

INVENTORY MANAGEMENT SYSTEM

PROJECT REPORT



(SWE1007) PROGRAMMING IN JAVA [JTH COMPONENT]

SUBMITTED BY: {**TEAM 8**}

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ABSTRACT

The Inventory Management System represents a sophisticated yet user-friendly software solution, tailor-made to optimize inventory operations for a variety of businesses, particularly catering to shops, malls, and shopping complexes. Designed with NetBeans, its visually intuitive interface offers a seamless glimpse into the intricate world of inventory management for organizations of all sizes. Operating on a client-server model, the system ensures efficient communication and data handling. Its architectural backbone relies on Java, employing the JavaServer Pages (JSP) architecture for flexibility and scalability. Handling the database connectivity is the Java Database Connectivity (JDBC) utilizing the MySQL Connector, enabling secure and swift transactions between the server and the inventory database.



Java Database connectivity



As clients engage with the system, the server processes their requests adeptly, issuing precise transactions to the MySQL database. This synergy ensures not only real-time responsiveness but also the safeguarding of inventory data integrity and security. The system emerges as a technological ally for businesses seeking a reliable solution, streamlining and enhancing their inventory management practices. Its adaptability to diverse business needs, user-friendly interface, and robust architecture make it a pivotal asset, promising to revolutionize how businesses handle their inventory, reduce costs, and elevate overall operational efficiency. Whether it's tracking stock levels, generating insightful reports, or managing orders, the Inventory Management System is poised to be a cornerstone for businesses navigating the complexities of inventory management in today's dynamic market landscape.

INTRODUCTION

In the realm of modern business, the manual management of product records has proven to be a cumbersome and time-consuming process, fraught with the potential for errors and data loss. The inherent challenges associated with maintaining records offline, including the risk of missing data and subsequent difficulties in retrieval, underscore the impracticality of relying on manual systems. Recognizing the limitations of traditional methods, this project endeavours to introduce a dynamic and efficient solution to these challenges through the development of an automated Inventory Management System. This system emerges as a crucial technological intervention aimed at simplifying the intricate process of product record-keeping, enhancing accessibility, and mitigating the risks associated with manual record management.

Managing product records manually poses numerous challenges, ranging from the sheer time consumption to the potential for critical errors and data loss. The consequences of missing records saved offline can be far-reaching, leading to operational inefficiencies and difficulties in recovering essential data. Given these challenges, the traditional manual approach to managing details becomes increasingly untenable in the face of the demands of contemporary business environments.

The significance of an automated inventory management system lies in its capacity to offer a streamlined approach to data management. By eliminating the need for manual record-keeping, the system enhances accessibility and provides a reliable means to verify and update stock levels promptly. This not only reduces the time required to search for products within the existing stock but also ensures the accuracy and integrity of inventory data. At its core, the role of an inventory system is to facilitate the efficient tracking of products and supplies, controlling the ordering, storage, and usage of components essential for a company's production processes.



The proposed Inventory Management System comprises several modules designed to comprehensively address the challenges associated with manual record-keeping. The system includes a secure login feature, ensuring that only authorized users can access and manage product information. A user-friendly registration module allows sellers to input necessary details, creating a seamless onboarding process. The core functionalities encompass viewing and selecting products, where the system's database displays the list of available products. The total amount of selected products is then calculated and displayed, with an added feature of discount options to foster and maintain positive customer-owner relationships. The billing module finalizes the process, displaying the selected products, their details, and the total amount due.

Several key assumptions underlie the functioning of this Inventory Management System. Sales orders given to the supply chain management trigger checks for raw material availability, enabling the supply and manufacture of products. The system maintains an updated list of products and their quantities, dynamically adjusting based on sales. Customers interact with the system by selecting products, initiating a seamless and user-friendly transaction process.

In essence, this project seeks to bridge the gap between the limitations of manual record-keeping and the demands of contemporary business operations by introducing an automated Inventory Management System. Through its various modules and assumptions, the system aims to revolutionize how businesses handle product records, fostering efficiency, accuracy, and accessibility in the dynamic landscape of inventory management.

