

Alex Duller

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Profile

Software engineer and company director with 20 years of experience delivering production systems from the ground up. Deep domain expertise in the Global Mobility industry, having designed, built and maintained enterprise-grade tax and immigration compliance software used by major multinationals including Toyota, Ford and Siemens over a continuous 10-year engagement.

Proven ability to take full ownership of complex products, from architecture and development through to deployment, operations and ongoing evolution, and to deliver where larger teams have not. Combines hands-on technical depth across the full stack with practical experience of product development, client delivery and running a business.

Key Strengths

- **Product Ownership & Delivery:** Track record of building production systems from scratch and sustaining them at scale over many years, often as the sole or lead architect.
- **Global Mobility Domain Expertise:** 10.5 years building software for business traveller tax and immigration compliance, with direct understanding of the regulatory and operational challenges.
- **Full-Stack Technical Depth:** Comfortable across the entire stack: frontend, backend, databases, infrastructure, CI/CD, mobile and embedded systems.
- **Productisation:** Extensive experience turning prototypes into robust, configurable products used daily by enterprise clients.
- **AI & Modern Tooling:** Hands-on experience building agentic AI applications using RAG, embeddings and LLM-based workflows.

Technical Expertise

Domain	Technologies
Web (Full Stack)	TypeScript, React, Ruby on Rails, Python, PostgreSQL, SQLite, MySQL, Redis
Systems & APIs	C, C++, Go, Python, Bash
Mobile	Android (including custom builds), iOS
Infrastructure & DevOps	AWS, Terraform, Ansible, Docker, Docker Compose, GitHub Actions, GitLab CI, Drone CI, Jenkins

Domain	Technologies
Linux	Ubuntu, RHEL, Rocky Linux, AlmaLinux, Arch Linux, Embedded Linux
AI	pgvector, Anthropic SDK, OpenAI SDK, Google AI SDK, RAG, Agentic workflows
Other	GSM/3G/4G basestation software, High-precision GPS, JSON, XML

Experience

Director, Afterthought Software

2011 – Present

Founded and run a software consultancy delivering project-based development work. Role has been twofold: integrating with existing teams to accelerate delivery, and building complete systems from scratch, often where previous attempts have failed.

GT Global Tracker / TST, ECA International *(2015 – Present, 10+ years)*

Sole architect and lead developer of enterprise web software for business traveller tax and immigration compliance. Built from scratch and continuously developed over a decade, serving large multinational corporations.

- Designed and built the complete system: backend, frontend, database, infrastructure and deployment
- Delivered a highly configurable, workflow-driven platform handling complex regulatory requirements across multiple jurisdictions
- Clients include Toyota, Ford, Siemens and other major multinationals
- Technology: Ruby on Rails, React, PostgreSQL, AWS

Packet Company, Network Recording System *(2015 – 2025)*

Designed and built a high-speed network packet capture and recording system from scratch. Sold in to UK Government agencies.

EATRIS, AI Research Tools *(European Research Infrastructure Consortium, 2025 – 2026)*

Created two web-based AI applications to make large research datasets easily queryable.

- Built a RAG-based system using embeddings to enable natural language queries over large document collections
- Developed an agentic AI tool to match researchers and institutes to scientific projects
- Technology: TypeScript, React, PostgreSQL, pgvector

Going There, Website & Mobile App (2015)

Built the website and GT2go mobile application for a destination consultancy company. Website still in operation.

Other Notable Projects

- Hospital ward dementia clock for Bath Institute for Medical Engineering (CE marked, Raspberry Pi, custom hardware). Product still in use on the ward after more than 10 years
- Real-time audio hardware development for XMOS
- Artillery training system using high-precision GPS and accelerometers, with custom Android build for military training hardware
- GSM basestation software development used for military training exercises
- Radar demonstration software for military installation defence hardware

Software Engineer, PicoChip

October 2010 – November 2011

Worked on 3G basestation software, including PHY layer development and software testing for picocell base stations.

Software Engineer (Placement & Summer Work), PicoChip

April 2007 – September 2010

University-sponsored placement and summer internships working on basestation software development.

Education

BSc Computer Science, Cardiff University

First Class Honours

Sponsored through university by PicoChip.

Queen Elizabeth's Hospital, Bristol

A-Levels: Maths (A), Physics (A), Chemistry (B) **GCSEs:** 5 A*, 4 A