Curriculum Vitae

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Previous Experience

Contract roles through PymbleSoftware Pty Ltd since 2008 18 year(s), -1 month(s) .
(Personal contracts since 1998) 28 year(s), -1 month(s) .

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Recent
Academic projects.
Business projects.
Personal software projects.
Real estate projects.
Working with publishers on technical manuscripts as part of the editorial cycle.

Client: **Industrea/GE Mining** (Contract)
Technologies: ARM Embedded Linux, Sqlite3, rtrees, sockets.
C++ developer.
Comments: Added **features**. Developed a GPS Fence Daemon for a Collision Avoidance System (CAS). Point in Polygon, pulling fence data from web services. About 9000 lines of code in 3 months (about 100 – 200 lines of code a day). SQL Lite.

Client: **ShuffleMaster (Star Games) (Poker machines)**
Technologies: OpenGL, Qt, C++, Linux and embedded Linux. SDL, Fedora Core 4, OpenSUSE 11.4
Linux C/C++ developer.
Comments: Worked on Roulette, Baccarat, and Sicbo, player terminals and dealer terminals. Bug fixing assisted with the development of the concurrent projects, implemented a couple of cute animations and some tab drawings, tab switching functions.

Client: **Mercurien** (Contract)
Technologies: OpenCV, Hadoop[1], ZooKeeper[2], Cloud Computing technologies, C++, JSON, REST, AJAX, Eclipse, Java, Ant. Maven, Cisco 3400E, Netgear FVS 336. Bamboo, Maven, Ant. Ruby
IT Specialist. (network administration, programming, cabling, etc).
Comments: Evaluated cloud computing technologies. Creating VPNs, production and internal Development/Test subnets. Building Java and C++ ANPR [3] software. Shell scripting in bash, creating Java build plans in Bamboo. Configuration and release management. OS-X Server administration. SVN management. Installing cameras in car parks, porting OpenCV (C++ computer vision) to OpenIndiana[4] (Open Solaris). Some OS-X Objective-C coding. Debugging and fixing some pre-existing Ruby code.

Client: **Samsung Electronics Australia (SEAU)** (Contract) – Mobile development and wrote a mobile development book for a publisher
Technologies: C++, bada, JSON, REST, AJAX, OpenGL ES, Widgets, iPhone, Android. StarUML, PowerVR, Internet@TV Widget SDK. Eclipse. Flex/Flash Lite for mobile.
Bada (Mobile) Specialist.
Comments: Developer support specialist, helping people port applications from Android and iPhone. Digging through iOS, Android and Widget code. Site visits to companies like Blue Pebble (Essendon Football Club) and Fairfax Digital. Assisted with development of the MyCareer app, sole responsibility for the **Greenfield development**

[1] https://hadoop.apache.org/
[2] https://zookeeper.apache.org/
[3] (Automatic Number Plate Recognition)
[4] https://www.openindiana.org/

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of Domain app working on-site at Fairfax offices working directly with Fairfax as Samsung's clients. Helping developers port from iOS to Bada, digging through iOS and bada code.
Greenfield development Wrote the entire Essendon Football Club App within one week, Shows match fixtures, with scores if played, from JSON data as logo –v- logo, Downloads thumbnail images from URL in JSON data, and shows images in news items. Player profiles, injury lists, scores, football club shop, live chat, statistics, etc. All are downloaded live from the official site. YouTube of app running on phone: http://www.youtube.com/watch?v=LvmnGqPC6Gw

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Client: **Open Systems Consulting**
Technologies: RedHat Linux, Oracle, SCO UNIX Apache.
C/PERL Analyst/Programmer for iPaq mobile devices and infrastructure.
Comments: General UNIX **administration** activities, scripting, adapting cron jobs, setting up IMAP servers, Apache configuration, buying SSL certificates, SCO UNIX and Linux, maintaining very very old legacy C code called "carry" and "directbook". Creating WSDL specifications for SOAP::Lite interface and code for a system that accepts SOAP requests and transfers the XML data to whichever state it is destined for. Some PERL. 3 days a week, consulting work. Gathering requirements directly from managing directors of transport companies and implementing changes or making bug fixes and direct deployments to live systems.

Company: **Open Systems Consulting**
Technologies: RedHat Linux, Oracle,
Analyst/Programmer for iPaq mobile devices and infrastructure.
Comments: **Maintenance** work covering for a staff member on leave. Data migration wrapped a SOAP layer around an XML-RPC-like application for interfacing with the SAP PI SOAP interface. Miscellaneous Apache/Linux fixing.

