

Gareth Lowrie

Deputy Head of Engineering, Hive HR

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Hands-on engineering leader with eight years on a multi-tenant SaaS platform, most recently as Deputy Head of Engineering at Hive HR, an employee engagement platform used largely by public-sector and non-profit organisations. I co-lead the engineering department while spending most of my week in the code, and I take on the work that spans the whole platform: data and search migrations, authentication and permissions, public APIs, and getting generative AI safely in front of customers.

Impact

~£2k a month

saved by retiring Elasticsearch: 100+ APIs moved onto the main database with zero disruption to customers

80 → 170+ releases

a month after embedding AI-assisted engineering across the team, with one fewer engineer, and merge to production in about 10 minutes

30 → under 10 min

internal build time after a runtime and TypeScript overhaul, saving time for every engineer several times a day

\$1,000+ a month

in monitoring spend brought back to baseline by fixing the cause, without losing the traces that matter

13,000 write units

of permanent database capacity avoided by sizing autoscaling to real traffic instead of the recommended peak

Experience

Founder

Paper Porch (paperporch.co.uk)

Side business, ongoing

Founded Paper Porch, a website that uses AI to turn a photo of someone's home into a custom art print, delivered to their door with no human intervention.

- Customers upload a photo of their home, even the front photo from a Rightmove or Zoopla listing, and the AI art studio paints it in their chosen style within a minute or two, with a free preview.
- Fully automated from order to doorstep: Stripe takes payment, and the order goes straight to our third-party print partner Prodigy, which prints on archival art paper and ships with free tracked UK delivery.
- Built and run the whole product end to end: the customer experience, AI generation, payments and the fulfilment integration.

Developer, practitioner app

Acquisition Aesthetics

Freelance project

Built a progressive web app for Acquisition Aesthetics, an award-winning UK academy that trains medical professionals in non-surgical aesthetic treatments, with academies in London, Manchester, Newcastle and Dublin.

- Practitioners use it to support their ongoing learning, follow treatment protocol guidance, report complications and connect with a community of peers.
- Installs like a native app on phone or desktop, with passwordless sign-in through Google or a one-time code sent by email.

Deputy Head of Engineering

Jul 2022 – present

Hive HR, Newcastle upon Tyne (remote)

Co-lead the engineering department with the Head of Engineering and sit on the company's senior leadership team. I own technical direction for data and search, survey analytics, AI features, HR system integrations and the public API, and I remain hands-on for around 80–90% of my time.

- Retired Elasticsearch from the entire platform as the sole engineer on the migration: over 100 APIs rebuilt on MongoDB Atlas Search one endpoint at a time, each verified in Sentry to match Elasticsearch's results and speed, with zero disruption to customers and a saving of about £2,000 a month.
- Delivered Hive's first generative AI features on AWS Bedrock: tone-of-voice classification of employee comments, an analytics assistant for survey results, and automatically generated survey insights.
- Took the public REST API from specification to production in five phases, reusing the platform's own business logic so the API can never contradict the product's confidentiality rules.
- Replaced browser-stored login tokens with secure, revocable sessions and magic links, which removed password sign-in entirely.
- Designed fine-grained permissions modelled on AWS IAM, so customers can express rules like "managers see their own team" without custom roles.
- Cut internal build times from over 30 minutes to under 10 by moving ten services to Node 24 and strict TypeScript, with the Head of Engineering.
- Brought monitoring spend back down from over \$1,000 a month, and avoided a large permanent database capacity increase by sizing autoscaling to real traffic.
- Line-manage and develop engineers: one-to-ones, performance reviews, 9-box assessments for pay and performance decisions, and a career ladder and promotion framework co-written with the Head of Engineering.
- Embedded AI-assisted engineering across the team, taking releases from about 80 to 170–180 a month with one fewer engineer, and merge to production in about 10 minutes.
- Introduced a Project Requirements Document so requirements and stakeholders are agreed before work starts, and automated the department's monthly delivery metrics.

Lead Software Engineer

Aug 2020 – Jul 2022

Hive HR, Newcastle upon Tyne

Led a squad of software engineers through the full delivery cycle, from planning to launch, and ran code review, training and recruitment for the team.

- Built the platform's first external API, with documentation generated from the code and published automatically on every deploy.
- Delivered customer-defined webhooks, so customers' own systems can react to platform events.
- Created per-customer live database views so the business intelligence tools read current data without breaking customer data isolation.
- Owned the hiring loop for the team: job descriptions, interviews and feedback to every candidate.

