

# Bob DuCharme

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## Summary

Software engineer and data architect with extensive experience managing and distributing semi-structured data and metadata. A published author and experienced speaker with proven success at learning new technology and standards, evaluating their value for end-users and management, and applying them to create new opportunities.

## Professional Experience

**TopQuadrant** Alexandria, Virginia 2009 – present

Solutions Architect for leading semantic web software firm. Application design and development, documentation and marketing material, customer data and requirements analysis, training.

- Prototype and production application development for multiple customers.
- Wrote *Application Development Quickstart Guide*, *SPIN Tutorial*, *EVN User and Reference Guide*; authored and revised product online help.
- Replaced Word and HTML-based software documentation with automated DITA-based system creating PDF, HTML, and ePub output.
- Wrote and edited numerous marketing pieces and pages on company website; revised it to include RDFa; contributed numerous posts to company blog.
- Maintained company Twitter account @topquadrant; went from less than 100 followers to over 400; only company listed in top 100 semantic web Twitter accounts.

**Innodata Isogen** Hackensack, NJ 2006 – 2009

Solutions Architect for publishing consulting firm.

- Analyzed and redesigned publishing system for domestic and international clients using commercial and open source XML-based standards and tools and offshore labor.
- Developed DITA architecture for large software company's online server system help.
- Co-chaired first ever Linked Data Planet conference in New York City.
- Granted TS security clearance, sponsored by the Office of Naval Intelligence.
- Participated in client meetings and sales proposal development leading to several large contracts; extensive editing of sales proposals.
- Completed sales training program.

**LexisNexis** Newark, NJ, and Charlottesville, VA 2001– 2006

Consulting Software Engineer. System and architecture design, internal and external standards development and evaluation, product and tool prototyping.

- Designed modular linking architecture to replace ad hoc linking markup used throughout LexisNexis, simplifying implementation of hypertext linking between products.
- Co-designed XPath-based search syntax for querying LexisNexis databases, enabling customer searches of LexisNexis databases to retrieve more focused results.
- Implemented intranet web-based data schema repository, resulting in easier and more tightly-controlled access to new and old versions of schemas throughout the company.
- Costed fabrication issues as part of a team evaluating everything from billing to search query issues affected by a potential adoption of Unicode to accommodate Chinese and Japanese markets; reports used by senior management to develop strategy for Pacific Rim market.

- Tuned architecture, requirements, and system documentation of stalled CRM project to help meet its new schedule and budget.
- Represented LexisNexis on the PRISM metadata standards group, providing extensive specification editing and technical expertise. Participation ensured that the resulting standard would have the most efficient influence on hundreds of data feeds provided to LexisNexis by Time Inc., McGraw-Hill, and other major periodical publishers.

**UDICo** (www.udico.com) New York City 2000 – 2001

Vice President of Corporate Documentation. XML architecture, product design, and pre-sales tech support for creators of high-performance middleware. Developed documentation and marketing material to turn software libraries into a marketable product.

**Moody's Investors Service** New York City 1997 – 2000

Assistant Vice President overseeing XML and SGML development. DTD and schema design, maintenance, and documentation. Implemented an automated, multiple-media publishing and ratings delivery system to replace Quark-based manual system using FrameMaker C API and Omnimark, resulting in faster, higher volume, more efficient publishing. Managed transition of company from SGML to XML to allow the use of a wider choice of less expensive publishing tools.

**Research Institute of America Group** New York City 1994 – 1997

Managed team developing <http://www.RIAcheckpoint.com> website, a tax research product consisting of hyperlinked primary and secondary tax research material for users billed by monthly subscription and by transaction. Prototyped SQL-based link management system. Researched usability testing. *Earlier position:* Principal developer in creation of \$4600 hyperlinked multi-CD tax research product created from SGML repositories.

**Information Builders, Inc.** New York City 1989 – 1994

Developed automated systems to convert technical documentation from SGML-based structured text format to online help systems delivered with database management software products running under multiple operating systems. *Earlier position:* Director of documentation for PC products. Oversaw all writing, editing, screen shots, layout, and production of hard copy and online documentation for PC/FOCUS and related products. Managed four-person team in the update of a five-volume documentation set. Set later translated to German, French, and Spanish.

