GBC/ACM Fall 2000 PDS Series

Saturday October 14, 2000

MIT room 34-101

XML Schemas and XSLT

James Tauber

Overview

The Extensible Markup Language (XML) is both a generic data format and a family of technologies for making use of that data format. Two of the most important XML-related technologies are XML Schemas, for defining XML datatypes and vocabularies, and XSLT, a language for transforming XML documents into other XML documents. This seminar will begin with a technical overview of XML and then focus on the details of XML Schemas and XSLT.

Objectives

This seminar is designed for a technical audience who knows something about XML but wants to learn some of the key technologies for actually using it. Participants will come away with a good understanding of the concepts and practice of reading and writing XML Schemas and XSLT transformations.

Seminar Topics

- technical overview of XML
- XML Schema datatypes
- XML Schema structures
- Design patterns in XML Schemas
- XSLT processing model
- XPath expressions
- XSLT templates

Lecturer

James Tauber is Director of XML Technology at Bowstreet and has been involved in XML since the beginning, contributing to the initial design of XML and the specifications around XML that followed. James has been involved in the development of a number of XML schemas including the Directory Services Markup Language (DSML) and has run numerous courses on XML, XML Schema design and XSLT. He also runs a number of XML websites, including SCHEMA.NET which was the first site dedicated to XML schemas and XMLSOFTWARE.COM, the most comprehensive catalog of XML software available. James hails from Western Australia where, prior to joining Bowstreet, he was a part-time college professor and independent XML consultant.

Session Chair: Mike Plusch

Seminar Book Offer

XSLT Programmer's Reference
by: Michael Kay
Publisher: Wrox Press
List: $34.99 PDS Price: $30.00

GBC/ACM Fall 2000 PDS Series

Saturday October 28, 2000

MIT room 34-101

COM+

David Platt

Overview

Developing distributed enterprise systems poses problems that developing single-desktop systems does not. Writing our own software to solve these problems takes far too long, costs far too much, and we often can't acquire the skill set to do them adequately. COM+ in Windows 2000 provides prefabricated solutions to these and other problems of enterprise software development.

Familiarity with the concepts of component software and COM is helpful but not required. Code examples for this seminar are extremely simple and will be shown in Visual Basic.

Objectives

You will be exposed to as many of the different capabilities of COM+ as possible, and be able to answer the question "What prefabricated technologies does COM+ provide for my use, and what problems do they solve?" There will be software demonstrations showing how to take advantage of COM+ security, synchronization, transaction, asynchronous communication, and publish-and-subscribe event services.

Seminar Topics

- Introduction and Basic Architecture of COM+
- Object Context and Its Uses
- COM+ Transactions
- Queued Components and Events

Lecturer

David S. Platt is the President of Rolling Thunder Computing and an instructor in Computer Science at Harvard University. He teaches COM and COM+ at public seminars and at companies all over the world. He publishes "ThunderClap", a quarterly newsletter on COM+ development, available free from his Web site, www.rollthunder.com. His column "ActiveXplained" appears bi-monthly on Byte.Com He is also the author of "The Essence of COM with ActiveX" from Prentice-Hall, "Understanding COM+" from Microsoft Press, and many articles on COM in Microsoft Systems Journal.

Session Chair: Jim Byrd

Two Seminar Book Offers

The Essence of COM, 3rd Edition
by: David Platt
Publisher: Prentice Hall
List: $49.99 PDS Price: $40.00

Understanding COM+
by: David Platt
Publisher: Microsoft Press
List: $24.99 PDS Price: $20.00

General Information

Schedule

8:30am - 9:00am **Registration**
9:00am -12:15pm **Morning session**
(break at 10:30am)
12:15pm - 1:30pm **Lunch (provided on-site)**
1:30pm - 4:30pm **Afternoon session**
(break at 2:30pm)

Registration Fees

Seminar materials, lunch, and refreshments are included in the $80 fee. Registrants not current members of the GBC/ACM are charged an additional $10, and become members of the chapter for a year. This is distinct from ACM membership. Surcharge for on-site registration is $10. Purchase orders, credit cards, faxes and e-mail cannot be accepted.

