



PES UNIVERSITY, BANGALORE
Department of Computer Science and Engineering
B. Tech (CSE) – 5th Semester – Aug-Dec 2023

UE21CS341A - Software Engineering
Synopsis / Project Proposal

Warehouse Management System

Team Member 1	PES1UG21CS713	Team Member 3	PES2UG21CS622
Team Member 2	PES1UG21CS727	Team Member 4	PES1UG21CS726

Proposed Project Description

Project Name: Warehouse Management System

Project Overview:

The Warehouse Management System project aims to implement warehouse operations by implementing advanced software and hardware solutions. It focuses on Sales Management, Revenue Analytics, Inventory Management, Shipment Management, Category wise Analytics, Advance Records Searching, Advance Reports.

Planned Functional Features:**For Administrators :**

- **Authorized Login:** A secure web interface designed to allow authorized individuals like administrators or System-operators to access and manage privileged functionalities.
- **Inventory Management:** Manage details such as distributor details, store related details, product related details, stock details etc.
- **User Management:** Administrators can create, modify, or deactivate user accounts for store employees. They can assign roles and permissions to control access levels, ensuring that each staff member has the appropriate privileges within the system.
- **Security and Access Control:** Administrators are responsible for maintaining the security of the system. They can configure security settings, set password policies, and monitor user activities to safeguard sensitive data and ensure compliance with privacy regulations.
- **Sales and Financial Reporting:** Administrators can generate detailed reports on sales, revenue, and expenses. They can analyze these reports to make informed decisions, track performance, and identify areas for improvement in the superstore's financial operations.

For Distributors :

- **Order Management:** Distributors can place orders for products they need to restock their inventory directly through the superstore management system. They can specify quantities, delivery dates, and any special requirements, streamlining the procurement process.
- **Shipment Tracking and Status Updates:** Distributors can track the status of their orders from the moment they are placed to the time they are delivered. The system can provide real-time updates on the shipment's location and estimated delivery time, enhancing visibility and transparency in the supply chain.
- **Invoice and Payment Management:** The superstore management system can facilitate the invoicing and payment process between distributors and the superstore. Distributors can generate invoices, submit them electronically, and receive payment status updates, streamlining the financial aspects of their transactions.
- **Inventory Tracking and Replenishment:** Distributors can monitor the availability of their products in the superstore's inventory. When stock levels reach a predefined threshold, the system can automatically trigger reorder requests or notifications to ensure timely restocking.

For Store :

Product Catalog Management: Store managers can maintain and update the store's product catalog. They can add new products, edit existing listings, set prices, and manage product descriptions, ensuring that the catalog is up-to-date and accurate.

Inventory Control: The system allows store managers to track inventory levels in real-time. They can view stock quantities, receive notifications for low stock, initiate restocking orders, and monitor product movement within the store.

Sales and Transaction Tracking: Store managers can access detailed sales reports and transaction histories.

They can analyse sales data, identify popular products, track sales trends, and gain insights into customer purchasing behaviour to optimize product placement and pricing.

Employee Management: Store managers can manage store staff by creating and updating employee profiles, assigning roles and responsibilities, setting schedules, and monitoring attendance. They can also track employee performance and handle payroll and HR-related tasks.

Customer Engagement: The system can support loyalty programs and customer relationship management features. Store managers can enrol customers in loyalty programs, track their purchase history, and send targeted promotions or discounts to enhance customer engagement and retention.

Plan of Work and Product Ownership

Project Planning:

- Define project scope, objectives, and requirements.
- Conduct initial user research.
- Assign roles and responsibilities.
- Set up project management tools.
- **Team Members:** All team members.

Database Design and Setup:

- Design the database schema for the project.
- Implement the database.
- Set up data security and access controls.
- **Team Members:** PES1UG21CS727

Administrator Functionality:

- Develop admin login functionality.
- Implement secure authentication measures.
- **Team Members:** PES1UG21CS713

Distributor Functionality Development:

- Develop distributor login and functionalities
- Implement secure authentication measures.
- Implement features like shipment, inventory tracking etc.
- **Team Members:** PES1UG21CS726

Inventory/Store Functionality Development:

- Develop inventory-specific features.
- Implement analytics and reporting.
- **Team Members:** PES2UG21CS622

User Interface (UI) Design:

- Create a user-friendly UI for both Admins, workers and users.
- Ensure mobile responsiveness.
- **Team Members:** PES2UG21CS622 and PES1UG21CS726

Testing and Quality Assurance:

- Conduct rigorous testing (unit, integration, and user acceptance testing).
- Identify and resolve bugs and issues.

Team Members: PES1UG21CS727 and PES1UG21CS713

Documentation :

- Create user guides and documentation.
- Provide user training resources.
- **Team Members:** All team members.

Security and Compliance:

- Implement robust security measures to protect patient data.
- Ensure data backup and recovery mechanisms.
- **Team Members:** All team members.

Deployment and Maintenance:

- Deploy the application to a production environment.
- Set up monitoring and maintenance routines.
- **Team Members:** All team members
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By assigning responsibilities in this manner, each team member will have a defined role throughout the project's lifecycle, ensuring effective coordination and successful delivery.

Gantt Chart

