



Semester Project Proposal

Group Members

Ahmad Ali (FA24-BSE-012)

Abdul Kareem (FA24-BSE-123)

Ahmed Faisal (FA24-BSE-126)

Review

Abdul Kareem (Documentation and Ideas)

Ahmed Faisal (Ideas and Research)

Ahmad Ali (Research and Brainstorming)

Project Overview

The Retail Inventory Management System is a C++ application designed to streamline the management of inventory in a retail environment. This system provides functionalities such as inventory display, sales processing, restocking, and weekly sales record tracking, along with ensuring secure access through cashier authentication. It uses fundamental C++ programming concepts like arrays, loops, file handling, and control statements, making it an ideal project for educational purposes.

Topics to Cover

- Control Structures
- Functions
- Arrays
- File Handling
- Formatted Input/Output
- Program Control Statements

- Weekly sales record analysis

General Objectives

- Efficient inventory management
- Authentication for secure access
- Accurate transaction processing

Project Scope

The Retail Inventory Management System is designed to handle various aspects of inventory control and sales tracking in a retail environment. It includes dedicated functions for inventory display, sales validation, restocking, and report generation. The system ensures data accuracy through structured control statements and formatted input/output.

Core Functionalities

- Display Inventory: Displays the current stock levels with item details.
- Sell Item: Processes transactions and updates inventory.
- Restock Item: Updates stock levels based on new supplies.
- Show Weekly Sales Record: Provides a detailed report of sales trends.
- Authentication: Ensures only authorized personnel access the system.
- Transaction Validity: Verifies transaction integrity and accuracy.

Future Improvements

- Implement a graphical user interface for better usability.
- Integrate barcode scanning to automate inventory updates.
- Add advanced analytics for sales and inventory performance.

System Design

Programming Language: C++

Software Used: Visual Studio, Text Files

Key Features: Console-based operations using arrays, functions, loops, control statements, and file handling.

Expected Outcomes

- A functional C++ application that simplifies retail inventory management.
- Secure and efficient data handling with authentication and file storage.
- User-friendly interface for retail staff to manage inventory and sales records.