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IV] Stock Maintenance System

Problem Statement:

The current stock maintenance system lacks real-time inventory tracking, automated replenishment, and integration with sales data, leading to stockouts, overstocking, and inefficient operations. A new system is essential to optimize inventory levels, minimize stockouts, and improve operational efficiency through advanced tracking, automated processes.

1. Introduction

1.1 Purpose of this document

The purpose of this document is to define the specifications and requirements for the development of a stock maintenance system. It serves as a comprehensive guide for the development team, stakeholders, and users, outlining the objectives, scope and overview of the system.

1.2 Scope of this document

It outlines the value it will provide to users and stakeholders, including efficient management of stock inventory, improved tracking of stock levels, and streamlined stock-related processes. Additionally, it includes estimates of development cost and time.

1.3 overview

It provides functionalities for stock entry, stock tracking, stock movement, and reporting, ensuring accurate and timely management of stock levels.

2. General Description

- Stock Entry: Allows users to add new stock items to the inventory, including details such as item name, quantity, price, and supplier information.

- Stock Tracking: Provides real time tracking of stock levels, including current stock quantities, location and availability.

- Stock Movement: Enables users to track the movement of stock items within the organization, including transfers b/w warehouses, sales and returns.

- Reporting: Generates reports on stock-related activities, including stock levels, stock movement history, and inventory valuation.

3. Functional Requirements

3.1 Stock Entry

- Ability to add, edit or delete stock items from the inventory database.
- Capture of essential details such as item name, quantity, price, supplier information, and other relevant attributes.

3.2 Stock Tracking

- Real time monitoring of stock levels, including available quantity, location and status.
- Alerts for low stock levels to facilitate timely replenishment.

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3.3 Stock Movement

- Tracking of stock movement within the organization, including transfers between warehouses, sales transactions, and returns.
- Recording of relevant details such as transcation type, quantity, date, and parties involved.

3.4 Reporting:

- Generation of reports to provide insights into stock-related activities, including stock levels by item, stock movement history, and inventory valuation.
- Customizable reporting features to allow users to filter and analyze data based on specific criteria.

4. Interface Requirements:

4.1 User interface

- Intuitive and user-friendly interface for easy navigation and data entry.
- clear display of stock information, including item details, quantities, and transaction history.

4.2 System Interfaces

- Integration with barcode scanners for efficient stock entry and tracking.
- Compatibility with external systems for data exchange, such as supplier databases and accounting software.

5. Performance Requirements:

5.1 Response Time

- quick response time for stock-related queries and transactions to ensure user productivity.

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- minimal downtime for system maintenance and updates to prevent disruptions in stock management processes.

5.2 Scalability:

- Ability to handle a large volume of stock items and transactions as the business grows.
- Scalable architecture to accommodate increasing data loads and user concurrency.

6. Design Constraints:

6.1 Platform Compatibility

- Compatability with various os and web browser to ensure accessibility across different devices.

- Compliance with industry standards for data storage, security, and interoperability.

6.2 Hardware limitations

- optimization for both desktop and mobile devices to support users in different environments.

- Consideration of hardware requirements for running the system efficiently, such as memory and processing power.

7. Non-functional Attributes

- Security - Implementation of access control and encryption mechanisms to protect sensitive stock data from unauthorized access.

- Reliability - Reliable backup and recovery mechanisms to prevent data loss and ensure system availability

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- performance - efficient performance to handle concurrent users and large datasets without compromising speed or responsiveness.

8. Preliminary Schedule and Budget
   - The development of the stock maintenance system is estimated to take approximately 4 months with a budget of $40,000. The schedule includes phases for requirements gathering, design, implementation, testing and deployment.