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# Semester Project Proposal

## Group Members

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## Review

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## 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

## General Objectives

• Efficient inventory management  
• Authentication for secure access  
• Accurate transaction processing  
• Weekly sales record analysis

## 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.