

INVENTORY MANAGEMENT SYSTEM



G - 218

Bachelors of Computer Application (BCA)
(AI-DS)

Section - A

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THE COMPLETE WORLD OF EDUCATION

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Our Team



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Backend | Lead Dev



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Frontend



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Designing | UI

Overview

Stockez is a lightweight, web-based Inventory Management System that consolidates products, orders, categories, customers, and vendors into one secure dashboard which :

- Eliminates manual spreadsheets—reducing errors & delays
- Offers live dashboards and charts for instant stock visibility
- Supports multiple users with per-user data isolation

Problem Statement

- **Inefficient Manual Processes:**

- Reliance on manual tracking which leads to human errors
- Outdated Methods cause delay in updating inventory

- **Lack of Real-Time Insights:**

- Limited Visibility into current stock levels and sales trends.

- **Costly and Complex Existing Solutions:**

- Most Available systems are expensive or require high technical expertise and also not affordable for small and medium-sized businesses

- **Lack of Automation:**

- Since most of the work is manual, owners are required to manually update their stock and ask vendors for pricing for a specific product

Objectives

Objective 01

Build a secure, intuitive web interface



Objective 02

Automate stock updates and order workflows

Objective 03

Deliver real-time insights via dynamic dashboards



Objective 04

Enforce Data Isolation Per User

Objective 05

Streamline Overall Business Processes



TECHNOLOGY

BACKEND

Component	Technology
Runtime	Node.js v18+
Framework	Express.js
Database	PostgreSQL v12+
ORM	pg(PostgreSQL client)
Authentication	bcrypt, sessionStorage
Email	Nodemailer, MailboxLayer API
Validation	Reges, MailboxLayer

FRONTEND

Component	Technology
Markup	HTML5
Styling	CSS
Scripting	Javascript
State Management	sessionStorage
Charts	Chart.js

DEVOPS

Service	Purpose
Render.com	Backend Hosting
Github Pages	Frontend Deployment

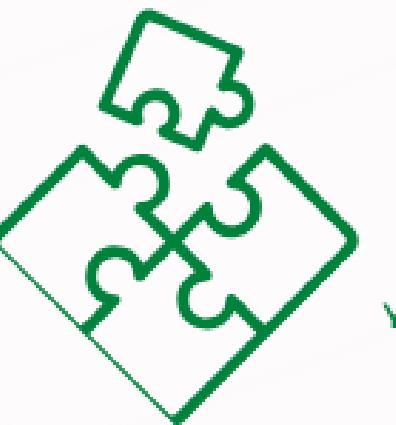
FEATURES

Feature	Description
User Authentication and Verification	Secure signup/login with bcrypt-hashed passwords; email OTP verification on signup before account activation; sessionStorage to manage user sessions.
Dynamic Login/Signup UI	Single HTML file “pages” for login & signup with smooth CSS fade transitions; form reset on panel switch; password-show toggles with context-sensitive eye icons.
Dark/Light Theme Toggle	Persistent (sessionStorage) theme switcher affecting sidebar, modals, tables, forms, and controls across all pages.
Collapsible Sidebar with Dynamic Logos	Sidebar expands/collapses on toggle; displays two distinct logos based on state; consistent icons and labels for navigation links.
Product History Tracking	Automatic logging of every product change—creation, updates, stock adjustments (order creation/edit/delete)—into a product_history table with timestamps (Asia/Kolkata) and a human-readable history UI (not raw JSON).
Category Management	CRUD for categories with name, description, and associated products; responsive table and modal form UI supporting dark/light themes.
Customer Management	CRUD for customers with name, validated email (via MailboxLayer API) and phone number entry; modals for add/edit; history not tracked.

Feature	Description
Vendor Management	CRUD for vendors with name, validated email & phone (10-digit) on create/edit; ability to assign supply areas; styled vendor list & modals adhering to theme.
Order Processing	Create/Edit/Delete orders in a modal workflow: select customer, date, add multiple products & quantities; real-time stock checks; dynamic total calculation; prevents overselling.
Order Editing Logic	Editing refunds previous stock, then deducts new quantities; updates order date/customer/order value atomically; avoids creating duplicate orders.
Low-Stock Alerts	Administrators set reorder thresholds; to record when stock dips below, logging the alert in an alerts table.
API-First Backend	Express.js + PostgreSQL with auto-migrations on startup; secure requireUser middleware (x-user-id header); RESTful endpoints for all resources; CORS enabled for cross-origin frontends.
Environment-Driven Configuration	.env support for database credentials, API keys, email SMTP settings; no secrets in source; automatic table creation if missing.

A wide-angle photograph of a modern office common area. The space is filled with lush green plants of various types hanging from the ceiling and placed on wooden desks. Large windows on the left provide natural light. The ceiling features prominent white industrial-style ductwork and pipes. In the foreground, there's a long wooden conference table with black office chairs around it. In the background, there are more seating areas with couches and more plants.

PROJECT WALKTHROUGH



STOCKEZ

YOUR PROBLEMS, OUR SOLUTIONS

THANK YOU

