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INVENTORY MANAGEMENT SYSTEM

PROJECT REPORT

(SWE1007) PROGRAMMING IN JAVA [JTH COMPONENT]

SUBMITTED BY: {TEAM 8} **FACULTY: DR. ANITHA**

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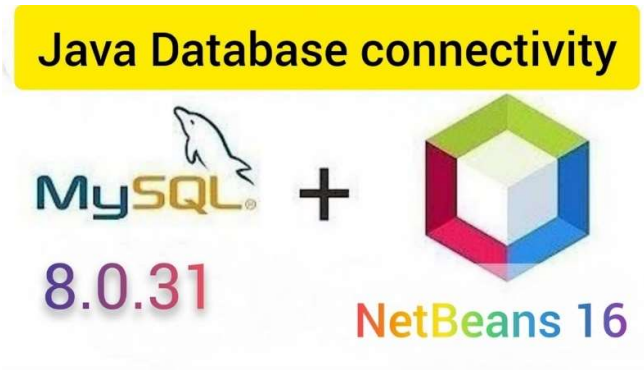
ABSTRACT

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.



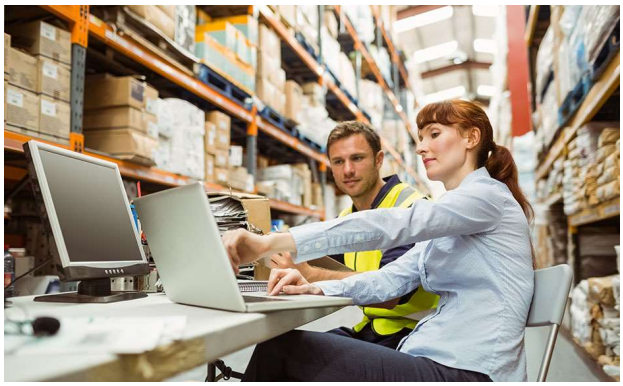
As clients engage with the system, the server processes their requests adeptly, issuing precise transactions to the MySQL database. This synergy ensures not only real-time responsiveness but also the safeguarding of inventory data integrity and security. The system emerges as a technological ally for 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:

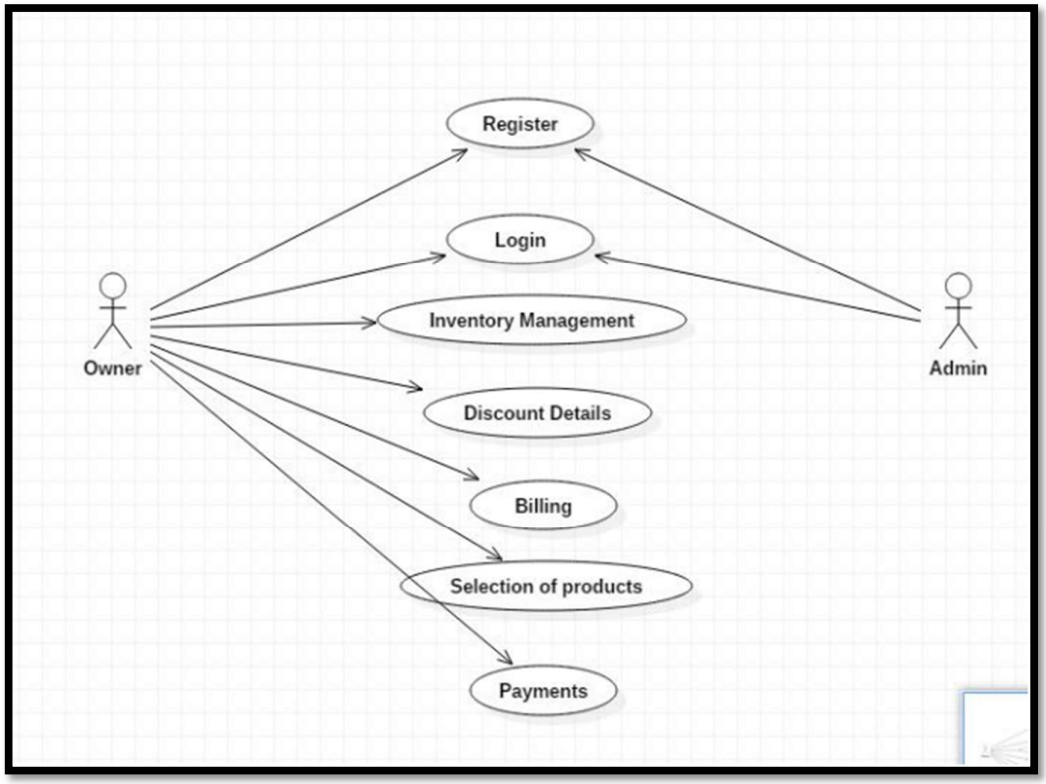
- **PROCESSOR: 64-bit**
- **ROM: 2GB**
- **RAM: 4GB**

