

Sebastian Ziebell

Senior Software Engineer

(pronouns: he/him)

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Summary

Senior Software Engineer with 20 years of development experience, with focus on backend services, distributed and scalable systems. Proven track record as a consultant of delivering impactful contributions to 25+ projects using different technologies, frameworks and processes. Recognizing the importance of customer needs with focus on considerate planning & time management to stay within budget and to meet expectations. Technical emphasis is on ergonomic API design, testability and documentation, while facilitating team collaboration with empathy to spur an environment in which people share their knowledge, are eager to learn & take collective ownership.

Experience

Ferrous Systems GmbH - Senior Software Developer

Apr 2021 - Jan 2025

Ferrocene

- Developed the Customer Portal, the customer facing web application to manage organizations / teams to access the Ferrocene releases, implemented subscriptions via Stripe
- Expanded the API web service to provide access to Ferrocene release downloads with authentication

Ferrous Systems

- Member of the on-call rotation for crates.io between August 2021 - January 2025
- Co-trainer in several Rust workshops
- Technical interviewer in application process

HickoryDNS (Blog post)

- Expanded DNSSEC support to [hickory-dns](https://github.com/hickory-dns), a Rust suite of dns utilities, as part of a STF funded project, by implementing relevant RFCs 4035, 6840 & others
- Developed an extensive conformance test suite to run any DNS scenarios in containerized environments. This suite allowed for direct comparison with existing production tested implementations, e.g. unbound, BIND, to track progress, to check feature parity and to manage non-standard / unspecified behavior
- Discovered, fixed and tested about two dozen DNSSEC related issues in the existing implementation

Stackable (Blog post)

- Contributed to the **cargo** package manager ([PR 3553](https://github.com/rust-lang/cargo/pull/3553)) to initiate SBOM support
- Added support for multiple versions of the CycloneDX specification to the [cargo-cyclonedx](https://github.com/rust-secure/cargo-cyclonedx) library to help improve supply chain security in the Rust ecosystem

Graphiant

- Tracked IPMI specific sensor data, expanded existing schema models using YANG, then built new API endpoints to provide access to this data
- Rebuild the web interface of a diagnostics tool, used to inspect live

Education

Diploma in Computer Science

TU Berlin - 2000-2008, Berlin

- Thesis: Recommender 2.0 - Visualizing Explanations for Transparency, Acceptance and User Trust in Recommender Systems
- Member of the editorial staff for the [Open Source Jahrbuch 2005](https://www.open-source-jahrbuch.de), an annual book with curated articles on a range of Open Source topics

Key Achievements

- Refactored QR code generation from backend to client using WebAssembly and web workers (see [blog post](#)) which eliminated site time outs and improved HTTP response times drastically.
- Set up organization wide logging infrastructure with access management using ELK stack and Puppet modules. Transferred knowledge / responsibilities to internal team
- Fixed data consistency & redundancy issues in a Rails / Postgres application by adding table constraints, table indexes, and executed tested queries to eliminate duplicate data. Then analyzed & refactored a number of SQL queries to improve performance of a few API

systems, by following HTTP best practices

Cybertec

- Prototyped a PostgreSQL language parser to migrate PL/SQL code to PL/pgSQL in Rust
- Developed a lexer, parser & analyzer to build an AST representation (using libraries logos & rowan) to then generate SQL code from

Prisma

- Prototyped Rust library to replicate data of MySQL & Postgres databases, while providing an agnostic API

Asquera GmbH - Senior Software Developer

Mar 2012 - Mar 2021

LGB Potsdam

- Developed the Search API using Python & flask to provide full text search for geo-related data, including integration into the frontend
- Set up the project with test framework, CI / CD pipelines for easy deployment, Swagger & Open API for documentation, a containerized environment that enabled easy development of the full stack on a local machine
- Configured Elasticsearch to support multiple aspects of search, e.g. location based, inside map region of client, set up automated index rotation to reflect changes, incl. rollback
- Configured Logstash pipelines to transform & ingest documents from multiple sources into an unified document representation

AboutYou

- Expanded & improved product search for different e-commerce shops using Elasticsearch, Redis and PHP
- Automated workflows to transform & ingest products for full text search with index rotation & rollback support, set up CI / CD, fixed slow queries
- Provided backend support to customize full text search per shop (support for synonyms, highlighting, stopwords)

Marley Spoon

- Maintained & refactored an internal web application (Ruby on Rails) used in fulfillment centers world wide, while handling issues, error reports and feature requests
- Optimized data access patterns, in particular Postgres SQL queries, to improve API response times significantly (up to 90%)
- Expanded test suite, fixed a number of flaky tests, updated the CI setup to improve test coverage & the deployment process to be consistent
- Transferred infrastructure & monitoring of web application and its services to AWS & Kubernetes with Docker, Helm, Helm-charts, Grafana
- Provided 24/7 on-call support between 2019-2020

filiadata / DM

- Built Puppet modules to deploy Elasticsearch, Logstash, Kibana to production infrastructure, including CI / CD with Jenkins and Docker
- Implemented authentication mechanism to manage ~20 applications among all teams, with configurable log retentions times, e.g. daily, weekly
- Provided modules for teams to automate Logstash & Filebeat pipelines to ingest data from different sources, e.g. files, databases, message queues
- Provided documentation and templates to teams to build Kibana dashboards

SysEleven

- Expanded CI infrastructure using Gitlab CI workflows to build project dependencies automatically and consistently, providing CI templates for

endpoints by up to 95%.

Core Skills

Programming Languages

- Expert: Rust, Ruby
- Experienced: Python, TypeScript, JavaScript, Elixir, Java, SQL, TOML, YAML, JSON, HTML, CSS

Tools & Frameworks

- axum, actix-web, Ruby On Rails, flask, Phoenix, React
- PostgreSQL, Elasticsearch, GraphQL, MySQL, CouchDb
- RabbitMQ, Kafka, Redis
- Puppet, Helm, Ansible, Terraform
- Git, Docker, AWS, Github, Gitlab, Kubernetes

Processes

- Agile Methodologies, Scrum, Kanban
- Test Driven Development (TDD), Quality Management, Test Automation
- Continuous Integration (CI), Continuous Delivery (CD), Observability

Natural Languages

- German: native
- English: fluent

Other Interests

- Running (Marathons), Street & Documentary Photography, Cinema, Indie Games, Birdwatching

multiple repositories to run tests and detect breaking changes immediately

Pro7 / Sat1 Media AG

- Built an API using Ruby & Padrino to provide mobile clients access to the Electronic Program Guide (EPG) including full text search
- Implemented search capabilities via Elasticsearch, configured data ingestion from documents in CouchDb

Other Projects

- Trained teams in Elasticsearch workshops
- Worked on ~20 client projects, e.g. T-Systems, HERE, Wheelmap.org, Telekom

Software Diagnostics - Software Developer

May 2010 - Feb 2012

Visual Studio C++ IDE Plugin

- Expanded a VS IDE plugin to manage C++ projects to record runtime traces, including variables and real time stack traces
- Improved data layout to minimize export data, optimized import of trace data from exponential to near linear performance, which resulted in load times of multiple GB down to a few seconds

exozet games - Mobile Game Developer

Nov 2004 - Dec 2009

Various Games

- Developed a number of games using J2ME (Java), for example Settlers of Catan, Hey That's My Fish, The Three Investigators
- Prototyped 3D games for mobile phones