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RICHARD WATTS

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Skills:

- Proven software engineering and technical management skills.
- A wide range of experience from managing web applications development to video codec implementation in C and assembler, to operating systems coding and hardware design in VHDL.
- Substantial project and team management experience.
- Significant, proven academic, teaching and research capabilities, including expertise in human-computer interaction and compiler design.
- Among other skills, I have experience in C/C++, Java, C#, Linux kernel and application development, video and audio codec implementation, digital signal processing, operating systems design and implementation, Xilinx FPGA programming, JTAG, VB, HTML,
- SOAP/WSDL, J2EE, assembler programming on TI64CXX, x86, ARM, and various MCUs.

Employment history:

2007 – present: Managing Director, In-Silica Ltd (<http://www.in-silica.com/>)

- Founder of a small company producing teleworking collaboration software and supplying IT consultancy via Kynesim (<http://www.kynesim.co.uk/>), mainly for embedded video applications.
- Current projects involve low-bandwidth video, contract coding, and some web- and compiler-related work.

2000 – present Director of Studies in Computer Science, Selwyn College, University of Cambridge

- I am currently a bye-fellow of Selwyn College, Cambridge, directing studies in Computer Science.
- I arrange small group teaching, handle academic welfare, interview and rate applicants, and together with the admissions tutors, am responsible for selecting applicants for offers.
- I carry out small-group teaching in Computer Science in all years, specialising in compilers and processor architecture.

*2006 - 2007 Software Consultant, Amino Communications Ltd (<http://www.aminocom.com/>)
(SJ Consulting Ltd was bought by Amino Communications in January 2006)*

- Played a major role in implementing Windows Media video and audio decoders and ARM to DSP communications drivers for TI-based Amino STBs running Linux.
- Responsible for implementing Windows Media support on Amino STBs, including kernel

- ASF demux, HTTP and MMS media fetchers, and Windows Media DRM.
- Some digital signal processing work mainly audio resamplers and filters.
 - Maintained regression suite for our decoders, managed bug tracking and release processes.

2004 - 2006 Software Consultant, SJ Consulting Ltd (<http://www.sj.co.uk/>)

- Worked on a four-tuner hybrid STB using Xilinx Spartan-3 and Microblaze. Wrote core software from bare metal to middleware API, including cross-CPU RPC, a realtime OS with synchronisation and priority inheritance, filesystem, demux and EPG decode.
- Simple browser-based PVR software and VNC client in C for another STB.
- Three months on secondment to Metanate, writing attachment parsing code for an EAL4-certified X.400 email gateway.
- JTAG factory test implementation, and VHDL design work for an H.264 HD accelerator based on Xilinx FPGAs. Assisted in project planning (both client-side and internal), client liason, responsible for final sign-off on schematics for test boards, adapted and debugged DDR1 Xilinx memory controller code for DDR2 RAM, implemented and tested much of the H.264 decode accelerator in VHDL.

2003 - 2004 Senior Engineer, Azuro (<http://www.azuro.com/>)

- Developed EDA software for a new startup.
- Implemented new functionality in C++, analysed existing technology.

2001 - 2003 Development Manager, Transversal (<http://www.transversal.com/>)

- Managed a team of 5-7 developers, including interviewing applicants.
- Architected additions to the system, managed the development process.
- Specified substantial projects, from systems for training call center agents to processing credit card transactions for internal use and for blue-chip customers such as Sony Playstation and MFI.
- Managed product lifecycles, from meetings with clients to delivery of finished product.

2000 - 2001 Software Engineer, Transversal (<http://www.transversal.com/>)

- Developed code for Transversal s flagship information management product, Metafaq.
- Included designing significant parts of the program and implementation in C++.
- Maintained the build system. Patched and fixed bugs in gcc and the Linux dynamic linker.

1997 - 2000 PhD Student, Rainbow Group, University of Cambridge Computer Laboratory

- The Development Of An Uncertain Reasoning System - a way of reasoning about contradictory or uncertain data - applied to the automatic generation of user interfaces.
- Runner-up prize for best paper and presentation at Eurographics UK 1999.

1995 - 1997 Research Assistant, Rainbow Group, University of Cambridge Computer Laboratory.

- Development of core code for the DigitalDesk: an augmented reality desktop.
- Developed algorithms, managed implementation, and architected and implemented the software. Coauthor credit on six published papers.

Education:

Selwyn College, Cambridge (Computer Science Tripos), 1992 - 1995

First in Part II Computer Science Tripos, resulting in B.A. and M.A. Degrees.

Computer Laboratory and Selwyn College, Cambridge, 1997-2000

Ph.D. in Computer Science: 'The Design Of An Uncertain Reasoning System', on automatically generated user interfaces.

List of publications and workshop committee posts available on request.

Interests:

In what remains of my spare time, I write short stories and play guitar in a local rock band.