

SIGNIFICANT BITS

bits@cs.wpi.edu

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Head's Remarks

by Prof. Micha Hofri

Dear CS Alumni:

It is a pleasure to open the second Sig-Bits issue of this academic year, just as it ends. While the first highlighted some of the significant changes this year, the purpose of this one is to inform you of some of the remarkable events that has happened during this year: George Heine-man's role in the regional programming contest and as a book editor, the two project centers in which CS students and faculty are involved (Brown at NASA; Finkel at Silicon Valley), the successes of having students publish and win awards for their papers. Some you will find covered in more detail in the rest of this issue and others are on the web.

Many more departmental details can be found in the 1999-00 Annual Report at the following URL: www.cs.wpi.edu/News/AnnualRpt/annrep9900/

We have had several changes of personnel in the office. We have now, in addition to Sharon Demaine, a new graduate secretary, Patricia LeBreton, and our newest addition is Amy Miller.

Among the faculty we note the partial departure of Gabor Sarkozy to Budapest, and the more definite departures of Isabel Cruz and Mark Stevens. This recruiting season has been very active, we have been quite successful, but it is not all over, and the details will be in the next issue.

There are two other matters that deserve a few words. Some of you know about the first: last summer, very close to the beginning of the year, we were faced with a shortfall of instructors for several of our graduate courses. I was able to obtain the email addresses of alumni who live in the area and mailed you all a request to either teach a course or carry the word to others. This was *very* successful: not only did we fill all our needs, but I even had the embarrassing task of telling some of the responders that we no longer had open slots. I expect most of those who did come forward and taught, to continue. It was a gratifying experience for all.

If you live in the area and did not hear from me: we do not have your current email address! Please send it to Amy via amiller@cs.wpi.edu

While the above was a pure success, the following is a more mixed development: Fuller Laboratory, the home of the CS department since 1991, is not up to the task any more. It could, if we were the only tenants, but as you know, it also holds the CCC, which also expanded enormously with the general increase of the role of IT in WPI's operations. A decision was made in the February meeting of the board of trustees that a new edifice will be built on the campus, to house the CS and the Humanities & Arts departments. It is something for us to look forward to. We hope you will help us build it, through your generous contributions, and come and visit with us when it is finally completed: an event which is at least two years in the future.

Jeff Broberg

Alumni Success Story

Jeff Broberg, a WPI CS graduate, class of 1987, is suddenly a multimillionaire after the sale in April, 2000, of the software company he founded 20 years ago called eObject to Silverstream Software of Burlington. eObject designs a Web application rules engine that allows businesses the flexibility to control "the business rules" of the site externally rather than strictly through the code of the software.

Broberg says "One of the neatest things about the whole circumstance, really, is to be able to bring a group of talented people together and have them share in the company's success. It's nice to know that you have been able to help people so they can afford college for their kids."

Broberg said he plans to set up a scholarship fund at Millis High School, where

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some 20 years ago he cut his programming teeth using Wang Computers. Even before he graduated from WPI, he had been hired by General Electric and finished his last two years as a part-time student at night, then went on to work at IBM. After that he said he needed to “do things on my own” and founded his own company eObject.

Steve Rubin

Alumni Success Story

Stephen Rubin is President, CEO, and founder of Intellution and, quite naturally has extensive experience in the design and application of industrial software.

His background was in distributed control based on 8080 processors and the PDP11 computer.

In 1980, he decided that control engineers needed to make their system multi-tasking so he founded Intellution, which launched its first automation software solution, The FIX (fullintegrated control system) in 1984.

He has strong views on automation and integrated control strategies. Rubin believes that although enterprise integration is the way forward, control and data acquisition creates the foundation of IT based systems. Integration comes from the factory floor and not from the boardroom, he suggests.

Rubin is a graduate of WPI and holds a B.S. in Computer Science ('74). Note that the CS undergraduate program only started in 1970. He is now on the board of trustees of the college and is also a member of the Owner's and President's Management program at Harvard Business School. He still lives near Boston.

Brad Steinka

Alumni Success Story

Brad Steinka, a resident of Franklin, MA, has been appointed Director of Software Development at Telica, headquartered in Marlboro, MA. Steinka holds a BS in Computer Science ('81) from WPI.

Telica is a developer of intelligent multi-service broadband switching systems for ILECs, CLECs and next generation service providers.

Telica's Plexus 9000, a carrier-grade edge switching system enables service providers to simplify their network architecture, normalize the switching and transport of voice and data traffic over a unified broadband packet network, and enable highly cost-effective switched voice and data service delivery.

Mark Carpenter

Alumni Success Story

Mark Carpenter, a graduate of WPI with a B.S. in Computer Science ('85), was named Executive Vice President of Engineering and Marketing of Tut Systems, a leading provider of multi-service broadband access systems for multi-tenant residential and commercial buildings.