Software Engineer

Nov 2018 – Aug 2020

Hive HR, Newcastle upon Tyne

Joined when the platform was ten separate repositories on React 16, with no public API and no data science in the product.

- Co-created the team's first accessible component library, which the whole team now builds with.
- Built large parts of the replacement survey builder end to end, from editing and design through scheduling, translation and sending.
- Built two-factor authentication from scratch using Twilio.
- Helped onboard new joiners, joined the equality, diversity and inclusion group, and organised team social events.

Front-end Developer

Mar 2018 – Nov 2018

Communicator, Newcastle upon Tyne

React, Redux and Formik in the product team building a next-generation email marketing platform.

Communicator, Newcastle upon Tyne

Technical support for internal and external customers. Moved into part-time front-end work, which became a full-time developer role.

People leadership

Line management and performance

- Line-manage engineers through regular one-to-ones focused on growth, wellbeing and delivery.
- Run performance reviews, and use 9-box assessments of performance and potential to inform salary and performance decisions.
- Handle underperformance by diagnosing first: unclear expectations, the wrong fit, or something outside work. Then I set clear, written, time-boxed expectations rather than letting things drift.

Developing engineers

- Mentored and coached engineers across the team through pairing, code review and stretch work.
- Co-wrote the department's career ladder and progression and promotion framework, so progression is based on clear criteria rather than opinion.
- Use a self-directed development model: the engineer picks the growth area and I create the opportunity around it.

Hiring and onboarding

- Run the full hiring loop: job descriptions, interviews, decisions and feedback, including honest feedback to unsuccessful candidates.
- Onboard new engineers, with realistic test data and documentation that lives with the code, so they're productive quickly.

Delivery, from idea to production

- Manage projects from ideation through to production, working closely with the Product Manager on feasibility, scope and sequencing.
- Introduced a Project Requirements Document so requirements and stakeholders are agreed before work starts.
- Run delivery on Kanban, with engineers owning their projects, and release large programmes in stages, often behind opt-in early access, so customers give feedback before full launch.

Department leadership

- Member of the senior leadership team of heads of department, reviewing KPIs, performance, survey scores, goals and strategy.
- Wrote the engineering department's vision, resource plan and hiring plan with the Head of Engineering.
- Report delivery health with automated monthly DORA metrics, at team rather than individual level so the numbers aren't gamed.

Culture and ways of working

- Pioneered the company's remote working scheme by working from the Asia-Pacific region, and use that experience to run an async-first, well-documented team.
- Built the team's AI-assisted engineering setup, so standards are applied as code is written rather than caught in review.
- Member of the equality, diversity and inclusion group. I organise team social events, and share what I learn at conferences with the team.

Selected work

Retiring a second data store from the whole platform

Nov 2024 – Sep 2026

The platform kept customer data in MongoDB but answered all search and every reporting statistic from a separate Elasticsearch cluster, kept in step by a data pipeline. **Result:** Over 100 APIs moved and Elasticsearch decommissioned in September 2026, with zero disruption to customers and no data loss. The business is about £2,000 a month better off, the platform has one data store instead of two, and the sync pipeline is gone. The comparison work also exposed defects that had been live for years, such as blank comments counted as comments, which are now fixed.

AI classification of employee comments (Voice Typology)

2026

Voice Typology sorts the free-text comments employees leave in surveys into tone-of-voice categories, so HR teams can see how people are talking about an issue, filter by it and export it. **Result:** Hive's first generative AI feature in front of customers, backfilled across every customer's historical comments. Choosing the model per task keeps cost per comment low at that volume.

AI analytics assistant for survey results (AI Insights)

2026

A chat assistant inside the platform where HR teams ask questions about their survey results in plain English, and get answers with the same charts used everywhere else in the product. **Result:** An assistant that is confidential by design rather than by prompt, with a quality check on every capability before it ships.

Automatically generated survey insights (Auto Insights)

2026

An Insight tab on each survey dashboard that answers "what do I need to know, and what should I do about it?" without anyone having to analyse the data. **Result:** It found the same insights as the hand-made reports, plus relevant ones the analysts had missed, and does it for every customer automatically. Five months of stalled work became a working feature in about two weeks. It's in internal testing ahead of launch.

Public REST API for customers' reporting tools

2025 – 2026

A documented REST API so customers can pull their survey and feedback data into their own business intelligence tools. **Result:** A live public API whose behaviour cannot drift from the product, an in-app request log so customers can debug their own integrations, and an expensive permanent capacity increase avoided.

Secure sign-in overhaul

2025

How every user of the platform signs in and stays signed in. **Result:** Sessions can now be revoked, tokens are no longer exposed to page scripts, and password sign-in has been removed altogether.

