Contractor   Senior Developer \ Embedded Software Engineer \ Software Architect

<u>Code Develoment – Embedded Software Engineer – Low Level (Bare Metal) Specialist</u>

Embedded and PC code development. Data communications. Low level work - many platforms - widely experienced. Custom, Embedded RTOS's and Linux OS's. C & C++, OOD. Middleware and applications development. Extensive Data Communications experience. Internet and proprietary protocols. GUI front ends, GUI's & GDI's, device drivers, protocol stack components and packet drivers, multimedia - play engines etc., editors, assemblers and interpreters. Computer and communications security. Code for RF side. Multiprocessing. Plenty of low level experience. Hardware knowledgeable.

<u>Code Making Over and Upgrading</u>

Making over of existing code – sorting out problems, preparation for new releases. Partial and full redesign and redevelopment. Re-architecturing. Build down – driving down complexity - minimising downstream costs. Rationalisation, consolidation, componentisation, structuring, applying coding standards, documentation. Upgrading – adding new features, bug fixing.

<u>Software and System Architect</u>

Drill Down and ground up design – doing the engineering – complete cycle. Full formal methods. Specification and test driving projects. Fully modularised and componentised – C style interfaces. Design and development of project frameworks, specification and supervision of component development. All aspects. Component and system level development testing – via automated test harnesses. Project development consultation – project shepharding. Assistance in tender bid preparation.

<u>General</u>

An engineer in approach – looking at the best way to put projects together. Practical and down to earth. Conscious of the business aspects. A believer in the importance of doing the engineering (the design work) upfront and during the project development. A firm believer in the importance of using Formal Methods and good coding standards and safe coding.

21 years experience in UK \ Europe working as a contractor. Broadly experienced - full range of companies and technologies.

Am currently based in Western Australia.

Remote Working

Am only able to work remotely from Margaret River, Western Australia. Am fully equipped hardware and software wise. I will get in anything else that is needed (as long as it's general equipment and is within the budget).

Facilities

Digital

Shuttle XH-61V PC i5 W8	Picotech 3206DMSO 200Mhz dual channel MSO
IAR IDE - full ARM license. Beyond Compare.	Atmel Studio, MPLAB-X, full range of software packages.
Dell XPS-13 laptop - Ubuntu Linux	Shuttle Ubuntu Linux PC i7. Android tablets.
High speed Internet. Skype. Secure system.	Storage and backup server. Drop box - FTP access.
STM32F407 and STM32L476 development boards	FTDI USB serial cables. A good range of equipment and tools.
Can supply a vanilla PC for setting up with your OS of choice and for connecting in directly to your VPN and to be remotely accessed and managed by yourselves.	
Can supply an embedded operating system (under usage license) – an internal project.	

RF

HF, VHF & UHF Transceivers	AM, SSB, WFM, NFM, D-STAR, DMR, PSK31 etc.
HF, VHF & UHF SDR Receivers	AM, WFM, NFM
General equipment - antenna analyser, tuner	

Other Details

Date of Birth	15 - Jan – 1960	Place of Birth	Poole, Dorset, England
Nationality	U.K. and Australian		
Marital Status	Never married	No. of Children	None
University Attended	Western Australian Institute of Technology (Curtin University - http://curtin.edu.au/) Accredited to I.E.Aust.		
Degree Obtained	B.Eng. Communications (and Computing) - 4 year engineering degree with maths and science - physics, chemistry, materials science etc.. #19256 issued 16 th. Feb. 1983.		
Other Qualifications	Amateur (Radio) Operators Certificate of Proficiency (Australia) 1980. Driving Licence - standard car.		
Patents Granted	Token Bus Protocols #1, 2 & 3A, GB 2 273 023, GB 2 280 572, GB 2 319 706.		
Foreign Languages Spoken	A little French	State of Health	Excellent
Travel Experience	Extensive in Western Europe. Some in the Middle East, South and South East Asia. Extensive in Australia. Some in New Zealand.		
Main Residence	England 16 ¾ years, France 4 ¾ years, Australia 30 years, Germany 2 ¾ years, Belgium 2 ¾ years, Denmark ¼ year, Kuwait 3 years, plus 1 year travelling.		

