

IT21033
Visual Application Programming
Project Proposal Format

INVENTORY MANAGEMENT
SYSTEM

Name – Chathura Dinuwan

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1. Introduction

Managing a warehouse can be complex and challenging, especially when it comes to keeping track of all the items moving in and out, organizing inventory, and ensuring things are in the right place. The Warehouse Management System (WMS) aims to make this process simpler and more efficient. This system will help warehouse staff and managers handle their day-to-day tasks with ease, reduce the chances of stock errors, and improve overall productivity. By organizing and automating key warehouse functions, this system is designed to save time, reduce costs, and ensure everything runs smoothly.

2. Objectives

The Warehouse Management System is built with a few key goals in mind:

- **Streamlining Inventory Management:** Make it easy to check stock levels, track items, and know where everything is in the warehouse.
- **Centralizing Information:** Keep all information about suppliers, shipments, and stock in one place, making it easy for users to find what they need.
- **Improving Decision-Making:** Provide real-time data and reports so managers can make informed decisions about restocking and optimizing space.
- **Increasing Security:** Allow access to data based on user roles, so sensitive information is protected and accessible only to the right people.
- **Preventing Stock Issues:** Send alerts for low stock and avoid overstocking by monitoring inventory levels closely.

3. Functional Requirements

The Warehouse Management System will have a few core features that make life easier for everyone in the warehouse:

- **Inventory Management:**
 - Users can add new items, update details, check current stock, and remove items no longer needed.
 - Items will be categorized by type, like electronics, perishables, and raw materials, so everything is easy to find.
 - The system will send alerts when stock is running low, helping to avoid surprises and keep everything in stock.
- **Real-Time Location Tracking:**
 - Every item in the warehouse will be tracked by location, down to the specific aisle, shelf, or bin.
 - This feature helps staff quickly find items and makes it easy to see where each product is stored, saving time during retrieval and restocking.
- **Shipment Management:**
 - The system allows users to record incoming and outgoing shipments, update shipment details, and track delivery statuses.
 - Notifications will inform staff about expected arrival or dispatch times, helping them stay organized and avoid delays.
- **Supplier Management:**

- Staff can maintain up-to-date records of suppliers, including contact details, order histories, and payment information.
- This feature makes it easy to know where items come from and helps to maintain strong supplier relationships.
- **Automated Reports:**
 - The system will generate reports on stock levels, order history, and usage trends.
 - Managers can use these reports to identify high-demand items, optimize stock levels, and make better purchasing decisions.

4. User Roles

The Warehouse Management System will have multiple user roles to make sure the right people have the right access:

- **Admin:** Full access to the system, including managing inventory, shipments, suppliers, and viewing all reports.
- **Warehouse Staff:** Limited access, mainly to view item locations, update stock levels, and manage shipments.

Each role ensures that data is protected and that users can only access what they need to do their job.

5. References

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