

Software Quality: A Case for Understanding and Education

There is a general consensus that software is plagued by quality problems such as excessive post-delivery defect, low customer satisfaction, cost overruns and delayed schedules. In this talk we assert that most software quality problems should not be there; there are known solutions that were simply not applied. We further argue that many, if not most, software quality problems arise from management's lack of understanding of the unique challenges of software projects as well as a lack of proper education and training at all levels in software development organizations. To address this "knowledge deficit", software development organizations must accept the cost of high-quality software development and invest in a qualified workforce. At the same time, educational institutions must provide the cost effective educational offerings needed to provide such a workforce.

SE Online

This new IEEE Computer Society resource is a source of practical **Software Engineering** (SE) knowledge. This is a fundamental difference with other web resources. We give you **expert-selected information**. SE Online is more than a search engine. We are not paid to get one of the first places in our lists of information. All the information you find at SE Online is peer-reviewed.

Our area editors select the information for you based on their expertise and knowledge. Editors provide you with key information on a knowledge area. They tell you which are the classic books, the seminal papers, definition of terms, who's who, etc.

SE Online will also feature content from IEEE Digital Library for free each month. On SE Online front page you will be able to find selected articles from *IEEE Software* and *IEEE Transactions on Software Engineering*. Each of these articles is a \$19 value which we will offer for free as a service to the SE field.

However, SE Online is truly a work in progress. The current state is just a starting point and there are a lot of planned changes and improvements coming.

Although SEOnline is supported by the IEEE Computer Society, the information you can find here is non-exclusionary IEEE-CS so other SE sources are included and we will freely cite competitor's resources, products or services.

This new and free online resource is aimed at professional software engineers, planned as a continuing contribution to the growing SE community.

Our goal is to make SE Online the most trusted, non-commercial, and objective source of SE knowledge available online. To reach this goal we need your contribution (go to Volunteers and see how you can become involved). Visit: <http://www.computer.org/portal/site/seportal/>

Irreconcilable Differences?

Why is it that engineers and marketing people so often discount the advantages of talking to one another? Sometimes the relationship between engineering and marketing becomes downright adversarial and, no surprise, counterproductive. Social scientists have earned Ph.D.s studying the phenomenon.

A clash of cultures often seems to be at the root of the problem. It may seem obvious that new product developments are more likely to be successful if R&D and marketing people work together. Yet engineers may view marketers as middlemen who are not technically qualified to interpret customer needs. For more on this topic, visit:

<http://www.todayseengineer.org/2005/Apr/backscatter.asp>

Software Quality: A Case for Understanding and Education

Featuring: Mats Heimdahl

Monday, May 9th, 6:30 pm
Mayo Medical Sciences Building
(321 3rd Avenue SW, Rochester)

► Pizza at 6:30; Meeting at 7:00 ◀

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The Southern Minnesota Section IEEE Computer Society
Chapter

Mats Heimdahl earned a M.S. in Computer Science and Engineering from the Royal Institute of Technology in Stockholm, Sweden and a Ph.D. in Information and Computer Science from the University of California at Irvine. He is currently the director of the University of Minnesota Software Engineering Center (UMSEC) and an Associate Professor of Computer Science and Engineering at the University of Minnesota.

His research interests are in software engineering, safety critical systems, software safety, testing, requirements engineering, formal specification languages, and automated analysis of specifications. He is currently pursuing his interest in the following areas: Static analysis of system and software requirements, for example, through model checking and theorem proving. How dynamic methods, for example, simulation and testing, can be used to validate requirements specifications. Model based software development. Automated test case generation. Software certification.

He is the recipient of the NSF CAREER award, a McKnight Land-Grant Professorship, and the McKnight Presidential Fellow award at the University of Minnesota.

IEEE-USA Awards Nominations Now Open

WASHINGTON (25 April 2005) - Before Dr. Charles P. Rubenstein and Rep. Dana Rohrabacher (R-Calif.) were honored with 2004 IEEE-USA awards for engineering professionalism and distinguished public service, respectively, they had to be nominated. Now is your opportunity to nominate someone for a 2005 award.

IEEE-USA's distinguished awards are presented to U.S. IEEE members in recognition of professional, technical and literary contributions to public awareness and understanding of the engineering profession in the United States. They are administered under the IEEE-USA Awards and Recognition Committee and approved by the organization's Board of Directors. Recipients are honored each year at an awards ceremony held during the IEEE-USA Leadership Workshop.

The nomination **deadline is 31 July 2005**. For additional information, visit the IEEE-USA Awards and Recognition Web page at <http://www.ieeeusa.org/volunteers/committees/awards> or contact Sandra Kim at sandra.kim@ieee.org.

Design Automation Conference

Exploring the Complex World of Electronic Design The ever-shrinking world of electronic circuitry and the increasingly intricate world of electronic systems are to come together at the 42nd Design Automation Conference, the leading forum for design engineers and electronic design tool developers. The conference is scheduled for **13-17 June** in Anaheim, Calif. To find out more, visit:

<http://www.dac.com/42nd/index.html>

Museums

The Pavek Museum of Broadcasting houses one of the world's finest collections of antique radio, television, and broadcast equipment. The Pavek has gained international recognition for its continuing efforts in preserving and documenting the history of an industry that has made monumental changes in the fabric of modern life. Please read our mission statement. <http://www.pavekmuseum.org/>

Enjoy science with the entire family during The Bakken's Family Science Saturdays through hands-on activities and special presentations that are linked to the current theme. Hands-on activities are from 10am-4pm (museum is open until 5pm) every Saturday, unless otherwise noted. <http://www.thebakken.org>

Remember the Apple IIe and the Commodore 64? The Minnesota Science Museum was there in 1983, introducing thousands to the world of computers. Today, the Computer Education Center is one of the largest, most respected training facilities in Minnesota. We are dedicated to providing the best computer training value to individuals, small businesses, and large corporations. <http://comped.smm.org/>

For more on ~~older~~ ~~early~~ ~~ancient~~ yesterday's computers, try these sites:

<http://www.old-computers.com/news/default.asp>

and

<http://www.vintage-computer.com/>



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The Computer History Museum is the world's largest and most significant history museum for preserving and presenting the computing revolution and its impact on the human experience. It allows you to discover how computing became the amplifier for our minds and changed the way we work, live and play. We hope your visit will be educational and entertaining and that the legacy of these innovations live on to inspire others.

If you're not in San Francisco, you can visit the Computer History Museum online.

http://www.computerhistory.org/exhibits/online_exhibitions.html

IEEE-USA Salary Service Now Available

IEEE Members now can have free access to the latest version of a tool to benchmark their compensation at their current or prospective position. The IEEE-USA Salary Service, Member Version, uses a regression model based on data from the 2004 IEEE-USA Salary Survey to allow precise estimates of base pay and income from primary sources. To obtain free, unlimited access to the Salary Service, just go to <http://salary.ieeeusa.org>, log in using your IEEE Web Account, and complete the IEEE-USA Salary Survey. Once the Survey is submitted, you may log in again at the same site to use the Salary Calculator.

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Connect the Dots

These are all 'connect-the-dot' problems. In all examples, you must use a continuous series of lines, and may not lift your pencil off the paper as you connect the centers of a grid of dots.

1. Using four lines, connect the dots of a 3x3 grid.
2. Using five lines, connect the dots of a 3x4 grid, ending at the place you started, and not visiting any dot twice.
3. Using six lines, connect the dots of a 4x4 grid, ending where you started, and not visiting any dot twice.