

A
Java Mini Project Report
on
Supermarket management system

Submitted in partial fulfillment of the requirements for the
degree

Second Year Engineering – Computer Science Engineering (Data Science)

by

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Academic year: 2024-25

CERTIFICATE

This to certify that the Mini Project report on Supermarket management has been submitted by Muhammad Momin (24207008), AshokKumar Bhati (24207001), Piyush Ghadge (24207005) and Krish Patil (24207006) who are bonafide students of A. P. Shah Institute of Technology, Thane as a partial fulfillment of the requirement for the degree in **Computer Science Engineering (Data Science)**, during the academic year **2024-2025** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

Sarala Mary
Guide

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1.

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1.

Place: A. P. Shah Institute of Technology, Thane

Date:--/10/24

ACKNOWLEDGEMENT

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Chapter 1:

Introduction

Supermarket Management System in Java is a software application designed to automate and streamline the processes of inventory management, billing, and customer tracking in a supermarket. This system is designed to automate and simplify the supermarket's core functions, such as managing inventory, handling billing, and tracking customer data

1.1. Purpose:

The purpose of this document is to provide a comprehensive guide to a Supermarket Management System (SMS) developed in Java. This system is designed to streamline various supermarket operations such as billing, customer management, and reporting, helping to improve efficiency, accuracy, and customer satisfaction.

1.2. Objectives:

- ☐ Ensure real-time operations to reduce manual processes and improve efficiency.
- ☐ Develop an accurate billing system for efficient transaction processing.
- ☐ Create a user-friendly interface for ease of use by staff and customers.
- ☐ Securely manage customer and sales data to maintain confidentiality.

1.3. Problem Statements:

- ☐ 1-Automate billing and calculate total payments.
- ☐ 2-Enable product searches with filters and provide recommendations.
- ☐ 3-Manage online orders and payment processes.
- ☐ 4-Provide customers the ability to create and manage shopping lists before visiting the store.

- ☐ 5-Create a system that adjusts the prices dynamically based on stock levels.

1.4. Scope:

- ☐ The system will support various payment methods including cash, cards and e-wallets to enhance customer convenience.
- ☐ Generate detailed reports on daily, weekly and monthly sales helping management analyze performance and identify trends.
- ☐ Implement a feature that handles customer requests for product retruns or exchanges, updating inventory accordingly.
- ☐ The project will provide a streamlined billing system with item scanning, automated total calculation, tax addition, and discount application.

Chapter 2:

Proposed system:

The proposed Supermarket Management System will automate key functions such as inventory tracking, billing, customer management, and sales reporting. It will provide an efficient way to manage stock levels, streamline the checkout process with barcode integration, and generate detailed sales reports. The system will also allow role-based access for staff, ensuring security and effective operations. This solution aims to reduce manual errors, enhance operational efficiency, and improve the overall customer shopping experience.

2.1 **Formats and functionality:**

- ☐ Inventory management.
- ☐ Customer management.
- ☐ Searching and filtering.
- ☐ Sales and Billing.

