CV

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- Citizenships -

- Australia
- Germany

- Skills -

Technical & related skills

- GNU/Linux Open Source developer for over 25 years
- Lead developer & founder Enlightenment: http://www.enlightenment.org - X11+Wayland window manager & compositor, application toolkit libraries (GUI, Middleware, etc.), Video + Music player (Rage), Terminal emulator (Terminology). 1.5 million lines+ of C
- Graphics & rendering code (low level routines/assembly, hardware interfacing, OpenGL, OpenGL-ES, ARM SoC's)
- Graphics layers from image processing & rendering up to application GUIs (UI toolkits, input too etc.)
- Virtual keyboard development and design
- 3D engines (wrote my own prototype engine back in the days of Quake before GPUs were a thing)
- Animation
- Audio mixing and effects
- GTK+, X11 (X-Windows), Wayland display system/protocol, DRM/KMS
- Media codecs (MPEG etc.)
- Core application loops, IPC and queues
- Windows CE
- x86 (MMX, SSE etc.), ARM (Assembly, NEON)
- C/C++
- Shell scripting (sh/bash)
- HTML (PHP, Javascript)
- Python as needed
- Have used Java, Perl, Python, Modula-2, M68k assembly, Miranda
- Cluster/server/cloud management
- Operating system build infrastructure (OE/Yocto, OBS, RPM/spec files, Arch/PKGBUILD, Debian build files, Scratchbox etc.)
- Build infra/systems (Autoconf/automake/libtool, pure make, meson, some cmake).
- Network management
- Consumer/embedded device software development
- Fast booting
- Software architecture & design
- System library API development, design and implementation
- Tizen OS (smart phones, watches, TVs, fridges, IoT...)

Soft skills

- Team/group lead (varying sizes from ~5 to ~40+)
  - International teams spread across countries
- Project management and direction/planning
  - At various levels
- Global experience
  - North America
  - Australasia
  - East Asia
  - Europe

- Education -

University

UNSW, Sydney NSW, Australia

Bachelor of Science, Computer Science (began as computer engineering).

- Experience -

ARM - Technical Director - ~3y (Cambridge, UK)

Client side technology tracking (Android, Chrome OS, Tizen, Fuchsia and other client related technologies), GPU drivers, cross-group influencing and strategy + advice, architecture focus investigation, vendor/supplier project and contract management, Linux kernel (DPU display driver maintenance, fixing, hardware bring-up), OSS GPU driver (kernel and userspace debugging and fixes), CPU profiling (perf, coresight).

Joined Arm as Tizen was now mature and I really believed Arm has a lot of opportunity to grow and influence much of the world of computing. Certainly exciting opportunities.

My role at Arm has been more of a cross-functional position to focus on client space (any Arm device with a screen) and ensuring our technology works best for what is needed there in the open source space. This has been a combination of some specific focused technology stack investigations, tracking, fixes and helping filling some skills gaps to formulating strategies and necessary directions that need to be taken to serve customers now and in the future. This involves writing up analysis of specific technology and reasons for changes as well as finding ways of convincing other groups outside the OSS (Open Source Software) group to work with us or consider alternate paths. This involves examination of new CPU architecture features still in design and analyzing their usefulness or the impacts they will have on the software ecosystem. Still keeping hands dirty as part of my job with code in the lower and middleware areas of the Linux/OSS stack sending patches upstream to Linux kernel, Mesa, libdrm.

Samsung Electronics - Master Engineer (VP equivalent) - ~8y (South Korea HQ)

Mobile, Smart TVs, Wearables – OS, Applications, Graphics (LiMo, SLP, Tizen). Samsung Gear watches, NX Digital Cameras, All Samsung Smart TV models since ~2015, Samsung Z1, Z2, Z3, Z4 smartphones (100s of millions of devices). Worked with teams on the product side to support them, add features, optimize, guide teams to fulfill these tasks make releases, act as Graphics Architect for Tizen.

Hired into Korea from my position as Consultant in Sydney.

Led the Graphics and UI teams (mixed between R&D members across various foreign business units in the US and Europe as well as local Korean teams with their line managers). Lots of input on the overall direction of the Tizen operating system as it evolved from X1 to SLP then Tizen over the years. Provided advice on architecture and how we should adapt our OS efforts to be more open and easier to work with for developers as well as how to conform to Open Source licensing requirements. Directed an improvement in software packaging and ecosystem integration from a small "Embedded OS" to a larger full featured one first built on Debian packages then RPM. Oversaw and participated in changes in display system from X11 to Wayland (I designed and wrote the majority of the code in this stack including the Window Manager, Compositor, UI widget set/toolkit, rendering code - software and OpenGL/OpenGL-ES, shaders, canvas scene graph was designed and built by me over years as well as the majority of core widgets, theme subsystem design and implementation). Low level display (framebuffer - fbcon, DRM/KMS), display systems (X11, Wayland). Other relevant middleware such as networking wrapper layers, IPC/protocols and wrappers (D-Bus, custom point to point IPC etc.), main application core loop, thread and other handling, fast job queues, debugging infrastructure, fast compressed data structure encoder/decoders for configuration, data storage etc. image codecs (saving, loading/decoding), optimized partial decode of JPEGs, audio control and playback, physics engine front ends (bullet), object infrastructure and multi-language binding

generation, async I/O front end and notifications, file management (file managers), input methods (CJK etc.), font rendering (freetype) and complex text layout, other generic input handling (touch, keyboard, mouse etc.), video codec playback infrastructure and handling front-ends (GStreamer, Xine, VLC wrappers), web browser glue between UI toolkit and Chromium/Blink.

Evaluated performance of engineers and discussed their goals, liaised with overseas business units on hiring and retention of engineering talent and budgets, wrote up strategy documentation, project plans and status presentations, strategy and meetings with executives etc.

Independent consultant - ~2y (Sydney)

Mobile touchscreen UI toolkit development for Swisscom, Switzerland mobile R&D, mobile touchscreen toolkit tuning, expansion, development and consulting for Samsung Mobile Platform Labs, South Korea, Graphics architecture consulting for Venray technologies, Texas, USA for new Chip architecture.

I ran my own independent consulting business for 2 years with various clients, the majority of the work being for Samsung in Korea (remotely). I implemented specific solutions for their new X1 OS (a variant of LiMo) such as specific acceleration for rendering (OpenGL-ES specifically as opposed to full OpenGL), various widgets and other display related technology and education/seminars on Linux, ecosystem, OSS, Canvas/scene graph display technology (pioneered this since 2001), gave advice on technology direction etc. and was finally hired full-time and moved to Seoul/Suwon. I also worked on Mobile related technologies for Swiss Telecom, and Venray (NDAs).

Openmoko - Graphics Architect - ~1y (Tapei, Taiwan)

Lead all things graphics, from driver to UI toolkits. Optimize, consult on new SoC's to be used, interface to international team spread across 5 continents. Worked with OpenEmbedded (Yocto) and built OS for smartphones.

Was enticed out of the investment banking world by the coolness of building a Linux phone (before Android was a thing). I actually had been pushing the idea of Linux phones since 2000 with my trusty ipaq3660 as my example with a Linux build and my own Open Source GUI stack on top, but most vendors didn't want to hear about it (never can be done – Linux is not power efficient, no one wants it, Tron is the future, Symbian the only way etc. etc.). Openmoko had a prototype with a fairly rough and horrible user experience. I was hired to improve that and make it more optimized, nicer to use. We shipped the phone ultimately after much effort and some interesting problems, but the company switched direction due to the rising competition from Google and Android (moved to doing a low-end wikipedia-on-a-device like an electronic dictionary). I directed what people should be doing as well as took in UI design ideas and implemented many of them or liaised on changing them. Did one month on/off in Taipei and Sydney.

Morgan Stanley Japan - UNIX Systems Architect - ~1y (Tokyo, Japan)

Responsible for ensuring the UNIX operations team and application teams work together in the smooth running of the trading systems. Identifying problems and rectifying them, organizing training, network security, statistics monitoring, mentoring and training/education.

