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Professional Objective

Working with a team to learn and utilize the most recent tools available to build exceptional applications providing a great user experience.

Computer Experience

Development Languages and Technologies: C#, Java, C++, C, XAML, WPF, Silverlight, XML, HTML, ASP.NET, C#, Visual Studio.NET, .NET Compact Framework, Visual Studio 2008, Expression Blend, Eclipse, Netbeans, WCF, Web Services, J2EE, JBoss, JMX, JMS, Servlets, JSP, Struts, Web Services, XDoclet, Apache, Tomcat, nANT, ANT, TCP/IP, SSL, SQLServer, MySQL, sh, bash, Perl, UML, Subversion, Hudson, Trac, BugTracker, FogBugz, Bugzilla.

Operating Systems: Windows, Linux, Android.

Education

B.Sc. With Specialization in Computer Science, May 1994
University of Alberta

Overall GPA: 7.0 out of 9

Advanced Matriculation in Sciences, June 1988. Graduated Valedictorian. Student Union President.
New Norway High School

Employment History

Senior .NET Developer
ICx Vision Systems `http://visionsystems.icxt.com` (Phoenix, AZ, Telecommuting)
October 2007–Present

Pure Technologies sold the division of the company that I was concentrating all of my development effort on, PureActiv. PureActiv is a wide-area surveillance application written in .NET. I have been working with a team of 5 developers in Phoenix, Arizona to grow this software into a multi-million dollar business.

Projects:

- Recently completed a project written entirely in WPF, Xaml, using a Model-View-ViewModel architecture that provides a very easy way to collect forensic video data, across all of the cameras on a site. The MVVM architecture provided a very live, data-driven experience to the user.
- Implemented many integration modules for PureActiv using a dynamic XML protocol developed in house. Changes in the XML are fed to our mapping technology to allow display of dynamic tracks on the map, configuration of monitoring zones, and dynamic updates to the state of animated objects.
- Scene Analyzer client development. Used WPF and Xaml, Expression Blend, to provide a good looking, and user friendly interface to a video analytics edge device. Worked with a team of two other developers to implement many of the features of the application.
- Was solely responsible for the installation and maintenance of the Subversion repository, Hudson continuous integration build server, a Trac repository for providing help for the support team, and a BugTracker database for tracking and completing work on bug reports.

Software Developer
Pure Technologies (Calgary, AB)
April 2004–October 2007

Hired by a progressive hardware and software development company specializing in systems for remote monitoring to

develop software primarily for the Microsoft Windows platform. Development of remote camera viewing software, large dataset visualization software (2d), database system design, and development for handheld wireless pocketPC devices. Development of several production ASP.net systems with MapGuide GIS integration. Integration of Java Applets with Microsoft.NET Web Services.

Projects:
- Several Piccolo based graphical applications for remote camera control were my responsability. I have written a Java applet, a .NET Windows Forms application, and a Compact Framework application all with similar functionality using the three versions of Piccolo. Unique camera control features such as point and click, bounding box zooming, and click to control are proving to be very marketable to Pure.
- Worked with the team leader over the course of a month and a half to develop a fully integrated GIS based camera control application that provides unique contextual control capabilities.
- Built a web service, and accompanying applet for zoomable viewing of 2d signal data from a variety of sensors deployed around the world. The sensors monitor the health of piplines, and buildings, producing many sampled data points. This data can be quickly scanned, panned, and zoomed down to the individual sample level, in real-time driven by a database backend.

Software Developer
Ottawa Health Research Institute - Ontario Genomics Innovation Centre (Ottawa, ON)
January 2003–April 2004

Design and implementation of several information systems for an academic institute doing research into stem cells. Part of the Stem Cell Genomics initiative, a small team of scientists and developers will be providing laboratory services and creating software applications to provide more information on the function and operation of cells during the process of differentiation. `http://www.ottawagenomecenter.ca`

Projects:
- Completed an application to plot data from Affymetrix GeneChip experiments to help locate active genes in muscles during cell differentiation.
- Using JBoss to complete an e-commerce server for the DNA Sequencing and GeneChip facility within our lab. Extensive code generation directly from SQL schemas was used to rapidly deploy a Struts based J2EE application.
- Developed another database-driven web application using JBoss, Struts, AndroMDA, and MySQL for storage of GeneChip experiments related to Stem Cell research called StemBase. One developer and I designed, implemented, and deployed the application within 2 months of initial requirements. Iterative, model driven development process allowed very fast development cycles and a very modular application. The project has since been rewritten in PHP, but the database schema has survived relatively intact. `http://www.stembase.ca`

Senior Software Engineer
Texar Corporation
January 2000–December 2002

Completed a number of creative efforts ranging from infrastructure for distributed applications, management consoles for security server products, secure, decentralized Peer to Peer software, and secure document repositories.

Texar lost its venture capital funding in May of 2002, and a subset of the employees, and the company's intellectual property were purchased by Avalon Works, Inc. of Ottawa.

