



“WOW” ICSE's *Window On the World*

Wednesday, May 7
Volume 9, Issue 2



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Portland, Oregon, USA
2003 May 3-10

Mid-Week Recharge

By Hal Hart, WOW Editor (Northrop Grumman Mission Systems, the company formerly named “TRW”)



Most of you are now about half way through a busy conference! A little exercise or tourism along the way and you're good for the duration, right?

Probably right now you're heading in to hear or just heard our 2nd keynote presenter, Joanne McGrath Cohoon on the issue of the decline of women in computing. This one strikes home to me, having met my wife in the Purdue CS department in the late 60's when over a third of our grad students were women, about twice current industry statistics. I'll be very interested in her analysis.

After that, it's back into concurrent tracks all day – I'm already stumped as to which conflicting sessions to attend. Don't forget to come back to the Ballroom for the 3:30pm plenary awards session.

Today's WOW brings you more *hard-hitting* summaries of yesterday's keynote and several of the sessions, one more workshop report, one quick restaurant review, a visit to the Japanese Garden, and the other regular features.

On the lighter side, we remind you of the PORTLAND acronym quiz and repeat some helpful hints from the retired, undefeated champion of ICSE quizzes, Mary Shaw.

To again recharge your batteries after this big day, don't forget tonight's reception 5-6:30pm on the Plaza level. And please take time to visit the demos, posters, and exhibits there.



-H²

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Opening Keynote Address: **Bertrand Meyer**

By Nigamanth Sridhar (Ohio State)

Bertrand Meyer's keynote address yesterday was a suitable start to the silver anniversary edition of ICSE. In a talk that lasted a little over an hour, Meyer highlighted some of the problems the software engineering community is faced with when it comes to software quality. The talk started off by comparing the software industry to electronics, and observing
(continued on page 2)

Weather Forecast

Today: Showers

High: 14 C (58 F)

Low: 7 C (44 F)

Sunrise: 5: 51am

Sunset: 8:24pm

Tomorrow: Showers

High: 14 C (58 F)

Low: 7 C (44 F)

Extreme Programming Session

By Antoinette Ahiabale (Aalborg University, Denmark)

*“XP: Less process, more discipline”
“Students dislike process but they like discipline even less.”*

The session, chaired by Hossein Saiedian (University of Kansas), was a full house, from the curious to the experienced. Hearing about XP in the educational curriculum as described by the speakers required very determined and consistent participants to carry it out. Both speakers could not overemphasize the importance of discipline of the students.

L Bendix elaborated on the success of their experiments with their students. This being an academic setting, the emphasis was not on the deliverables but rather on the learning experience of the students. They had the (dis)advantage of having a knowledgeable XP customer available, instead of the real world scenario of a good old plain customer who was basically interested in end results and deliverables. Since this was a learning experience, the projects
(continued on page 2)

Pick Up All 4 WOWs

Issues #0 (yellow) & #1 (blue) are available in Registration or on handout tables. Look for #3 (green) tomorrow.

SE-HCI Workshop Report

by Kenia Sousa (Univ. of Fortaleza, Brazil)

The Workshop Bridging the Gaps Between Software Engineering (SE) and Human-Computer Interaction (HCI), organized by Rick Kazman (CMU/SEI), Len Bass (CMU/SEI), and Jan Bosch (University of Groningen), took place on May 3 – 4. This workshop was organized in four sessions, composed of four speakers, in which each speaker presented their work and the other participants discussed the presented works with the speakers. One intended outcome was to clarify the differences in objectives of the SE and HCI communities – for example, that SE development processes focus more on quality in functionalities relative to the HCI community's focus on usability – often resulting in unnecessary conflicting development approaches. Another outcome was the definition of future work related to defining software development processes that integrate techniques from both areas.

Rick Kazman thinks that this workshop was useful to motivate people to be proactive about publishing papers, as well as other activities, such as tutorials, and courses. Besides, he thinks that it raises awareness between the SE and HCI communities about the importance of bridging the gaps between them. Larry Constantine, a speaker in this workshop, thinks that it is very important that all the participants continue this dialogue and awareness by increasing the publicity on this issue. He also pointed out the importance of the concrete results generated in this workshop in order to bring practical and useful value for both communities. Both of them are enjoying ICSE 2003 and they hope to have more of HCI reflected in the main program of future ICSE conferences. In general, all the participants found the workshop really useful to bring benefits for these research areas.

