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Professional Profile

I am an experienced freelance software engineer, specialising in real-time embedded software for the security, entertainment, engineering and defence sectors for over twenty-five years. Fluent in C and in software engineering and leadership practices for microcontroller and PC platforms, I also build good team and customer relationships. Large and small projects have been completed successfully, forming the basis of products used world-wide.

Recent Skills - Last 5 Years

<u>Hardware</u>	<u>OS</u>	<u>Languages & Tools</u>	<u>Application Areas</u>
NXP P89LPC936	Nucleus Plus	C	RF4CE protocol
Intel 8051	Win XP	UML	HDMI-CEC protocol
Hitachi H8S	MS-DOS	Visual Basic	Closed-circuit TV control
PC		VBScript & VBA	Test automation
		MS Source Safe & PVCS	Excel applications
		HTML, CSS	Web design
<i>Earlier</i>			
Siemens 80C166	Sun Solaris	YACC	Theatre lighting automation
Kontron ICE	UNIX	Pharlap TNT	Warehouse automation
Sun SPARC	VAX/VMS	Make & SCCS	Machine control
DEC MicroVAX	pSOS	Pascal & BASIC	Automated calibration
Z8001, 68020	OS-9	Assemblers	Microwave automated test

Career Outline

2009	Contract software engineer, wireless MAC layer and RF4CE stack software
2008	Contract software engineer, closed circuit TV control software
2005	Contract software engineer, HDMI-CEC protocol stack and front panel processor
2003	Contract software engineer, closed circuit TV control software
2002	Development manager & software engineer, closed circuit TV control products
1999	Contract software engineer & team leader, closed circuit TV control software
1998	Corporate membership of IEE (now IET), chartered engineer
1998	Contract software engineer, theatre lighting console software
1997	Product development manager & software engineer, theatre lighting console software
1994	Team leader & software engineer, theatre lighting console software
1992	Software engineer, theatre lighting console software
1991	Software engineer, fissile material manufacturing software
1989	Team leader & software engineer, warehouse automation software
1988	Software engineer, letter sorting machine control software
1987	Software engineer, military image processing software
1984	Software department head & software engineer, industrial instrumentation systems
1983	Software engineer, data acquisition & calibration software
1982	Council of Engineering Institutions Part 2 exam
1980	ATE engineer, radar microwave production test software and electronics
1979	Music recording studio maintenance & development engineer
1979	Bachelor of music with applied physics, first class honours (BMus Tonmeister)
1977	Music recording studio maintenance engineer

Career History – Last 15 Years

Philips Electronics UK**August 2008 - Present***Contract software engineer, responsible to project manager*

- Designed network layer for RF4CE protocol stack using UML.
- Designed low-power wireless MAC and PHY protocol layers using UML and C.

Siemens Building Technologies Ltd**March 2008 – August 2008***Contract software engineer, responsible to development manager*

- Supported the Bewator V3i CCTV controller using real-time embedded C and VB.

Philips Electronics UK**May 2005 – February 2008***Contract software engineer, responsible to project manager*

- Developed the architecture and led the coding for an HDMI-CEC stack processor (the NXP TDA9950 IC) and a front-panel processor (the NXP TDA9951 IC) for digital TV consumer products, using UML state charts, embedded C, I2C and 8051.
- Developed a driver in C for an HDMI transmitter IC, the code for which is now in production by major consumer electronics manufacturers world-wide.
- Designed a *TestFrame* test automation application in MS Excel using serial comms.

Bewator Ltd**October 2003 – May 2005***Contract software engineer, responsible to product manager*

- Developed real-time embedded C for the Hitachi H8S-based V3i CCTV controller, using the Nucleus Plus real-time operating system and PVCS source control.
- Designed and coded an XML-based control protocol for digital video recorders.
- Added serial communication protocols and extended my mesh network protocol.
- Maintained a Windows-based product configuration tool using Visual Basic.

Bewator Ltd**January 2002 – September 2003***Development manager for Leatherhead office, responsible to technical director*

- Managed the release and developed software for the V3i CCTV controller product.
- Managed a department of 5 software, hardware and PCB engineers.
- Responsible for project planning, budgeting, quality, staff training and appraisals.
- Continued real-time embedded software development in C throughout.

Molynx Videmech, part of Bewator Group Ltd**January 1999 – December 2001***Contract team leader and software architect, responsible to project manager*

- Developed embedded software in C for the *Visilyn* 3 CCTV switching product.
- Specified software architecture, and designed using Yourdon.
- Developed an RS422-based mesh network protocol for connecting multiple switching matrices, based on state machines and novel for this market sector.
- Led a team of 4 senior software engineers, specifying quality and coding guidelines.

Strand Lighting Ltd**January 1998 – December 1998***Contract software engineer, responsible to software manager*

- Developed SMPTE time code software in C for the *510 Show Controller* product.

Strand Lighting Ltd**February 1997 – December 1997***Product development manager for control products, responsible to R&D manager*

- Responsible for product development strategy. Continued software development.

Strand Lighting Ltd**July 1994 – February 1997***Team leader and senior software engineer, responsible to R&D manager*

- Led the original software development team using C and YACC for the 430/520/530/550 worldwide range of PC-based theatre & TV lighting controllers.
- Introduced automated product regression testing to the company by designing the *Autotest* script-based PC test control program, operated by a test engineer.
- Products were later used to light the Oscars and the Sydney Olympics ceremonies.

Career History – Earlier Years

Strand Lighting Ltd*Senior software engineer, responsible to team leader*

- Developed user interface software in C for the RISC-based GSX lighting console.
- Developed embedded device drivers for VGA video and floppy disk controllers.

Brown & Root Vickers Ltd*Principal software engineer, responsible to project leader*

- Designed part of a control system for a fissile material machining production line.

Frazer-Nash Scientific Ltd*Team leader and senior software engineer, responsible to project leader*

- Developed real-time control software in Pascal for a paper reel warehouse (UK Paper Ltd), hosted on a hot-standby pair of DEC MicroVAXes running VAX/VMS.

Frazer-Nash Scientific Ltd*Senior software engineer, responsible to team leader*

- Developed software in C for an embedded real-time controller for a high-speed letter sorting machine, running on a 68020 target under the pSOS real-time OS.

Cord Designs Ltd*Senior software engineer, responsible to team leader*

- Developed embedded real-time image processing software in Z8001 assembler for a video-based multiple airborne target tracking system for British Aerospace.

PPM Instrumentation Ltd*Head of software department, responsible to technical director*

- Developed bespoke data acquisition and process control systems in HP BASIC.
- Maintained and enhanced *Compucal* PC-based automated calibration software.

Racal-Decca Defence Systems (Radar) Ltd*ATE (automatic test equipment) engineer, responsible to department head*

- Developed microwave travelling wave tube test facility electronics and software.
- Supported IEEE-488-based production test electronics and software.

De Lane Lea Music Ltd*Recording studio maintenance & development engineer, responsible to chief engineer*

Education

Merton Technical College*CEI Part 2: Computer Engineering (degree equivalent)***University of Surrey, Guildford***Bachelor of Music in Music & Applied Physics (Tonmeister), 1st class honours***Wallingford Grammar School***11 O levels, 3 A levels (maths, physics, music)*

Training

Feabhas Ltd*Real-Time Software Design with UML 2.0***Information Systems Examination Board (BCS)***ISEB Foundation Certificate in Software Testing*

Interests

- Active in local church music, including composition, conducting, PA, recording, playing piano and organ. Several songs and musical works published.
- Providing sound and lights for school shows.