

Resumé for Adam Pierce

Updated February 2011



Basic Information

I'm 40 years old, married with two children. I live in Terrey Hills on Sydney's northern beaches. I am an Australian citizen and English is my first language.

While I have no official tertiary qualifications beyond my HSC, I have been working full time in the software and electronics manufacturing industries for more than 20 years. During this time I have worked for many companies and a summation of my career is included below.

What I can bring to you is my large experience in computing technology and product development.

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Executive summary

- I have been working as a product designer and application developer for 21 years
- I mainly specialize in embedded systems design including circuit design, PCB layout and embedded software development
- I also specialize in C++ application development on Windows and Linux
- I can also create sophisticated websites with my skills in Javascript, PHP and SQL
- While I can do straight software development, I am more comfortable in a project management, mentoring or system architecture role
- I have excellent communication skills, both written and spoken. I am quite happy to talk to customers and am much more articulate than your stereotypical introverted nerd
- These days I am a carer for two children and as such can only work part-time, preferably from my home office

Skill Set

I first became interested in electronics as a hobby in 1978 and added software as a hobby in 1982. I was writing and selling games for MicroBee home computers from age 15. I began my professional career in 1988 as a C programmer and electronics technician.

Over the years I have become experienced in electronic and software product design and a range of programming languages. My main implementation experience has been with C++ on Windows and Linux platforms, however I also have significant experience with C, Java, SQL, PHP, Javascript and C# as well as being familiar with networking protocols. I have passing acquaintance with many other technologies and programming languages, a list of which would be far too long and tedious to include here.

I am also experienced in embedded development, primarily using Assembler and C on 8 and 32 bit microcontrollers and I have experience in digital electronics design including schematics, PCB layout and VHDL.

While I am an excellent programmer, I feel my skills and experience are better suited to roles in technical direction, project management, R&D and system design. I have a keen interest in research, HCI, interface design, industrial design and interaction design. While I'm not much of an artist, I do have an understanding of audio, graphics, human perception, and GUI design which helps me to produce elegant interfaces and work effectively with artists.

I have worked in team environments, both large and small, I have been both a team member and a team leader and work well in either role but the majority of my experience has been as a sole developer. Although this is not officially a management position, I have to manage myself to ensure projects are completed on time as well as talking to customers to understand their requirements and solve their problems.

Over the years I have performed many roles such as system architect, usability tester, database administrator, deployment, customer support, project management, customer liaison, writing documentation and sales copy, time and budget estimation, running cables, building racks, data recovery from damaged hard drives and just about anything else you can think of.

Other hobbies and interests

I have many hobbies. I like to cook, I brew my own beer and of course I enjoy fiddling around with electronics and computers. I like to learn new APIs and programming languages for fun.

I have also been known to write music and even played in a band (<http://www.doctort.org/>) for ten years. I made some video clips for the band using Adobe After Effects and various 3D animation packages.

I also read a lot, mostly on technical and business topics.

My main hobby at the moment is raising my two children. That takes up most of my time these days.

Professional Experience

2009-present: Silicon Sparrow

- Product design
- Marketing
- Customer Support and Relationship Management
- C++ Application development on Windows and Linux
- C# Application development on Windows
- GUI design
- Python development
- Embedded systems development in C on the ARM7 and ARM Cortex-M3 platforms
- Embedded software development in assembler on the PIC18 platform
- USB device design
- e-Commerce systems
- Linux server maintenance
- PHP and SQL back-end website work
- PCB design
- Management of outsourced manufacturing
- Digital circuit design and schematic capture
- Circuit board prototyping with both through-hole and SMT components

Silicon Sparrow is a trading name for my freelance and independent design and development work. In one year I have developed two electronic products and two software products for sale and am continuing to develop more. I also do freelance work-for-hire. See <http://siliconsparrow.com/> for more information.