Enrollment is limited and on a first-come, first-served basis. Early registration must be made by a check or money order at least three weeks in advance of the seminar to receive confirmation from GBC/ACM.

Cancellation & Refund Policy

Cancellations must be received in writing. The full seminar fee will be refunded if the PDS Registrar receives written notification before the start of the seminar, addressed to:

GBC/ACM
PO Box 465
Lexington MA 02420-0005

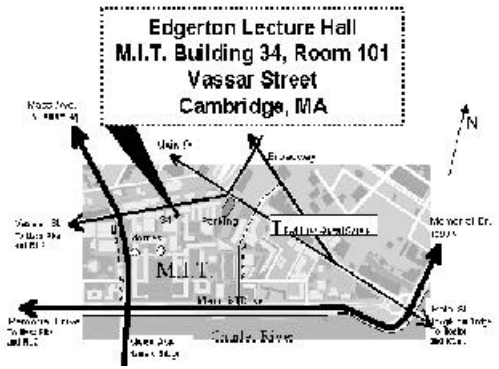
Refund requests received after the seminar date will be subject to a $15 administrative fee. The $10 membership fee will not be refunded.

Questions

See: http://www.acm.org/chapters/gbc
or call: (781)862-1181

Public Transportation:

Red line to Kendall Square. Walk west on Main Street to Vassar Street; Turn left on Vassar and walk half way to next light to building 34.



Building 34 **is located on Vassar Street about half way between Main Street and Massachusetts Ave. It is a small square building turned 45 degrees to the street so it may look like a diamond, especially with a glass atrium entrance. Building 34 is set back a few yards from the street and the line of other buildings. It is between buildings 36 and 38.**

Parking:

There is free parking on Vassar Street all Saturday and there is a parking structure surrounded by a parking lot at the corner of Vassar and Main. The entrance to the parking lot and parking garage is located on Main Street.

IEEE Robotics and Automation Society

Tuesday, 10 October, 6:00 p.m.

Co-evolutionary Robotics

Hod Lipson and Jordan B. Pollack, Computer Science Dept., Brandeis University

Can evolutionary principles be used to automate design of robot morphology and control? Can bodies and brains co-evolve together as they did in nature, stimulating and constraining each other, to yield new machines which are not laboriously designed by human engineers?

In our lab, we work on the evolution of real robots based on abstract biological principles: Neural Networks, which simulate mathematical principles thought to be involved in brains; Evolutionary computation, which uses software to simulate Darwinian evolution; and Co-evolution, which captures the principles of "arms-races" which arises among multiple cooperating and competing agents.

We will show some robots who evolved inside a simulated world of Lego blocks and were built by hand. These robots did not move, but demonstrated that the interaction of evolution and physics can lead to primitive forms of discovery, and what can be evolved in simulation can be transferred to reality. We will also demonstrate robots who evolved arbitrary morphologies and neural controllers for locomotion inside a quasi-dynamic motion simulator and then were converted to reality using rapid prototyping machinery.

The robot is born as a solid three-dimensional structure without the need for tooling or human intervention. Support tissue is disposed, motors are then snapped in and the evolved neural network is downloaded to a microprocessor. The evolved creatures worked in reality as they did in simulation.

This work establishes for the first time robotic replication, a complete physical evolution cycle, where a robotic system can design and manufacture new robots. However, it is not yet self-replication, because the machines produced are not as capable as their forbears.

Hod Lipson completed his PhD in mechanical engineering at the Techion -Israel institute of technology in 1998, after serving 5 years as the head of CAD/CAM R&D office in the Israeli Navy. Hod Lipson is now a research scientist at the Dynamical Evolutionary Machine Organization (DEMO) Lab at Brandeis University and at the mechanical engineering department at MIT. He is interested in the area of design automation.

Jordan Pollack received the Ph.D in computer science in 1987 from University of Illinois and is on the faculty of Brandeis University. His interests span artificial intelligence, artificial life, complex systems, neural computation, evolutionary computation, co-evolution, robotics, games, and educational technology.

