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Objective

Use extensive design and development experience with current technologies to deliver high-performance and high-value end-user applications.

Summary

20+ years of professional programming experience, with a strong background in object-oriented programming and design for highly networked systems. Three years of Smalltalk programming; 18 years of C++ programming, with an extensive pure C background. Utility and data-analysis programming in Scheme and other specialist languages. Recent development work in C#. Other skills in computing technologies including content management, relational database design, client/server systems, testbed development, workflow analysis, networking, internet architecture and compiler development.

Technical Skills

Languages & Toolkits

Assembly, C/C++/C#, CLIPS, Java, Lex/Yacc, RubyOnRails, SQL, Scheme, Smalltalk, Standard ML, Tcl/Tk, TeX, XML/XSLT/Schema

Databases and Platforms

Ant, AOLServer, CORBA, IBM Websphere MQ, Linux, MySQL, MS SQL Server, ODBC, Solaris, Sybase

Accomplishments

Software Development

- [SSC] Refactoring, and protocol design to transform monolithic software into a scalable client-server system.
- [SSC] Development of a market price feed simulator in C# using DDE and Reuters SSL protocols.
- [SSC] Major re-design of price feed architecture including extensive analysis, profiling and test tool development.
- [SSC] Designed and developed IBM MQ gateway server.
- [HSS] Developed prototype content management system for a Christian event promotion business.
- [HSS] Developed prototype UIs for USA HIPPA-compliant social service case management systems.
- [HSS] Developed ETL and data reconciliation software to unify Irish addresses and place names. Data supported interactive web-site for Irish geographical data.
- [AOL] Full lifecycle development for high-volume CM systems.
- [AOL] Analysis and design of global content-distribution network infrastructure.
- [AOL] Evaluated video content management systems load and performance characteristics to assess scalability costs.
- [AOL] Search system design, development and integration
- [AOL] Instant Messaging and SMS system architecture, design, development, scalability testing, data analysis.
- [AOL] Development and data analysis for member profiling systems.
- [BBT] Design and development of error-handling architecture for RTOS switch applications and network management.
- [BBT] Design and analysis of real-time priority-inheritance locking scheme.

- [BNR] Design, implementation, and test-bed development of OSS provisioning protocol and associated API libraries.
- [BNR] Implementation and test-bed development of OO database services in support of OSS provisioning protocols.
- [IMN] Design and implementation of C++ embedded rules engine (forward-chaining production system) with dynamic rule-base loading.
- [IMN] Extensions to Smalltalk forward-chaining production system
- [IMN] Workflow management system architecture, design, and development.
- [RSI] Data architecture and UI development of hospital information systems.
- [RSI] Design and implementation of 3270 EHLLAPI screen-scraping library
- [RSI] Test design and validation of multi-threaded, parallel applications.
- [CSI] Designed portable cell-controller software including network programming language
- [CSI] Designed and developed network interface drivers for ISO protocol stacks
- [CSI] Architecture, design and implementation of ISO presentation and application layer protocol gateways using formal BNF specifications of protocol interactions.
- [CSI] Design, development, and maintenance of YACC-compatible event-driven parser generator
- [CSI] Developed a serial device driver for PC-MOS (an early multi-tasking MS-DOS extension)
- [ABC] Implemented and ported PLC programming software from MS-DOS to chronOS (a real-time OS) and VMS
- [ABC] Developed ISO upper layer software and scenario interpreters for network interoperability testing.
- [CC] Ported and maintained terminal emulation software on first-generation PCs for Univac systems.

