

## December Meetings

### Boston SPIN

**Topic:** The Economics of Software Process Improvement

**Speaker:** Capers Jones

**Date:** Tuesday, December 13, 2005 6 PM Networking, 7:10 PM Presentation

**Location:** The Mitre Corporation, S Building, Bedford, MA

**Details:** <http://www.boston-spin.org/meeting.html>

### Software Quality Group of New England (SQGNE)

**Topic:** Top Ten Opinions About Software Testing

**Speaker:** Ted Rivera, IBM/Rational

**Date:** Wednesday, December 14, 2005 6 PM Networking, 6:30 -8:00 PM Business Meeting & Presentation

**Location:** Sun Microsystems, Burlington, MA

**Details:** [http://www.sqadvice.com/SQGNE\\_Calendar.htm](http://www.sqadvice.com/SQGNE_Calendar.htm)

### New England Information Security Group (NEISG)

**Topic 1:** Information Security in the Next Decade

**Speaker 1:** Dr. Tanya Zlateva, Boston University

**Topic 2:** Securing the Desktop - A New Battlefield in Enterprise Security

**Speaker 2:** Bit9

**Date:** Thursday, December 15, 2005 6:30 PM

**Location:** Microsoft Office, Waltham, MA

**Details:** <http://www.neisg.org/Meetings/Default.htm>

### New England Information Security Group (NEISG)

#### *Special Event*

**Topic :** Technical Briefing - SQL Server 2005

**Speaker :** Burton King, The Acushnet Company, Manufacturer of Titleist Golf Equipment and FootJoy Golf Shoes

**Date:** Monday, December 19, 2005 6:30 PM

**Location:** Microsoft Office, Waltham, MA

**Details:** <http://www.neisg.org/Meetings/Default.htm>

### Boston Section of IEEE Social Implications of Society

**Topic:** Towards Simpler Software - Your Life Depends on It!

**Date:** Tuesday, December 20, 2005 6:00-7:30 PM (Dinner followed by no-host discussion)

**Location:** Great Wall Restaurant, Bedford, MA

**Details:** [http://www.ieeeboston.org/society\\_on\\_social\\_implications.htm#dec20](http://www.ieeeboston.org/society_on_social_implications.htm#dec20)

## Software Detects the True Artist

*by Noah Shachtman (from Wired News)*

*The entire article can be found at: <http://www.wired.com/news/technology/0,1282,65794,00.html>*

Scholars have had their suspicions that the painting of Madonna and child credited to the Italian Renaissance master Pietro Perugino wasn't really done by him alone. But they could never be sure.

Now, a new set of software tools, developed by a Dartmouth College team, seems to confirm the art historians' doubts, showing evidence of at least four different painters working on the canvas. The programs' makers hope this will be the first in a long line of art authentication mysteries they can help put to rest, with code that can sort out real from fake.

"There are properties in an artist's pen and brush strokes that aren't visible to the human eye, but that are there nonetheless. And we can find them, through mathematical, statistical analysis," said Dartmouth computer science professor Hany Farid, who developed the algorithms, along with math professor Daniel Rockmore and graduate student Siwei Lyu.

Museum curators and statisticians caution that the Dartmouth group's techniques have only begun to be tested. Using algorithms to back up scholars' suspicions is one thing; uncovering a fraud with just a computer, that's completely different. And in the art world, no scientific method is considered as sure as the eye of a seasoned connoisseur.

But Farid is, in many ways, the natural person to tackle the job. He has worked to digitize the works of the Mexican muralist José Clemente Orozco, and stitched the paintings into a single, three-dimensional image. With his father, a chemist and an amateur Egyptologist, he's done the same with tombs from the age of the Pharaohs.

Farid also developed an international reputation for uncovering what lies beneath the visible image. The Justice Department has funded his research into steganography — the art of hiding messages within digital pictures. And he has developed a set of computer programs that can automatically spot tampering in high-resolution digital photographs. Prosecutors around the country have enlisted the professor to help them authenticate their pixelated evidence.

