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### **Objective**

Seeking position as a Principal Engineer with a focus on systems architecture and object-oriented software development.

### **Capabilities And Experience**

#### **Leadership**

- Systems Architect
- Development team leader
- Scheduling and management
- Recruiting and selection
- Cost estimates and tracking

#### **Operating Systems**

- UNIX system administration
- UNIX software development
- POSIX API expertise
- NFS/NIS/SMB network administration
- Microsoft Windows

#### **Network Development**

- TCP/IP network administration
- TCP/IP Sockets API programming
- SNMP agent development
- CORBA client/server development
- VOIP, RTP, SCTP, MEGACO

#### **Literacy and Presentation**

- Author architecture documents
- Author design documentation
- Chair design reviews
- Author technical magazine articles
- Review technical publications.

#### **Software Development**

- C++ (16 years)
- C (20 years)
- UNIX scripting (PERL, sh, awk, & Tcl)
- Multithreaded programming
- Microsoft .NET development in C++

#### **System Design**

- Large systems
- Distributed systems
- Networks
- Fault tolerance and high availability
- Real time constraints

### **Technical Publications**

"Building Your Own WWW Server", BYTE Magazine, April 1995.  
"WebNFS: A File System for the Web", BYTE Magazine, November 1996.  
"Expect offers Unix Scripting", BYTE Magazine, April 1997  
"Autoconf Makes for Portable Software", BYTE Magazine, November 1997  
"Writing JavaScript Applications", BYTE Magazine, February 1998  
"Real Time Goes Mainstream", BYTE Magazine, July 1998

### **Acknowledged Expert Reviewer**

"UNIX Network Programming, Networking APIs: Sockets and XTI, Volume 1", W. Richard Stevens, Prentice-Hall, 1998  
"UNIX Network Programming, Interprocess Communications, Volume 2", W. Richard Stevens, Prentice-Hall, 1999  
"Programming Web Graphics with Perl & GNU Software", Shawn P. Wallace, O'Reilly & Associates, 1999  
"Graphics Programming With Perl", Martien Verbruggen, Manning Publications, 2002

### **Authored Open Source Software**

**Magick++**, the portable C++ API to the ImageMagick image processing library.

**GraphicsMagick**, a portable image processing suite. Principle maintainer of GraphicsMagick since November, 2002. Prior to that, a major contributor (since 1997) to ImageMagick, upon which GraphicsMagick is originally based.

## Professional Experience

### **Independent Contractor / Magnasync/Moviola / March 2005 – March 2008 / Hollywood, California**

Performed design and development related to many aspects of a large multi-channel audio recording system for POTS, T1/E1 links, and VOIP. Areas worked on include (but are not limited to): system initialization, networked real-time computer screen capture & playback (with synchronized audio and video), SMDR/CDR parsers for 19 different switches, fault detection and alarming, event reporting, time synchronization, database (PostgreSQL & MySQL), SNMP agent development, audio compression, data archiving/backup, serial port driver, OS API wrappers, Linux, and Apple OS X.

### **Senior Software Architect / ReQuest Multimedia / October 2003 to April 2005/ Ballston Spa, New York**

Participated in the development of the ARQ4 and VideoReQuest products. The ARQ4 is a highest-end Linux-based networked, database-driven, multimedia component for high-definition audio playback (envision an IPOD on steroids with a terrabyte of disk). The VideoReQuest provides a database-driven GUI interface to Sony DVD changers. ARQ4 is implemented in C++ and VideoReQuest is implemented in Java.

Discarded and re-implemented the initial implementation of the ARQ "port" from QNX4 to Linux 2.6.X in order to dramatically improve stability and performance. Implemented CD RIP and audio transcode capabilities. Performed Linux kernel modifications as required in order to improve bootstrap times and appearance suitable for a consumer product. Participated in system architecture, design and code reviews, and interviewed potential employees.

Implemented Linux initialization and support code for the AudioReQuest product.

### **President / Simple Systems / April 2002 to Present / Dallas, Texas**

Developed an image processing package, intended for sale, which targets the Microsoft Windows .net framework. The product delivers a Microsoft .net assembly which provides any .net-capable language (e.g. C# and Visual Basic) with access to several hundred image processing and 2D rendering operations. Responsible for product definition, research, design, and development using Microsoft Visual Studio .net Professional and Managed C++.

### **Staff Engineer / Alcatel USA / January 1995 to June 2002 / Dallas, Texas**

Systems Architect for Alcatel Signaling Server (next generation Switching Transfer Point) product. Duties involved requirements analysis, high level system design of system hardware and software. Wholly responsible for Ethernet switch matrix design.

Systems Architect for Alcatel USA VOIP Access and Trunking Gateways. Duties involved requirements analysis, high level system design, Ethernet switch matrix design, load analysis, performance estimation, and system operational scenarios.

Lead a team which developed a portable object-oriented protocol-independent messaging sub-system in C++ to support a large fault-tolerant telecommunications system. Duties involved requirements analysis, high level design, API design, coding, development of an automated test suite, performance evaluation, and tuning. Underlying technologies used are UNIX, POSIX, Solaris, LynxOS, pSOS, TCP/IP and the Berkeley Sockets API.

Developed a software build environment for a large (500K lines) C++ development project, with over sixty software developers, and supporting eighteen different build targets.

### **Software Tools Engineer / Interphase / October 92 to December 94 / Dallas, Texas**

Took on the challenge of transforming a highly-anarchistic and fragmented software development organization consisting of groups using different development toolsets and isolated computing systems into a much more uniform and friendly organization using a single toolset (based on GNU open source tools) and sharing computing resources. Represented the Engineering organization in dealings with the computer services department. Led a team which performed system administration for the computers (30 UNIX workstations, 25 servers, and 65 X

terminals) which comprised the Engineering network. Set up a corporate web server so that [Interphase](#) was one of the early web sites on the Internet.

**Independent Contractor / TIL Systems / July 92 to September 92 / Toronto, Canada**

Performed embedded SNMP Agent development for an X.25-based TCP/IP & IPX router.

**Systems Programmer / PUREDATA Research / September 91 to July 92 / San Antonio, Texas**

Responsible for firmware development of an SNMP agent for a 10BASE-T Ethernet concentrator based on software licensed from SNMP Research.

**Systems Engineer / Alamo Technology / September 86 to September 91 / San Antonio, Texas**

Project Lead for MK12/12A RSTS Mass Memory Module development program. Responsible for managing (and recruiting) four other engineers. Duties involved project scheduling, PERT diagramming, GANT charting, project cost estimates, job task assignments, project reviews/reports, and engineering reviews besides normal engineering design duties.

Lead Engineer for the design and development of an automated test system called ETTAS used by the USAF to test all of its jet, turbo-fan, and turbo-prop aircraft engines. Performed all interface design for the system. Developed requirements and design specifications. Responsible for supervising initial installations. Responsible for developing embedded firmware (written in C) for a data acquisition system. Supported the development of specialized printing and analog measurement assemblies to replace outdated equipment in a nuclear weapons test system.

**Education**

B.S., Electrical Engineering, St. Mary's University of San Antonio.