

# Roman Mironenko

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**Objective** Finding a contract position as a software architect, senior developer

**Summary** I have over nine years of experience designing and implementing complex systems. Currently I am working in the mutual fund sector, with my last two projects dealing with mutual fund data exchange standards, and transfer agency functionality.

I spent three years designing and developing software for Symcor corp. that is used internally and externally by Symcor clients: RBC, BMO, TD and BNS. Concurrently I was a systems architect on an accounting software package for Avema corp. In 2001 I designed and developed components for an insurance software system.

Prior to Symcor I spent four years of designing and developing software for large telecommunications companies (AT&T, Bell Mobility,) I participated in development of accounting software for Coca-Cola Canada, accounting software for Xerox. I worked on a product cataloguing system for Danli corp., and a multitude of various small projects.

Below are the details of the roles I played in most of my projects. The last pages of this document are used to list some of the design and development tools that I use in my everyday work.

**Experience by project** 2005 Aug – present Bell Canada, ExpressVu Toronto, ON  
 Architect, Lead Developer  
 ECSM Bill Preprocessing  
 ECSM application allows Bell CSRs to modify billing information, update client's features, update client's billing preferences.

- Provided high-level design, confirmed business requirements, prepared detailed design documentation.
- Led 4 developers through the entire lifecycle of the project. Handled various project resource issues, setup documentation repository.
- Designed and implemented DAO framework, object mapping framework, validation framework, NTLM based authentication framework.

Technologies used: UML, J2EE, XML/XSD, BEA Weblogic 8.1, Oracle, DHTML.

2005 May – 2005 July Boombat Toronto, ON  
 Architect  
 Bell ADSL Unbundled Loop Full  
 This project allows other carriers than Bell (CLECs) to use Bell lines to provide ADSL service to the end customers. My job was to put together a detailed design document from the requirements that were collected at the same time.

- Prepared detailed design documentation for the project, supplied collaboration, component, sequence, ER diagrams.

- Prepared Vitria BusinessWare level process models and used as low level detailed design representations.

Technologies used: UML, J2EE, XML/XSD, Vitria BusinessWare, BEA Weblogic.

2004 Nov– 2005 April      Hydro One - Inergy      Toronto, ON  
Architect, Lead Developer

Electronic Business Transfer 3.0 (EBT3.0)

I was invited as an architect for this ongoing project. The project deals with communications between local energy distribution centers (Hydro One,) retailers (such as Direct Energy) and end user customers (residential and businesses.)

- Worked with the business call centre analysts to set requirements for switching from EBT2.2 to EBT3.0, established all project requirements.
- Designed new application components for transaction tracking, service order management, handling retailer contests and changes of consumer locations.
- Prepared all design documentation, identified component interfaces, execution sequences, business handling logic rules. Analyzed necessary changes to the states within the state-machine.
- Identified and implemented necessary component test cases using junit automation.
- Developed portions of transaction tracking mechanism and service order management mechanism, as well as various test cases.
- Developed visual tools used during unit testing and integration testing.

Technologies used: J2EE, XML/XSD, BEA Weblogic/WLPI (Weblogic Process Integrator,) Eclipse, CVSNT, Junit, JSPWiki, RUP, Swing.

2004 July– November      Christie Digital      Waterloo, ON  
Designer, Lead Developer

Media Manager

One of my more interesting projects from technical point of view; here I built software that controls digital video walls – industrial type digital rear projection TVs that can be put into wall configuration to make one large screen out of multiples of TV screens. I had to design and develop a complex GUI capable of displaying video, rgb and vnc input from various devices onto video walls. GUI needed to be functional and powerful enough to allow quick video setups, profile/channel/scenario management, channel cycling, content capture, video/text overlays, management of multiple output windows, skin-enabled allowing for irregular window shapes and more.

- Collected requirements from an existing application, worked with business analysts and marketing department to establish all requirements.
- Led a team of four in design and development of the Media Manager application through the entire lifecycle of the project.
- Identified application components, established tiers and protocols for communications between tiers. Designed XSD that described XML used for communication, storage and validation purposes.
- Designed user interface and developed GUI for the Media Manager. This included working with both Java and C++ to allow streaming of video content into Java based graphical application. Designed, developed and tested much of the code used to integrate Java and C++ tiers over JNI.

