
October 2003

Rock River Valley Section

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Event

Sense

The Institute of Electrical and Electronic Engineers, Inc.

Computer/Control Systems Chapter Meeting

Model-Based Analysis and Test Generation for Complex Systems

When TUESDAY, October 21, 2003

Where Rock Valley College, Technology Center, **Room 141**. I-90 to Riverside Blvd., exit and go west to Mulford Rd. Go south to first light, turn east into RVC. Follow road to left to last building.

Agenda

6:00 PM Networking
6:30 PM Dinner
7:30 PM Presentation

Program The cost of verification and validation is extremely expensive, with organizations spending 50-70% of their effort and resources in test. A summary of the benefits of the T-VEC test generation system will be provided, including support for both validation and verification, generation of tests from requirement or design models, verification of full test coverage with at least one test per requirement, full requirement-to-test traceability.

The T-VEC modeling analysis is a powerful model checker that finds defects in both requirement-based and design-based models, including the generation of test vectors. It is able to be applied to unit testing, integration testing and to system testing. An example of T-VEC's application to the Mars Polar Lander in which it was able to find the fatal defect that caused its loss will be provided.

T-VEC's ability to integrate with

Simulink and MATRIXx will be discussed.

Hierarchical verification, and how this approach is critical to addressing the complexity of software-intensive system verification, will be discussed. The support we have for generating management-level reports and measures that can be effective at predicting project schedule duration, project completion dates, and resource usage will also be covered.

Lastly, the presentation describes how pilot projects are the best way to get started with technology transfer for these types of technologies.

Speaker Mark R. Blackburn, Ph.D is a Software Productivity Consortium Fellow and co-inventor of the T-VEC system. He has over twenty years of software systems engineering experience in development, management and applied research of process, methods and tools. He is a frequent speaker at conferences and symposia, and is actively involved in consulting, strategic planning, proposal and business development, as well as developing and applying methods for model-based approaches to support requirement defect removal and test automation. He used his

model-based tools to quickly identify the bug that is the likely cause of the Mars Touchdown Lander crash. Dr. Blackburn has also been involved in applied research and technology demonstrations in requirement and design specification, formal methods, and formal verification, object technology, web-based knowledge engineering, domain engineering, and reverse engineering. He earned a BS in Mathematics from Arizona State, MS in Mathematics from Florida Atlantic University, and a Ph.D. in Information Technology from George Mason University.

Meal/Reservations

There will be a chicken and vegetarian selection. Please reserve your space and/or dinner selection by **calling Ginger at 815-394-5696 or sending an email (ginger.spinasanta@hs.utc.com) by Monday, Oct 20, at noon**. Please include your name, phone number, email address, IEEE member number and meat or vegetarian selection. The cost of the dinner is **\$5 for members, \$13 for non-members, and \$2 for students**.

Note

The meeting is open to the general public. You need not be an IEEE member. Guests are welcome. However, please call to enable us to make appropriate arrangements.

September Meeting Recap

Professor Sen M. Kuo, Chair of the Department of Electrical Engineering at Northern Illinois University, gave an excellent talk on Applications of Active Noise Control. What was surprising was how many and how varied the applications for this technology, from road noise to washing machines, to air conditioning/furnace duct noise to tractors (passenger compartment), to even changing the sound of a VW engine to sound like that of a corvette, clearly this is an emerging industry. The topic, examples, and possibilities are fascinating.

MEMBER-GET-A-MEMBER (MGM) /STUDENT-GET-A-STUDENT (SGS) CAMPAIGN

Do you have a good IEEE experience to share with a colleague? Why not tell your peers about some of the benefits that you have experienced as an IEEE member? You can help make your colleagues more informed about IEEE, and at the same time earn yourself an incentive for successfully recruiting them.

IEEE conducts the MGM and SGS campaigns annually to encourage members to actively recruit their colleagues or fellow students to become IEEE members. The program makes sense, since who is better equipped to extol the benefits of membership than our existing members? This year's program will run from 2 September 2003 through 15 August 2004. In return for their efforts, a small financial "thank you" will be awarded to all recruiters that can be used as a credit towards IEEE or Society membership dues, or towards the purchase of IEEE services and products. For rules of the programs and recruiting tips, visit: <http://www.ieee.org/mgm> or contact Felicia Taylor via email at f.taylor@ieee.org.

Submissions to *Event Sense*

Send articles and job ads to the *Event Sense* editor, Bob Parro, via e-mail (preferred), or fax. Job ads will run for two consecutive months. Contact the *Event Sense* editor if the ad needs to run longer. Please make submissions by the twenty-fifth of the month. All submissions are subject to editing for style, clarity, and space considerations.

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companies and university for supporting Section Officers:**

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Calendar

October Section Meeting **TUESDAY**..... **October 21**
Model-Based Analysis and Test Generation for Complex Systems at Rock Valley College

November Section Meeting **November 20**
Annual Student Branch meeting at the NIU Engineering building in DeKalb



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