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Software Engineer
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"Always looking forward to what I enjoy doing most."

Qualifications:

- Thirty years of programming experience (including childhood starting in 1984)
- Twenty years of professional programming experience in C and C++
- Fifteen years financial payments processing experience
- Front End Authorization and Back End Settlement for Debit and Prepaid processing
- UNIX and Windows software development
- High Performance On Line Transaction Processing design and development
- Multi-platform system development
- Cryptographic network application security using well known algorithms, protocols, and APIs
- Use of cross platform (Win32/UNIX) open source C++ GUI libraries such as Qt and FLTK
- Database layout and application design and development with many databases (such as DB2, SQL Server, Oracle, MySQL, SQLite) using SQL, native database APIs such as OCI and CLI
- Real-time development of embedded micro-controllers and PCs with Linux, RT-Linux kernel modifications, and custom operating systems and controller libraries
- Business process analysis for streamlining, automation, and data handling/processing
- Business accounting analysis and development experience
- Follow Common Software Development Life Cycles (SDLC)

Operating Systems:

Linux • AIX • Windows • Solaris • MacOSX • HP/UX

Programming Experience:

C/C++(11):

- Cross platform project development of Client and Server software for UNIX/Linux and Windows supporting multiple compilers (e.g. GCC, XLC, and Visual C++)
- Make use of polymorphism in designs to provide scalability and abstractions from various subsystem details (e.g. Multiple database APIs, Mixed intercommunication link adapters, B2B integration, System I/O)
- Designing template classes and using many container classes such as those in the STL
- Designed and developed easy-to-use class libraries with exception handling used as wrappers of system level functions (e.g. Socket communication, Multi-threading, and File Access), encryption algorithms (e.g. RSA, AES, RC4, DES, MD5, etc...) and APIs (i.e. OpenSSL), 2D graphics handling, and business logic
- Designing and developed high availability secured transaction oriented systems on multiple platforms natively
- Designed and developed real-time enterprise system monitoring infrastructure
- B2B; Bridging legacy systems to modern systems with common and custom protocols
- Embedded system design and development for a variety of applications
- Developed high speed parser classes for high volumes of XML, delimited, and fixed width data

Programming Experience (Continued):

DB2 / SQL Server / Sybase / Oracle / MySQL / SQLite

- Server installation, design database layouts, setup security and automated maintenance
- Work with ODBC, ADO, OLEDB and native API
- Extensive knowledge of SQL both standard and native
- Use of native APIs such as DB2 CLI, NTWDBLIB/FreeTDS, OCI, mysql.lib

Awk

- Use for general utility scripting
- Automated system statistics reporting
- Preprocessing of file from specialize applications
- Parsing and transforming of data

Visual Basic

- Wrote VC++ components to enhance performance of VB applications
- Designed and lead many projects blending both VC++ and Visual Basic
- Wrote many COM components to be used by other VB developers
- Developed ActiveX components in VB to be maintained by other VB developers
- Developed client applications utilizing COM/ActiveX, Win32, TCP/IP, ADO, and ODBC

Java

- Developed back-end services for corporate system monitoring
- Used for multi-platform GUI applications and for transaction based server development
- Integrated Java with other systems in a distributed environment using TCP/IP

Web / HTML / JavaScript

- Designed web sites with pages offering content validation, frames, tables, etc.
- Developed graphics and animations
- Interactive interfaces with JavaScript
- Created web based interfaces to legacy systems for inventory queries, order placement, and data access

Leadership

- Streamline many development processes/projects through proper resource management
- Able to efficiently manage and apply the skills of both experienced and inexperienced developers on the same team to meet team goals
- Able to manage effectively regardless of personality types
- Commonly dealt with both mixed language and mixed platform development environments
- Always able to take suggestions from anyone
- Believe that high morale leads to high creativity and productivity

Work Experience —

First Data Corp.

9/2009 – Present

Sr. Application Architect

- Designed and Developed a mission critical system-wide processing engine in C++ for First Data's Smart Routing
- Subject Matter Expert for Debit processing and Debit Network routing
- Application Architect for debit processing systems
- Author of process to handle implications for the Durbin amendment to the Dodd-Frank WallSt Reform
- Author of First Data's TransArmorTM Monitoring Backend
- Author of utility process for time saving

FIS / eFunds / Wildcard System, Inc.

3/2002 – 9/2009

Sr. Application Analyst

- Part of the Data Center Systems team as senior business systems analyst/developer and a financial settlement processing subject matter expert.
- Design and develop multiplatform enterprise level real-time monitoring system in C++ for support and management staff use.
- Lead a team of developers in backend systems development and maintenance
- Have also been tasked with personally leading the design and development of a business intelligence system that is now live but still evolving.
- Maintain, enhance, troubleshoot, repair and optimize processes and data used for settlement processing.
- Mining of data for research, auditing and troubleshooting.
- Expanded internal charge back system ASP interface to support Visa international charge back exhibit forms.
- Rewrote MasterCard settlement batch loaders with one other team member to support GCMS (ISO-8583) update in Java reusing existing code to meet short deadline.
- One of the few authors of SQL Server Extended Stored Procedures in the company using C/C++.

Tangent Associates, Inc.

