

Mawlana Bhashani Science and Technology University
Santosh, Tangail -1902



Department of Computer Science and Engineering

Course Title: Software Development Project – I and Industrial Tour

Course Code: CSE -2112

Project Title: Supermarket Billing System.

Project Report

Submitted By:

Sagor Sarker

ID: CE-19004

Year: 4th

Semester: 2nd

Session: 2018-19.

Supervised By:

Md. Mosaddik Hasan

Associate Professor

Department of CSE,

MBSTU.

TABLE OF CONTENT

INDEX	CONTENT	PAGE
1	Introduction	3
2	Background and motivation	3
3	Features	4-5
4	Description	6-11
5	Project Management	12
6	Limitations and future possibilities	12-13
7	References	13
8	Conclusion	14

❖ **Introduction:**

Imagine a hassle-free shopping experience at your local supermarket. Our project, the "Supermarket Billing System" in C, is all about making this a reality. It's like a smart calculator for the store, helping cashiers swiftly and accurately calculate your purchases. With this system, we're making sure you're charged the right amount, the store keeps track of its products, and everyone leaves happy. Join us as we simplify shopping, one bill at a time.

❖ **Background and motivation:**

Picture long queues at the supermarket checkout, mistakes in bills, and the constant struggle to keep track of inventory. This is where our project comes into play. We're motivated to create a solution that streamlines the shopping experience, reduces errors, and helps store owners manage their stock efficiently. With our background in C programming, we're confident we can develop a robust and user-friendly system that benefits both customers and store operators, making shopping faster and more accurate for everyone.

❖ **Features:**

1. Add Item Function:

- Adds a new item with its name, quantity, and price to the supermarket inventory file.
- Helps keep track of available products.

2. Include Tax Function:

- Takes a tax percentage as input and recalculates item prices in the inventory file, including the tax.
- Ensures accurate pricing with taxes included.

3. Include Discount Function:

- Accepts a discount percentage and updates item prices in the inventory file, applying the discount.
- Allows for special pricing or promotions.

4. Edit Item Function:

- Allows the user to modify an item's name, quantity, and price in the inventory file.
- Enables easy updates to item details.

5. Delete Item Function:

- Removes an item from the inventory file based on the item name.
- Helps maintain an up-to-date inventory.

6. Show Bill Function:

- Retrieves item details from the inventory file and displays them neatly, including name, quantity, and calculated price.
- Presents a clear and organized bill for customers.