Fine-grained permissions modelled on AWS IAM

2025

The rules that decide what each person can see, such as a manager seeing aggregated results for their own team only. **Result:** Customers configure access themselves instead of needing custom roles, and one policy replaces one per manager.

Statistical analysis built into the product

2024 – 2026

Key driver analysis is a statistical method that shows which survey questions most influence overall engagement, so an organisation knows where to focus. The suite also includes significance testing and finding under-performing teams. **Result:** Customers self-serve analysis that used to need the data team, and the next R script can reach production without me.

Integrations with customers' HR systems

2023 – 2026

Keeps a customer's employee list in Hive in step with their HR system automatically. **Result:** Customers connect and map their HR system themselves, without waiting on the engineering roadmap.

Confidential analytics for anonymous feedback

2026

Anonymous feedback lets employees raise ideas and concerns without being identified. The analytics dashboard summarises it for administrators. **Result:** Administrators get useful analytics without any way to identify an individual.

Platform modernisation and faster builds

2025 – 2026

Keeping a large, decade-old TypeScript codebase current and fast to work in. **Result:** Internal builds went from over 30 minutes to under 10.

Monitoring that finds bugs and costs less

2025 – 2026

The logging, error tracking and tracing used to understand what the platform is doing in production. **Result:** Monitoring spend went back to baseline. Being able to see retries also exposed events being processed twice, which I fixed by making the handlers safe to repeat.

Making the platform usable for everyone, including people using screen readers and keyboards, to the WCAG standard. **Result:** Main web app brought to WCAG 2.1 AA, with regressions caught automatically instead of in the next audit.

How I add value

From problem to customers. Building is no longer the hard part. What I'm best at is taking an idea or a problem, drawing the real requirements out of people, and getting it from A to B, all the way to customers. It's problem solving and project management together, and it's the part I enjoy most.

Bringing the right people together. I bring together the people who feel the problem, work out with them how to solve it, and then have the technical depth to build the solution myself. Auto Insights went from five months in progress to working in about two weeks. Retiring Elasticsearch, a job that had always lost out to roadmap work, happened with zero disruption.

Experience over output. Anyone can generate code now. My value is years of lessons about what won't work, where systems hit their limits, and which decisions age badly, because I've had to live with my own for eight years.

Responsible AI and governance. As AI moves into core products, it needs governance as well as engineering. I'm actively building my knowledge of AI governance and the new ISO/IEC 42001 standard for AI management systems. It's optional today, but I expect many customers to start asking for it. I want to help businesses shape an AI strategy that is responsible, ethical and ready for audit, building on my experience with ISO and Cyber Essentials audits.

Technical skills

Languages and runtimes	TypeScript, JavaScript, Node.js, R, Python
Back end and APIs	GraphQL, REST and OpenAPI, Express, oRPC, event-driven services with SNS and SQS, microservices
Data and search	MongoDB Atlas, Atlas Search, Atlas Data Federation, Elasticsearch, Redis, DynamoDB, Redshift views
Cloud and infrastructure	AWS Lambda, ECS, Batch, API Gateway, EventBridge, CloudFront and Lambda@Edge, Terraform, Docker, LocalStack
AI and machine learning	AWS Bedrock (Amazon Nova, Anthropic Claude), tool-calling assistants, structured outputs, evaluation harnesses, AWS Comprehend, AI-assisted engineering with Claude Code and MCP
Front end	React, Apollo Client, Redux, Formik, Storybook, design systems, WCAG accessibility
Security, compliance and identity	Session-based authentication, magic links, two-factor authentication, CASL and policy-based authorisation, Better Auth, data anonymisation, ISO and Cyber Essentials audits, AI governance and ISO/IEC 42001 (learning)
Delivery and quality	GitHub Actions, Buildkite, Playwright, Sentry, feature flags with Optimizely, DORA metrics

Education and beyond

BSc Computer Forensics, First Class Honours. Northumbria University, 2016.

★ Best Undergraduate Computing Student Awarded by Accenture, Northumbria University, 2016

Erasmus year. VIA University College, Horsens, Denmark, during the third year of my degree.

Mental health qualification. Gateshead College, 2022.

Restless Development volunteer. Three months in rural India after graduating, delivering CV and interview workshops in schools and colleges with a team of Indian and UK volunteers.

Conferences. AWS Summit London, MongoDB summits, GraphQL Conf Berlin, Front End North East and Up Front Manchester.

The full project index, with all 95 projects since 2018, is at nazlabs.dev/cv.