



NORTHERN UNIVERSITY
B A N G L A D E S H

Department of Computer Science and Engineering

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Course Code: CSE 1290

Project Title: Super Shop Management System in C

Submitted To

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Abstract

This project presents a console-based **Super Shop Management System** developed in C. It simulates a retail shopping experience, allowing users to browse products, add items to a cart, apply discounts, and complete payments using various methods. The system supports dynamic cart updates, discount logic based on quantity and product diversity, and a final checkout summary.

The project emphasizes structured programming using arrays, structures, and functions. It demonstrates how C can be used to build real-world retail simulations and reinforces concepts like conditionals, loops, and user input handling.

Acknowledgment

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1. Introduction

Retail systems are essential for managing customer purchases, inventory, and payment processing. This project simulates a simplified version of a super shop where users interact with a menu-driven interface to select products, apply discounts, and finalize payments.

Problem Statement: Traditional shop systems often lack interactive features for discount logic and cart management. This system aims to provide a user-friendly interface with smart discounting and payment options.

Motivation: As C programmers, we wanted to create a system that mimics a real-world application while improving our understanding of structured programming.

Objectives:

- Build a console-based shopping system in C.
- Implement cart management and discount logic.
- Support multiple payment methods.
- Provide a final summary with savings and total cost.

Scope: The system is designed for educational purposes, with limited features compared to real-world **Super Shop Management System**.

2. Methodology / Implementation

Tools & Technologies:

- Language: C
- Compiler: GCC / Code::Blocks
- Platform: Windows

Key Features:

- Product catalog with 5 items.
- Cart system using arrays of structures.
- Quantity-based and combo-based discount logic.
- Editable cart before checkout.
- Payment method selection (Bkash, Nagad, Rocket, etc.).
- Final summary with discount and total.

System Architecture:

User Interface Layer: Displays products, cart, and prompts

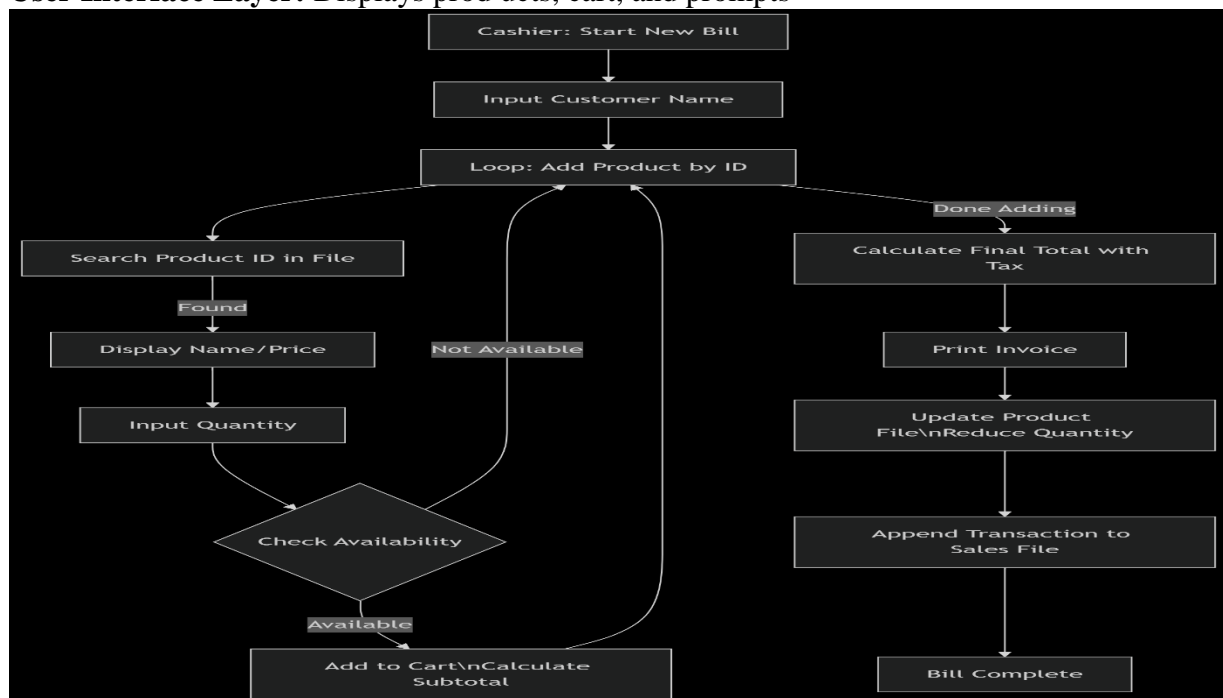


Figure 1: System Architecture

Application Logic Layer: Handles cart operations, discount calculations, and payment.

