

Web-based
Inventory
Control System
for
Southern Goods
Distributors Pvt
Ltd





Presented by:

2025-Y2-S1-MLB-B10G2-06

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Year 01 – Semester 01

SE2030 – Software Engineering

Introduction



Project Overview:

This project is for Southern Goods Distributors, a company currently using manual, paper-based systems for inventory management. This leads to frequent stock errors, order delays, and poor visibility of stock levels.

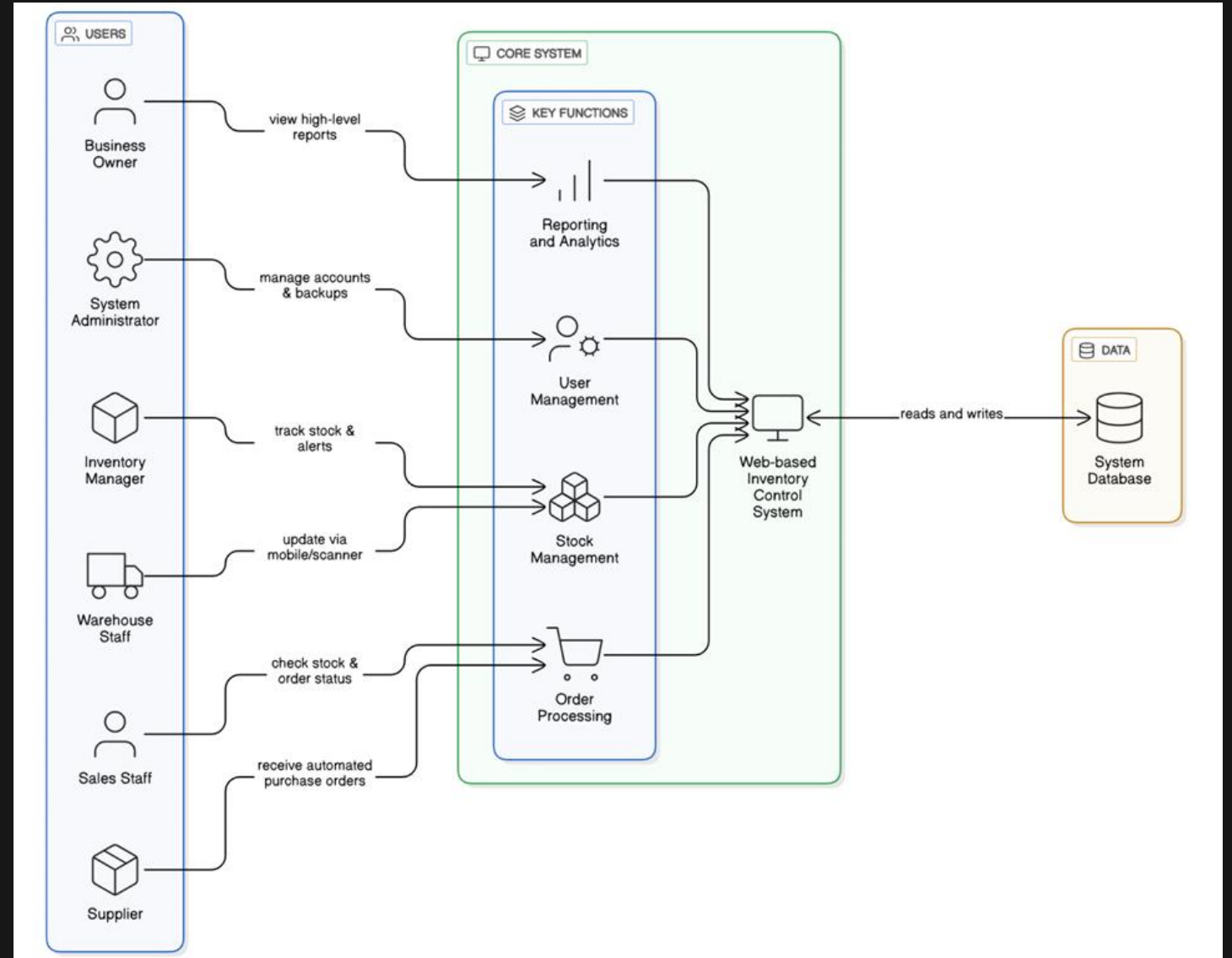


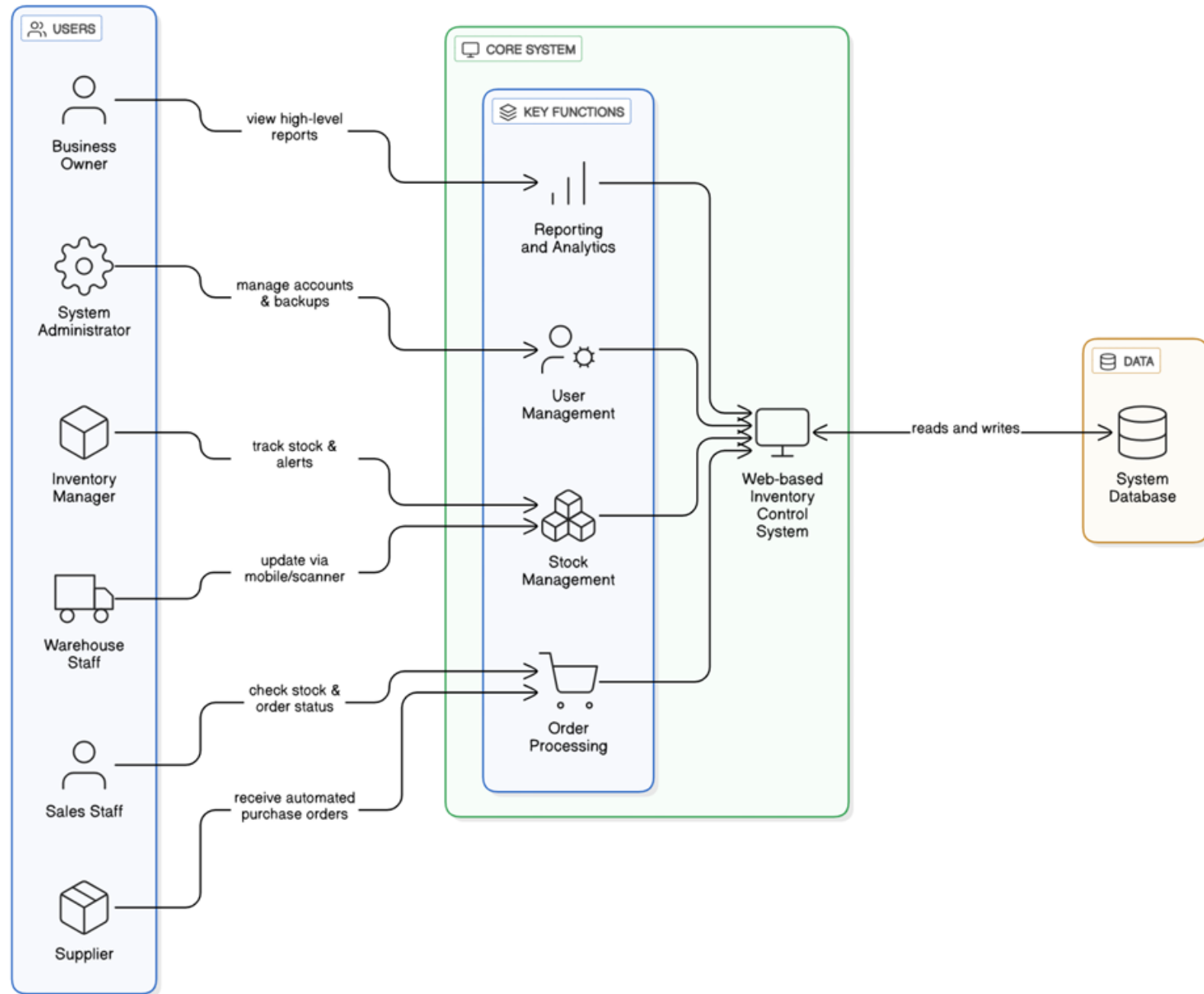
Purpose & Objectives:

Purpose: To replace the inefficient manual processes with a centralized, effective, and easy-to-use web application.

Objectives: To provide real-time stock visibility, minimize errors through automation, streamline purchase orders, and improve overall business efficiency.

System Overview Diagram





Functional Requirements

Real-time Inventory Dashboard

Live view of stock levels, low-stock alerts.

01

Purchase Order Management

Automated creation and tracking of purchase orders.

02

Business Reporting & Analytics

Generate reports on sales, stock value, etc.

03

Warehouse Operations Interface

Generate reports on sales, stock value, etc.

04

User and Access Management

Secure, role-based access for all stakeholders.

05

Automated Data Backups

Regular, reliable backups to prevent data loss.

06

Non-Functional Requirements

Performance

The system must provide quick access to data.