Company: **Telstra Bigpond**
Technologies: Solaris, C/C++, OpenLDAP
Analyst/Programmer.
Comments: Bug fixing and documentation of some LDAP [5] and RADIUS[6] code on the system that handles the leases on the Telstra Bigpond cable modems and interfaces into the billing system.

Company: **Department of Innovation and Industry Research,**
National Measurement Institute.
Technologies: Linux, C++
Analyst/Programmer
. Comments: **Greenfield development** Linux daemon to certify the synchronisation of the Network Time Protocol with the atomic clocks for all of Australia. Provision of official time for all of Australia: Industry, Government, etc. Got to know the inner workings of the NTP protocol well. Stuffed data into the extensions fields of NTP packets. Wrote a network sniffer daemon program that sniffed the network for NTP packets and extracted and logged the extension fields. On completion of the project did a quick port of the ntpd to Windows, taking less than a week.

Company: **Infoplex**.
Technologies: Linux, mod_perl, CVS, **Blackberry mobile development** JDE, kSoap
PERL Analyst/Programmer.
Comments: **Maintenance** on Linux mod_perl code some C# ASP.NET, Visual Studio 2005, Visual Studio 2008, Java Server Pages, SOAP calls from Blackberry, ocr-xtr, AutoVue jVue, Apache configuration, AJAX,

[5] https://enwikipedia.org/wiki/Lightweight_Directory_Access_Protocol
[6] https://en.wikipedia.org/wiki/RADIUS

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wrote an 877-page document explaining the current system. Reconfigure hylafax, postfix, created virtual machines, some Crystal Reports, SQL server 2008, RFC 2445. Lots of Postgres and CPAN and Perl DBI. Some IIS.

Company: **Saint George Bank Treasury Core Systems Development.**
Technologies: Solaris, Sybase, C++, PERL, Eclipse, Java, KSH scripting, CVS.
C++ and PERL Analyst/Programmer.
Comments: **Maintenance** on (www.misys.com) Risk Vision add-ons and (www.demica.com) Citadel extensions in C++, PERL, Java and KSH. Developed a patch in C++ for (Sybase, New Era Of Networks) NEON 2038 (32 bit) date problem [7]. Moved some systems from crontabs to AppWorks, and a lot of very small patches in PERL and Korn shell scripts.

Company: **Keycorp**
Technologies: Apache, CodeCharge, PHP, C++, RedHat
Enterprise Linux 4, XML, pThreads, sockets, Postgres 7.4.5. (Database) **Analyst/Programmer. (Manager of other developers through my own company)**
Comments: Digging for missing source code. Reconstructing missing and broken software, untangling mess, and editing image files with a hex editor because the image specification was a poorly worded paragraph in a long email chain that had not been understood. Hiring and firing programmers. Dealing with specifications that were still changing months after delivery had taken place. Moving columns back and forth between tables to match specs that changed daily. Fixing other programmers' code. Small amounts of Python and PERL in the XML2Db loader. Shell scripting and a lot of system administration of a few RedHat Enterprise Linux 4, servers running as virtual machines under VMWare ESX server. I hired two developers through my own company and managed their work including specification, verification and delivery of their work. I managed another notoriously difficult developer. Working on multiple projects with multiple project managers and allocating time.

Company **Macquarie Bank. Quantitative Applications Division.**
Technologies: Solaris, XP Pro64, Sybase, Orbix (CORBA[8]) Java and C++ sides of client server. Reuters SFC/SSL.
Quantitative Analyst/Programmer.

Comments: Imputation credits to Indextool Java/C++ CORBA-based client/server application and analysis of Sybase database. Some Reuters SFC/SSL code.

Company **VeCommerce.**
Technologies: Access, Visual C++

C++ Callflow Developer.
Comments: Built telephony application that handles entry of credit-card numbers and activation of SIM cards. This gave me the skills to build my DTMF-based phone system.

Company **SpamMATTERS.**
Technologies: SQL Server, Visual Studio, SysInternals tools, Ethereal. PostgreSQL, FreeTDS.

[7] https://en.wikipedia.org/wiki/Year_2038_problem
[8] https://corba.org/

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Team Leader of 5 C++ Developers

Comments: CGI-BIN/PERL scripting. **Maintenance** of web site. **Greenfield development**. Implemented a system that accepts mail into 20 accounts pulls the recipient field out registers them into PostgreSQL table posts values into a web page and parses the result page. Done in 3 days without prior knowledge of PostgreSQL.

