Software Requirements Specification (SRS) for Inventory Managment System

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Contents

Version History

Version	Date	Changes
1.0	27-Oct-2024	Initial version with system requirements.
2.0	25-Dec-2024	Second version specification are defined.

1 Introduction

1.1 Abstract

The FreshMart Inventory System is a supermarket-style inventory management system designed for businesses to track stock levels, manage suppliers, view sales trends, and generate automatic reordering notifications when stock is low. The system provides features such as user registration, an admin dashboard, stock tracking, supplier management, reordering alerts, and inventory reports.

1.2 Similar Systems

There are existing supermarket-style inventory management systems that offer similar functionalities, such as Talabat, and insta shop. These systems allow businesses to manage inventory, process sales, and track customer data. However, FreshMart focuses on stock level tracking with real-time supplier integration and automatic reordering tailored for smaller-scale supermarkets.

1.3 Business Context

FreshMart Inventory System supports businesses in managing their stock and suppliers, ensuring they can efficiently monitor product availability and optimize their supply chain with minimal manual intervention.

2 System Overview

2.1 Problem Statement

Supermarkets require a reliable method to track stock levels, manage supplier relationships, and automatically reorder items when stock levels reach a critical low. Existing manual processes result in frequent errors and inefficiencies, potentially leading to stockouts or overstocking, which can impact profitability and customer satisfaction.

2.2 System Scope

FreshMart will include features such as user authentication, an admin dashboard, stock tracking, supplier management, reordering alerts, and sales and inventory reporting. These tools will ensure smooth stock flow and better decision-making.
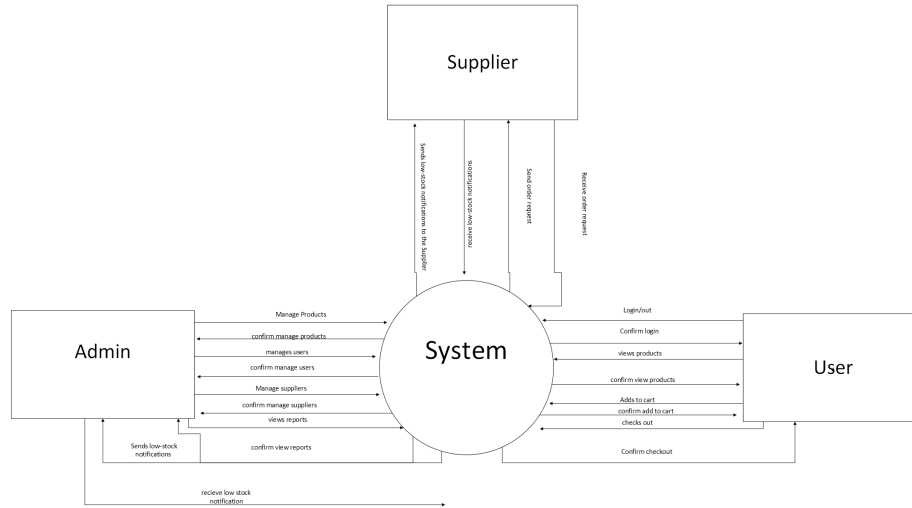
Figure 1: Context Diagram

3 Functional Requirements

3.1 System Functions

The system will consist of the following key features:

- **User Registration & Authentication:** Business users can register and log in to manage inventory. Multi-user access with role-based permissions (e.g., admin, stock manager).

- **Admin Dashboard:** Admins can view all business activities, including stock levels and sales trends. Generate comprehensive reports on stock and sales data.

- **Stock Management:** Track stock levels in real-time. Maintain logs of incoming and outgoing products.

- **Supplier Management:** Add and manage suppliers, storing contact information and product supply details. Set up payment terms with each supplier.

- **Automatic Reordering Notifications:** Set stock threshold limits. Trigger reorder notifications when stock reaches a specified low level.

- **Sales and Inventory Reports:** Generate detailed reports on inventory trends and sales performance. Provide low-stock alerts and sales analysis to optimize supply chain management.

- **Search & Filter:** Allow users to search products by name or filter based on stock levels, suppliers, etc.

- # 4 Detailed Functional Specification

4.1 User Registration & Authentication

Purpose:
This module enables business users to create accounts, log in, and access system features based on role-based permissions (e.g., admin, stock manager).

Features:

- **Registration Process:** Users must provide their name, email, and password to create an account.
- **Authentication:** Secure login with username/email and password.
- **Role-Based Access Control:**
  - * **Admin Role:** Full access to all system features, including reports, user management, and supplier management.