I have always maintained a keen interest in business, finance and investment (brought up from a young age with discussions about the economy and such matters over breakfast because father was an economist by training and company general manager). I still manage my own investment portfolio to this date and keep tabs on what companies to invest in for growth etc. - thus investment banking seems to address that side of my interests. I was one of 4 global regional system architecture (I was responsible for Tokyo, others for Hong Kong, New York and London). I educated our support teams in how Linux worked under the hood, how best to support, manage

and monitor our Linux based trading infrastructure, our fail-over infra (both within-region and cross-region), global filesystem (AFS), optimization and other system maintenance utilities (mostly a combination of Perl, Makefiles, C/C++ and Shell), dealt with outages and crisis management when needed.

VA Linux Systems Japan - Engineer - ~2.5y (Tokyo, Japan)

Responsibilities included OpenLDAP code maintenance, patching, custom modification porting between versions and support/design. Created custom Debian Linux distribution image making tools to help build Install CD's for clients. Maintained packages, modifying installer, testing and debugging.

Moved to Japan to pursue interests in being closer to the embedded/low level electronics part of the business after my time at Fluffy Spider was pretty much centered around this.

Fluffy Spider Technologies - Team Lead/Project Manager - ~2y (Sydney, Australia)

Started as contractor, then project management, being team leader. Fluffy Spider Technologies (FST) worked on contract software development. Primary focus was embedded device OS & User Interface design, implementation and improvement. Projects completed: Linux based PDA OS environment (developing a custom window manager, task manager and application manager and launching system, modifying widget sets (GTK+) to customize the look and feel. Windows CE based PDA project (replacing the windows shell, porting software to Windows CE), Set-top box/PVR software stack, Responsibilities included project planning, work assignment, software design, project analysis and status tracking.

This role was somewhat of an unplanned surprise. The dot-com bubble bust hit and VA Linux let go of most of the company and eventually diminished into a small web-site property owner. I had relocated back to Sydney from Silicon Valley about 6 months before this to become part of VA's growing Australian engineering group. When everything collapsed, I found via the grape vine that some small company in Sydney needed help with some GTK+ UI work for some web tablet prototype (unusual for this to be in Australia). It turned out to be a prototype for Toshiba that never made it to product. I was called to fix their UI looks and theme system (which I wrote originally for GTK when at RedHat). I started on a contract for 2 weeks just to fix things and was then asked to join full-time ASAP. Wrote various tablet UI applications for the product, then worked on future products for various customers who came to Fluffy Spider for their expertise. Unfortunately so many of them were canceled due to various external reasons causing some frustration of not being able to ship work I was very proud of and actually far exceeded anything our customer internal teams could do. I ended up team lead, handling project timelines, deadlines, customer reports, technical task assignment and direction and only left because my interests wanted to expand in this region where being at FST I would be unable to pursue that.

VA Linux Systems - Senior Software Engineer - ~2y (Silicon Valley, California, USA)

Senior Software Engineer in VA Linux Systems Software Engineering Department. Worked on assorted projects for open source, Cluster management software, server management software, Xfree86, Enlightenment, OpenGL, & more. Core member of Engineering during period of massive growth where the company (went from 50 to 600 employees).

Was enticed out of North Carolina to California by VA Linux who combined making both hardware and software. Worked on improving the state of Desktop GUI looks, performance and technology. Wrote the very first GPU accelerated 2D UI library/system (scene graph) while there. This morphed into later on becoming what Samsung would ship on 100's of millions of devices. Helped improve our workstations and the user experience as well as our server cluster management tooling. Massive grown spurt like many companies at the time and lived through the growing pains as well as then the dot-com-bubble bust pains.

Red Hat Software - Software Engineer - ~1.5y (Raleigh, North Carolina, USA)

Developer in charge of designing, implementing and supporting several programming projects (all GUI

related) for the GNOME desktop environment. Track and fix bugs in other peoples programs and libraries, CORBA, Xlib, GTK+, and many other libraries, developed new apps and new library features, Administered a small network, handled maintenance and creation of web pages.

> My first job out of university straight across to the other side of the world from Sydney. Was hired to work on their desktop UI ambitions with GNOME and GTK+. Wrote and designed GTK+'s theme system, some applications and system management applets (pager, taskbar, etc.), eventually the Window Manager and Image viewer.

- Miscellaneous extra -

Lived on all continents except Antarctica & South America, Fluently speak English and German. French (rusty). Studied Latin. Also learned Japanese, Korean and some Portuguese.

Presented many presentations/speeches/papers at dozens of conferences around the world.