Company **Citrix.**
Technologies: Citrix Presentation Server 4.0, Web interface. Metaframe for Solaris, SQL server, Xinerama, Oracle, Gnome, WinDbg, ASP, Visual Studio, SysInternals tools, Ethereal.

Lead Escalation Engineer

Comments: Read kernel crash dumps and Dr Watson dumps with WinDbg. Debugging device drivers. Code investigation concerning trace logs. Dealt with customer issues. Business trips to Japan and Hong Kong.

Company **Optus / NCS – Part of SingTel.**
Technologies: C++ (aCC/cxx), Tru64 4.0D, AIX,
ORACLE 9.2, Mac OS9, AppleScript, VisualAge C++. Tuxedo8.1, Visual C#, HP-UX 11.0, Solaris, Mac OS9. Weblogic 8.1, XML, ant, Enterprise Java Beans (EJBs)

C++/C#/Tuxedo Team lead/Programmer/ J2EE Programmer

Comments: **Porting/remediation** project replacing SII middleware with Tuxedo.
Boris remediation project. It is a 3-tier client/server application. Apple Mac client in OOPL communicates via OpenUI to the COGS middleware. The COGS talks (via SII replaced by Tuxedo) to the Boris server which contains Pro*C code to talk to the Oracle (7.3.4 replaced by 9.2) RDBMS. The SII section I was responsible for was the SIDL which is like the CORBA [9] IDL and is kept in a repository which is like the Windows registry. I wrote code to load SIDL to emulate the repository. The original target platform was HP and later moved to AIX. I did a partial port to Linux to do work on my laptop.
Testing of the interface to another system that communicates via ORACLE database pipes. Took a reworked C# client that communicated via OpenUI to the SII Boris and got it to call the Tuxedo Boris from the last two contracts. Led a team of three developers. Training developers, administration, project planning, architecting solution, etc, etc.
SNMP Support for the previous application. Wrote a server that polls a shared memory segment and dumps content to a log file to be retrieved by CA Unicenter Log Agent 3.0 and sent to the SNMP port. Also wrote a debug test harness that forces exceptions to be thrown for the "catch and send SNMP trap" code. Prototype for EJB interface for the previous application. Configuration of a WebLogic8.1 and Tuxedo8.1 server on Windows XP. WebLogic to Tuxedo (WTC) code. Java server pages to call the EJB. Ant scripts in XML to compile and deploy the EJB in the WLS. A C++ test program to call the test target service in "BORIS" as a prototype for the JSP/EJB prototype. WebLogic and Tuxedo domain configuration, on Linux, Windows XP and AIX. Documentation and support for previous projects. Maintenance work on the C++ and OpenUI OPL source code on the Macintosh client. Wrote C++ Tuxedo test harness for SIBEL interface.

Company **National Bank of New Zealand, Wellington, New Zealand.**
Technologies: C++, Solaris, Windows. Sybase, Sunsoft C++, Cytrix, Borland C++ Builder, Java, PERL/Tk, Tools++, DBTools++, GreenLeaf Comm++, SNA [10], LU-62, Systematics OWL, Paradox engine 3.0, Comms++, Protoview Datatable, Seagate Crystal reports, InstallShield, Borland C++ 4.52, 5.0, C++ Builder 5.0. Microsoft Word, Excel.

[9] https://corba.org/
[10] https://bitsavers.org/pdf/ibm/sna/GA27-3102-0_SNA_General_Information_Jan75.pdf

C++ Programmer.

Comments: I was one of two programmers responsible for "Direct Link" **maintenance**. Transaction processing in excess of $5 billion daily. Code for the $ 2.5 billion problem, numerous reports. The system contained several components including:

Client-side: monolithic 16bit application capable of running on Windows 3.1, an X.25 network interface, a 16-bit to 32-bit thunking layer [11] for connection to the server via Secure Socket Layer (SSL), CREEP protocol a modified form of DES encryption for a secure connection to the server. Maintenance on several attempts that had been made to port the OWL/Paradox-based 16bit application to 32 bits using various products including Borland C++ and C++ Builder and libraries/tools like DBTools++, etc.
Server-side: a modified form of DES (CREEP), an interface to other internal applications in the bank including updates to FOREX (FOReign EXchange) rate boards in the branches, connections to a Screen Scraper for communication to the IBM 3090 MVS mainframes via LU6.2 bridges. Access to Sybase DBMS and flat files. Access to DEC VMS systems, TCP/IP to SNA bridges, etc.
Disaster recovery systems. Communications via multiple networks to SSL authenticators, etc.
Sentinel a suite of packages in "XView" (XWindows UNIX dialogues) for the "Direct Link" Call centre to monitor transaction processing and accept/reject transaction batches and administrate client accounts. Call centre reports in Crystal Reports.