Nit Picking & Whoops

WOW has been informed (once again!) that our survey of ICSE attendance has an error. The first conference, in 1975, was not called "ICSE" – it was the National Conference on Software Engineering.

Regardless, ignore that egregious blunder and **don't forget to submit your entries for this survey and the PORTLAND Acronym quiz by 8.30pm today (Wed.). See p.4 of WOW issue #1 (Tues., the blue one) for quiz instructions & submission instructions**

Whoops, blue p.4 had the WOW room number wrong too: it's 2323, Alexander's Suite, on the 23rd floor.



Extreme Programming Session

(continued from page 1)

involved had to be lightweight. Their lab-like set-up made it possible for them to exploit the major keys of XP. To avoid the case of students working after "working hours" they locked the repository during non-lab hours. However, they could not guarantee that students would not work on their own machines and transfer it in, the next morning.

Someone raised the point that introducing SE concepts using XP could be detrimental to the progress of the students. This, Bendix said, was yet to be verified by examining the results of the more traditional approach to their adopted one. Their aim was for the experience to be motivational for the students and encourage them to want to learn more about the different concepts in SE. Also present was the customer that Bendix used in their exercise, who gave some insight from the customer's point of view.

J Schneider was of the opinion that XP was best suited for professionals, who knew what they were doing, rather than students. However, he suggested that a course on teamwork and communication should be introduced

as part of the SE curriculum, since this was vital to enhance the concepts of SE. Their main aim here was to expose the students to the variety of methodologies available to them. Unfortunately, this approach favored good (disciplined) students, and this resulted in a bias against low grade (poor) students.

On the whole, this session was well attended with over 60 participants who were extremely interested in the experiences of the presenters.



Opening Keynote Address

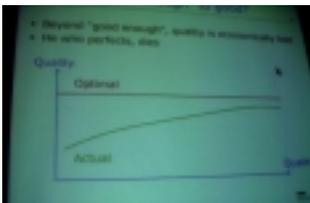
(continued from page 1)

that the majority of the work that substantially improved the quality of electronics components was in verification and quality assurance. Currently this is not the case in the software industry, and as long as it remains this way, we cannot hope for the same kind of component revolution that the electronics industry enjoyed.

One important problem that Meyer reported was that there were plenty of obstacles on the road to software quality. The industry is just not interested in investing the kind of resources and time needed to develop provably correct software, and there is a huge anti-intellectual attitude from these practitioners. They would rather spend their money on getting their ("good enough") next release out. The jump from "good enough" software to good software seems to be too expensive. On the other side, it seems like the academics are slowly giving up interest as well, getting frustrated with the fact that their ideas are not getting picked up by the industry.

Meyer identified four "good ideas", and pointed out what was good, but also pointed out their deficiencies. Process models such as CMM and ISO are definitely a good idea, but they concentrate too much on form

and not enough on substance. Agile methods are good as well, in rehabilitating the act of programming, but hacking is not a methodology – tests are not a replacement for specifications. Formal methods are another good idea, but only if the mathematics are accompanied by strong proofs. The fact that they are prohibitively expensive does not help either. Finally, while the open-source movement holds great promise in using the large community in working towards quality software, the energy is currently mostly directed at debasing commercial technologies.



Towards the end of the talk, Meyer spoke about where the community should focus its efforts. He argues that while we should continue to improve the education process, we must recognize the fact that there are over six million VB developers in the world, most of who have (and will) never take a class in software engineering. We should instead work on building high-quality basic components that the developers can use in their systems. Component design, Meyer said, should be the Formula One racing of software engineering, where perfectionism is the goal.

Fortunately, the problems that Meyer spoke of are well-recognized, and there are several research programs, both in academia and industry, that are aimed at solving them. In fact, some of the problems have, in fact, already been solved. For some of these efforts, please refer to the following websites: www.cis.ohio-state.edu/rsrg/, www.research.microsoft.com/fse/, www.cs.iastate.edu/~leavens/JML/, www.cs.clemson.edu/~resolve/

Meyer's talk definitely was a great start to what promises to be yet another great ICSE. More problems mean more exciting avenues for new research. ☺



“Automotive Software Engineering” Session Report

Dr. Sood, BMW Car IT

Although 98% of all processors run in embedded systems, ICSE hasn't addressed this area in a dedicated session so far. Cars constitute an especially interesting area for applying software technologies, maturing from a control-based software domain to a domain of general interest of all challenges of software system and engineering.

