

**A PROJECT ON  
Grocery Management System**

SUBMITTED IN

PARTIAL FULFILLMENT OF THE REQUIREMENT

FOR THE COURSE OF DIPLOMA IN ADVANCED COMPUTING FROM CDAC



**SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY**

Hinjawadi

**SUBMITTED BY:**

Bharat Agrawal

**UNDER THE GUIDANCE OF:**

Miss Manjusha Nikam Ma'am

Faculty Member

Sunbeam Institute of Information Technology, Pune

## **ACKNOWLEDGEMENT**

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A project usually falls short of its expectation unless aided and guided by the right persons at the right time. We avail this opportunity to express our deep sense of gratitude towards Mr. Nitin Kudale (Center Coordinator, SIIT, Pune) and Mr. Yogesh Kolhe (Course Coordinator, SIIT ,Pune) .

We are deeply indebted and grateful to them for their guidance, encouragement and deep concern for our project. Without their critical evaluation and suggestions at every stage of the project, this project could never have reached its present form.

Last but not the least we thank the entire faculty and the staff members of Sunbeam Institute of Information Technology, Pune for their support.

**Bharat Agrawal**

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SIIT Pune

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## **CERTIFICATE**

This is to certify that the project work under the title 'Web Portal for Student and teacher' is done by **Bharat Agrawal** in partial fulfillment of the requirement for award of Diploma in Advanced Computing Course.

**Miss Manjusha Nikam**

**Project Guide**

**Mr. Yogesh Kolhe**

**Course Co-Coordinator**

Date: 16/07/2024

## 1. INTRODUCTION TO PROJECT

The web-based **Grocery Management System** project is an attempt to simulate the essential functions required to manage a grocery store effectively. This system enables customers to perform tasks such as browsing available grocery items, adding products to their cart, and placing orders. Additionally, it provides an admin interface for managing inventory, customer data, and product details.

The system includes a **Quick Search** feature that allows customers to view available products without the need to log in. However, to place an order, customers are required to log into their accounts for security and personalization purposes.

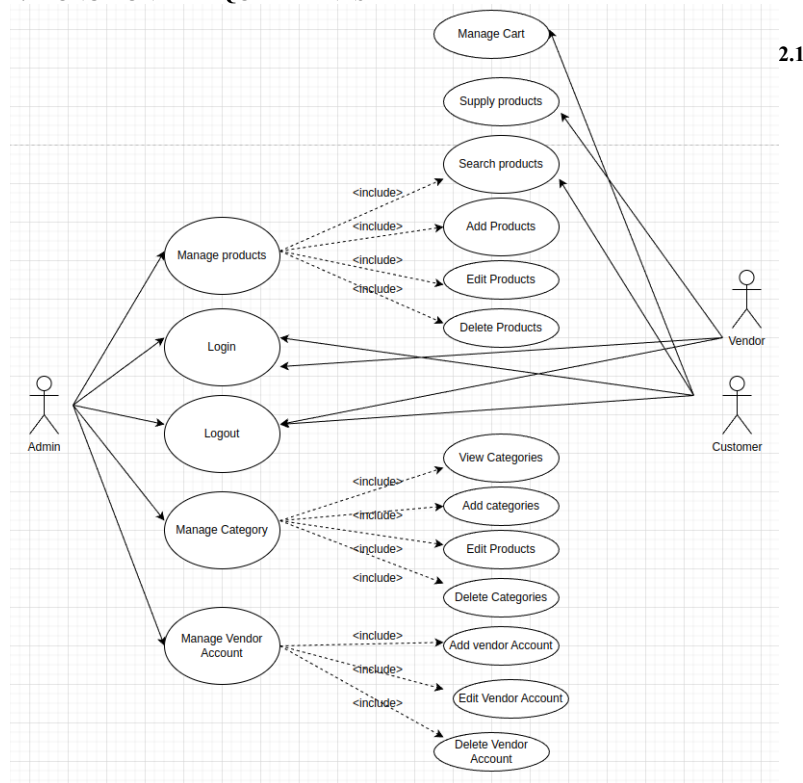
The system allows customers to browse through various grocery items, categorized for easy navigation. They can view details such as product name, price, and availability. The **Quick Search** feature lists all available products based on the customer's search criteria, enabling them to choose specific items for purchase. Once selected, the system checks the availability of the items in stock. If the items are in stock, the system allows the customer to proceed with the purchase; otherwise, it prompts the user to adjust their order.

