Paulo Köch

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I'm a software business executive. I've co-founded a company and participated in top level management at startups. I love having direct access to a problem and lead a team to be build a system around it to automate value extraction.

I'm an experienced engineering manager, with more than a decade of practice. I use processes (Scrum, Kanban) to set up baseline boundaries, let people explore, but keep herding them back to an effective trajectory, especially on scope. I give behavioural feedback as soon as possible. I do heartbeat-like technical check-ups (10 minutes every few days, depending on seniority/challenge, ideally async through code/doc reviews). I do 1:1s on larger cycle (between two weeks and a month). Super comfortable executing all other aspects (hiring, performance reviews, career progression, training, role and team structuring, etc).

I'm a long-time web developer, since 2005. I feel most comfortable on the backend (many years of experience with Ruby/Rails and Python/Django, and a few of microservices) but I'm also fond of front-end (a few years of bare Javacript and React). Comfortable with SQL (PostgreSQL, MySQL; with replication) and other data stores (Cassandra, S3). I dislike, but can cope with, painting on the screen (CSS, SVG). Very comfortable designing and building distributed systems (CAP, eventual consistency, MapReduce; Kafka, ZooKeeper, SNS, SQS, etc). I prefer a data-centric approach to problems over OOP, and composing functions over design patterns.

I'm a solid security person. I put security early in the development lifecycle, and keep an eye on OWASP. I'm very mindful of resource starvation, user-generated content sanitization, and authorization trickery. I can do vendor surveying and respond to security questionnaires. I'm experienced with GDPR and HIPAA.

I'm a very competent ops person. I'm comfortable with networked Linux servers, especially on the cloud (AWS). I can provision (terraform), configure (Puppet, Saltstack), diagnose (strace, tcpdump), network (IP, TCP, routing, BGP), document (runbooks), be on call, respond to incidents, logging, monitor, alarm, CI/CD (GitHub Actions, CircleCI, a bit of Jenkins), and clustering (AWS's ECS).

Head of Backend at Doist – 2021 to 2022

Managed a team of 7 engineers. Redesigned team's workflow to make all work known, discoverable, and its priority agreed upon by all stakeholders. Made the team's interface with the rest of the company simple and well-known, work planning went from closed-room black-box to 100% open and its trade-offs understood by everyone.

Modernized two decade-old Python codebases. Oversaw and implemented a lot of improvements, including refactorings, introduction of modern tooling (Poetry, mypy, pylint, flake8, pyupgrade, etc), moving to Python 3, implementing CD, establishing modern incident response practices, etc.

Head of Engineering at Fractal – 2019 to 2020

Managed a team of 7 engineers. Redesigned engineering's workflow by **implementing Kanban across Product and Development** and isolating interruptions into their own flow. This made developers be more than ticket-takers, neutralized distractions, and created a consistent delivery cadence.

Kept my hands dirty about 33% of the time. Designed and oversaw the implementation of a cross-microservice data system that **empowered everyone to build custom real-time reports** while safeguarding user data by enforcing column-level sensitivity labeling. Implemented both backend and frontend features. Regularly **advised on infrastructure** issues. Automated recurring engineering problems that didn't fit in the roadmap (reports for vendors and partners, palliative measures, etc).

Acted as interim Chief Security Officer. Kept security standards well balanced, kept known threats catalogued, coordinated with other financial institutions, aligned incident response procedures with vendors. Implemented a cold storage system for crypto-asset stewardship.

Part of executive management. Used my position to **reach out to unengaged or distressed employees in distant parts of the company** to offer emotional support and mentoring. Finding myself less participative, I stepped down to encourage a more focused executive team.

Technical Project Manager at Fractal – 2018 to 2019

Delivered the technical part of multiple crypto fundraising events. Coordinated security measures, **negotiated customization scope**, oversaw implementation and operation. These events had a high security profile (**moving thousands of dollars and sensitive PII**), uncertain traffic (**anything from 0.1 to 100 req/s**), and strict deadlines.

Oversaw a small team (2 engineers + 1 project manager). Implemented custom features (**React**/**Redux**, **Rails**, **PostgreSQL**) and led a redesign effort. Sourced, coordinated with, and integrated work from contractors. **Enabled a microservices architecture** by migrating from AWS Elastic Beanstalk to **ECS**. Reformulated networking, logs, alarms, etc.

Part of executive management where, together with other managers, I **set direction and strategy** for the company.

Managing Partner at Life on Mars – 2016 to 2018

Looking to explore a different way of doing engineering management, **I co-founded a company** focused on maximizing happiness, openness, and skill. We built a high-talent **small software agency (of 6 engineers and 1 admin)**.

Managed all 6 engineers and did development work. A representative sample would be:

- Built multiple **React**/**Redux** frontends and respective **Rails** or **Phoenix** backends
- Designed and built a **WordPress plugin** to sync entries from a no-code tool to blog posts
- Built **Rails** app for ALS patient prognosis, with **HIPAA-compliant infra**, codified using **Terraform** and **SaltStack**
- **Incident support**: some clients called us saying "this website is on fire, can you join this call and help us fix it?"
- Built a baccarat game using **Ethereum** and state channels, with a web frontend

Fractal became our largest client and invited us to be **acquihired**, which we accepted.

Software Engineer at Yelp – 2013 to 2016

Full-stack development on Yelp's business owner features across a diverse technology stack (custom **JavaScript** framework, monolithic **Python** app, multiple **microservices**, **Mesos**, **MySQL**, **Kafka**, many **AWS** services, etc). Contributed to modernizing infra, performance, logging, monitoring, and automated error recovery.

Lead a small team (3 people) that designed and implemented Yelp Preview, which let you preview a business owner's back-office, powering thousands of sales pitches per day. Due to its architectural planning, **it required only a few tens of engineering hours in maintenance** since its introduction.

Helped trailblaze the introduction of Kafka company-wide, migrating two microservices to use it. Helped shape the packages that became company standard.

Worked on the Yelp Transaction Platform, an online ordering brokerage system. Implemented monitoring on our partners' conversion performance, improved on-call tools and procedures, and established cross-system error monitoring. These **made debugging issues near-instantaneous, drastically reducing on-call stress and errors**, and recovering ~$10k revenue on a daily basis.

Spontaneously took ownership of legacy systems' issues, including subsystem re-writes that spanned several quarters. Many contributions to infra and release tools, from a 90% reduction in dropped connections during some deployments to test failure triage automation (going from 5 painful minutes of ticket hunting to 1 CLI call).

Older history on LinkedIn.

Education

- Certified Scrum Master
- Masters in Software Engineering at Faculdade de Engenharia, Universidade de Porto