SYSTEM REQUIREMENTS



Hardware Requirements:

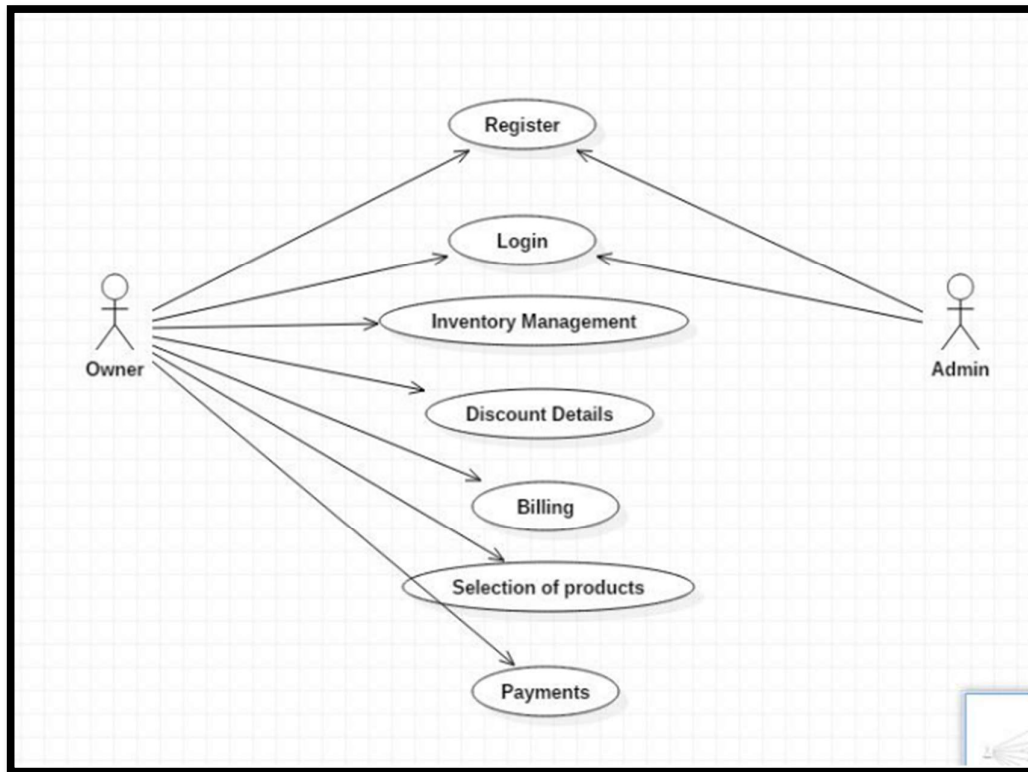
- **PROCESSOR:** 64-bit
- **ROM:** 2GB
- **RAM:** 4GB

Software Requirements:

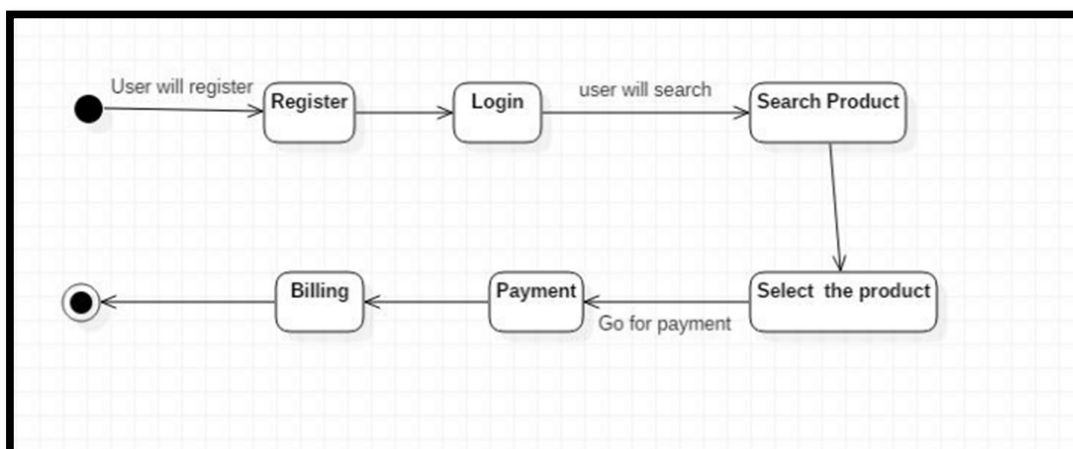
- **OPERATING SYSTEM:** WINDOWS 8/10/11
- **FRONT END:** JAVA NETBEANS
- **BACK END:** XAMPP SERVER MYSQL

