

# INVENTORY MANAGEMENT SYSTEM

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**Guide**

# Introduction

Effective inventory management is essential for business success, with optimal stock levels, cost management, and customer satisfaction. Spreadsheets are old-fashioned, not meeting today's needs for real-time monitoring and scalability. The PHP Inventory Management System overcomes these limitations with a web-based automated system developed on PHP, MySQL, and Bootstrap for ease of access, responsiveness, and affordability.

## **The key features are:**

- Real-time monitoring through a sql interface, facilitating remote access.
- Role-based security (Admin/Manager/Staff) to protect sensitive information.
- Modular architecture for inventory, sales, supplier, and reporting functionality.
- Stock level updates during sales/purchases automatically, eliminating errors.
- Data-driven decisions on stock trends and supplier performance through analytics & reporting.
- By automating workflows, the system reduces costs, eliminates errors, and increases efficiency, making it a strategic business tool for companies seeking to increase competitiveness and operational excellence.

# Literature Survey

## Traditional Approaches:

Handled ledgers & spreadsheets → Error-prone, no live updates.

Scales poorly & reports poorly (Silver, Pyke & Peterson, 1998).

## Computerized Systems:

Desktop-based (e.g., VB, MS Access) → Improved accuracy lacked remote access (Thompson et al., 2005).

## Web-Based Solutions:

Cloud-enabled, real-time monitoring, multi-location accessibility (Mousavi & Niaki, 2011).

30%+ efficiency improvement (TechNavio, 2018).

# Literature Survey

## Automation & Real-Time Monitoring

Automated stock updates, error-free (Sharma & Agarwal, 2018).

## User Accessibility & Security

Role-based access (RBAC), secure logins (Singh & Jha, 2019).

## Analytics & Reporting

Sales trend dashboards, demand planning (Kim & Kim, 2016).

## Open-Source Benefit

PHP-MySQL: Economical, scalable (Ali & Khalil, 2017).

# Literature Survey

## Research Gap:

SMEs require low-cost, adaptable solutions (Garg & Deshmukh, 2006).

## PHP-IMS Solution:

Web-based – Accessible anywhere, anytime.

Modular – Inventory management, sales management, supplier tracking.

Secure & Scalable – MySQL as backend, Role-Based Access Control.

SME-Friendly – Low cost, no sophisticated IT requirements.

Impact: Minimizes overstock/stockout, enhances decision-making.

# Objectives

PHP Inventory Management System's purpose is to offer SMEs an automated, real-time, and scalable system for effective inventory management. Important goals are:

**Automation** – Abolish human errors in updating stocks, sales tracking, and supplier control.

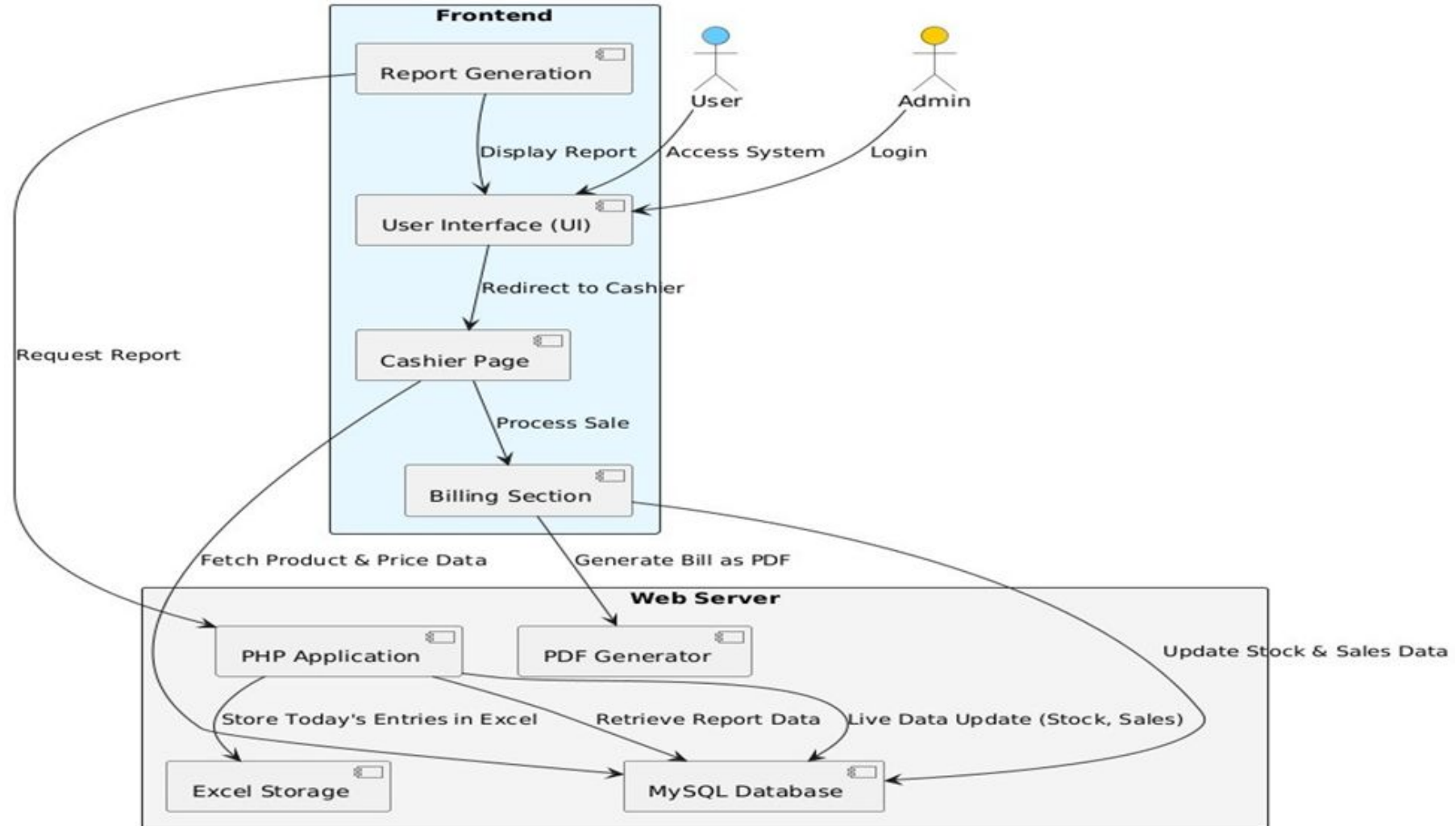
**Real-Time Monitoring** – Have instantaneous visibility of inventory levels to avoid shortages/excess stock.

