Stephen Byrne

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I am a software developer focused on building modern services and applications with Kotlin.

Workiva
Staff Software Engineer · 2022 - current

- Developer for graph database system, focused on new features and feature redesigns to enable more efficient usage. Work with upstream teams, customer support teams, and product managers to design ways to make fewer and/or faster requests, to improve cache usage, and to better understand the performance characteristics of the system. Technical lead for authorization and reporting subsystems.

- As Staff Software Engineer, lead design changes and additions, engage in cross-team architecture discussions, teach and espouse idiomatic Kotlin, and mentor new team members.

- Redesigned the test and build process to parallelize unit tests, dynamically load test dependencies in Docker, enable running integration tests in developer environments on both Linux and MacOS, and simplify and speed up builds and tests in the CI/CD pipeline. Prototyped conversion from Maven to Gradle.

ChartHop
Principal Software Engineer · 2021 - 2022

- Led efforts to identify portions of the prototype-cum-production codebase that caused performance problems and slowed development of new features, and redesign and re-implement them. Led design discussions across teams to develop new APIs, data models, and migration plans.

- Designed a routing proxy system to route requests based on HTTP headers to specific back-end clusters to obtain high availability, load balancing, and the ability to introduce A/B testing and blue-green deployments. Developed a Lua plugin for HAProxy to route requests using configuration from a Redis database, and developed AWS Lambdas to populate the database based on business logic.

- Spent a month writing TypeScript on a front-end team to better understand the front-ends needs when designing APIs, get a better understanding of how the customers use the product, and develop good working relationships with co-workers across teams.

Measures for Justice
Lead Software Developer · 2016 - 2021

- Lead developer for a suite of services and tools to track, store, and version data files, supporting large (30+GB) files. Provides a common API to store files on a filesystem, S3 with DynamoDB indexes, or via a web service. Includes libraries for application use, a web service, a CLI, and a desktop GUI. Supports security policies based on paths and attributes. Dockerized and deployed via k8.

- Lead developer for an open-source tool to extract text from computer-generated PDFs to structured formats. github.com/measuresforjustice/textricator

- Lead developer for a service and tools to load unique values from tabular files into a vault, split up the work to allow multiple people to map input values to output values, and to apply the mapped values back to the original files and other files with data of the same logical type.

- Led team efforts and training to stay up to date with Kotlin.

- Implemented a highly available web site architecture using AWS CloudFormation, CloudFront, S3, DynamoDB, Lambda, and Application Gateway to make sure MFJ's initial website launch was stable.

Vnomics Corp
Senior Software Developer · 2014 - 2016

- Lead developer for Android-based IoT system for collecting live data from commercial vehicles and using it for real-time driver coaching and offloading for analytics.

- Developer for Linux and Java based software stack on a vehicle-based industrial computing platform, providing REST services for web UI, stream processing, and business logic.

LincWare, LLC
Senior Software Developer · 2009 - 2014

- Lead developer for document generation and storage platform. Responsible for release planning and scheduling, new feature design and implementation to meet customer needs, and research and design for system improvement and expansion for new target markets.

- Developed a new storage architecture to store document data via JCR or JDBC to enable integration with customer's existing databases, and a drag-and-drop user interface for customers to map document data into database tables allowing for multiple schema designs.

Homedata (Rochester) Inc.
Software Developer · 2007 - 2009

- Web developer for data entry and reporting web application for the Foreign Trade Zone market; initially a front-end for PL/SQL database application with continuing migration of PL/SQL logic into the business layer.

- Developed applications to synchronize data from external ERP systems.

Peerplace Networks
Software Developer · 2004 - 2007

- Developer for case management web application for human services. Contributed to testing, bug fixing, user interface design, new feature specification, design, and development.

- Lead developer XML/XLST-based reporting system. Developed an XML export from the case management application database and developed a library of XLST to generate PDF reports to enable quickly generating customer-specific reports.

Education
- Rochester Institute of Technology - Bachelor of Science, Mechanical Engineering, 2004

Skills
- Linux, Java, Kotlin, Maven, Gradle, Git, JUnit, TestContainers, SQL, AWS S3, Lambda, DynamoDB, Docker