

ABSTRACT

MAIN PROJECT

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WAREFLOW: The main project extends the functionalities of the **WAREFLOW** mini project to provide a comprehensive solution for efficient warehouse management and supply chain optimization. Building upon the mini project, the main project will include additional roles and functionalities to address the broader challenges of warehouse operations and introduce a new user role - Customer.

In the main project, we will introduce more users such as the **Quality Controller** and the **Customer** role. We also implement a secure and safe payment gateway for the Customers. The functionalities implemented in the Mini Project were:

Admin:

- Login
- Process Payments
- Manage Users
- Assign Roles
- Manage Permissions

Warehouse Manager:

- Login
- View Inventory Status
- Manage Inventory
- Manage Stock

Inventory Controller:

- Login
- Conduct Stock Audits
- Replenish Stock

The new users included in the main project and their functionalities are listed below:

Quality Controller:

- **Login:** The Quality Controller will log in using their designated credentials to access the system functionalities.
- **Perform Quality Checks:** The Quality Controller is responsible for conducting quality checks on incoming products, products in stock, and outgoing orders. They will use predefined quality parameters and criteria to ensure that the products

meet the required quality standards. Quality checks may involve physical inspections, visual assessments, and also inspections based on the manufacturing and expiry period.

- **Initiate Quality Actions:** If the Quality Controller identifies any quality issues or deviations during the quality checks, they have the authority to initiate appropriate quality actions. These actions can include segregating defective products, placing products on hold, or requesting further inspections by the Warehouse Manager
- **Maintain Quality Records:** The Quality Controller is responsible for documenting the results of quality checks and actions taken in the System. This includes recording details such as product batch numbers, inspection dates, inspection outcomes, and any corrective actions taken. Maintaining comprehensive quality records is crucial for traceability and analysis purposes.
- **Report Generation:** The Quality Controller can generate reports related to quality checks, inspection outcomes, and quality trends. These reports provide insights into the overall product quality, identify areas that may require improvement, and facilitate data-driven decision-making to enhance product quality and reduce defects.

Customer:

- **Register Account:** The customer can create an account in the system.
- **Login:** The customer can log in to the WMS.
- **View Products:** The customer can browse and view the available products in the warehouse.
- **Place Order:** The customer can place orders for the desired products.
- **Track Order:** The customer can track the status and location of their orders.
- **Make Payment:** The customer can make online payments for their orders using the integrated Payment Gateway.
- **View Order History:** The customer can view their past order history.

In addition to the functionalities of the mini project and the integration of the payment gateway, the main project will introduce a customer role to enable customers to interact with the system. Customers will be able to register, browse products, place orders, track orders, make online payments, and view their order history.

The main project will encompass advanced functionalities such as order processing, warehouse layout optimization, real-time analytics, and customer interaction. Through

the implementation of the main project, the organization will gain a competitive advantage in the market by delivering faster, more accurate, and cost-effective warehousing solutions while enhancing the overall customer experience. The scalable and adaptable system architecture will accommodate future growth and integration of emerging technologies to further enhance warehouse operations and meet customer demands effectively.