Skills Summary

Extensive embedded, and some applications and systems, software design and development experience, including architecture design, and some limited hardware design experience.

High level languages   :- C (15+ years), C++ (7+ years), Basic and Quick Basic (6 months - 24+ years ago),
Pascal and Fortran (6 months - 34+ years ago).

Assembly languages   :- Some ARM, 8x86 family, Z80, Z8 and 6811, some 8048. Total of 12+ years.

Internet web languages   :- HTML & XML (contract and private work), some PHP and even less Java Script.

Development of   :- Embedded Operating System. Medical projects. GUI Front End Module. Multi Media Play Engines. Device and Packet Drivers. Protocol Stacks. Secure Communications. Modules using Internet Protocols - all levels. Local Area Network protocols. Computer System Security package. Editors. Concurrent Assembler. A number of single and multiprocessor based microcomputer applications. An extensive range of C & C++ components. Extensive work in componentisation. Extensive work on Proprietary Co-operative and RTOS Operating Systems. Own development - embedded OS, GUI Front End Module.

Network experience   :- Extensive topology and protocol Research and Development. Extensive IP experience at all levels - MAC level, IP\TCP\UDP, services including HTML, FTP, ARP, DHCP, DNS etc. .

Operating Systems   :- Linux - good Linux familiarity - development and usage experience (including setting up – PC and server) - but am not an expert – no Linux kernel experience. FreeRTOS (& HAL), VxWorks, Nucleus Plus (inc. IP), MEOS, ThreadX, pSoS and NECROS RTOS's.

Processors &   :- ST ARM family – STM32L476, STM32F407, ARM7 & ARM9 - inc. ARM7T, ARM9EJ-S, STR911FAW42 & Microcontrollers, ARM Cortex, PIC family, M16C28, META, ARC, OAK DSP, C161, 6811, Z80 family, Z8, 8086 family, 68000 family,.

IDE's & ICE's   :- Broad range – IAR Embedded Workbench, MPLAB, MSVS VC++ V6 (very experienced), V8 & V10, Code::Blocks, CodeGear C++ Builder 2007 R2 (Borland) , Qt4, AVR Studio 4, Kiel uVision3, Codescape, HEW, Lauterbach, SeeCode, Multi-ICE.

GUI's   :- Qt4 on Windows and Linux. Embarcadero \ CodeGear C++ Builder 2007 R2 (Borland) on Windows. wxWidgets. Various in house systems. GUI Front End Module. Code samples on website *baremetal.systems*.

Company Projects

Supplying mini computer based solutions. Systems and software development. Putting together web site streaming web cams using Ubuntu Mate on Raspberry Pi's. Smart TV systems using Asus Tinker Board S. Remote sensing and telemetry systems. Radio communication and control systems.

23 rd. Oct 17 to 15 th. Dec 17	Bare Metal Systems (Australia)	Software Architect \
30 th. Jan 17 to 31 st. Mar 17	Bare Metal Systems Ltd. (U.K.)	Senior Developer
10 th. Apr 16 to 17 th. Aug 16		
14 th. Feb 16 to 11 th. Mar 16	World Computers Ltd. (U.K.)	

Design and development of a full embedded OS (all levels) (core code) for the STM32F4XX & STM32L4XX range of microcontrollers. Development based on the STM32F407. STM32F407 development board, IAR IDE, Picotech 3206DMSO, FTDI USB to TTL serial cable. Work in C. Internal project. This is an ongoing project – in between contracts only.

23 rd. Jun 08 to 9 th. Apr 10	World Computers Ltd. (U.K.)	Software Architect \
7 th. May 07 to 8 th. Feb 08		Senior Developer
1 st. Feb 02 to 21 st. Mar 03		
7 th. Jul 03 to 15 th. Mar 04		

Design and development, updates and expansions of The GUI Front End Module. The GUI Front End Module provides a binary based scripting method of specifying user interfaces on PC and embedded platforms. MS MS. Work in C++.