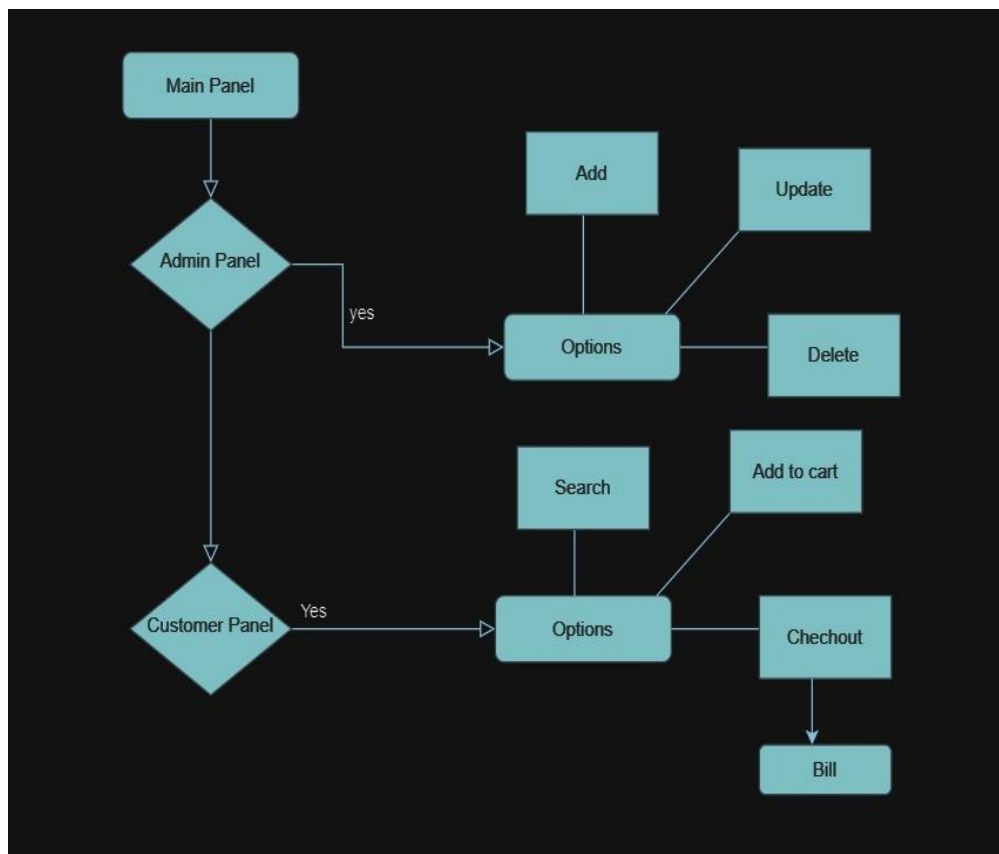
2.2 Project outcomes:

The Supermarket Management System project successfully streamlined and automated essential supermarket operations, resulting in significant improvements in efficiency and customer service. The system provided efficient inventory management, enabling staff to easily track stock levels. It also automated the sales and billing process, reducing manual errors and speeding up checkouts, which led to shorter wait times for customers. The system's ability to generate revenue allowed management to make informed decisions and improve business performance. Additionally, its user-friendly interface ensured that employees could quickly learn and operate the system with minimal technical training. Overall, the project led to enhanced operational efficiency, cost reductions, and better customer satisfaction.

2.3 Software requirements:

- ❑ Front-end: Java swing.
- ❑ Back-end: MySQL 8.0CE.
- ❑ Compiler: Visual studio code and Eclipse.
- ❑ Database connectivity: Java database connectivity(JDBC).

2.4 Project Design:



2.5 Project Scheduling:

2.6 Result:

The fig 2.6.1:

1.Admin Panel: Clicking this button likely takes users to a section where administrators can manage various aspects of the supermarket, such as inventory, product information. It would typically have features for adding, editing, or removing products.

2.Customer Panel: This button leads to a section designed for customers. It may allow customers to search & view available products, make purchases, check out. This panel is likely focused on enhancing the shopping experience.