Company **Compaq** (On site at ADC broadband), Brisbane, Australia
Technologies: C++, Tru64. GNU CC. Tuxedo.
C++ Programmer.

Comments: **Maintenance** on-site development at ADC broadband. This was a conversion project for ADC on behalf of Compaq as a result of a request from one of ADCs' Pacific clients. I ported code from Sun/SGI/AIX/HP-UX/Win32 to include conditional compilation for the Compaq (Now HP) version of UNIX (Tru-64). The code base is several millions of lines of code for a telecommunication billing system. This included spotting known issues and fixing them. It required compiling on the new platform, rerunning unit tests and fixing compile errors and unit test failure bugs.

Company **Printrak**, Brisbane, Australia
Technologies: Visual C++ 6.0, MFC.
C++ Programmer.

Comments: Emergency service response dispatch software, Fire, Ambulance, Police. 911 Call centre operations. Added additional dialogues for accessing Microsoft SQL Server 7.0 DBMS in C++/MFC/ODBC. Mostly this was to fetch some rows from a table and update the controls in the dialogue type code. Some critical systems accessed systems in TADEM/NON-STOP KERNEL subsystem.
Technologies: MFC, Microsoft SQL server 7.0. Tandem COBOL.

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[11] https://learn.microsoft.com/en-us/windows-hardware/drivers/kernel/why-thunking-is-necessary

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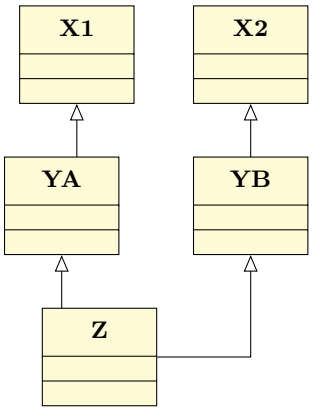
Company **Active Sky**, Gold Coast, Queensland, Australia
Technologies: **Palm Pilot, Windows CE mobile development**, Solaris, Linux
C++ Programmer.

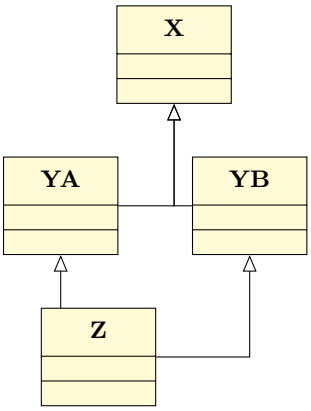
Comments: Video compression streaming to hand-helds. I did some architectural work regarding common file I/O libraries for both client and server-side communication and **mentored** some of the developers. I trained the Windows NT system administrators to configure and manage Solaris and Linux servers and deal with the programmer requests properly which they were not doing.

Company **Open Telecommunications**, Sydney, Australia
Technologies: Solaris and Tru64, SunSoft C++, GNATTS, PERL, expect, CORBA[12]. TAO, Orbix, ACE, pThreads, Rational Rose, UML / BOOCH Rmakeit, Nedit, Emacs.
C++ Programmer.



Comments: **Maintenance work**. This was a telecommunication company that mostly built digital switches (Signal Control Processors - SCPs). I scanned the bug list in the GNATTS database, resolved the bugs and submitted progress updates. One of the bugs in the systems was a multithreaded construction/destruction bug which was related to multiple inheritance and the C++ diamond problem as can be inferred from the following code snippet and opposing UML diagrams:-

```
class Y: public X {}; instead of class Y: virtual public X { }; and class Z: public YA, YB {};
```



Once the bug list was reduced, I migrated the code from the Orbix, ORB to the ACEs TAO ORB because the company wanted to use more open-source software and not pay for commercial licenses. I reran the unit tests for all relevant parts of the system and worked with other team members to resolve any issues. I rewrote the logging code which provided streams ("<<" and ">>" operators were overloaded) and URL style logging methods (such as "file:", "socket:", etc). We had internal seminars on SS7, Voice Over IP, etc. The main customer was One.Tel which was a spectacular "dot.bomb" failure. Open Telecommunications no longer exists. The documentation method was UML using Rational Rose, and Source code control was in CVS. Unit tests were in scripting languages such as expect, awk or PERL.