Projects:
- SecureRealms Enterprise: Wrote a service oriented framework for in JVM and remote services. It created the basic design pattern for the Management Console, Policy Builder, Management Agent, and modular components of the Realm Controller.
- s-Peer: Lead developer on a gnutella-like, decentralized, secure Peer to Peer agent with a flexible protocol, encrypted socket communications, and single-port protocol switching functionality. Strong sense of 'Identity' through PKI (Diffie Hellman or RSA) digital signatures and Diffie Hellman key exchange protocol to encrypt all socket links. User interface work was implemented using the Swing library. In doing so, bugs were found and reported back to Sun. Community building features included online chat, file sharing, policy based protection of shared files, and secure, authenticated, one to one chat.
- SecureRealms DS: Prototyped, and iterated on the prototype of a secure document repository utilizing J2EE, Entrust PKI. Features strong authentication using the PKI to control logging into the web application. JSP, Jakarta Struts 1.1B1, Oracle 8i database. Integration with the Realm Controller to allow policy based restriction to files. I became software development director of this project.

Independent Consultant
Cartel Communication Systems, Inc. / TASC Systems
September 2001–Present

Small hardware company in Richmond, B.C. required software to complete a contract with Bell Mobility for delivery of a

centrally managed set of remote monitoring stations. Currently there are several hundred monitoring stations in Montreal and Toronto being served by the software. Work with Cartel is ongoing as needs arise, and is performed in my spare time.

Projects:
- Designed and completed work on a new remote monitoring project for Cartel/TASC called siteWRX. A J2EE system using Model Driven Development processes to model the database backend. This is a web application, Tomcat JSP front end, and JBoss back end with similar (though a superset of functionality) to the older USC project mentioned below.
- Universal Access and Remote Monitoring Controller Server (USC). J2EE application written using JBoss 2.4. Use of JComm API, CMP, and JMX to configure and control a bank of modems communicating with remote stations (UARMs) via a simple chat/response protocol. A Swing, application based client is used to perform data entry and control the modem pool. Requirements, design, and implementation completed in four months.
- Designed and implemented an SNMP MIB capable of alerting HP Openview of problems with remote stations via SNMP traps.

Senior Software Engineer
Metera Networks (Ottawa, ON)
May 2001–September 2001

Worked within a small team to help develop the Network Management System software for a highly innovative optical switching platform being developed in Texas. Experience with the Lumos TMS telecommunications management framework.

Metera was shut down due to a failed second-round term sheet negotiation between the founder and the primary VCs. Viable technology was already running in our development labs but would never be sold.

Projects:
- Redesigned the entire software building system using the Jakarta ANT build environment.
- Used Rational Rose, and Rational Clearcase.
- Design and implementation of a scheduled data collector for optical networking statistics gathering and presentation.
- Rational Rose data models were used for code generation, providing a consistent foundation on which the hardware and software developers collaborated.

Part-time Instructor
University of Ottawa
January 1999–April 1999

Taught a software engineering course to second year students at the University of Ottawa. The course covered an introduction to Java, software engineering methodologies, UML, and client-server development and design patterns. Text was *UML Distilled* by Martin Fowler. Students successfully wrote a multiplayer game, based on the War Room in the book *Ender's Game* by Orson Scott Card, as their final project.

This work overlapped with my job at Nortel Networks, but was done in the evenings with permission from my management. The course website is still available online at
`http://www.site.uottawa.ca/~nsanche/index.html`

Software Developer
Nortel Networks (Ottawa, ON)
October 1996–January 2000

Developed various useful and experimental software systems for the Advanced Technologies IT division, department HK10. Initial development focused very heavily on software written in Perl, versions 4 and 5. C, C++, and extensive Java experience including ObjectSpace Voyager, AWT, Swing, RMI, Design Patterns, TCP/IP, Oracle 7.

Projects:
- Produced a web based network backup reporting system for the Network Backup initiative. Perl, CGI, HTML, mSQL, Oracle.
- Worked with Voice over IP group to develop a Windows client called 'VoiceBox' for the H.323 stack being evaluated within Nortel as part of the Internet Call Waiting Initiative. Windows 95, C++, MFC, G.711 and an experimental G.723.1 codec evaluation. Award of Merit given for my efforts.
- Research and development on an intranet 'people-finder' in an effort to promote better internal collaboration on similar projects. Used Altavista as a web crawler, and cross referenced found names and key phrases using paraphrasing software from the National Research Council.
- With a team of 2 other developers, rewrote an OS/2 based software package for delivering Pager notifications via modems and TCP/IP in Java. Mentored the other team members in RMI and threading concepts. Fully redundant, highly available, highly scalable architecture for pager notification delivery was developed and delivered in under a year.

- Java Swing experience interfacing with a JNI layer on top of an advanced data delivery system to provide scheduled, multi-site file transfers. Some of this technology still exists as a spin-out company called Signiant. `http://www.signiant.com`

UNIX System Administrator
Bell-Northern Research Ltd. (Ottawa, ON)
May 1994–October 1996

Worked as a member of a team providing UNIX support for 250 people in the IT division of BNR. We provided second level technical support for many of BNR and Northern Telecom (now Nortel Networks) first level support groups. Developed tools and applications using Perl and shell scripts.

Miscellany

Keywords: leader, creative, open, self-starter, teacher, innovator.

Hobbies: programming, digital video, music composition and recording, drawing and painting, writing, photography.

For more information, including samples of my work, please visit my page on the Web at `http://www.nsdev.org`

Executive Profile: Team leader with a wide range of programming experience including, in-depth Microsoft .NET knowledge, coding experience, and Object Oriented Design. Internet networking experience with custom TCP/IP protocols, HTTP, and WCF. J2EE Experience with JBoss and Geronimo containers in previous years.

References

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