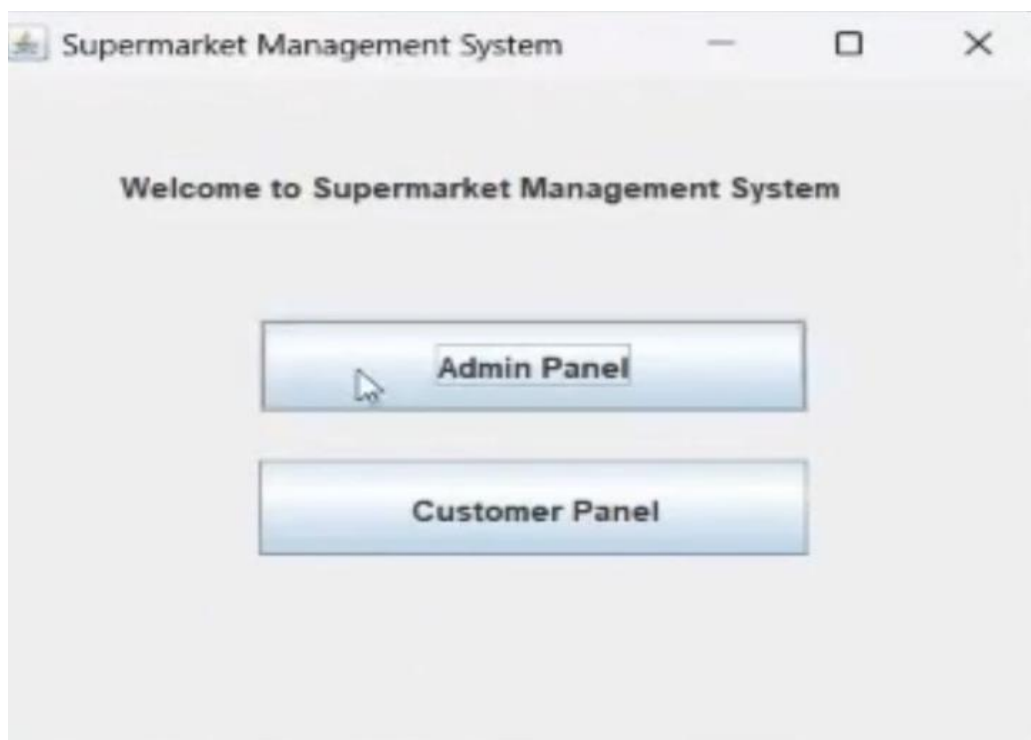
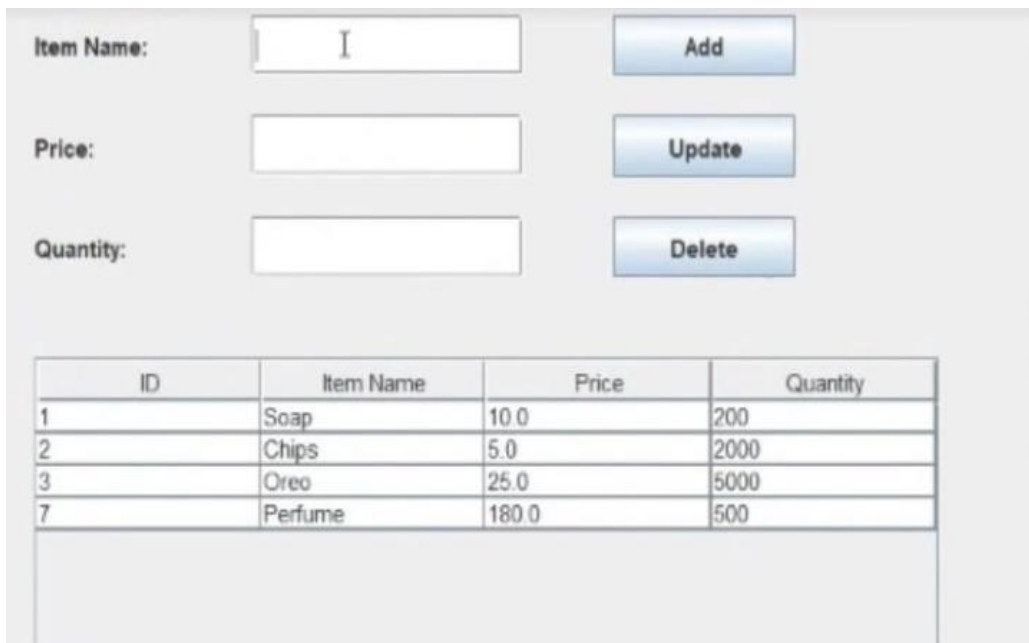


Fig.2.6.1 Home Page

The fig 2.6.2 shows a section of the "Admin Panel" in the Supermarket Management System, where items can be managed. There are input fields for "Item Name," "Price," and "Quantity," accompanied by three buttons: "Add," "Update," and "Delete." These buttons allow the admin to add new products, update existing ones, or delete them from the inventory. Below these controls, a table displays a list of current items with details such as ID, Item Name, Price, and Quantity, helping the admin to keep track of the inventory.