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[12] https://corba.org/

Company: **Thompson-CFS**, Dee Why, Sydney, Australia
Technologies: IRIX, DomainOS, Tru64 UNIX, Solaris, WinCenter, VME, VIMIC, MIL-STD-1553 [13] , ARINC-429 [14], MIL-STD498, Ada, C, DOORS, Interleaf.
C Programmer.

Comments: Defense training organization. I developed software to simulate and stimulate the MIL-STD-1553 and AR-Inc 429 buses. The environment was MIL-STD 498 documentation process. The buses interacted with the rest of the environment via VME boards.

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after hours, part-time, concurrent with SMA below)
Company: **Transport Management Group**, CBD, Sydney, Australia.
Technologies: Windows/MFC, ORACLE, Windows NT, Visual C++ 6.0, QVCS
C++ Programmer.
Comments: Train scheduling. I produced graphical reports in MFC/C++, (eg zig-zag graphs that show when trains are scheduled to arrive/depart at points up and down the line). The environment was ORACLE Pro*C which was wrapped within smart pointers which loaded an internal cache, pre-fetching and lazy-evaluating as required. The development environment was initially extremely chaotic which I resolved to structure. I introduced, set up and maintained, QVCS as no source code control system was used and QVCS (a free/cheap product) was used at SMA where I was working concurrently (together from 6:30 am to 9 pm every day and sleeping through the weekends).

Company: **Scientific Management Associates**, Lane Cove, Sydney, Australia
Technologies: Windows 98, Windows NT, Windows 98, Visual C++ 6.0, DirectX 6.0, QVCS, VME [15], MIL-STD-1397 [16], 3D Studio Max.
C++/3D Game Engine Programmer for Defence Project.

Comments: This was originally a 6-month contract which was extended to 11 months to coincide with the completion of the project. This was an extremely challenging project which required examining a real piece of equipment (EOSS) a system much like a periscope on a submarine and developing a design to simulate it. A director head with DLTV and Thermal imager sits about three-quarters the way up the mast of the Huon class mine hunters. On the bridge of the ship is a console that was simulated. I had to put 3 video cards into one computer and get all the device drivers to work together. Then I had to get hardware-accelerated Direct-3D to function on two video cards, and load textures and vertexes into each card, while the other video card displayed a menu system, I wrote that mimicked the controls on the real bridge. Some video cards would detect that they were not the primary display device and switch to software rendering. Other video cards would steal vertex lists or not load textures. The thermal imager had "White hot" and "Black Hot" modes and therefore two sets of textures had to be loaded for each object and flipped between them in the scene as the controls were accessed. The daylight TV camera had an intensity control on the touch-sensitive control panel and therefore I had to walk the vertex list on the video card and adjust the lighting intensity of each vertex in the scene. The glow and dim effect was quite spectacular and was quite cool to play with. Additional functionality included socket code to interact with an Instructors station (which someone else wrote). There was also a Digi I/O board added to the machine which enabled digital/analogue conversion of signals. The project was completed 2 two weeks ahead of schedule and I spent some time profiling and optimising it as much as possible. The Navy was happy to sign off on the project.
I tendered a project to replace the MADS (disk packs) on the submarine project. The small tender (roughly $100,000) was successful but the project ($100 million plus) was suspended indefinitely (pending a Royal Commission). If the tender was not revoked I would have had additional continuing contracts with SMA.
This was about the same time that I had the BeOS C++ Ray Tracer article published in Doctor Dobbs Journal. [17]

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[13] https://en.wikipedia.org/wiki/MIL-STD-1553
[14] https://web.archive.org/web/20111029161330/http://www.holtic.com/category/352-arinc-429.aspx
[15] https://en.wikipedia.org/wiki/VMEbus
[16] http://www.interfacebus.com/Design_Connector_NTDS_Bus.html
[17] Russell R., (Nov 1999) "BeRays: A ray tracer for BeOS", Doctor Dobbs Journal. https://drdobbs.com/tools/the-berays-ray-tracer/184411102

