

I am available immediately.

Type: Contract only.

Rate: My last contract of any length was with Thompson Marconi (now Thales) at 34 pounds / hour. The short term returns to Meggitt Avionics were at 35 pounds / hour. However, as I haven't been in the market for some while, my rate is very negotiable.

Preferred locations: Although I am currently living in Somerset, this is only because I happened to rent a house here while I was working locally. Ideally, I would choose Cornwall, Bristol/Gloucester, Essex, Glasgow (all places where I have friends/family). Failing that, generally anywhere, although I would prefer "interesting" contracts. I wish to avoid working anywhere in the Greater London area.

General comments:

My main language strength is in "C", which I have used for over 20 years, and assemblers, for even longer. I adapt to using whatever language happens to be needed. I particularly like C# at the moment.

I have worked on a wide variety of operating systems, including writing my own on several occasions.

I have often had to work very closely with hardware, to the extent of using oscilloscopes (analog and digital) and even a soldering iron, when essential.

My mathematical background gives me great strengths in algorithm development. My current "flup" project would have required many millennia of CPU hours, until I refined it. The approach to use at Meggitt avionics to adhere to their extremely exacting timing constraints needed great care, especially as they had committed themselves to a specification that was a factor of two in error.

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MA, Mathematical Tripos, St. John's, Cambridge.

Registered consultant with Microchip Technology Inc.

Security cleared at various times.

Hardware: P1700 tower case XP/Debian/SUSE/Mandrake. P100 tower case with PICMASTER (Microchip 17C42 and 17C44 emulation) W95. Compaq Armada 4220T laptop SUSE.

Skills in order of recent usage:

Languages: "C", "C#", Ruleworks, "C++", Delphi/Kylix (OO Pascal), Java, Visual Basic, Sinclair SuperBASIC, MS QBASIC, Forth, LISP, Coral 66, Algol, Fortran, COBOL, RPG.

Assemblers: Analog Systems SHARC, Motorola 68K/68HC11, Hitachi H8, Microchip PIC17C42/44, Intel 8049, Analogic array processors, Zilog Z80, Intel 8080..386, 8087 co-processor, IBM 360/370, etc.

Operating systems: Windows 95/98/NT/XP, Linux(various), Unix, Sinclair QDOS, Windows 3.11, MS DOS, DEC VAX/VMS, Intel RMX86, Data General.

Applications: Web, real time, embedded systems, systems software, distributed processing, scientific, image processing, signal processing.

General: High speed serial bus (Firewire), RS232 drivers, Philips I2C-bus EEPROM, ADC/DAC, ECCT(Fasttext), Viewdata.

Work experience in reverse chronological order:

Mar 2004 – current: I have been working with a friend on a web based organic foods marketing project. This is Linux / Apache / PostgreSQL / Ruleworks based. Ruleworks is an open source artificial intelligence language based on OPS4 that I am maintaining and developing on SourceForge (see <www.ruleworks.sf.net>). It is written in C and uses Flex and Bison.

Aug 2003 – current: Collaborating on a research project with an associate in Canada. (see <<http://www.research.att.com/projects/OEIS?Anum=A090338>> which is due for an update, as I have completed drawing the 3.1 million 9-flups, a process that took eight weeks CPU time on a Pentium 1.7 over May to July). We required a tool for maintaining the data and editing the complex mathematical diagrams and there was nothing suitable available. This tool, written in C# and using XML to store the data, is still being developed. Currently it uses Microsoft's .NET and the SharpDevelop IDE, but it is in the process of being adapted to use Mono.

Mar 2002 – Aug 2003: Further returns to Meggitt Avionics (See below) in March 2002, then January, March, April, May and August 2003, each time for about a week. These were for minor modifications they required to their product, plus two trips to Scotland to assist in commissioning on board the ships.

Oct 2001 – current: Over the period, various other private projects, generally using C. For instances, a minor contribution to OpenOffice and work on the gcc binutils package to get it to assemble an old syntax of Motorola 68K code.

Sep 2001: Meggitt Avionics (see below). Work on changed customer requirements.

Mar 2001 - Sep 2001: Thomson Marconi Sonar, Templecombe. Submarine/Sonar simulation. C, SHARC, Win NT, Emulator.

Nov 2000 - Dec 2000: Pervasive Ltd, Hammersmith (A Wireless Application Service Provider). Investigating feasibility of various HTML rendering machines as the basis of a port this WASP's software to a wider range of platforms. In particular, Netscape (Mozilla) for WinCE and EPOC32. C++, C, Win98, Win NT, Linux.

Dec 1999 - Sep 2000: Meggitt Avionics, Fareham. Marine division. Design, code, test and document a "Ship's Data Distribution System". Data sourced from various shipboard equipment in both synchro and serial forms is processed and re-distributed to other equipment. Fault tolerant software. System comprising ten Hitachi H8 and three Motorola 68008 processors, variously linked by dual-port RAM memory and Philips Firewire high-speed serial busses. Also 300 segment LCD display unit software based on Motorola 68HC11. C and assembler.

Nov 1998 - Nov 1999: Various non-contract projects. E.g. Providing technical assistance to the local school on creating an "Open Learning Centre", intended to be a small LAN with internet access running with a mix of hardware, operating systems and application software. Also produced a full IBM keyboard handler inside a PIC17C44 with a Windows based configuration tool. Delphi and assemblers

Aug 1998 - Oct 1998: Aerosonic Ltd., Welshpool. Embedded PIC17C44 system for running videotape duplication machine at up to three times normal speed. W95, "C" and assembler. Servo feedback loops.