## Education

**MS, Computer Science, New York University** New York City

Major projects: Smalltalk SGML parser to demonstrate concepts of accompanying paper "Object-Oriented Development of SGML Applications" for independent research project; multi-user client/server game playable across Internet TCP/IP connection implemented in both C and Perl; paper for Dennis Shasha's Advanced Database class "Increasing Concurrency in Object-Oriented Databases Using Semantic Information: A Survey"; LISP system for natural language generation from existing grammar for Ralph Grishman's computational linguistics class.

**BA, Religion, Columbia University** New York City

**Simmons College Graduate School of Library and Information Science** Successfully completed Taxonomies and Controlled Vocabularies Workshop.

## Addendum

### Publications

- *Learning SPARQL* 2011 O'Reilly Books. The first book dedicated to the W3C query language for the semantic web and linked data. See [www.learningsparql.com](http://www.learningsparql.com) for more.
- *XSLT Quickly* 2001 Manning Publications. A tutorial and users guide to the W3C standard language for transforming XML documents. Later translated into Korean and into Brazilian Portuguese; over 6500 copies of English version sold to date.
- *XML: The Annotated Specification* 1999. An annotated version of the official W3C specification published by Prentice Hall Professional Technical Reference Books. 6000 copies sold in first six months; used in courses and by developers as standard reference book around the world. Japanese version available.
- *SGML CD* 1997 Prentice Hall. A tutorial and user's guide to free SGML software, with CD.
- *Operating Systems Handbook* 1994 McGraw-Hill Professional Books. A series of crash courses in UNIX, VMS, OS/400, VM/CMS, and MVS. (Book now out of print; Acrobat files of book available at [www.snee.com/bob/opsys.html](http://www.snee.com/bob/opsys.html).)
- Contributed several chapters to O'Reilly *XML Hacks* and Prentice-Hall's *XML Handbook* and forward to Eliotte Rusty Harold's *Refactoring HTML*. Periodicals: Over 60 "Transforming XML" columns and numerous other articles for XML.com since 1998, as well as several articles for *IBM developerWorks* and [devx.com](http://devx.com). April 2005 article in *Dr. Dobb's Journal* "RDF: Store Metadata About Anything, Anywhere."

### Other

- Senior Program Committee Member, International Semantic Web Conference 2010
- 2010 Semantic Technologies Conference presented on "Semantic Web Technology and the Publishing World: What Can They Offer Each Other?"
- Papers presented at SGML 1995 – XML 2008 include "Relational database integration with RDF/OWL," "Automated mass production of XSLT stylesheets," "Your schema and the industry standard schema," "Converting DTDs (and DTD developers) to RELAX NG Schemas," and "Maintaining schemas for pipelined stages."
- O'Reilly Tools of Change Conference, New York City 2007 presentation "Strategies for approaching the eBook Marketplace."
- Program Committee for 2007 Workshop on Semantic Web technology for Law
- Weblog on publishing, metadata, XML, and related issues: [www.snee.com/bobdc.blog](http://www.snee.com/bobdc.blog).
- Chair and speaker in XSLT track at XML Summer School in Oxford, England, 2000 – 2007; chair and speaker in Semantic Web track 2009 - 2011.
- Technical editing of McGraw-Hill, Prentice-Hall, and Manning books as well as *IBM Systems Journal*.
- Editing contributions to W3C documents "Architecture of the World Wide Web" and "RDFa Primer."
- pg2epub: created system to convert Project Gutenberg books to ePub format. Sample children's picture books available at [www.snee.com/epubkidsbooks](http://www.snee.com/epubkidsbooks).

**Programming Languages** SPARQL, XSLT, XQuery, Python, RDF/OWL, Java, Perl and various UNIX scripting languages, C, C++, OmniMark, JavaScript, Smalltalk, LISP, Scheme, SQL, Prolog.

### Personal

Plays upright bass with several jazz ensembles in the Charlottesville area and the Waynesboro Symphony Orchestra.