**Simon Hirst**

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**Profile**

Senior software engineer with 5+ years’ experience delivering dependable web platforms. I design clear APIs, build React/Next.js front ends, and ship .NET/Node back ends with robust validation, authentication, and observability. I keep systems steady under load with solid SQL, queues, CI/CD, and pragmatic SLOs.

**Core skills**

• TypeScript, JavaScript, C#, SQL

• React, Next.js, Tailwind, Blazor

• ASP.NET Core, Node.js, Express, REST, GraphQL, WebSockets

• PostgreSQL, SQL Server, Redis

• RabbitMQ, Azure Queues

• Stripe

• Docker, Docker Compose, Kubernetes, OpenShift, Helm, NGINX, GitHub Actions, Terraform, Azure, AWS

• OpenTelemetry, Prometheus, Grafana, Tempo

• xUnit, Jest, Playwright, k6

**Experience**

**Freelance Software Engineer — Remote | Aug 2024 – Present**

• Built a Shopify ↔ ERP stock synchroniser (Node 20, Express, PostgreSQL, Redis) with webhook idempotency keys, outbox pattern, and exponential backoff; k6 load tests and SBOM’d images through GitHub Actions.

• Led a bookings and payments revamp (Next.js, ASP.NET Core, EF Core, SQL Server): Stripe Checkout with signed webhooks; rate‑limit and CSRF hardening; Playwright end‑to‑end tests; CI caching that cut build times significantly.

• Shipped a reporting API and GraphQL gateway: schema stitching across five REST services, Dataloader caching, persisted queries; OpenTelemetry traces to Tempo; Prometheus metrics; Grafana dashboards tied to SLOs and error budgets.

• Delivered a live WebGL visualiser: AudioWorklet analysis and a <4 ms frame budget via typed arrays and preallocated buffers; deployed behind NGINX with static caching.

**IBM — Software Engineer — Remote / Hursley | Jul 2021 – Jul 2024**

• Delivered containerised IBM MQ for Kubernetes/OpenShift: production‑ready charts/manifests (StatefulSets, probes, resources), TLS and RBAC defaults, and predictable upgrade paths.

• Wrote Go tooling to standardise cluster installs and validate storage/network policy pre‑flight; reduced time‑to‑first‑message and cut first‑run misconfigurations.

• Added real‑world telemetry (queue depth, throughput, memory, I/O) to Prometheus with Grafana dashboards in Git; improved incident signal and reduced noisy alerts.

• Partnered with customers on HA, storage, network policy, and DR tests; turned field issues into hardened defaults, runbooks, and checks.

**Dootrix — Software Engineer — Remote / Wickham | Mar 2020 – Jul 2021**

• Shipped .NET 5 and React onboarding flows (email verification, password reset, MFA prompts) with clear validation and rate limits; reduced support noise.

• Built REST endpoints and client SDK pieces with request validation and helpful error responses; automated CRM sync via Azure Functions and queues.

• Pushed quality gates with xUnit, Jest, and Playwright in CI; added application logs and traces so PMs could see funnel drop‑offs and act.

**Zupa — Software Engineer — Southampton | Sep 2019 – Mar 2020**

• Built high‑traffic checkout in ASP.NET Core with idempotent Stripe payment flows and safe retries.

• Tuned SQL to remove the slow‑query tail; added background jobs for reconciliation and notifications.

• Set up symptom‑based alerts and readable dashboards to surface issues early.

**Selected projects**

**AI Radio Station v2.0 — 24/7 internet radio with AI DJs, single synced stream, hourly news/weather, chat, requests, and admin controls.**

• Backend: Node 20 + Express + Socket.IO; Piper TTS; yt-dlp + FFmpeg with ReplayGain; SQLite for schedule/history; rotation rules; Wikipedia trivia scrape.

• Frontend: Next.js with responsive UI and admin (veto/approve, force skip, logs).

Stack: TypeScript, Node 20, Express, Socket.IO, Next.js, SQLite, FFmpeg, yt-dlp, Piper TTS

**Mesmerize (WebGL2 visualiser) — Shader scenes, audio‑reactive transitions, overlay mode, plugin hooks.**

Stack: TypeScript, WebGL2, GLSL, AudioWorklet, Vite

**LemonStand (microservice sketch) — Product, orders, and catalogue services; API gateway; queue‑backed jobs; docker‑compose for local dev.**

Stack: Node, Express, MongoDB, Redis, RabbitMQ, Docker, K8s scaffold

**Education**

BSc Computer Science (2:1), University of Liverpool