Full details on the web site **baremetal.systems .**

--- took off 6 months to deal with a series of family emergencies ---

Contract Work Experience

4 th. Nov 16 to 30 th. Nov 16	Tracerco, Billingham, UK	Senior Developer
23 rd. Jan 17 to 24 th. Feb 17		

First Contract: Sorting out code in a new project in time for initial demonstration. Second Contract: Getting the code ready for manufacture. Project – a device for identifying petroleum fuel sources. Ocean Optics Flame spectrometer, Atmel ATSAM4E16E ARM microcontroller, UART, I2C, SPI, ADC, GPIO, Flash. Free RTOS, FATFS. Atmel Studio. Work in C.

18 th. May 15 to 29 th. Jan 16	Kinneir Dufort, Bristol, UK	Software Architect \
2nd contract		Senior Developer

A medical treatment device for DVT. Project analysis and code makeover. Customer was looking at exporting to the USA. The project was based on a 10 year old design that needed preparation for FDA certification. PIC. MPLAB. Work in C. 5 weeks work.

A global assets tracking device. Design of the software architecture. Development of the framework. Development of all low and mid level areas – device drivers and associated code. Event system. String handling. Data services, data system and file services – directory and file based structure for accessing all components – all I\O, configuration etc. . Command line interface – for development, unit and system testing. STM32L476, HAL, FreeRTOS \ OpenRTOS, FATFS, UARTs, SPI, I2C, QSPI, Serial Flash, GNSS – GPS, provision for Cellular and Iridium modules (developed separately), GPIO management and control, LED control, RCC, RTC, Low Power – RTC, UART & button wake up. Secure boot loader design and initial development uC side (ready for porting). Initial software engineer working on the project, at contract end 4 others working on the project – Cellular, Iridium, Messaging, Testing. IAR Embedded Workbench, SourceTree (GIT) VCS, Jira, Confluence & HipChat – Atlassian suite. Work in C. Extended 3 times.

--- took off 6 months to deal with a series of family emergencies ---

2 nd. Jun 14 to 24 th. Oct 14	Kinneir Dufort, Bristol, UK	Senior Developer

2 medical analyser projects. First handheld. Second small table unit. Sorting out the existing code - tidying up, rewriting, debugging, adding new features, getting the projects to release stage. Extensive work on the graphics side - sorting out the GUI's. Motor and actuator control. ADC. Barcodes. Suspend \ resume. PIC32MX695F512L-80I/PT, S1D13517 Display Controller with A43L3616AV RAM. MPLAB IDE v8.92. PIC24FJ256DA210 with on board graphics controller and with IS6LV25616AL-10TLI RAM. MPLAB X IDE v2.05. Densitron TFT 240 x 320 pixel touch screens. SourceTree (GIT) VCS. Work in C. Extended once.

5 th. Aug 13 to 21 st. Oct 13   Cerulean, Milton Keynes, UK   System & Software Lead
13 th. Jan 14 to 21 st. Mar 14   2 contracts   Architect, Technical Lead

Particulate analysis – mechanical operation and sensing. Assisting in drawing up of tender documents & point person for the document construction. Providing input from an electronic, data communications and software angle. Tender won. Development of system, data communications and software architecture, design and specifications. Closely involved in electronic hardware issues – general specifications. Development of software - PC & embedded code. System design - GUI, manager – operations, controller – PLC, interface – Telnet & File Services interface, data communications protocols, command line commands, Utilitiles – including development, Embedded Devices – including initial development. Windows, Moxa terminal server (initially), Ethernet & RS485, ARM Cortex STM32F family. Work in C & C++. Code::Blocks, Word, Power Point & GIMP, Meld. 2 contracts.