He has extensive corporate experience at Compaq Computer Corporation, where he was Senior Director of New Desktop Product Marketing and was a pioneer behind the first wave of home networking. He has also had various Management positions at IBM's Networking Systems Division.

Keith Barrett

Alumni Success Story

Keith Barrett, a resident of Worcester, who earned a B.S. degree ('96) and an M.S. degree ('97) in Computer Science from WPI, was promoted to Vice President of Technology and Chief Technology Officer of Shareholder.com. Shareholder.com is an industry leader in delivering leading-edge technologies for communicating with investors.

Keith's responsibilities will include the definition, execution and communication of the company's strategies regarding product and service development, its computing environment and the development of industry standards.

Ronald Garner, President of Shareholder.com said “to accomplish these objectives, Keith will work closely with the company's senior management, its

strategic partners and leading industry trade associations.”

“Through Keith's leadership, knowledge of the latest technology and hard work,” Garner said, “Shareholder.com has been able to introduce a variety of technological tools, such as Wireless Dialog and News Wizard, that our clients want and need to better communicate with millions of investors.”

Regional Programming Contest

ACM at WPI

College and university computer programming teams from throughout New England and New York competed at WPI on Saturday, Oct. 21, 2000 in the Association for Computing Machinery (ACM) Northeast North America Programming Contest. The contest organizer was Prof. George Heineman (WPI CS).

Twenty-two three-person teams participated in the five-hour contest with six programming problems. The top teams advanced to the regional finals at Westfield State College.

The competition was won by MIT, with Harvard University and Brown University in 2nd and 3rd places. Additional information can be found at the URL www.cs.wpi.edu/~heineman/ACMcontest.html

Best Papers

At Two Conferences

A paper by Prof. Isabel Cruz, “Implementation of a Constraint-Based Visualization System”, co-authored with former WPI BS/MS student Peter Levaille, received the Best Paper Award at *VL 2000: the IEEE Symposium on Visual Languages*. This paper was based on work done by Peter for his MS thesis. In the paper they presented the underlying principles, implementation issues, and several examples of Delaunay, a constraint-based data visualization system supporting a visual query language. See the URL www.cs.wpi.edu/~ifc/Projects/delaunay.html for more details.

In addition, the paper “Implicit Interest Indicators”, by Mark Claypool, Phong

Le, Makoto Waseda & David C. Brown, won the award for Best Paper at the *IUI 2001: International Conference on Intelligent User Interfaces*, Santa Fe, New Mexico, January 2001. This conference is the annual meeting of the intelligent user interfaces community and serves as the principal international forum for reporting outstanding research and development. The paper reported work done by Le & Waseda in their "Curious Browsers" MQP last year (see the URL www.cs.wpi.edu/~claypool/mqp/iii/ for more details).

Sarkozy to COO

In Budapest

Professor Gabor Sarkozy has announced that he will be changing his status in the department next year. He'll spend most of the year in Budapest as Chief Operating Officer of GAMAX, a Hungarian software company that concentrates on converting software to work in Hungarian.

He intends to maintain a close relationship with the department, and will return to WPI for one term a year to teach one course and to continue working on his "many never-ending research projects" with Stanley Selkow.

He reports that this was a very tough decision for him to make as he found the department very friendly. However, in Budapest he will be closer both to his family, and, as Stanley puts it, "the gods of Graph Theory".

George Heineman

Putting the Pieces Together

The book *Component-Based Software Engineering: Putting the Pieces Together*, edited by George Heineman with William T. Councill, was published in June 2001 by Addison-Wesley.

Heineman & Councill selected software engineering authors with highly divergent and often conflicting views to present their perspectives on CBSE. Authors were asked to distill their knowledge about their particular topic into no more than 10 book pages, thus

providing an unusual and comprehensive overview of the field.

Here's Addison-Wesley's description:

Component-Based Software Engineering (CBSE) is now the way to produce software fast, with less effort, of high quality--not just the first time a product is released but for its entire life. More and more it is being applied to industrial strength and mission-critical software. It is becoming the indispensable element in the mainstream of the software world.

Building large-scale and complex software systems from available parts is an emerging strategy in industry. Its goals, among others, are to consistently increase return on investment and time to market, while assuring higher quality and reliability than can be achieved through current software development. Written by leading experts from around the world this book presents the latest concepts and practices in CBSE.

While detailing both the advantages and the limitations of CBSE, the book's underlying aim is to define this new field, to frame the discussion, and to ensure that managers and engineers have the background they need to ask good questions and make informed decisions about components.