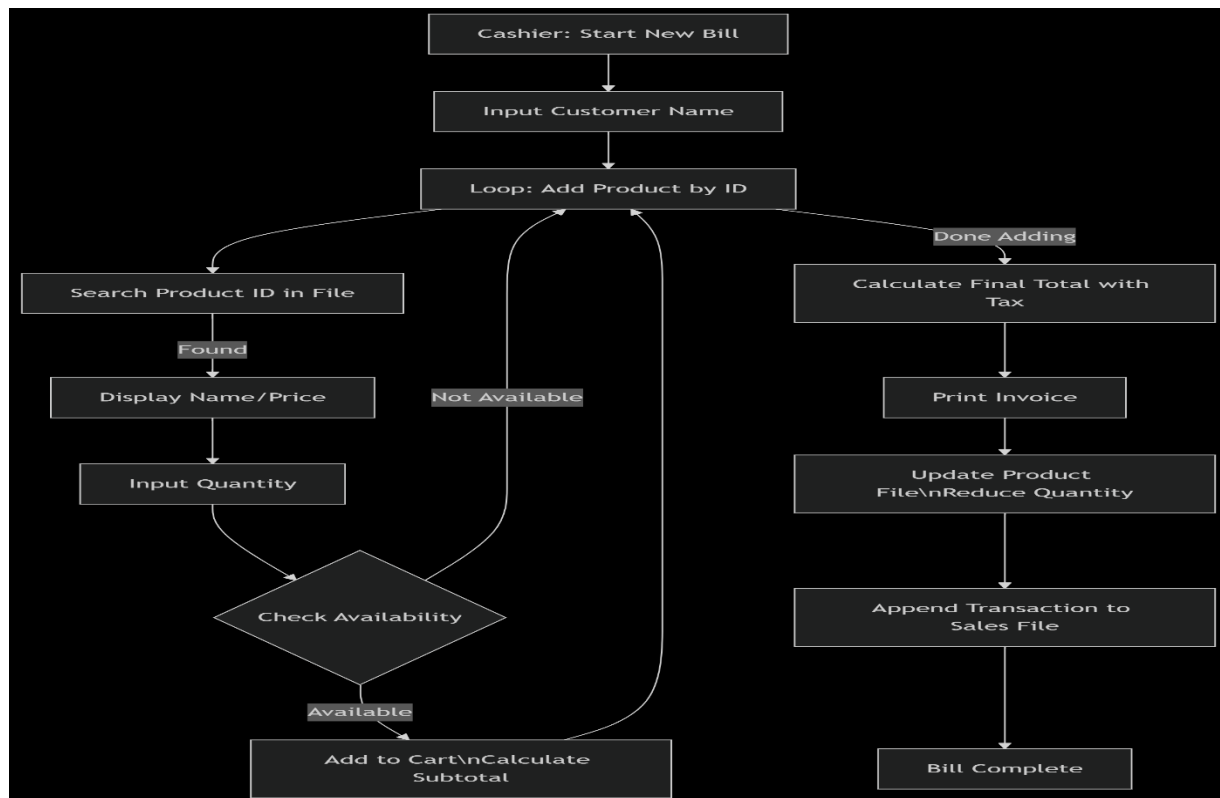
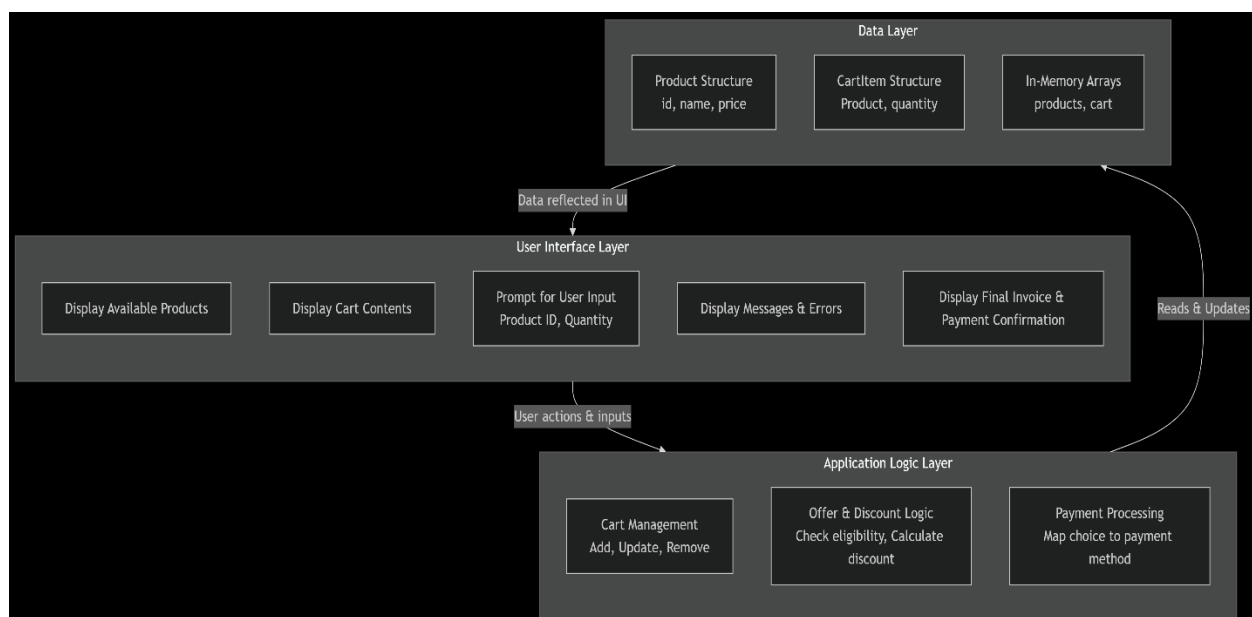