ARCHITECTURE

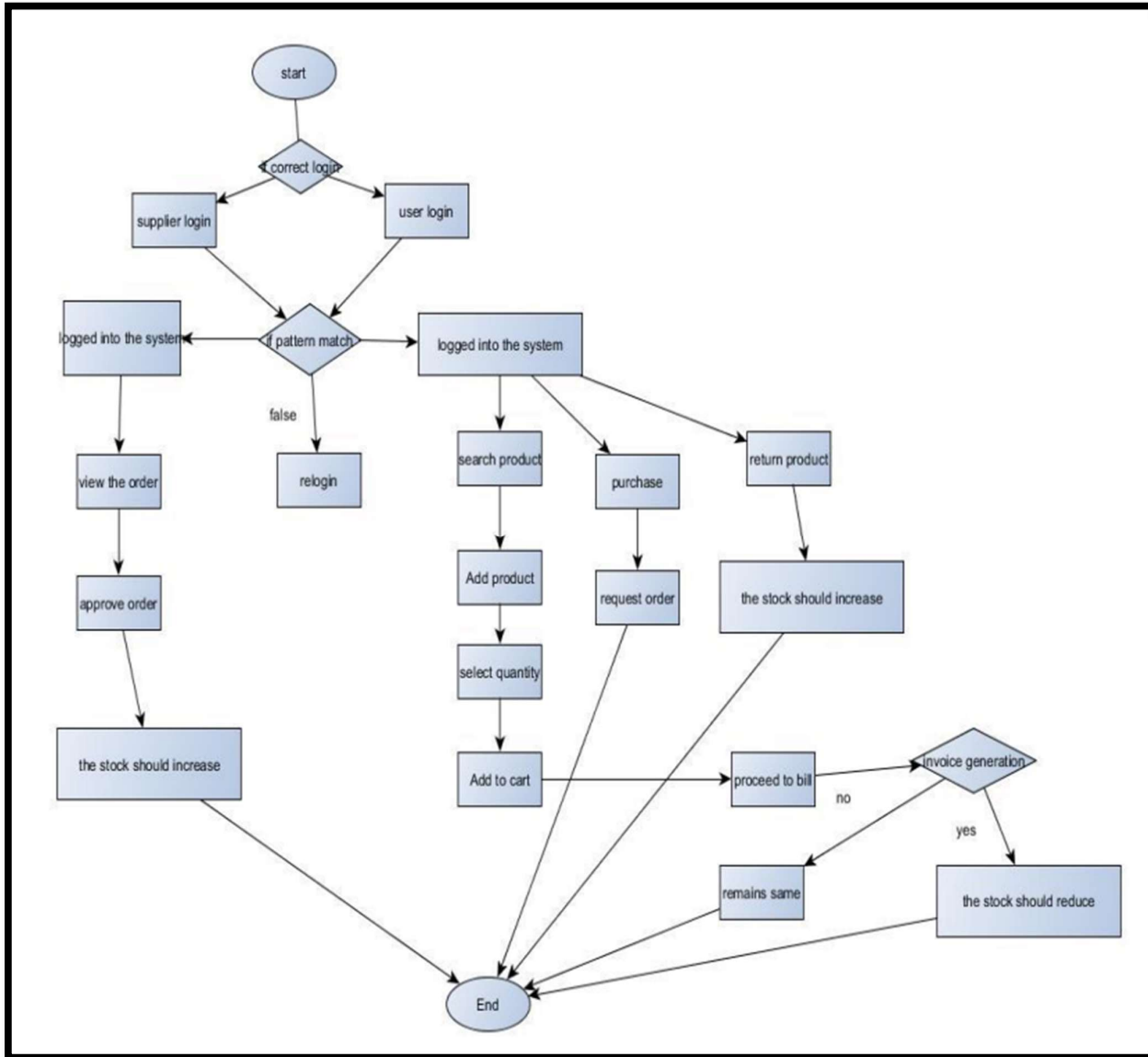
• USECASE DIAGRAM:



• STATECHART DIAGRAM:



SYSTEM IMPLEMENTATION:



EXPERIMENTAL ANALYSIS

CODING:

- {LOGIN.JAVA}
- {REGISTER.JAVA}
- {MAINPAGE.JAVA}

CODE LINK:

<http://surl.li/njeak>

CLICK HERE



PROJECT LINK:

[https://github.com/harishy0406/inventory managment system.git](https://github.com/harishy0406/inventory_managment_system.git)



DEVELOPERS:

<https://github.com/harishy0406>


<https://github.com/azmil-ashuruff>

<https://github.com/sidWrld>

RESULT:

LOGIN:

Design Preview [Loginpage]



INVENTORY CENTRAL
The Software You Need

Copyright © Inventory Central All rights reserved

LOGIN

USERNAME


PASSWORD

LOGIN

Not Registered? **REGISTER USER**

REGISTER:

Design Preview [Registeruser]



INVENTORY CENTRAL
The Software You Need

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REGISTER

EMAIL

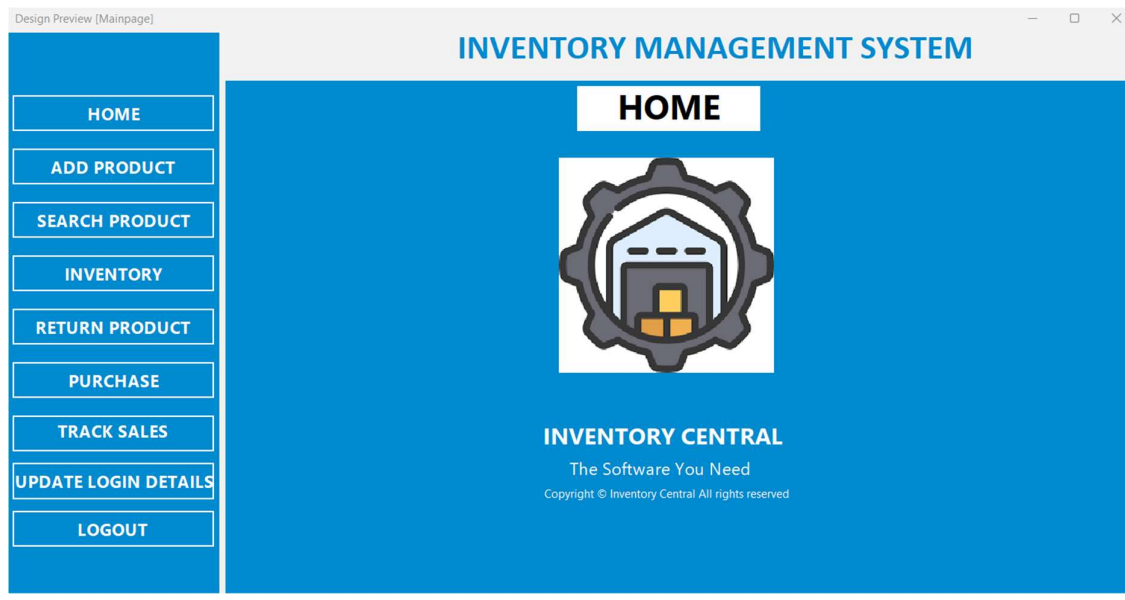
USERNAME

PASSWORD

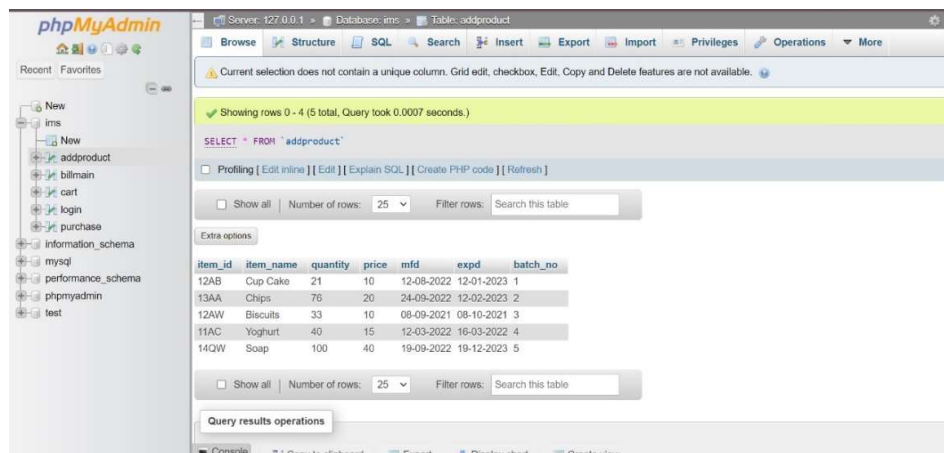
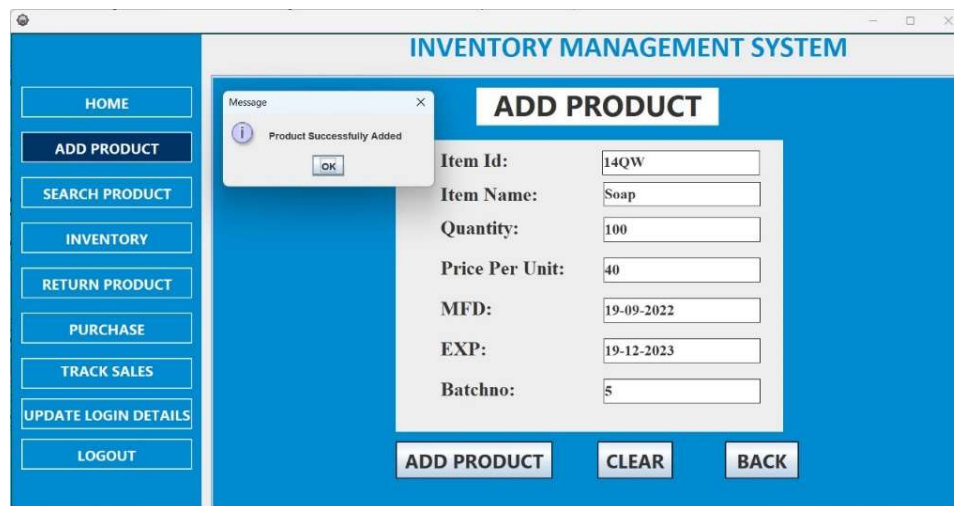
REGISTER

Registered? **LOGIN**

HOME:



ADD PRODUCT:



SEARCH PRODUCT:

HOME

ADD PRODUCT

SEARCH PRODUCT

INVENTORY

RETURN PRODUCT

PURCHASE

TRACK SALES

UPDATE LOGIN DETAILS

LOGOUT

INVENTORY MANAGEMENT SYSTEM

SEARCH PRODUCT

Item_Id: 14QW

Item_Name: Soap

Quantity (in lit/kg): 1

Price Per Unit: 40

Total Price: 40

ADD TO CART

VIEW CART

Search By ID 14QW

SEARCH

Item ID	Item Name	Quantity	Price	Mfd	Expd	Batch no.
14QW	Soap	100	40	19-09-2022	19-12-2023	5

Message

Product Successfully Added to cart

OK

BACK

phpMyAdmin

Server: 127.0.0.1 » Database: ims » Table: billmain

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 5 (6 total, Query took 0.0007 seconds.)

SELECT * FROM `billmain`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

item_id	item_name	quantity	price	totprice	bill_no	date
13AA	Chips	8	20	160	8190	18-11-2023
12AW	Biscuits	3	10	30	6484	18-11-2023
12AB	Cup Cake	2	10	20	8254	18-11-2023
11AC	Yoghurt	10	15	150	7571	20-11-2023
14QW	Soap	1	40	40	1181	20-11-2023
14QW	Soap	1	40	40	8390	20-11-2023