Company: **TowerTechnology**, Lane Cove, Sydney, Australia
Technologies: Solaris, HP-UX, AIX, Digital Unix, Windows NT 4.0/5.0 beta, Windows 98. **UNIX/Windows NT, SCSI Device driver developer.**

Comments: TowerTechnology develops document and image processing systems and workflow solutions. I was responsible for maintaining the device driver code for the medium changers (large mag-optical disk libraries which contain crypts for disks and several drives). I became an expert on the SCSI bus protocol. I wrote a class factory pattern-based diagnostic tool. The class factory would generate objects of all medium changers that the company supported and dump all kinds of diagnostic information.
I completed a device driver for Sun Solaris to access the medium changers via a pass-through SCSI device driver, debugged multithreaded kernel panics on the Tru64 platform and debugged faults on the HP-UX, AIX, Solaris, Tru64, and Windows NT drivers.
One of the faults included reworking some of the drivers when the disk capacity increased from 2.6Gb to 5Gb, 32-bit limits were exceeded and block orientated seeks had to be replaced with ioctl()s on the devices. Some faults required some functionality to be moved from the upper layer of the kernel to the lower-level drivers or vice versa
Technologies: Purify, Clear Case, SunSoft Visual Workshop, GNU C++. SCSI-View (SCSI Analyser hardware). RCS. Rational Rose, Paradigm Plus, UML. Lotus Notes. Windows NT Kernel debugger (i386kd.exe) and crash dumps. PA-RISC, PowerPC, Intel and SPARC machine code and assembler.

Company: **Brilliant Digital Entertainment**, Double Bay, Sydney, Australia
Technologies: Windows NT 4.0 / Windows95 / Linux, ISAPI, Windows Registry, MFC, Visual C++ 5, COM, Automation, InstallShield 3/5, IntraBuilder, Borland C++ Builder, Delphi 3, Microsoft SQL server 6.5, Java, JavaScript, Perl, inline 80x86 assembler, WinSock32, Plink., SAMBA, PKware.
C++ Programmer.

Figure 1: CyberSwine game

Comments: BDE is a small dynamic games software house. I was involved in various aspects of real-time interactive movies. I took over the installer. I did all of the Unix work and wrote code to interact with other parts of the system including the ticket server. I also did the credit card validation code via Plink.

Company: **Scientia Systems**, North Sydney, Australia.
Technologies: AIX / SunOS / Solaris / SCO / Windows NT 4.0 / Windows95. Visual C++ 5.0, Borland C++ Builder, C-ISAM, SAGA-C, ISDN, Win Gate, SMIT, Humming Bird Exceed XDK, Motif, SAMBA, Microsoft TCP/IP, POP3.
C/C++ Programmer.

Comments: Scientia is a software house that produces a scheduler used by manufacturing called “Synchro”. The main output is a Gantt chart with the capacity for drag and drop and running under the Motif system.
I had previously worked for the company in 1988 when it was known as Scientia-Whitehorse. The system was Accounting (invoicing, accounts receivable, payroll) and manufacturing (Just-In-Time (JIT) and MRP-II).

Company: **EyeOn Software**, Crows Nest, Sydney, Australia
Technologies: Windows NT 3.51/4.0 Intel/Alpha. Visual C++ 4.x RISC Visual C++ 5.0 Intel, MFC, MCI, Install Shield, OLE, Windows registry, ISDN, Notes, TCP/IP.
C++ Computer Graphics Programmer
.
Comments: The product "Digital Fusion" was an Object Oriented, multi-processor optimised, multi-threaded spline-based, resolution-independent video compositing system. My role was to design and implement features file format loaders and savers for the majority of graphic file formats (two dozen variants like JPEG, Sun Raster, PNG, TIFF, Gif, etc). I wrote Windows Registry code and various graphic processing code including Sobel and La Placian, edge detection, and blur filters. I wrote MFC/GUI code for custom controls like a “rubbery” range control (like 2 slider controls in the same control, which stretched and contracted at limits), screw control with infinite wrap-around looping behaviour. The entire GUI was based

on ray-traced images and was extremely slick. Amiga style "intuition layer" framework so that existing components would benefit from underlying extensions. DLLs could be dropped in so that at load time the system would recognise and register new components. Aspect-orientated/delegate style development. System administration of Lotus Notes, Novell Netware, network, and CISCO router. Build a system with Install Shield.
For some months all of the staff went to meetings with angel investors, and business partners overseas and attend SIGGRAPH conferences. I was left alone in charge of the company, answering phones, making sales, sourcing suppliers, deciding markups, arranging conferences, transferring money, paying bills, and my wages.

