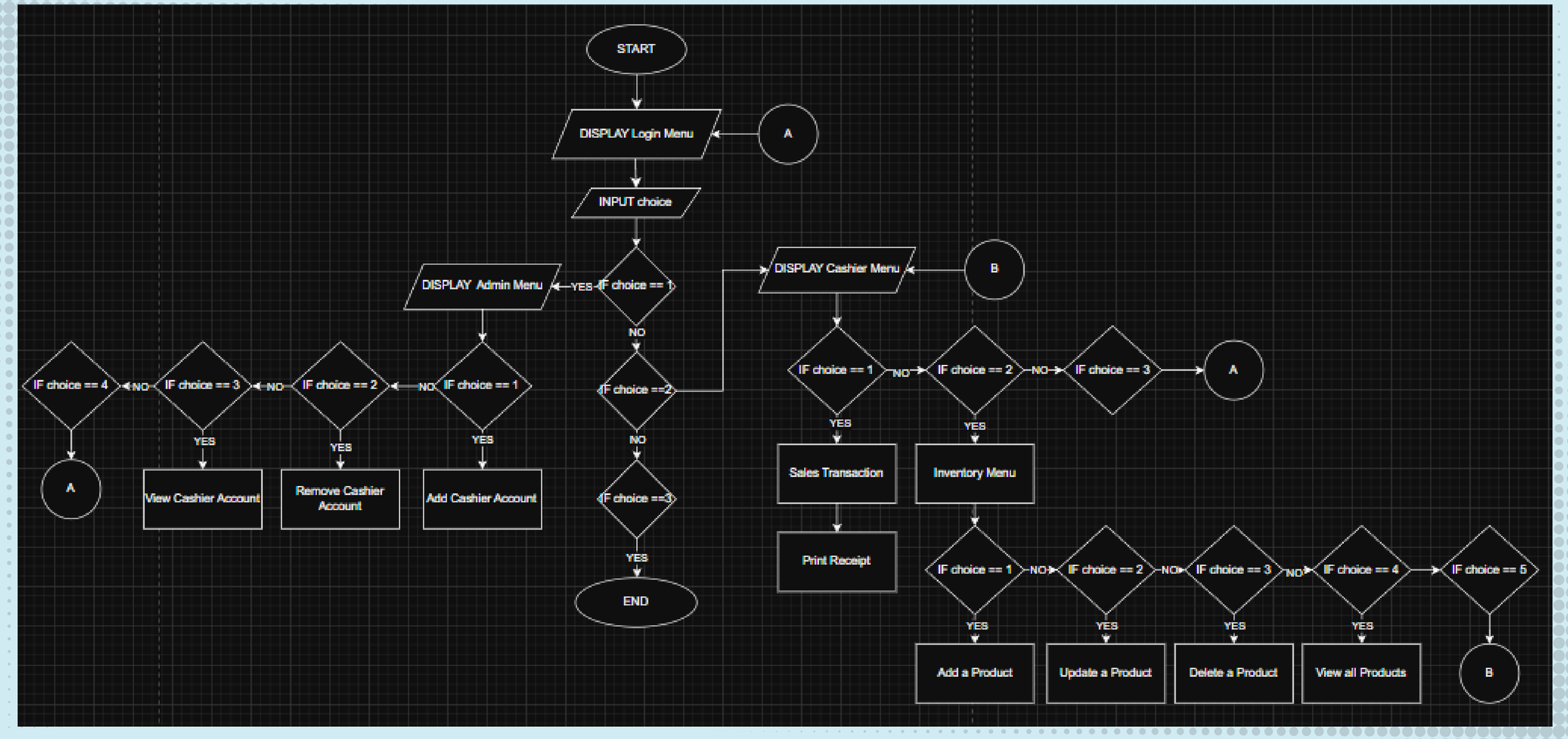
    a. Provides secure access through a cashier and admin login feature.
    b. Create a user-friendly C++ system that simplifies product transactions.
    c. Manages inventory by adding, updating, deleting, and viewing products.
    d. Generates a receipt after each transaction.

2. Test and evaluate the system’s accuracy.

```
START PROGRAM
OUTPUT "Welcome to Transaction Tracking and Management System"

LoginMenu:
REPEAT
    OUTPUT "1. Admin 2. Cashier 3. Exit"
    INPUT choice

    IF choice = 1 THEN
        LOGIN as Admin
        IF valid THEN
            OUTPUT Admin Menu (Add Cashier, Remove Cashier, View All Cashier, Logout)

            IF Add Cashier THEN
                INPUT cashierUsername & cashierPassword
            ELSE IF Remove Cashier THEN
                INPUT cashierID
            ELSE IF View all Cashier THEN
                OUTPUT ALL cashierUsername
            ELSE IF Logout THEN GOTO LoginMenu
        ELSE
            OUTPUT "Invalid Username or Password"
        END IF

    ELSE IF choice = 2 THEN
        LOGIN as Cashier
        IF valid THEN
            OUTPUT Cashier Menu (Sales Transaction, Inventory, Logout)

            IF Sales Transaction THEN
                DO transactions & OUTPUT receipt IN NOTEPAD
            ELSE IF Inventory (Add Product, Remove Product, View All Product)
                IF Add Product THEN
                INPUT productID, productName, productStock
            ELSE IF Remove Product THEN
                INPUT productID
            ELSE IF View All Products THEN
                OUTPUT productName
        ELSE
            OUTPUT "Invalid Username or Password"
        END IF

    ELSE IF choice = 3 THEN
        OUTPUT "Exiting Program…"

END PROGRAM
```

PSEUDOCODE (ALGORITHM)

FLOWCHART
(GENERAL SYSTEM ARCHITECTURE)



RESULTS & DISCUSSION

Categories	Description	Results	Remarks
Login & Authentication	Test if the user can enter using incorrect username and password	Login is secure and handles the error properly	☑
Transaction Management	Test if adding, updating or deleting a product works properly	All transaction commands are accurate	☑
Inventory Update	Test if the stock quantity updates whenever a transaction happens	Inventory stock updated after each transactions	☑
Computation Accuracy	Test if the computations are correct	All computations are accurate	☑

Conclusion

In conclusion the **Transaction Tracking and Management System** Project successfully achieves its main objective to help small business owners who still rely on manual and hand written records. The system includes important features such as a **secure login access for both admin and cashier, account management, inventory management, sales transaction** recording and receipt printing. This testing showed that the system can efficiently handle the transactions, accurate computation of totals and change, and can properly update the inventory section based on the user. All objectives of the project were achieved.

The system successfully provided user authentication for the account, simplified sales transactions, managed the product inventory, and generated receipts automatically after transaction. Overall, this project proved that even with a C++ program, small business operations can become more efficient and organized.

To further improve the system, future development on the system should include sales tracking and inventory shortage alert to improve data monitoring. Moreover, it should further develop a more structured Graphical User Interface (GUI) to improve the system's usability and make it more user friendly.

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Thank you!