01

Security

We will implement role-based access and secure login protocols.

02

Scalability

The system must be able to support future company growth.

03

Usability

It will have an intuitive interface that is easy to use.

04

Reliability

The system will feature reliable backups and recovery procedures.

05

Major Stakeholders / Users

Business Owner

Makes strategic decisions
using high-level reports.

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Inventory Manager

Tracks stock levels and manages reordering processes.

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System Administrator

Manages user accounts, security, and system backups.

Major Stakeholders / Users

Business Owner

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Warehouse Staff

Handles physical stock, including picking, packing, and receiving goods.

Suppliers

Receive automated purchase orders from the system.

System Administrator

Manages user accounts, security, and system backups.

Major Stakeholders / Users

Business Owner

Makes strategic decisions using high-level reports.

Inventory Manager

Tracks stock levels and manages reordering processes.

Warehouse Staff

Handles physical stock, including picking, packing, and receiving goods.

Sales Team

Manages customer orders and checks real-time stock availability.

Suppliers

Receive automated purchase orders from the system.

System Administrator

Manages user accounts, security, and system backups.

Major Functions

Used by
Sales Team

Inventory Dashboard

Purpose

Provides a real-time view of available stock, low-stock alerts, and incoming inventory. Helps sales staff confirm product availability instantly.

CRUD Operations

Create: New stock alerts are created when levels drop.

Read: Sales staff read stock levels and product details.

Update: The dashboard display is updated in real-time as stock is sold or received.

Delete: Alerts are deleted or cleared once addressed.

Used by
Inventory Manager

Purchase Order Automation

Purpose

Automates the creation and sending of purchase orders (POs) to suppliers via email or SMS. Tracks order status from creation to delivery.

CRUD Operations

Create: The manager creates new purchase orders.

Read: Views existing POs and their status.

Update: Updates the status of a PO (e.g., from 'sent' to 'confirmed' or 'delivered').

Delete: Cancels or deletes a purchase order before it is processed.

Business Reporting

Used by
Business Owner

Purpose

Provides high-level analytics and reports on stock movement, sales performance, inventory valuation, and identifies fast or slow-moving products.

CRUD Operations

Create: Generates new, custom reports based on selected parameters.

Read: The owner can view and analyze all generated reports.

Update: Reports can be refreshed to reflect the latest data.

Delete: Old or irrelevant reports can be deleted from the system.

Used by
Warehouse Staff

Warehouse Interface

Purpose

A mobile-friendly interface for managing physical inventory. Supports barcode scanners for searching, picking, packing, and updating stock levels in real-time.

CRUD Operations

Create: Adds new inventory records when goods are received.

Read: Scans a barcode to read product details and location.

Update: Updates stock quantities in real-time after picking an order or restocking shelves.

Delete: Removes a product record if it's discontinued or written off.

User Management

Used by

System Administrator

Purpose

Allows the administrator to manage all user accounts, assign roles (e.g., Sales, Warehouse), and set specific permissions to ensure data security.

CRUD Operations

Create: The admin creates new user accounts.

Read: Views a list of all users and their assigned roles/permissions.

Update: Modifies user details, changes roles, or resets passwords.

Delete: Deactivates or permanently deletes a user account.

Used by

All internal staff

Scalability & Training

Purpose

Ensures the system is easy to adopt and can grow with the company. Includes a user-friendly interface, help guides, and a flexible architecture.

CRUD Operations

Create: Admins can create new help articles or training modules.

Read: All users can read help guides and tutorials.

Update: Training materials can be updated as the system evolves.

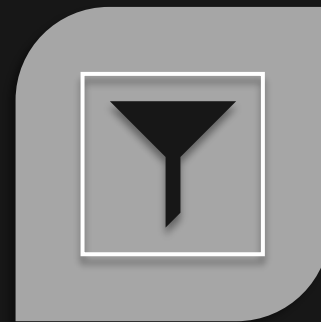
Delete: Outdated help documents can be removed.



SECURE USER LOGIN AND
LOGOUT SYSTEM.



PASSWORD RESET AND
RECOVERY FEATURE.



SEARCH AND FILTER OPTIONS
FOR LARGE DATASETS.



NOTIFICATIONS AND ALERTS
FOR LOW STOCK AND ORDER
STATUS.



RESPONSIVE WEB INTERFACE
FOR DESKTOPS, TABLETS, AND
SMARTPHONES.



DATA EXPORT AND PRINT
SUPPORT IN PDF OR EXCEL
FORMATS.

