

PAUL EMERTON BA (Hons)

AI TRANSFORMATION CONSULTANT | TECHNOLOGY & PRODUCT LEAD | SOLUTIONS ARCHITECT

Professional Profile

Degree qualified Client-facing technology transformation consultant and AI delivery lead with 22 years' experience turning ambiguous commercial, operational and high-assurance technical problems into practical systems, services and measurable delivery plans. Works credibly from board and C-suite discovery through proposition, specification, proof of concept, implementation and operational governance, while remaining hands-on enough to prototype, review code and diagnose systems at protocol and bit level. Over the last 2.5+ years has focused intensively on generative AI, LLMs, RAG, agentic/workflow automation and AI-accelerated software delivery. Current work includes private on-premises AI architecture for luxury design and manufacturing, CTO leadership of a complete multi-tenant Azure SaaS platform and controlled evaluation of specification-led AI development. Earlier engineering includes Safran aerospace and defence test-system recovery and a galvanically isolated cryptographic signing architecture for which a patent application was filed. Particularly strong at explaining technology in commercial language, deciding where AI is appropriate and moving initiatives from uncertainty to robust delivery.

Core Capabilities

Enterprise AI transformation • Generative AI and LLMs • RAG and grounded knowledge systems • AI agents and workflow automation • Discovery workshops and use-case prioritisation • Board and C-suite engagement • CTO and product leadership • AI prototyping, evaluation and pilots • Pre-sales, proposals and statements of work • Proposition development • Technical specification and requirements engineering • Azure serverless and on-premises architecture • AI-assisted software delivery • Secure hardware/software systems • Responsible AI, privacy and ISO/IEC 27001/42001-informed governance.

Selected Evidence

- Served as CTO and technology lead for Phoenix51, a complete multi-tenant Node.js/React/PostgreSQL platform on Microsoft Azure serverless.
- Current consultancy defining private on-premises AI, RAG and model-orchestration architecture for Grant Macdonald London's client-presentable, production-feasible concept design.
- Recovered Safran CATE systems through legacy-code, oscilloscope and bit-level UUT communications analysis, correcting false failures and CRC defects.
- Designed Torricel's isolated cryptographic-signing architecture, custom hardware prototype and security-aware communications protocol; patent application filed.

Professional Experience

Founder & AI Transformation / Software Lead

2022-Present

SPAWN.LONDON

- Established a custom-software and AI-transformation capability spanning business discovery, use-case assessment, PoC/MVP delivery, SaaS replacement, private/on-premises AI, cloud architecture and distressed-project recovery.
- Facilitate stakeholder workshops and convert process problems into requirements, user stories, target architecture, delivery roadmaps, evaluation criteria, commercial propositions, proposals and statements of work.
- Build and oversee prototypes and production systems using Claude/Claude Code, ChatGPT and AI-assisted development workflows, while retaining human control of architecture, security, code review, testing and quality.
- Hands-on across JavaScript, Node.js, React, PHP, Python, REST APIs, PostgreSQL, MySQL, Stripe, Microsoft Azure, Linux, Docker/Proxmox, Plesk, Nginx and Git.

Managing Director / Head of Media & Technology

2004-Present

Concept Television Studios Limited

- Founded and grew an integrated television advertising, live-streaming, video-production, studio, digital and analytics group; lead a small multidisciplinary team and operate an approximately 3,000 sq ft development/production facility, serving clients including Atlas Copco, Morphy Richards, AEG, CV-Library and the National Pharmacy Association.
- Lead senior client discovery, commercial strategy, technical design, production planning, budgets, suppliers, compliance, risk and delivery for complex, deadline-critical projects.
- Designed and programmed real-time broadcast automation using Python, Rust, Lua, macros and published Blackmagic APIs to control graphics, VT players, ATEM switchers, SDI routers, encoders and HyperDeck recorders/players.
- Built secure streaming and multi-location communications platforms, including single-source event portals, and proprietary response-attribution/AI-assisted analytics connecting broadcast, web, e-commerce and retail signals. Designed and built point-to-point video live streaming devices using custom 3d print and raspberry pi and integrated 4g dongle (plug and play). Engineered and assembled hybrid remote / location streaming and PA Live Broadcast systems for global town hall events.

Selected AI, Transformation & Engineering Engagements

Phoenix51 Enterprise Talent Assessment Platform | *Board-level CTO leadership, Azure SaaS and governance*

- Presented at board level and took on the CTO/technology-lead function, working with the C-suite and senior management through regular performance, roadmap and delivery reviews; translated structured selection and competency assessment into a complete multi-tenant platform with assessor workflows, role-based access, scoring, APIs and ATS/video-interview integrations.
- Led Node.js, React and PostgreSQL delivery on Microsoft Azure Functions/serverless, covering data architecture, API contracts, security, environment separation, logging, backups, test/UAT, deployment, production issue resolution and retained support.
- Authored comprehensive technical and operational specifications; advanced documentation and working practices toward ISO/IEC 27001 and defined ethical AI handling of client and applicant data in line with ISO/IEC 42001.