The Admin Panel interface includes three input fields and three buttons. The 'Item Name' field contains the letter 'I'. The 'Price' and 'Quantity' fields are empty. The 'Add', 'Update', and 'Delete' buttons are blue with white text. Below these controls is a table with four columns: ID, Item Name, Price, and Quantity. The table contains four rows of data.

ID	Item Name	Price	Quantity
1	Soap	10.0	200
2	Chips	5.0	2000
3	Oreo	25.0	5000
7	Perfume	180.0	500

Fig2.6.2 Admin Panel

The figure fig 2.6.3 shows a "Customer Panel" interface in the Supermarket Management System. It features a search bar for finding products, a table listing items with their ID, name, price, and quantity, and a section for adding items to the cart by specifying the desired quantity. The selected items are displayed in a summary on the right, along with their cost calculations. A "Total" field shows the cumulative cost, and there is a "Checkout" button for completing the purchase. This interface allows customers to efficiently search, select, and buy products.

The interface consists of a search bar at the top left, a table of items in the center, and a summary section on the right. The table has columns for ID, Item Name, Price, and Quantity. The summary section shows the cost calculations for selected items and a total amount. A "Checkout" button is located below the summary. At the bottom left, there is a "Quantity" input field and an "Add to Cart" button.

ID	Item Name	Price	Quantity
1	Soap	10.0	200
2	Chips	5.0	2000
3	Oreo	25.0	5000
7	Perfume	180.0	500

Perfume - 10 x \$180.0 = \$1800.0
Chips - 1999 x \$5.0 = \$9995.0

Total: \$11795.0

Checkout

Quantity: Add to Cart

Fig2.6.3 Customer Panel

The fig 2.6.4 shows a "Bill Summary" popup from the Supermarket Management System. It shows the name of the customer, "Krish," and lists the items purchased along with their quantities and total costs. In this case, Krish bought 5 units of Soap for \$50.0 and 10 units of Oreo for \$250.0, resulting in a "Total Amount" of \$300.0. The message concludes with a thank-you note, and there is an "OK" button to close the summary. This popup provides a clear and concise receipt for the customer.

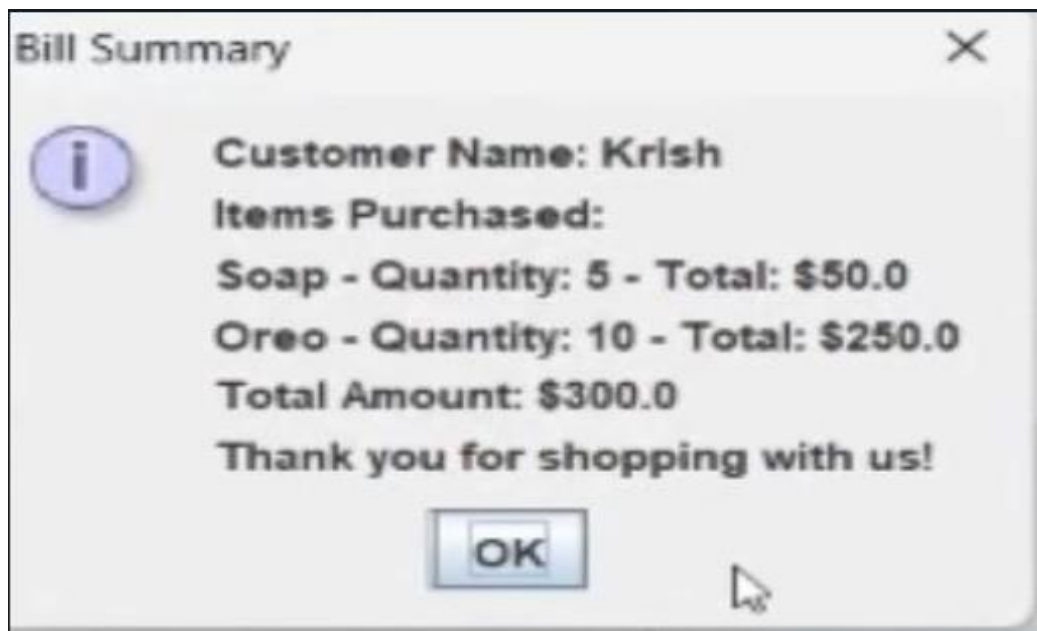


Fig2.6.4 Customer Bill

2.7: Conclusion;

The Supermarket Management System provides a comprehensive solution to streamline and optimize supermarket operations. By automating tasks such as inventory management, billing the system enhances efficiency, reduces human errors, and improves overall customer satisfaction. With its integrated features like searching, filtering ,and payment options, the system is capable of supporting both

small-scale and large-scale supermarket operations. In conclusion, this system plays a vital role in modernizing supermarket operations, improving productivity, and providing a seamless shopping experience for customers.

