

ABSTRACT

MINI PROJECT

Proposed By: Juval Varkey Tomy
Guide: Ms. Sona Maria Sebastian
INT MCA 2019 - 2024
31 – July - 2023

WAREFLOW mini project aims to optimize inventory management and streamline warehouse operations through the implementation of a user-friendly software solution. This abstract provides an overview of the mini project, outlining its objectives, key functionalities, and anticipated benefits.

The primary objective of the mini project is to improve inventory accuracy and efficiency within the warehouse. It will automate manual tasks, minimize errors, and provide warehouse personnel with actionable insights to make informed decisions.

In the project, we will focus on the roles of the Admin, Warehouse Manager, and Inventory Controller. The functionalities implemented will include:

1. Admin:

Login: The Admin will have exclusive access to the system through secure login credentials, ensuring confidentiality and data integrity.

Register User: The Admin can create new user accounts for Warehouse Managers, Inventory Controllers, and other personnel who require access to the system. This process involves providing necessary user details and assigning appropriate roles.

Manage Users: The Admin can view and manage user accounts, including enabling, disabling, or deleting accounts as needed. This feature allows the admin to maintain an up-to-date list of authorized users.

Assign Roles: The Admin has the authority to assign different roles (Warehouse Manager, Inventory Controller, etc.) to individual users based on their responsibilities and permissions required.

Manage Permissions: The Admin can configure role-based access permissions, defining what each user role can do within the system. This ensures data security and restricts unauthorized access to sensitive information.

2. Warehouse Manager:

Login: The Warehouse Manager will log in using their designated credentials to access the WMS functionalities.

View Inventory Status: The Warehouse Manager can check the current inventory status, including the quantity and location of products in the warehouse. This feature allows them to monitor stock levels and anticipate restocking needs.

Manage Inventory: The Warehouse Manager can perform multiple tasks related to inventory management:

- **Add New Products:** The Warehouse Manager can add new products to the system, providing relevant details such as product name, description, SKU (Stock Keeping Unit), and supplier information.
- **Update Product Information:** They can modify product details, such as price, weight, dimensions, and any other relevant attributes.
- **Define Storage Locations:** The Warehouse Manager can assign specific storage locations (shelves, racks, bins) for each product in the warehouse, ensuring efficient organization and easy retrieval.
- **Track Stock Movements:** The Warehouse Manager can monitor stock movements, including receiving new shipments, processing returns, and updating inventory counts in real-time.
- **Replenish Stock:** In case of low stock levels, the Warehouse Manager can initiate stock replenishment by creating replenishment requests or purchase orders to ensure products are restocked timely.
- **Categorize Stock:** Along with managing inventory, the Warehouse Manager can also categorize stock items based on various attributes such as product type, size, supplier, shelf life, or any other custom criteria. They can create and manage different categories to suit the warehouse's specific needs and business processes.

Manage Stock: This functionality allows the Warehouse Manager to track stock movements, including receiving new shipments, processing returns, and updating inventory counts in real-time.

Report Generation: The Warehouse Manager can generate reports related to inventory levels, stock movements, and warehouse utilization. These reports help the Warehouse Manager make data-driven decisions, optimize storage space, and prevent stockouts or overstocking.

Bill Generation: The Warehouse Manager does not typically handle bill generation for customers. Instead, this responsibility usually lies with the admin or a designated billing team.

3. Inventory Controller:

Login: The Inventory Controller will access the system using their designated login credentials.

Conduct Stock Audits: The Inventory Controller can initiate stock audits to verify the physical inventory against the system records. They will update any discrepancies found during the audit to ensure accurate inventory data.

Replenish Stock: The Inventory Controller can monitor inventory levels and trigger automatic or manual stock replenishment when certain products reach predefined thresholds. They can create replenishment requests or purchase orders for restocking purposes.

Report Generation: The Inventory Controller can generate reports related to stock audit results, replenishment requests, and inventory accuracy. These reports provide insights into inventory management effectiveness and help identify potential issues or areas for improvement.

Through the implementation of the mini project, several benefits are anticipated, including enhanced inventory accuracy, reduced stockouts, and improved operational efficiency. Warehouse managers will be able to view inventory status, manage inventory, and stock levels, while inventory controllers will be responsible for conducting stock audits and initiating replenishment orders.

The mini project will serve as the foundation for the WAREFLOW main project, laying the groundwork for further extensions and additional functionalities.