4.2 Stock Management

Purpose:
To monitor and manage stock levels .

Features:

- **Real-Time Stock Tracking:** Display available stock levels for all products.
- **Categorization:** Products categorized by type (e.g., food, beverages).
- **Low-Stock Alerts:** Notifications triggered when stock falls below a predefined number.

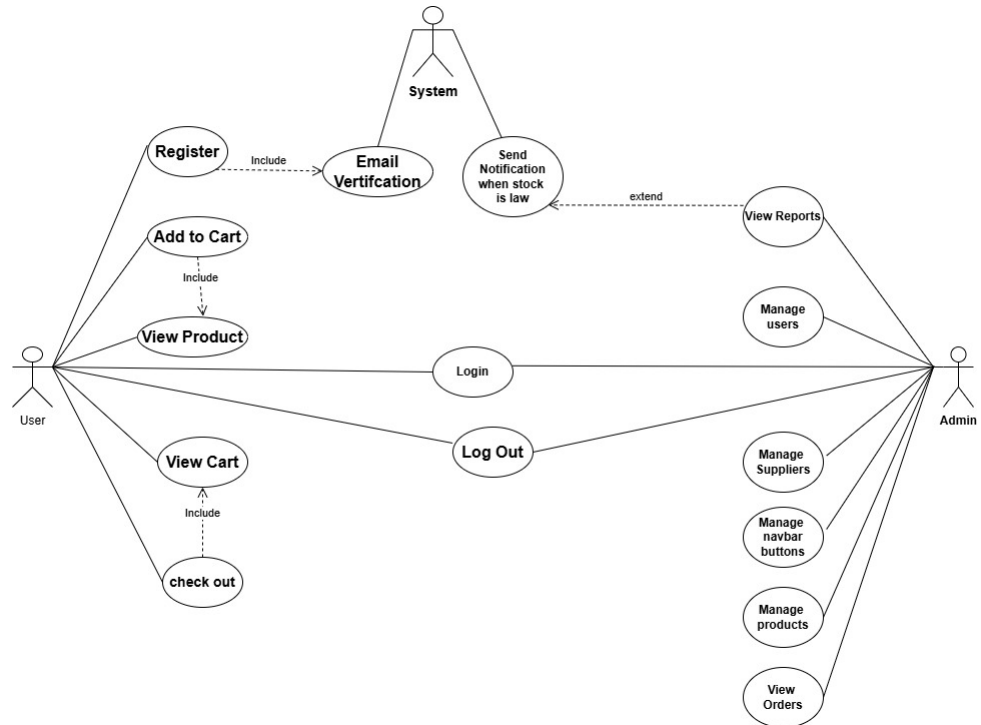## 4.3 Supplier Management

Purpose:
To efficiently manage suppliers.

Features:

- **Supplier Communication:** Automates notifications to suppliers for low-stock items.
- **Supplier Performance Tracking:** Generate reports on supplier sales

4.4 Use case diagram

• Use Case Tables

Register

Actor	User
Description	Allow a new user to create an account.
Data	User details (name, email, password)
Stimulus	User submits registration details.
Response	Account is created.
Comments	Includes email verification to ensure that it's written correctly.

Email Verification

Actor	System
Description	Email verification to ensure that it's written correctly.
Data	User email
Stimulus	Triggered by user registration.
Response	Account is created.
Comments	Mandatory step for account registration.

Add to Cart

Actor	User
Description	Enables a user to add a product to their shopping cart.
Data	Product details
Stimulus	User clicks "Add to Cart" for a specific product.
Response	Product added to the user's cart.
Comments	The user can add, remove, or update the quantity of products.

View Product

Actor	User
Description	Allows users to browse and view product details.
Data	Product information
Stimulus	User wants to view details.
Response	Product details displayed.
Comments	Provides detailed descriptions and images of products.

View Cart

Actor	User
Description	Enables a user to review items added to their shopping cart.
Data	Cart items
Stimulus	User clicks on the "View Cart" option.
Response	Displays all items currently in the cart.
Comments	Includes item quantity and price details.

Check Out

Actor	User
Description	Facilitates the completion of a purchase of items in the cart.
Data	Cart items, payment details
Stimulus	User proceeds to checkout.
Response	Order is confirmed, and payment processed.
Comments	Includes validating payment.

Login

Actor	User/Admin
Description	Allows users or admins to access their accounts.
Data	Username and password
Stimulus	User enters their data.
Response	User is logged in and directed to the dashboard.
Comments	Required for accessing the website.

