

ROBERT BRUCE WALLACE JR

SOFTWARE DEVELOPMENT & CONSULTING

Overview As Principal Consultant of PolyGlot Inc, Bruce has provided computer software development, consulting, and training services around the world. Projects have been completed in San Francisco, "Silicon Valley", "Route 128" MA, Austin TX, Charlotte NC, Atlanta GA, Juan-les-Pins France, Sydney Australia, and Perth West Australia.

Hands-On development in 40+ languages and 50+ application domains for 75+ clients (*including Apple, Sun/Javasoft, HP, FedEx, BellSouth, Coca-Cola, Wachovia, Wells Fargo, Chevron, Lockheed, Raytheon*).

Authored Top-5 world-wide best-selling software, and articles for magazines like O'Reilly, DZone, Byte, JavaPro, OnJava, Gamelan/Developer.com.

Skills	Software Architect	Software Engineer	Managing & Mentoring
	Combining computer science theory and pragmatic hands-on experience in 50+ domains as Application & Solutions Architect.	Hands-on experience in every software development lifecycle phase: analysis, design, implementation, testing, maintenance & documentation.	From Team Lead to CTO, leading a wide variety of design & development projects in team and independent situations.

Technical	Modern Javascript	Java/J2EE/JSP	OS X
	AJAX/JSON/REST	XML/XSL/WSDL/SOA	Windows
	RIA/YUI/jQuery	SQL/NoSQL	Unix
	HTML/CSS	C/C++	Linux

Experience (excerpts) **PolyGlot, Inc.**
President & Principal Consultant

As a consultant to scores of companies, my roles ranged over Architect, Author, CTO, Chief Scientist, Product/Project Manager, Business Analyst, Systems Analyst, Lead Developer, QA Developer/Tester, Tech Writer, and Instructor.

fabric.com
Chief Technical Officer

Took over as a hands-on CTO of a small startup (which was later sold to Amazon.com). Was in charge of all technical aspects of the company, developing online retail stores and real-time web auctions for Hancock Fabrics and Walt Disney. Directed staff and contractors across multiple time zones.

Synergy, Inc.
Chief Scientist/Product Manager

Developed a general purpose "NoSQL" semantic-network database kernel, based on AI techniques. Built an interactive development tool to allow business users to create data forms, screen layouts, ontologies, and datasets. Managed all development staff.

Ayden Energy
Head of Software Development

In charge of software design and implementation for a \$75 million (*in 2010 dollars*) subcontract to a Lawrence Livermore Labs fusion reactor experiment. Personally wrote a hard real-time multi-tasking operating system from bare metal, interfacing to custom hardware, underneath two separate control system apps. Managed ten other programmers on the project.

Education **Florida State University, Tallahassee, FL**
B.S. in Mathematics / Computer Science
National Merit Scholarship

Profiles Who's Who in Frontier Science & Technology
(*Marquis Who's Who in America*)
Who's Who in California
Who's Who in Technology Today
Who's Who in Society
Who's Who Worldwide Registry

Robert Bruce Wallace, Jr.

B.S. in Mathematics / Computer Science
Florida State University, Tallahassee, FL
National Merit Scholarship

Who's Who in Frontier Science & Technology
(Who's Who in America)
Who's Who in California
Who's Who in Technology Today
Who's Who Worldwide Registry

Alphabetical Keyword Summary

Languages: Ada, APL, BASIC, C, C++, COBOL, FORTRAN, Forth, **HTML/CSS**, **Java/J2EE/JSP**, **JavaScript**, **JSON/AJAX/REST**, LISP/Scheme, Modcal, Object Pascal, Pascal, Perl, PHP, Prolog, SNOBOL, **SQL/ESQL-C/Pro*C**, SVG, Tutor, **Unix shells**, **WSDL**, **XML**, **XSL**, XSchema

Assemblers: 6800, 6502, Z80, 8080, 8085, 68000, 8086, 88000, Applicon GAS, DEC Macro 10/11/20, CDC Compass

Systems: ADABAS-M, AIX, Apache, Apple II Dos, CDC Kronos/PLATO, CP/M, DB-Vista, DCE, DataViews, RSX-11M, DEC Tops-10/20, DG-AOS, DGUX, **Eclipse**, Epicentric, FileMaker, HP HPE/MPE, HP/UX, Informix, jQuery, JRun, **Linux**, MacApp, Macintosh/OSX, Motif, MPW, MS-DOS, MySQL, **Oracle**, Paradox, Progress, Solaris, Sybase, Toad, Tomcat, UCSD p-system, **Unix**, VMS, **Websphere/WSAD**, **Windows** 2K/XP, WS*, X-windows, YUI

Smaller Projects Summary

4/80 thru present: Principal Consultant
PolyGlot, Inc.