15 th. Apr 13 to 12 th. Jul 13   Anritsu, Orestad, Copenhagen, Denmark   Senior Developer

Network test equipment. Updates and bug fixes. Embedded Linux. SCPI. Code::Blocks editor, Eclipse, SVN, WireShark. Work in C++.

13 th. Aug 12 to 13 th. Feb 13   Polatis, Cambridge, Cambridgeshire, U.K.   Senior Developer

Fibre optic switching. Updates and bug fixes. Linux PC and embedded. SCPI. Cygwin, wxWidgets, some Java Script, some SNMP. Code::Blocks editor, Git. Work in C++.

19 th. Mar 12 to 28 th. June 12   Gigawave - Vislink, Earls Colne, Essex, U.K.   Senior Developer

Transmission, reception, switching and display of camera video – transport streams with parameters, vision and sound. 6 projects worked, packaged and full project delivered. Development of new code and updates to existing code. Sorting out the code. Board - code - bring up. Multimedia. Multiprocessor environments. State machines. Power control. Code::Blocks editor, ImageCraft IDE - ICCV7 for AVR - for compile, AVR Studio 4 for debug and program. Borland C++ Builder for PC GUI. RS232, RS485, I2C. CAN bus, UART, EEPROM, I2C. ATMEL : ATMega128, AT90CAN128, ATmega8, ATxmegaA128A3. Work in C & C++.

29 th. Aug 11 to 2 nd. Dec 11   Telesoft Technologies, Blandford, Dorset, U.K.   Senior Developer

High speed data communications project – 1Gbs. Updates to existing code. Construction of a stream test program. Extensive work in IP, TCP, UDP, RTP & RTCP – construction of servers and clients. Multiple threads, large socket numbers, hashed indexing. Work on Linux platforms using Code::Blocks IDE, GNU Intel icc compiler. Extensive work via Linux terminals – PuTTY – using – sftp, ssh, gdb, netstat, tail, top, ps, vi etc.. Linux PC platforms – CentOS, SuperMicro – 24 core. FPGA. Gigabit Ethernet. WireShark, SCM version control, Neo Hex Editor, Beyond Compare 3, RTP Toolbox, Audacity, Xming, Jira. Work in OO C, XML.

7 th. Mar 11 to 20 th. May 11   GB Electronics, Worthing, West Sussex, U.K.   Senior Developer

Getting an existing project out of the door and signed off by the client and the customer. Analysis of existing work - hardware & software. Proposal of critical improvements. Supply of suggestions for improvements in methods. Large amount of expansions of PC based test application UI. Development of code to run automated test scripts - XML based. Updates to platform code. Codification of tests. Running and documentation of tests. Project - bioreactor - X & Y stepper motors + thermal heating, multi processor - plate control & heater boards, motor control and tilt angle sensing, temperature control and temperature sensing. RS485 & RS232 communication. Work on CodeGear C++ Builder 2007 R2 (Borland), IAR Embedded Workbench IDE - M30281FC - Renesas M16C28, AVR Studio 4 - ATmega88P - Atmel. Work in C & C++. Extended once.

20 th. Sep 10 to 19 th. Nov 10   Spectrum Medical, Churchdown, Gloucestershire, U.K.   Senior Developer

Sorting out existing low level code – debugging software + associated hardware, developing additional code – processor initialisation, sorting out a software based JTAG emulator for FPGA image download, serial communications, timer, sensor interface. PIC18F6520, MPLAB IDE v8.56 with MPLAB ICD 3. ARM966E-S MCU in STR911FAW42, Kiel uVision3 V3.90 with Ulink2. Altera EP1C6F256 FPGA. C & C++, MSVS VC++, Source Safe. Agilent DS07034B scope.

