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**Topic: Enterprise Resource Planning System for Monday Apparel Co.**

**Course Title:** INFT 417: ERP Systems (Mini Semester Project)

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**SYSTEM DESIGN DOCUMENT FOR MONDAY APPAREL CO.**

**1.0 Introduction**

**1.1 Purpose**  
The purpose of this System Design Document is to provide a comprehensive overview of the ERP system designed for Monday Apparel Co., a mini-manufacturing company specializing in the production of various clothing items, including corset dresses, gowns, skirts, off-the-shoulder tops, balloon dresses, and short dresses. This document outlines the system’s architecture, key modules, and functionalities to ensure the ERP solution optimizes production, enhances inventory management, and supports overall business growth. The System design document serves as a detailed guide for system developers, project managers, business analysts, and other stakeholders involved in the design, development, and deployment of the ERP system.

**1.2 Scope**  
The ERP system for Monday Apparel Co. covers essential business processes related to the production and sale of clothing products. The system integrates and streamlines operations such as inventory management, production planning, sales, procurement, finance, human resources, and reporting. By unifying these processes, the ERP system aims to enhance productivity, quality control, and customer satisfaction.

**1.3 Audience**  
This System design document is intended for:

* **System Developers**: For understanding the system’s architecture and module interactions.
* **Project Managers**: For overseeing the project’s execution and ensuring alignment with business goals.
* **Business Analysts**: For ensuring the system meets organizational needs.
* **Quality Assurance Engineers**: For validating that the system functions as intended.
* **End Users**: For those who will interact with the ERP system daily.
* **IT Support and Maintenance Teams**: For ongoing system support.
* **Executives and Senior Management**: For strategic decision-making.
* **External Consultants**: For providing specialized expertise.

**2.0 System Architecture**

The ERP system for Monday Apparel Co. employs a modular architecture to manage various business processes seamlessly. The system architecture includes:

1. **Core Modules**:
   * Inventory Management
   * Production Planning and Control
   * Sales and Order Processing
   * Purchasing and Supplier Management
   * Finance and Accounting
   * Human Resources Management
2. **Data Layer**: Manages and consolidates data from various sources to ensure consistency and integrity.
3. **Integration Layer**: Connects the core modules with external systems, such as CRM and supply chain management tools.
4. **Presentation Layer**: Provides an interactive dashboard for monitoring and analyzing key performance indicators relevant to the business.

**3.0 Modules**

**3.1 Inventory Management**  
The Inventory Management module is designed to effectively oversee and optimize the tracking and management of raw materials and finished products across the supply chain. This module ensures that stock levels are carefully monitored, minimizing the risks of overstocking or stock outs, which could negatively impact production and sales operations.

Key features include real-time inventory tracking, automatic reorder alerts based on predefined thresholds, and seamless integration with the order management system to ensure timely fulfillment of customer demands. The module also incorporates inventory forecasting capabilities, leveraging historical data and predictive analytics to accurately anticipate future demand, reducing holding costs, and optimizing inventory turnover rates.

**3.2 Production Planning and Control**  
The Production Planning and Control module ensures the efficient management of the entire production process for clothing items such as corset dresses, gowns, skirts, off-the-shoulder tops, balloon dresses, and short dresses. This module plays a crucial role in resource allocation, scheduling, and quality assurance, guaranteeing that operations are well-organized and optimized for productivity and cost-effectiveness.

It offers comprehensive production planning capabilities by analyzing demand forecasts, resource availability, and production capacities to develop detailed schedules. It also integrates stringent quality control measures at every production stage to ensure that products meet predefined standards, enhancing customer satisfaction and minimizing waste.

**3.3 Sales and Order Processing**  
The Sales and Order Processing module manages and optimizes the entire sales cycle, ensuring that each step—from order placement to fulfillment—is executed efficiently. This module automates sales transactions, integrates with inventory and production modules, and supports Customer Relationship Management (CRM) to track customer interactions, manage accounts, and maintain detailed purchase history records.

**3.4 Purchasing and Supplier Management**  
The Purchasing and Supplier Management module is designed to optimize the procurement process and foster strong relationships with suppliers, ensuring that Monday Apparel Co. consistently acquires high-quality materials necessary for manufacturing clothing products like corset dresses, gowns, skirts, off-the-shoulder tops, balloon dresses, and short dresses.

Key features of this module include:

* **Automated Procurement Process**: The module automates the entire procurement workflow, from requisition creation and approval to purchase order generation and supplier invoicing. This reduces manual effort, minimizes errors, and ensures timely procurement of necessary materials.
* **Centralized Supplier Management**: It maintains a comprehensive database of supplier information, including performance metrics, contract details, and delivery schedules. This centralization allows for better visibility and control over supplier relationships, enabling the company to select the best suppliers based on quality, cost, and reliability.
* **Integration with Inventory and Production Systems**: The module integrates seamlessly with the Inventory Management and Production Planning modules, ensuring that procurement activities are aligned with real-time inventory levels and production needs. This helps in reducing material shortages or excess inventory, optimizing costs and production efficiency.
* **Supplier Evaluation and Performance Monitoring**: The module provides tools for evaluating supplier performance based on key criteria such as delivery time, quality of materials, and adherence to contract terms. Regular assessments and feedback mechanisms enable continuous improvement, fostering long-term partnerships with reliable suppliers.
* **Cost Management and Budget Control**: By providing detailed insights into procurement costs, the module aids in budget management and cost control. It tracks spending against budgets, highlights cost-saving opportunities, and ensures that procurement activities align with the company's financial goals.

**3.5 Finance and Accounting**  
The Finance and Accounting module is an essential component of the ERP system, designed to manage all financial transactions and ensure that Monday Apparel Co. operates in a financially sound manner. This module plays a critical role in maintaining accurate financial records, supporting decision-making, and ensuring compliance with financial regulations.

Key features include:

* **Automated Financial Transactions**: The module automates the recording and processing of financial transactions, including accounts payable, accounts receivable, payroll, and general ledger entries. This automation reduces the risk of human error and ensures that financial data is recorded accurately and promptly.
* **Comprehensive Financial Reporting**: The module offers tools for generating a wide range of financial reports, such as balance sheets, income statements, cash flow statements, and tax reports. These reports provide valuable insights into the company's financial health, supporting informed decision-making by executives and other stakeholders.
* **Integration with Other Modules**: The Finance and Accounting module integrates with other operational modules, such as Inventory Management, Sales and Order Processing, and Purchasing, ensuring that financial data reflects real-time business activities. This integration enables a holistic view of the company’s financial status and improves the accuracy of financial planning and analysis.
* **Budgeting and Forecasting**: The module supports budgeting and financial forecasting, allowing the company to plan its financial activities strategically. By analyzing historical financial data and market trends, the system can generate accurate forecasts, helping the company set realistic financial goals and manage resources effectively.
* **Regulatory Compliance and Audit Trail**: The module ensures compliance with financial regulations and standards by providing built-in controls and audit trails. It tracks all financial transactions and changes, making it easier to conduct internal audits and meet external regulatory requirements.

**3.6 Human Resources Management**  
The Human Resources Management (HRM) module is designed to streamline all HR processes within Monday Apparel Co., from recruitment and onboarding to performance management and payroll.

Key features include:

* **Recruitment and Onboarding**: The module automates job postings, candidate tracking, and the onboarding process. It ensures that new hires are smoothly integrated into the company, with all necessary documentation and training provided.
* **Employee Database Management**: The HRM module maintains a centralized database of all employee records, including personal details, job roles, performance history, and benefits. This database allows HR teams to manage employee information efficiently and accurately.
* **Performance Management**: The module provides tools for setting employee goals, conducting performance evaluations, and tracking progress. It supports continuous feedback and development plans, helping to enhance employee productivity and satisfaction.
* **Payroll and Benefits Administration**: The module automates payroll processing, ensuring that employees are paid accurately and on time. It also manages benefits such as health insurance, retirement plans, and leave policies, ensuring compliance with labor laws.
* **Time and Attendance Tracking**: Integrated time and attendance systems ensure that employee working hours are accurately recorded, which is crucial for payroll processing and compliance with labor regulations.
* **Training and Development**: The module supports employee training programs, enabling HR teams to track training needs, schedule sessions, and monitor the completion of training courses. This ensures that the workforce is skilled and aligned with company goals.

**3.7 Reporting and Analytics**  
The Reporting and Analytics module is a powerful tool that provides insights into the performance of Monday Apparel Co., supporting data-driven decision-making across all levels of the organization.

Key features include:

* **Data Consolidation**: The module integrates data from various sources within the ERP system, including sales, inventory, production, finance, and HR. This consolidated data provides a comprehensive view of the company’s operations.
* **Customizable Reports**: Users can generate a wide range of reports tailored to specific business needs. These reports can be customized to provide detailed insights or high-level summaries, depending on the audience.
* **Advanced Data Visualization**: The module includes tools for creating interactive charts, graphs, and dashboards. These visualizations help users quickly identify trends, patterns, and outliers in the data, facilitating more accurate and timely decision-making.
* **Predictive Analytics**: By leveraging historical data and machine learning algorithms, the module can generate forecasts and predictive models. These insights help the company anticipate future trends and make proactive adjustments to strategies and operations.
* **Real-Time Monitoring**: The module supports real-time data tracking, enabling managers to monitor key performance indicators (KPIs) as they occur. This functionality is crucial for responding to changes in the market or production environment promptly.
* **Cross-Functional Reporting**: The module allows for the creation of cross-functional reports that combine data from multiple departments, providing a holistic view of the company’s performance and facilitating collaboration between teams.