Software Requirements:

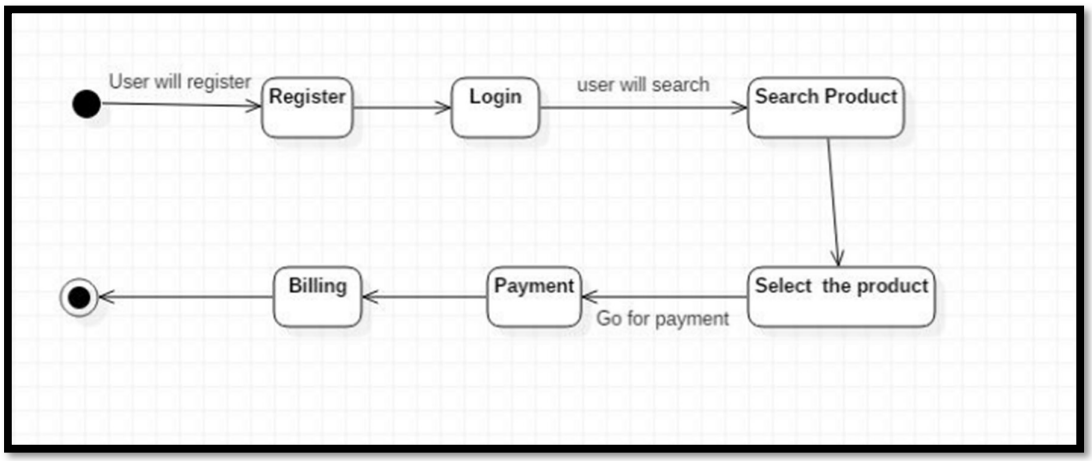
- **OPERATING SYSTEM: WINDOWS 8/10/11**
- **FRONT END: JAVA NETBEANS**
- **BACK END: XAMPP SERVER MYSQL**