26 th. Apr 10 to 12 th. Aug 10   Spirent Communications, Paignton, Devon, U.K.   Senior Developer

Development of the complete application for WiFi based navigation test equipment – instrumentation – development of the UI plus all associated functionality. Specification of XML based data communications protocol - communication with the embedded engine. Development of the Virtual Keyboard. Data handling, storage and display. Development of the background operations and data communications handling – TCP & UDP message assembly and extraction, XML assembly and parsing. Work on Ubuntu Linux PC, Windows XP on virtual machine and TI platform with embedded Linux (Arago Project am3517-evm) on ARM Cortex A8 with touch screen. C++, Qt4 GUI & IDE – Creator, Designer, Assistant. Rapid SVN, Bugzilla. Extended twice.

13 th. Feb 08 to 20 th. Jun 08   Frontier Silicon, Sawston, Cambridgeshire, U.K.   Senior Developer

Development of server access code – middleware – for a subscription based Internet Radio streaming service. Additions to and modifications of the upper layers of the protocol stack. Handling of authentication. Open SSL - HTTPS session establishment, HTTP parsing, HTTP Digest Log On, MD5, Radio Channel Log On, Channel List download, obtaining Streaming URL, Free Trial and Account Information handling, XML parsing, event driven state machine based. Work in C & C++. MSVS C++, GNU, BSD, Linux compile, Codescape, Tortoise SVN, Beyond Compare, Bugzilla.

22 nd. Jan 07 to 27 th. Apr 07   Renesas, Bourne End, Buckinghamshire, U.K.   Software Architect \
                                                                                           Senior Developer

Project design - design of a multi media framework – play engine – and associated components – reworking \ making over of existing design – proposing ' ideal ' design and path of movement of existing design to new design. Purpose – to optimise complexity of code, remove unnecessary code, consolidate and rationalise code, greatly speed up time to market and reduce downstream costs. Analysis of customer GDI requirements versus what client could supply. Specification and report writing. Integration and porting of existing WMV codec. Bug hunts. Testing. Documentation. Work in C. HIOS, HEW, Tortoise SVN, Beyond Compare.

31 st. Jul 06 to 8 th. Dec 06   VMetro, High Wycombe, Buckinghamshire, U.K.   Senior Developer

Low level, device driver & system work for advanced high speed computers operating on the VME bus. Extensive Flash driver updates. The Flash being used for programming a Xylinx FPGA and for general data storage. Development of HW simulation, middle and upper layers, test harnesses. Work in C & C++, POSIX. VxWorks. MSVS. CygWin, Win CVS, Araxis Merge. Extended once.

9 th. May 06 to 14 th. Jul 06   Mansella – Sun Corp. – Aldershot, Surrey, U.K.   Senior Developer

Work in telecomms. Construction of an I2C device driver and associated components in the protocol stack. Additional work in various areas – construction of code to write to the SIM, search for and delete ADN & EXT1 records. Work carried out in C. ThreadX RTOS. PCA9564, CM109, ARC processor. AllChange VCS, CodeWright and Rhapsody, Bugzilla, SeeCode. Resourced for a specific project. Extended once.

12 th. Dec 05 to 14 th. Apr 06   Sony NSCE, Zaventum, Brussels, Belgium   Senior Developer

Work in multimedia - development of components to manage buffer queue depth - IP TV. Embedded C++. AAC, MPEG4, RTP & RTSP. VxWorks, Tornado, Bugzilla, Clear Case, Windows and Linux compile.

13 th. Jun 05 to 9 th. Dec 05   TTPCom, Melbourn, Cambridgeshire, U.K.   Senior Developer

Developing the low level communications component for the linkage of code operating on 2 separate processors – linking up via TTPCom Mapal and via an Altera FPGA. Debugging of the hardware and software. Connection of existing code via Mapal interface. Work carried out in C. ARC and ARM9 processors, Borland C++ Builder, Araxis Merge, Perforce, Lauterbach, SeeCode. Extended once.

