

Digital Tailoring Management System with Order Tracking

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Abstract: *This paper presents the design and implementation of Kstitch: a Smart Tailoring Management System with Real-Time Order Tracking, developed to digitize and modernize traditional tailoring operations. Conventional tailoring systems rely on manual record-keeping, which leads to issues such as data loss, inefficient order tracking, and poor customer communication.*

The proposed system is built using the MERN stack (MongoDB, Express.js, React.js, Node.js) and introduces a dual-role platform for both customers and tailors. It enables digital order management, multi-item garment handling with flexible measurement inputs, and portfolio-based tailor discovery using geo-location features. A key contribution of this system is its offline-first architecture, where order data is temporarily stored in local storage when the backend server is unavailable and automatically synchronized once connectivity is restored. This ensures uninterrupted workflow, particularly in environments with unstable network conditions or server downtime.

The system also integrates features such as JWT-based authentication for secure access, Cloudinary-based image handling for portfolio management, and automated WhatsApp communication for order updates and invoice sharing. The implementation demonstrates improved efficiency in order handling, enhanced customer experience through real-time tracking, and reduced dependency on manual processes.

This solution provides a scalable and practical approach for small and medium-scale tailoring businesses to transition into a digital ecosystem while maintaining operational flexibility..

Keywords: Tailoring Management System, MERN Stack, Order Tracking System, JWT Authentication, MongoDB, React.js, Cloudinary Integration, Geo-Location Search.

