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| ims |
| Functional requirements doc |
| Version 1.0.0 |

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# Introduction

## Purpose

This document outlines the functional requirements for the Inventory Management System (IMS). The purpose of this document is to provide a detailed description of the system’s functionalities and how they will meet the business needs of managing inventory efficiently.

## Scope

The scope of the system includes tracking, managing, and controlling inventory levels, automating reorder processes, generating reports, and integrating with other business systems like sales, accounting, and purchasing.

# System Overview

The inventory system will:

* Track stock levels in real-time.
* Manage inflow and outflow of goods.
* Automate reorder points and generate purchase orders.
* Provide detailed reports on inventory, sales, and suppliers.

# Functional Requirements

## Ordering management

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| ID | Requirement Description | Priority | Comments |
|  | The system shall allow manual entry and management of purchase orders. | High |  |
|  | The system must allow users to record an order when it arrives, capturing all relevant details such as supplier, date, and delivery method. | High |  |
|  | The system must allow users to record and associate products with a specific order. Each product must include quantity, price per unit, and total cost. | High |  |
|  | The system must allow users to assign and update the status of an order. The available statuses must include: **Pending**, **Completed**, and **Failed**. | High |  |
|  | If an order is in a **Pending** state, the system must provide a mechanism to update the order once it is either completed or failed. | High |  |
|  | If today’s date is greater than the expected order date, the system must provide a mechanism to alert on unmet orders | High |  |
|  | The system must allow users to record and update the total price of an order, which is the sum of the prices of all items in the order. | High |  |
|  | The system must allow users to record and update the image receipts of an order | High |  |
|  | The system must provide users with the ability to mark an order as **Failed**, capturing failure reasons (e.g., damaged goods, incorrect shipment) and adjusting inventory if necessary. | High |  |
|  | The system must provide users with the ability to record all damaged goods of an order as, capturing damage reasons (e.g., damaged goods, incorrect shipment) and adjusting inventory if necessary. | High |  |
|  | The system should enable order amendments (e.g., changes in quantity, delivery dates, or status). |  |  |
| Inventory management and Tracking | | | |
|  | The system should allow users to CRUD all products that are of a certain order | High |  |
|  | The system must allow users to add, edit, and delete inventory items. | High |  |
|  | The system must provide real-time updates to stock levels based on transactions (inflow/outflow). | High |  |
|  | The system must allow users to categorize inventory items by type, location, or supplier. | High |  |
|  | The system must track inventory by batch or lot numbers for traceability. | Low |  |
|  | The system must support barcode scanning for item identification and updating stock levels. | Low |  |
|  | The system must allow manual stock adjustments to account for damaged, lost, or returned goods. | High |  |
| Stock Inflow and Outflow Management | | | |
|  | The system must allow users to log and track incoming stock from suppliers. |  |  |
|  | The system must allow users to record and track outgoing stock for customer orders. |  |  |
|  | The system must manage returns and adjust inventory accordingly. |  |  |
|  | The system must generate invoices and delivery notes for outgoing goods. | low |  |
|  | The system must support multiple methods of stock valuation (FIFO, LIFO, Weighted Average). |  |  |
| Re-0rdering and stock Alerts | | | |
|  | The system must provide alerts when stock levels reach reorder points. | High |  |
|  | The system must automatically generate purchase orders when stock reaches a predefined threshold. | High |  |
|  | The system must allow users to configure reorder points per item. | High |  |
|  | The system must maintain a database of suppliers for reordering purposes. | High |  |
| Reporting and Analytics | | | |
|  | The system must generate reports on inventory levels, including current stock, stock movements, and stock aging. | High |  |
|  | The system must generate sales reports, including product performance and turnover rates. | High |  |
|  | The system must allow users to export reports in various formats (CSV, PDF, Excel). | High |  |
|  | The system must provide real-time dashboard views of inventory metrics. | High |  |
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| Supplier and Purchase management | | | |
|  | The system must allow users to manage supplier information, including contact details, past transactions, and product prices. | High |  |
|  | The system must generate purchase orders and send them directly to suppliers via email. | low |  |
|  | The system must track and log all purchase orders and their fulfillment status. | High |  |
| User Management and Security | | | |