Figure 2: System Architecture

Data Layer: Uses structures to store product and cart data.



3. Innovation & Uniqueness

Smart Discount Logic:

- 10% off on 10+ units of a product.
- 20% off if all 5 products are bought and the total quantity is ≥ 15 .

Editable Cart:

- Users can adjust quantities before checkout.

Multiple Payment Options:

- Simulates real-world payment flexibility.

Console-Based UX:

- Clear prompts and emoji-enhanced feedback for better engagement.

4. Results & Discussion

Results:

- Users can add products, edit cart, and apply discounts.
- Payment method is selected and confirmed.
- Final summary shows total savings and amount due.

Discussion:

- **Strengths:**
 - Modular design with reusable functions.
 - Clear user feedback and error handling.
- **Limitations:**
 - No persistent storage (data lost after exit).
 - No GUI or database integration.

5. Applications & Future Scope

Applications:

- Educational tool for learning C programming.
- Prototype for retail checkout systems.

Future Scope:

- Add file I/O for persistent cart and transaction history.
- Integrate database for inventory management.
- Develop GUI version using C++ or Java.
- Add barcode scanning simulation.

6. Conclusion

The **Super Shop Management System** successfully demonstrates how structured programming in C can be used to simulate a retail shopping experience. It incorporates core programming concepts and provides a foundation for more advanced retail applications.

7. References

- Programiz – Learn C Programming: [programiz.com](https://www.programiz.com)
- GitHub Repository: [Super Shop Management System](#)
- ChatGPT (for guidance)

