



Project Proposal

Grocery Shop Management System

Project - ICT 2212
Bachelor of Information and Communication Technology
(BICT)
Degree Programme

Details of the Project

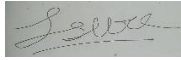
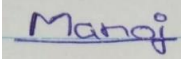
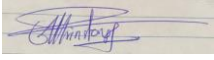
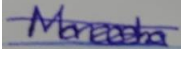
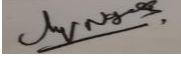
Project Title : Grocery Shop Management System

Group Number : 01

Group Name : Techno

Submission Date : 09/08/2023

Group Members :

Student Name	Index Number	Signature
P.W.D.I.M Rodrigo	1357	
H.M.M.A Herath	1313	
G.P Rockshan	1356	
P.H.M.T Perera	1344	
A.R.M Najas	1335	

Supervisor(s)

Name : Ms. Oshadhi Munasinghe

Designation : Lecturer (Temporary)

Department : Information and Communication Technologys

Email : okmunasi@tec.rjt.ac.lk


Signature :  Date: 03/08/2023

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Introduction

A Grocery store management system is the system where all the aspects related to the proper management of a grocery store are done. These aspects involve managing information about the varied products, staff, managers, customers, billing, etc. This system provides an efficient way of managing grocery store information. Also allows the customer to get and buy the things purchased.

This project is based on the sales transaction and billing of items in a grocery store. The first activity is based on adding the items to the system along with the rate which is present in the grocery store and the name of the items which the grocery store will agree to sell. This authority is given only to the admin (administrator). Any modifications to be wiped out the item name and therefore the rate is often done only by admin. He also has the proper to delete any item. As the customer buys the products and involves the billing counter, the user is meant to enter the item name he purchased and therefore the quantity of the item he had purchased. This is not an enormous task.

This study is to produce software that manages the sales activity done in a grocery store, maintaining the stock details, and maintaining the records of the sales done for a particular month/year. The users will consume less time in calculation and therefore the sales activity are going to be completed within a fraction of seconds whereas manual system will make the user write it down which is a long procedure and so paperwork will be reduced and the user can spend more time on the monitoring the grocery store. The project is going to be user-friendly and straightforward to use. The system will display all the things whose name starts with the letter selected by the user. He can select out of those displayed. Finally, a separate bill is going to be generated for every customer. This will be saved in the database. Any periodic records are often viewed at any time. Admin provides a singular username and password for every employee through which he can log in.



Figure 1

Problem Statement

Effective management of grocery store for reducing workload on the shopkeeper

Being Computer Technology students, we had to go into the business department to learn some basic sales and grocery store management topics to increase our intellectual understanding on the project at hand it was really tasking. Building a standard Grocery Store management system was not an easy task looking at the problems of existing manual system.

The factors for these difficulties are:

- 1. Time Consumption:** Manual systems are time consuming, as the business owner must keep track of Grocery store sales on a daily basis, while updating the system manually at the end of the day.
- 2. Poor Communication:** A manual Grocery store system requires employees and managers to write down each time an item is removed from the Grocery store. If one employee forgets to mention that the last coffee product has been removed from the Grocery store, a manager expects the item to still be available for a customer during a sale. Compared with a technical Grocery store system, a manual Grocery store system does not help the communication in the workplace.
- 3. Physical Counts:** A manual Grocery store system does not provide any number, as all numbers from the Grocery store are gained through physical Grocery store counts. One of the difficulties of running a manual Grocery store system is that physical Grocery store counts must be performed frequently to control the items in the Grocery store. This is time consuming and can cost the business money, if employees must come in to assist outside of business hours.
- 4. Daily Purchases:** Keeping track of daily purchases is another difficult controlling measure with manual Grocery store systems. A manual Grocery store system requires the employees to write down the items sold during a single workday is can be a difficult task, together employees may lose the list of things sold or another may forget to write down a purchase.
- 5. Ordering Supplies:** A manual Grocery store system does not update at the end of the day with an updated Grocery Store.



Figure 2

Proposed Solution

To overawed all these problems that is mentioned in existing system, we are evolving a solution that is, as an alternative to go in shopping mall and store, we can chase for the good using our mobile, through internet make shopping easy. Delivery options are added in system that's help for customer. We can added products also delete in cart. The best service give to customer and money on distribution accessible that's makes a helpful system to customer.