Technologies used: J2SE, C++, OGL, JNI, RMI, SOAP, AWT, Swing, XML/XSD, JAXB, Jetty, Eclipse, ANT, Junit, XPlanner, JSPWiki, RUP and Extreme Programming.

2004 June– July International Financial Data Services Toronto, ON  
Designer, Developer

Transfer Agency System (Progress to J2EE Transition)

- Designed and coded mechanism to connect Progress (iFAST) over Sonic message queue to a Swing front-end to allow Progress/C++ desktop substitution replicating all of the existing functionality (security, session management, desktop side data caching and manipulations etc.)
- Designed performance-testing strategy used to measure Sonic message queue performance as well as compare existing Progress application performance versus new Transfer Agency System based on Javelin Technologies FIXchange product.
- Implemented performance-testing console equipped with full tester-suit capabilities such as loading operations scripts, running load-tests with throttling of test threads, parameterized request characteristics, built in message queue listener/repeater (forwarder,) and full statistics gathering.
- Provided statistical analysis based on test data gathered in the load-test sessions.

Technologies used: J2SE, Sonic Message Queue, iFAST (Progress), Javelin's FIXchange server, Swing.

2004 March–June Automated Data Processing Inc. Toronto, ON  
Designer, Lead Developer

Smart Prospectus project Mutual fund print processor for ADP clients: Royal Bank Canada, ING and other brokers

- Led design sessions, worked with BAs on the requirement gathering
- Designed and coded large pieces of the software including customer file parsers, large data set loaders, print file generators.
- Designed and built journaling database/file system based document repository for image files.
- Designed and built JSQLoader - Java version of the Oracle SQL Loader tool with support of 'upsert' functions and table level transaction support.
- Implemented strategies for unit testing, integration testing, load testing of the entire application and of all subcomponents.

Methodology used: Extreme Programming. Technologies used: Junit for the unit testing, J2SE, XPath, Jaxb, XML, Oracle 8i Enterprise, Oracle based JMS, SQLLoader, Ant, Eclipse, Swiki, XPlanner.

2001 Jan – 2004 Jan Symcor corp Toronto, ON  
Architect, Lead Developer

WebIR project for Symcor Check Processing Center, BMO Financial Group, Royal Bank Financial Group, TD Bank Financial Group, and Bank of Nova Scotia

- Participated in requirements gathering meetings, helped solving business problems in order to produce complete program specifications.
- Designed use cases to extend DAY2 web-services functionality (previous

project at Symcor.) Produced all the necessary class and sequence diagrams for these use cases.

- Designed system's infrastructure, defined web services API for existing subsystems according to the UDDI 2.0 specifications, WSDL and Axis. Designed and implemented data validation infrastructure, designed and implemented security handling mechanisms for the web services, designed and implemented memory caching of commonly used objects for fast retrieval and small memory usage footprint. Designed for optimal memory usage and created guidelines for the development of CPU intensive operations.
- Led a group of 5 developers through implementation of all Web IR use cases. Implemented web services for Web IR using AXIS, Session and Entity EJBs, and MQ Series.
- Integrated Web IR system, which is a system consolidator with Archive Web Services (AWS) system that stores check images. Integrated Web IR system with All Transaction File (ATF) databases used to search for checks. Integrated Web IR system with DAY2 Web Services system (which was designed and implemented by my team prior to Web IR,) used to find check images on microfilms.
- Designed and implemented proprietary testing software for QA department. This software also became proof of concept for the client banks, it proved that various user interfaces could be created based on the web-service API design.
- Solved various business analysis problems found during integration of all subsystems. Communicated with different teams and management of teams responsible for other systems integrated with Web IR.
- Designed security infrastructure to handle web-services data transmission for a hostile environment. Designed methodology for signing data during mandatory data transmissions. The user is allowed to search for data and use the found results to make submission calls. This data could not be trusted but at the same time it is not stored locally.