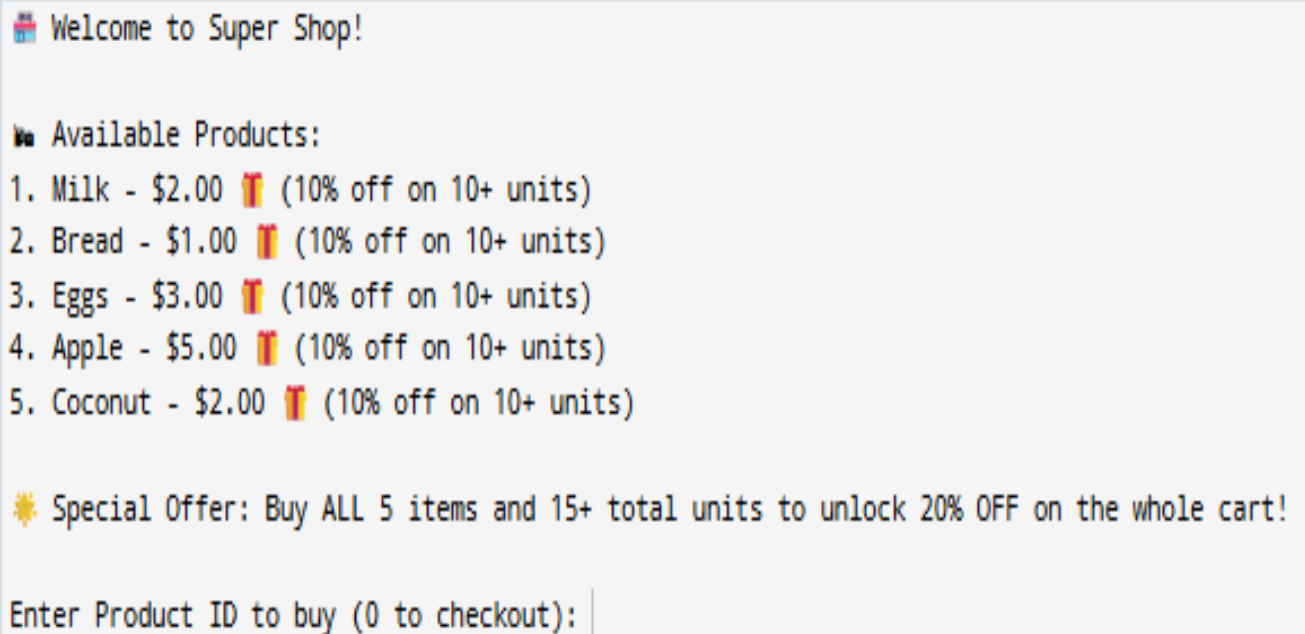
9. Appendices

Appendix A: Sample Outputs

- Initial Screen

A terminal window showing a welcome message. On the left is a small icon of a shop with a red roof and a blue door. To its right, the text "Welcome to Super Shop!" is displayed in a monospaced font.

- Product List

A terminal window showing a list of products and a special offer. It starts with the same shop icon and "Welcome to Super Shop!" message. Below that, it says "Available Products:" followed by a list of five items: 1. Milk - \$2.00, 2. Bread - \$1.00, 3. Eggs - \$3.00, 4. Apple - \$5.00, and 5. Coconut - \$2.00. Each item has a small red gift icon and a note "(10% off on 10+ units)". Below the list is a "Special Offer" message with a star icon: "Special Offer: Buy ALL 5 items and 15+ total units to unlock 20% OFF on the whole cart!". At the bottom, there is a prompt "Enter Product ID to buy (0 to checkout):" followed by a vertical bar cursor.

- **Cart Display**

```
🛒 Your Cart:
1. Milk x 15
2. Bread x 30
3. Eggs x 20
4. Apple x 21
5. Coconut x 30
```

- **Discount Messages**

```
☀️ You qualified for 20% OFF on your full cart!
💎 Total Discount Applied : $61.80
👤 Total Amount to Pay : $309.00
```

- **Final Summary**

```
🛒 Your Cart:
1. Milk x 15
2. Bread x 30
3. Eggs x 28
4. Apple x 21
5. Coconut x 30
☀️ You qualified for 20% OFF on your full cart!
💎 Total Discount Applied : $61.80
👤 Total Amount to Pay : $309.00
```

- **payment method**

☰ Choose a payment method:

1. Bkash
2. Nagad
3. Rocket
4. BankCard
5. Google Pay

- **Processing Payment**

🔒 Processing Your payment...

✅ Payment of \$309.00 confirmed via Google Pay!

🎉 You saved \$61.80 in discounts today!

🙏 Thank you for shopping with Super Shop!