



VIRGINIA MOUNTAIN SECTION NEWSLETTER

IEEE Region 3, Council 09, Section 65 **March 2001**

Meeting: Thursday, March 15

Java: What's It Good For? A No-Hype Tour Through a Hype-Filled Language

Stephen H. Edwards

Dept. of Computer Science, Virginia Tech

Abstract

When Java first came on the scene in the early 90's, it quickly attracted attention from both the programming and academic communities. Now that the heat has worn off of its introduction, Java has settled into a mature language with a huge user base. It's focus on internet computing, support for "write once, run anywhere" deployment, and embrace of object-oriented techniques continues to attract practitioners steadily. But is there really anything new and different in this language? Is it worth learning? What can you do with it, and what problems is it inappropriate for?

This presentation provides a gentle introduction to Java for the casual programmer, web page designer, or internet junkie. It cuts through the marketing hype, hearsay, and popular press hyperbole to discuss the facts about this powerful and popular language. Java's design goals and its most important features will be discussed, as will its relationship with programming web-based applications, scripting for HTML, and even creating commercial-quality stand-alone applications. Java's relationship with its little brother, JavaScript, will also be clarified.

About the Speaker

Stephen H. Edwards is an Assistant Professor in the Department of Computer Science at Virginia Tech. He regularly teaches classes in programming languages, data structures, software engineering, and software design and quality. In addition to these topics, his research interests also include software reuse, automated testing, formal methods, and information retrieval technology.

Most recently, Dr. Edwards has been working on ACTIV, an automated testing approach for component-based software, in addition to serving as one of the principal developers of on-line graduate

computer science courses at Virginia Tech. Dr. Edwards received a BS in electrical engineering from Caltech in 1988, an MS in computer science from Ohio State in 1992, and a Ph.D. in computer and information science from Ohio State in 1995. He is a member of the ACM and an affiliate of the IEEE Computer Society.

Reservations

Date: Thursday March 15, 2001
Social: 6:30 PM
Dinner: 7:00 PM
Talk: 8:00 PM
Cost: Member or Guest \$12.00
Student \$ 7.00

Clarion Hotel Roanoke Airport
2727 Ferndale Drive NW
1581 Exit 3 Hershberger Rd West
1st Rt. onto Ferncliff Ave.,
2nd Rt. onto Ferndale Drive.

Reserve by **5 PM Monday** March 12

Call **Howard Moses (540) 953-5069**
or e-mail:

MMoses@ieee.org

Leave a message stating who will be attending.

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VMS Activities

Meeting Report February 15, 2001

The February meeting was held at the Clarion Hotel Roanoke Airport with twenty-five in attendance. Dr. George Blonar, Vice President of Business Development at Carilion Biomedical Institute spoke on the Institute's purpose and progress.

Carilion Biomedical Institute (CBI) was started with \$20 million in seed funding from Carilion Health Systems as a working partnership with Virginia Tech and University of Virginia. The goals of the institute are to: 1) Strengthen biomedical research programs at Tech and UVA; 2) accelerate transformation of research into products that improve healthcare worldwide; 3) create business opportunities to enhance economic development in southwest and central Virginia.

CBI's business model is to identify healthcare problems and cost drivers, fund research to develop solutions, support the commercialization of the solutions while retaining licensing or other intellectual property rights, then re-invest the income into the next round of research.

As a fully integrated health care provider covering a large geographical area, Carilion is well positioned to identify health care problems and cost drivers. Additionally, they lead the industry in the percentage of their patient records that are computerized, facilitating the mining of data to identify and prioritize opportunities. UVA has strong life-science and bio-engineering programs and a leading medical school. Tech has leading engineering and veterinary schools and a successful entrepreneurial culture among the research faculty.

CBI's primary research areas are: clinical lab automation, diagnostics, therapy, eldercare, and medical bioinformatics. Among the Economic Development initiatives at CBI is their support for the \$175 million Riverside Center for Research and Technology planned for downtown Roanoke in 2004.

In the first year, CBI has authorized \$4 million for research spending which is supporting 50 projects and over 70 faculty and students. Their first spin-off company,

BioPhile was announced in the press this month. Additional information on CBI can be found at their web site,

<http://www.biomedicalinstitute.org>

presently under construction.

...*Mark Shepard*
Secretary/Treasurer

Annual Student Paper Contest

The April meeting will comprise our annual Student Paper Contest.

Initiated in 1995 as a Technical Seminar, the name has evolved to the current "Paper Contest" due primarily to the fact that winners here often go on to present at SouthCon where the emphasis has always been on the contest aspects.

Early contests included both graduate and undergraduate students but recently it has been restricted to the undergrads and will probably continue that way.

There have been as many as eight papers and well over a dozen participants with multi-authored papers. Four or five is more common however, and better suited to the limited time.

While billed as a paper contest, presenters have used poster and working demo displays. The format varies from year to year. This one seems to be shaping up as a true presentation of papers, but that is not firm as yet.

Awards have also evolved with time. The original first prize was \$100.00 with \$50.00 and \$25.00 going to second and third places. Last year's four winners (tie for third) split \$700.00.

Participants have always enjoyed the experience (once it was over) and find it a worthwhile exercise in formal presentation.

...*editor*

Chair's Comments

The VMS Executive Committee is taking great strides to get to know you and your

professional interests better, so we can provide programs that interest you and increase the value of your membership. To this end, we have created a new database to fully take advantage of the monthly membership data received from IEEE headquarters. We are hoping that this information, including the feedback received from our new meeting evaluation forms, will help us pick meeting topics with wide interest in favorable locations.