Process used: RUP and unit testing with JUnit

Technologies used: Websphere Application Server, DB2, J2EE, Java, Web Services (AXIS), Business Delegate pattern, EJB stateless sessions and bean managed entities, DAO pattern, JSP, UML, UNIX, CVS, SOAP, WSDL, AXIS, UDDI, MQ Series, Maven

Architect, Lead Developer

Day2 project for Symcor Check Processing Center, BMO Financial Group, Royal Bank Financial Group, and TD Bank Financial Group

- Leading a team of 15 developers through implementation of major use cases for Day2 application. Created framework for business tier of all major use cases allowing developers to continue on these use cases by following clearly defined paths.
- Developed most complicated use cases dealing with searching entire database of requirements and generating check processing work lists from these requirements.
- Implemented security infrastructure for the entire application, designed common utilities to help with security implementation. Described possible methods of attacks against the application based on parameter substitution and SQL injection. Verified the entire system to be secured against such attacks.
- Identified performance problems within the application, analyzed the

performance problems and described solutions for common components of the application (data access, business and presentation tiers). Optimized performance of the slowest parts of the application.

- Solved issues found during release of the first phase of the application into production. Helped team members across country (across three different regions and all time zones covered by Canada) with training problems.
- Building a web-service API to our existing application so that the client can provide their own front end to our business logic and have their existing applications interact with DAY2 over a network.

Process used: RUP and unit testing with Junit

Technologies used: Websphere Application Server, DB2, J2EE, Java, Struts framework, Business Delegate pattern, EJB stateless sessions and bean managed entities, DAO pattern, JSP, XML, SAX, DOM, HTML, UML, UNIX, shell scripting, CVS, WinNT, SOAP, WSDL, AXIS, UDDI

Architect, Lead Developer

Email Archive Application prototype for Scotia bank. Designed data model, presentation and business tier for the application.

Coded the presentation and the business tiers of the prototype.

Technologies used: Linux, sendmail, MySQL, PHP, HTML, DHTML

Architect, Lead Developer

Project Status Reporter

- Designed Project Status Reporter (PSR) application. Identified system requirements by studying the existing paper-based system of creating project status reports. Supervised requirement gathering meetings, managed design meetings.
- Produced design documentation templates and coding standard documents that were used later to certify the company with ISO9000 cert. Used the design templates to produce detailed design documents.
- Designed data-access components of PSR application. Handled data access with Java Data Objects (JDO) compatible design pattern. Created software tools to standardize JDO usage for PSR project.
- Produced very detailed designs for data-access components. Reviewed code created by other developers. Designed Business Object Model.

Technologies used: Weblogic 6.0, Oracle 8i, J2EE standards, Java, Struts framework, JDO pattern, JSP, XML, SAX, DOM, HTML, UML, UNIX, shell scripting, CVS, WinNT

Architect, Lead Developer

World Insure Broker System

- Designed components for World Insure online insurance broker system. Studied the client's business in order to gather necessary functional requirements where requirements were not clear and not specified. Managed design meetings, assigned tasks to developers and supervised development stages, created project plans. Documented most of the system developed in the course of nine months by twenty-five developers.
- Optimized the entire code base to support 10x the originally supported number of users (within specific hardware limitations,) optimized database

access layer, minimized session utilization to have better scalability within a cluster, where possible introduced JSP instead of XSL transformations.

- Designed a new way of creating code to map online user responses to PDF forms supplied by insurance companies. This design allows mapping relationships to be as complex as many-to-many and it relies on the entire mapping described in XML format and then automatically translated into Java code that is compiled and loaded into an application server at run-time. Coded XML to Java translator and a simple class loader for Weblogic application server working in clustered environment. Created intranet based user interface that simplified PDF mapping. This entire exercise made it possible for business analysts to create PDF mappings without involving software developers. The mapping and debugging time for a single document was reduced by at least sixty percent.
- Designed process of mapping online user responses to insurance companies' PDF forms. Improved the overall performance of mapping and file generation by redesigning the application to use an asynchronous message queue working in clustered back end server environment. Reviewed the entire mapping process, reduced number of unnecessary mapping steps and decreased the amount of time it took for serving a single client by forty seconds.
- Designed and built a simple asynchronous message queue mechanism that is used in both synchronized and multithreaded environment and that can be clustered across multiple back end servers. Oracle database was used as the message transmission medium.
- Designed database administration tools for the entire project's data model. The administration tools allowed database administrators to easily manipulate very complex sets of data with one-to-one, one-to-many and many-to-many relationships. The challenge was to provide a tool that would eliminate the need to manipulate tens of database records per every single user by hand and would insure data integrity on all related data records.