Show all | Number of rows: 25 | Filter rows: Search this table

HOME

ADD PRODUCT

SEARCH PRODUCT

INVENTORY

RETURN PRODUCT

PURCHASE

TRACK SALES

UPDATE LOGIN DETAILS

LOGOUT

INVENTORY MANAGEMENT SYSTEM

PROCEED TO BILL

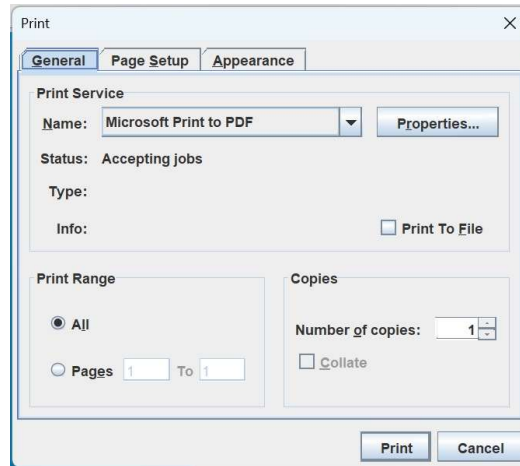
VIEW CART

Item ID	Item Name	Quantity	Unit Price	Total Price
14QW	Soap	1	40	40

Total Amount 40

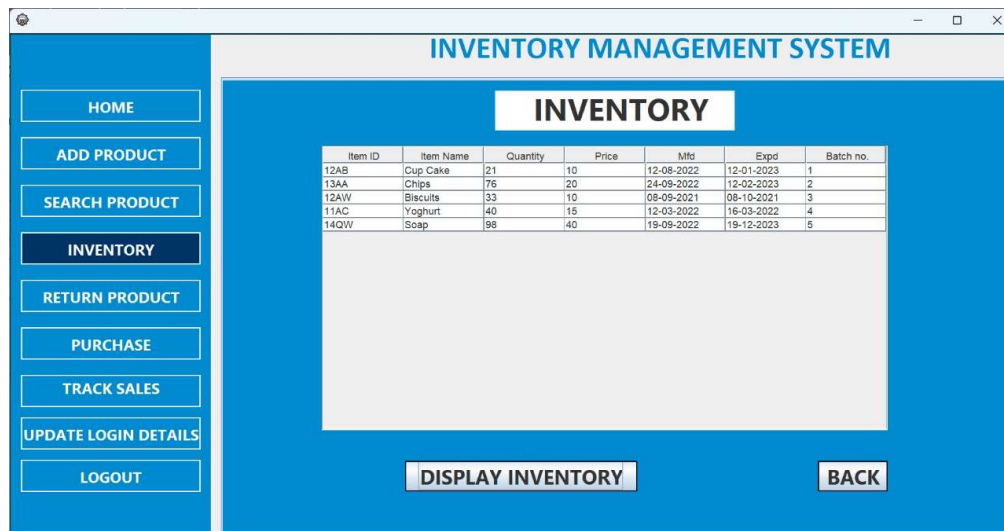
BACK

GENERATE INVOICE:



A standard Windows print dialog box titled "Print". It has three tabs: "General", "Page Setup", and "Appearance". The "General" tab is active. It shows "Print Service" as "Microsoft Print to PDF" with a "Properties..." button. The status is "Accepting jobs". There is a "Print To File" checkbox which is unchecked. Under "Print Range", the "All" radio button is selected. Under "Copies", the "Number of copies" is set to 1, and the "Collate" checkbox is unchecked. "Print" and "Cancel" buttons are at the bottom right.

INVENTORY:

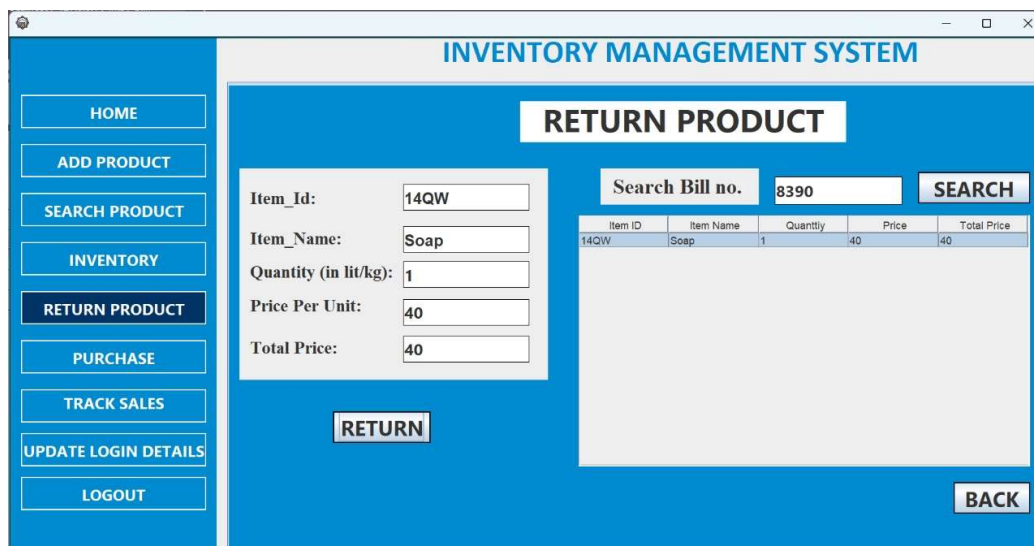


The "INVENTORY MANAGEMENT SYSTEM" interface. The left sidebar contains buttons: HOME, ADD PRODUCT, SEARCH PRODUCT, INVENTORY (highlighted), RETURN PRODUCT, PURCHASE, TRACK SALES, UPDATE LOGIN DETAILS, and LOGOUT. The main area is titled "INVENTORY" and displays a table of inventory items.

