



Contractor

Architectural Designer \ Technical Project Manager  
Senior Developer \ Embedded Software Engineer**Major Skill Areas**

Embedded Software development - many platforms - widely experienced . C & C++ . Assembly language . Data Communications . Internet and proprietary protocols . Development of front ends - user interfaces , protocol stack components , device and packet drivers , multimedia - play engines etc. , editors , assemblers and interpreters , co-operative operating systems . Computer and communications security . Code for RF side . Multiprocessing - distributed and parallel . Componentisation . OOD . Hardware knowledgeable with some hardware development experience .

System Architecture Design – design and development of project frameworks , specification and supervision of component development . Technical Project Management - complete cycle . All aspects . Drill down design . Full formal methods . Explicit coding . Designing code for source and binary level verification – including Quality , Integrity and Security – transparent and blind , and Binary Level Validation & Certification – via Automated Test Harnesses .

Highly professional - product and customer orientated , values based , approach . Professional , Communitarian with Individualism , Collaborative , Ownership based working culture . Principles and concepts based . Very practical and down to earth . Highly innovative and creative . Able to produce high quality and high value code , quickly and cost effectively . Very versatile - have worked in many different environments in many different places on many different projects . Am a quick learner . Am very good with the broad picture .

**Other Details**

Date of Birth	15 - Jan - 1960
Place of Birth	Poole , Dorset , England
Nationality	U.K. \ E.U. and Australian
Marital Status	Never married
No. of Children	None
Work location	U.K. or the Continent . Will move to the work location - am very flexible .
Computer and Internet Facilities	Yes - fully equipped for remote working .
Prepared to travel	Yes
University Attended	Western Australian Institute of Technology ( Curtin University - 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. No. 19256 issued 16 th. Feb. 1983 . Top 5% .
Other Qualifications	Amateur ( Radio ) Operators Certificate of Proficiency ( Australia ) 1980 . Driving Licence - standard car ( U.K. \ E.U. ) .
Patents Granted	Token Bus Protocol Number 1 ( GB 2 273 023 ) . Token Bus Protocol Number 2 ( GB 2 280 572 ) . Token Bus Protocol Number 3A ( GB 2 319 706 ) .
Wikipedia Link	<a href="http://en.wikipedia.org/wiki/Token_bus_network">http://en.wikipedia.org/wiki/Token_bus_network</a> - last link on page .
Foreign Languages Spoken	A little French - am learning , even less Italian and almost no German .
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 13 years , France 1 year , Belgium 2 ¾ years , Australia 25 years , Germany 2 ¾ years , Kuwait 3 years plus 1 year travelling .
Company Web Site	wrldcomp.com .

**Skills Summary**

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

**Software Engineering**

- High level languages :- C ( 9+ years ) , C++ ( 3+ years ) , Basic and Quick Basic ( 6 months - 16+ years ago ) , Pascal and Fortran ( 6 months - 22+ years ago ) .
- Assembly languages :- 8x86 family ( to Pentium ) - highly experienced , Z80 , Z8 and 6811 , some 8048 , some ARM . Total of 12 years .
- Development of :- 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 . Automatic Taxi Despatcher . 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 .
- Data Base experience :- Access .
- Network experience :- Extensive topology and protocol Research and Development . HTTP , SSL - HTTPS . Development of Internet ( FTP inc. ) and Novell ( ODI ) packet drivers and protocol stack components . Internet protocols - IP & ICMP , UDP & TCP , PPP & PPPoE , SLIP , ARP & RARP , DHCP , BOOTP , DNS , FTP , RTP , RTCP & RTSP etc. - varying levels of experience . Integration and debugging of protocol stacks . Telecoms - DSL , E1 etc. .
- Operating Systems :- VxWorks , Nucleus Plus ( inc. IP ) , MEOS , ThreadX , pSoS and NECROS RTOS's. Co-operative Operating Systems . Linux & Windows ( not as a developer) . MSDOS versions 3 to 6+ . CPM 80 .
- Processors :- 8086 family . 6811 . ARM family - inc. ARM7T & ARM9EJ-S . META . ARC . 68000 family . OAK DSP . C161 . Z80 family . Z8 .

