

CV of Brian Modra

Contact Details

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Introduction

I am a senior software developer with 20+ years experience.

Some time in 2005 I started work on a gaming platform for on-line games involving real money transactions and fairly high demand, low latency, high concurrency... I.e. scalability issues. At this stage in my career, I considered myself to be a talented and experienced programmer, but found out how much I really did not know. Then I started an open source project: see it at this URL:

<http://www.zwartberg.com/karoo.html> but at Amazon I have begun to truly understand what “scale” actually means.

My languages of choice are C++, Ruby, or Java, though language is not as important as what you do with it. I am currently working with Java, Ruby, Javascript, C++, SQL, XML, TCP/IP, UDP/IP, HTTP, HTML, CSS etc.

Fairly early in my career I started using C++, and SQL. Then I discovered Java, and immediately loved it. By 1998, I already had 3 years experience as a Java developer, when most people were just discovering it. This was one of the reasons that I was employed by Nokia Mobile Phones to initially research the subject of “Java in phones”, and later to specify, standardise, and help implementation teams. In 2000, Nokia announced globally that every Nokia phone would support Java by 2001. I am proud to have been centrally involved in that process.

My understanding of computers began as a teenager, in the form of op-codes for a 6800 microprocessor. I.e. from the grass roots, right up to the more abstract aspects of Computer Science. My career has been good from all angles. I have thoroughly enjoyed myself, and been honoured to have associated with some of the best engineers worldwide.

Work Experience Summary

I am currently working for Amazon in Cape Town which is responsible for the core control system of the Amazon EC2 Cloud Computing fleet.

I know systems from the inside out – e.g. Posix threads, semaphores, STL, as well as the associated protocols and languages SQL, XML, SVG, UDP, TCP/IP, TLS, HTTP, HTTPS; HTML of course, and CSS and JavaScript. Then from the mobile phone side: GSM, GPRS, WTP and WML. I also worked with cryptography (I coded an RSA/AES secure stream for cell phones in Java), so I also understand encryption and its security-related applications such as on-line cash transfers.

My experience has also involved people communication skills, management, and negotiation between internationally competing companies.

My current role is senior while still being hands on. I'm a team leader/developer/architect, and have been in that role for the last 11 years, though at Vodafone it was strictly a management position.

Following is a summary of my work history:

BHP Billiton 1981: 1.5 years Trainee Draftsman, but I became a victim of drastic company restructuring.

I went back to school, then:

The Caddsmen Bureau 1984: 2 years CAD operator (engineering), left for a career advancement.

Philips Information Systems 1986: 6 months, hated it, offered a position at Qikdraw.

Qikdraw Systems 1986: 3 years Software Engineer. Left to work at the same company as my brother.

Microbyte 1988: 1 year, but the company went bankrupt, so I went back to Qikdraw for another 2 years.

My brother and I started our own company in 1992 **AMRAD**. I was a Senior Software Engineer.

Six years later in 1998 I was offered a position, as an employee once again, by **Nokia Mobile Phones** in Finland. It seemed very exotic and exciting, and proved to be exactly that. I look back on this experience with very good memories and am thankful for the opportunity that I grasped with both hands. However, a friend of mine asked me to work for him in Helsinki, and offered me very good terms, so I actually only worked for Nokia for 2 years.

Jippii Group 2000: 3 years, Senior Software Engineer. I was doing online gaming. I felt I needed to visit Australia, for an extended period, so I left Jippii.

Powercorp 2003: 7 months (temporary employee). It was almost like a “working holiday”, including a 3 month visit to South Africa, and then on to England... where I found a new job.

3G-Scene 2003: 1 year – online real money gaming and phone games. Then I could not resist the opportunity to work for Vodafone, so I left 3G-Scene.