Log Out

Actor	User/Admin
Description	Logs the user or admin out of their account.
Data	Session details
Stimulus	User clicks "Log Out."
Response	Session is terminated.
Comments	Required for logging out from the website.

Send Notification When Stock is Low

Actor	System
Description	Sends notifications to the admin when stock levels are low.
Data	Stock levels, product details
Stimulus	Stock reaches a certain number.
Response	Notification sent to the admin.
Comments	Extends the functionality of "View Reports."

View Reports

Actor	Admin
Description	Allows the admin to view detailed reports.
Data	Sales data and stock of products
Stimulus	Admin selects "View Reports."
Response	Report is displayed.
Comments	Includes sales data and stock of products.

Manage Users

Actor	Admin
Description	Enables the admin to manage user accounts.
Data	User account details
Stimulus	Admin selects "Manage Users."
Response	User accounts are added, updated, or deleted.
Comments	Includes user details.

Manage Suppliers

Actor	Admin
Description	Allows the admin to manage supplier information.
Data	Supplier details
Stimulus	Admin selects "Manage Suppliers."
Response	Supplier details are added, updated, or deleted.
Comments	Maintains updated supplier information.

Manage Navbar Buttons

Actor	Admin
Description	Enables the admin to customize navigation buttons on the website.
Data	Navigation details
Stimulus	Admin selects "Manage Navbar Buttons."
Response	Navbar is updated.
Comments	Facilitates better navigation.

Manage Products

Actor	Admin
Description	Allows the admin to add, update, or delete product details.
Data	Product information
Stimulus	Admin selects "Manage Products."
Response	Product information is updated.
Comments	When the admin adds a product, they can include an image, description, and price.

View Orders

Actor	Admin
Description	Enables the admin to view and manage all orders placed by users.
Data	Order details
Stimulus	Admin selects "View Orders."
Response	Displays all user orders.
Comments	Includes order details.

5   Non-functional Requirements

– **Usability:** The user interface must be intuitive and accessible.

– **Security:** The system will ensure data protection via encryption and role-based access control.

– **Performance:** The system should handle up to 10,000 products without lagging.

– **Scalability:** The system should support multiple business branches and users.

– **Reliability:** It should have 99.9% uptime to ensure continuous operation.

– **Maintainability:** The system should allow easy upgrades for future features.

6   Data Design

The FreshMart Inventory System will include a robust database for tracking products, stock levels, suppliers, users, and sales trends. The database schema will consist of tables for products, suppliers, transactions, and user accounts. Relationships between tables will ensure that admins can track product movements and supplier activities in real-time.
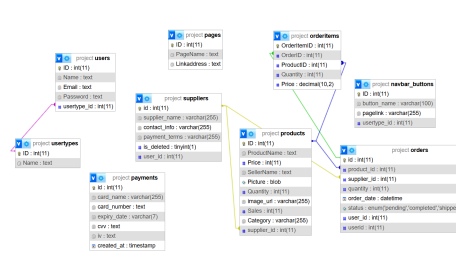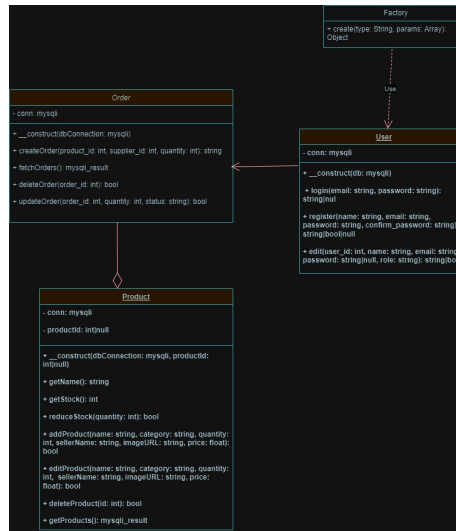
Figure 3: DataBase Design

Figure 4: UML Diagram

7 Preliminary Object-Oriented Domain Analysis

8 Correct Citation

All references used in this document will follow the citation standards required, ensuring each resource is correctly attributed.

talabat: https://www.talabat.com/ insta shop: https://instashop.com/en-eg

9 Project Plan and Task Distribution

Task	Responsible Party	Deadline
System Review	Development Team	Day 1
Frontend Development	Member 1, Member 2	Day 2
Testing	Member 3	Day 5
Documentation	Member 4, Member 5	Day 7