Note: Add all chapters as per index one after another.

- **Format to Represent Diagrams in report :**

Each diagram must be horizontally aligned at center and the content of each diagram must be in readable form. Diagram name must be below the diagram in times new roman with font size 11 and bold.

e.g. **Figure 3.1: Waterfall model**

- **Format to Represent Table in report :**

After every table mention table name in times new roman with font size 11 and bold.

e.g. **Table 1.1: Comparison of Algorithms**

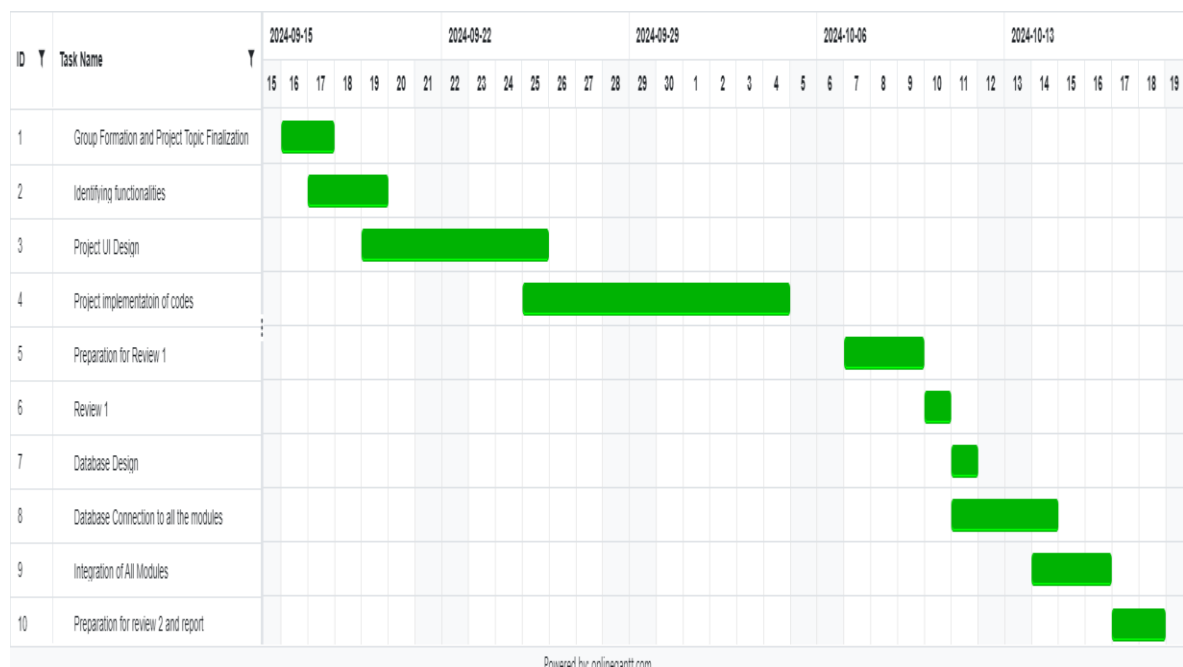
<**Main Instruction** : All the content of report must be with justified alignment and with spacing of 1.5 throughout the report. Also maintain the proper indentation while preparing report>

ALL THE PAGES AFTER INDEX MUST BE WITHOUT BORDER

Project Scheduling Template

Please prepare Gantt Chart for the project scheduling as per your project tasks and work completed.

≤Like wise students are expected to prepare schedule for project implementation related activities which they are expected to complete in this semester. The schedule should be prepare from July to October month>



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