Warehouse Managment System

Database Management System

MSCS 542L-256-24F

TechBoys

Marist College
School of Computer Science and Mathematics

Submitted To:
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PROJECT REPORT OF WAREHOUSE MANAGEMENT SYSTEM

Team Name
TechBoys

Team Members

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DESCRIPTION OF TEAM MEMBERS

Sumanth Kumar Katapally:

I attained my Bachelor's degree in Computer Science from Keshav Memorial Institute of Technology in 2022. I kickstarted my career as a Software Developer Intern at Virtusa, after which I took up a full-time role of a Software Developer at DBS TECH thereby gaining an overall experience of 2 years and 5 months. I am proficient in Java, Spring, Spring Boot, Angular, MongoDB and MySQL. I came to Marist College to pursue my MS in Computer Science concentrating in Artificial Intelligence.

Abhijeet Cherungottil:

I am a passionate computer science graduate currently pursuing an MS in Cloud Computing at Marist College, set to graduate in the 2026 batch. I also have 3 years of hands-on experience in iPhone app development, with expertise in Swift 5 and Swift UI. My current team is from India, which creates familiarity within the group and allows us to communicate easily with each other. I chose Sumanth because he mentioned having previous experience with GitHub and actively volunteered.

Sagar Shankaran:

I am a 2026 batch student of Masters in AI program at Marist College. I have experience in full stack development for 3 years. I have worked across various projects including MERN stack and Android Apps. I have chosen this team because all the members have a good understanding of each other and have profound knowledge of the project. Abhijeet and Sumanth have good relevant skills.

INTRODUCTION

In today's dynamic retail environment, efficient warehouse management is crucial for ensuring smooth operations, especially when multiple shopkeepers rely on a shared space to store and manage their inventory. The Warehouse Management System (WMS) project is designed to meet these needs by providing a secure, organized, and user-friendly platform that enhances the management of a warehouse where shopkeepers store and haul their cloth boxes under the oversight of an admin user.

The WMS aims to streamline warehouse operations by offering a robust set of features tailored to both admin and shopkeeper needs. Admins will benefit from secure login capabilities, enabling them to manage access by adding or removing shopkeepers and adjusting credentials as needed. The system will also empower admins to oversee the entire inventory, allowing them to add, edit, or delete items with detailed information such as item type, storage time, ID, name, quantity, price, and storage location. Additionally, admins will have the authority to review and manage borrowing requests, ensuring that warehouse resources are allocated efficiently.

For shopkeepers, the WMS offers intuitive features designed to simplify their interactions with the warehouse. They will be able to search for items based on various attributes, save a list of favorite items, and request to borrow or purchase items for specific time periods. The system will also keep a detailed history of borrowed items, providing transparency and accountability.

User experience is at the forefront of the WMS design, with a welcoming interface, clear navigation, and tabular reports to present organized lists of requested items. Security is also a key focus, with options for password encryption and safeguards against potential errors like duplicate entries or exceeding borrowing limits. This WMS will revolutionize warehouse management, making it more efficient and secure for all users involved.

DESCRIPTION

Project Objective: The objective of this project is to design and implement a robust Warehouse Management System (WMS) that provides an organized, secure, and user-friendly platform for managing a warehouse where multiple shopkeepers store and haul their cloth boxes, overseen by an admin user. The WMS will offer comprehensive functionalities, including:

1. **Admin Management:**
   - Secure login for the admin with the ability to change credentials.
   - Add and remove shopkeepers by creating or deleting their usernames and passwords.
   - Manage the warehouse inventory by adding, editing, and deleting items, including details such as item type, storage time, ID, name, quantities, price, and storage location.
   - Review and manage borrowing requests, with the ability to accept or reject them.
2. **Shopkeeper Features:**
   - Search for items in the warehouse based on various attributes like ID, name, and producer.
   - Save a list of favorite items for quick reference.
   - Request to borrow or purchase items for specific periods.
   - View the history of borrowed items.
3. **User Experience:**
   - Provide a welcoming page and a clear menu of functions on all pages.
   - Display reports in a tabular format, showing organized lists of requested items.
   - Include an exit function that thanks users for using the software.
   - Implement warnings for specific actions, such as duplicate item IDs, exceeding borrowing limits, or null search results.
4. **Security:**
   - Protect user information with optional encryption of passwords.

GITHUB REPOSITORY

https://github.com/Sumanthkatapally/DBMS_PROJECT.git

REVIEW

Zoho Inventory [1]:

Helps with creating and tracking the inventory (stock flow) of Items and Item Groups.

Integrates with popular e-commerce platforms and monitors your stock flow across multiple sales channels.

Creates sales orders, raises invoices, gets paid instantly by integrating into a payment gateway, prints package slips and generates shipment labels.

Helps in adding custom fields to your orders, invoices, bills, and payment receipts.

Fishbowl Inventory [2]:

Provides visibility and control of inventory across all locations.

Integrates with accounting systems like Intuit QuickBooks Online, Xero, and Reckon Accounts to provide real-time inventory and accounting reporting.

Allows users to scan items by barcode, product number, UPC, or SKU to update inventory records, make accounting adjustments, and customize prices.

Includes features like auto reorder points, in-depth reporting, and the ability to create purchase orders, sales orders, and pick tickets.

Helps businesses track inventory spending, find ways to save money on purchasing, and avoid over-ordering.

Korber Warehouse Management Systems [3]:

Integrates with other supply chain solutions, such as yard management and transportation, and ERP systems.

It is flexible and adaptable, with configuration functionality that reduces the need for extensive customization and development.

It is available as a software-as-a-service (SaaS), which includes provisioning, maintenance, and support.

It has over 99% inventory accuracy and 80-85% less inventory loss.

MERITS

1. Add a notification to alert the user to order more items when the count reaches 'n'.

2. Tracks the location of items within the warehouse, including specific aisles, racks, and bins.

3. Ensuring old stock is cleared before new stock is added.

4. Manages items that are out of stock and ensures they are prioritized when they become available.

5. Adding sustainability tracking.

REFERENCES

[1] Zoho Inventory

[2] Fishbowl Inventory

[3] Korber Warehouse Management Systems