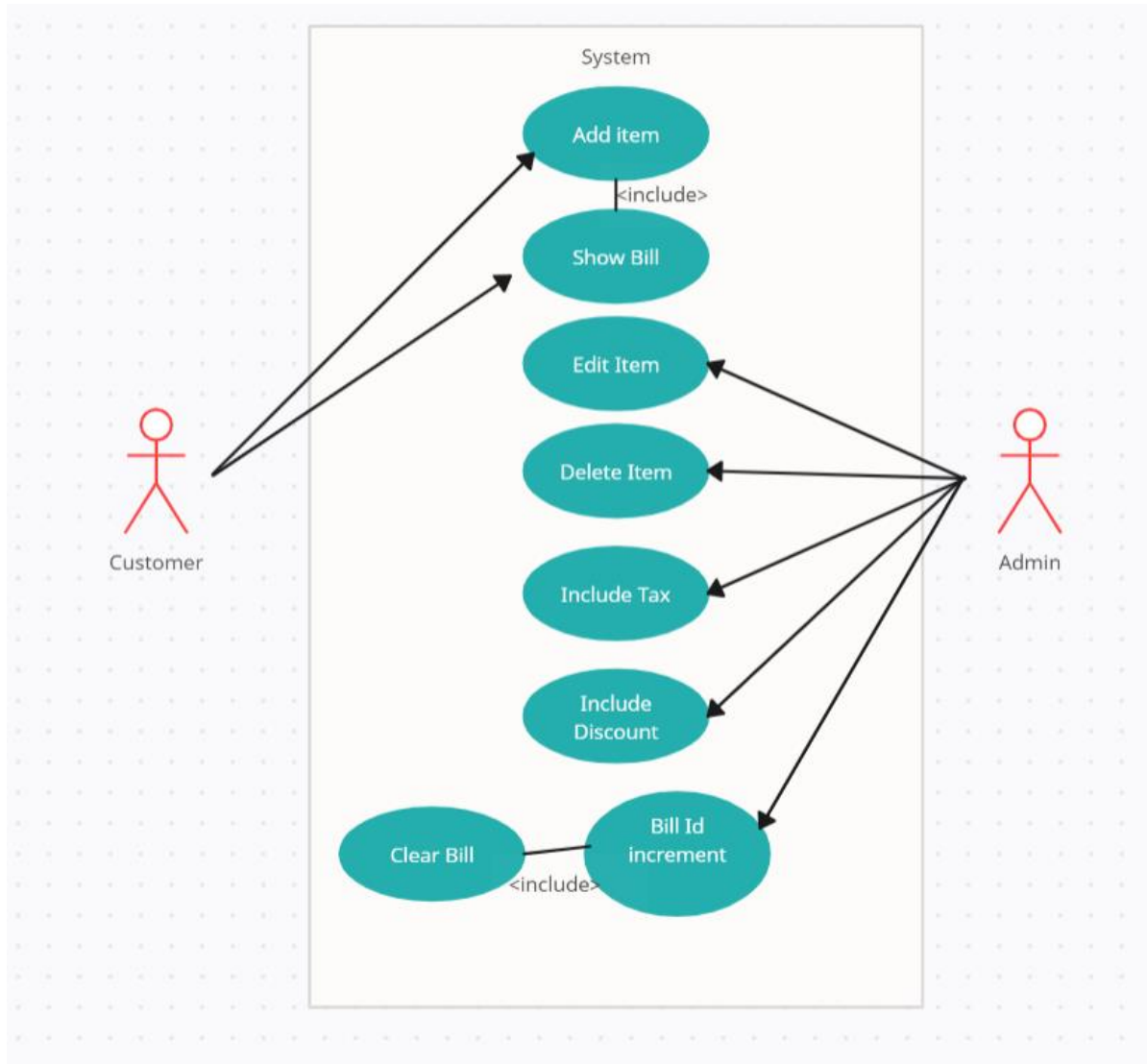
7. Clear Bill Function:

- Asks for confirmation and, if approved, clears all items from the inventory file.
- Useful for starting a new billing session or performing inventory maintenance.

8. There are some extra features like eye-catching and easy user interface, and it generates a next bill id when admin clears the bill.

❖ Description:

- Use case Diagram:



- **Algorithm and Data structure:**

1. Array
2. Structure
3. Pointer
4. File

- **Software and function used:**

- **Software used:**

1. Notepad
2. Code block 20.03
3. Google Chrome.

❖ **Functions:**

`addItem():`

Allows the user to input an item's name, quantity, and price, and stores this information in the inventory file.

`editItem():`

Enables the user to edit an item's name, quantity, and price in the inventory file, maintaining up-to-date item details.

`includeTax(float taxPercentage):`

Accepts a tax percentage as input and updates item prices in the inventory file, including the tax, to ensure accurate pricing.

`includeDiscount(float discountPercentage):`

Takes a discount percentage as input and modifies item prices in the inventory file by applying the discount, facilitating special pricing or promotions.