The general objective of the session was to introduce the automotive industry as relevant and intriguing field for software engineering, full of research challenges.

In the first part of the session, Dr. Grimm from DaimlerChrysler gave an introducing presentation on automotive software. This presentation was followed by a lively panel discussion, chaired by Professor Broy, with a lot of audience interaction. Besides Dr. Grimm, Dr. Weinmann from BMW Car IT and Dr. Reinfrank from SiemensVDO emphasized the importance of the topic, based on numerous cases and experiences from practice.

The interest of the audience led to a discussion even after the official end of the session, showing the potentials and challenges for industry and research in one of the most promising application areas of software engineering.



Tuesday Reception Starts the Social Season...

By ???

The ICSE social program got off to an auspicious start with last night's reception. After a full day of technical presentations and inspiring panel

sessions, attendees flocked to the Ballroom to swap in their two drink tickets for Bud Lights and other local specialties, and to snack on the exotic and mysterious finger food. The culinary experts at WOW are still pondering the true nature of the content of the mysterious flaky dough thingamajigs. After what seemed to be a very short hour, despite lights being turned on and the bar being closed in a futile attempt to stop the networking and other social initiatives, ICSE attendees carried on, exchanging ideas and renewing contacts. Tonight's reception packs even more of a punch, with more free drinks, hors d'oeuvres, and demonstrations and posters exhibits in the reception area (from 5 to 6:30 in the Pavilion rooms and plaza foyer).

Techie Humour

The Koan of Perfection

One day Master Tzu was sunk in meditation on a Boeing 747 when a disciple approached. "Master," the disciple said, "I spend all my time improving my program, yet it has not reached perfection and I have not become enlightened. Instead, I have incurred the wrath of my management. Where did I go wrong?" The master pondered the matter for a while, then answered, "Walk three steps in this direction." The student duly obeyed and banged his head hard on the overhead storage. "You almost made it," said the master. Upon hearing this, the student became enlightened.

-Christian Nentwich, Systemwire

Empirical Validation – What, Why, When, and How

By Davor Čubranić (Univ. of British Columbia)

The panel on empirical validation was designed to bring some controversy to the discussion and it delivered. The four panelists – Lionel Briand, David Notkin, Carolyn Seaman, and Walter Tichy – covered the full spectrum of opinions on empirical validation, from “essential and underused” to “seriously skeptical,” and weren't afraid to express their own.

The session was divided into three sections, answering the questions why should we empirically validate, what should be validated and when, and how should the validation be done. Each section opened with the panelists' brief comments, followed by discussion and Q & A from the audience.

The opening section, addressing the question "why validate empirically?", was the most controversial. Notkin was the sole skeptical voice regarding empirical validation's necessity across the board. Briand, Seaman, and Tichy, on the other hand, were staunch supporters of empirical methods, with Seaman and Tichy underscoring the need to do it far more rigorously and with the view to building theories (the foundation, in Seaman's words) on which future research can follow up in a methodical way.

While the debate was vigorous, the basic issue on which everybody seemed to agree is that a lot of research conducted so far (even if it did use empirical "validation") did not state its claims clearly, if at all, and that these claims need to be validated. As even Notkin said, "I'm very aggressive about appropriate validation of research claims"; the question around which the debate really seemed to revolve was what constitutes appropriate validation.

One of the main sticking points was whether there are solutions and techniques which are so obvious that they need no validation to be seen as an improvement and accepted in practice (i.e., the industry). Each side came up with examples and counter-examples, and neither side seemed convinced by the other's arguments. One of Notkin's arguments was to distinguish computer science from psychology and not be too tied to its methods: humans don't change much as a species and you have time to conduct and validate research over decades, while computer science changes much faster, which makes empirical validation much more difficult. On the other hand, counting on "common sense" can be a rickety foundation on which to base decisions (politicians' claims notwithstanding).