Concurrently with the major projects listed on the following pages, the projects below were completed on a short-term or part-time basis.

Architects.DZone.com	Wrote two articles on domain modeling concepts from Western Philosophy appearing June 2012
JavaLobby.com	Wrote article on managing Unit Testing using Philosophy & Economics appearing Aug 2010
Gamelan.com	Wrote article on Javascript Class Emulation appearing in Feb 2007 Gamelan Magazine
OnJava.com	Wrote article on Javascript Mutual Exclusion appearing in the March 2006 OnJava Magazine
Gamelan.com	Wrote article on AJAX Mutual Exclusion appearing in the March 2006 Gamelan Magazine
OnJava.com	Wrote article on Explicit Programming appearing in the March 2003 OnJava Magazine
Gamelan.com	Wrote article on Design Markers appearing in the March 2003 Gamelan Magazine
JavaPro Magazine	Wrote article on design patterns appearing in the March 2001 JavaPro Magazine
Byte Magazine	Wrote article on computer animation appearing in the May 1981 Byte Magazine
QWIZ, Inc.	Member of expert panels developing online tests for Java 2 and HTML 4.0
Quality Software	Developed/Published "Asteroids in Space". Considered a classic by Softalk Magazine
Quality Software	Developed/Published "Meteoroids in Space" (sequel to Asteroids)
Othello Championship	Developed entry in North Amer. Computer Othello Championship Tournament
MIDS	Developed Java applets for visualizing Internet Network Traffic
ADC Associates	Developed/Published VisiTran data translator for the Apple II
PolyGraFX	Developed a set of Java/XML utilities for publishing resumes
Digital Enterprises	Developed system to monitor/log RAID disk status notifying alerts via digital pagers
Georgia Power	Developed reporting apps for Board of Directors using ObjectPAL (Paradox for Windows)
BenefitWare	Developed insurance direct reimbursement system using ObjectVision
Pillar Corporation	Developed MacApp objects to read/write Lotus & DBase files
Schlage Electronics	Developed electronic lock controller firmware
Formaster	Developed disk copy protection software for Macintosh
Bullwinkles Pizza	Developed graphical customer pickup reminder system
LeCroy, Inc.	Developed laboratory equipment device drivers
BAM	Product Manager for Macintosh Enigma time management software
Strobe, Inc.	Developed Pen Plotter device drivers for Apple II and CP/M
GenRad S.T.I.	Ported FutureData systems from C to Z80 assembly language
Leon County Schools	Developed test evaluation and reporting programs on CDC mainframe
DCM, Inc.	Developed multi-threaded controller for telephone cable test equipment
Lockheed Missles & Space	Helped test & debug ERIS launch control console software
Hoge, Fenton, Jones, & Appel	Helped develop client database system for law firm
Ruocco & Saucedo	Wrote plan to implement new office LAN in a small law firm
Federal Express	Wrote white paper on X GUI interoperability & style guidelines
National Info Systems	Wrote market evaluation of Pascal-Plus compiler
MasterPlan, Inc.	Taught in-house classes on MacApp and OO development
Pizza Time Theatre	Taught in-house classes on Apple Pascal
CGW & Associates	Taught "Introduction to Ada" seminars
Northeastern University	Faculty member, Pascal & Prolog Instructor, Bay Area Regional Technology Center

Key Words: AJAX, Java, Javascript, XML, XSL, HTML, Design Patterns, Design Markers, Explicit Programming, MacApp, FileMaker, Ada, Apple II, Macintosh, DEC 10/20, 6800, 6502, Z80, 8085, 68000, UCSD p-system, Object Pascal, marketing, GUI, graphics, hardware interfacing, education, QA/QC, DataViews, X, Motif, MRP/DRP, telecommunications

2/2011 thru 7/2013: Consultant
Wells Fargo Bank, San Francisco, CA
Manuel Jasso, Supervisor

KEYWORDS: ARIA, RIA, AJAX, JavaScript, HTML, CSS, XML, JSON, design patterns, Java, JSP, J2EE, MVC, YUI, Ext-JS, Struts, cross-browser, Accessibility, performance optimization, jsUnit, yuiTest, QA/QC

11/2010 thru 1/2011: Architect
gravey.org, San Francisco, CA
PolyGlut, Inc., Sponsor

KEYWORDS: RIA, AJAX, JavaScript, HTML, CSS, REST, design patterns, MVC, Architect, XML, XSL, jQuery, iPad, Win2K/XP, Mac OS X, IE6, IE8, SeaMonkey 2, Firefox 3.6, Safari 5, Chrome 8

1/2009 thru 9/2010: Author
ExistentialProgramming.com, Juan-les-Pins, France

KEYWORDS: analysis, ontology, semantic web, Java, JavaScript, identity systems, web services, SQL, architecture, data model, data integration, domain model, Philosophy, BA

1/2007 thru 10/2008: Consultant
Wachovia Bank, Charlotte, NC
Chris McDonald, Supervisor

KEYWORDS: BA, Business Analyst, Java, .Net, mainframe, Web Services, SQL, architecture, data model, data warehouse, domain model

12/2004 thru 11/2007: Consultant
Wachovia Bank, Charlotte, NC
Chris McDonald, Supervisor

HEADCOUNT: Supervised 4 other team members.

KEYWORDS: AJAX, REST, MVC, WSDL, web services, Java, J2EE, XML, XSL, WSAD, Websphere, HTML, CSS, IE, Javascript, MQ, CVS, Win2K/XP, HP-UX, Solaris, Oracle, TOAD, ANT, Unix shell scripting, PL/SQL, SQL, BA, Business Analyst, domain model

6/2004 thru 12/2004: Consultant
Wachovia Bank, Charlotte, NC
Chris McCabe, Supervisor

KEYWORDS: Java, J2EE, XML, XSL, WSAD, Websphere, HTML, DHTML, CSS, Javascript, MQ, CVS, IE5, Win2000, HP-UX, Solaris, Oracle, TOAD, ANT, shell scripting, PL/SQL, SQL, Unix, JMS

10/2003 thru 1/2004: Consultant
Wachovia Bank, Charlotte, NC
Mark Manning, Supervisor

KEYWORDS: Java, J2EE, XML, XSLT, WSAD 5, CVS, Win2000, DBA, HP-UX, Oracle, TOAD, ANT, shell scripting, PL/SQL, SQL, Unix

8/2002 thru 5/2003: Consultant
ChoicePoint, Atlanta, GA
K. Deshpande, Supervisor

HEADCOUNT: Supervised 2 other team members.

KEYWORDS: Java, J2EE, XML, XSL, XSchema, JBuilder, BES, Win2000, Solaris, Oracle, JAAS, UML, QA/QC, JNDI, LDAP, Struts, education, SQL, RUP, Unix, BA, Business Analyst, SSA NAME3

4/2002 thru 8/2002: Architect
PolyGlut, Inc., Atlanta, GA
Robert Wallace, Owner

KEYWORDS: SVG, XML, DTD, XSL, XSchema, Java, J2EE, JRun, MySQL, JDBC, JSP, JAXP, XHTML, HTML, ontology, Protege-2000, Linux, Win2000, Apache, Batik, SQL, Javascript, UML, Architect, Unix

Member of core team developing and supporting Wells Fargo's RIA frameworks used by scores of customer-facing banking web apps. Developed new GUI widgets in YUI, JavaScript, HTML & CSS, new custom JSP tags to generate corporate standard markup, and server-side framework components using Java, Servlets, JSP & Struts. I also created documentation and training materials for framework users and developers including performance optimization and MVC techniques.

Upgraded the gravey.org JavaScript framework for AJAX and Rich-Internet-Apps to run on multiple browsers (whereas before it was restricted to Internet Explorer). Based on a framework I originally developed for internal banking applications, this library includes AJAX/REST integration, GUI widgets, forms processing, automated domain object persistence, in-browser XML/XSL processing, and complete Undo/Redo functionality.

Took a sabbatical in France to study ontology, and work on the article series "Existential Programming" which explores those concepts and shows how they apply to day-to-day software development, in particular, business analysis, data modeling, object oriented systems, and systems and data integration.

For an enterprise-wide revamping of customer identity management for Basel II compliance, I performed business and systems analysis required to: (1) produce a design for a new common system for managing customer identity data, and (2) retrofit a large number of internal banking applications to integrate with that new system, and (3) integrate those same systems with a new enterprise data warehouse. This involved surveying and bridging a wide range of data models, user interface technologies, and data exchange technologies.

As architect and lead developer, I helped gather Basel II business requirements and led translating them into technical requirements, design specifications, as well as, managing myself and 4 other developers in implementing them as three rich-client banking applications, using AJAX, REST/WSDL web services, J2EE, XML, XSLT, Javascript, DHTML, and Oracle. Also, I helped convert persistence servers from a standalone Java application to an EJB server, and, set up SOAP interface to Basel II Grading Calculator App.

Developed an interactive banking database query and analysis webapp using J2EE, XML, XSLT, Javascript, DHTML technology to access Oracle databases via an IBM MQ transaction framework. The webapp provided a user interface to slice/dice reporting data via dynamic displays and dynamic SQL query generation. Development tools were Websphere, WSAD, Win2000 and deployment targets were iPlanet and WAS app-servers, IE browsers, Oracle DB, IBM MQ and JMS messaging middleware on HP/UX and Solaris servers.

Analysed a mature Websphere-based J2EE/XML/XSL commercial banking loan servicing system for obsolete database tables/columns and refactored the PL/SQL to remove them. Developed ANT, Win2K DOS, and Unix shell scripts to automate the process of scanning XML, PL/SQL, and shell script sources to generate a cross reference of accessed database objects.

Worked on multiple projects including developing XSLT transforms of XML bulk data into Oracle load scripts. Was developer/mentor for a team developing the Business Identity Management middleware of a large Business Credit Information Warehouse that used EJB CMP 2.0 technology with Oracle. Documented Struts-based biometric information system. Integrated LDAP servers with Borland J2EE server developing custom JNDI and JAAS components. Developed proof of concept demonstrating Crystal Reports interfacing with Java and EJBs.

Ported GanttMagic, a set of Java/XML utilities for publishing resumes and job requirements in a number of formats including GANTT chart graphics, from standalone Java application to SVG/XML/XSLT based middleware integrated with an interactive web site using multi-threaded J2EE technologies. An ontology was created to organize buzzwords enabling better search and summary results.

11/2001 thru 6/2002: Architect
Grassroots Girls, Atlanta, GA
Renee Izadi, Supervisor

HEADCOUNT: Supervised one other team member.

KEYWORDS: XSchema, HTML, CSS, J2EE, education, workflow, XALAN, XERCES, JAXP, PHP, Win2000, BA, Business Analysis

2/2001 thru 10/2001: Consultant
MediaBin, Atlanta, GA
Bill Coleman, Supervisor

KEYWORDS: Java, C++, JUnit, JBuilder, GDPro, Win2000, BER-ASN-TCP/IP protocols, Design Patterns, UML, QA/QC

3/2000 thru 1/2001: Tech Asst to Chairman
Matrix.net, Austin, TX
Don Fussell, Chief Science Officer

HEADCOUNT: Supervised 2 other team members.

KEYWORDS: Portals, Java, Servlets, JSP, J2EE, JDBC, HTML, Perl, Solaris, Linux, TCP/IP, ICMP, XML, Epicentric, JRun, MySQL, Apache, Architect, Win95, SQL, UML, Unix, BA, Business Analyst, QA/QC, MVC

6/1999 thru 3/2000: Lead Developer
Nuforia, Houston, TX
Michael Wollin, Dir., Engineering

KEYWORDS: e-commerce, Portals, education, CRM, Java, Servlets, JSP, J2EE, EJB, HTML, WinNT, Linux, network admin, firewalls, XML, Epicentric, WebLogic, Apache, SQL, UML, Unix, BA, Business Analyst

3/1998 thru 4/1999: Chief Technical Officer
fabric.com, Marietta, GA
Stephen Friedman, President

HEADCOUNT: Supervised 22 other team members.

KEYWORDS: Manager, e-commerce, BA, Business Analyst, workflow, data model, data mining, database admin, Filemaker, Access, Java, Javascript, Perl, HTML, Cold Fusion, network admin, WinNT, Win95, Linux, Architect, SQL, UML, Unix

7/1997 thru 2/1998: Consultant
Javasoft (Sun), Cupertino, CA
Frank Dibbell, SQE Manager

KEYWORDS: Java, HTML, HTTP, Solaris, Win95, QA/QC, JDK, Visual Cafe, JBuilder, JavaStudio, Unix

6/1996 thru 5/1997: Consultant
Coca-Cola, Atlanta, GA
Tamara Wright, Supervisor

KEYWORDS: Java, C++, MacApp, CodeWarrior, SQL, client/server, data warehouse, OOAD, MVC

3/1996 thru 6/1996: Consultant
IRI Logistics, Atlanta, GA
Vittal Devarajan, Supervisor

KEYWORDS: HP-UX, AIX, C, Oracle Pro*C, Informix ESQ-L-C, MRP/DRP, compilers, Unix, SQL

5/1995 thru 2/1996: Consultant
BellSouth Wireless, Atlanta, GA
Steve Cleary, Senior Manager

KEYWORDS: C, C++, UnixWare, message oriented middleware, telecom systems, IS41, SS7, PERL, DGM&S, Pascal, OOAD, Unix

4/1994 thru 4/1995: Consultant
BellSouth Cellular, Atlanta, GA
Gary Schwaiger, Supervisor

HEADCOUNT: Supervised 2 other team members.

KEYWORDS: C++, AIX, HP-UX, Sybase, DCE, SNMP, NetView, SM/6000, distributed systems, X Windows, SQL, education, OOAD, Unix, BA, Business Analyst

Site architect and developer of a set of Java, XML, XSLT utilities for automating the generation of their interactive web site. Also, taught in-house classes on XML. Was main liaison between business partners and web graphics designer. Also developed server side scripts in PHP to support forms and order processing.

Ported from C++ to Java the implementation of the client-side API of the MediaBin Image and Asset Management System. This multi-threaded Java middleware managed the C++ server via proprietary client/server protocols using BER encoding and ASN style protocol layers on top of TCP/IP. I also developed an extensive automated unit/integration test suite using JUnit and JBuilder IDE.

Managed, from software purchase negotiations thru development and developer training, the Portal portion of a product delivering network monitoring info via a web user interface. The project used the Epicentric portal framework and JRun JSP/servlet engine on top of a JDBC database and Apache web server. Also, designed, implemented and built automated testing of a servlet-based Configuration Server middleware for the Java and Perl components of the product. Performed all development remotely via Internet telecommuting.

Hired as lead developer for the Atlanta office of an internet consulting start-up. Participated in OO Analysis JAD of a CRM system for private credit card client, Enterprise Portal development using Epicentric middleware and custom servlets/JSPs, and taught Java and J2EE technology classes to both in-house and client developers. Specialized in multi-tier distributed/internet/intranet systems.

Took over as a hands-on CTO of a small startup that was later sold to Amazon.com. It had lost its entire technical staff midway through its seed funding cycle. Was in charge of all technical aspects of the company, focused on marrying internet commerce with the textile and apparel industries. Reporting to the President, I managed all software development, both in-house, remote outsourced, and licensed, as well as technical architecture development and support. Web sites included retail stores for clients like Hancock Fabrics, Java-applet-based real-time auctions for clients like Walt Disney Company, and the portal sites www.fabric.com and www.apparelex.com. Developed infrastructure to collect data from online activities and data mine it to support email and fax based promotions. Also developed enterprise data integration and workflow middleware to automate internal operations wherever possible. Directed 5 staff members and 17 contractors from 7 different vendors.

Was in charge of developing a set of Java applets to test a broad range of Java APIs available in the HotJava Browser environment, especially security limits. APIs included Java Beans, GUI, networking, communications, system calls, etc. Also developed a multi-threaded HTTP server written in Java with special server side include processing to support browser stress testing.

Helped support & extend Coke's custom Macintosh client software for a client/server data warehouse system. The databases were implemented with Oracle and Teradata servers. The Macintosh software was implemented with MacApp 3.1 using CodeWarrior and C++. Helped develop proof of concept for porting Mac and PC versions of software to a single 3-tier implementation in Java.

Helped to port and enhance the Logistics Partner DRP product from Oracle PL/SQL to C, Oracle Pro*C, & Informix ESQ-L-C on HP-UX and AIX platforms. Developed preprocessor language to enable common source files to generate both Pro*C and ESQ-L-C embedded SQL. Was in charge of integration of all backend server code produced by 6 developers.

Designed software architecture & implemented multi-threaded / multi-process message routing kernel of the Cellemetry system for performing telemetry transparently over existing cellular phone systems. This effort included development of fault-tolerant middleware and inter-system protocols. The system was written in C/C++ using the DGM&S Omni toolkit and IS41/SS7 network interface. Also programmed HP IS41 protocol analyser in HP Pascal.

Architect of middleware layer as well as portions of the application layer for a multi-threaded real-time billing network for cellular phone services. The system was written in C++ using Sybase, DCE, & SNMP on AIX and HP-UX servers. Developed real-time process control, communications, and monitoring using custom X windows graphics displays and SNMP interface to NetView & SM/6000. Taught in-house classes on Object Oriented development and C++.

2/1993 thru 3/1994: Consultant Coca-Cola, Atlanta, GA Karen Gratton, Supervisor KEYWORDS: C++, MPW, MacApp, Oracle, Pro*C, SQL, client/server, Win31, OOAD, MVC	Helped develop two marketing promotions tracking systems for Coke where Macintosh and MS Windows custom applications were written to provide a uniform GUI front end to SQL databases. The databases were implemented with Oracle via central servers. The PC clients used Oracle PRO*C embedded SQL pre-compiler. The Macintosh programs were implemented with MacApp 3.0 using MPW and C++.
1/1993 thru 2/1993: Consultant Raytheon, Marlborough, MA Martin Greenstein, Supervisor KEYWORDS: C, DGUX, SunOS, Unix, X, Motif, DataViews, real-time, twm, mwm, graphics, embedded, MVC	Helped develop a rapid-prototype of an air-traffic control system. The system was used to demonstrate the capability of developing an ATC system built with open systems components (Unix, X). DataViews middleware was chosen as the rapid prototyping tool. Interfaced with actual ATC radar data from Frankfurt, Germany (DERD) and drove custom Sony 2K by 2K pixel color displays.
1/1992 thru 10/1992: Consultant V.I. Corporation, Northampton, MA Earl Billingsley, Supervisor KEYWORDS: C, C++, Unix, X, XDesigner, Motif, DataViews, real-time, SunOS, HPUX, DGUX, MVC	Helped develop interactive GUI editors for Commonwealth Edison, Hitachi, and Talarian using DataViews middleware, Unix, C, and X windows/Motif. The user could easily produce screens with real-time input & output elements that were linked via shared memory to user application programs. These editors were built with the DataViews GUI development package from V.I. Corporation as well as Xt & Motif. Also, developed a real-time digital radio GUI for ITT using DataViews rapid-prototyping tools on top of Open Look.
7/1991 thru 11/1991: Consultant Chevron Oil, Richmond, CA Rick Scheuerman, Supervisor HEADCOUNT: Supervised one other team member. KEYWORDS: VAX, VMS, C, FORTRAN, DataViews, Ingres, DecNet, real-time, graphics, client/server, embedded, MVC	Overhauled an oil refinery pilot plant monitoring system using DataViews middleware, Ingres, Vax VMS, C, and FORTRAN. This real-time system included several processes, distributed over DecNet, which communicated via message and file passing. Object-Oriented techniques were used in the redesign and implementation. System made extensive use of the DataViews GUI development package from V.I. Corporation.
11/1989 thru 5/1991: Consultant Orbital Engine Co., Perth, West Australia Mark Norman, Supervisor HEADCOUNT: Supervised 3 other team members. KEYWORDS: AOS, DGUX, FORTRAN, C, C++, Progress 4GL, X, Xlib, Motif, graphics, QA/QC, MS-DOS, real-time, relational database, education, Architect, embedded, Unix, MVC	Developed an automobile engine test & measurement system in DGUX, C, Progress 4GL, and X windows based on an existing system in DG/AOS FORTRAN. I developed a multi-threaded real-time middleware system which managed communications and synchronization via System V IPC. Object-Oriented development techniques were used in the design and implementation. System used HP75000 and HP3852 GPIB bus mainframes, IDEC Izumi PLCs, and Ono Sokki flow meters. Taught in house classes on Object Oriented development. Used Business Rules approach to configure system with rule scripts rather than hard coded logic.
4/1989 thru 9/1989: Consultant Operations Control Systems, Palo Alto, CA Derek Evans, Supervisor KEYWORDS: HP3000, MPE, Pascal/3000, Unix, Architect	Developed an object-oriented UNIX-like make facility for HP3000 systems to be marketed as a stand-alone product OCS/Make as well as being integrated into the OCS/Librarian product. Also produced maintenance & upgrade changes to OCS/Librarian.
1/1989 thru 3/1989: Consultant Stanley-Vidmar, Cincinnati, OH Kit Fitzpatrick, Supervisor KEYWORDS: Macintosh, MPW, C, DB-Vista databases, MS-DOS, IBM PC/AT, real-time, manufacturing, protocol design, communications, AppleTalk, embedded	Helped port and extend a real-time manufacturing controls system from an MS-DOS environment to the Macintosh. This version of the system was specifically for use in Apple Computer's Flexible Manufacturing System (FMS) in Fremont, California. The system controlled 1500 rotary storage locations along with assorted robot extractor/inserters and conveyors. It also updated part inventory and daily production schedule databases. The control system communicated with controllers from other vendors over AppleTalk network links.
3/1988 thru 12/1988: Consultant Cameo Systems, Santa Clara, CA Fred Hyden, Supervisor HEADCOUNT: Supervised 2 other team members. KEYWORDS: Macintosh, MPW, MacApp, Object Pascal, CIM, SQL, object oriented, 4th Dimension 4GL, protocol design, client/server	Macintosh team leader on project to develop computer-integrated-manufacturing (CIM) system for Genentech. Designed and implemented workstation prototypes. Macintoshes were connected to Tandem mainframe which handled central SQL database.
7/1987 thru 2/1988: Consultant Verilink, San Jose, CA Starry Chan, Supervisor HEADCOUNT: Supervised 3 other team members. KEYWORDS: communications, OSI, T1 (D4/ESF), protocol design, real-time, IBM PC/AT, C, DB-Vista databases, MS-DOS, QA/QC, Architect, embedded, 8052	Developed the multi-threaded software for a network management system for interfacing to Verilink's several types of T1 span monitoring equipment using D4/ESF protocols. The system allowed interactive access to individual nodes in the network as well as out-of-service testing (e.g. loopbacks). Background processing included alarm logging and performance data gathering. Wrote a complete OSI based transport system to implement secure communications between nodes over open phone lines with modems.
11/1986 thru 4/1987: Network Transport System Australian Associated Press, Sydney, Australia HEADCOUNT: Supervised 2 other team members. KEYWORDS: communications, VAX, VMS, C, Ethernet, Decnet, protocols, design, Manager, embedded	Performed a system design review of AAP's national satellite communications network. This involved analysis of the protocols of the various communication layers as well as software design. The system is VAX based written in C involving satellite, microwave, and phone line segments for interactive distribution of financial and wire-service data.
3/1986 thru 9/1986: Consultant FMC, San Jose, CA John Tope, Supervisor KEYWORDS: IBM PC/AT, Pascal, LANs, simulation, military systems, distributed database	Developed military vehicle simulations to demonstrate a distributed electronic control system implemented on a custom hardened local area network. Ten IBM AT computers were used to simulate various subsystems of trucks, tanks, APC, etc. and communicated over fiber-optic based network using distributed database techniques. Integrated modules produced by 2 other subcontractors.

<p>3/1985 thru 2/1986: Consultant Hewlett Packard, Cupertino, CA Jean Danver, Manager</p> <p>KEYWORDS: QA/QC, HP3000, Pascal, Modcal, C, HPE, MPE, HP-UX, Unix, HP Image database, compilers</p>	<p>Developed test suite of spec compliance and regression tests for Pascal and Modcal compilers for HP3000, HP9920, and HP Spectrum computers on MPE, HP-UX, and HPE operating systems. Developed tools to automate QA/QC process. Also performed some compiler maintenance.</p>
<p>3/1984 thru 2/1985: Consultant Applicon, Inc, Santa Clara, CA David Ross, Supervisor</p> <p>KEYWORDS: VLSICAD/CAM, PDP-11, VAX, RSX-11M, VMS, C, computational geometry, design maintenance, FORTRAN, Macro-11, FLECS, Pascal, device drivers, embedded, assembler</p>	<p>Prototyped, in VAX C, an expert-system to extract electrical circuit schematics from raw VLSI fabrication data. Also performed maintenance and upgrade programming for a multi-threaded VLSI CAD/CAM system based on PDP-11 & custom hardware. Development was on VAX VMS. Produced a new release in 8 weeks (no releases having been made in 2-1/2 years).</p>
<p>1/1983 thru 2/1984: Chief Scientist/Product Manager Management Blueprint Software, Los Gatos, CA Mike Lodge, Vice President</p> <p>HEADCOUNT: Supervised 4 other team members.</p> <p>KEYWORDS: IBM PC/XT, UCSD Pascal, artificial intelligence, Manager, database kernel, Architect, ontology, BA, Business Analyst</p>	<p>Developed a general purpose semantic-network (aka EAV entity-attribute-value) database system based on AI general knowledge database techniques. It used "NoSQL" architecture before the term was invented. The interactive environment allowed live user development of data forms, screen layouts, ontologies, and datasets to produce business-oriented Personal Information Management applications, which were sold separately for each profession. Integrated the system with subcontracted software modules and user applications. I taught in-house classes on ontology development. Managed 4 other developers.</p>
<p>3/1982 thru 1/1983: Consultant Management Blueprint Software, Los Gatos, CA Mike Lodge, Vice President</p> <p>HEADCOUNT: Supervised 2 other team members.</p> <p>KEYWORDS: Apple II, Apple III, IBM PC, TRS-80 II, Pascal, Manager, compilers, CAI, Architect</p>	<p>Developed PolyForm, a general purpose forms processing system with a form definition language interpreter, to facilitate implementation of the MBS customizable application package Presidents War Plan. Managed 2 other developers.</p>
<p>6/1981 thru 5/1982: Consultant OMEX, Santa Clara, CA Rob Spade, Project Leader</p> <p>HEADCOUNT: Supervised 3 other team members.</p> <p>KEYWORDS: Omsi Pascal, PDP-11/70, RSX-11M, Manager, design, ADABAS-M database, BA, Business Analyst</p>	<p>Team Leader in charge of design and implementation of the Batch Posting portion of the nation's largest automated title insurance system. Taught in-house Pascal seminars for other project teams. Designed high and low level database transaction languages and wrote a compiler for the HOL and an interpreter for the LOL which drove the ADABASE-M system.</p>
<p>4/1980 thru 2/1981: Consultant Aydin Energy Division, Palo Alto, CA Art Laursen, Supervisor</p> <p>HEADCOUNT: Supervised 10 other team members.</p> <p>KEYWORDS: Z80, Pascal, CP/M, O/S kernels, real-time, Manager, device drivers, Architect, embedded, assembler</p>	<p>In charge of software design and implementation for a \$25 million subcontract to a Lawrence Livermore Labs fusion reactor experiment. The contract called for 24 10-megawatt power supply control systems and 4 maintenance consoles interfaced to the power supplies. Wrote an entire multi-threaded multi-tasking system in Z80 used as the kernel and interfaced an off-the-shelf Pascal compiler to the custom operating system. Managed 10 other programmers on the project.</p>
<p>10/1979 thru 3/1980: Software Development Manager Personal Software (Visicorp), Sunnyvale, CA Peter Jennings, Chairman</p> <p>KEYWORDS: APPLE II, TRS-80, PET, Manager, QA/QC</p>	<p>Managed several independent authors of microcomputer software. Performed QA/QC and porting activities for entire product line. This was during the time that VisiCalc was introduced. Mitch Capor took this position when I left. He left 6 months later to start Lotus.</p>
<p>9/1978 thru 9/1979: MAXBASIC Project Manager National Info Systems, Cupertino, CA Arden Scott, President</p> <p>HEADCOUNT: Supervised one other team member.</p> <p>KEYWORDS: DEC-10/20, TOPS-10/20, BASIC, Macro-10/20, compilers, Manager, QA/QC, assembler</p>	<p>Took over managing the MAXBASIC compiler project for DEC-10 and DEC-20 computers when it was two thirds complete with over 200 extant bug reports. Instituted a bug report/enhancement request system used by entire product line of company.</p>
<p>3/1978 thru 9/1978: Programmer/Analyst Control Data Corp, Sunnyvale, CA Jen Bryant, Group Manager</p> <p>KEYWORDS: FORTRAN, CDC NOS, CDC Star, supercomputers, operating systems, mainframe</p>	<p>Member of Operating System Group for CDC Star supercomputer. Developed tools in FORTRAN-like language in which O/S was written. Learned structured development methodology and source code control systems.</p>
<p>9/1974 thru 1/1977: Programmer/Analyst Applications Group, FSU, Tallahassee, FL Don McEwen, Manager</p> <p>KEYWORDS: CDC 6000, KRONOS, COMPASS, FORTRAN, COBOL, graphics, data processing, education, mainframe, assembler</p>	<p>Designed/implemented applications for clients contracting with the Florida State University computing center in the following areas: Industrial Regression Model, Census Data Processing, Resource Use Projection, Pollution Monitoring Data Processing, Felony Caseload Data Processing, Student Evaluation Data Processing. Taught graphics seminars for FSU computing center.</p>
<p>1/1974 thru 12/1977: Student Florida State University, Tallahassee, FL Math/Computer Science, Major</p> <p>KEYWORDS: APL, Basic, CDC 6000, KRONOS, COMPASS, Pascal, FORTRAN, TUTOR, PLATO, compilers, language design, simulation, LISP, SNOBOL, COBOL, education, graphics, mainframe, assembler</p>	<p>Design and implementation of the EXLAX language/compiler used in a numerical analysis class. Implementation of discrete event simulation of queue network. Design/implementation of graphic 3-D maze game on PLATO system. Completed every course offered in the computer science curriculum with a 3.6 GPA. Tutored computer science students for extra money.</p>