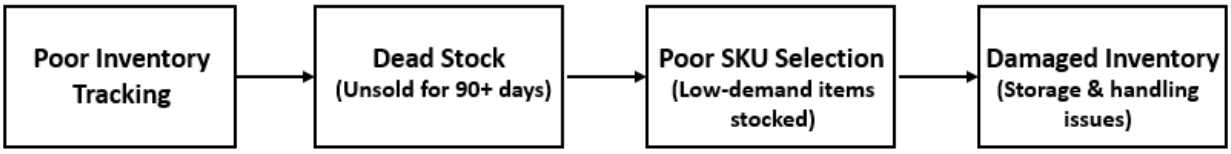
Inventory Management Solutions for Indian Material Businesses

1. Background

Most Indian material businesses still manage inventory using manual or loosely connected systems, which makes it hard to know exact stock levels at any time. This lack of clarity often leads to over-purchasing some items while running out of others. As stock holds a large share of working capital, such inefficiencies quickly affect daily operations. Over time, poor inventory control slows decision-making and limits business growth.

2. Problem Statement

Indian material businesses face inventory issues such as dead stock, poor SKU selection, and damaged goods due to lack of proper tracking. These issues block working capital and reduce profitability.



3. Technology Solution Overview

A centralized, technology-driven inventory management system is proposed to provide real-time stock visibility, automated alerts, and analytical insights for better decision-making.

Sr. no	Inventory Problem	Short Description	System Feature
1.	Dead Inventory	Stock unsold for long periods	Stock aging analysis
2.	Poor SKU Selection	Low-demand items stocked	ABC analysis
3.	Damaged Inventory	Loss due to storage issues	FIFO-based handling
4.	Stock-outs	Fast items go out of stock	Reorder level alerts
5.	Low Margins	Inefficient inventory usage	Dashboard analytics

4.Technology Stack Used:

1. **Frontend Setup**: Vite + React with Tailwind CSS
2. **Backend & Database:** Supabase
3. **Authentication:** Supabase Auth
4. **Data Visualization:** Recharts
5. **Icons**: Lucide Icons
6. **State & Data Fetching:** React Query

5. System Architecture:
The system follows a client–server architecture where a React-based frontend communicates with backend services to manage authentication, inventory data, alerts, and analytics.

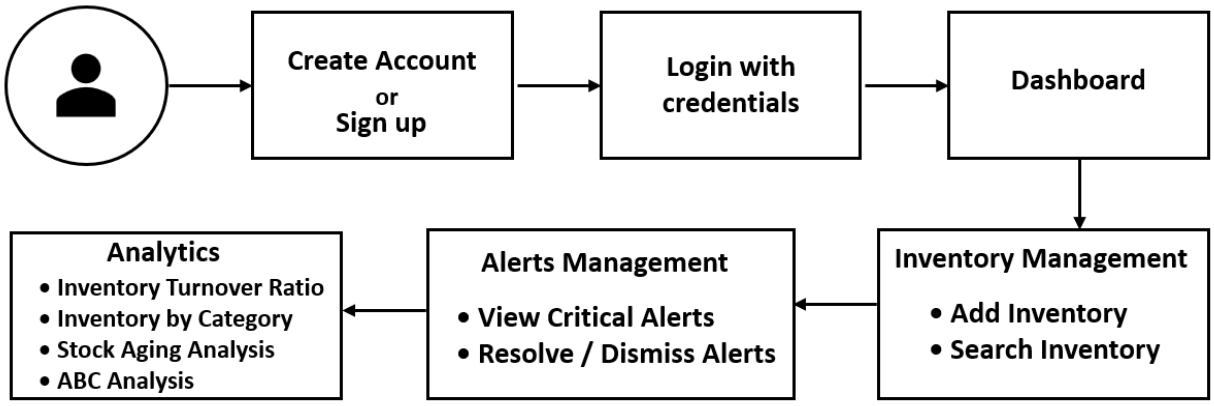


Figure: User Flow and Functional Architecture of the Inventory Management System

6. Assumptions:
The system assumes that users have access to basic digital devices and stable internet connectivity. It is also assumed that inventory data is entered correctly and users follow standard inventory handling practices.

7.Conclusion:
The inventory management system provides a structured approach to tracking, monitoring, and analyzing inventory data. By integrating inventory operations with alerts and analytics, the system supports organized and efficient inventory management.