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Profile

Extremely capable and passionate software engineer with an extensive background delivering sophisticated enterprise and cloud software solutions. Particular expertise in development of embedded systems within distributed domains. Harnesses best practice, agile engineering methodologies throughout the SDLC. Possesses a particular interest towards R&D focused startups and backend development.

I have accumulated considerable experience across a range of domains with the technology sector, including mining systems, aerospace, fleet management and most recently cloud and data security. I am highly proficient at creating scalable and performant solutions using both traditional OOP and modern functionally oriented approaches. My enthusiasm, a continued thirst for knowledge and keenness towards social and collaborative environments, enables me to confidently approach novel domains with success.

I always strive to deliver products of the greatest value to customer's and clients. As such my responsibilities have consistently grown beyond pure engineering to complete product strategy, partner and customer engagements. I have demonstrated a capacity to thrive in driving my team towards developing innovative, world class products together.

I simply and genuinely love software and applying it to improve our world.

Category	Professional Application	Years
Domains	Embedded systems, distributed systems, R&D, mining, aeronautical, data security, cloud	8,4,8,3,2,2,3
Methodologies	Agile, continuous delivery, OOP, functional programming, generic programming, reactive programming, REST	6,2,8,2,6,2,3
Continuous Delivery	CI, version control, build systems, automation, scripting	7,8,8,6,8
Languages	C++, C, Obj-C,C#, F#, Python Ruby, Shell	8,8,3,5,1,3,2,6
Platforms	Linux, OS X, Windows, iOS, Qt, .NET	6,4,4,2,2,4
Testing	Unit -> integration -> acceptance, behavioural	8,3
Hobbies	Machine learning, mobile, internet of things, OSS, 3d graphics	

Senior Software Engineer, Covata — 2012–Present

Enterprise
Cloud
Mobile
Startup
Agile
CI
CD
μ-services
REST
API Design

C#
F#
Obj-C
C++11
Python
Ruby
Clojure
Windows
OSX
Linux
iOS
Xcode
Visual Studio
VIM
Git
Mercurial
Github
Bitbucket
Stash
Jenkins
AWS
Riak
Bash
Nunit
Specflow
FsUnit
SQLite
JIRA
Confluence
Jekyll

Responsibilities

I was recruited as a senior software engineer into a growing startup of 15+ engineers, reporting to the Director of Engineering. The company's products have pivoted around the information security space, branching from government, to enterprise and now cloud services. The primary offering is the Covata Platform. The platform consists of a zero-knowledge encryption and data storage service offering enterprise and cloud collaboration services. The platform is exposed through a suite of supporting SDK and applications focused on secure file sharing and synchronisation.

I was a principal developer in the applications team - lead developer on Covata SecureEmail and SafeShare for Windows and developer on SafeShare for iOS, the .NET SDK, iOS SDK and C++ SDK. All product development practiced agile development practices, including pair-programming, version control, code-reviews, CI, layered testing and extensive automation for continuous delivery. The technology stack made eager utilisation of modern tools, including functional and reactive programming, .NET 4.5, iOS 7 and c++11.

SecureEmail, the earliest project, was a contractual deliverable for TPG Internet. We delivered a secure email platform using an earlier version of the Covata Platform integrated with Microsoft Outlook. The core challenge was delivering a transparent and seamless integration within existing user workflows. The project was built with C# 4.5 in VS2012, VSTO, Git, MSBuild, WiX installer, NUnit and Specflow. Product delivery was managed through Atlassian Stash, JIRA, Confluence and Jenkins as well as a battery of shell scripts for automation.

The SafeShare product line emerged from a pivot towards embracing cloud technologies. SafeShare consists of independent but symbiotic webapp, iOS and Windows apps providing secure data storage, sharing and collaboration facilities. The Windows app extends the offering with secure file system synchronisation and DRM. My team built in corresponding SDK over the platform's REST API in parallel with the apps.

The Windows app was a mixed C# and F# app, notably utilising RestSharp and F# Data for REST, NUnit, SpecFlow and FsUnit for testing and C++ ATL for Windows shell extensions. Continuous delivery improved with the use of Nexus artefact repositories, automated deployments and acceptance tests. The iOS app was a native iOS 7 objective-c app using RestKit for RESTFUL networking, Kiwi for testing and various cloud store (Box, Dropbox, Riak, S3), deployment via TestFlight and analytics services via Flurry.

