SRS for Stock Inventory System- Aro Kristen Prasad A, Jenitta Viny J , Adityanathan S

1. Introduction

1.1 Purpose

The purpose of this document is to outline the requirements for the development of a Stock Inventory System. This system aims to efficiently manage and track the inventory of products, ensuring accurate stock levels, minimizing errors, and providing real-time insights for better decision-making.

1.2 Document Conventions

- Entire document justified.
- Title: Font Face - Times New Roman, Font Style - Bold, Font Size - 14.
- Subtitle: Font Face - Times New Roman, Font Style - Bold, Font Size - 12.
- Body: Font Face - Times New Roman, Font Size - 12.

1.3 Scope of Development Project

The Stock Inventory System will encompass various functional components, including product management, stock tracking, order processing, and reporting. It aims to cater to businesses of different sizes, allowing them to efficiently manage their inventory operations.

1.4 Definitions, Acronyms, and Abbreviations

- SQL: Structured Query Language
- UI: User Interface
- CRUD: Create, Read, Update, Delete

1.5 References

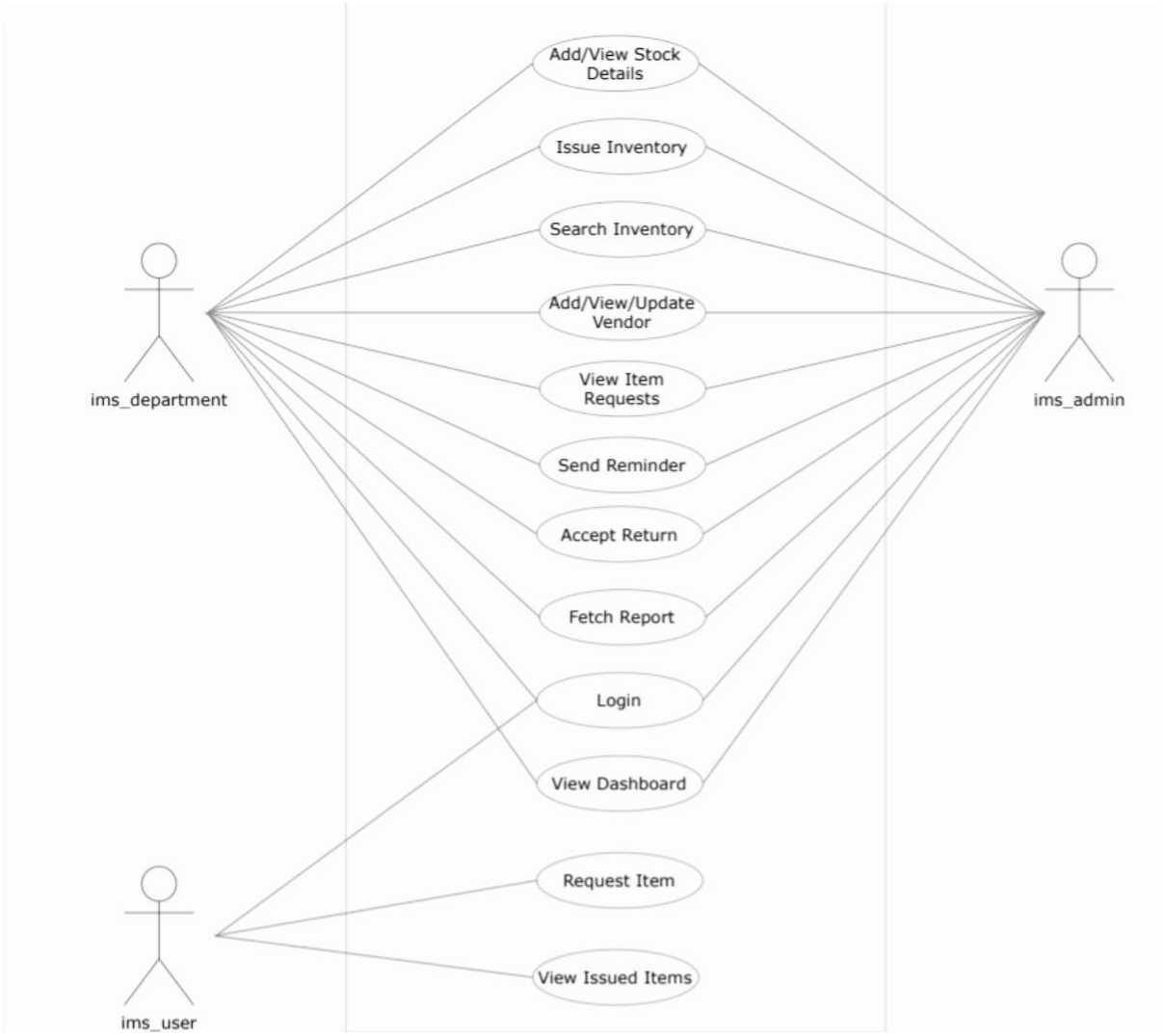
1. Barry, B. (2019). Inventory Management: A Comprehensive Guide. Publisher.