11/2001 – 3/2002

POS Application Developer

- Was hired primarily to design, develop and implement the Stadium POS system industrys first fully TCP/IP based POS system in C++ for embedded systems in a very short time.
- Developed centralized POS station management service software for Windows and Linux servers.
- Led development of embedded POS station software for StrongARM Linux using GCC.
- Designed a custom fully automatic configuration protocol based on the DHCP and BOOTP specifications to reduce the needed knowledge base of the clients network administrators.
- Designed redundant self updating subsystem for the POS station software for central deployment of software updates

Wildcard System, Inc.

8/2001 – 10/2001

Application Analyst

- Assisted in complete redesign of reporting system front and backend used by the company; The system was designed to use any database and run on Windows with later intent for UNIX migration.
- Wrote a parser in C++ to read a large number of existing Perl reports and reporting utility scripts; The parser was used to migrate all embedded queries and hard coded data used for reporting to the newer dynamic architecture.

- Added support for dynamic internationalization of currencies and languages to the old Perl system and new systems.

Innerhost, Inc.

2/2001 – 8/2001

Software Developer

- Assisted in analysis of business software requirements for billing, A/R, and collections.
- Implemented custom business policies to Portal Software's Infranet billing system used at iINNERHOST

Dynamic Imaging, Corp.

8/1998 – 2/2001

Head of Research and Development

- Established complete plan and process for multi-platform development of entire product suite.
- Designed standard processes for documenting, designing, and developing all software products.
- Wrote a multi-platform polymorphic database API wrapper that encompassed all major native database APIs for an average performance benefit over ODBC of about twenty percent.
- Developed training for new hires in multi-platform development methods.
- Personally responsible for all cryptographic security measures developed and implement in the enterprise class suite this included SSL communication, custom protocols based well known algorithms, certificate generation, and security auditing of clients internal and external network infrastructure.
- Consulted with clients on how they could implement or improve the security of their infrastructure from internal and external invasions with the lowest cost and simplest practices, for both Windows and UNIX systems.
- Designed and developed a multithreaded digital image storage/retrieval server that compiled on UNIX and Windows from the same C++ source code.
- Established Qt (www.trolltech.com) as the GUI tool kit of choice for our product suite.
- Developed performance monitoring tools using FLTK (www.fltk.org) due to improved graphics support.
- Wrote many custom applications for customers using MFC, Visual Basic, or Qt depending on their needs.
- A complete set of toolkits/APIs was developed to allow customers and VARs to customize the look and feel of our document imaging product suite, these tools were in the form of COM/ActiveX components, CORBA components, C libraries, and C++ classes.
- The web product was designed to run as a stand alone server it was written primarily in C++ for high speed image rendering and conversion and used JSP to handle basic session management.
- The entire document imaging product suite ran natively on many platforms and used encrypted XML bundles on top of TCP/IP as its primary method of communication between all of our products.
- Also wrote a single pass XML parser that allowed for midstream parsing of XML data mixed with RAW binary data.

The Maxim Group

5/1998 – 8/1998

Software Developer(Short-term Contractor)

- Conducted analysis for porting an international development effort (30+ developers and three backend Web products) from Win32/MFC to a UNIX environment in C++ using NSAPI or raw CGI.
- Designed and implemented multi-platform internet protocol wrapper classes in C++.
- Demonstrated suggested approaches for multi-platform development based on analysis.
- Worked with the team on general web development tasks for their travel reservation system.

Advanced Information Technologies

10/97 – 5/98

Software Developer

- Worked on Design and development of a corporate service/repair and dispatch system for BrandsMart USA Service Center in a team environment complete with logistics support for parts inventory/usage tracking with the combined use of Visual Basic and C++.
- Multilanguage environment allowed for development of COM components using ATL to handle common transactions for speed and Visual Basic to host the components and for the GUI development based on the required business logic of the company. This was before VB supported component development.
- Developed custom applications on an as needed basis in Visual Basic and Visual C++.
- Assisted in Writing of design, technical, and user documentation.
- Assisted in port of a legacy application used in Collier County Property Appraisers office to VB.

State of FL, Dept. of Community Affairs

9/96 – 10/97

Systems Analyst/Developer

- Coordinated migration from Novell based systems to Windows NT.
- Developed custom software in Visual C++ for the transfer of large amounts of data for the migration effort.
- Acted as a liaison for migration issues between the State and FEMA (Federal Emergency Management Agency).
- Wrote user and technical documentation
- Trained employees on the use of custom applications to repair corrupted data in the Novell System.
- Provided support to employees for custom and legacy applications.
- Defined the structure and security used for the new Windows NT network.

R/M Equipment, Inc.

8/94 – 9/96

CNC Programmer / Assistant Prototyping Machinist

- Designed mass production manufacturing processes for military and local authority weapons accessories.
- Developed software for computer automated mass production machinery.
- Designed and machined custom holding fixtures to increase production efficiency.
- Developed embedded software for 8-bit micro controllers in C and assembler for prototype systems.
- Interfacing software for the micro controllers was developed in Visual C++ 1.5.
- Redesigned and machined many first run prototypes for field testing.
- Made daily use of mathematics in mechanical and software design for trajectory calculations and curves.
- Responsible for all technical, design, and research documentation

Harris Lanier

1989 – 1994

Technician / Programmer

- Custom software development for clients in C.
- Presentation and documentation management software development.
- Component level repair of electronic office equipment such as presentation systems, micro fiche readers and copiers.
- Submitted electronic update proposals for review and implementation into production equipment.