As one of member of the audience pointed out towards the end, the panelists never reached consensus on some fairly important issues, although – as they all replied – a discipline as young as software engineering will not have a complete consensus on its methodologies, and it's certainly not going to be reached in an hour-long panel. There did seem to be some movement towards the middle ground, however, at least compared to the panelists' statements in the proceedings, as everybody converged on a few points of agreement: research must state clear claims, these claims must be validated by appropriate and rigorous methods and in a manner that's both cost- and effort-effective (that is, not wasted on issues that aren't relevant any more). Which, I guess, is just plain old common sense. ☺



HINTS for the PORTLAND Acronym Quiz

By Mary Shaw (CMU)

WOW Note: Last year Mary Shaw agreed to retire from the competition and judge the quiz instead. Well, some people took this as an opportunity, and asked her for hints so they could win.

Our judge, just being fair, thought that she couldn't give her advice to some people and not others. So she gave us this list of to be mindful of when coming up with entries. We repeat that advice here this year:



Advice on ICSE acronym contests (the same things I tell my students):

1. Follow the rules: Make an eight-word phrase with words whose first letters spell PORTLAND
2. Try to relate your entry to the conference

3. Use generate and test strategies: write down some conference-related words than begin with P, O, R, T, L, A, N, D. Include nouns, verbs, adjectives, adverbs
4. Find 3 or 4 related words that make sense in the order that fits PORTLAND
5. Fill in the other letters with common words (it's ok to stick in a few small words to make the phrase work)
6. Try several (generate) and see which work best (test). Set your work aside for a few hours – fresh ideas may come to you
7. Be clever
8. Submit before the deadline

Be sure to have your entries in by 8pm on Wednesday (use the drop box in Registration or email icsewow@yahoo.com) or give them to any WOW staff member at tonight's reception.

Software Engineering Research Tips

After getting your degree, go work in industry (because they're ahead of us), observe and study their issues, return to academia, hypothesize solutions to their problems, and verify them empirically. –Anatol Kark

Learn to touch type. –Rich Holt

Quotes

"The nice thing is that I can predict the future and in a few decades I'll be dead so it won't matter."

–Grady Booch

"They lose money on every sale, and make up for it by volume. [...] I feel guilty every time I buy from Amazon.com: 'Oh damn!, I'm running them out of business.'"

–Grady Booch

"A mature process is not necessarily a good process"

–Grady Booch

**Interview with the Co-Chairs
of the Software Engineering
Education and Training**

**Track: Hossein Saiedian &
Bruce W. Weide**

By Jason Hallstrom (Ohio State)

WOW: Do you have any initial comments on organizing this track?

BW: The process worked remarkably well – primarily due to an outstanding Program Committee. They were very efficient in carrying out the review process. Without exception, every review was in on time. It was nice not to have to hound anyone to finish up!.

HS: Yes, the Program Committee was excellent. We received a large number of submissions, nearly twice as many as the Program Committee was told to expect. (There were 64 submissions, with 11 selected for the final program.)

WOW: Were there any emerging trends that you found surprising?

HS: There were a lot of submissions dealing with how to incorporate agile methods into the classroom. Extreme Programming in particular was a popular topic this year. I think that this is primarily due to the increasing popularity of agile methods in commercial practice. Educators are trying to determine whether these light-weight processes have a place in the curriculum.

WOW: Are there any areas that you'd like to see investigated further?

HS: I would like to see more empirical studies to support some of the experimental observations that have been reported. It would useful, for example, to see the empirical results of using agile processes in the undergraduate programming curriculum.

BW: Yes, I agree. Much of the evidence that we've seen to support the use of various process models (in the classroom) has been based on anecdotal evidence. I would like to see some rigorous empirical investigation. Having tried this myself, however, I realize that this isn't an easy task!

WOW: One of the recurring motifs at ICSE is the gap between what is taught in the classroom and what is practiced in industry. What are your thoughts on how to reconcile this gap in the curriculum?

HS: That is really the very objective of this year's Education and Training track. We need to prepare the next generation of software engineers. To perform this task, we need to be aware of what industry needs. There is no doubt that theory is important, but it must be united with practice. Indeed this was the subject of many of the accepted papers.

BW: I think that the undergraduate curriculum should focus on software engineering fundamentals. The focus of our curriculum at Ohio State, for example, is on principles that transcend programming languages, development tools, and process models. It's of course important to prepare students for what they'll see in the trenches (of software engineering practice). Having industry professionals drop by periodically to offer an industry perspective is a nice way of achieving that.

