UNIVERSITY OF PLYMOUTH

PUSL 2021

COMPUTER GROUP PROJECT

BATCH 11

Stock Level Management and Monitoring System

Project Proposal Report

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Table of Contents

Introduction

Our group decided to create a stock level management and monitoring system as a group project. Stock control (inventory control) management and monitoring system is the process to ensure the right volume of supply is available in an organization. With the suitable internal and production controls, the practice ensures the organization can achieve customer demand and delivers financial bounce. Having effective & efficient stock level management system and better monitoring system is important to the success of any type of organizations & stock is the skeleton of any type of business, since accurate, appropriate and timely information in real time is very essential for the stock levels with its prices. Actual & well-organized stock level management system and better monitoring system is needed to identify slow-moving items ,the seasonality of products and to avoid/ reduce business risks such, both overstocking and understocking of inventory, to eliminate duplication in ordering stocks¸ to minimize loss through wastages, and damages, identify trends, anticipate nature of the supply & demand, predict sales, improve organization's cash flow and have a higher inventory turnover & it helps to optimize space in stock area to increase profitability per square meter of storage, manages the efficient & effective movement and storage of its goods, reduce the cost of emergency purchases, reduce lost sales due to lack of product/s, visibility of stock levels and allows to make better decisions and improve the quality level of customer service Furthermore, customer needs & wants change regularly & stock level management and monitoring system can track trends to get idea when their preference change and why. Also this system helps better planning and decision making activities. Stock control supports the maximum amount of profit from the least amount of investment in stock without affecting customer satisfaction and also it will help to increase customer loyalty.

`Project Objectives

- Design and develop user friendly system – Create a web-based interface allowing users to access easily.
- Effective & efficient multi location inventory management system- Permit easy ability to monitor stock levels in all the locations and optimize the inventory to full- fill orders.
- Automated alert, signals, notices/notifications system - Provide facilities via e-mail or SMS to avoid business risks such, both overstocking and under -stocking of inventory.
- Real time demand planning system - Formulate better planning, scheduling & inventory control system.
- Supply chain more effective system - Ensure that customers receive items that they want without waiting.
- Business integration data system - Ensure information is easier to retrieve.
- Comprehensive report and analysis system - Generate user friendly report to have better decision-making process.
- Priorities the data security system – Ensure organization's confidentiality.
- Implement FIFO (first in first out) method - Ensure movement of the oldest stock first.
- Accurate, appropriate and in real time inventory tracking system- Identify the flow of products from the supplier through the production process to the customer.

Project Team Roles

Position	Contribution
Project and group leader	Manage project planning, delegated tasks, and facilitated effective collaboration among team members. Work in PHP for server-side scripting, HTML for content structuring, and CSS for user interface styling.
Programming leader	Responsible for distributing relevant activities to the relevant members of the team & assign responsibilities accordingly. Mange the project source code & other program activities by using version control specific tools & collaboration skills, evaluate codes & programming skills of other team members. provide required guidance as a program leader to other leaders of the team.
Planning leader	Responsible for managing resources & time planning. Motivate & encourage other group members to complete the project within the allocated time framework. Provide required guidance as a planner to other leaders of the team.

Technical leader	Responsible for identify & define relevant technical technologies, manage technical requirements & resources, Motivate & encourage other group members by assigning appropriate technical tasks, provide require
	guidance as a developer of technical matters to other leaders of the team.
Quality leader	Responsible for mange the quality of the project source code/user interface & documents, ensure quality of the project outcome. assign of the quality assurance tasks for other group members. provide required guidance as a quality leader, to other leaders of the team.
Testing & maintenance leader	Responsible for directing and monitoring the analysis, design, implementation and execution of the test procedures to test the final product. assign the final product to the team members. provide require guidance as testing & maintenance leader to other leaders of the team.
Frontend developer	Responsible for design and develop the UI of the system using recent appropriate website.
Backend developer	Responsible for creating the backend logics, database and implement real-time monitoring.
Database administrator	Responsible for Manage the database, ensuring data integrity.

Quality Assurance/Test Engineer	Responsible for test the system thoroughly, identify and report issues, and ensure a high-quality final product.