31 st. Jan 05 to 2 nd. Jun 05   Optimay – Agere, Munich, Germany   Software Architect

Design and development of a Multi Media framework – play engine – project consisting of : Analysis of existing code. Formulation of proposed plan of action - technical and managerial framework. Interviewing of contract staff. Specification of the architecture. Development of the framework – handling the dynamic binding of components, communication with components, transferring of data between components and management of the operation of components. Supervision and co-ordination of the porting and updating of the existing components and the development of the new components. Supervision of the integration of the components - management level and lower level - into the framework. Supervision of the test harness construction and the component and system testing. Writing of the system level documentation. Supervision of the component documentation. Work carried out in C. MP3, variable bit rate, AAC, MPEG2, MPEG4. ARM926 & 946 & ARM7T, MSVS V7 & Source Insight, Clear Case, Beyond Compare.

5 th. Jul 04 to 29 th. Oct 04   Pace – Saltaire, Shipley, West Yorkshire, U.K.   Senior Developer

Modifications and expansions of the User Interface for a Spanish cable Digital T.V. Set Top Box. Specification and supervision of UI Glade screen layouts and content. Construction of test spec.. Debugging of a Video over Ethernet protocol stack + rewriting of part of the code. Construction of an RTP client - IP TV. Work carried out in C. MPEG2. ARM, VxWorks, CodeWright, WinCVS, CygWin, GNU compiler on Linux, Bugzilla. Extended once.

| 18 th. Mar 04 to 2 nd. Jul 04 | Pure-Digital - Imagination Technologies Kings Langley, Hertfordshire, U.K. | Senior Developer |

Working in Digital Audio Broadcasting – on consumer DAB receivers – Legato project. Additions to the User Interface – vertical pixel line based scrolling with layout management and multiple message display, horizontal pixel column based scrolling, Truncation of display. Infra Red decoding and event generation. Random number generation – random playing of CD & MP3 tracks. Construction of MP3 UI - MP3 CD access – display, selection and play control of directories, development of the play engine, handling of play lists and MP3 files. Associated ID3 and MP3 parsing and play management operations. Work carried out in C. MSVS + Textpad editor, Codescape debugger, MKS VCS, Linux compile. Chorus processor. Extended twice (1 week each) to provide extra features and to help with general project integration issues – timing, interrupt and task management, bug hunts etc..

| 24 th. Mar 03 to 4 th. Jul 03 | Sci-Worx (Infineon), Hannover, Germany | Senior Developer |

Development of a USART Packet Driver for the sciCOS Multimedia chip (single chip solution) bootstrap. Testing in the Armulator environment and testing of the associated Armulator model. Development of a gateway module - management & support components + the UART & PIF Packet Drivers - for linking up the Proxy program to the sciCOS chip. Development of a 4 layer propriety protocol stack to link up the sciCOS chip functions to the Application on the Host processor - included a services layer. Development of Operating System components – Interrupt & Polling Handler and Heap Manager. Development of test harnesses for the module and hardware testing. Work carried out in C. Module and integration testing using the Multi-ICE. ARM926EJ-S, ARM7T (Evaluator7T), Code Warrior & AXD, MSVS & Source Safe.

| 11 th. Dec 00 to 2 nd. Nov 01 | TelSpec Europe, Rochester, Kent, U.K. | Senior Developer |

Telecommunications + Internet Protocol - within the Access group. Debugging of hardware. Development of software for a DSL repeater. Internet software consultancy for a DSL modem and associated exchange units. Extensive work on the Field Interface Unit - UI - updates + restructuring (small amount) and maintenance. Integration issues of Network Management System - Management Control System - FIU - EU & RU. ANSI C. Infineon Mubic DSL + C161P1. 68070. E1. I2C. Some layer 1, 2 & 3 work. EPROM and Flash level. MKS & CVS (RCS) VCS. Extended four times.

| 21 st. Mar 00 to 22 nd. Sep 00 | Agfa Gevaert, Mortsel (near Antwerp), Belgium | Senior Developer |

Working within the Technology Evaluation and Initial Development Group. Internet enabling the Agfa digital cameras. Integration and debugging of Nucleus Plus OS IP Protocol Stack with IP services layer. General IP network fault finding and debugging of associated code. Linkage to iModem. Construction of PC (MFC) based test program. Construction of a front end. Construction of OS API layer and writing of component specifications. Construction of DPOF and configuration file access components. Construction of logging component. Work undertaken in ANSI C and C++ on PC, ARM7 (JTAG Emulator) and OAK DSP. Windows NT, Nucleus Plus RTOS and iModem. RS232 UART.