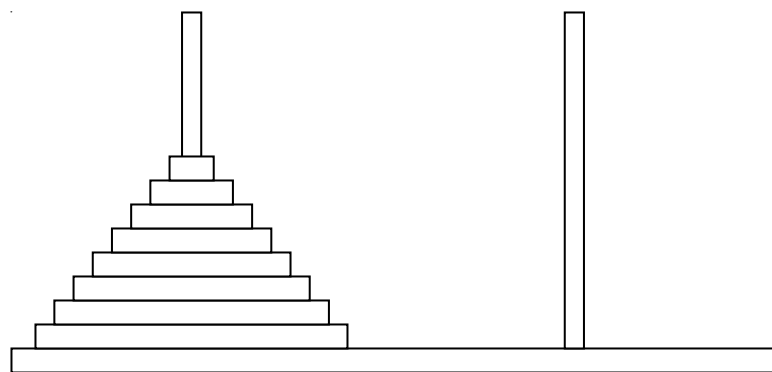
Farid and Rockmore used similar techniques to examine the painting by Perugino, the artist perhaps best known for his frescoes along the walls of the Sistine Chapel. First, they had an enormous photograph taken of the work, which hangs in Dartmouth's Hood Museum. The negative alone was 8 inches by 10 inches, as big as a standard print sitting on a desk or hanging on a wall. Then the photograph was digitized into 16,852 by 18,204 pixels. The six faces in it were broken down into several hundred sections, 256 by 256 pixels big. And each of these areas was then run through a series of nine filters. Some removed the image's higher frequencies, others took out the lower ones, still others kept only the vertical or horizontal lines.

The filtered images were then run through a series of algorithms, the results of which produced a set of numbers. The more similar the painting style, the closer together those numbers were. Once those numbers were plotted on a graph, the Dartmouth team found that points representing the faces on Madonna and two of the saints were crowded together tightly. Baby Jesus and the two other saints — those three were far, far apart. So the researchers believe that one artist painted Madonna and one canonized pair, while three other artists composed the remaining faces.

## The Tower of Hanoi Game

from *Programming in PASCAL* by Peter Grogono, Addison-Wesley Publishing Company, Inc., 1980

Towards the end of the nineteenth century, a game called the Tower of Hanoi appeared in novelty stores in Europe. The popularity of this game was enhanced by accompanying promotional material explaining that priests in the Temple of Bramah were currently playing it, and that the end of their game signified the end of the world. The priests' equipment allegedly consisted of a brass platform with three diamond needles on which rested sixty-four golden disks. The more modest version sold to the public consisted of eight cardboard disks mounted on three wooden posts. The object of the game is to move the tower on the left needle to the right needle, under the conditions that only one disk may be moved at a time, and at no stage may a larger disk rest on a smaller disk.



## Sudoku

(From Wikipedia Web Site)

Solution to puzzle in November 2005 issue of the Real Times.

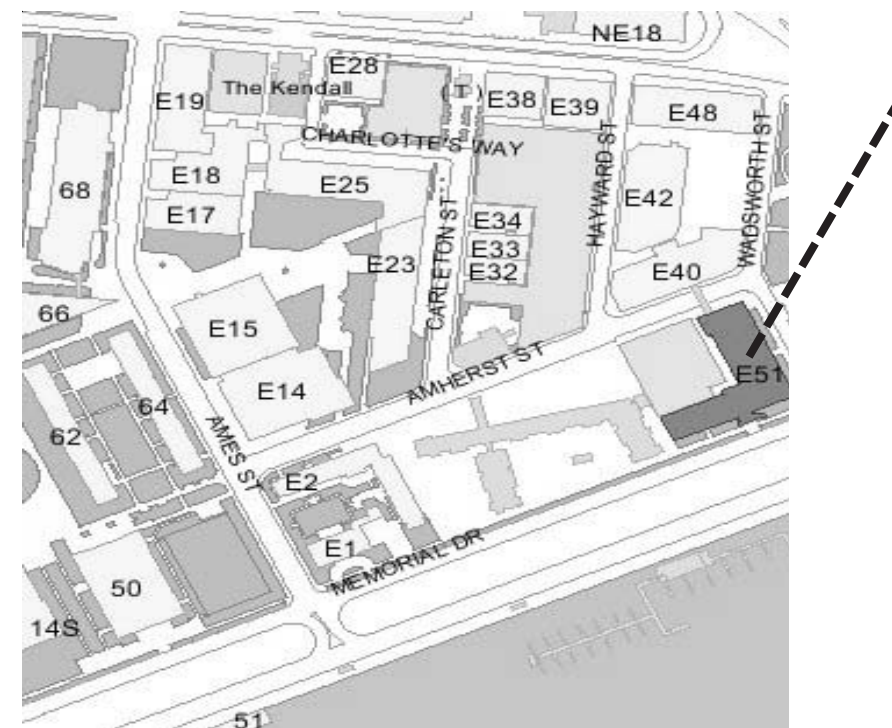
5	3	4	6	7	8	9	1	2
6	7	2	1	9	5	3	4	8
1	9	8	3	4	2	5	6	7
8	5	9	7	6	1	4	2	3
4	2	6	8	5	3	7	9	1
7	1	3	9	2	4	8	5	6
9	6	1	5	3	7	2	8	4
2	8	7	4	1	9	6	3	5
3	4	5	2	8	6	1	7	9