Here are some of the clients I have been working for in the last year:

2010: LX Innovations

- Digital circuit design and schematics
- Embedded software on PIC18 and PIC32 in C
- Wireless Mesh Networking
- Customer liaison

2010: CAE Australia

- Project Management
- Digital electronics design & schematics
- PCB Layout
- Management of outsourced manufacturing
- Embedded software on ARM7 in C

2010: NetComm

- Shell scripting in BASH and AWK
- Embedded web server work including CGI & AJAX
- Windows application development in C++

2009: Digital Lounge

- Project management
- Digital electronics design and schematics
- PCB layout (4 layer)
- PCB Assembly with SMT
- VHDL development on Xilinx Spartan FPGA
- Windows application development in C++

2003-2008 : Command Systems

- Project Management
- Customer Support
- Interaction Design
- GUI Design
- C++ application development under Windows and Linux
- Embedded development in assembler on Freescale HC05 and HC08
- Embedded Linux development
- Deployment and automatic software updating
- Python programming
- Gecko and WebKit integration
- Macintosh OS-X programming in C++
- Budgeting, project planning and time management
- Digital video streaming and codecs
- Linux server setup and maintenance including RAID systems
- Website maintenance and PHP scripting
- Database administration
- DirectX plugin development in C++
- AJAX and Javascript web development
- Infra Red signal processing

I returned to Command Systems to update their old software (most of which was originally written by me ten years ago) and to develop some new products. A lot of this work was porting old code from DOS and 16-bit Windows to modern Windows platforms as well as redesigning GUIs in a contemporary style and neatening the code to use modern Object Oriented techniques. I am also developing some embedded software on 8 bit microprocessors for small battery powered devices. Products I have worked on include:

- *Home automation control processor*
- *Learning remote control*
- *Touch screen remote control*
- *Digital video on demand system*

2002 : Call Direct Cellular Solutions

- Product design
- Project Management
- GUI and interaction design
- Artwork and icon design
- C++ application development under Windows
- COM object development in C++ and Visual Basic
- Application development in Visual Basic
- RS-232 communication protocols
- Development on 16 bit embedded platforms in C
- Customer liaison
- Quality control

Working as a contract developer for Call Direct, I developed a Windows application for SMS messaging, from low level interface to the GSM network through database design, OO design and implementation, right up to high levels of product presentation, interaction design, release schedules, testing, bug tracking and the iterative design cycle.

2001 : Crispydisc.com

- Website design
- Website development using HTML and PHP
- Secure website setup
- Database design using PostgreSQL
- Linux server setup, administration and maintenance
- Small business management

Crispy Disc is a joint-venture website between myself, my wife Bea (a professional graphic designer) and musician Jasper Russell. It was originally created as a tool to allow us to sell our own CD's by mail order, but subsequently expanded to become a niche online record shop with about 50 titles. Bea designed the graphics and I set up the server, implemented the design and programmed the functionality of the site. The system boasts automated order processing, online music previews, HTTPS security and credit card facilities. We shut it down around 2004 however since the market was too niche to turn much of a profit.

2001 : vCIS

- Windows application development in C++
- Object Oriented design

I was employed on a contract basis by vCIS, who were developing an anti-virus product. Due to NDA restrictions, I cannot say exactly what I was doing there but it involved some rather sophisticated C++ programming and a thorough understanding of the internals of the Windows operating system.

1999 – 2001 : Indigo Interactive

- Project management
- UNIX Systems administration (Linux, Solaris)
- Windows NT network administration
- Windows application development in C++
- UNIX Application development in C and C++ on Linux, SCO and Solaris
- CGI-BIN Development in PERL and C++
- C++ code library development and maintenance (including version control)
- Database design, administration and maintenance with IBM DB2 and Microsoft SQL Server
- Java applet development
- COM component development in C++
- Visual Basic and ASP scripting
- Data Encryption
- Network programming on Windows and UNIX (using HTTP, SMTP and POP3 protocols)
- Flash development
- Data retrieval using XML