2. Smith, J. (2020). Database Design for Inventory Systems. Journal of Information Systems, 15(2), 45-62.

2. Overall Descriptions

2.1 Product Perspective

Use case Diagram for Stock Inventory System



The Stock Inventory System will serve as a standalone application interacting with databases for data storage. It will include functionalities for managing product information, tracking stock levels, processing orders, and generating reports.

2.2 Product Function

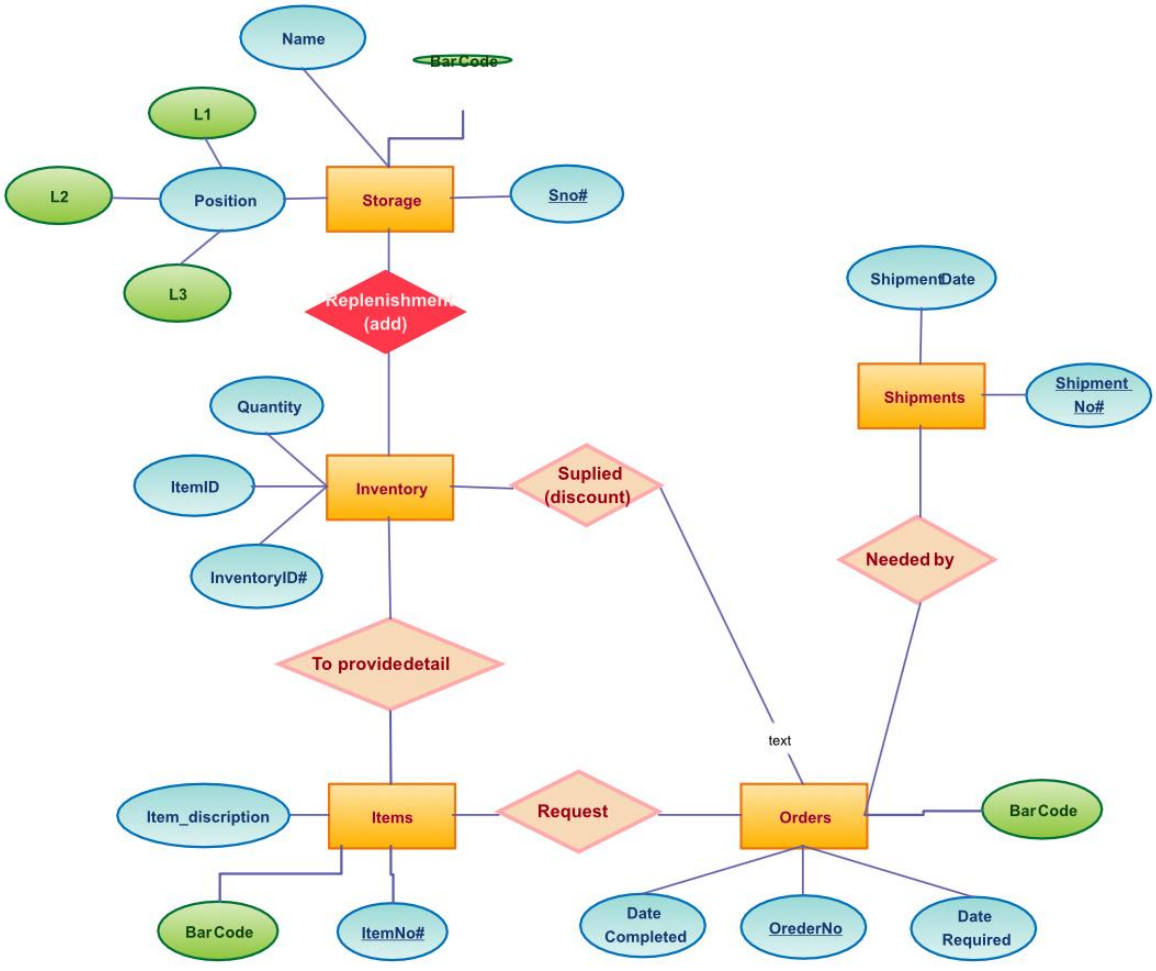
The Stock Inventory System will provide the following key functions:

1. Product Management: Add, edit, and delete product information including name, description, category, and supplier details.