## continued from page 1 - GBC ACM December General Meeting

Building E51 is located near the Eastern extremity of MIT, on Memorial Drive close to the Longfellow Bridge. It also adjoins Amherst Street and Wadsworth Street. Building E51 is a short walk from the Kendall T station. Room 345 is on the third floor.

Parking: Driving westbound on Memorial Drive you may park on the street near Building E51. There are often spaces available there in the evening. Driving eastbound on Main Street you will see an MIT parking lot on the right between the Kendall Square T and the Longfellow Bridge.

For a map of the MIT campus: <http://whereis.mit.edu/map-jpg?selection=E51&Buildings=go>



## January 19, 2006 GBC ACM Monthly Meeting

**Topic:** Conveying the Scent of Information

**Speaker :** Jared Spool, User Interface Guru and Founder Principal, User Interface Engineering (UIE)

**Time:** 7:00- 9:00 PM

**Location:** TBD

Jared M. Spool is founder of User Interface Engineering, the largest usability research organization of its kind in the world. If you've ever seen Jared speak about usability, you know that he's probably the most effective, knowledgeable communicator on the subject today. He's been working in the field of usability and design since 1978, before the term "usability" was ever associated with computers.

Jared spends his time working with the research teams at the company, helps clients understand how to solve their design problems, explains to reporters and industry analysts what the current state of design is all about, and is a top-rated speaker at more than 20 conferences every year. He is also the conference chair and keynote speaker at the UI10 Conference, is on the faculty of the Tufts University Gordon Institute, and manages to squeeze in a fair amount of writing time. He is author of the book, *Web Usability: A Designer's Guide*.

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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:

**GBC/ACM, P.O. Box 465, Lexington, MA 02420 (781) 862-1181**

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**Request for volunteers**

*We are still in need of volunteers for a variety of jobs. If interested in volunteering, please send email to Peter Carmichael, GBC ACM President at*

*president@gbcacm.org*

*We need leadership in a number of areas including:*

- IS Committee to lead many interested contributors - must be a team leader
- Membership database reorganization, integration, cleanup and reporting
- Assistant Treasurer to help Yona Carmichael
- Registrar roles to support future seminar programs. and much more.



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For complete list of course offerings, details and updated course and registration information,

Visit our Website at <http://ieeeboston.org>; Phone: 781-245-5405

Register Early to get a Discount!

Implementing Voice over IP: Challenges and Future View  
Date and Time: Saturday, Nov. 5, 8AM - 5PM  
Location: EMPIRIX, Bedford

Modern FPGAs -Technology, Tools & Applications  
Date & Time: 7 - 9PM; Thursdays, November 3, 10, 17, December 1, 8 & 15  
Location: TBD (Rt. 128 Waltham - Woburn)

Security Awareness: Practical Elements of Security  
Date & Time: 7 - 9PM, Wednesdays, October 19, 26, November 2, 9, 16, & 30  
Location: TBD (Rt. 128 Waltham - Woburn)

Defining and Managing User Requirements  
Dates & Times: 8AM - 5PM, Monday & Tuesday, November 21 & 22  
Location: Lexington Sheraton Hotel,