Organisation: **Department of Computer Science**. James Cook University, Townsville, Australia
Technologies: HTML, CGI, PERL, PASCAL, Novell 3.11, OSF/1, Digital UNIX. ULTRIX, SOLARIS, IRIX, C, PVM, MPI [18]. Various supercomputers including SGI, Cray. Processor farms.
Tutor. Semester-long Contract. Research Assistant/Programmer. Contract. Various supercomputers.

Comments: Taught students PASCAL, data structures. Did some WWW development. Wrote a 25-page Literature review on distributed data structures. Wrote a Scalable 3D torus distributed termination simulation on multiple networked workstations representing processing elements or nodes of the torus in PVM. The simulation is an accurate model of a distributed termination algorithm for the Cray T3D massively parallel processor[19]. Wrote a pseudo device driver for DEC Alpha under Linux. Modified Linux system to run OSF/1 binaries.
Dr B. Mans developed a distributed priority queue out of work from his PhD. thesis and work in Scotland. The Message Passing Interface (MPI) library was unavailable for any of the departments' equipment, so I was asked to rewrite the best part of a large project to use the Parallel Virtual Machine (PVM) library on a mixture of workstation virtual machine groups and supercomputers. The project was delivered ahead of schedule and very few modifications were requested.

Company: **Agire**. Townsville, Australia
Technologies: SCO UNIX/XENIX, SPARC Solaris.
Salesman/Technical support.

Comments: Having previously worked on small projects in Informix, XENIX and C for AGIRE. I was asked to join as front office sales and handle local technical support while most of the team travelled.

Organisation: **Department of Psychology**, James Cook University. Townsville, Australia.
Technologies: DOS, Windows, Turbo PASCAL, Borland C++.
Research Assistant/Programmer. Contract.

Comments: Stereopsis is the post-processing of images by the front of the brain giving the 3D effect found by squinting at the images in MAGIC EYE books. The Psychology department was interested in different effects, shapes and reaction times. The initial main focus was to develop different tests for subjects using in-house developed libraries. METAcode for Windows, a real-time multi-pass event logger, that produced graphs of statistics of events, was designed by Dr Ryan and myself. [20] [21]

Helicopter Pilot, Outback Australia. Consulting as a University student.
Part-time Real Estate agent. Various student jobs.
(AGIRE, BTC, FNQEB, MCD Consulting, etc) Short-term contracts. Technologies: Informix, Pick, C-ISAM, Zinc, C, DOS,

[18] https://www.mpi-forum.org/
[19] https://en.wikipedia.org/wiki/Cray_T3D
[20] Russell, R., & Ryan C (1994) "METAcoder for windows: real-time and multi-pass event logging and analysis in the social and behavioural sciences." Psychology Teaching Review.
[21] Russell, R., & Ryan C. (1994) "METAcoder for windows: real-time and multi-pass event logging and analysis in the social and behavioural sciences." Psychology Software News.

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UNIX, BASIC, 8051, 8052. Windows, ORACLE Pro*C, METAwindows, AS/400, DECSystem10, VMS, CP/M. MP/M, PC-MOS, XENIX
Comments: While studying and flying I worked on small projects for various companies and organisations.

Company: **Scientia WhiteHorse**. Crows Nest, Sydney Australia
Technologies: NCR UNIX (Tower 32, Tower XP), XENIX, DOS, C, SAGA. VMS, DIBOL
Title: C Programmer.

Comments: Scientia White Horse was a software development company producing accounting and manufacturing systems. I assisted in the development of the Dental front office system. The dental front office system had additional features such as a history-sensitive teeth-charting system. From existing designs I implemented accounts payable account reconciliation, accounts receivable, invoicing, and general ledger postings. The shipping container system was a very specialised stock control system. Shipping containers each have there own ID with a check-digit and may reside in yards for years or get written off such as getting lost at sea.