|  | The system must provide role-based access control to restrict users' access to certain features based on their role (e.g., admin, warehouse staff, sales team). | High |  |
|  | The system must track and log all user activities for auditing purposes. | High |  |
|  | The system must encrypt sensitive data such as supplier information, stock valuations, and user credentials. | High |  |
|  | The System should allow the Admin to Create and Manage user accounts | low |  |
| Integration with Other Systems | | | |
|  | The system must integrate with sales systems (e.g., Point of Sale) to automatically update stock levels based on sales transactions. | low |  |
|  | The system must integrate with accounting systems to update financial records based on stock levels and purchase orders. | Low |  |
|  | The system must provide APIs to facilitate integration with external systems such as e-commerce platforms. | High |  |
| Category | | | |
|  | The systems should provide mechanisms to add categorization of each product |  |  |
| Payment management | | | |
|  | The system should track all payments to suppliers |  |  |
|  | The system should track all customer payments |  |  |
|  | The system should allow user to View outstanding supplier/customer payments |  |  |
| Notifications and Alerts | | | |
|  | The system should send Notifications for critical events such as low stock levels, failed orders, or overdue payments. |  |  |
|  | The System notifications should be configured by the Admin based on roles |  |  |
| Viewing | | | |
|  | The system must allow users to view all sales records, including details such as sale date, products sold, quantities, total price, and customer information. |  |  |
|  | The system must allow users to view the entire inventory list, including product name, SKU, current stock level, warehouse location, and supplier details. |  |  |
|  | The system must provide filtering and search functionality for viewing sales records (e.g., by date range, product, customer, or sales representative). |  |  |
|  | The system must provide filtering and search functionality for viewing inventory lists (e.g., by product category, stock levels, or warehouse location). |  |  |
|  | The system must allow users to view pending, completed, and failed orders, along with their associated statuses and product details. |  |  |
|  | The system must generate a summary view of current stock levels, including total value of inventory, stock turnover rates, and upcoming stock reorders. |  |  |
|  | The system must generate a summary view of current stock levels, including total value of inventory, stock turnover rates, and upcoming stock reorders. |  |  |
|  | The system must allow users to view complete order history, including purchase orders from suppliers and sales orders from customers. |  |  |
|  | The system must store and display any amendments made to orders (e.g., changes in quantity, delivery dates, or status). |  |  |
| Inventory Auditing And Stock Reconciliation | | | |
|  | The system must allow users to perform periodic inventory audits and compare system records with physical stock levels. | medium |  |
|  | The system must provide a mechanism to reconcile stock discrepancies identified during audits, and update records accordingly. | medium |  |
| Inventory Forecasting | | | |
|  | The system must provide demand forecasting by analyzing past sales trends and predicting future inventory needs. | low |  |
|  | The system must recommend reorder quantities based on forecasted demand and current stock levels. | low |  |
| **Supplier Performance Tracking** | | | |
|  | The system must track supplier performance, including delivery times, quality of goods, and adherence to contract terms. |  |  |
|  | The system must generate supplier performance reports to evaluate and compare suppliers. |  |  |
| **Customer Relationship Management (CRM)** | | | |
|  | The system must store customer information, including contact details, order history, and preferences. | medium |  |
|  | The system must allow users to track customer interactions (e.g., support requests, feedback) to improve customer relations. | medium |  |
|  | The system must allow users to manage customer returns, adjusting stock levels and generating refund or credit notes. |  |  |
|  | The system must track reasons for returns (e.g., defective goods, customer dissatisfaction) and maintain a log for future analysis. |  |  |
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# Assumptions And Constraints

* The system will be deployed on a cloud-based infrastructure.
* Users will have access to mobile devices
* Integration with third-party systems (e.g., accounting software) will require appropriate APIs.
* The project must be completed within the given budget and timeline constraints

# Acceptance Criteria

* The system should allow users to manage inventory items and stock levels efficiently.
* The system must alert users to reorder stock when levels fall below a predefined threshold.
* Reports should be generated accurately, providing insights into inventory, sales, and supplier performance.
* The system must successfully integrate with existing accounting and sales systems.
* All functional requirements must pass user acceptance testing before the system is deployed.