`*deleteItem(const char itemNameToDelete)**:`

Deletes an item from the inventory file based on the provided item name, helping maintain an accurate inventory record.

showBill():

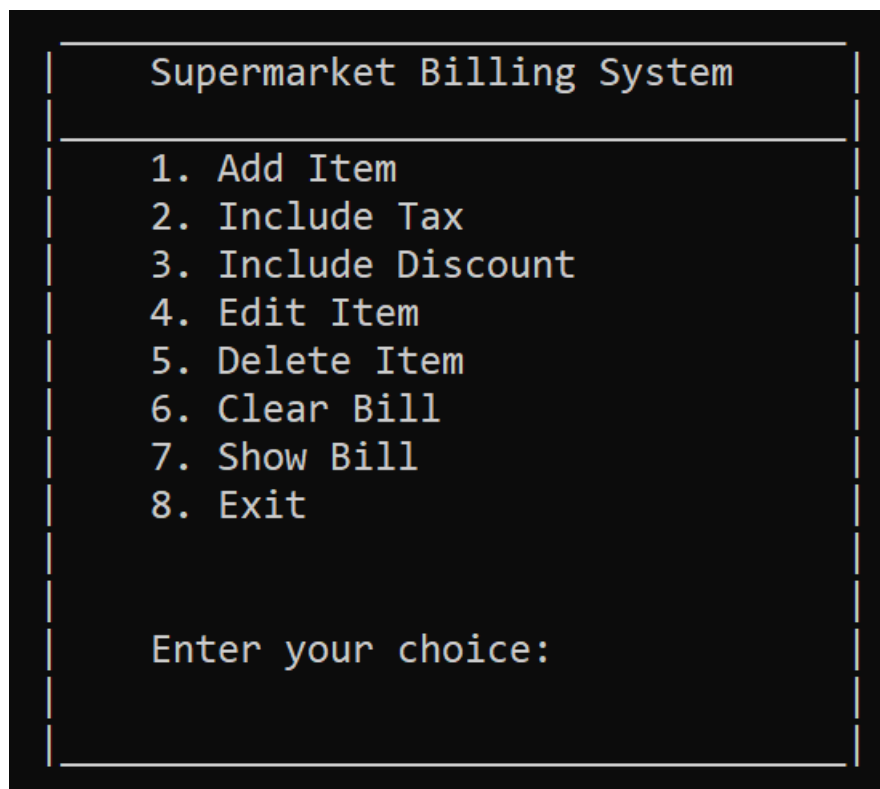
Retrieves item details from the inventory file and presents them neatly in a formatted bill, including item name, quantity, and calculated price.

clearBill():

Seeks user confirmation and, upon approval, clears all items from the inventory file, useful for initiating a fresh billing session or performing inventory management.

❖ Project view:

○ **Main menu:**



- **Add item:**

```

Add item
-----
Bill id-> 1000
-----
Enter item name: Rice
Enter quantity: 5
Enter price: 60_

```

- **Include tax:**

```

Enter tax percentage: 10

Item Name      Quantity      Price      Price + Tax
-----
rice           1           $50.00     $55.00
potato         5          $150.00    $165.00
Oil            1          $200.00    $220.00
Rice           5          $300.00    $330.00

Press any key to continue . . .

```

- **Include Discount:**

```
Enter discount percentage: 10
Item Name      Quantity      Price      Price - Discount
-----
rice           1           $50.00      $45.00
potato         5          $150.00     $135.00
Oil            1          $200.00     $180.00
Rice           5          $300.00     $270.00
Press any key to continue . . .
```

- **Edit Item:**

```
Enter the item name to be edited: rice
Enter new quantity: 10
Enter new price for 1 quantity: 40

Item edited successfully.
Press any key to continue . . .
```

- **Delete Item:**

```
Enter the name of the item to delete: Rice
Item 'Rice' deleted successfully.
```

- **Show Bill:**

Item Name	Quantity	Price

rice	10	\$400.00
potato	5	\$150.00
Oil	1	\$200.00
Press any key to continue . . . <input type="checkbox"/>		

- **Clear Bill:**

```
Are you sure you want to clear the item list?  
(Type 'yes' to confirm): yes
```

❖ **Project Management:**

Activity	Date
Project Proposal	08/02/2023
Project Approval	20/02/2023
Requirement Specification	25/02/2023
Hardware and Software Setup	04/03/2023
UML Design	23/03/2023
Coding and Debugging	12/04/2023
Testing	20/06/2023
Project Report	23/09/2023
Presentation	25/09/2023

❖ **Limitations:**

- Not online system
- Traditional File system.
- Doesn't Contain User authentication system

❖ **Future possibilities:**

- Developing an android app for this system and make it onlineusable.
- Increase facilities of using devices.
- Provide information how to use those devices and their functionalities.