Technologies used: BEA 5.x, 6.0, Vitria connectors, Oracle 8i, J2EE, Java, Java servlets, Adobe PDF templates, Adobe FDF files, Adobe FDFTK, JSP, XML, SAX, DOM, HTML, UML, UNIX, shell scripting, CVS, WinNT

2002 July– 2003 Feb      Avema Corporation      Toronto, ON  
Application Architect (I was working for Avema and Symcor in parallel)

Advanced Vendor Management (AVEMA)

- Reviewed existing AVEMA system, identified design problems, coding standard problems. Suggested solutions to various design problems, coding problems. Introduced notion of application tiers and redesigned all subsystems of the application to follow J2EE standards. Introduced coding frameworks and patterns.
- Redesigning some use cases, introduced new designs for security framework, trained developers on application security issues.
- Supervised design meetings. Trained developers to be able to follow design patterns and to use common frameworks. Worked with developers on introducing coding standards, factoring common functionalities into utilities.
- Implemented solutions of some use cases in order to allow the rest of the team to follow by example.
- Analyzed old implementations of AVEMA system, created analysis documents.

- Generated Crystal Reports within J2EE framework with i-net Crystal Clear EJB for reports designed with Crystal Reports designer.

Technologies used: JBoss Application Server, Postgress database, MSSQL database, J2EE standards, Java, Struts framework, Business Delegate pattern, DAO pattern, JSP, XML, SAX, DOM, HTML, CVS, Linux, WinNT, Crystal Reports for Java

1996 Apr–2001 Jan      Davinci Technologies Inc.      Toronto, ON  
Architect, Lead Developer

- Designed and developed company's core product, Trinity that sold to Alltel Corporation (USA). The product is a framework for EBPP and CSR vertical Alltel applications that run both on the Internet and as wireless applications. A project lead, worked in a group of seven, managed design and development issues.
- Designed an asynchronous message queue that could work both as an event scheduler and as a real time message handler. The design was complete with clustering capabilities based on round robin architecture.
- Designed a new way of using XML to allow server side navigation for online applications. Server side navigation allows describing the entire navigation between application components and presentation modules within a single document. This allowed making consistent navigation across the entire application. It appeared that it also was much easier to implement security model based on server side navigation with either single point of entry into application or with multiple entry points.
- Designed a new way of using XML to present business logic. Business XML documents would be loaded dynamically into execution module of the application and would apply business logic upon retrieved data. Data retrieval also required XML that described business data model.
- Designed and developed database connection pooling and some other resource sharing mechanisms. Designed and developed event logging framework with multiple levels of logging available. Used various logging storage systems that made it possible to generated reports and billing information from the event logs.

Technologies used: Java Application Server (Weblogic BEA, Gemstone/J, Orion, IONA iPortal), Java, Java2 specifications, App Servers on WinNT, Sun Solaris, UML, Object Oriented Databases, RDBMS, UML in Visio and Together/J

Programming techniques: Java 1.2, JSP, Java Script, Java Servlets, JFC 1.1, Swing 1.1, RMI, CORBA, IIOP, XML, HTML, WML, JAAS, JESS, EJB, Oracle 8, PL/SQL, MSSQL 6.5, MSSQL 7, Smalltalk OODB, LDAP, DOM, DOM parsers, SAX parsers

Software designer, developer – Danli Promotions, Dynamic Product Catalog

- Designed and developed dynamic catalog generation software for Danli Promotions Inc. Started the project alone and brought two more developers into the project six months after beginning. A project lead, a group of two, managed junior developers.
- Invented a new method of gathering product image data from application users for online transmission of a product information and product data to a product server.
- Designed and developed multi-tier client-server communication protocol based on XML to transmit data model on top of HTTP and HTTPS protocols for the Internet. Designed and developed tools to transmit product image files

securely over FTP protocol.