**Hardware Engineering**

- IBM PC :- P.C. card design plus extensive system experience .
- 8086 family :- Intelligent P.C. card design - network card .
- Z80 :- Stand alone microcomputer application design - FPLA Programmer .
- Z8 :- Stand alone microcomputer application design ( including multiprocessing ) - Video Editing Controller .
- I.R. and analogue :- A couple of projects designed - IR Remote Control Light Dimmer & Mixer .

**Intellectual Property Based Designs**

Retrospective Token Bus Local Area Network protocols - patents granted , Parallel Processor and single processor based microprocessor , Computer and Network systems - concept based designs . Concurrent Assemblers - developed . Componentisation systems - extensive concept design work + development of the Front End Module .

Extensive basic and applied research into architectures , componentisation , parallel processing software and hardware structures , componentisation , advanced local area networks and computer security techniques . Extensive embedded software development . Some applications development .

**Work Undertaken In Between Contracts**

*Design and development , updates and expansions of The Front End Module . The Front End Module provides a binary based scripting method of specifying user interfaces . It has a lot more potential as a product than just GUI layouts . I do sometimes take some time out from contracting to work on the product . It is extensively featured . Full information on the company web site - [wrlldcomp.com](http://wrlldcomp.com) . This does not effect contracting work in any respect . VS , C++ , Beyond Compare .*

**Contract Work Experience**

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 , 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++ . VS C++ , Linux compile , Codescape , Tortoise SVN , Beyond Compare , Bugzilla .

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

Project design - design of a multi media framework 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 . Porting . 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 . Extensive Flash driver updates . Development of HW simulation , middle and upper layers , test harnesses . Work in C . VxWorks , C & C++ . 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 telecoms . 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 . 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 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 Architectural Designer

Design and development of a Multi Media framework – 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 . Supervision of 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 . 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      Senior Developer  
 Kings Langley , Hertfordshire , U.K.

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 , 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 - 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 . 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 , ARM ( JTAG Emulator ) and OAK DSP . Windows NT , Nucleus Plus RTOS and iModem .

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 . Work in ANSI C . Resourced for a specific project . Extended once .

1 st. Jul to 20 th. Jul 99      *private work*      *Managing Director / Developer*

*Drawing up of business plan + project specifications for possible joint Chinese and Japanese investment in Token Bus Protocol 3A . Withdrew on basis of serious question marks produced by the British Consulate General Guangzhou and the Zhanjiang Administration with regards to the Chinese partner .*

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 . 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 front end - 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 MMI - UI - software . 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' . 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++ . 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 .



**Productivity**

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 .

**Referees**

Please contact for details .

**Equipment**

Fully equipped for remote and on site working .

2 x 2.8 Ghz Celeron PCs . Pentium D also available . Separate Windows PC specifically for client use . Linux VM or PC available . Full remote working facilities . Laptop – Intel Core 2 Duo 1.66Ghz , . Backup disk drives and USB memory sticks . HP Printer , Scanner , Copier & Fax . Fujifilm F47fd camera . Logitech Web Cam with Video Phone connection . MS VS Visual C++ 6.0 . Beyond Compare . DreamWeaver 3 . PhotoImpact 8 , Photoshop 6.0 . MS Office - Word , Access , Excell , Power Point & Outlook . OpenOffice . Linux . ICOM R20 . An extensive range of software , books and tools . 8 Mbs ADSL . Nokia N73 Mobile Phone . Car .

**Data Books**

An extensive range including programming languages , data communications , Internet and the IBM PC .

**Travel Experience etc.**

British born . Moved out to Australia at the age of 7 . Spent a total of 25 years there . Have travelled extensively - 36 countries - Europe, Middle East , South East and South Asia , Oceania - Australia and New Zealand , USA & Canada ( briefly ) . Have been back in Britain \ Europe for 16 years . Have worked in Britain , France ( via a UK company ) , Germany , Belgium and Australia .

**Interests**

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 , surfmatting , walking , snow skiing and other winter sports , photography , painting , travel and languages ( when I get the time ) .

as of the 22 nd. of July 2008