To complete a purchase, the system requests the customer's details, including name, address, city, state, payment information, and contact number. The system then verifies the payment details and processes the order, updating the inventory and customer records in the database accordingly.

This system is designed to provide a seamless shopping experience for customers while ensuring efficient management of the grocery store's operations, making it a robust and practical solution for the retail industry.

## 2.REQUIREMENTS

### 2.1 FUNCTIONAL REQUIREMENTS



#### User Account

The customer, who will henceforth be called the 'user,' will be presented with 3 choices by the grocery management system as the first step in the interaction. A user can choose one of these options based on whether they are a guest or a registered user and whether they want to browse products or make purchases. The terms 'registered user' and 'guest' are described below.

A user who has made previous purchases through the system would have been given a user ID and a password. This 'personal information' will be henceforth referred to as a 'profile.' Such a user with a profile in the DB-user shall be called a 'registered user.' A registered user will be able to browse products, add them to the cart, and make purchases by logging into the system.

A new user, on the other hand, would either have to: a) Register with the system by providing personal information or b) Log in as a guest.

In the case of 'a,' the new user becomes a registered user. In the case of 'b,' the new user remains a guest. A guest can only browse products and cannot add items to the cart or make purchases. However, a registered user can also act as a guest if they only want to browse products.

'Browsing products' refers to viewing available products, categories, prices, and discounts. The system will present the user with an option to exit the system at any time during the following processes.

## **2.2 Registration and creation of user profile**

The system will require a user to register in order to carry out any transactions except for browsing products. It will ask the user for the following information at the least – a user ID, a password, first name, last name, address, phone number, email address, gender, age, and preferred payment method (e.g., credit card number). The system will automatically create a 'loyalty points' field and initialize it to zero in the user's profile.





There can be several products from different brands in the same category, and all of them will be listed for the user's selected criteria. In case the user has entered a broad search term, the system shall display all the relevant products. There will be an 'Add to Cart' button in front of every row displayed in the search results.

The system will then ask for personal information if the user is a guest and wishes to proceed with adding items to the cart or making a purchase. If the user is registered, they can add items directly to the cart.

#### 2.4 Making Purchases/Confirming Orders

After completing the search process, the system will now ask the user if they wish to proceed to checkout. If yes: a) If the user has been a guest, they will have to first register and become a registered user, then log onto the system. b) If the user is already a registered user and logged in, they can proceed to checkout directly.

The system will then validate the user's login and session status. If the user's session is valid, the system will prompt them to review their cart, update quantities if needed, and confirm their order.

The system compares the order date with the delivery date. If the delivery date falls within the next day or two, the system informs the user that they need to confirm the order immediately to ensure timely delivery. If the delivery date is more than two days away, the system asks the user if they would like to schedule the delivery or proceed with immediate delivery.

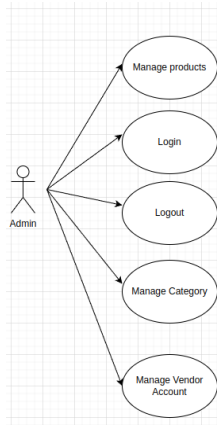
Having taken the input from the user, the system updates the 'order' database (DB-order). It decrements the available stock of the purchased items and updates the user's loyalty points.

If the user confirms the order, the system requests their payment information (e.g., credit card, debit card) and processes the payment.

## View Order History

The system allows a user to view all information about their previous orders. After logging in, it asks for their order number or customer ID. It accesses the 'OrderHistory' table and retrieves the details of past orders, presenting them to the user in a tabular format.

## Admin Functions



The admin can log in to add new products, update product information, delete products, and view customer information according to user ID.

