

# MATT BESSEY

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## TECHNICAL SKILLS

### EXPERT

Ruby  
Ruby on Rails  
Sidekiq  
RSpec  
GraphQL  
Git  
SQL  
JS  
React  
Apollo Client  
Datadog  
Docker  
Kubernetes

### GOOD

AWS (Well, some of it...)  
Elixir  
TypeScript  
Styled Components  
Sass  
Redux  
Ember  
Twilio  
Looker / LookML  
Python

## TECHNICAL INTERESTS

API Design  
Systems Design  
Performance Optimisation  
Developer Experience  
SRE / Observability  
Domain Driven Design  
Data Engineering  
Design / UX

## REFERENCES

Available on request

## WHO I AM

I am a Bristol, UK based Principal Engineer with a broad knowledge of frontend, backend, and infrastructural technology, specialising in Ruby on Rails. I take pleasure not only in delivering features to users, but also building internal tooling to accelerate my peers. I excel at reasoning about large systems spanning these disciplines, then deep diving into specific technical problems in any one of them. I am a friendly extrovert with strong written and verbal communication skills, comfortable collaborating with technical and non-technical stakeholders alike.

I am seeking a role where I am a major contributor to software engineering strategy, and technical lead of significant projects, acting as a systems architect, implementor, and point of contact for non-technical stakeholders.

## EXPERIENCE

(2019 — Present) **Principal Engineer**, [Immersive Labs](#) Bristol, UK

My role is essentially the right hand man of the VP of Engineering. I was the sole Principal for over a year, during which time the engineering headcount doubled to ~50 individual contributors. Today I am supported by department Principals of Backend, Frontend, and Infrastructure. My responsibilities have included:

- Steering the long term strategy of the engineering department, particularly backend
- Performing engineering due diligence on several potential acquisitions
- Establishing and leading the SRE and DX guilds, as well as being a major contributor to the Test Automation and Performance guilds
- Leading several Engineering OKRs, coordinating work towards them across all teams
- Founding and leading the Platform Team, responsible for ensuring the reliability and scalability of the entire platform, as well as improving developer experience for all engineers
- Autonomously identifying the most pressing technical problems for the business, researching solutions, and proving concepts or entirely implementing solutions
- Assisting product teams to solve complex technical problems in a consultant capacity

Specific projects of note, which I have been I have been a major contributor to:

- Oversaw the transition of regular hours on-call duty from a department wide rota, to one where each product team is responsible for monitoring of their products via SLOs, monitors, dashboards, and in-team error reporting. Achieving this was particularly challenging as most teams work within a single Rails monolith.
- Researched and integrated a lightweight self hosted OIDC / OAuth2 solution to enable users of an acquired product to have a seamless login experience across the Immersive Labs platform. My research lead me to ORY Hydra, a minimalist micro-service which allowed us to rapidly extend our existing Rails login system with well documented OIDC capabilities. Significantly reduced effort and risk vs migrating to a 3rd party identity provider or implementing a custom authentication solution.
- Worked with Engineering Management to design and implement a code review based interview exercise for Senior / Lead / Principal backend engineers. I focussed on building a PR with many flaws of varying severity, in a small codebase that acted as a microcosm of our own. This enables candidates to demonstrate meaningful skills to the role they applied for.
- Architected Rails application changes necessary to support US / EU customer data sovereignty, while still maintaining a sub-set of global data. We replicate cybersecurity content from our primary region to replica regions via an AWS EventBridge powered global event-bus.
- Doubled the effective RPS per process of our Rails monolith in a quarter, through identifying suboptimal Kubernetes configuration, and application optimisation.

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- Designed and implemented a remote test data generation API for our Rails API monolith. This API enabled our Test Guild to implement the first platform wide end-to-end smoke test suite, which has in turn enabled developers to for the first time undertake significant refactors with no little if any manual QA needed.
- Relentlessly simplified the developer experience for all engineers so that regardless of the service you're working on, `git pull; ./script/update; docker compose up` will reliably get you an up to date and functioning development environment.
- Researched, architected and implemented a low maintenance ELT data pipeline built with state of the art technologies including Looker, dbt, and Snowflake. I handled requirements gathering across departments, running a proof of concept trial comparing several vendors, and assessing the performance of each with respect to the data analysts' and business's needs. Our Data Team's size has grown 5x and this same tooling is still the foundation of their system.
- Introduced Domain Driven Design patterns to gradually refactor our Rails monolith into cohesive domain oriented components with clear public APIs, gaining the de-coupling benefits of micro-services without the operational overheads associated. We even lint for unintentional cross-domain references in CI.
- Worked in a cross discipline team to improve the reliability of our Kubernetes remote desktop orchestration system. This required collaboration between Engineering, Infra, and Cyber Content. I led the overhauling of our Datadog powered monitoring system in the wake of a major outage to identify precisely what went wrong, and enable all departments to make necessary changes to avoid recurrence. An outage of similar scale has not occurred since.
- Influenced the design and best practices of an early stage GraphQL API, drawing from previous experience to develop a performant, secure, and stable API that today is used for all new API requests.

(2013 — 2019) **Senior Software Engineer, Caring.com** San Mateo, California

- Designed and maintained for 2+ years a GraphQL API for our core Rails monolith, that received ~850k requests per day and was the primary API for the majority of clients. Maintenance has included instrumenting with APM software to identify and rectify performance pitfalls from memory over-allocation, N+1 SQL queries, and I/O parallelism opportunities.
- Worked in a team of 3 to replace off the shelf call centre software with poor uptime with an entirely in-browser Twilio powered Rails application used daily by ~100 sales staff, all remotely, from all over the US and the Philippines. The application was developed and launched in under 6 months, quickly proved more stable than the commercially available product it replaced, and was still used largely unchanged 4+ years later.
- Developed an Airbnb style realtime map based search experience for senior care, using server-side rendered React inlined into Rails templates to allow for rich interactivity without affecting SEO or initial page load time.
- Hosted presentations to the whole engineering department to demonstrate new technologies I had researched that showed potential to solve technical problems at Caring, often resulting in their successful adoption.
- Provided much highly valued input to product managers on the design of future product developments, informing the direction of our core products, and helping to bring entirely new revenue streams to the business in a timely manner.

## OPEN SOURCE CONTRIBUTIONS (GITHUB)

**brillo** - ActiveRecord based developer database scrubber and loader gem

**vscode-rufo** - VS Code extension to provide support for rufo, the Ruby formatter

## EDUCATION

(2010 — 13) University of Bristol, **Computer Science BSc with 1st class honours**