| 16 th. Aug to 12 th. Nov 99 | ERG Transit Systems, Zaventem, Belgium | Consultant |

Client had low ROI and low profits due to high development costs due to massive redevelopment of software for each contract. Client chose to adopt, on a company system wide basis, the componentisation system developed and used by it's OS department in order to greatly minimise the amount of redevelopment. System required an IP Protocol Stack.

Carrying out of feasibility and implementation study + drawing up of project specifications for the addition of IP Protocol Stack + services to client's existing range of products in the transport (bus, train and ferry) ticketing industry. Initial co-ordination, facilitation (technical knowledge wise) and implementation and testing of the project. Development of embedded and PC based testing programs. Client required the establishment and retention of Internet skills within the permanent staff. Client also required the use of BSD sockets. Project used bought in components which required porting onto the client's componentisation and operating system. Passing on of IP expertise to OS Group staff. Smart Cards. Work in ANSI C. Resourced for a specific project. Extended once.

| 27 th. Apr to 25 th. Jun 99 | ANT Ltd., Cambridge. U.K. | Senior Developer |

Re-development of front end, location and fixing of bugs in the existing code, porting onto new device level interface and tidying up of code of an email program for a Digital T.V. Set Top Box. Work in ANSI C, GNU, BSD. Resourced for a specific contract.

| 2 nd. Dec 98 to 31 st. Mar 99 | De La Rue Cash Systems, Havant, U.K. | Senior Developer |

Development of connectivity software (new ATM's) in VC++. Introduction of new features. Bullet proofing of existing code. Bug locating in existing code. Using MSVC++ & Borland VC++. SourceSafe VCS. MS Project. Working on SDK API and DLL. Extended once with an offer of a further extension.

16 th. Feb 98 to 2 nd. Oct 98   W. Vinten (aerospace), Bury St. Edmunds, U.K.   Senior Developer

Development of new UI components + integration. Scripted Display and Input. Scripted configuration file settings. 14 Classes constructed. Testing and documentation. Porting onto new hardware. Code analysis. Componentisation of existing software. Development of timer, memory manager, NVM virtualiser and drivers. Event handler. 8 Classes constructed. Work undertaken in embedded C++. All with test harnesses (existing and new), integration testing and documentation. Modification of existing code for new hardware and architecture. Assistance in project management. MSVC++. SourceSafe VCS. Work in countermeasures. Extended twice.

8 th. Jan 98 to 2 nd. Feb 98   Thompson - Marconi, Weymouth, U.K.   Developer

Development of module specifications. Work being done in C.

2 nd. June 97 to 5 th. Dec 97   NEC, Reading, Berkshire, U.K.   Developer

Analysis, re-organisation and rationalisation of GSM phone UI (MMI). Forming into re-useable component modules. Application of modularisation and complexity management techniques. Integration of device drivers. Work undertaken in C. ARM (Hardware Emulator). NECROS and Nucleus RTOS's. Resourced for a specific project.

10 th. Feb 97 to 25 th. Apr 97   SSA Softwright, Langley, Berkshire, U.K.   Developer

Development of Timer and Flash Drivers and Toolbox for Digital T.V. Set Top Box project in ANSI C. All with test harnesses and documentation. Canal+ - PACE contract. PACE - SGS Thompson platform. CodeWright. MKS VCS. Resourced for a specific contract.

3 rd. Jan 96 to 7 th. Feb 97   Serco CiT, Quedgeley, Gloucestershire, U.K.   Developer

Specification and ground up development of combined FTP inc. (IP) and ODI packet driver in 80486 assembly language for DOS, Windows 3.11 and Windows 95. In house expansions of the packet driver for providing IP based security management facilities for secure government communications using the Internet. Development of a packet exchange program for the FTP inc. IP protocol stack. Development of testing, protocol stack monitoring and IP packet monitoring programs. Development undertaken in assembly language, C and C++. Ethernet. Testing. Systems integration support. Extensive Internet and Novell work. Documentation. MS and Borland Assembler. Borland C++. MKS VCS. Extended twice with an offer of a further extension.