2. Stock Tracking: Monitor real-time stock levels, receive alerts for low inventory, and track stock movements.

3. Order Processing: Create, update, and fulfill orders, including order status tracking and customer notifications.

4. Reporting: Generate reports on product sales, stock levels, and order history for informed decision-making.



2.3 Uses Classes and Characteristics

1. Administrator:

- CRUD operations on product information.
- Monitoring and managing stock levels.
- Processing and tracking customer orders.

2. Customer:

- Placing orders.
- Viewing order history.

2.4 Operational Environment

The Stock Inventory System's operational environment includes:

1. Database Management System (DBMS): Utilizing a reliable DBMS for data storage and retrieval.
2. User Interface (UI): Intuitive and user-friendly UI for easy navigation and interaction.
3. Security Measures: Implementing authentication and authorization to secure sensitive data.

2.5 Assumptions and Dependencies

Assumptions:

1. Reliable internet connectivity for real-time stock tracking.
2. Proper training for users on system functionalities.

Dependencies:

1. Availability of a compatible database system.
2. Integration with payment processing systems for order fulfillment.

2.6 Requirements

2.6.1 Functional Requirements

1. Product Management:

- The system should allow administrators to add new products with details.
- Products can be edited or deleted as needed.

2. Stock Tracking:

- The system should provide real-time updates on stock levels.
- Automatic alerts for low stock levels.

3. Order Processing:

- Users should be able to create and update orders.
- Order status tracking and notifications for customers.

4. Reporting:

- Generate reports on product sales, stock levels, and order history.

2.6.2 Non-functional Requirements

1. Performance:

- The system should respond to user requests within 3 seconds.
- Handle concurrent user interactions without performance degradation.

2. Safety:

- Secure user authentication to protect sensitive inventory data.
- Regular data backups to prevent data loss.

2.7 Data Requirements

The Stock Inventory System will store and manage the following data:

1. Product Data:

- Product name, description, category, supplier details.
- Stock levels, pricing, and reorder thresholds.

2. Order and Transaction Data:

- Customer details, order history, and transaction records.

3. User Data:

- Administrator and customer profiles with authentication credentials.

3. External Interface Requirements

3.1 GUI

The graphical user interface (GUI) should include:

1. Dashboard: Displaying key metrics and alerts.
2. Product Management: Intuitive forms for adding, editing, and deleting products.
3. Stock Tracking: Real-time graphs and tables showing stock levels.
4. Order Processing: User-friendly interfaces for order creation and tracking.
5. Reporting: Interactive reports with filters for customization.

4. System Features

4.1 Product Management:

- Add, edit, delete product information.
- Categorize products and manage supplier details.

4.2 Stock Tracking:

- Real-time stock updates.
- Low stock alerts.

4.3 Order Processing:

- Create, edit, and fulfill orders.
- Order status tracking.

4.4 Reporting:

- Generate product sales reports.
- View stock level reports.
- Access order history reports.

5. Other Non-Functional Requirements

5.1 Performance Requirement

1. Response Time:

- Page load time should be under 3 seconds for key functionalities.
- Quick order processing and status updates.

2. Scalability:

- The system should handle increased data and user load.

5.2 Safety Requirement

1. SSL Encryption:

- Secure data transmission with SSL encryption.

2. Regular Software Updates:

- Keep the system and dependencies updated to address vulnerabilities.

5.3 Security Requirement

1. Access Control:

- Implement role-based access control for administrators and customers.

2. Data Protection:

- Encrypt sensitive data at rest and in transit.

5.4 Requirement Attributes

1. Risk Assessment:

- Regularly assess and mitigate potential risks associated with system usage.

2. Regulatory Compliance:

- Ensure compliance with data protection regulations.

3. Performance Metrics:

- Track key performance indicators such as response time and order processing speed.

5.5 Business Rules

1. Product Pricing:

- Prices should be set by administrators and updated as needed.

2. Order Processing:

- Orders should be processed in the sequence they are received.

5.6 User Requirement

1. User Registration and Authentication:

- Easy user registration process with secure authentication.
- Two-factor authentication for added security.

2. Intuitive User Interface:

- Clean and easy-to-navigate UI.
- Responsive design for various devices.

6. Other Requirements

6.1 Data and Category Requirement

1. Product Data Requirements:

- Product name, description, category, supplier details.
- Stock levels, pricing, and reorder thresholds.

2. Category and Taxonomy Requirements:

- Clear and logical hierarchy of product categories and subcategories.
- Breadcrumb navigation for category structure.

6.2 Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: Books, Business rules; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: