

# INVENTORY MANAGEMENT SYSTEM



G - 218

---

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

***Section - A***

---

Dhruv Gupta - 2401201015

Kshitij Marwah - 2401201021

Mehul Srivastava - 2401201005



**K.R. MANGALAM UNIVERSITY**  
THE COMPLETE WORLD OF EDUCATION

# Content

01

Our Team

02

Overview

03

Problem Statement

04

Our Clients

05

Achievements

06

Future Goals

07

Contact



# Our Team



**Dhruv Gupta**  
*Backend | Lead Dev*



**Kshtij Marwah**  
*Frontend*



**Mehul Srivastava**  
*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- Outdated Methods cause delay in updating inventory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:**

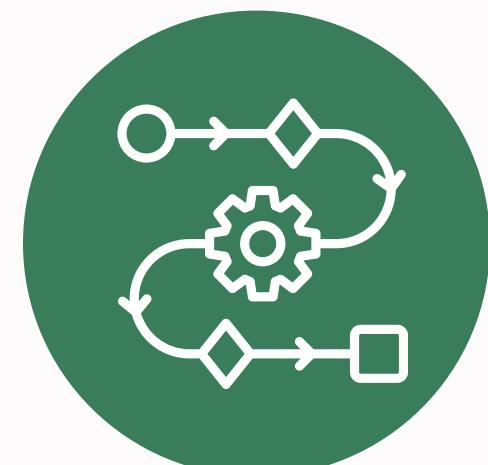
- Since most of the work is manual, owners are required to manually update their stock and ask vendors for pricing for a specific product

# 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

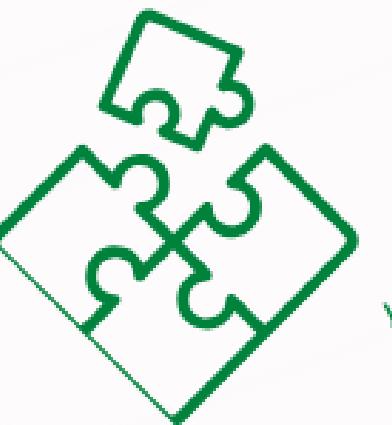
Service	Purpose
Render.com	Backend Hosting
Github Pages	Frontend Deployment

# FEATURES

Feature	Description	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.	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.
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.	Order Editing Logic	Editing refunds previous stock, then deducts new quantities; updates order date/customer/order value atomically; avoids creating duplicate orders.
Dark/Light Theme Toggle	Persistent (sessionStorage) theme switcher affecting sidebar, modals, tables, forms, and controls across all pages.	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.
Collapsible Sidebar with Dynamic Logos	Sidebar expands/collapses on toggle; displays two distinct logos based on state; consistent icons and labels for navigation links.	Low-Stock Alerts	Administrators set reorder thresholds; to record when stock dips below, logging the alert in an alerts table.
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).	Responsive, Accessible UI	Mobile-friendly layout; consistent styling of tables, buttons, forms, and modals; keyboard focus management in forms and toggles; ARIA-friendly labels on icons.
Category Management	CRUD for categories with name, description, and associated products; responsive table and modal form UI supporting dark/light themes.	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.
Customer Management	CRUD for customers with name, validated email (via MailboxLayer API) and phone number entry; modals for add/edit; history not tracked.	Environment-Driven Configuration	.env support for database credentials, API keys, email SMTP settings; no secrets in source; automatic table creation if missing.
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.		

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