21 Ways to Evaluate Requirments Adequacy  
Date & Time: 8AM - 5PM, Thursday, Dec. 1  
Location: Lexington Sheraton Hotel, Lexington, MA

Leading Virtual Teams - Improving Performance across Distance, Diversity and Digital Technologies  
Date & Time: Thursday, 6 - 9PM, Oct. 27, Nov. 10, 17, Dec. 1  
Location: TBD (Rt. 128 Waltham - Woburn)

Radio Frequency Identification: Technology, Applications and Impacts  
DATES:9:00 AM - 12:00 Noon, Saturday, Oct. 22, October 29, November 5, and November 12.  
LOCATION: Merrimack College, North Andover, Room 167, Mendel Hall

Accelerated Delphi-Pascal Fundamentals with computer lab exercises  
Dates & Times: Mondays, 6:15PM - 9:45PM; Oct 24, 31, Nov 7, 14, 21, 28, Dec 5, 12,  
Location: Lexington Sheraton Hotel, Lexington, MA

Pieces of Perl Making Perl Work for You  
Date & Time: 6:30 - 8:30PM, Thursdays, Nov. 10 & 17  
Location: TBD (Rt. 128 Waltham - Woburn)

Dynamic Web Server-Side Technologies Overview  
Date & Time: Thursdays, 6:15PM - 9:45PM, Nov 3, 10, 17, Dec 1, 8, 15  
Location: Lexington Sheraton Hotel, Lexington, MA

Accelerated Fundamentals of FUNJAVE Programming  
Date & Time: Tuesdays, 6:15PM-9:45PM, Nov 1, 8, 15, 22, 29, December 6, 13,  
Location: Lexington Sheraton Hotel, Lexington, MA

Failure Analysis and Prevention in Electronic Circuits  
Date:8:30AM - 4:30PM, Wednesday, October 26  
Location: TBD (Rt 128 Waltham - Woburn)

Antennas & Propagation for Wireless Communication Systems  
Date & Time: 6:30 - 9PM, Mondays, Oct. 3, 24,31, Nov. 7,21,28, Dec. 5 & 12  
Location: TBD (Rt 128 Waltham - Woburn)



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Dec 15	4	New England Information Security Group	Microsoft Waltham, MA
Dec 19	4	New England Information Security Group	Microsoft Waltham, MA
Dec 20	4	IEEE Social Implications of Technology	Great Wall Restaurant, Bedford, MA
Jan 19	3	GBC ACM January General Meeting	TBD

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December 2005

## GBC/ACM December 2005 Meeting

### To Spelunk or Not to Spelunk: Does Immersive Virtual Reality Help?

**Speaker:** David Laidlaw, Director, Visualization Research Lab, Brown University

**Date/Time:** Thursday, December 1, 2005, 7-9 PM

**Location:** MIT E51-345

Dr. David Laidlaw will present the results of several scientific visualization experiments at Brown to evaluate visualization environments. Together, the results help to explain some of the tradeoffs between large-format 3D virtual-reality displays (e.g., a Cave) and other display formats. All of the results are motivated by our belief that immersive virtual reality has the potential to accelerate the pace of scientific discovery for scientists studying large complicated 3D problems. The results he will present come from the Lab's experiments, which represent a number of different approaches: first, anecdotal reports about scientists using visualization applications; second, performance measurements of non-expert subjects on abstracted tasks; third, evidence about the impact of the virtual environment on performance; and fourth, subjective evaluations by visual design experts. As might be expected when asking which displays performed better, the answer is: it depends on the scientific application, on the tasks used in evaluations, and on the details of the display technologies. Dr. Laidlaw will conclude with some thoughts on how the different evaluation approaches complement each other to give a more complete picture.

David Laidlaw is an Associate Professor of Computer Science at Brown University. His research interests include applications of visualization, modeling, computer graphics, and computer science to other scientific disciplines. He conducts interdisciplinary research into robust and effective tools to solve problems in biology, fluids, medical imaging, archaeology, geology, geography, and other disciplines. Collaborative work with colleagues in these areas guides the research and provides a mechanism for evaluating the usefulness and robustness of results. He received his Ph.D. in Computer Science from the California Institute of Technology in 1995.

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