

DOUGLAS LOVELL

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Software Engineer and Computer Scientist currently 15 years with IBM Research. Broad experience in languages and application domains from transactional applications to UI tools, standards implementations, and scientific programming. Deep experience with Java language, XML markup, and web applications. Most productive in development and development leadership roles. Recipient of IBM First Plateau Invention Achievement Award. Author of *XSL Formatting Objects Developers' Handbook*, published by Sams.

CAREER ACCOMPLISHMENTS

- Furthered IBM's position as a software innovator through the development and deployment of the following applications for XML:
 - Integration of XML cursor research technology into WebSphere Process Server (2007)
 - Development of of user interface components used by the operations research team involved in steel mill process planning (2005)
 - Deployment of the W3C XSL Formatting Objects (FO) implementation for IBM Print Services (2002)
 - Development of XML test case generator for inclusion in IBM Visual Age for Java (2000)
 - Creation of first typesetting technology for XML (1999)
- Adapted software technologies for new uses, including:
 - Contributing expression logic to the Assemble component of Project Zero (www.projectzero.org). (Java, JavaScript, JSON, XPath, Antlr.) (2007)
 - Interfaced a Web Services business process interpreter with a new execution platform (BPEL, WSDL, Schema, Java, Eclipse) (2006)
 - Ported an Adaptive Mesh Refinement PDE simulation written in the Titanium parallel processing language to serial Java (2006)
 - Invented and implemented novel layout managers for Java AWT (1998)
- Developed new tools for the Eclipse programming environment, including:
 - Design and conceptualization tool for enterprise data formats (XML Schema) (2004)
 - Tools for enterprise management of XML artifacts (2003)
- Added functionality to XSLT, including:
 - Trace facility for software debugging (1999)
 - Authoring tool for stylesheet transformation (1999)
- Growing the sport of Competition Aerobatic flying by:
 - Designing and Implementing web based contest registration and reservation system for the International Aerobatic Club (IAC).
 - Maintaining Web presence for IAC Chapter 52 and the IAC United States National Aerobatic Championships.
 - Research, development, and publication of ranking and scoring methods for aerobatic competitions.

TECHNOLOGIES

Java, C++, C, Prolog, FORTRAN, Pascal, YACC, Lex, Antlr, JFlex, SQL, JDBC, GUI, Java Swing, SWT, Eclipse, XML, XML Schema, XSL, XSL FO, Formatting Objects, XSLT, HTML, PHP, CSS, JavaScript, BPEL, WSDL, MathML, TeX, Motif, Iterative development, Agile teams.

PROFESSIONAL EXPERIENCE

IBM, T.J. WATSON RESEARCH CENTER, Hawthorne, New York 1995-Present
Software Engineer

- Implement standards and research technologies.
- Grow mind share for IBM in emerging technologies through publication.
- Enhance IBM's strength in intellectual property by patenting innovative technologies.
- Impact IBM product development with new technology that enhances existing products and enables new products.

PUBLICATIONS

- "Bite: Workflow Composition for the Web." International Conference on Service Oriented Computing (ICSOC), Vienna, Austria, September 2007.
- "Validate an E-Mail Address with PHP." Linux Journal, June 2007.
- "Document Models and XML Vocabulary Building for Business Users." XML Conference and Exposition, Washington D.C., November 2004.
- "Rendering Faithfully with XSL Formatting Objects." Tutorial at the 12th International World Wide Web Conference, Budapest, Hungary, May 2003.
- "Introduction to MathML." Tutorial at 1st International Conference for MathML and Math on the Web, Urbana-Champaign, Illinois, October 2001.
- "TeXML: Typesetting XML with TeX. TeX Users' Group Annual Meeting, Vancouver, 1999.
- "Custom Legal Documents for the Auto Loan Exchange." TeX Users' Group Annual Meeting, San Francisco, 1997.

PATENTS

- "Method and system for stylesheet execution interactive feedback." (U.S. Patent 7337391 B2) February 26, 2007.
- "Method and system for stylesheet-centric editing." (U.S. Patent 7191395 B2) March 13, 2007.
- "Method for arranging display elements." (U.S. Patent 6603493) August 5, 2003.
- "System for electronically developing and processing a document." (U.S. Patent 6603487) August 5, 2003.
- "Method for enabling adaptive sizing of display elements." (U.S. Patent 6414698) July 2, 2002.
- "Method and apparatus for producing animated drawings and in-between drawings." (U.S. Patent 4952051) August 28, 1990.

EDUCATION

CARNEGIE MELLON UNIVERSITY, Pittsburgh, Pennsylvania. *Graduate Course in Software Engineering Management*, 2002.
SUNY, NEW PALTZ, New Paltz, New York. *Master of Science Degree, Computer Science*, 1994. GPA 4.0.
SCHOOL OF VISUAL ARTS, New York, New York. *Bachelor of Fine Arts Degree, Photography*, 1985. GPA 3.3.
OHIO UNIVERSITY, Athens, Ohio. *AAS, Aviation Technology*, 1980. GPA 3.3.
SUNY WCC, Valhalla, NY. *Two semesters of calculus*, 2005.
IBM, Project Management Institute (PMI) Three-Day Course. *Project Management Fundamentals*, 2004.

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