
Objective Seeking position in computing technology design, development, and management with growth and learning opportunities.

Professional Experience 2007-Current Crystalfontz America, Inc. Spokane Valley, WA
Lead Software Engineer

New product development including designs, specifications, and implementations.
Crystalfontz designs and manufacturers custom LCD modules for a variety of markets.

- Ported FreeRTOS and Newlib (libgloss) to an ARM9 platform
- Created interface software to drive a Sitronix controlled display
- Implemented watchdog timer support for the LCDProc project using our LCDs
- Created demo code for a demo board line for graphic LCDs
- Manage the company-wide Subversion repository

2005-2007 Ask.com, Bloglines.com Colbert, WA
Senior Software Engineer

Created feature additions and improvements to Ask.com's Bloglines product including the 3.0 redesign. Bloglines is a web-based aggregator for standard news feed types including RSS and Atom.

- Generalized their caching solution for use with Users, Subscriptions, and Sites
- Redesigned and implemented their system for tracking read and unread articles
- Worked on a load balancing system for distributing feed data across multiple machines
- Improved the open-source apr_memcache to include support for retrieving data from multiple keys in one pass.
- Security fixes and improvements to diffuse client side scripting
- Created a series of Publisher Tools for feed publishers to authoritatively claim a feed they own within Bloglines and control its appearance
- Created tools to communicate with blogging services using the Atom API and XML-RPC

2005 The Technical Committee Bellevue, WA
Senior Development Engineer

Validating documentation and software relating to the Civil Action of the United States of America v. Microsoft Corporation. Implementing Microsoft communication protocols and associated servers as a method of testing the documentations' completeness with regard to the settlement Section III E for the Department of Justice.

- Settlement: <http://www.usdoj.gov/atr/cases/f200400/200457.htm>
- Writing implementations from scratch of Microsoft's Rights Management Server, Media Digital Rights Management Server, System Message Block (SMB), Common Internet File System (CIFS), and Print/Fax Services
- Protocols Implemented on Fedora Core 3 Linux using TCP/IP, DCE RPC and SOAP
- Experience with XrML creating a Microsoft Compatible Rights Management System
- Created SOAP Service Modules for Apache using gSOAP
- Linux System Image Deployment Service for Developers and Integrators

2005-Current Bitstruct, LLC Colbert, WA
Owner, Communication Consulting and Voice-
over-IP Telephony Reseller

Owner of a communications consulting firm and web based retail store for sales of telephony products for traditional and voice-over-IP (VoIP) communication products. Developed our own store and shopping cart system. Manage our shipping staff and relations with our distributors. Provide consultation for clients considering migrating to VoIP and provide communications architecture design and installation services. Created networks and distributed computing systems for large-scale data analysis.

- Sales of VoIP Systems and Endpoints Supporting SIP and H.323
- Value-Added-Reseller and Integrator of Vonage VoIP Services
- Created a Configurable Notification System for Asterisk Open Source PBX
- Worked on a Python/Web based Configuration System for Asterisk
- Created deployment tools and software for a 80 CPU computing system using Fedora Core and Unified Parallel C

2004-2005 Getronics, Financial Business Solutions Liberty Lake, WA
Financial Software Engineer

Software engineering and development of loan software for several financial institutions including the largest financial institution in the world.

- Interface Design and Programming
- Implementing of new Loan Qualification Features such as new Collateral Requirements for Using Collateral in the Refinancing of a Balloon Payment
- Online Loan Approval and Real Estate Qualification Tracking Systems
- Interfacing with SQL Databases for Loan Application Processing
- Communications Programming with TN3270 to Mainframe Connectivity for Loan Booking
- Web Based Project Management and Versioning Tools with Microsoft .NET and C#

2000-2004 Cyan Worlds, Inc. Mead, WA
Senior Network Programmer

Architecture design and implementation of a network protocol and server system for a massively multiplayer online game and a LAN based game. Various engine programming including logging systems, statistics tracking, voice recording systems, multi-platform threading library, and stream libraries for reading and writing data across platforms. Managed the server systems and content rollout.