You may be interested in some of the information we've gathered. Our section is comprised of 268 members, 98 senior members, 24 fellows, 223 students, 36 associates, and 35 affiliates (684 active members total). These members belong to 35 societies with the Computer, Communications, Industry Applications, and Power Electronics societies taking the lead respectively. There are many members that indicate up to three technical interests (out of many hundreds to choose from) on their membership renewal forms, and I would encourage you to include this information on your next renewal. These members picked software engineering, industrial automation and control, wireless communications, and power electronics devices, circuits & systems as their top interests. Finally, our members are dispersed throughout 21 counties in southwest Virginia with the most members in Montgomery (383), Roanoke (194), Rockbridge (29), Botetourt (13), Pittsylvania (13) and Wythe (9).

In other news, the Executive Committee decided to help fund the Hokie G.U.A.R.D. FIRST (For Inspiration and Recognition of Science and Technology) Robotics Team as they prepare to compete in regional and national competitions. A decision was made to welcome new members and transfers to the section by waiving their meal costs for the first section meeting they attend (applies to non-student members only). If you're new to the section, please plan to attend this month!

We are also looking for a volunteer to chair the section PACE Committee (Professional Activities Committee for Engineers) and chairs for the Industry Applications and Power Engineering chapters. If you are interested, please contact me or any Executive Committee member.

I hope to see you at the section meeting on March 15th to learn about JAVA!

Dave Kingma
dkingma@ieee.org

Computer/Control/Industrial Electronics Chapter

Date: Tuesday, March 6, 2001

Time: 5-7 PM

Place: GE Industrial Systems, Cafeteria A
1501 Roanoke Boulevard
Salem, VA 24153

Fun With Root Locus Sandy Gurian

Abstract:

In doing the research for my Master's Thesis, "Resonance Compensation of Large AC Drive trains with Significant Time Lag", I found the root locus (in conjunction with MATLAB) extremely useful in a number of ways. I was mainly concerned with the damping of rolling mill drive train mechanical resonant poles and found that there is nothing better than the root locus to show what happens when those poles move as loops are closed, as parameters vary or as penalty matrices change. I am happy to report that the root locus is not a tool designed to torture undergraduate students of control engineering, but rather a useful and surprisingly easy tool to master.

Vita: Mr. Gurian was born in Detroit in 1955. Around that time the first steel mills were automated by the General Electric Company, his current employer. Mr. Gurian works as a control engineer. He lives in Roanoke, VA, with his wife and son.

Reservations are appreciated!

Contact Dave Geer, d.geer@ieee.org
or 540-387-7359

by 5PM Monday March 5

Refreshments will be served. There is no charge.

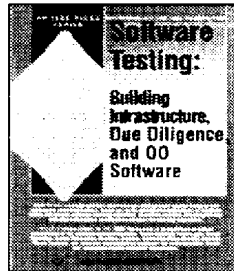
Everyone is welcome. You do not have to be a member of IEEE to attend.

And Don't Forget

The First ACM /IEEE-CS Joint Conference on Digital Libraries will be held June 24-28,

**Upgrade your knowledge of
software testing techniques!**

Software Testing: Building Infrastructure, Due Diligence, and OO Software



presented by Cem Kaner, J.D.;
Jeffery Payne, Reliable Software
Technologies; and Barry
Preppernau, Microsoft; Jeffrey
Voas, Reliable Software
Technologies, served as the
moderator and technical editor

This video tutorial highlights
core theoretical and practical
reasons why testing often fails
to discover software defects.
Time constraints and budget
limitations are just a few of the
recurring problems. You will
hear how Microsoft handles its
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techniques to apply for testing
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what legal issues may arise for
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is ideal for QA managers,
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2001 at Hotel Roanoke and Conference Center, Roanoke, VA. There will be an exciting program of papers, panels, demos, workshops, and tutorials. Before the conference there will be trips to explore the scenery and history of Southwest Virginia. The National Science Foundation will fund a workshop on June 28 to bring together researchers it funds regarding digital libraries, covering both technology and support for users in a wide variety of content areas and media types.

The conference is looking for volunteers to help make this the outstanding digital libraries event of the year. There is need regarding trips, local arrangements, registration, and other aspects of the conference. Please contact the general chair, Ed Fox,

fox@vt.edu,

540-231-5113

if you have any questions or can help!

For further details, please see

<http://www.jcdl.org>

...*Dave Geer, Chapter Chair*

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...*editor*

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2000-2001 MEETING SCHEDULE

| DATE | SPEAKER/TOPIC | MEETING PLACE |
|---------------------------------------|---|-----------------------|
| September 21 Spouses' Night | Kenneth R. Laker 1999 IEEE Past President 21st Century IEEE The Exemplary Global Engineering Society | Clarion Hotel Roanoke |
| October 19 | James C. Squire Department of Electrical Engineering, VMI Engineering in Clinical Research: A Case Study | Clarion Hotel Roanoke |
| November 16 | David L. Livingston Department of Electrical Engineering, VMI An Introductory Overview of Computational Intelligence | Clarion Hotel Roanoke |
| January 18 | Nancy A. Vorona Virginia Center for Innovative Technology The Electronics Industry in Virginia- Poised for the Future | Clarion Hotel Roanoke |
| February 15 | Dennis G. Fisher Carilion Biomedical Institute Overview of the Institute Activities | Clarion Hotel Roanoke |
| March 15 * | Steven Edwards Computer Science Department, VT Java Update * | Clarion Hotel Roanoke |
| April 19 | Student Project Night | TBD |
| May 17 | Plant Tour | TBD |

* A Web Site "Name Your Topic" Request

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Contributions welcomed - make them on-line.

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