**User-Friendly Access** – Web-based, user-friendly interface to simplify adoption on all devices.

**Security & RBAC** – Log-ins with security features and role-based access control (Admin/Manager/Staff) to secure data.

**Scalability** – Modular design allows future growth (e.g., barcode scanning, multi-location tracking).

# System Architecture



## Methodology

PHP Inventory Management System was created with:

Front-end: HTML, CSS, Bootstrap for mobile-friendly, responsive design.

Back-end: PHP for server-side programming + MySQL for secure, structured data storage.

Core Features:

- ✓ Secure user authentication (PHP sessions, password hashing).
- ✓ CRUD operations for product/supplier management.
- ✓ Automated tracking of sales with real-time updates to stock levels.
- ✓ Dynamic reporting for sales & inventory analysis.



## Methodology

### Post-implementation results:

- ✓ Precision: Minimized human error through automation.
- ✓ Real-time visibility: Real-time inventory updates to avoid stock-outs.
- ✓ Efficiency: Quicker sales logging & report generation.
- ✓ Usability: Good feedback on easy-to-use interface (little training required).
- ✓ Cross-platform: Equally good performance on desktops, tablets & mobiles.

# Sign In

Login

Fig 1.1 Sign Up Page

Inventory Management System

StockPurchaseSalesPurchase ReportSales ReportLogout

Stock Status

Product Name	Description	Unit	Unit Price	Action
Shirt	good	10	45	<div>update</div> <div>delete</div>

Fig 1.2 Inventory Home Page

# Results

Inventory Management System

Stock

Purchase

Sales

Purchase Report

Sales Report

Logout

Purchase

Product Name

Description

Unit

Unit Price

Submit

Fig 1.3 Inventory Purchase Page

Inventory Management System

Stock

Purchase

Sales

Purchase Report

Sales Report

Logout

Start (date and time):

dd-mm-yyyy --:-- --

End (date and time):

dd-mm-yyyy --:-- --

Submit

Pdf Report

Purchase Report

Product Name	Unit	Total Unit Price
Total= 0 Taka		

Fig 1.4 Purchase Report Page

## Comparison with existing work

The PHP Inventory Management System provides unique benefits over conventional spreadsheet-based or legacy inventory systems through real-time tracking, automated stock updates, and role-based access control—features not always present in manual approaches. In contrast to commercial inventory software, this solution is less expensive for SMEs since it utilizes open-source technologies (PHP/MySQL) without licensing costs, yet still provides essential functionalities such as sales integration, supplier management, and reporting. In contrast to standalone desktop software, its web-based design makes it accessible across devices, counteracting the mobility constraints of older systems. Moreover, its modular nature facilitates simpler customization than rigid proprietary software, addressing a critical void for businesses requiring scalable yet reasonable inventory management.

### **Conclusion:**

The PHP Inventory Management System effectively provides an automated, real-time, and scalable solution to SMEs, overcoming major issues such as stock accuracy, operational efficiency, and data security. Using PHP, MySQL, and Bootstrap, the system provides easy access, role-based control, and cross-platform compatibility, allowing companies to streamline inventory processes and eliminate manual errors.

### **Future Enhancements:**

Advanced Analytics: Machine learning for demand forecasting.

Mobile App: On-the-go inventory management.

Barcode Integration: Faster stock updates through scanning.

Cloud Migration: Enhanced scalability & remote access.

Multi-Location Support: Centralized tracking for branches.

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