Permanent Work Experience + Other Experience

| February 1993 | Aja Ltd., Twickenham, London, U.K. | Manager - Engineering |

Installations. Repairs. Training and support of field technicians and customers. Area of work - automated weighing equipment for the food industry.

| March 1992 | Sigtec Systems, Melbourne, Victoria, Australia | Software Engineer |

Development of an Automatic Taxi Despatcher and an associated Radio Network Controller in Quick Basic (version 7).

| June 1991 | AES (ERG Transit Systems), Perth, W.A. | Software Engineer |

Bus ticketing (magnetic and smart cards) and data analysis systems. Development of software for an intelligent portable ticket reader (magnetic cards). Development of a serial communications packet handler. Modifications of existing software on smart card equipment. Software in 6811 assembly language.

| 1984 to 1992 | Integrated Computer Systems (own business - internal and contracting work) | Software and Hardware Engineer, Proprietor |

Development of a comprehensive computer security program. Passwords, restricted disk drive and directory access, file encryption, virus detection and prevention, directory and file utilities plus much more. Software in 8086 family on the IBM PC.

Development of Token Bus LAN protocols (high reliability with low data link overhead) using retrospective token passing (small silicon real estate (PGA programmable), low cost design and manufacture), with arbitrary unit number assignment (plug and play - no set up required), with dynamic bandwidth management and with gateways. Much of the software has also been developed.

Extensive research and development into parallel processing based software techniques on Von Neumann architecture computers. Massive increases in processing speed accomplished. Integrated concurrent editor and assembler developed.

Development of a Field Programmable Logic Array (FPGA) development system. Software in 8086 and Z80 assembly language. EPROM, RS232 UART.

| 1984 to 1989 | Ace Amusements \ Audio Visual Developments Perth, Western Australia | Software and Hardware Engineer |

Development of a local cable TV control system (Z80). Video Editing controller (Z8 multiprocessor). Remote controlled light dimmer.

| 1987 to 1991 | Curtin University, Perth, Western Australia | Part time lecturer, tutor and laboratory supervisor |

Teaching undergraduate engineering students (1 st. to 4 th. year - part time) in data communications, software and digital hardware engineering.

| April to September 1985 | C & P.A. Perth, Western Australia | Software and Hardware Engineer |

Development of protocol converters (Z80). Repair and service work.

Productivity

Am able to produce good quality code, well desiged and structured, at high speed. Typically - 2.5 to 3.5KB of object (machine) code – using explicit coding standards, fully commented – drill down approach, documented and tested - per week. 32 to 1 ratio of source code and documentation to machine code bytes. Largely undocumented but well structured code - 4 to 5KB per week. Well commented code - 3 to 4KB per week.

Referees

Please contact for details.

Travel Experience etc.

British born. Moved out to Australia at the age of 7. Have spent a total of 28 years there. Have travelled extensively - 37 countries - Europe, Middle East, South East and South Asia, Oceania - Australia and New Zealand, USA & Canada (briefly). Worked in Britain \ Europe for 25 years. Have worked in Britain, France (via a UK company), Germany, Belgium, Denmark and Australia. Now resident in Australia and am working remotely.

Interests

Reading & DVD's – thrillers, SCI FI etc. - broad tastes. Current affairs. Genuine hermetic philosophy (within a Christian context - Gnosticism), the important aspects of history (passing interest). Wide music tastes - Jazz, Blues, some R & B, Soul, some C & W, 70's R & R, Pop (mainly 60's and 70's) and some Classical, reading, theatre, cycling, swimming, walking, snow skiing and other winter sports. Photography, painting. Travel and languages (when I get the time).