Charles Donaldson

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Senior Software Engineer   Scala Functional   Software Architect

If your are not testing your code, then you do not know if it works. If you are not testing what the customer wants, then you are not delivering what they need. Let me help deliver incremental customer driven behavior solutions.

- 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.
- Data 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 current

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 my role becoming more maintenance in nature - resolving booking synchronization issues and payment status transparency. Continuing as non-blocking Agile team lead, facilitating the iterative development process of the cruise product.
A subject matter expert, leveraging historical knowledge of the codebase and project context. Force amplification by 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 and maintenance of the cruise product.

- Refactored significant portions of the cruise Scala Play back-end services while adding behavior driven design tests to insure 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 providing spreadsheet and graphical views as incremental processing steps are applied during ingest, transform, and analysis of their 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
- Utilized Scala AWS SDK to provide coordination of S3 indexes and aggregation for the upload process
- Presented company tech talks on Scala Future, Collections, For Comprehension, Type Class.
- ~20% efforts 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.

- Fully involved in Scala Play back-end REST and pub/sub services
- Migrated the code base to Java 1.8 and Scala 2.10 gaining performance and library improvements.
- Augmented and refined Avro messages, their processing through Akka Streams, and pub/sub via Kafka.
- Active participant in product planning and sprint grooming with product owners.

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

[ARRIS](#), Horsham, Pennsylvania: Motorola Mobility — Jan 2011 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

The achievements obtained in the prior role as Integration and Test Automation engineer were applied across the division and a large variety of products via a set of servers running images of the automation tool configuring racks of ARRIS products and test equipment. All being managed from a central web app to schedule tests, present status, generate reports.

- Architect and Lead of a team of 10 engineers – 6 offshore and 4 US - developing the services to facility concurrent product qualification testing.
- Developed scalable automation framework for single product to multiple product testing – racks of connected products.
- Utilized C/C++/Python with persistence to monitor and execute test automation.
- Utilized Visual Basic .Net with MS Web server to configure test scheduling, status, and present results.

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

[ARRIS](#), Horsham, Pennsylvania: Motorola Mobility — Jan 2006 to Dec 2010

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 Engineer

Moved into this role to improve product release schedules and development iteration feedback via tools and scripts to automate test configurations, data collection, results reporting.

- Utilized LabVIEW and TestStand automation to achieve significant time savings.
- IGMP testing decreased from 40 Hours to 3 hours.
- Transport Redundancy decreased from 80 hours to 19 hours.
- Device configuration decreased from hours to minutes.
- Implemented proprietary Wireshark protocol dissectors for head-end and SDV operational diagnostics.
- Defined and administered the IP infrastructure for a multi-gigabit multi-router Ethernet video network using Cisco and Force10 Network switches leveraging OSPF, PIM SSM, BSR, and multiple rendezvous points for efficient transport.
- Wrote set-top box channel change simulation tool for switched digital video load testing.

C++, LabVIEW, TestStand | COTS servers, networking hardware, company hardware

Education

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