Technologies used: ASP, COM, DCOM, MSSQL 6.5, VBA, VBS, ActiveX controls, C++, XML, WML, HTML, DHTML, MSSQL, ACCESS

Software designer, developer – Bell Mobility, Customer Service Representative System

- Designed customer service software for Bell Mobility. Worked with the client to understand the functional requirements for the software.
- Used Dynamic HTML to create human interface to the customer service system
- Developed CSR solution based on an idea of using a message queue to handle customer requests and distributing these requests between CSRs.

Technologies used: ASP, COM, MSSQL 6.5, DB2, WML, HTML, DHTML

Software designer, developer – Xerox Canada, On-Line Store

- Developed XEROX on-line store. Worked at the client side with Xerox project managers and developers to ensure best results.
- Implemented business logic to calculate prices for items depending on user information, product type, order timing, promotion data, and data gathered by matching product types, prices etc.
- Used Java stand-alone applications as CGI scripts, used JDBC to retrieve and update data stored in Oracle database.
- Built a process allowing users to send emails to Xerox CSRs from their Internet browsers.

Technologies used: Server side Java applications, CGI, HP UNIX, ORACLE

Software designer, developer – Bell Mobility, Instant Activation System

- Invented a strategy to consistently handle user responses for Bell Mobility Instant Activation On-line system. Allowed activating mobile phones from Bell Mobility boutiques over the Internet in real time.
- Implemented a large number of data gathering modules. Worked at the client's side with client managers and client developers to ensure maximum and quickest results.

Technologies used: MSSQL, DB2, Sybase, PL/SQL, Active Server Pages, COM, C/C++

Software designer, developer – AT&T Canada, DCS Rebiller Data Management and Transfer System

- Designed and implemented AT&T DCS process for AT&T rebiller data management project. Worked at the client side with AT&T project managers and developers. Installed application, configured application environment, debugged etc.
- Designed and developed an application to manipulate multi-gigabyte mainframe data files. Parsing rebiller data out from large multiuser data files. Compressing single rebiller data files.
- Designed file management system to handle multiple files per rebiller.
- Designed and managed development of online graphic user interface for the rebiller project. Designed client-server communication protocol for rebiller

project. Implemented server side of the communication protocol using Sapphire Web server.

Technologies used: Server side Java applications, Java applets (AWT), Oracle, PL/SQL, CGI, Sapphire Web, Sun Solaris, HTML

Software designer, developer – Canada Coke, Intranet Accounting System

- Redesigned Canada Coke intranet accountant system.
- Designed and implemented new ways of manipulating large quantities of data on the client side before it is transferred to the server.
- Optimized data retrieval, inserting and updating database queries for the entire system (literally hundreds of optimizations for hundreds of queries.)

Technologies used: ASP, Oracle, HTML, client side Java Script

Junior software developer - Bell Mobility, Invoice On-Line

- Bell Mobility Invoice on Line project – first in Canada to develop an on-line electronic bill presentment and feature activation systems for a large telco.
- Implemented data retrieval and presentation systems. Data filtering, sorting, applying various user defined sorting conventions.
- Implemented data transfer and loading tools for DB2 and MSSQL databases.
- Implemented data administration and online data loading confirmation tool.
- Implemented portion of the same application for wireless consumers. Allowed viewing invoice summaries with Handheld Device Markup Language, allowed activating features over a wireless phone. This project was done as a prototype by the end of 1998 and beginning of 1999.

Technologies used: ASP, COM, DCOM, MSSQL 6.5, DB2, HTML, HDML

1995 Jan–1996May      Techsar Inc.      Montreal, QC

Junior software developer

- Building fax processing software, bitmap processing, text and sound processing.

Technologies used: C, C++, Assembler 86/87

Education      University of Toronto      Toronto, ON

- B.Sc., Computer Science.

Open Source      2005 March – ongoing

Projects      Mozilla Firefox Extension Developer – Russ Key Extension

Came up with the concept of the Russ Key extension that allows typing in different languages (starting with Russian,) and transforming text from translit notation into native language notation in Firefox internet browser as well as in Mozilla Suite browser and mail/news client and ThunderBird mail/news client.

Designed and developed and still maintaining the extension.

Tech used: XUL, XBL, RDF, JavaScript, DOM, UTF8, ANT, CVS.