Item ID	Item Name	Quantity	Price	Mfd	Expd	Batch no.
12AB	Cup Cake	21	10	12-08-2022	12-01-2023	1
13AA	Chips	76	20	24-09-2022	12-02-2023	2
12AW	Biscuits	33	10	08-09-2021	08-10-2021	3
11AG	Yoghurt	40	15	12-03-2022	16-03-2022	4
14QW	Soap	98	40	19-09-2022	19-12-2023	5

At the bottom of the main area are "DISPLAY INVENTORY" and "BACK" buttons.

RETURN PRODUCT:



The "INVENTORY MANAGEMENT SYSTEM" interface showing the "RETURN PRODUCT" form. The left sidebar is the same as the previous view. The main area is titled "RETURN PRODUCT".

Form fields:

- Item_Id: 14QW
- Item_Name: Soap
- Quantity (in lit/kg): 1
- Price Per Unit: 40
- Total Price: 40

A "RETURN" button is located below these fields.

Search section:

- Search Bill no.: 8390
- SEARCH button

Below the search section is a table showing the return details:

Item ID	Item Name	Quantity	Price	Total Price
14QW	Soap	1	40	40

A "BACK" button is at the bottom right of the main area.

PURCHASE:

INVENTORY MANAGEMENT SYSTEM

PURCHASE

Item_Id:

Item_Name:

Quantity (in lit/kg):

Price Per Unit:

Total Price:

PURCHASE

Search Product by ID **SEARCH**

Item_id	Item_name	quantity	price
14QW	Soap	99	40

Message: Product Successfully Requested

BACK

TRACK SALE:

INVENTORY MANAGEMENT SYSTEM

TRACK SALES

Search Date **SEARCH**

Bill no.	Item ID	Item Name	Quantity	Price	Date
7571	11AC	Yoghurt	10	15	20-11-2023
1181	14QW	Soap	1	40	20-11-2023
8390	14QW	Soap	1	40	20-11-2023

BACK

UPDATE LOGIN:

INVENTORY MANAGEMENT SYSTEM

UPDATE LOGIN CREDENTIALS

Username

Password

New Username

New Password

UPDATE **BACK**

RESULT AND DISCUSSION

In this project we have developed a system which helps the retailers to sell and manage their products easily. It covers the functional areas of ERP such as Marketing and sales, Supply chain management, Accounting and Finance and Human Resources. So, this can help in increasing the sales of the retailer through the help of the inventory management. So, the required products can be bought based on the demand. In future the products can be scanned with the help of barcode scanner. A system can be developed to take order from the customers online and deliver them. The customer relationship can be built with the help of feedback. In future the products can be scanned with the help of barcode scanner. A system can be developed to take order from the customers online and deliver them. The customer relationship can be built with the help of feedback.



CONCLUSION

In conclusion, the proposed Inventory Management System represents a significant leap forward in addressing the challenges associated with manual record management for businesses, especially in the context of shops, malls, and shopping complexes. The limitations of traditional methods, marked by time-consuming processes and the risk of data loss, highlight the urgency of adopting an automated solution.

The system's importance lies in its ability to streamline inventory operations, providing businesses with efficient access to, verification of, and updates on their stock. By introducing a user-friendly approach, the system transforms how businesses track products, manage orders, and control overall inventory. It serves as a technological ally, enhancing operational efficiency and reducing the risk of errors while offering real-time insights into stock levels.

With modules encompassing secure login, seamless registration, product selection, billing, and discount options, the proposed system delivers a comprehensive solution. Built on a Java and MySQL foundation using a client-server model, it ensures scalability, adaptability, and security for managing diverse product portfolios in modern business settings.

The assumptions embedded in the system's design, such as proactive checks on raw material availability and dynamic adjustments based on sales, reflect a forward-thinking approach to inventory management. Ultimately, the proposed Inventory Management System aims to be a transformative force, empowering businesses in shops, malls, and shopping complexes to navigate inventory challenges with confidence, efficiency, and a heightened capacity to meet the demands of a rapidly evolving market.