WOW: Is there anyone you'd especially like to thank?

BW, HS: Again, we'd really like to thank the Program Committee. They've helped us put together an outstanding track.

Techie Humor

The definition of "insanity" is trying the same (unsuccessful) approach repeatedly and expecting a different result."



Restaurant Review:

Rocky Bottom

By WOW

Typical pub décor, 6 in-house micro-brews, "stills" barely hidden, and variety on the menu from ribs to mahi-mahi to jambalaya to BBQ beef and several in between. 7 of us walked right in at 6:30 and got seated. We all ate and drank till we dropped. *What more do you want?* 3 blocks north of the Hilton on 6th and 4 blocks right on Morrison.

Portland's Japanese Garden

By Annie Ying (Univ. of Br. Columbia)

Between exciting ICSE sessions, I decided to visit the Japanese Garden in Washington Park. The main reason is that I did not believe a website's description of the Japanese Garden as 'the most authentic Japanese Garden outside Japan'. I would expect that maintaining an authentic Japanese garden is not easy in a totally different continent.

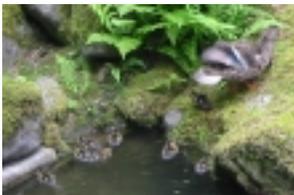


A few themes keep occurring throughout the Garden. At the front gate, there was a pair of stone lions, which demonstrate the tension and balance in nature. The male lion has a stone ball in the mouth, which symbolizes his control of the world, whereas the female lion controls the future. Unlike other western gardens, stone and water in a Japanese garden are two crucial elements, analogous to bones and blood in a human; plants decorate and give more colors to the garden around the stone and water. The Garden was full of hidden surprises. For example, at one viewpoint, I saw a powerful waterfall, but at another view, I saw a tiny waterfall hidden from the first waterfall. In another part of the

garden, a bamboo tube with running water toppled over every minute or so and surprised passers by.



Besides the recurring themes, I simply enjoyed the colourful views, tranquil water sound, and the mother duck swimming with her baby ducks in the pond! Whether or not the Japanese Garden is the most authentic Japanese garden outside Japan, it is certainly gorgeous.



To get to the fantastic Japanese Garden, you can take bus #63 (ask the driver for the exact stop) at Main and 4th in downtown. You can then take the shuttle bus to get to the Garden. The #63 bus ride takes around 20 minutes, but it only comes 48 minutes after every hour between 9PM to 3PM. The shuttle bus takes only 2 minutes and runs every 15 minutes. So, plan your trip ahead! For more details about the public transit, you can call 503-238-RIDE.



PLAYOFF SCORES	
<i>NBA 2nd Round:</i>	
Philadelphia 76ers	87
Detroit Pistons	98
Dallas Mavericks	113
Sacramento Kings	124

Techie Humor

Software Engineering Glossary

FIELD TESTED: Manufacturing doesn't have a test system.

FOOLPROOF OPERATION: All parameters are hard coded.

FUTURISTIC: It only runs on the next-generation supercomputer.

HIGH ACCURACY: All the directories compare.

IT'S HERE AT LAST: We've released a 26-week project in 48 weeks.

MAINTENANCE FREE: It's impossible to fix.

MEETS QUALITY STANDARDS: It compiles without errors.

OPEN SYSTEMS: Anything with our logo on it!

Quote of the Day

The new obsession with **security** may be the best thing that happened to software engineering. But, the viewpoints are different:

The Reliability engineer says: "It shouldn't crash."

The Security engineer says: "If it crashes, we're safe."

-Bertrand Meyer

ICSE Keynote 6 May 2003



Flashbacks to Orlando's ICSE 2002 (which was supposed to be in Argentina!)



QUOTE OF THE DAY

"Object Oriented programming has its place but it replaces spaghetti code with ravioli code."

- W. Tichy

HEADLINES AROUND THE WORLD

TECH: " Mr. Coffee expands its line to sell ... coffee"

DIPLOMACY: "Chirac extends goodwill to Blair over Iraq"

SPORTS: " China loses women's world cup over SARS fears"

ENTERTAINMENT: "Only 7 days until the next Matrix"

SPORTS & HOLLYWOOD: "Lakers *disband* after losing one game to Spurs -- sports world & Jack shocked!"



ICSE 2003
Window On the World (WOW)
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