The IEEE Robotics and Automation Society will meet on Tuesday, October 10, 2000, in the Training Room at Natural MicroSystems, 100 Crossing Blvd., Framingham, MA at 6PM for informal discussions and for the formal presentation between 6:30 and 7:30 PM. The group has dinner afterwards at Not Your Average Joe's Restaurant, where more conversations can take place with the guest speaker. The meetings are open to the general public and all are welcome at the dinner afterwards. For more information contact Bruce Levens at (508) 271-1233 or bcl0@alum.mit.edu.

Directions: Natural MicroSystems is conveniently located in Framingham, Massachusetts at the intersection of Route 9 and Interstate 90 (Mass Pike) and is only 5 minutes from Interstate 495.
The address is: 100 Crossing Boulevard, Framingham, MA 01702 From Massachusetts Turnpike Take the Massachusetts Turnpike to Route 9 West (Exit 12 in Framingham). Once on Route 9, get into the left hand lane. (The Tara hotel is on the right.) Take the first left-hand exit onto Crossing Boulevard. Follow Crossing Boulevard up over Route 9 into the industrial park. Natural MicroSystems is on the right. (It is a red brick building, currently the only completed building on the right.)

Boston SPIN holds its monthly meeting on the third Tuesday of every month at General Dynamics, 77 A Street in Needham, MA.

Directions:

- From Route 128 in Needham, take exit 19A onto Highland Avenue East.
- Take your first right by the Ground Round and take your second left onto "A" Street.
- General Dynamics is the last building on the right.
- Enter the parking lot by the General Dynamics sign and come into the building by the cafeteria entrance, which is located to the left of the main entrance. There will be a security guard at the entrance.
- See · http://www.gd-cs.com/needham.html for further directions.

***Real Times* Editor**
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The Real Times is published ten times per year (September through June) and is the official newsletter of the Greater Boston Chapter of the Association for Computing Machinery, First or third-class postage paid at Boston, MA 02101, Lexington, MA 02420, and other post offices.

Timely notices of events, meetings, and other activities of interest to the Chapter's Membership should be submitted by the 10th of the month Before the intended issue and sent, with attention to the Managing Editor to:

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The Chapter's mailing list is available to related professional organizations or for commercial use. Please contact the Membership Chair at the address above when requesting mailing lists.

Annual subscription cost is included in the Chapter Membership dues of $10.00. See top line on mailing label for membership expiration date. Library subscriptions are free. Please send orders for copies to the Chapter mailing address above.

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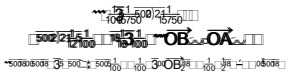
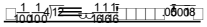
Address changes should be sent to the mailing address above. Allow eight to ten weeks for changes to address or membership renewal to become effective. Send old label with address modifications.



Did you miss our September events?
Find out about recent gatherings,
including monthly meetings,
PDS seminars
and more on our web site:



Mark your calendars!

November's Monthly Meeting is on November 16th.
Mike Ciraldi will be delivering a talk entitled,
"Risks in Anonymous Distributed Computing Systems."
For more info, visit: http://www.gbcacm.org/meetings.shtml

Websites of some Local Groups

GBC/ACM

www.gbcacm.org

SIGGRAPH

www.siggraph.org/chapters/boston

SIGCHI

www.xensei.com/gbsigchi

WebTech

www.acm.org/chapters/webtech

SPIN

www.cs.uml.edu/Boston-SPIN

IEEE

www.ieee-boston.org

IEEE Consultants Network

www.boston-consult.org

Books for sale:

Title	Author	List Price	ACM Price	Quantity	Total
The JAVA Programming Language	Ken Arnold	$34.38	$25.00		
The Java Swing Book	Eckstein, Loy, Wood	$44.95	$35.00		
About Face: The Essentials of User Interface Design	Alan Cooper	$29.25	$15.00		
Working with Active Server Pages	Michael Corning	$39.99	$25.00		
JAVA: How to Program (with CD)	Paul Deitel	$99.95	$55.00		
JAVA: How to Program (book only)	Paul Deitel	$51.00	$40.00		
The SGML FAQ Book: Understanding the Foundation of HTML and XML	Steve DeRose	$68.00	$55.00		
The Web Security Reference Guide	Lincoln Stein	$29.95	$20.00		
Real-Time Systems Design and Analysis	Phil LaPlante	$69.95	$55.00		
The C++ Programming Language, 3rd Ed	Bjarne Stroustup	$42.99	$30.00		

Please add $4.00 per book for shipping and handling.

