Charles Donaldson

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Senior Software Engineer	Scala Functional	Software Architect

- Over a decade in back-end async concurrent services written in Scala, Play framework, Akka, Cats, and FS2.
- Implementer of asynchronous event back-end services and APIs design.
- Effective communications and team collaboration.
- Advocate of expressive data types - ADT, GADT - codifying correct behaviors preventing illegal states.
- Behavior, Data, and Test driven design and testing behaviors (customer goals, behaviors, and workflows)
- Experienced in monolith, distributed (right sized) services, and distributed monolith.
- Remote since 2015 - long before COVID and corporate embraced the benefits

Iterative practices	API	System design	Git management
Functional	Back / Front end	AWS infrastructure	Docker
Streaming	SQL	Resource management	Scripting

Travel Syndicated Technology (TST LLC), Alpharetta, Georgia   Feb 2020 to present

Focusing on providing world class travel technology solutions to our customers in an effort to significantly improve look-to-book ratios and maximize revenue. Benefiting travel agencies, consolidators, member organizations, or other entities looking to sell all types of travel online including air, car, hotel, cruise, or tour packages.

Senior Software Engineer

Joined TST to apply skills and understanding of Scala, Akka, and Kafka to the cruise inventory data load services. Team reorganized resulting in a role change becoming intimate with cruise booking work flows. Assisting Product Owner with customer issues and satisfaction. A subject matter expert, leveraging historical knowledge of the codebase and project context. Collaboration, removing obstacles, and connecting team members with cross functional members. Responsibilities encompass managing and coordinating the team's efforts, overseeing migrations and upgrades, and actively contributing to the ongoing development of the cruise product.

- Worked with Product Owner to convey product behavior given cruise line vendor API responses or what is missing.
- Meetings with TST consumers (AAA clubs) to understand and provide options to resolve workflow issues.
- Refactored significant portions of the cruise Scala Play back-end services while adding behavior driven design tests to ensure continued expectations during code cleaning and avoid regressions.
- Subject matter expert of cruise booking and post booking cruise booking operations, and booking maintenance.
- Defined booking and post booking enhancements and processing for transparency of payments status and booking recovery for TST customers (booking agents) and consumers.

Scala, Play, concurrency, async API | Twirl, JavaScript | Docker

1010data, New York, New York   Mar 2018 to Nov 2019

Empowering companies to monitor shifts in consumer and market demand and rapidly respond with highly-targeted strategies.

Senior Software Engineer

Implementing a new user tool to address an entry point for 1010data customers. This provided spreadsheet and graphical views as incremental processing steps are applied during ingest, transform, and analysis of customer data that can be applied to the full data set. I provided Scala back-end services coordinating multi-gigabyte uploads via a chunking process while injecting a sample into the 1010data database API for data visualization of the transformations.

- ~70% of my time in Scala Play back-end REST services integrating UI and infrastructure requirements
- Integrating the Scala AWS SDK to provide coordination of S3 indexes and aggregation for the upload process
- Presented company tech talks on Scala fundamentals and practices: Future, Collections, For Comprehension, Type Class.
- ~20% of my time implementing customer UI: Vue, Vuex, and TypeScript.
- Championed the integration of TypeScript that reduced UI and API call bugs.
- Scrum master and production deployments

Scala, Play, AWS SDK | VueJs, JavaScript, TypeScript | AWS: EBS, EC2, ELB, S3

ARRIS, Horsham, Pennsylvania: CCAD LLC Joint Venture   May 2015 to Dec 2017

Powering a smart, connected world. The company's leading hardware, software and services transform the way that people and businesses stay informed, entertained and connected.

Software Engineer

Moved into this role to advance the distributed tiered topology to configure, manage, and propagate streaming video metadata - channel maps, guides, crypto keys, spectrum configuration. This was a shift into the Scala language using Cats, FS2, and Kafka. This is an eventual consistency system with the types and rates of the messaging.

- Transitioned to a Scala back-end team where I cut my teeth by migrating the code base to Java 1.8 and Scala 2.10 gaining performance and library improvements.
- Coordinated with Product Owner and Product Manager in product planning and sprint grooming.

Scala, Cats, FS2, Akka, Kafka, concurrency, async API | BitBucket, Bamboo | VMWare

[ARRIS](#), Horsham, Pennsylvania: Motorola Mobility   Apr 1996 to May 2015

Powering a smart, connected world. The company's leading hardware, software and services transform the way that people and businesses stay informed, entertained and connected.

System Integration and Test Automation and Tools Engineering

Prior achievements in Integration and Test Automation lead to increased responsibilities to architect and lead the development of a scalable test automation framework to support concurrent qualification testing of multiple product lines within the ARRIS CableTV hardware manufacturing using racked servers and specialized test equipment.

- Architect and Lead of a team of 10 engineers – 6 offshore and 4 US - developing the services to facilitate concurrent product qualification testing. A scalable automation framework for single product to multiple product testing. Implemented a C, C++, and Python back-end to schedule, monitor, and execute tests across multiple racks of products under test. Implemented a Visual Basic .Net web front end to configure test scheduling, status, and present results.
- Introduced and established National Instruments LabVIEW and TestStand as the standard automation tools for system integration and test automation across multiple product lines achieving 25% to 80% reduction in test times. I managed an offshore team providing architecture and design expectations.
- Implemented proprietary Wireshark protocol dissectors for CATV head-end and Switched Digital Video operational diagnostics.
- Implemented set-top box channel change simulation tool for Switched Digital Video load testing.

C++, Python, VBasic | VBasic SSR | COTS servers, Windows Servers, company hardware

Education

Lafayette College, Easton Pennsylvania
Bachelors in Science for Electrical and Computer Engineering