Applied Research

- [AOL] Adapted data clustering and sequence mining techniques from bio-informatics to information retrieval problems. The problems included offensive web-search filtering techniques, spam filtering, online-behavioral analysis. Additional applications to server failure-mode analysis were explored.
- [AOL] Simulated the interactions between content access patterns, internetwork topologies, and server loads to determine optimal network architecture and hardware requirements for global content distribution systems.
- [IMN] Completed a technology survey of object-oriented forward-chaining expert systems, including theoretical work on the difficulties in extending traditional models to object-oriented frameworks.
- [RSI] Refined internal software design and development patterns through the application of functional programming principles and category theory to object-oriented development.
- [RSI] Debugged numerous problems with development platform and in-house framework internals based upon broad knowledge of networking, operating system and virtual machine architectures.

Leadership & Management

- [HSS] Founding director of corporation. Developed business plans and the technology to implement them. Negotiated content deals for website products.
- [AOL] Assumed architectural responsibility and technical leadership for 10-year old ETL and content management systems and produced roadmap documents for the renovation of vital infrastructure. Supervised the implementation of the roadmap systems.
- [AOL] Evangelized the use of industry standard ETL tools (AbInitio) and web service architecture (SOA) throughout the web-publishing organization. Provided technical oversight and evaluation of pilot projects for all new technologies in web publishing.
- [AOL] Designed and reviewed key components of the AOL Video infrastructure roll-out, providing technical direction for all metadata and content management development connected with the video initiative. Coordinated metadata definition, responsibility and ownership among a globally distributed development team.
- [AOL] Development of ontology standards and their consistent usage patterns across AOL's content products.

- [AOL] Designed and reviewed system architectures for the capture and maintenance of controlled metadata vocabularies.
- [AOL] Completed several project transitions between different global branches of a multi-national corporation. Project transition included documentation development, preparation of training materials, and mentoring in design and development processes.
- [AOL] Led and participated in development of software process standards for a global organization.
- [CCM] Coordinated multicultural research group for community development efforts in Albania. Successfully communicated vision and project requirements. Achieved a high level of work product ownership among the group members.
- [IMN] Coordinated small software team to develop a workflow system and integrate it into a hospital (ADTR) information system. Developed work plans and identified appropriate personnel to complete the system integration. Developed documentation and trained client team members in system application.
- [CCH] Reorganized a troubled group into a coherent team by identifying and articulating the vision of motivated individuals. Developed a mutually supportive team culture which encouraged individual growth and corporate identity.
- [CCH] Supervised food-service operations which fed over 400 people per day.
- [YWAM] Achieved conversational fluency in Japanese, with technical fluency in specific subjects.
- [YWAM] Developed accounting procedures to enable the expansion of local community services. Elements of the methodology were used by the national organization, enabling staff to more clearly articulate vision and concretely plan its implementation.

Work Experience

- [SSC] SS&C Technologies Ireland Limited [2008]
- [HSS] Heureka Software Systems, Ireland [2007-2008]
- [AOL] AOL Technologies, Ireland [1999-2006]
- [BBT] Contract work at BroadBand Technologies [1999]
- [BNR] Contract work at Nortel [1997-1998]
- [IBM] Contract work at IBM [1996-1997]
- [IMN] Imonics Corporation [1995-1996]
- [RSI] Raleigh Systems, Inc. [1992-1995]
- [CSI] COMMSOFT Inc. [1986-1987] [1989] [1990-1991]
- [ABC] Allen-Bradley Corporation [1985-1986] [1988]
- [CC] Chi Corporation [1984]

Education

- [NUIM] PhD Thesis (in progress): Non-Standard Interpretation of Mathematical Expressions [2010]
- (AOL) Independent Study in Information Retrieval and Data Mining [2001-2003]
- [CCM] University of the Nations, College of Christian Ministries [1999]
- (IMN) Independent Study in Expert Systems [1996]
- (RSI) Independent Studies in Functional Programming and Category Theory [1994-1995]
- [CCH] University of the Nations, College of Counseling and Health Care [1989] [1992]
- (CSI) Independent Studies in Programming Languages and Compiler Design [1990]
- [YWAM] Youth With A Mission, Tokyo, Japan [1989-1990]
- [CWRU] Case Western Reserve University, Computer Engineering [1982-1986]