Vodafone 2004: 8 months – I was going places in Vodafone when there was a problem with my work permit. I had not realised that I must re-apply for a new work permit when changing companies. I had to cease working immediately (because it was illegal). I would have had to re-apply for the same position, and get a work permit, and this process could have taken 9 months... So I went back to 3G-Scene, and worked there for another year. But we had a son (4th child) in 2006, and my wife wanted to take the children to where there was more sun. So we went to South Africa where my wife and I started a company **Open Source Software Consulting**. Since 2006, I have been contracting as a Senior Software Engineer, and I have never looked back.

Amazon Development Center South Africa 2011 (current): I am working on the EC2 Cloud Computing XEN control systems for the Amazon fleet.

Education in Australia

Matriculation	1980: Elizabeth High School - Maths 1 & 2, Physics, Chemistry, Geography, English – good results: University degree entrance granted.
Tertiary	1981-1983: Regency Park College of Advanced Education - Associate Diploma in Mechanical Engineering - Engineering Design, Materials, Mechanics, Communication, Computer Technology, Maths – Excellent results (I was top student of the engineering school.)
Courses	1985: for 4 months - South Australian Institute of Technology - Computer Science (for structured programming skills) 1983-1984: for 2 years - The Caddsmen Bureau - Advanced CAD Operation

Career History

Amazon Development Center:

<i>Period</i>	August 2011 - present
<i>Position</i>	Senior Software Development Engineer
<i>Technologies</i>	Ruby, Java, Linux, Large scale distributed (cloud) computing, XML.
<i>Responsibilities</i>	Design/implementation/maintenance of cloud computing infrastructure EC2
<i>Achievements</i>	Classified by employee non disclosure agreement

Open Source Software Consulting CC (trading as Zwartberg Research & Development):

<i>Period</i>	June 2006 - July 2011
<i>Position</i>	Developer
<i>Technologies</i>	C/C++, Linux, Distributed Computing, XML, XSLT, SVG, Javascript, etc.
<i>Responsibilities</i>	Design/implement a system for applications by cellular integration. I contracted/consulted regarding implementation of this system.
<i>Achievements</i>	The system is in use in a production vehicle tracking application server.

3G-Scene PLC, UK

<i>Period</i>	Nov 2003 – Sep 2004, and Jun 2005 - May 2006 (I worked for them twice)
<i>Position</i>	Senior Software Engineer
<i>Technologies</i>	Java 2 Micro Edition (J2ME), Java 2 Enterprise Edition (J2EE), RSA, AES
<i>Responsibilities</i>	Design/implement a large scale Game Server. Create multi-player networked mobile phone games.
<i>Achievements</i>	I brought telecoms experience into the company, and designed and coded a large portion of the framework for the 3G-Scene General Platform. I created two multi-player phone games: “Dr. Walker's Chess”, and “Texas Holdem” (real money gambling game).

Vodafone Group PLC, UK

<i>Period</i>	Sep 2004 – May 2005
<i>Position</i>	Terminal Platform Manager
<i>Technologies</i>	Java 2 Micro Edition (J2ME)
<i>Responsibilities</i>	Lead Vodafone's virtual team on engineers who create the Vodafone Java platform called “VFX”

Power Corp LTD, Australia

<i>Period</i>	April 2003 - Nov 2003
<i>Position</i>	Software Architect (temporary employee)
<i>Technologies</i>	Java 2 Standard Edition - especially XML (SVG), swing.
<i>Responsibilities</i>	Design/implement remote sensing and control software for power stations.

Achievements	I created an SVG element renderer, using Swing, AWT, and Batik. I wrote an interpreter, which allowed the SVG elements to be associated with parameters and changed dynamically. The parameters were real-time power system data (such as volts, or power factor). The complicated schematic diagram representing the power station, could be created using an SVG editor.
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Note that during Sep 2001 - Oct 2003, I was part time consulting to Sony-Ericsson.

Jippii Group, Finland

Period	May 2000 - March 2003
Position	Senior Software Architect / Specialist
Technologies	Java 2 Standard Edition, Enterprise Edition, and Micro Edition.
Responsibilities	Design/implement application platform for on-line (browser) games.
Achievements	I wrote the Game Server, and also supervised the game development. The Game Server was connected to on average by 2000 concurrent HTTP requests. Many of these requests were lingering HTTP/1.1 chunked stream request/replies.

NOKIA Mobile Phones, Finland

Period	August 1998 - September 2000
Position	Chief Engineer, Specialist
Technologies	Java 2 for Mobile Information Devices, GSM, GPRS, UMTS, 3G, WCDMA
Responsibilities	I was Nokia's representative in the Java Community Process when they designed the Mobile Information Device Profile (MIDP), and the CLDC. See http://java.sun.com/products/midp/
Achievements	In the words of my boss "if it had not been for you, we would not have put Java into phones".

AMRAD PLC, Australia

Period	April 1992 - July 1998
Position	Director, Consulting Software Engineer
Technologies	Java, AWT, Swing, C++, C, JDBC/SQL, Tuxedo, CORBA, AIX, SunOS, HP/UX, Windows NT/95/3.1, LINUX, OS/400.
Responsibilities	Make a mapping client front end to a legacy (mainframe) land ownership database.
Achievements	My GIS application could display the entire state's graphical data at once, and pan and zoom quickly. It used spatial indexing in the client, and in the server - to efficiently find the vector data that represented the area of interest. The server accessed the Oracle database which contained all the vector data. The legal data was stored in a mainframe - with a proxy server which provided a CORBA interface to the mainframes schema.

QikDraw Systems PLC (Australia)

Period	June 1990 - December 1991, and July 1986 - May 1989 (twice)
Position	Software Engineer

Technologies	GUI development for CAD. C, 80x86 Assembler, Fortran, ORACLE SQL, UNIX.
Responsibilities	Make various improvements to a small PC-based CAD/CAM system.
Achievements	I created a CAM system was made for small manufacturers who had maybe a few lathes, milling machines, or punch presses. I wrote screen drivers for X-Windows Motif, and a direct SVGA driver.

Microbyte PLC, Australia

Period	May 1989 - June 1990
Position	Software Engineer
Technologies	IBM PC compatible BIOS programming. 80x86 Assembler, and C.
Responsibilities	Maintain the BIOS for an IBM PC compatible computer.

Philips Information Systems LTD, Australia

Period	January 1986 - July 1986
Position	Software Engineer
Technologies	Fortran, Macros.
Responsibilities	Programming and System Administration. Fortran, Macros. Making macro programs and setting up menus.

The Caddsmen Bureau PLC, Australia

Period	January 1984 - January 1986
Position	CAD Operator/Trainer
Technologies	Macros, Computervision CADS4X CAD/CAM system
Responsibilities	CAD operation, System Administration, Programming, Teaching. (They sold computer time on the CADDS4X CAD/CAM system.)

Broken Hill Pty Ltd

Period	February 1981 - August 1982
Position	Trainee Draftsman
Company	Broken Hill Pty Ltd
Responsibilities	Draw and make changes to drawings of parts of the steelworks piping and structure.

Referees

Contact details available on request, and you can find most of these people in <http://www.linkedin.com/>

Company	Contact Person	Position
Nokia Mobile Phones	Jyrki Yli-Nokari	IT Manager / Director / Global Java Strategist
Nokia Research	Kari Systä	Product Manager (R&D of Java specific for phones)
Motorola	Mark Vandenbrink	Then Chief Architect for systems software, now VP Samsung Telecommunications America

<i>Company</i>	<i>Contact Person</i>	<i>Position</i>
Motorola CE (phones)	Dr. Jim Van Peurseem	Chief Architect for the J2ME platform, Spec lead for MIDP 1,2,3
Sun Microsystems	Dr. Antero Taivalaari	Engineering Manager, the "father" of J2ME
Sun Microsystems	Nik Shaylor	Senior Staff Engineer, KVM
Jippii Group	Jason Grant	IT Manager / Director