## Non-Functional Requirements

- **Interface:** Go to Appendix B for user interfaces.
- **Performance:**
  - **Number of Concurrent Users:** The system should handle at least 1000 transactions/inquiries per second.
  - **Order Processing:** The system should maintain order processing integrity even in cases of temporary server failures.
- **Constraints:**

- **Concurrent Users:** The system must handle at least 1000 transactions/inquiries per second.
- **Other Requirements:**
  - **Hardware Interfaces:** The system should function on Intel PIII 900 MHz Processor or above, with 128 MB RAM, and 20 GB HDD.
  - **Software Interfaces:** The system shall work on MS Windows operating systems (e.g., MS Windows 98, MS Windows NT, MS Windows 2000, MS Windows XP), and use an MYSQL database. It will operate on an Node.js Express server and be compatible with modern browsers such as IE 5.0 & above, and IIS 5.0 server.

### 3. DESIGN

#### 3.1 Database Design

The following table structures depict the database design.

**Table1: User\_Info**

**Table2: Admin Info**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	AdminID	Number	4	0
	AdminName	Varchar	50	0
UNI	Email	Varchar	50	0
	Password	Varchar	255	0
	Mobile	Varchar	15	1

**Table3: CART**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	CartID	Number	4	0
MUL	CustomerID	Number	4	0
	DateAdded	Date		0

**Table4: CART-ITEMS**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	CartItemID	Number	4	0
MUL	CartID	Number	4	0
MUL	ProductID	Number	4	0

**Table5:  
CATEGORIES**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	CategoryID	Number	4	0
	CategoryName	Varchar	50	0
	Description	Text		1

**Table6:Inventory**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	InventoryID	Number	4	0
MUL	ProductID	Number	4	0
	Quantity	Number	4	0
	LastUpdated	Date		0

**Table7: ORDER-DETAILS**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	OrderDetailID	Number	4	0
MUL	OrderID	Number	4	0
MUL	ProductID	Number	4	0
	Quantity	Number	4	0
	UnitPrice	Decimal	10,2	0
	Discount	Decimal	5,2	1

**Table 8: ORDERS**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	OrderID	Number	4	0
MUL	CustomerID	Number	4	0
	OrderDate	Date		0
	ShipDate	Date		1
	ShipAddress	Varchar	100	0
	ShipCity	Varchar	50	0
	ShipPostalCode	Varchar	10	0
	ShipCountry	Varchar	50	0

**Table9: Products**

Key Type/ Constraint	Column Name	Data Type	Length	Allow Null (1=Yes; 0=No)
PRI	ProductID	Number	4	0
	ProductName	Varchar	100	0
MUL	CategoryID	Number	4	0
MUL	AdminID	Number	4	0
	UnitPrice	Decimal	10,2	0
	UnitsOnOrder	Number	4	1
	Image	Varchar	255	1

**Comments**

- Comment each type, each non-public type member, and each region declaration.
- Use end-line comments only on variable declaration lines. End-line comments are comments that follow code on a single line.

- Separate comments from comment delimiters (apostrophe) or // with one space.
- Begin the comment text with an uppercase letter.
- End the comment with a period.
- Explain the code; do not repeat it.

## 5. TEST REPORT

Another group called Linux did the testing and the report of the testing is given hereunder.

GENERAL TESTING:

SR-NO	TEST CASE	EXPECTED RESULT	ACTUAL RESULT	Error Message
1	Register Page	Redirected to Next page	OK	Nothing
2	Login Page	Pop-up will come	Ok	Invalid Credentials
3	Product List	Show all products	Ok	Nothing
4	Cart page	Products added in cart	Ok	Nothing
5	Fill Order Details	Form to fillOrder details	Ok	Nothing
6	Bill Success Page	Show message of successful Payment	Ok	Nothing
7	Order List Page	List of all Orders	Ok	Nothing

## 6. PROJECT MANAGEMENT RELATED STATISTICS

Phase's	WORK PERFORMED	<i>SLC Phase</i>	Additional Notes
1 <sup>st</sup> Phase	Designing the Blue print and Schematic's of the project.	Feasibility Study	Our team met the client Mr. Nitinkudale (CEO, SIIT Pune) to know his requirements.
2 <sup>nd</sup> Phase	Creating the Database and Back-end Server of Project	Requirement Analysis (Elicitation)	The initial SRS was presented to the client to understand his requirements better
3 <sup>rd</sup> Phase	Creating the Administrator Side of the Website	Requirement Analysis & Design Phase	Database Design completed
4 <sup>th</sup> Phase	Creating the Customer/Client Side of the Website	Design Phase	
5 <sup>th</sup> Phase	Creating Mobile App for the Customer		