- Titles collaborated on: RealMyst, Uru: Ages Beyond Myst (Single player and Live Online), Uru Expansion Packs 1 and 2, Myst 5 (working title)
- Design of Web-based Administration and Monitoring Tools in Perl and Python
- Audio Programming for Voice Chat in a 3D Environment
- Low Latency Reliable UDP Protocol Design and Implementation for Gameplay and Voice
- Apache HTTP Web Server Authentication Module Design and Implementation
- Design of Customized Linux Based Operating Systems and Kernels for an MMO
- Python Embedding and Binding to C++ for Scripted Clients
- Server Porting and Seamless Interaction Across Windows, Linux, IRIX, and NetBSD
- Network Packet Sniffer Plug-ins Design and Programming
- Network Design and Architecture for a Clustered Server System
- TCP Network Packet Encryption with SSL and UDP Packet Signing for IP Spoof Protection
- Interviewed and Expanded the Networking Staff with New Programmers and Interns

- SNMP MIB Design and Implementation
- Interfaced with SQL Databases for Game State, Accounts, and Logging

1995-2000 Shore Information Services, Inc. Allenwood, NJ
 Owner/Consultant

Operated an independent software, hardware, and data communications contracting firm. Set specifications and budgeted several clients as a contractor and subcontractor. Added data and voice networks for several Local Exchange Carriers. Wrote software for Lucent's PathStar (VoIP) product.

- Local and Wide Area Networking (Ethernet, Frame Relay, Channelized T1, ATM over DS3, OC3, Point-to-Point Wireless, Secure Wireless)
- System Programming and Administration on Windows (through XP) and UNIX (IRIX 6.x, LINUX through 2.6, Solaris through 9)
- Application Design for Simplifying Dial Plan Creation and Bill of Material Generation Systems
- Linux Driver Development and Modifications on Realtek 8139 and Prism2 network drivers
- Dynamic Web Design (Databases, Java Script, Active Server Pages, Perl, PHP)
- Embedded System Controllers: Design and Programming
- Voice over IP product development, deployment, and network integration
- Site deployment management and coordination of Lucent PathStar Systems (1998-2000)
- Worked as part of Lucent's PathStar Product Management Team
- Class 5 Telephone Switch Dial Plan Creation
- Clients: Lucent Technologies Data Networking PathStar Project, Lucent Technologies Global Product Compliance Laboratory, Renaissance Networking Integration, Inc., 3Com Corporation, Lucent Technologies Global Environmental Health & Safety, Evergreen Data Associates, Inc., Media Vision, Inc., Delfino & Parker, Inc.

1993-1998 Lucent Technologies Global Product Holmdel, NJ
 Compliance Laboratory
 Network System Designer & Administrator,
 Test Technician

- Designed Compliance Test and System Automation Software
- Designed Applications for Test Report Generation
- Created a Local and Wide Area Internetwork
- Performed Electromagnetic Compatibility (EMC) Compliance Testing

Education

Bachelor of Science, Lehigh University, Bethlehem, PA

- Research with Prof. Terrance Boulton in Omnidirectional Computerized Camera Systems and Video Networking
- Research using Video Capture and Network Transmission with Embedded Systems and TCP/IP
- Research into Computer Audio/Video Compression and Network Transmission with Wired and Wireless Networks for Wearable Computing
- 3D Graphics Programming using OpenGL
- Voice Conferencing over TCP/IP in a Simulated 3D Environment

Professional Memberships

- Lifetime Member of the Armed Forces Communications and Electronics Association (AFCEA)
- Member of the IEEE

Professional Skills

- Programming Languages and APIs: C, C++, C#, Visual Basic, Perl, Python, Java, Pascal, PHP, SQL (MSSQL, MySQL, Oracle), PIC C, 8085 Assembly, ARM Assembly, MIPS Assembly, Win32 API, Winsock 2.2, LibC (Linux, Newlib), OpenGL, MS .NET Framework, ASP, Clearsilver, Berkley DB, and Apache Portable Runtime
- Data Network Protocols: TCP/IP Suite, Ethernet, ATM, SSL, SOAP, HTTP, SIP, MGCP, RTP, H.323, LDAP, RIP, OSPF, BGP, SNMP
- Telephony Network Knowledge: ISDN (PRI, BRI), SS7, VoIP, Class 5 Vertical Features, North American Numbering Plan
- Network Hardware: Cisco Routers, Switches, and Firewalls; Nortel Data Switches and Telephony Switches (DMS500, DMS100); Lucent Routers, Data Switches, Telephony Switches/PBXs (Definity, Pathstar, Merlin); Wireless Access Points by many manufactures, Custom Designed IP PBXs
- Electronics: PIC Microcontrollers, ARM Microcontrollers (ST and Luminary), Single Board Computers, Embedded System Design and Programming
- Markup Languages: HTML, LaTeX, SGML, XML, XrML