

Software Requirement Specification for Inventory System

Name	VASANTH S
Roll no	7376222IT276
Seat no	341
Project ID	21
Problem Statement	Inventory System

1. Introduction

The Grocery Shop Inventory Management System is a web application designed to streamline inventory management for grocery stores. It enables efficient tracking of purchases, sales, and stock availability. With features tailored to Admin, Manager, and Employee roles, the system aims to optimize operations and enhance decision-making.

1.1 Scope

The system covers purchase and sales tracking, real-time stock availability monitoring, report generation, and automated reminders for low/high stock levels. It ensures secure access and provides separate dashboards for different user roles.

1.2 Purpose

The purpose is to centralize inventory management, improve efficiency through automation, provide real-time insights, and facilitate collaboration among stakeholders. Ultimately, the system aims to enhance grocery store operations and competitiveness.

2. User Roles and Access Levels

User Role	Access Level	Description
Admin	Full access	Has access to all features and functionalities of the system, including managing users, viewing reports, and setting reminders.
Manager	Full access except user management	Can perform all tasks related to inventory management, view reports, and receive reminders. Cannot manage users.
Employee	Limited access	Can enter data in the purchase and sales portals and send reports to the manager.

3. Functional Requirements

3.1 Authentication and User Management

- Users must log in with valid credentials (username, email_id and password).
- Admin has the authority to add, remove, or modify users.
- User roles and access levels must be clearly defined and enforced.

User	Dataset
Email_ID	varchar
Username	varchar
Password	varchar
Role	varchar

3.2 Dashboard

- Separate dashboards for Admin, Manager, and Employees.
- Dashboards display relevant information and provide access to different modules. It shows their profiles, modules like purchase entry portal, sales entry portal, availability of stocks, reporting portal and remainder thresholds.

3.3 Purchase Entry Portal

- Allows users to record purchases of products.
- Fields include product name, quantity, price, supplier information, and date of purchase.
- Automatically updates stock availability.

3.4 Sales Entry Portal

- Enables users to enter sales transactions.
- Fields include product name, quantity sold, customer information, and date of sale.
- Automatically updates stock availability.

3.5 Availability of Stocks

- Real-time display of stock availability for all products.
- Alerts when stock levels are low or high.
- Ability to set threshold levels for alerts.

3.6 Reporting System

- Generate consolidated, yearly, monthly, weekly, and daily reports.
- Reports include sales, purchases, stock levels, and financial summaries.
- Reports can be exported in various formats (PDF, CSV) and shared via WhatsApp or other messaging services.

3.7 Reminders

- Automatic reminders sent to the manager when stock levels reach predefined thresholds.
- Reminders can be customized based on urgency and recipient.

4. Non-Functional Requirements

4.1 Performance

- The system must handle concurrent user access efficiently.
- Response times for data retrieval and operations should be minimal.

4.2 Security

- User authentication and authorization mechanisms must be robust.
- Data encryption to ensure confidentiality during transmission and storage.

4.3 Reliability

- The system should be highly reliable, with minimal downtime.
- Regular backups of data to prevent data loss.

5. Technology Stack

- Front End:

Technology	Description
HTML	Creating the structure of the user interface, including pages for login,dashboard, purchase entry, sales entry, reporting, and reminders.
CSS	Styling the HTML elements to enhance the visual appearance and layout of the user interface, ensuring consistency and responsiveness across different devices.
JavaScript	Utilized for specific functionalities within the sales entry portal, such as form validation or dynamic updates, to enhance the user experience for employees.

- API:
 - 1) OpenAPI
 - 2) Soap APIs
 - 3) RESTful API

- Back End:

Technology	Description
Python	Implementing the server-side logic of the web application, including handling user authentication, authorization, and session management.
Django	Developing the back-end components of the web application using the Django web framework, such as defining models for users, products, purchases, sales, and reminders; creating views to handle HTTP requests; and setting up URL routing.

- Database:

Technology	Description
PostgreSQL	Storing and managing the structured data of the application, including user information, product details, purchase and sales records, stock levels, and reminder settings.

MySQL	Alternatively, utilizing MySQL as the database management system to store and retrieve data in a structured manner, ensuring data integrity and consistency.
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6. Flowchart:



7. Conclusion

The Grocery Shop Inventory Management System aims to streamline inventory management processes, improve efficiency, and provide real-time insights into stock levels and sales data. By catering to different user roles and access levels, the system ensures that users can perform their tasks effectively while maintaining data security and integrity.