**PRG 455 Project Report**

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# Introduction

The purpose of this project is to create a comprehensive Windows Forms application that facilitates management of product information within a computer shop. Through a user-friendly interface, the application empowers users to search, access detailed specifications, view images, and make purchases of computers or products. The primary objective is to streamline the entire customer journey, from initial product search to order processing and receipt generation. By integrating with an Access database, the application ensures accurate storage and retrieval of product data, customer information, and transaction records. The project enhances the user experience by offering detailed product insights and optimizes business operations by efficiently managing inventory, sales, and customer interactions. Overall, this project aims to deliver an all-in-one solution for product management, customer engagement, and transaction processing within the context of a computer retail environment.

## Code Implementation/User Manual

Form1:

Form1 is the first form that displays when the code is launched. It connects to an Access database, displays product information in a DataGridView table and allows searching for a specific item in the table named productData1 of the access source file. A click on any item will open a detailed view of the selected product. Users can search by model, type, or RAM, and view images and specs.

# A screenshot of a computer Description automatically generated

displayForm:

displayForm.cs presents detailed information about a selected product. It displays product attributes such as quantity, RAM, storage, and price, along with an image. Users can proceed to make a purchase by pressing the button “Continue” or press button “Return” to return to the main view.

A screenshot of a computer

Description automatically generated

transcationForm:

transactionForm.cs is dedicated to processing customer transactions. It handles saving customer and order details, updating product quantity in stock, and generating receipts. Users input customer information, purchase quantity, and make payments. The form streamlines the purchasing process within the application.

A screenshot of a computer

Description automatically generated

Receipt:

This last form displays a receipt for a customer's purchase. It shows customer details, order total, order number, and order date. Users can review the transaction and choose to exit the application. The form provides a comprehensive summary of the completed purchase.

A screenshot of a computer screen

Description automatically generated

## Screen captures of database and source code

Form1.cs

A screen shot of a computer

Description automatically generated

A screen shot of a computer code

Description automatically generated

displayForm.cs

A screen shot of a computer program

Description automatically generated

transactionForm.cs

A screenshot of a computer program

Description automatically generated

A computer screen with many colorful text

Description automatically generated

A screen shot of a computer code

Description automatically generated

Receipt.cs

A screen shot of a computer program

Description automatically generated

UserManager.cs

A computer screen with colorful text

Description automatically generated

receiptInfo.cs

A screenshot of a computer program

Description automatically generated

productsData1 table:

productsData1 table represents a collection of electronic devices including laptops and desktops from various brands like HP, Dell, Lenovo, Acer, and ASUS. The dataset details their specifications such as type, model, RAM, storage, price, and quantity in stock. This information facilitates product management and selection for users.

A screenshot of a computer

Description automatically generated

OrdersData table:

The 'OrdersData' table records customer orders, containing information such as orderID, customerID, productID, total cost, order date, and quantity. It helps manage and track customer purchases, ensuring accurate order processing and enabling the retrieval of order history and details.

A screenshot of a computer

Description automatically generated

CustomerData table:

The 'customerData' table stores information about customers who have interacted with the system. It includes details such as customerID, first and last names, phone numbers, card numbers, and email addresses. This data enables tracking and communication with customers, facilitating personalized interactions and order processing.

A screenshot of a computer

Description automatically generated

## Conclusion

In conclusion, this project represents a comprehensive and practical solution for managing a computer shop's inventory, customer interactions, and order processing. The system utilizes a Microsoft Access database to store crucial data, facilitating efficient and organized management of products, customer information, and orders.

The project consists of multiple interconnected forms that allow users to perform various tasks seamlessly. The first form serves as an inventory display, enabling users to browse and search through a variety of computer products. Upon selection, the second form provides detailed specifications and images of the chosen product, enhancing the customer's decision-making process. The third form handles the order processing, capturing essential customer data, calculating the total cost, and updating the inventory quantities accordingly. A fourth form generates and displays receipts, summarizing the order details for both the customer and the business.