David Dudson
Software Developer

davidjohndudson@gmail.com
+64 27 869 0606

Available to work remotely or in Cairns, Australia from 19th Feb 2018

About me

I am a cross-paradigm, performance driven, Scala/Java Software Developer who specializes in meta-programming. With a passion for learning new languages and paradigms I can adapt to any team. I am currently working on a language backend for Process Systems Enterprise, London, remotely from Palmerston North, New Zealand, as well as working in the scalameta ecosystem in my own time for open source.

Open Source

I have a passion for writing code, especially when it is consumed by a large number of users. I'm always looking for more ways to help out the open source community.

🔗 _scalagen

Author

WIP code generation library for Scala.

🔗 _scalameta

Maintainer

Meta-programming library for Scala.

🔗 _scalameta paradise

Maintainer

Macro library for Scala.

🔗 _Elysium

Author

A collection of macros for scalameta/paradise.

Employment

Company: Electric Memory IT (EMIT)
Contracted To: Process Systems Enterprise (PSE)
Time Employed: June 2015 - Present

Based in Palmerston North, New Zealand, Contracting out to Process Systems Enterprise, which is based in London.

I am working on the gPROMS family of integrated modelling environments (IME's), designed for various engineers who design incredibly complex systems. The kernel is written in C++ and Fortran, with the UI written in Java. gPROMS is primarily a procedural/declarative language that is used to run simulations/optimizations etc. Thus the IME's act much like an IDE would for a Software Developer. With large global clients such as Eli Lilly Pharmaceuticals and Shell Petroleum I take the quality of code I produce very seriously.

Projects

New Language Engine (NLE)

The purpose of this project was primarily to remove a large chunk of the remaining CORBA code in our codebase. Using Antlr4 as our parser and lexer, with Scala as the language of choice, we managed to build a fast, immutable, threadsafe and storage efficient language module.

Moving from Maven to Gradle

Our build system is rather complex, we have multiple "code generation" steps, multiple JVM languages being used, extra post-compile tasks (obfuscation and encryption) and multiple repositories. The build was designed to be modular via Gradle plugins.

Flowsheet Routing

Our users were generating models in other applications, with 2000+ models and connections between them. The routing took place on Swings GUI Thread (EDT) and thus blocked the user from working while it happened. For user-generated projects this could happen on project load and trigger up to 8 hour GUI freezes. Of course, this is not acceptable, thus I moved all routing off and the EDT. The largest problem was undo. We had asynchronous edits that had to be managed within Swings very synchronous and sequential undo system.

Past Employment

Dick Smith Electronics

Role: Salesman
Time Employed: 2014 - 2015

Countdown Supermarkets

Role: Butchers Assistant/Checkout Operator
Time Employed: 2009 - 2013

Paradise Valley Berry Farm

Role: Raspberry Harvester
Time Employed: 2008

Technical

Operating System

I prefer Unix based systems for general development, usually one of NixOS, Ubuntu, Fedora or OSX.

Version Control

I exclusively use git for version control. I am very competent with git and have written a number of internal scripts for it.

IDE's and Editors

IntelliJ IDEA
I use IntelliJ every day for most development. For Java specifically, I struggle to see a reason to use anything else.

Webstorm
Go to for Web development, although I do not feel an IDE is anywhere near as useful for web dev as it is for Java dev, I occasionally use a text editor instead.

Atom
My usual text editor, I use it quite a bit for web development as well.

Gedit
I use Gedit for Git related work. Atom starts too slow and I have not yet spent enough time with Vim to use that.

Profilers

Yourkit
I would recommend Yourkit to anyone, Yourkit makes optimizing code a breeze.

VisualVM
I stopped using VisualVM after we purchased Yourkit. Yourkit really is far superior here.

Conferences

Attending as many conferences as possible I enjoy networking and learning how the industry is evolving. I have been to multiple conferences including Kiwi Pycon, Kiwicon X and NZJSCon. One of my highlights was presenting a lightning talk on GitPython at Kiwi Pycon, Dunedin. I will be attending Linux Conference Australia in Sydney at the end of January 2018.

Community

I attend as many talks and events as possible, via Massey University, IT Professionals of New Zealand (ITPNZ) or the Palmerston North Software Development Meetup Group. Once I have arrived in Cairns I will be joining IT Professionals Australia. I have also given a talk and workshop for Scala to around 30 people at the meetup group.

Education

Massey University

Qualification: Bachelor of Information Science. Computer Science Major

Status: Compulsories complete in 2015

Started working fulltime before completion currently finishing electives via part-time study.

New Plymouth Boys' High School (NPBHS)

Qualification: NCEA level 3

Status: Complete in 2011

Personal phone numbers of references available on request.

Duane Griffin

Relationship: Cofounder of Electric Memory IT
Location: Palmerston North, New Zealand
Timezone: New Zealand Standard Time (NZST - UTC+13)
Email: duaneg@psenterprise.com
Phone: ???

Duane is my current boss. He has worked for PSE for 14+ years. Currently heads on the NLE project. Ask Duane any technical questions about my Scala knowledge and/or involvement in NLE.

Luke Usherwood

Relationship: Cofounder of Electric Memory IT
Location: Hungary
Timezone: Central European Time (CET - UTC+1)
Email: lukeu@psenterprise.com
Phone: ???

Luke worked for a short time in New Zealand when I first started. He has since moved back to Hungary. Ask Luke any technical questions about the flowsheeting work I have done. He also has worked on NLE and I send a lot of code reviews his way.

Andrew Bevan

Relationship: Head of Software Development, Process Systems Enterprise
Location: London, England
Timezone: Greenwich Mean Time (GMT - UTC+0)
Email: andrewb@psenterprise.com
Phone: +44 20 8563 0888

Andrew is the Head of Software Development. If you wish to know any non-technical information about how I have worked with PSE and how well I work remotely, feel free to ask him.

Steven Carpenter

Relationship: Ex Manager of Dick Smith Palmerston North
Location: Palmerston North, New Zealand
Timezone: New Zealand Standard Time (NZST - UTC+13)
Email:
Phone: ???

Steven (Steve) was my boss at Dick Smith before I started working as a Software Developer. If you would like to know anything about my retail experience, including customer interactions, feel free to ask Steve.