

# Richard Warren

After spending thirteen years in the embedded computing industry, I am an **experienced software engineer**, specialising in real-time C programming with a particular emphasis on interfacing to hardware. This has been predominantly for military and civilian radar systems, but I am also very experienced with video, sonar and networking systems.

I have normally had total responsibility for entire software projects, from requirements analysis through design, implementation and maintenance, including documentation and customer training, initially within an ISO9000 and subsequently AS9100 quality environment.

I am now looking for new challenges to widen my experiences on a contract or permanent basis.

## Personal Details:

Full name:	Richard Edward Warren
Year of Birth:	1972
Nationality:	British
Email:	cv@rewarren.co.uk
Availability:	Immediate, from May 2007
Desired Location:	Cambridge (UK) and surrounding area

## Skills:

Languages:	Expert in 'C' and several TI DSP assembler languages. Also very familiar with C++. Some HTML.
Operating Systems:	Expert in Linux, Solaris and Windows. Also familiar with LynxOS and VxWorks to a lesser extent.
Processors:	Intel x86, SPARC, TI C80, C4x, PowerPC (variety), 68k.
Architectures:	Predominantly VME and PCI (including PMC) systems.
Compilers:	Usually GCC, plus MSVC where appropriate
Other:	Expert in GTK+ graphics, plus X and Windows as well as networking applications (TCP/IP client/server and UDP publish/subscribe) and low-level VME and PCI hardware interaction for real-time radar, sonar and video systems.

## Career History:

### August 1997 to May 2007:

Company:	<i>Curtiss-Wright Controls, Embedded Computing (formerly Primagraphics Ltd.)</i>
Position:	Senior Software Engineer
Salary:	Details available on request

This role initially involved creating and maintaining embedded firmware and host utility software for TI C80 processor based VME cards, including developing low-level graphics drawing routines in assembler for the optimised X server to achieve specific benchmarks. I was also responsible for producing the manufacturing test software for the product.

Over time, my expertise extended to board support software for radar acquisition cards, then moved into sonar and radar display systems (scan

conversion and graphics overlays) and real-time processing, firstly taking on responsibility for existing tracking systems and then having sole responsibility for designing and implementing an entirely new software suite, the Radar Video Processor (RVP).

RVP is a platform-independent family of software products that perform distribution, recording, plot extraction and tracking of radar signals, receiving commands and outputting results via network interfaces. It became a key product for the company, forming the heart of many radar systems supplied to naval, ATC and other military and civilian customers around the world, with typical system costs ranging from ten to fifty thousand dollars.

Latterly, I also took on responsibility for the device drivers and other software for the company's JPEG2000 video codec card, as well as the formal reviews of requirements and design specifications for all other software products as the lead software engineer in the group.

The role also involved frequent interaction with other departments within the company, including sales, system integration, test and production, leading to me becoming the "go-to" person on many products as my position and respect within the company increased.

In my final year I was instrumental in ensuring the software quality processes were suitable and adhered to for the company to achieve AS9100 accreditation at the first attempt.

Throughout the ten years I was also tasked with a large amount of customer-facing work, including installation and training, integration and pre-sales advice both in the UK and around the world (such as Spain, Norway, South Africa, Switzerland, Turkey and the US).

In addition, I became involved with many extra-curricular activities, including being a member of the working group overseeing the company relocation, as well as an active participant in the company golf and photography societies.

**August 1994 to August 1997:**

Company: *Loughborough Sound Images* (subsequently *Blue Wave Systems*, then part of *Motorola Computer Group*)

Position: Software Engineer, then Senior Software Engineer

My responsibilities involved writing and maintaining support software, libraries, device drivers, test and utility software for the company's DSP-based multi-processor cards and I/O daughter boards. These were predominantly VME cards based on the Texas Instruments TMS320C40 processor family, in SPARC host systems running Solaris.

Host applications were programmed in C, with the backend DSP code written in a combination of C and assembler.

The role also involved interaction with customers, including multiple trips to assist with on-site system integration for a key customer in Tel Aviv.

## Education:

- 1994: BA (Hons) - Mathematics and Computation (class 2:1)  
*Keble College, Oxford University*
- 1991: A-levels - Maths (A), Further Maths (A), Physics (A), Chemistry (B).  
*The George Ward School, Melksham, Wiltshire.*
- 1989: GCSEs - Six grade A's, two grade B's  
*The George Ward School, Melksham, Wiltshire.*

## Training and Conferences:

- Jun 2006: The Future of Civil Radar (1 day IET symposium, London)
- Aug 2005: AS9100 Auditor Training (2 days with SBAC approved examination)
- Mar 2005: Radar Tracking, Kalman Filters and Multi-Sensor DF (3 day course, ATI Washington)
- Oct 2002: IEE RADAR 2002 Conference and Tutorials (4 days, IEE Edinburgh)
- Mar 2002: Linux Installation, Configuration and Support (4 day Learning Tree course, London)
- Nov 1999: Target Tracking, Algorithms and Applications (2 day IEE Colloquium, London)
- Nov 1999: Principles of Radar (2 day course, BAe, Isle-of-Wight)
- Dec 1998: Wavelet Foundation (1 day seminar at DSP '98 conference)
- Oct 1995: C++ Programming (1 week course, Rational)
- Sep 1995: Object-Oriented Analysis and Design (1 week course, Rational)

I am also very at ease giving training to customers and other engineers, having presented many courses over the years myself, both at base-office and on-site.

## References:

- Professional: Human Resources Manager, Curtiss-Wright Controls,  
Unit 2, Focus 4, Fourth Avenue,  
Letchworth, Herts, SG6 2TU.
- Personal: Available on request.

Copies of annual appraisal reports are available on request.

## Other Interests:

In my spare time, I enjoy family life as well as computing, photography and playing golf, squash and badminton.