Minor Functions

System Limitations / Constraints



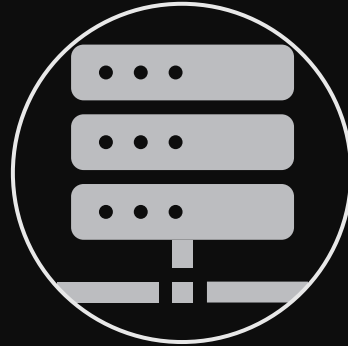
Internet Dependency

The system requires a constant internet connection to operate.



No Offline Mode

Users cannot interact with the system without an internet connection.



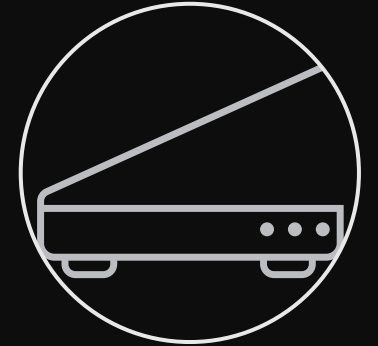
Initial Data Migration

Transferring data from old spreadsheets may be a challenge initially.



Training Requirement






Some staff, especially those used to manual systems, will require training.



Supplier Digital Readiness

The system's efficiency depends on suppliers being able to receive digital purchase orders.

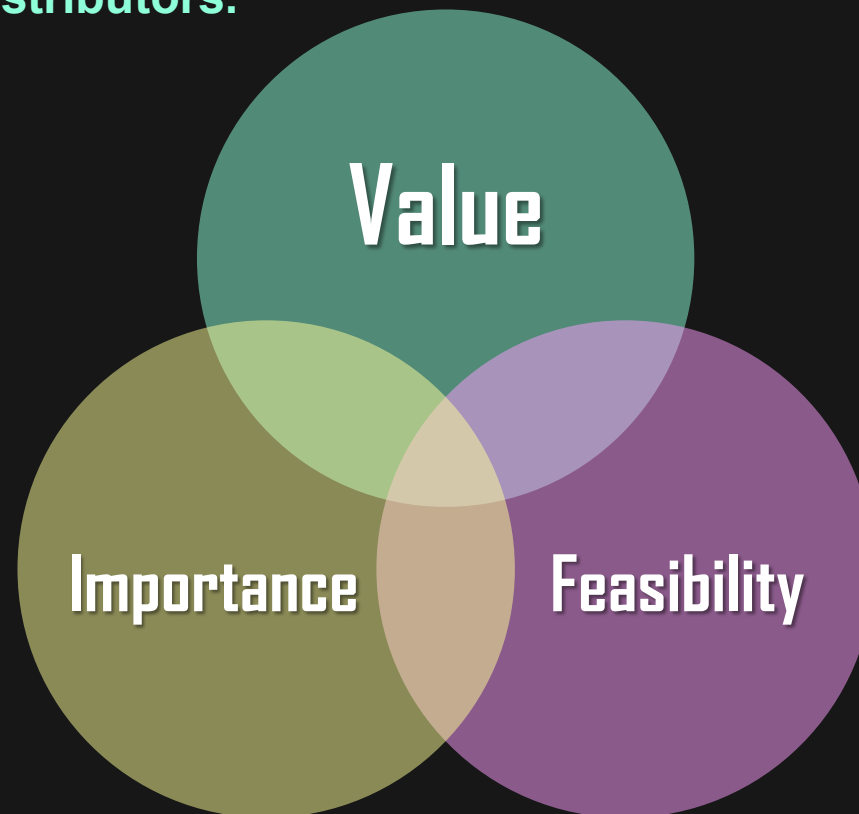
PROJECT TIMELINE

| WEEK 03 | WEEK 04 - 05 | WEEK 06 - 09 | WEEK 10 - 11 | WEEK 12 - 14 |
|---|---|---|---|---|
| Finalize project concept and primary requirements. | Create system architecture, use cases, and UI mockups. | Develop backend, inventory control, warehouse interface, and reporting modules. | Perform integration testing, fix bugs, and gather user feedback. | Complete final documentation, prepare for presentation, and conduct final system demo and submission. |
|  |  |  |  |  |

Conclusion

The proposed system offers a modern, integrated solution to revolutionize the inventory function at Southern Goods Distributors.

With its scalable design and user-friendly interface, the system will not only solve current challenges but also support the company's future growth, providing a solid foundation for data-driven decisions.



By replacing manual procedures with a centralized platform, the system will reduce errors, improve accuracy, and enhance efficiency.



Thank You !