Lee Griffiths

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Overview

Senior / Staff Embedded Software Engineer

- 18 years' experience. Embedded firmware, drivers, factory tooling, systems software, end-user apps, SDKs.
- Shipped code used in millions of payment terminals, and the tools to make them, all passing PCI audits.
- Former lead DirectX/WDDM driver engineer for WHQL-passing PowerVR GPUs, shipping in millions of devices
- Technical lead and escalation point: architecture, debugging, code review, mentoring, training, tooling, builds
- Owned many business-critical deliverables.
- Keen on code review, documentation, developer tooling, delivering long-term solutions in long-lived systems.
- Cross-disciplinary keystone, due to constant learning. Provide high-level experience for low-level teams.

Looking for **in-office** work in Cambridgeshire or surrounding areas. Remote working possible for the right position.

Expert Key Skills: C, python, Java, git, bash, automation, API/ABI design, drivers, debugging

Work Experience

Career Break August 2025 – January 2026

Time off following redundancy. Family responsibilities, personal projects, team leadership for 1st Cambourne Squirrels

Miura Systems miurapay.com **Embedded Software Engineer** July 2016 - August 2025 [redundancy]

Miura design and manufacture chip and pin payment terminals used globally. Between 2016 - 2025 Miura shipped **over 1 million devices**. From 2017 onwards all devices produced would ship with code I authored or went through a factory-line processes containing tools I created.

Worked across the full embedded stack on payment terminal firmware, factory tooling, applications, SDKs, test suites & scripts, documentation, portal websites. All of this was expected to be long-lived, robust, and secure. Frequently **owned business-critical work** in the small engineering team.

- Designed, implemented, and owned a customer-facing Java SDK (~20k LOC), wrapping payment terminal C APIs in high level Java interface. Wrote training materials and documentation, maintained the partner portal website infrastructure. The SDK was deployed in payment solutions used by major UK organisations (e.g. Barclays, Everi parcel shop kiosks, and British railway ticket offices).
- Designed a secure manufacturing tool running on Raspberry Pi with custom Raspbian OS image. This programmed firmware into terminals then injected the terminal's cryptographic master keys via a cloud-based platform. It kept auditable logs, obeyed PCI compliance requirements, and worked with messy factory IT infrastructure.
- Software lead for proprietary Bluetooth-dongle programmer. This machine was part of the factory line, running on custom hardware platform (Intel NUCs, cascaded USB hubs, GPIO-controlled relays).
- These tools have been used continuously in factories since their creation and remain in use. Maintained across international factory moves, hardware design changes, and cloud-platform "updates", requiring careful maintenance and remote debugging in constrained, air-gapped, non-English speaking environments. They programmed >500k devices between them with high up time and reliability.
- Ported and optimise Avian JVM and OpenJDK class library to Miura terminals, which are embedded Linux targets with 400Mhz and 64–128 MB RAM. Optimised using native C daemons to replace bloaty Java networking, improving performance and reliability while handling TLS, SSH, and certificate management.
- Acted as a technical generalist, force multiplier, and escalation point in the small team: writing glue code, Python/Bash automation, custom Git hooks (integrated with Jira and PCI audit processes), test tooling, and one-off systems to support hardware, manufacturing, and operations teams. (e.g. card-testing robot control software). First choice for tasks involving high level languages, tooling, and frameworks due to cross-disciplinary knowledge

and skills. Large number of projects required constant task-switching across domains, many were business critical, e.g. test harness for PCI PTS & EMV certification.

- Mentored and trained the new hires. Trained external teams and customers. Interviewed candidates.
- Served as a lead code reviewer, debugger, firefighting incident responder. Proactively coordinated work across software, hardware, factory operations, and external partners. First and second-line customer support. Internal technical support to the rest of the team for every technology that wasn't C.
- Worked on Android system-level debug apps, user-level apps, and libraries. Android build pipelines.

Career Break / Personal Projects August 2015 – March 2016

Worked on some game prototypes; skilled up in electronic design and topics; tutored/mentored CS students.

Imagination Technologies imgtec.com **Leading Software Design Engineer** August 2008 - August 2015

Senior member of the WDDM / DirectX team (~30 people), writing drivers for DirectX 9, 10, 11 on Win XP – Win 10. Responsible for design, architecture, and implementation of large sections of the DirectX driver codebase. On shaders, but worked on every file in the driver codebase, including build systems, source-control scripts, and large QA test suite.

- Delivered to customers *(Intel, Allwinner*) with **full WHQL pass** on Windows (Vista, 7, 8.1), on Intel x86, x64 and ARM based platforms. Driver used to test GPU designs, shipping millions of devices (e.g. all iPads between 2007 – 2017).
- Experienced every part of software development life-cycle. Worked on legacy XP code and greenfield drivers.
- **Mentored** & supervised new/junior engineers. Trained other teams (SW/HW) in DX spec.
- Contact point for external teams. Shepherded junior DX engineers to escalate and find the contact they needed.
- **Responsible** for signing off HW designs. "Responsible engineer" during tape-out process. Made decisions & provided answers with £millions of commercial impact.
- Found and debugged many hardware bugs saving £millions. Created driver workarounds for "won't fix" bugs
- Debugged/reverse-engineered many 3D apps & games' scenes and shaders; IEE 754 floating point problems
- Created many useful tools for the team; Maintained cross-team tools; Regular contributor and code reviewer for **vital**, performance sensitive GPU simulator used by ~300 people in PowerVR division.
- **Innovated** WDDM/DirectX team with modern and efficient working practices. Some examples:
  - Introduced mandatory code-reviews, trained team on process, appointed as lead code reviewer.
  - Helped introduce a custom, continuous-integration, python-based, regression test environment. This was used by all DX team members, and the test content was used as benchmarks by HW and in Apple's test suites.

Academic

Computer Engineering, School of Computer Science, University of Manchester August 2005 - July 2008

B.Sc. Computer Engineering (Honours), Class 2:1. + 2 paid internships ('06, '07)

Digital design, microcontrollers, operating systems, compilers, VHDL, FPGA. Nightline committee member.

Dissertation: Complete embedded hardware/software platform for use in teaching a new course. Delivered firmware, drivers, FPGA logic, deploy tools, course-organiser documentation, and 20k word technical report. Materials used in teaching for several years.

Extra-Curricular, Hobbies, Etc

https://bitbucket.org/Poddster http://stackexchange.com/users/23045 More detail at: http://www.lee-griffiths.net/cv/

Huge boardgame collection Amateur game developer Play drums & bass guitar Electronics

1st Cambourne Scout Group **Squirrels Section Team-Leader** Dec 2023 – present

- Team Leader for Squirrels section (ages 4–6), responsible for entire section of ~20 children, ~5 leaders.
- Own programme design & delivery, event planning, safeguarding, inventory, documentation, risk assessments, rotas. Introduced new team organisational and planning practices.
- Led and coordinated other volunteer leaders and recruitment for leaders and squirrels.
- Primary contact for parents, and external stakeholders. Charity trustee. First aider.