ARCHITECTURE

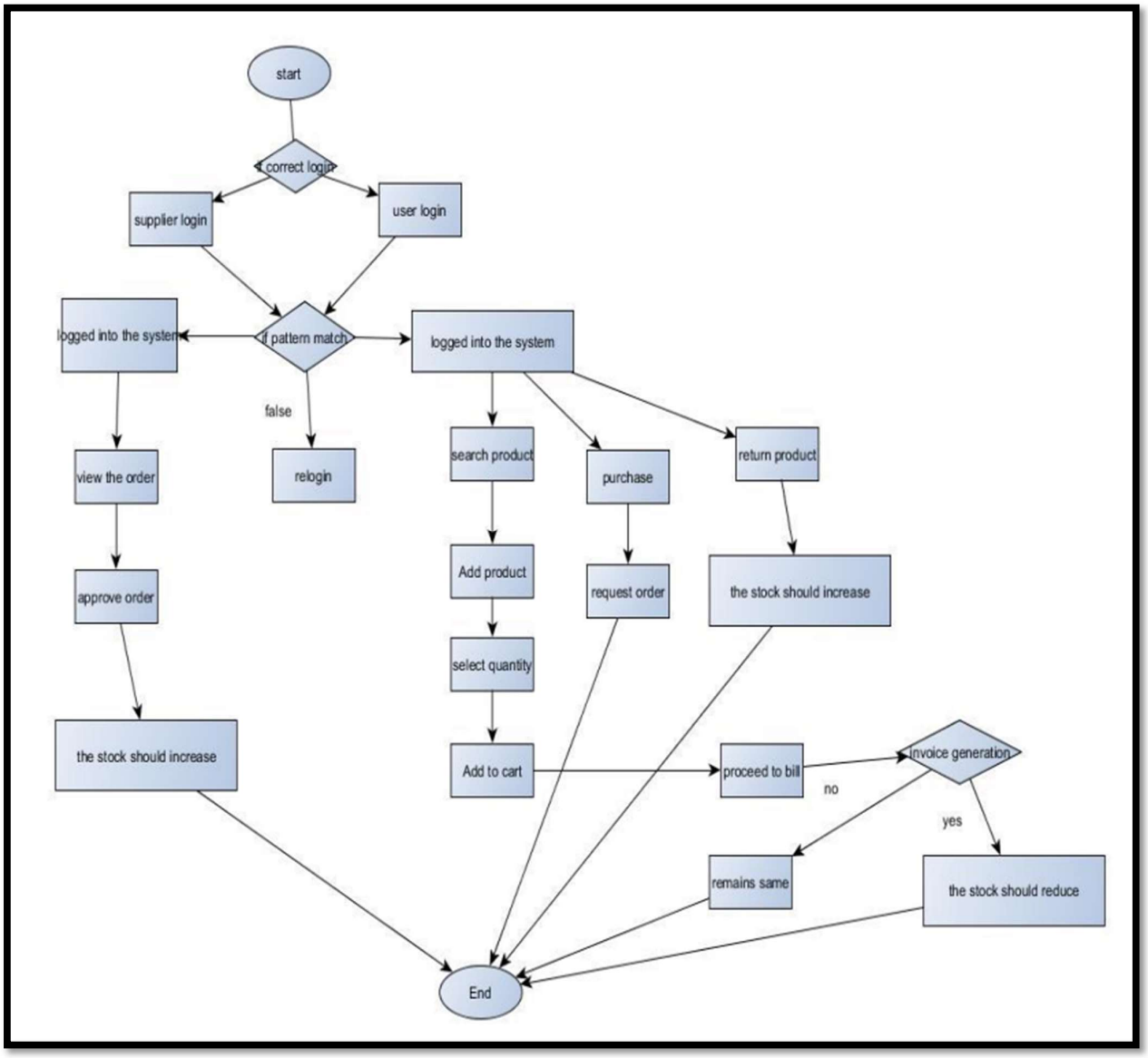
- **USECASE DIAGRAM:**



- **STATECHART DIAGRAM:**



SYSTEM IMPLEMENTATION:



EXPERIMENTAL ANALYSIS

CODING:

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

CODE LINK:

http://surl.li/njeak

PROJECT LINK:

https://github.com/harishy0406/inventory_managment_system.git

DEVELOPERS:

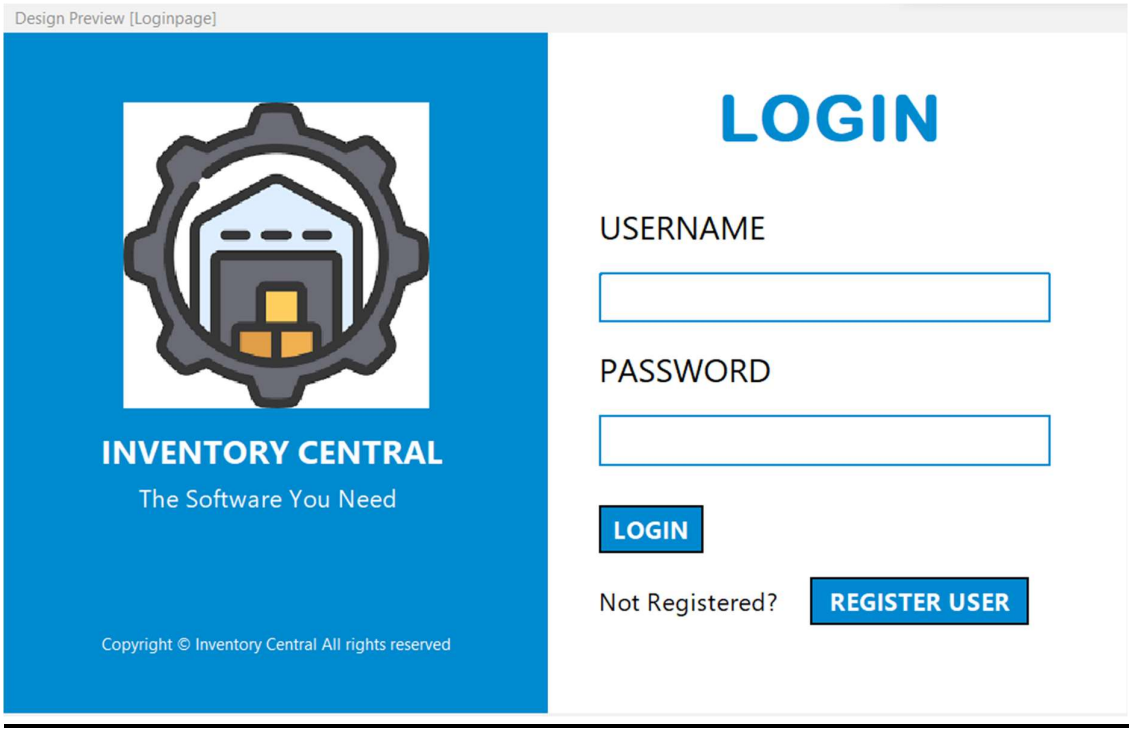
https://github.com/harishy0406

https://github.com/azmil-ashuruff

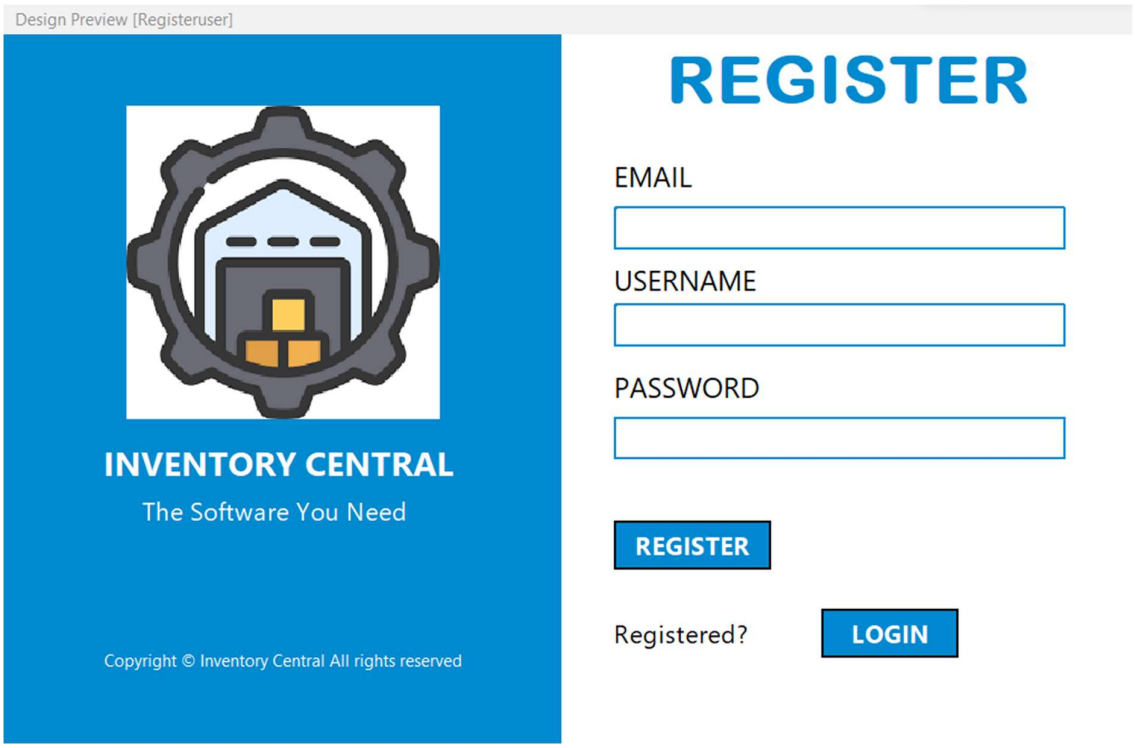
https://github.com/sidWrld

RESULT:

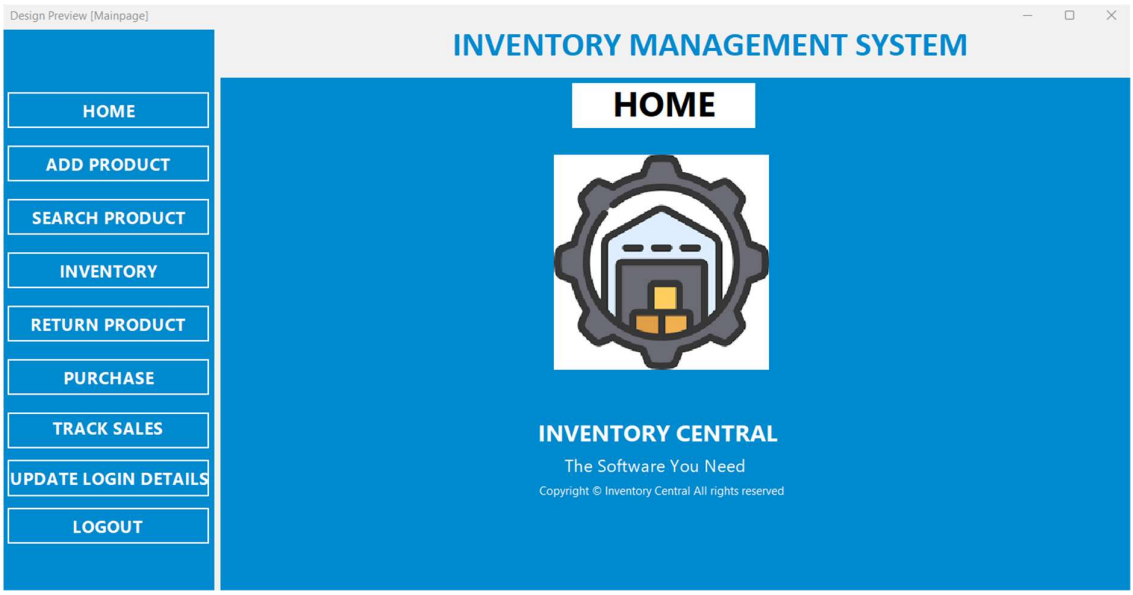
LOGIN:



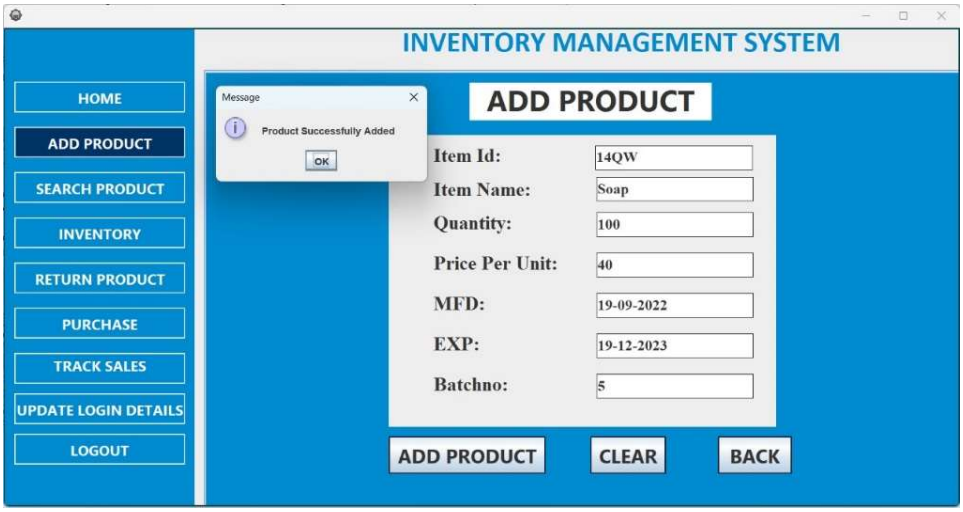
REGISTER:

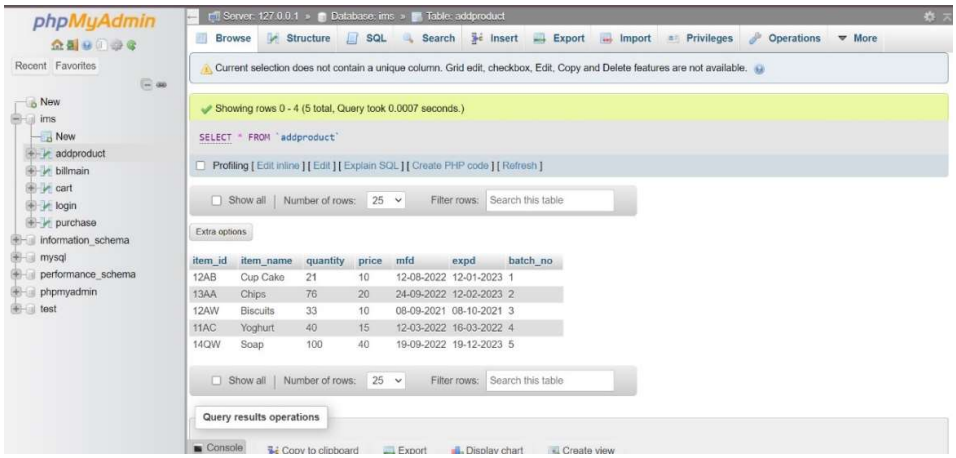


HOME:

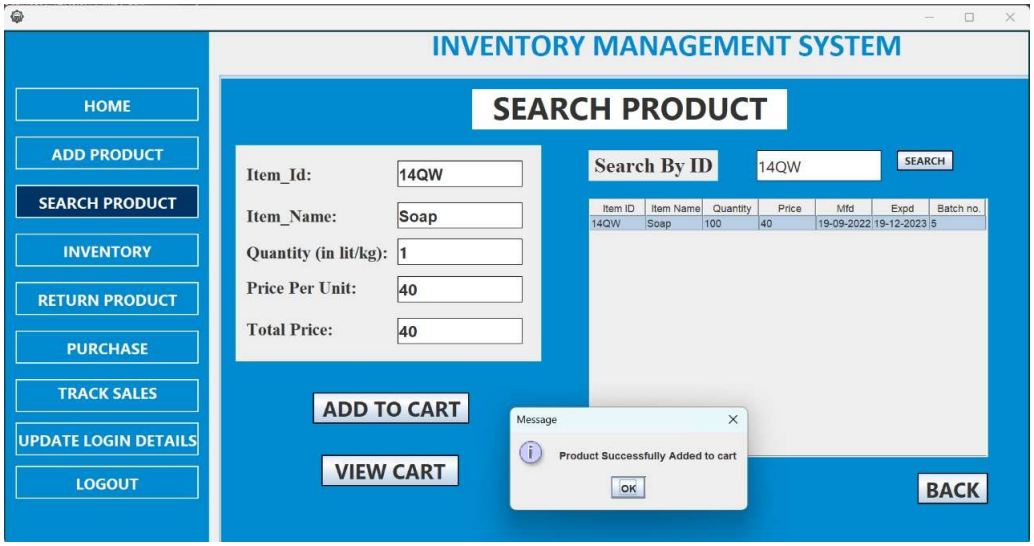


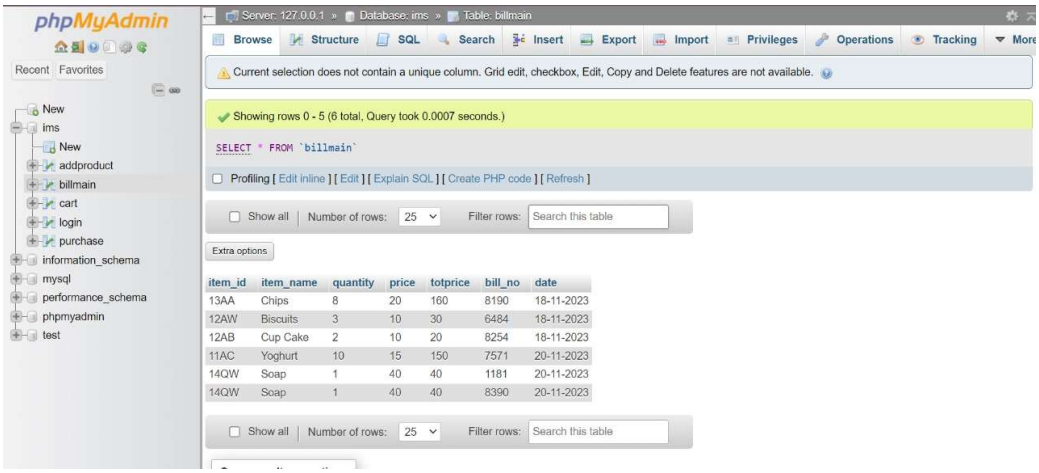
ADD PRODUCT:

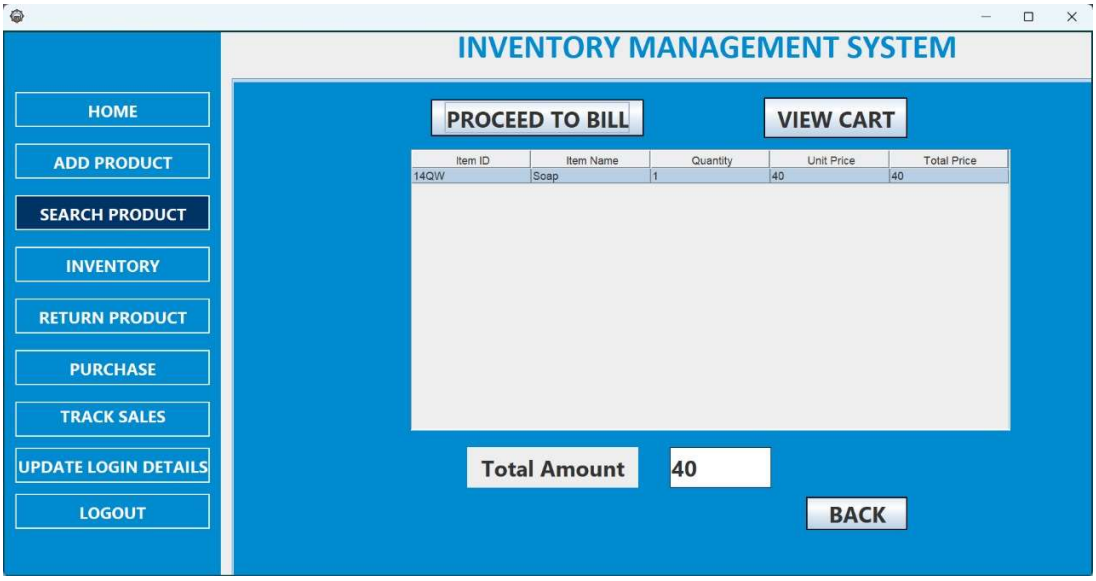




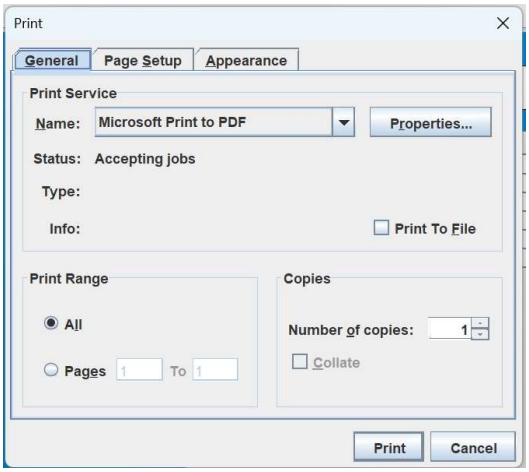
SEARCH PRODUCT:



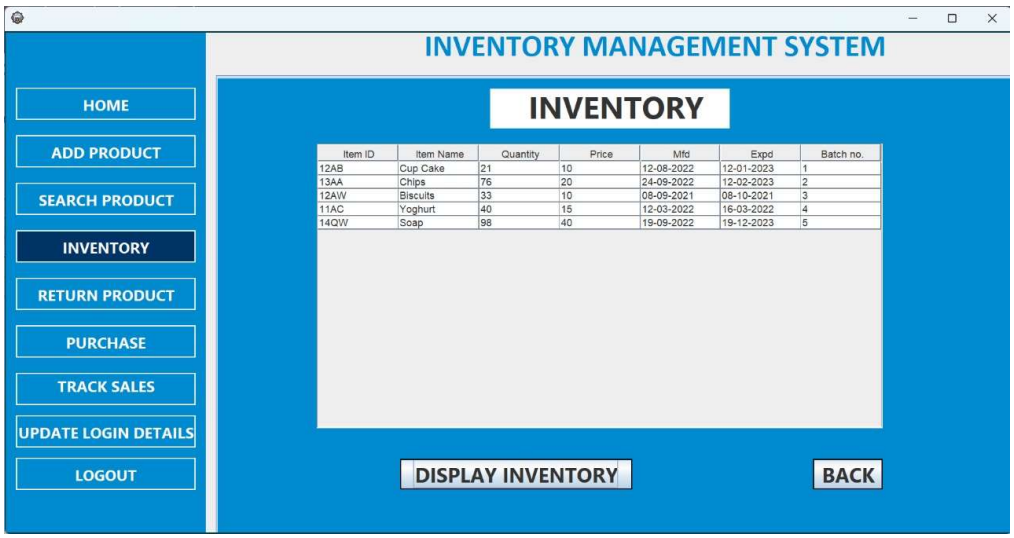




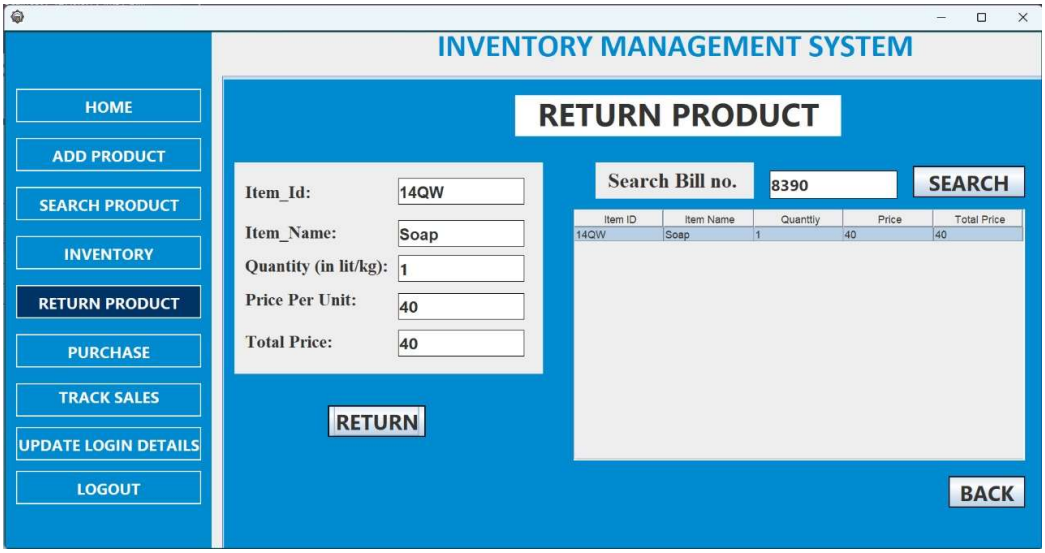
GENERATE INVOICE:



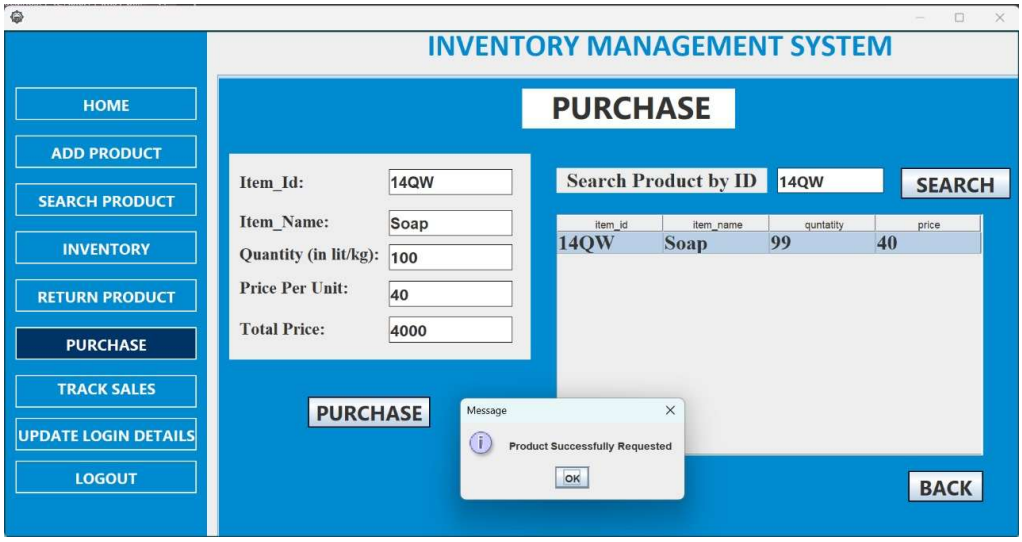
INVENTORY:



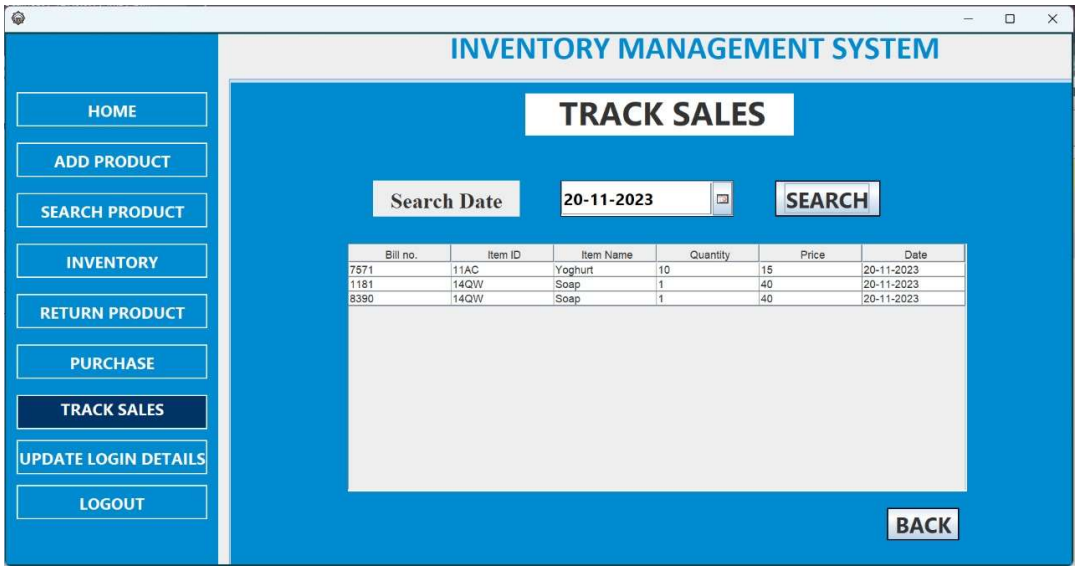
RETURN PRODUCT:



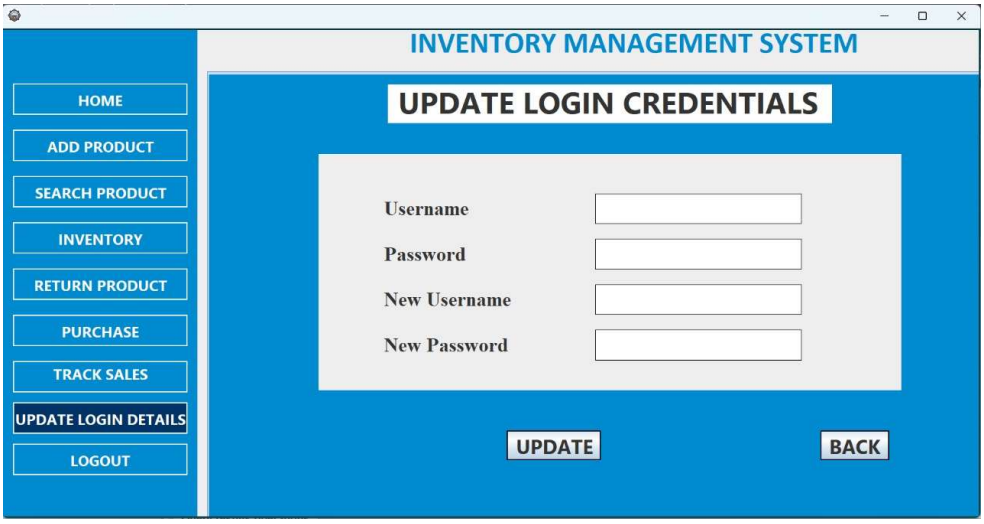
PURCHASE:



TRACK SALE:



UPDATE LOGIN:



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.