Beginning with some carefully wrought definitions, the book moves on to cover nearly every aspect of component engineering--from software engineering practices to the design of software component infrastructures, technologies, and systems. The book includes specific examples of CBSE successes and failures, and provides a balanced overview of the complexities of the component-based software life cycle. This timely and comprehensive volume:

- * Explains precisely what CBSE is and why it is as important to software development as the assembly line was to the industrial revolution;
- * Shows how to avoid common mistakes while succeeding with difficult important cultural, budgetary, and process issues;
- * Presents new CBSE procedures to ensure good software development practices Describes a layered method for designing and building complex distributed component systems using the Unified Modeling Language;
- * Covers common component technologies, such as CORBA CCM, Transactional COM+, EJB, and much more;
- * Presents the legal and regulatory challenges of marketing and purchasing components.

Component-Based Software Engineering is the most definitive collection of expertise

ever assembled on this growing technology, and a book that must be read and referred to by anyone working in CBSE or considering doing so. To provide updates to this book, and to stimulate further discussion of the issues it covers, the editors maintain a Web site dedicated to CBSE ([cbseng](http://cbseng.com)).

For more information see the URL cbseng.awl.com/

Don't worry, get HAPPI

Hometowners

As part of its media relations plan, and to keep WPI's name before the public, WPI sends out news releases about student accomplishments to the students' hometown newspapers. These "hometowners" have a high probability of use by the many daily and weekly newspapers in the U.S.

Because of the small staff of the WPI News Service, only a small percentage of all possible hometown news stories are ever written, resulting in missed opportunities for WPI and less student recognition. An automated system could directly use the large number of abstracts from completed projects to produce hometowners in a more efficient manner.

The HAPPI Major Qualifying Project done by CS seniors Andrew Stone and Ralph Thompson, advised by David Brown, has created a system to capture relevant information about all of WPI's projects and to automatically send a hometowner about each by mail, email or FAX. The system uses information from the school's Banner database (for project information) and from a professional newspaper information database. For more information see the URL www.wpi.edu/News/Releases/20001/happi.html

IBM Fellowship Winner

Hong Su

The CS department is pleased to announce that Ph.D. student Hong Su has been selected to receive an IBM Corporate Fellowship for the 2001/2002 academic year. These awards are very competitive, and are given country-wide

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by IBM to the best graduate schools/students.

Hong will be working on Database Systems Research Group projects in collaboration with colleague IBM researchers and DB2 developers in the areas of XML+databases and E-commerce. She was nominated by her Research Advisor Prof. Elke Rundensteiner.

Prof. Sarkozy Promoted

To Associate

The department is very pleased to announce that Professor Gabor Sarkozy has been promoted from Assistant Professor to Associate Professor of Computer Science.

Prof. Sarkozy of Budapest, Hungary and Worcester, Mass., was appointed as an Assistant Professor of Computer Science in 1996. He holds a diploma in Mathematics from Budapest Eotvos Lorand University, and an M.S. and Ph.D. in Computer Science from Rutgers University. His areas of research interest are in combinatorics, graph theory, probabilistic methods, number theory, parallel algorithms and data structures.

Barry M. Goldwater Scholar

Yakov Kronrod

The department is very pleased to announce that Yakov Kronrod, class of 2002, a double major in Computer Science and Mathematical Sciences from

Malvern, PA, has been named a 2001 Barry M. Goldwater Scholar.

Goldwater scholarships are awarded to sophomores or juniors who have records of outstanding academic performance, and demonstrated potential for and commitment to a career in research in mathematics, the natural sciences, or engineering.

Yakov Kronrod is one of 302 scholars selected on the basis of academic merit from a field of 1,164 mathematics, science, and engineering students who were nominated by colleges and universities nationwide. The scholarship is awarded toward the cost of tuition, fees, books, and room and board. This is the second time that a WPI student has been named a Goldwater Scholar in the 12 year history of the program.

Collegiate Entrepreneur

QuickDraw Online

James Brian Bigelow, a Computer Science major ('01), placed fourth in the Collegiate Entrepreneurs Organization's Best Business Idea competition.

He received \$500 for his business idea, QuickDrawOnline.com. The online software service will enable engineers working in the field or in the office to quickly and accurately produce engineered drawings through automated software applications at lower costs with minimal data input.

The competition is a pre-business plan competition, examining business con-

cepts in their earliest stage of development. A total of 34 students from 15 colleges and universities submitted 26 business ideas, which were judged by a panel of entrepreneurs and founders, top graduate entrepreneurship students, and professors of entrepreneurship from a leading university.

Alumni

Let us hear from you!

We want to hear from CS alumni!

We'll try to include selected information in the newsletter. Contact us via email or real mail.

Please let us know any changes to your address as soon as possible, so that we can keep you informed about the department.

Let us know your web home page URL too. We'd like to add pointers from our pages to yours.

Contacts

How to reach us...

Email:

SigBits: bits@cs.wpi.edu

Grad: graduate@cs.wpi.edu

Ugrad: undergraduate@cs.wpi.edu

Research: research@cs.wpi.edu

Web: <http://www.cs.wpi.edu/>

Phone: (508) 831-5357

FAX: (508) 831-5776

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