Task 1: Project Proposal

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Title:

Supply Chain Management System (I have named the company as CoreLogix)

Introduction:

The Supply Chain Management System (SCMS) is a web-based solution designed to optimize and streamline the various processes involved in supply chain operations, from product management and inventory control to order processing and customer interactions. This system aims to enhance efficiency by automating critical functions, ensuring real-time visibility of products, improving the accuracy of inventory management, and enabling smooth order fulfillment. With role-based access control, and comprehensive reporting capabilities, the SCMS will empower both administrators and customers to manage their respective tasks seamlessly. This solution will ultimately improve operational productivity, reduce manual errors, and deliver a better customer experience.

Problem Diagnosis:

Managing a supply chain can feel like trying to juggle while riding a unicycle – with a blindfold on. From fluctuating inventory levels to missed order deadlines and the never-ending struggle to keep customers happy, supply chain managers are constantly putting out fires. Many companies still rely on outdated, manual methods, such as spreadsheets and paper logs, which are prone to errors and inefficiencies. The lack of real-time data and visibility makes it difficult to predict stock shortages or order delays, resulting in frustrated customers and missed opportunities. This project aims to solve these challenges by providing a centralized platform where products, orders, and warehouses are seamlessly managed, enabling businesses to stay ahead of potential issues and deliver a smoother, faster, and more reliable service.

Proposed Solution:

My solution addresses the inefficiencies in supply chain management caused by outdated manual processes, lack of real-time product visibility, and cumbersome order handling. Traditional methods often leave businesses struggling with inventory mismanagement, delayed orders, and poor customer experience. By implementing an integrated, automated Supply Chain Management System (SCMS), I aim to streamline and enhance the overall supply chain operations, providing businesses with accurate, real-time data to improve decision-making, reduce errors, and optimize efficiency. The system will ensure seamless management of inventory, orders, and customer interactions, from order placement to delivery.

Interventions:

Order Processing System – A robust order management system that handles customer orders, tracks their status, and integrates payment processing seamlessly.

Role-Based Access Control – Custom access levels for administrators and customers to ensure that users can only access data relevant to their role.

Real-Time Order Tracking – Customers should be able to track the status of orders at any time with accuracy.

Supplier and Inventory Management –The admin can View and Add suppliers, also the admin can view inventory (the raw materials and the final product) and can add raw materials and products to database also.

System Efficiency – The system should handle a high volume of orders without delays or performance issues.

In addition to the above metrics, I expect the system to reduce operational costs, increase order accuracy, improve warehouse management, and provide a satisfactory customer experience.

User Scenario 1: Customer places an order

User Story: Sarah, a customer, wants to purchase a product online. She's concerned about its availability and the security of website access so that the order placing is secure and no one can place order using her name.

Solution in Action: In the first step, Sarah logs in (if not registered then gets registered) and then she browses the product catalog, finds the item she wants, and places an order. The SCMS checks the warehouse inventory in real-time, ensuring the product is in stock and confirms the order. Sarah selects Card Payment and successfully completes the transaction. The system gives her message of order confirmation and a receipt of her order and order number so that she can track her order using that order number.

User Scenario 2: Admin manages inventory (add raw materials, and end products)

User Story: Caman, the warehouse manager, needs to ensure that end-product and raw material stock is always accurate.

Solution in Action: Caman can check the raw material and end product quantity from the table, so that it gets restocked on time.

Identifier	Requirement
REQ1	The system shall allow admins to manage product catalogs, including adding, and updating product information.
REQ2	The system shall provide role-based access, ensuring customers can only view and place their orders, while admins can manage the entire supply chain.
REQ3	The customer gets registered smoothly, because registration is required for order placement.
REQ4	Customers can see product catalog on home page. It does not require registration.

Plan of Work:

I will be implementing the Supply Chain Management System using the technologies studies in the class room.

Languages:
HTML, CSS, VB.NET, SQL

Platforms/Tools:
Visual Studio, SQL Server Management Studio, Microsoft SQL Server

IDE: Visual Studio (for ASP.NET Web Forms)

Database: Microsoft SQL Server

Hosting: Somee.com

Front-end Development:

I'll develop responsive pages using HTML + ASP.NET markup in .aspx files (for the web interface) for both customers and administrators, and i'll be implementing pages for Customer registration, Add and View Raw Materials, Add and view Suppliers, Add and View Warehouses, Order Placement, Report Viewing, Order Tracking, View and Add Products, View and Add Shipments.

Back-end Development:

I'll develop the business logic using ASP.NET with VB.NET and SQL for interacting with the Microsoft SQL Server database.

Testing & Debugging:

Will conduct unit testing for individual components and user acceptance testing to ensure the system meets all functional and non-functional requirements.

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