2005 April – ongoing

Mozilla Firefox Extension Developer – Leet Key Extension

Came up with the concept of the Leet Key extension that allows typing in different encodings, such as I33t, URL, Hex, Binary, Morse Code and DVORAK. Also allow encoding/decoding all of the above encodings and DES encryption/decryption both as static and dynamic text in Firefox internet browser as well as in Mozilla Suite browser and mail/news client and ThunderBird mail/news client.

Designed and developed and still maintaining the extension.

Tech used: XUL, XBL, RDF, JavaScript, DOM, UTF8, ANT, CVS.

<b>Programming Languages</b>	<b>Versions</b>	<b>Last Used</b>	<b>Years Experience</b>
Java	1.1, 1.2 (JFC1.1, Swing1.1)	Present	6
C	ANSI-ISO, Classic	1999	7
C++	GNU compiler, Borland compiler, MS Visual C++, MFC	1999	4
VBA	5,6	2000	4
Assembly	86/87, Motorola 68000, ATMEL	1998, 2003 for ATMEL	5
Prolog, ML, Scheme, Lisp		1998	2
PHP	3.x, 4.x	2002	0.5
<b>Application Servers</b>	<b>Versions</b>	<b>Last Used</b>	<b>Years Experience</b>
Websphere Application Server	4.x AES	Present	2.5
BEA Application Server	5.x for Win NT and for UNIX	2005	3
Orion Application Server	1.1, 1.2	2001	1
Gemstone/J Application Server	2.x, 3.x	1999	2
IONA IPAS	1.2	2000	1
Resin Web and Application server	1.1, 1.2	2000	2
<b>O/S</b>	<b>Versions</b>	<b>Last Used</b>	<b>Years Experience</b>

Sun Solaris	2.6, 5.6, 7	Present	6
AIX	4.1, 4.2	1998	1
Win NT	3.51, 4.0	Present	5
Linux	Red Hat, Caldera, Debian	Present	4
<b>Internet and Wireless Technologies</b>	<b>Versions</b>	<b>Last Used</b>	<b>Years Experience</b>
UDP, TCP/IP, HTTP, HTTPS, FTP, SMTP, POP	Up to current standards.	Present	8
HTML / DHTML	2.x, 3.x, 4.x	Present	8
HDML	2.0	2000	3
WML	1.1	2000	1
Java Servlets Now with Struts Framework	2.1, 2.2	Present	4
JSP Now with Struts Framework	1.1, 1.2	Present	4
Java Script	ECMA-262, 1.1, 1.2, 1.3	Present	5
ASP VBScript	2.0, 3.0 (IIS 3, IIS 4)	2001	4
SOAP, WSDL, AXIS, UDDI	Axis 1.1, UDDI 2.0	2004	1
<b>Databases</b>	<b>Versions</b>	<b>Last Used</b>	<b>Years Experience</b>
Oracle	7.xx, 8(i)	Present	6
MS SQL	6.5, 7	2001	4
DB2	6	1999	4
Sybase		1998	1
Access	5, 6	2001	4
Gemstone OODB (Smalltalk)	1998-1999 all versions	1999	1
LDAP		1999	1
PI/SQL	2, 8	2001	4
<b>Design and Programming Tools</b>	<b>Versions</b>	<b>Last Used</b>	<b>Years Experience</b>
Eclipse	7	Present	1
JUnit	2.x, 3.x	Present	1
WSAD	5	Present	.5
Visual Café	1,2,3,4 (WebGain studio)	Present	5

MS Visual Studio Visual C++, VBA, Source Safe	5, 6	2001	3.5
Visio	2000	Present	4
Together/J	Solo, Enterprise	2001	1
vi, emacs, other Unix tools		Present	6
<b>Design and Development Standards</b>	<b>Versions</b>	<b>Last Used</b>	<b>Years Experience</b>
COM/COM+ and DCOM protocol	COM95, (DCE95) DCOM/1.0	2000	2
XML	1.0, DOM, SAX (xml4j, xerces, xalan, SOAP)	Present	5
UML	OMG UML 1.3 (VISIO, Together/J)	Present	5
EJB	1.0, 1.1, 2.0 (Session, Entity)	Present	5