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Projects

PHA Disease Surveillance Platform

Saudi Ministry of Health · Prototype · pha.abubytes.dev

Effect-TS Bun Monorepo · Web / Mobile / Backend

2026

- **Architecture:** Contract-first, type-safe Effect-TS Bun monorepo (shared / backend / TanStack Start web / Expo mobile); one 97-endpoint HttpApi contract is the single source of truth that both frontends derive fully typed clients from.
- **Backend:** Shared referral/case state machines with role + field-completion guards, immutable template versioning, a 14-field-type form engine, and a single SQL-compiled authorization engine (6-level RBAC, geographic + per-disease scope) reused across every resource — correctness enforced by typed tagged errors and Schema at all boundaries (near-zero casts).
- **Backend · Gemini AI:** Integrated Gemini as a *multimodal* service that ingests PDFs and images directly to auto-generate investigation templates from real documents, and writes Arabic clinical narratives from case data — all Schema-validated behind a typed Effect layer; plus SNOMED-CT mapping and FHIR R4 / RTL-Arabic PDF / Excel exports.
- **Web / Mobile:** Web built on TanStack Start (a brand-new full-stack React framework, chosen for SSR + type-safe routing that pair cleanly with the Effect contract), state on effect-atom; the Expo app reuses the same contracts and runtime — fully bilingual Arabic-first RTL on both.
- **Infrastructure:** Drove the move off Cloudflare's managed edge onto self-hosted infrastructure (Dockerized Postgres, Caddy TLS, self-hosted OpenTelemetry tracing + Superset BI) to meet the Ministry of Health's data-sovereignty and security requirements.

howdaj.film ·

Howdaj

abubytes/howdaj

Fullstack NextJS 15 + Payload CMS · Live

2026

- Built and shipped to production (live at howdaj.film) an animation-heavy, pixel-perfect Next.js 15 App Router site for a Saudi creative-production studio, with full Arabic RTL support.
- Engineered spring-physics transitions with GSAP/anime.js and Vimeo background video; content in Payload CMS 3 (Postgres + S3) drives color controls, copy, and an XLSX-export newsletter.
- Self-hosted on Oracle Cloud — Postgres + MinIO/S3, Dockerized staging/production behind Caddy — with an obscured, custom-branded Payload admin.

Yamak Trading and Supply Website

yamaktrading.com

Fullstack NextJS 15 App

2024

- Built a responsive, performant Next.js 15 App Router site tuned for SEO and Lighthouse scores.
- Added next-intl i18n (including RTL) and Payload CMS on Turso-hosted SQLite for structured content.
- Wired type-safe end-to-end tRPC APIs, deployed on Vercel Edge with aggressive Next.js caching.

Skills

Languages

Typescript/Javascript, Rust, PHP, Lua, Python

Spoken Languages

English (Fluent), Arabic (Native)

Frameworks & Libs

NextJS (App & Pages), Effect-TS, T3 Stack, TanStack Start, React, Expo / RN, Node.js, Express.js, Laravel, Axum

Frontend & UI

Tailwind CSS, Shadcn UI, Zustand, Redux, React Query, Tanstack Table, React Router

Backend & Data

Effect Schema / HttpApi, tRPC, Drizzle ORM, NestJS, Prisma, Mongoose, Payload CMS, Elasticsearch, PostgreSQL, MongoDB, SNOMED-CT / FHIR, OpenTelemetry

Auth & Security

Lucia Auth, Passport.js, JWT, Iron Session, Argon2, Better-Auth, Next-Auth

Tools & Platforms

Git, Bun, Linux/Bash, Docker, Vercel, Cloudflare Workers, Railway, S3, Redis