HASSAN TAHIR // ARCHITECTURAL CASE STUDY WHITE PAPER

DevPOS ERP: Multi-Tenant Enterprise POS Platform

High-throughput inventory, wholesale B2B pricing, and modular UI workflows

ROLE	TIMELINE	SYSTEM	VERIFICATION
Senior Frontend Engineer	Mar 2025 - Present	Enterprise ERP	Production SLA

-40% Regressions | Multi-Tenant Scale | B2B Wholesale Pricing | Sub-2s Paint

1. Problem Statement & Scale Requirements

DevPOS serves multi-location retail chains and wholesale distributors requiring complex inventory tracking, tiered client discount matrices, and instant receipt printing.
The legacy monolithic frontend struggled with state synchronization across tabs and frequent memory leaks during continuous 12-hour cashier shifts.

2. Frontend Architecture Overhaul

Migrated state flow to normalized Zustand and TanStack Query stores, eliminating redundant re-renders and guaranteeing zero memory bloat over extended shifts.
Built an enterprise design system with keyboard-first navigation shortcuts allowing cashiers to ring up orders 30% faster without touching the mouse.
Established comprehensive React Testing Library and automated test suites that eliminated 40% of production regression bugs.

3. Production Performance & Reliability

Sustained 95+ Google Lighthouse scores across core dashboard screens through server-side caching and dynamic component code-splitting.
Adopted by multi-branch enterprises processing thousands of daily transactions seamlessly.

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