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Bernie Ganino, 12 Fellsmere Ave., Wakefield, MA 01880

Date of event	Page	Sponsor	Location
October 10	3	IEEE	Natural MicroSystems
October 14	4	GBC/ACM	MIT
October 17	3	SPIN	General Dynamics
October 19	1	GBC/ACM & IEEE Computer Society	MIT
October 28	5	GBC/ACM	MIT

If the top line of your mailing label below reads **EXPIRED**, please renew your membership (for just $10/yr). For that $10 you get a copy of this newsletter/local event calendar mailed to any address you choose plus the right to attend PDS seminars at the member rate. Please consider renewing for more than one year at time. Your support helps make possible the wide array of GBC/ACM activities.

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The Official Newsletter of the Greater Boston Chapter of the

The Real Times

Vol. 40 No. 1 www.gbcacm.org September-October 2000

GBC/ACM October Meeting
7:00 PM, Thursday, October 19, 2000
MIT, room 4-231

"The Power and Potential of Data Mining"
Dr. Bhavani Thuraisingham
Senior Principal Database Technology Engineer
The MITRE Corporation

Data mining is the process of posing queries and extracting information often previously unknown from large quantities of data. It integrates various technologies including database management, machine learning, statistics, parallel processing and visualization. During the past few years, data mining technology has exploded. We now have several commercial products and research prototypes. The reason for this explosion is because the supporting technologies are becoming mature and we now have ways of collecting, storing and organizing the data so that it can be mined effectively. Data mining outcomes include forming clusters as well as making associations and correlations. Various techniques such as neural networks, decision tree and rule-based algorithms are being applied to obtain the desired data mining outcomes. Many of these techniques currently operate on relational databases where the data is organized as a set of tables.

Current trends in data mining include mining unstructured data such as text, voice, and video, mining data in disturbed and heterogeneous databases, and mining the web data to help electronic commerce sites. While data mining has seen numerous benefits, it can also cause serious security problems. Because of these data mining tools, users now have ways of extracting unauthorized information from making all kinds of correlations. Therefore, security and privacy aspects of data mining are now being given some consideration.

This presentation will provide an introduction to some of the concepts the speaker will present in more detail in the IEEE Boston Section data mining course beginning on 6 November 2000.

Dr. Bhavani Thuraisingham, recipient of IEEE Computer Society's 1997 Technical Achievement Award, is a chief scientist in data management in the Information Technology Directorate in MITRE Corporation's Air Force Center. Her work is in data mining, web databases, and real-time databases. She has published over 350 articles including over 50 journal papers, and teaches an advanced data management and data mining class at Boston University. She serves on the editorial boards of various journals including IEEE Transactions on Knowledge and Data Engineering and the Journal of Computer Security, is the holder of 3 US patents and is a senior member of IEEE. She is the author of 3 books: Data management systems evolution and interoperation; Data mining technologies, techniques, tools and trends; Web data management and electronic commerce; all by CRC Press, and is working on her fourth book, Managing and Mining Multimedia Databases. She has chaired several conferences and workshops and is currently the program chair for IEEE ISADS 2001. She is a featured and keynote speaker in data management and mining at major conferences worldwide.

Directions to MIT room 4-231:
MIT is at 77 Massachusetts Avenue, just on the north side of Memorial Drive (on the north shore of the Charles River), in Cambridge, MA. One way to find room 4-231, which is on the second floor of building 4, is to enter the main complex of MIT buildings by coming in the main entrance at 77 Massachusetts Avenue, then walk straight through "the infinite corridor" until you reach building 4.
Please see http://whereis.mit.edu for directions to MIT or maps of the MIT campus.