❖ **References:**

1. <https://www.javatpoint.com/c-programming-language-tutorial>
2. <https://www.w3schools.com/c/>
3. https://www.youtube.com/watch?v=gq_ZXCuRhU4&list=PLA1FTfKBAEX4hblYoH6mnq0zsie2w6Wif
4. <https://www.youtube.com/watch?v=6nOavbvFvbY&list=PLgH5QX0i9K3pCMBZcul1fta6UivHDbXvz>

❖ **Plan of work:**

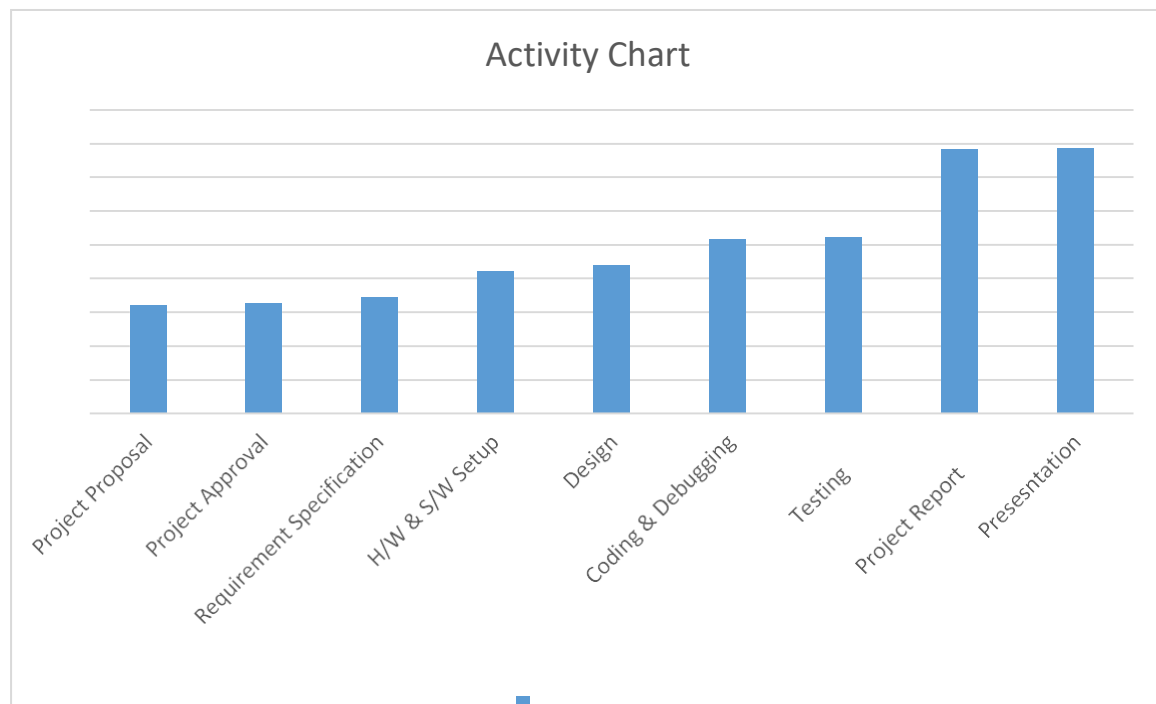


Fig: Plan of Work

❖ **Conclusion:**

This supermarket billing system simplifies inventory management and accurate billing. It allows for easy item additions, edits, tax inclusion, and discounts, ensuring customer satisfaction. With further enhancements, it can become a powerful tool for efficient store operations.

Signature of supervisor

Date:
