Systems Architecture and Software Consultant

John K. Stevenson

1931 E. Apollo AVE., Tempe AZ 85283 (480) 820-8388 js@nomadic.com

Experience full life-cycle of development projects: Compilers, Emulators, Simulators, Editors, Telecommunications, Distributed-Processing, Data-Acquisition, Real-Time Operating Systems, Firmware and Device-Drivers, a broad background of varied projects provides me with a systems level perspective and the art of Invention.

Programming Languages: C, FORTH, bash, C++, Objective-C, ColorForth, LabView, HTML and ATLAS/ATSL.

Assemblers: PowerPC, PIC, ARM 7/9, Xscale, Blackfin, DSP, MIPS, 68K, x86, Z80, 8048, PDP-11, IV-90, and 6502.

Operating Systems: iPhone, OSX, Android, Linux/BSD/UNIX, Solaris, ERTOS, RTOS, VxWorks, MicroC/OS-II, and HPUX.

Methods: Agile, Pairing, Extreme, Lean/Scrum, UML, Hatley/Pirbhai Structured Methods, OOA/D/P, PERT/CPM.

Utilities: Xcode, Eclipse, OKAD, ClearCase, RUP, RTRT, DOORS and Simulators.

Hardware: GreenArrays, Intellasys S40, HA Clusters, SAN, CPCI, MVME, Emulators, XiLinx, and Logic Analyzers

Standards: DO-178B(A), ARINC; DICOM, HL7; ANS-Forth, ANSI-C, P1275; MilStd-498, ITU Telecom.

OTHER

Wrote "Scalable Linux Development Environments", http://www.tmcnet.com/it/oe0200.htm

Committee Member: Honeywell SSO Networking Security, ANSI ASC X3/X3J14 (1984-1998) and 1983 FORTH.

Founding member of TechSpan, Oregon, an educational training and consulting company.

Private Pilot Training.

October 1972 to June 1975 Active Duty: USNR Sonar Technician STG2, Vietnam service, Secret Clearance.

EDUCATION

Taught a small number of computer classes ranging from Operating System Design to Forth Language Programming. Many hours of coursework towards various projects, in school and seminars, towards a degree program.

EXPERIENCE

2009 October to Present: Developing custom iPhone software with several partners.

2009 April to August 2009: Contract Systems Analyst CEMSol for BAE, NY: Final review of Avionics Systems upgrade documentation. Performed coordination of documents and review of portions to insure DO-178B compliance.

2008 May to September 2008: Contract Systems Engineering work for HighRely, Phoenix AZ: Aircraft component certification project. DO-178B, (D), for a Flight Anomalous Event Recorder. Created: FTP, SVR, SAS, SCI, SCI Template, SECI and RTM. Commented on: SSS, SLA, SVP, SRD, PSAC, SCMP and SDP. Performed SVCP and ATP.

2008 January to 2008 May: Analysis of a new computer-chip, Incline Village NV: Provided Systems Analysis and review of a new 18 Bit Low-Power, Embedded, Multiple-Computer chip. Programmed and tested the chip in ColorForth. Utilized the VLSI design tool “OKAD” to analyze design features.

2007 July to 2007 November Contract Systems Analyst CEMSol for Rockwell Collins, Melborne FL: Analyzed aircraft component standards compliance, test code results reviewed. Organized Telecommuting development with Geographically distributed teams. Standards involved: DO-178B(A,B), ARINC, Rockwell Collins, and JavaScript.

2006 April to 2007 May: Systems Developer Programmer, Orthoscan Inc: Developed a Digital Medical Fluoroscope. Developed Embedded System-Software in PPC, C, PIC, and Bash with Linux, MacMini, Xilinx (ISE/EDK 8.2) ML403 and ML405 Boards; from the command executive, data entry editor: patient, configuration, diagnostics, remote management and configuration system; to the low level drivers, X-ray Power control, over-dose alarm, custom graphics, anti-aliased font rendering, and PACS DICOM image storage system.

2005 September to 2006 April: Contract Analyst, CEMSol, for Boeing IDS: Analysis of Aircraft operation standards for the C17 interoperability with Global-Air-Traffic-Management. Created HTML and Excel based data capture and reporting system, Measured systems for ARINC and RTCA standards. Provided reports based on Avionics Development Reports and USAF DRs. Validated CPDLC operations with DO-258, and DO-219. Utilized: Doors, Office, Amus, DO-178, Boeing Analysis Checklists.

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2005 April to September: Contract Programmer, MindLance for Intel: Development of drivers for Testing and Diagnostics in C, FORTH, and Assembler for the "Hermon" multi processor Cellphone System-On-a-Chip.

2005 January to April: Contract Programmer, Technisource for Smiths Aerospace MI: Ada code verification for Avionics. Compared ADA code with Requirements in DOORS and ClearCase. Developed methods source code reviews, and source analysis. Used Emacs for collaborative development, Organized Multi-Monitor Pair-Programming as applied to verification.

2004 May to October: Contract Programmer, NCS Corp: Embedded systems programming for US ARMY Land Warrior Project at CSC/GD; Developed custom drivers and applications running under Linux 2.6 kernel to maintain real-time battle information and operational data in a secure environment.

2003 April and Continuing: Writing projects, general Software Issues. Research and Analysis, on "Performance Team Programming," detailing theories of performance software techniques, such as Pair-Programming and Concurrent Design.

2003 March: Consulting Software Architect and Forth Programmer, Vertex: Designed system software architecture for FORTH based Nodal Satellite Multiplexer platform. Partitioned system, described logical interfaces, solved design issues, and optimized hardware utilization to eliminate need for redesign.

2002 Sept to 2003 March: Staff Programmer, Teksci: Verified test code with DO-178B, used Rational RTRT and manual-testing procedures.

2002: Multiple clients. Built custom secure embedded Linux systems using Redhat 7.2, Mgetty, PPP-2.3, and secure remote access techniques. Administered Windows 2000/XP, Redhat Linux, Debian, and Suse Linux.

1998 to 2001: Systems Architect/ Staff Software/ Firmware Engineer/ Software Engineer; Telecom Architecture, Motorola: Designed Linux based Clustered-Computing systems, and SAN oriented Fibre-Channel Fabric based Oracle Parallel Server Clusters. Wrote white papers on HA Clusters and "Scalable Linux Development Environments". Analyzed Infiniband architecture. Developed firmware for multiple VME/ CPCI boards. Assisted Debian porting of Linux to Motorola MVME16/7x, 68K boards. Built cross-compiling Linux GNU/AIX tools. Used PERL to Port Firmware Source. Cognizant engineer for Clariion Denali SAN RAID test system. Created web content for the Firmware and Telecom Groups.

1997 to 1998: Developer and System Administrator, Honeywell Satellite Systems: Development of "MATE" the "MDM Automated Test Environment" system. Wrote VxWorks startup and code update scripting for multiprocessor system, administrated SunOS 1.4 and development tools. Built automated test system installation packages for spacecraft communications simulator. Utilized: VME-RealSim, Software Through Pictures, MATRIXX, and Xbuilder.

1997: Systems Architect and Programmer, IsoQuantic Technologies: Developed Summa-Four Switch driver, Developed "SELDON", Decision Support Systems (DSS), and Systems administrator for on site Linux, Solaris, and MacOS.

1995 to 1997: Systems / software consulting, multiple clients.

1994 to 1995: Software Architect / Forth Programmer, AG Communications: Developed Forth based Advanced-Intelligent-Network, component Service-Node-Intelligent-Peripheral, a central office SS7 switch product:, voice response and other programmable features for the network. Represented AGCS in several standards meetings. Systems administration for Linux in systems for use as desktop development stations and USL Linux in test stands, Researched CHILL. Utilized: Object Oriented Forth, Solaris, Linux, and Dialogic.

1993 to 1994: Systems Programmer / Analyst, Naval Systems, Westinghouse OH: Systems Analysis and Design for a distributed data acquisition system: FTMS "Flexible Test and Measurement System", LabView, C based drivers, VXI development.

1988 to 1993: Consultant as Nomadic Software: Systems Analysis, Administration and Development, Unix and BSD Network Installation and tuning. Third Party developer at Ellery Systems, Inc. Add-on product design for Distributed Database-Processing system. SQL query widget design. Utilized: Astrophysics Data System (ADS), Knowledge Dictionary System (KDS), Ellery Open Systems (EOS). Developed a DOS system emulator for Silicon Graphics based unix(IRIX) machines. Installed XENIX Systems, Developed Radio Telemetry Systems for irrigation control and remote electric power meter reading.

1987 to 1988: Software Architect and Programmer, FORTH Programming for IBM ASD; Boulder, Colorado: System design of Graphics and Database software product, IBMCAD. Utilized: URFORTH, VM, AIX, IBM AT and PCFORTH.

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1986 to 1987: Systems Programmer, Compiler writer for GOULD, Ocean Systems Division; Euclid, Ohio: Developed an ATLAS like language compiler called ATSL for testing an acoustic array. Custom multiprocessor 68000 based test instrument was written in Assembler and FORTH. Utilized: MK-48 Torpedo, VME-10, Data Precision D6000, Wavetek 178, IEEE-488, Motorized crane with rotator, and Votrax.

1985: Systems Programmer/Lead Programmer, General Dynamics, Land Systems Division; Troy, Michigan: Battlefield Management System for Block II M1A2 tank. Developed System-Specification and Requirements for ERTOS, a Multiprocessor Real-Time Executive and 1553B Bus Controller programs using Real-Time Structured Development methods. Assisted in the development of Tank Displays and BIT. Conducted Project planning and scheduling using PERT methods.

Earlier work:

Systems Programmer: Developed the VideoWriter consumer product, wrote PHIS-DOS, and drivers in C, Z80 and 8048

Systems Analyst: For Bechtel: Determined status of an Arabian Airport Control System, programmed in FORTH.

Developed: Software for a portable typesetter in Z80 and FORTH; Operating System, font control and 6 axis motor control.

Developed: UNIX TERMCAP and PRINTCAP definitions. Utilized: Fortune 16:32 computer and UNIX 7.

Developed a Lumber Billing system. Utilized: CADO minicomputer and CADOL.

Founder: Techspan, an educational and training company we trained senior level engineering and marketing personnel.

Systems Programmer: Four-Phase Systems; Cupertino, California. Developed marketing and training tools.

Trainer: Seminar development and training of FORTH programming.

Developed: A typesetter simulation program, in 8080, simulating a Compugraphics Universal Typesetter on Ontel terminal..

Developed: Interfaces between Alpha Micro computer, truck weighing scale, and concrete batch control system.

Developed: Modified object code of Multi-Tasking-Basic (Business Basic) hard disk, added prioritized task dispatching and input fields.

Developed: Custom interfaces between Video, Computer and integrated “Carrel”, interactive educational workstation.

REFERENCES

Contact information on request:

John Gatti, Manager Motorola MCG, now retired, 616 868 7470

Mark Bellon, Lead Systems Programmer, Motorola Arizona, now VmWare, California.

Charles Glasser, Engineering Manager Orthoscan, now Honeywell, Phoenix Arizona.

Wallace Author, Lead Programmer Northrup Grumman Euclid Ohio, now General Dynamics, Arizona

Tom Perry, AGCS Lead Telecom Systems Designer, Retired, Phoenix Arizona.

Rene LeBlanc, AGCS Lead Programmer, Retired, Phoenix Arizona.

Eugene Larson, Lead Systems Programmer, General Dynamics, Troy Michigan, now Contracting, Washington State..

James Whaley, Lead Programmer Philips Home Interactive Systems, now Boeing, Washington State.