Scope of the project

Various supermarkets have easy functioning of their store due to smooth management of bills, stock, and the information of the products. Small grocery shops lack easy management as there is a lot of documentation and overload for the employees due to the unavailability of the management system. As the existing system is expensive which the small grocery store can't afford, our system is user-friendly and less expensive which will help in easy management of the store. Our system has some limitations where all the 3 users which are Admin, Employee, and Customer, cannot use the system simultaneously which can make the management and billing work faster. Also, this Grocery Store Management System can be used for managing other stores too if appropriate changes are done in the system.

Aim

To provide an advanced system to make the functions of shop (shopping and grocery activities) easy and efficient one with an advanced user friendly system.

Objectives

- **Inventory Management:** to efficiently manage and track inventory of products, ensuring optimal stock levels and minimize overstocking
- **Sales Tracking:** to keep track of daily sales
- **Point of Sale (POS) Operations:** Provide a user-friendly interface and support barcode scanning, price calculations, discounts, and payment processing.
- **Customer Relationship Management (CRM):** Maintain customer profiles and purchase histories to personalize services and promotions.
- **Supplier Management:** Manage relationships with suppliers, track orders, and ensure timely product deliveries.
- **Order Processing:** Process customer orders efficiently, from order placement to delivery or pickup.
- **Employee Management:** Manage employee schedules, roles, and responsibilities.
- **Reporting and Analytics:** Generate reports on sales, inventory, profit margins, and other key metrics.
- **Efficient Billing and Invoicing:** Generate accurate invoices and receipts for customer purchases and integrate with payment gateways for secure online payments.
- **Security and Data Privacy:** Implement role-based access control to restrict system access based on user roles and ensure the data security through encryption and authentication mechanisms.

- **Operational Efficiency:** Streamline internal processes to reduce manual work and human errors and increase the speed of transactions
- **Time and Cost Savings:** Automate tasks that were previously manual, saving time and reducing labor costs.

Technical Approach

Using the bellow languages to develop the system.

- Java - primary programming language.
- Java FX - graphical user interface.
- My sql - data base connection.

System Architecture:

Choose the architecture that suits your requirements. A common approach is a client-server architecture where the server manages the core business logic and data storage, and clients (web, mobile, or desktop) access the system's functionalities.

User Interface (UI)

- Design an intuitive and user-friendly interface for different user roles.
- Consider a responsive design to support various devices like desktops, tablets, and smartphones.

Inventory Management

- Create functionalities to add, update, and delete products in the inventory.
- Implement stock tracking, including quantity available, restocking alerts, and low-stock notifications.

Point of Sale

- Develop a POS module to handle customer purchases.
- Include features like barcode scanning, item lookup, discounts, tax calculation, and payment processing.

Scalability and Performance

- Design the system to handle a growing number of products, transactions, and users.
- Optimize database queries and system performance for efficient operation.

Project Work Plan

	January				February				March				April				May				June				July				August				September			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Introduction																																				
Group Registration																																				
Finalizing Project Topic and Mentors																																				
Requirements Gathering																																				
Preparing Project Proposal																																				
Coding and Testing																																				
Interface Designing																																				
Final Report Presentation																																				

Project Resources

- Development Team: Java Developers, UI/UX Designer
- Hardware: Desktop PCs for development and testing
- Software: Java Development Kit (JDK), Integrated Development Environment (IDE), MySQL Database

Conclusion

Grocery store Management System has to do with making an appropriate efforts to stop the rising problem to all manual grocery store operations in order to enhance the operation of such grocery stores.

In this project, the software or system that can be used to aid all grocery stores that are still operating manually has been successfully developed. The software can be implemented in all types of the grocery store. The software has a large memory for storing all the goods in the grocery store and also keeping records it is highly effective and accurate. With business opportunities increasing as never before, companies are in direct need of efficient management.

Maintaining a methodical way to manage large databases is one of these key areas, especially in the Retail Sector. DBMS is a vital tool for the future growth of business organization. It offers a simple, efficient, and reliable way of storing, managing and accessing data.



Figure 3

References

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