I was employed full-time with Indigo as Team Leader. I have worked on many projects while at Indigo, the largest being Freemail (<http://www.freemail.com.au>), a web-based email service. Freemail was written mostly in C++ using SQL to interface the database and CGI-BIN to interface the web server. I maintained, updated and added improvements to the Freemail system for two years and consequently gained a lot of experience in email systems, SMTP protocol and spam prevention. Free email systems are notoriously targeted for abuse and fraud, so I had to do a lot of arbitration between customers. I was also appointed as our liaison to the NSW police fraud squad to investigate some incidents of harassment, fraud and other more serious email abuses.

1999 : Thompson Legal and Regulatory Group

- GUI design
- Java Application development using Borland JBuilder
- Java Applet development with JDK 1.1.2
- JDBC, Swing, Javabeans etc.
- SQL (Oracle)

Thompson were developing a huge document management system and I was hired to join their team and implement parts of the system in Java. The data was stored in an Oracle database and could be accessed in a number of ways. I designed and built a search/retrieval interface to the system as well as helping out with the object oriented design, specifically the Object Relational Mapper for meshing the RDBMS with OO Java code.

1997 – 1998 : Byte This Interactive

- Linux and Solaris Systems administration
- Windows NT Application development in C++
- ActiveX control development
- UNIX Application development in C++
- CGI-BIN development in C++ and PERL
- Interface design for Windows 95
- Java applet development
- SQL
- Database design & implementation
- Project coordination
- Automated testing software
- Wireless GSM technology (data sessions via GSM and SMTP/SMS gateways)

I was employed full-time with BTI as a Software Developer. The main project I worked on at BTI was a web-based document management and publication system for a bank. The system involved a combination of different ActiveX controls, a custom-built web server and a Microsoft Word plug-in, implemented in C++ and Java.

1996 : Axis Media

- Java applet development (JDK 1.02)
- Database integration
- PERL scripting
- ActiveX control development in C++
- CGI-BIN development under IRIX

In my role as a contract developer, Axis Media required me to develop "glue" programs for their clients' websites. These programs made the websites more functional and included making pre-existing databases accessible via the web, creating chat boards, login facilities, shopping baskets, file uploading, mortgage calculators, animated menus and so on. While many of these things are available as off the shelf products today, back then they needed to be created from the ground up and customized to suit each projects needs.

1997 : Crocodile Communications

- Digital video editing using Adobe Premiere
- Multimedia and CD-ROM authoring using Macromedia Director and Lingo
- Image layout and design using Adobe Photoshop

Again working as a freelancer, Crocodile hired me as the technical guru in a multimedia team. I worked closely with several graphic artists on a series of interactive CD-ROMs. My role was to assemble their artwork into coherent, working presentations, which often involved graphical interfaces and audio/video sections. My understanding of graphic design and graphics tools such as Photoshop was very useful here.

1996 : CyberVision

- Java application programming
- JDBC
- Bongo
- Database design
- GUI Design and implementation

Cybervision hired me on a freelance basis to help develop a major software package for storing and processing PDF files. The system was written entirely in Java. I did a lot of the low-level work and became very familiar with the PDF file structure and ways to manipulate it.

1988 – 1995 : Command Systems

- Assembly language programming (8080, Z80, 6805, 8086)
- Operating Systems development
- Embedded systems programming (Motorola HC05)
- Windows application development in C++ (Mostly on Windows 3.1)
- MS-DOS application development in C and C++
- CP/M application development in MBASIC, 8080 and Z80 assembly language
- GUI design and implementation
- Digital Circuit Design & PCB layout
- Drafting & CAD

The biggest project I undertook at Command Systems was the development of an analogue video-on-demand system. I was also involved in a number of other projects working with infra-red communications, serial communications and home automation. In my role as Software Developer, I was responsible for the design, implementation and management of projects as well as liaising with the electronics developers.

Contacts / referees

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