Education

General

Degree, Bachelor of Science, Computer Science **James Cook University**
- CP1000 Introduction to Computer Science
- GE1010 The Geographical Environment
- EV1001 Introduction to Environmental Science
- LI1101 Introduction to Linguistics
- LI1102 Introduction to Descriptive Linguistics
- CP1500 Information Systems
- CO1501 Introduction to Commercial Law
- CP2000 Computer Science II
- CP2050 Computer Science IIA
- TG2100 Intro Geographic Inform. Systems
- CP2600 Database Systems
- CP2700 Theory of Computer Science
- CO2801 Business Information Systems II
- CP3050 Algorithms and Complexity
- CP3060 (Computer) Graphics
- CP3070 Computer Architecture and Communications
- CP3080 Advanced Programming Languages
- CP3100 Formal Languages and Compilers [22]
- CP3110 Fundamentals of Software Engineering
- CP3120 Advanced Software Engineering
- CP3210 Fundamentals of Artificial Intelligence
- CP3220 Advanced Artificial Intelligence

Certificate Training Neural Networks in C++ **LinkedIn Learning**
Certificate Introduction to C++ **Sololearn**
Certificate Intermediate C++ **Sololearn**

Publications

Russell R., (2024) "Thirty-five years in Software Development", Kindle from https://www.amazon.com.au/dp/B0DK4FHMZ4 .

Russell R., (2024) "Thirty-five years in Software Development", Paperback from https://www.amazon.com/Thirty-five-years-Software-Development-Leadership/dp/B0DP7CR7SV .
ISBN 979-8301444326

Latest CV: https://www.pymblesoftware.com/cv.pdf

Russell R., (2024) “Thirty-five years in Software Development”, Hardcover from https://www.amazon.com/Thirty-five-years-Software-Development-Leadership/dp/B0DPDLWPRC/ .
ISBN 979-8301885365

Russell R., (2012) “Programming bada”, Kindle, iBooks and PDF file from www.pymblesoftware.com/book .
www.pymblesoftware.com/book/bada-short.pdf .
http://itunes.apple.com/au/book/programming-bada/id543013439?mt=11&ls=1
https://www.amazon.com/Programming-bada-Regan-Russell-ebook/dp/B007LFX608

Russell R., (Nov 1999) "BeRays: A ray tracer for BeOS", Doctor Dobbs Journal.
Russell, R., & Ryan C (1994) “METAcoder for windows: real-time and multi-pass.
event logging and analysis in the social and behavioural
sciences.” Psychology Teaching Review.
Russell, R., & Ryan C. (1994) “METAcoder for windows: real-time and multi-pass.
event logging and analysis in the social and behavioural.
sciences.” Psychology Software News.

Doc Dobbs Journal

Review of Windows NT Device Driver Development Doctor Dobbs electronic review of computer books (ERCB).
Review of The Windows NT Device Driver Book: A Guide for Programmers ERCB.
Review of Developing Windows NT Device Drivers ERCB.
Review of Writing a UNIX Device Driver, Second Edition. ERCB.
Review of Panic: Unix crash dump analysis, ERCB.
Review of Advanced animation and rendering techniques, ERCB
Review of Windows TCP/IP. ERCB
Review of Open source development with CVS. ERCB
Review of System performance tuning. ERCB
Review of Learning the vi editor. ERCB
Review of Ada for experienced programmers. ERCB.

BeRays Article

Publications Officier, James Cook University SCUBA Dive Club 1992 - 1993.

Latest CV: https://www.pymblesoftware.com/cv.pdf

Interests

Tennis, Tango, Reading Non-fiction like 'Stolen Focus', Harvard Business Review, Podcasts like 'The Knowledge Project', 'The Finn (Review)', 'Sengoku daimyo', and 'NTI's Japan Real Estate', General Psychology and Economics podcasts, Travel, Outdoors, Playing Ice Hockey, Playing Squash, Snow Skiing, Hiking, Aviation, Sailing, Surfing, Computer Graphics and Parallel and distributed processing and Computer Architecture (especially SIMD, MIMD), hypercubes, CUDA, MPI, PVM, FPGAs, Antique super computers and Mainframes, UNIX kernel internals. Japanese, and French. Playing with Raspberry Pis, Arduinos, Robotics, and managing 6 server racks, routers and various subnets around the house. PADI qualified diver.

Other information

Previous Defence Clearance, Heavy vechile license (National), Civilian private helicopter pilots license (CAA ref #425348).

Board memberships, committes

- Executive committee Ocean Beach Malibu Club 2016 - 2018
- Treasurer, Strata Plan SP11881
- Director, Macquarie University School of Business Consulting club.
- Director, Three Australian companies.

Latest CV

Book: 35 Years in Software Development

Book: Prograqmming bada

Book a meeting with me

Latest CV: https://www.pymblesoftware.com/cv.pdf