Grant Macdonald London | *Private AI conceiving grounded in manufacturable design*

- Current AI transformation consultancy for Royal Warrant-holding luxury silversmith and goldsmith Grant Macdonald London: early generative-AI imagery produced interesting ideas but lacked the control, design fidelity and production information needed for credible client presentation and manufacture.
- Defining a private on-premises, multi-node/multi-model architecture and software workflow using local multimodal models, RAG/asset retrieval, controlled design constraints and future CAD hand-off, protecting proprietary designs while turning exploratory outputs into client-presentable, production-feasible concepts.

Torice! Secure Signing Technology | *Galvanically isolated cryptographic execution*

- Designed a policy-controlled architecture allowing remote requests for cryptographic signing while keeping the signing node galvanically isolated, with no direct external network path. Gateway nodes and a custom communications protocol applied strict validation and attack/anomaly detection before any request could reach the signing environment.
- Designed a custom circuit board and built an PoC prototype using Raspberry Pi nodes and Python; filed a patent application and explored cryptocurrency/blockchain signing, banking reconciliation and settlement, secure messaging and wider civil/defence use cases. The architecture also provides a relevant pattern for separating AI decisioning from real-world actuation.

Safran CATE Test-System Recovery | *Aerospace/defence reverse engineering and corrective delivery*

- Engaged as external consultants to recover multiple Configurable Automatic Test Equipment systems used to test electronic power-generation controls for Airbus, Boeing, Chinook, executive-jet and defence platforms, interfacing with calibrated oscilloscopes, meters, frequency counters and environmental-stress and lightning-test equipment.
- Read and traced legacy software, controlled test specifications and instrument documentation; used my own oscilloscope for manual bit-level analysis of UUT communications, identifying malformed messages, incorrect response handling, false device-failure reports and CRC faults. Led the investigation, documented root cause and remediation for departmental management and Quality, and delivered the successful fix..

FridayNight.Games | *Controlled evaluation of AI-assisted software delivery*

- Created and operate a public browser-games hub covering educational early-years counting/number-bond games and entertainment titles including bingo and treasure quests, planet blaster and more, using HTML, JavaScript and JSON-based high-score tables.
- Deliberately compared three delivery modes: direct development, human-AI co-development and specification-only AI implementation. For the latest builds, defined requirements and acceptance outcomes, reviewed the resulting code and behaviour, but did not direct implementation details - testing what current AI platforms can deliver, where they fail and what human governance remains necessary.

Additional Product & Data Systems | *Rapid SaaS, payments and commercial intelligence*

- Designed and delivered a Stripe subscription, billing and CRM platform to functional first release in approximately one week; ForgeBOS Business Operating System with prospect to whole-life client management and business analytics and oversight, FlowLinnr timeline SaaS with calendar, reminder and AI-onboarding workflows; and proprietary response-attribution/AI-assisted pattern analysis linking broadcast, web, e-commerce and retail signals.

Technology, Governance & Delivery

AI & consulting: Generative AI, hosted/local LLMs, RAG, agentic workflows, multimodal/image systems, prompt and workflow engineering, model/tool selection, evaluation, human-in-the-loop controls, discovery workshops, use-case scoring, proposition development, pre-sales and statements of work.

Software, cloud & systems: JavaScript, Node.js, React, PHP, Python, REST APIs, PostgreSQL, MySQL, Azure Functions/serverless, Stripe/webhooks, Linux, Docker, Proxmox, Plesk, Nginx, Git, Raspberry Pi, custom PCBs, protocol design, Blackmagic APIs and real-time systems.

Assurance & governance: ISO/IEC 27001 and 42001-informed delivery, privacy and IP controls, environment separation, security, UAT, backups/disaster recovery, legacy reverse engineering, oscilloscope-led bit-level diagnostics, CRC/failure-mode analysis, Quality-facing root-cause reporting and corrective implementation.

Leadership, Communication & Interests

Leadership & sectors: Board/C-suite and senior stakeholder engagement, small-team leadership, facility and supplier management, capital investment, pricing, negotiation and risk ownership across aerospace/defence, luxury manufacturing, recruitment, consumer products, healthcare, SaaS, media and live streaming.

Communication & interests: Industry speaker at The Business Show, ExCeL London; technical presenter on BBC media preservation, data recovery and hardware restoration to the RISC OS User Group of London. Music and live performance, social/community events, electronics and computing restoration, and time with family.