Target Users

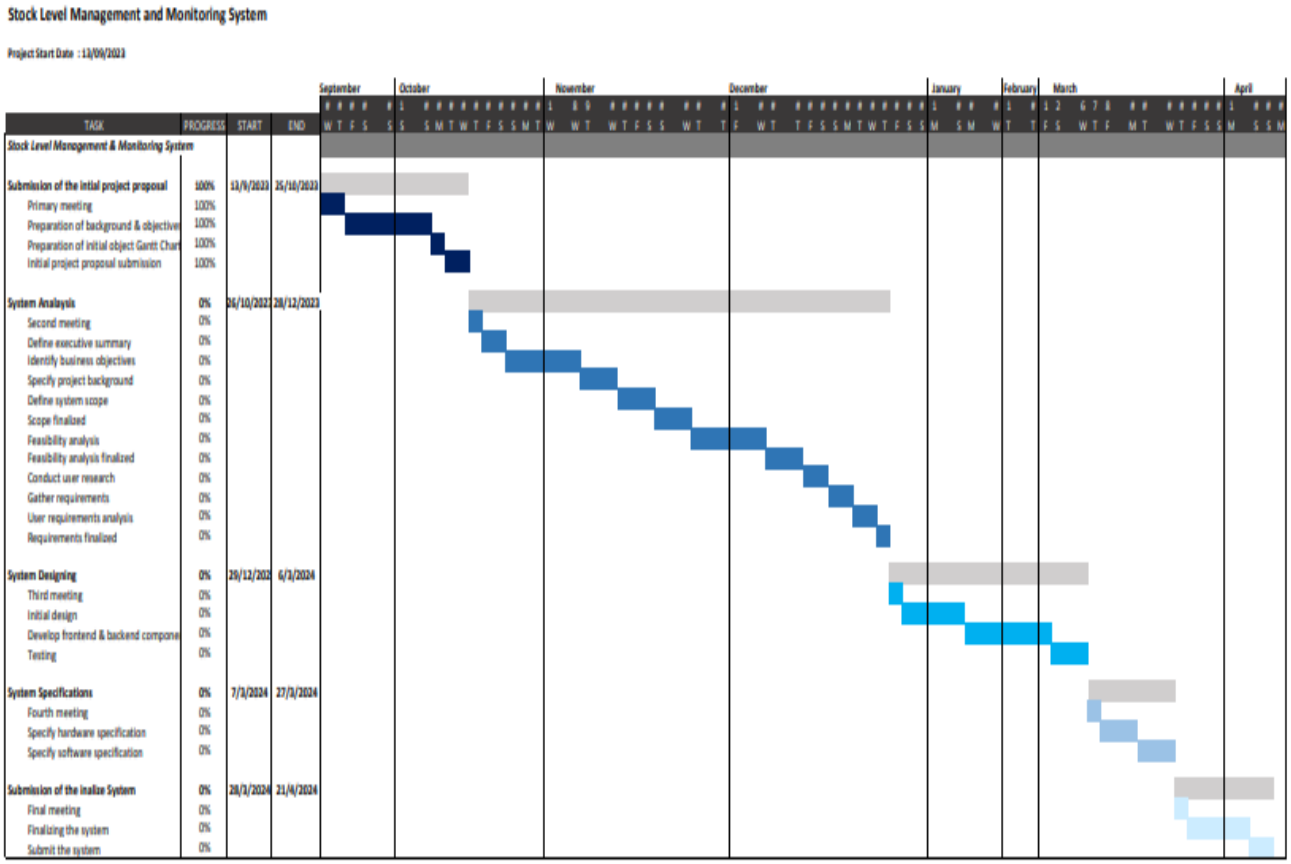
- **Retailers:** Both small and large retail firms rely on stock management systems to maintain inventory levels and avoid overstock or understock issues.
- **Wholesalers:** Stock management systems are used by these organizations to properly manage and distribute products to their customers, assuring timely deliveries and eliminating surplus inventory.
- **E-Commerce Businesses: To** handle large product catalogs, integrate online and offline inventories, and support real-time order fulfillment, online retailers demand comprehensive stock management systems.
- **Inventory Managers:** Because these experts are in charge of monitoring and regulating inventory in a variety of businesses, stock management systems are crucial tools for their everyday responsibilities.
- **Warehouses:** Warehouses rely on stock management systems to coordinate and control the movement of goods and materials.

Application Features and Description

This stock level management and monitoring system will cover the following key features.

- User registration & authorization: Users will be able to create accounts and log in securely.
- Dashboard: A dashboard provides an overview of key inventory information and alerts.
- Inventory management: The ability to add, edit, and delete products, including details like SKU, description, pricing, and supplier information.
- Inventory tracking: Real-time tracking of stock levels, with the option to manually adjust quantities or automate adjustments through sales and purchases.
- Alerts & notifications: Automated notifications via email or SMS for low stock levels, stock-outs, and expiring items.

Time Frame



Project Timeline

We estimate that the project will take approximately three months to complete. Here's a rough timeline is hereby given:

Month 1: Project planning and requirement gathering
Month 2: Initial design and Development of frontend
Month 3: Backend components
Month 4: Testing,
Month 5: Bug fixing
Month 6: and finalizing the system