Alexander Strizhakov

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Senior Backend Developer with 15 years of experience in building high-performance web applications, enterprise systems, and scalable distributed architectures. Passionate about solving complex problems, optimizing system performance, and driving software excellence. Specialized in **Elixir** and **Phoenix**, with expertise in designing robust, maintainable solutions in **FinTech, AdTech, and social networks**. Experienced in the full software development lifecycle, from architecture and development to testing and deployment. Strong self-manager in independent projects and an effective team collaborator. **Active OSS contributor**.
Currently exploring Go for backend development.

Skills

Primary Focus: Web development with **Elixir** and **Phoenix**
Proficient in: Elixir, OTP, Phoenix, Phoenix LiveView, TDD, Git
Actively used: PostgreSQL, Docker, Tailwind, Alpine.js
Previously used: MySQL, Redis, ClickHouse, Vue.js, React, AWS, PHP, Ruby

Employment History

Taciyon (December 2022 – January 2024)

Taciyon is a software platform for ticket resellers (brokers) to manage and resell event tickets on exchanges. Worked primarily independently to build and optimize the application for handling large broker inventories — processing more than ~300MB JSON data (~1 million inventories) efficiently.:

- **built a delta calculation system** that **compared old inventory data with freshly downloaded records** to generate **create, update, and delete (CUD) tasks** — capable of **processing 1 million rows in ~1 minute**.
- **developed a complex web interface** with **Phoenix LiveView**, delivering **real-time inventory updates** while maintaining **high performance and responsiveness**
- **implemented an incredibly fast and sophisticated event-mapping system** for **multiple platforms**, playing a **key role in accelerating inventory creation across exchanges**
- **designed and built a system** to **process CUD tasks for broker inventory**, applying changes via **HTTP API requests** while handling **rate limits and error retries**. This system enabled **near real-time synchronization** of **broker inventory updates across exchanges**.

MiPasa (Jul 2021 - Jun 2022)

MiPasa is a web-based data science development platform built on the PETAL stack, designed to streamline collaboration for individual developers, teams, and organizations. Its core feature is a notebook editor that enables users to write, execute, and manage Python scripts, process data from multiple file formats, and generate visualizations. The platform supports real-time data manipulation across multiple programming languages and allows scheduling background executions for computationally intensive or time-sensitive tasks. As a MiPasa team member, I actively contributed to:

- **developing and enhancing** the notebook editor, improving **code execution, data import/export, and visualization features**
- **maintaining, optimizing, and debugging** the connection between the application and **distributed execution nodes** to enhance performance and stability
- **improving testability and expanding test coverage**, helping to **reduce test execution time** using ExUnit and async tests
- **creating and refining integration tests**, working with **complex test setups** and leveraging **Playwright** for end-to-end testing
- **enhancing the event-driven system**, contributing to **real-time notification improvements** for better responsiveness
- **optimizing data and output processing** in **real-time and background tasks** using Oban, ensuring efficient execution and resource management

Pleroma (Mar 2019 - Mar 2021)

Pleroma is an open-source, federated social networking platform built with Elixir and Phoenix, compatible with Misskey, Pixelfed, Mastodon, and other ActivityPub-based networks. It leverages the ActivityPub protocol for decentralized communication and interoperability. As a Pleroma team member, I contributed to the following:

- **extended and maintained** the Mastodon-compatible JSON API while developing and optimizing **Pleroma client, admin and API**
- **designed and implemented** a dynamic application configuration system, enabling database-stored settings and seamless application/process restarts using **OTP** and **DynamicSupervisor**
- **developed an admin API** for managing database-stored configurations, implementing **Elixir-to-JSON type conversion** and vice versa for seamless data handling
- **implemented a migration system** for **importing/exporting** configuration settings between files and the database, ensuring flexible and efficient configuration management
- **created and maintained** two open-source **Tesla HTTP client adapters**, enhancing federation between Pleroma nodes
- **optimized data exchange** between federation nodes by developing a c**ustom connection pool**, reducing memory usage and improving **HTTPS connection efficiency**
- **developed the Pleroma installer**, streamlining the setup process for new Pleroma instances and simplifying deployment for administrators

Paysale (Jul 2015 - Mar 2019)

Paysale is a high-performance affiliate network featuring a low-latency, high-load redirect API with advanced targeting rules, built using Elixir and Phoenix. The system is highly optimized for fast response times and minimal latency. The partner and admin UI was developed in Ruby on Rails, providing an intuitive interface for managing campaigns and analytics.

- **migrated and rearchitected** the Redirect API to **Elixir/Phoenix**, enhancing scalability, fault tolerance, and maintainability
- **optimized API performance**, increasing throughput **10x**, achieving an average **100ms latency**, and enabling a single **2 vCPU, 4GB RAM** server to handle **15k+ concurrent RPS** efficiently
- **managed cloud infrastructure and DevOps**, ensuring system reliability and scalability
- **configured and optimized deployments** in **Kubernetes via Rancher**, later transitioning to **AWS** with **Edeliver** for multi-regional server deployment
- **developed a high-efficiency data pipeline**, implementing temporary storage for staged batch-insertion into **ClickHouse** to improve processing efficiency

It-Invest (May 2010 - Jun 2015)

Started my career at It-Invest, working with PHP on a high-load SMS billing project, handling incoming SMS requests and partner transactions. Later, developed a teaser network using PHP (Kohana framework), building a high-load API for targeted ads, statistics collection, and financial transactions between webmasters and advertisers.