Achievements

I'm very proud of everything I and the applications team accomplished creating the suite of applications spearheading Covata's product line. The applications have received high praise and performed admirably in the press and marketplace across a spectrum of enterprise and cloud markets. Working for Covata has been a whirlwind tour of technical and business challenges. However, the most significant technical challenge was creating a robust, responsive and scalable approach towards filesystem synchronisation and sharing within the constraints of the security model and platform. Designing polished consumer applications, public SDK and liaising with Covata's partners with limited resources has also been a taxing but thrilling experience.

Senior Software Engineer, Leica Geosystems, Brisbane — 2010-2012

Enterprise
Embedded

Agile
OOP
R&D
C++0x
Ruby
Obj-C
GoogleTest
RSpec
Linux
OSX
Git
SVN
JIRA
Confluence
SQL
PostgreSQL

Emacs
VIM

Responsibilities

I was recruited into a team of 12 engineers, product owners and QA, collaborating with Leica Tucson on the Jigsaw and High-Precision (HP) product range. The Jigsaw Fleet Management System is a complete, tier-1 enterprise suite of on/off-board systems for managing, optimizing and reporting of equipment operations in open and underground mines. The HP product augmented Jigsaw with vital, high-precision functions on shovel, drill and dozer equipment.

The High-Precision software was an embedded Linux, highly asynchronous C++ application with Cairo fronted. I was responsible for continued enhancement of its sensor and algorithmic capabilities. The project used modern C++ methods extensively, including C++0x, Boost and ACE. Unit and acceptance tests were written in CppUnit, GoogleTest and Python. Continuous Integration was delivered using a mixture of SVN, CMake, TeamCity and a suite of in-house shell scripts.

The Jigsaw system was a sophisticated, distributed platform written in Obj-C (server) and Ruby (front-end). The software was configured to operate universally across both on-board (embedded Linux) and off-board systems (Windows, OSX and Linux). I was primarily responsible for designing and implementing new on-board features.

My swan song at Leica was working in a team of five on a new, cutting-edge product, the J2 Dragline, a high-precision guidance system for dragline operations. It was built as a parallelised, reliable, message-driven and cross-platform system with soft-real-time constraints. The software was written in C++ and made voracious use of Boost libraries and generic programming techniques. The existing continuous integration environment for the HP software was reused with the exception of Git instead of SVN.

Achievements

Compared to earlier roles, I believe my greatest accomplishment was flourishing in the extremely challenging and diverse technical and business landscape of a tier-1 enterprise solution provider. Secondly, I gained a wealth of domain knowledge in mining systems and operations.

Software Engineer, BAE Systems Australia, Melbourne — 2008-2010

Real-time, safety critical
Formal, R&D, OOP, UML
C++, Boost, Python
Linux
CVS, Synergy
DOORS, Rhapsody UML
Eclipse, VIM

Responsibilities

I was employed in a full-time software engineering role within the Autonomous Mission Systems (AMS) division. The team consisted of 40+ cross-discipline engineers working on flight and ground control systems for the HERTI and MANTIS autonomous aerial vehicles (UAV). I was a developer on the flight-control and system-test software on both projects.

Formal requirements elicitation and analysis was performed using DOORS and Rhapsody UML. The real-time onboard systems were written in C++ on Green Hills Integrity OS for the flight computers and embedded Linux for the System Test Unit (STU). The sensitive, safety critical nature of the projects ensured all work was carried out according to the DO-178B certification and MIL-STD-498 standard.

Achievements

I'm very pleased with all I accomplished working at BAE and the enriching experience I gained engineering safety critical systems and prospering in a rigorous, formally driven sector. However, I'm particularly thrilled knowing the innovations I developed in the STU precipitated a continuing culture shift towards more automated systems and processes.

Software Engineer, Industrea, Brisbane — 2006-2008

Agile, OOP, UML
C#, C++
Visual Studio, Eclipse
SVN
Nunit
SQL Server
WiX

Responsibilities

I was a full-time software developer working on both onboard and off board systems targeted to enterprise mining customers. I worked across two major products at Industrea. Firstly, a GPS asset tracking and driver monitoring system and secondly, as the lead developer of a new collision avoidance system (CAS).

Achievements

Being my first post graduate role, the knowledge I gained in the domain of mining and embedded systems was the highlight of my time at Industrea. The CAS system I innovated is now a flagship product for the company.

Education

University of Queensland — Bachelor of Engineering, Software (Hons), 2007

Interests

Motorcycle riding, social coding, startups, AI, rock climbing, yoga, running, cycling, hiking, reading, food and travel.

References

References available upon request.