Feb 1997 - Jul 1998: Various private projects using Visual Basic, Java and Delphi.

Dec 1996 - Jan 1997: Redesign of Optical Reaction Tester onto a large PCB set and incorporation of RS232 port.

Sep 1996 - Nov 1996: First phase of Optical Reaction Tester, mainly for ophthalmic work. This is a stand-alone embedded system, controlling 49 switches and lights using a PIC17C44 microcontroller. Assembler

May 1996 - Jul 1996: Credit card authorisation code for Retail Logic, Camberley. Design and code custom database, to update 3 million accounts with at least 10 transactions per second. Achieved about 80 per second. SCO, "C"

1995 (briefly): Consultancy work for Crane Safety Products of Bodmin. Firstly on adapting their existing products to base them on Microchip Microcontrollers and secondly to evaluate the feasibility of a microwave range detection system.

Nov 1994 - Jan 1996: With T. F. Services of Ascot. Development of a replacement for the 8049 co-processor in a QL with a pin compatible board based on the Microchip PIC17C42. The replacement adds a full spec buffered bi-directional RS232 port to operate up to 57600 baud, three additional serial inputs up to 1200 baud (one with a full mouse driver), 2K bytes of I2C EEPROM and features to help when the QL is mounted in a PC tower case. Assembler

Mar 1994 - Sep 1994: Team Consulting Ltd., Barkway. Develop a combined pay telephone, radio and colour television unit, for individual hospital beds. The code was in Motorola 68008 assembler, but was mainly converted to "C" to improve maintainability and to allow a VB simulation of the system. "C" and assembler.

Jan 1994 - Feb 1994: Private project. Compression of data for a dictionary: a 60,000 word dictionary stored in 41K bytes. Assembler

Nov 1993 - Dec 1993: Private project: Animated "Blackpool Illuminations" on the cliffs of Port Isaac. Basic.

Apr 1993 - Jul 1993: with T. F. Services of Ascot. Reorganisation of QL Minerva code and addition of built-in multitasking access, etc. Assembler.

Jan 1993 - Mar 1993: For Tony Tebby of La Grand Pressigny. Port of the QL "SuperBASIC" language to a 68040 card for a PC. Assembler.

Jul 1992 - Dec 1992: Private project. Rewrite code for the 8049 co-processor in the QL to achieve 19200 baud receive and to remove other major flaws. Assembler

Dec 1991 - Jun 1992: Private project. Fast sort technique (circa $.975 n \cdot \log_2(n)$ comparisons). Assembler. Cribbage program. Basic

Jul 1991 - Nov 1991: Private project. Design and implement a high precision calculator. On a 20MHz 68040, taking about 10 seconds to calculate 611 digits of PI (by $ATAN(1)*4$). Assembler.

Sep 1989 - Jun 1991: Private project. Rewrite Sinclair QL operating system. Incorporate I2C support and multitasking SuperBASIC. Assembler.

Dec 1987 - Aug 1988: Private project. Design and implement a Viewdata Bulletin Board System. Motorola 68008 assembler, BASIC.

Mar 1986 - Nov 1987: Smith New Court. Design and code the "Service Layer" for a novel dealing system. This supported a continuous SQL based client/server model incorporating concentration of similar requests. It ran on a LAN of about 6 Pyramids, 30 VME's, 200 AT's and a couple of Sun workstations. Ethernet with bridge boxes. "C", Customised Unix, INGRES and various other packages.

Dec 1985 - Feb 1986: Private projects: Implement FIG-Forth and assembler/disassembler/monitor on Sinclair QL. Forth and assembler.

Oct 1983 - Nov 1985: IGENY, Radlett. Nuclear Medical Image Processing, develop program overlaying system, VAX/VMS, "C", FORTRAN, design of the hardware and software for a new Array Processor with Analogic in Boston, Intel RMX86, FFT algorithm for the 8087 Numeric Data Processor.

Oct 1979 - Sep 1983: Zeus-Hermes Ltd. Software house. Intel 8086, Analogic AP400 Array Processor, Applied Dynamics International AD10, high speed simulation, system test equipment, System Generation System, VAX, Nuclear Medical Image Processing, DG RDOS, Nova and OS Eclipse systems, Assembler and Fortran 4, UCSD Pascal, BASIC, CPM/86. DG Nova 1200 simulator on an Eclipse with AOS. Port Automatic Test Equipment (ATAL) language translator, micro based system for the National Westminster Bank World Money Centre.

Mar 1973 - Sep 1979: With PMA Consultants Ltd. at the Admiralty Marine Technology Establishment, Teddington. Team leader, networking project on custom OS, CORAL 66, ALGOL, FORTRAN, IMAGE, TSL, Assemblers, CTL Modular One, Systems Reliability LSP, Hewlett Packard 2100, BCS, DOS, RTE, PDP 11's, RT11, MACRO11, GenRad TD90, Floating Point Systems' array processor.

1970 - 1973: William Press and Son Ltd. IBM 360/25 assembler, COBOL, RPG II, payroll suite and general system software.

1966 - 1969: At St. John's College, Cambridge. Numerical analysis course, FOCAL, PDP 8. Summer jobs for IBM (UK) Ltd. Mainly in COBOL and for variously a retail distributor, an oil company, a major bank and a textile manufacturer.

Mr. Reeves first started programming whilst at Alleyn's School, Dulwich, using FORTRAN on an IBM 1130 and an IBM 1628.