1. Project Title

Development of a Digital Fabric Flow System for Efficient Textile Manufacturing

2. Introduction

In textile manufacturing, managing fabric movement, tracking orders, and handling customer and carrier details are critical for smooth operations. Many factories still rely on manual tracking systems, leading to delays, errors, fabric damage, and increased costs. This project aims to develop a digital system that will automate and streamline these processes using SQL, Java, PHP, and HTML.

3. Problem Statement

The current system faces several issues:

• Manual tracking of fabric movement leads to delays and errors.

• Order management is inefficient, causing missed deadlines and confusion.

• Carrier and customer details are unorganized, making logistics handling difficult.

• Lack of real-time updates on fabric location and order status.

A centralized digital system is needed to track fabric movement, manage orders, and store carrier/customer details efficiently.

4. Project Objectives

• Automate fabric flow tracking with a database-driven system.

• Improve order processing by reducing manual errors.

• Enhance coordination between admins, customers, and carriers.

• Provide real-time status updates for fabric movement and orders.

• Ensure secure login/logout for admins and customers.

5. System Components

5.1. Frontend (PHP, Java, HTML, SQL)

The system will have the following user interfaces:

• Admin Dashboard – Allows admins to manage orders, fabrics, customers, and carriers.

• Customer Panel – Lets customers view order status, invoices, and order history.

• Carrier List – Displays details of registered carriers.

• Customer List – Stores details of all registered customers.

• Login/Logout System – Ensures secure access for different users.

5.2. Backend (SQL, Java)

The backend will process and store the following data:

• Fabric Flow System (SQL) – Tracks fabric movement in real time.

• Order Processing Module – Handles order placement, tracking, and completion.

• Carrier Management – Stores and retrieves carrier details.

• Customer Management – Maintains customer profiles and order history.

• Invoice Management – Generates and stores order invoices.

• User Authentication – Ensures secure login/logout for admins and customers.

6. System Features and Functionalities

6.1. Admin Features

• Manage Fabrics: Track fabric movement within the factory.

• Manage Orders: Add, update, and track order status.

• Manage Customers: Store and update customer details.

• Manage Carriers: Add and modify carrier details.

• View Orders: See pending, ongoing, and completed orders.

• Generate Invoices: Create and store invoices for completed orders.

6.2. Customer Features

• Login/Register: Customers can securely access their accounts.

• View Orders: Customers can check order progress and history.

• Download Invoices: Customers can access and print their invoices.

6.3. Additional Features

• User Role Management: Different access levels for admins and customers.

• Notifications and Alerts: Send real-time updates on order status.

7. Expected Outcomes

• 30-40% faster order processing.

• Reduced fabric damage due to better tracking.

• Better coordination between factory, customers, and carriers.

• Less manual work, improving efficiency and accuracy.

8. Implementation Plan

Phase 1: Research & Planning

• Study current fabric flow issues.

• Design the database structure for the system.

Phase 2: System Development

• Develop SQL database for fabric tracking and order management.

• Build the frontend using PHP, Java, and HTML.

• Implement user authentication and role-based access.

Phase 3: Testing & Debugging

• Test fabric tracking, order management, and customer panel.

• Fix bugs and optimize performance.

Phase 4: Final Implementation

• Deploy the system in the factory.

• Train employees and customers on how to use it.

9. Conclusion

This project will digitize fabric tracking, order management, and customer interactions, making textile manufacturing faster, more efficient, and error-free. By using SQL, Java, PHP, and HTML, the system will improve coordination, reduce costs, and enhance productivity.