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**Association for  
Computing Machinery**

*Advancing Computing as a Science & Profession*

## Letter from the Chair

William G. Griswold  
[wgg@cs.ucsd.edu](mailto:wgg@cs.ucsd.edu)

Many of us probably take it for granted that we're long-time, distinguished members of ACM, the oldest computing society. But we don't have to. On top of the elite ACM Fellow award, two years ago ACM introduced the Senior and Distinguished advanced member grades. I encourage all of you to nominate yourself for one of these grades. It will be good for you, good for SIGSOFT, and good for ACM and computing as a whole. Let me tell you a little bit about the Senior and Distinguished member grades, as well as the nomination process, which is surprisingly straightforward. Everything below is gleaned from [http://awards.acm.org/html/amg\\_call.cfm](http://awards.acm.org/html/amg_call.cfm); check it out for yourself!

An ACM member is eligible for Senior status if the member has five years of continuous professional membership in ACM, ten years professional experience overall (including much of your educational experience), demonstrated performance that distinguishes the member, and three endorsements from colleagues. These colleagues needn't be ACM members, either. The nomination deadline this year was on February 29th, which is why I e-mailed you back in early February about the approaching deadline. If you missed this deadline, put it in your January calendar for next year!

The Distinguished member grade is a notch up from the Senior grade, although you don't have to have Senior status to be nominated for Distinguished. It has three alternate designations, Engineer, Scientist, and Member. The distinction isn't critical for many of us, but for certain career tracks one can make much more sense than the others. An ACM member is eligible for Distinguished status if the member has five years of continuous professional membership in ACM, fifteen years professional experience overall (including much of your educational experience), significant accomplishment in (or impact on) the computing field, and four to eight endorsements. At least two of the endorsements must be from ACM Professional members, preferably ACM Fellows. One should also be from a current or past employer. In this grade, you can also nominate someone else, not just yourself. The deadline for nominations this year is July 31st, leaving plenty of time if you start now.

I won't dwell on the ACM Fellow grade here, since we're all familiar with it, but I'll point out the September 9th deadline for this year's nominees. Unlike the other grades, you can't self-nominate.

Sincerely,



## Letter from the Editor

Will Tracz  
 <Will.Tracz@ACM.org>

Wow! Is this issue late! When will I get caught up? Soon! And so begins another issue. I know, now that Bill has given us a "Senior" moment, that your hands are probably trembling with excitement knowing Mark D. is going to tell you "How to be a Programmer" and Peter H. is going to discuss "Who Killed the Software Engineer?" and Peter N. is going to tell you what (non-obvious) section of NYC not to park your car in, and other interesting tales of technology gone wrong.

So much to read – so little time – until next time – or drop me a line. Your Humble Newsletter Editor ...



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Table 1: SEN Volume 33 Number 2 Papers

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<b>1</b>	<b>1st International Global Requirements Engineering Workshop – GREW'07</b> Tony Gorschek, Samuel Fricker, Robert Felt, Richard Torkar, Claes Wohlin, and Michael Mattsson	<b>29</b>

**Table 1: SEN Volume 33 Number 2 Workshops**

## Letters to the Editor

### The Second Annual SE Crossword Puzzle Contest

Yes, we had submissions! But we have run out of new submissions. Of course there is always room for more! I would like to thank a new submitter for his entry. Jeff Overbey's contribution is found on page 7 with the answer on page 37.

Submissions will continue to be accepted for the second annual Software **Engineering Crossword Puzzle Contest**. Single page PDF file entries should be sent to the SEN EOC ([Will.Tracz@LMCO.COM](mailto:Will.Tracz@LMCO.COM)). Entries will be published in SEN as they are submitted. Prizes will be awarded (though I can't say what they will be now). As always, if you need help creating your crossword puzzle, you can go to <http://www.armoredpenguin.com/crossword/>

### SIGSOFT SEN Keywords

Authors are encouraged to use the keywords found on the ACM Computer Classification System (CCS) that is available online at: <http://www.acm.org/class/1998/>

### The Second SEN Logo Design Contest

Submissions are still being accepted for the second **SEN Log Design Contest**. Single page PDF file entries should be sent to the SEN EOC ([Will.Tracz@LMCO.COM](mailto:Will.Tracz@LMCO.COM)).

### SIGSOFT Impact Paper Award William Griswold

#### Description

Presented annually to the author(s) of a paper presented at a SIGSOFT sponsored or co-sponsored conference held at least 10 years prior to the award year. In including all of SIGSOFT's conferences in the competition, this award recognizes the breadth and vitality of the software engineering community. The papers are judged by their influence since their publication. The award includes a \$1000 honorarium to be split amongst the authors as they choose an award certificate of recognition for

each author, an invitation for the authors to present a retrospective keynote talk at the current year's annual SIGSOFT Foundations of Software conference, as well as inclusion of a full-length retrospective paper in the SIGSOFT conference proceedings. Travel support in the amount of \$2000 will be provided, split amongst the attending authors as they choose. A public citation for the award paper will be placed on the SIGSOFT web site.

#### Selection Committee

The award given in year N is for a highly influential paper presented at a conference held in calendar year N-10 or prior. A selection committee and selection committee chair will be selected by the current SIGSOFT Executive Committee. The committee chair shall adjudicate conflicts of interest, appointing substitutes to the committee as necessary. For purposes of continuity, committee members may remain on the committee for up to three years. The award committee shall be no less than three people in size.

#### Funding

The SIGSOFT Impact Paper Award is a SIGSOFT award, and will be funded by SIGSOFT.

#### Proposed Procedure

Nominations will be solicited annually during the December prior to the award year, via major mailing lists and web forums. Additionally, the General Chair and Program Chair of each eligible N-10 and current year conference will be contacted (as available) to form a satellite committee to nominate 1 paper from their N-10 conference. Additionally, citation counts in major citation indices will be used to identify the top 10 cited SIGSOFT papers from the N-10 publication year, as well as the top 25 cited SIGSOFT papers prior to the N-10 year. A multi-round ranking procedure will be used to identify the top few papers, and then a final decision will be made by consensus of the committee. The selection committee has the prerogative to make no award, but not to make multiple awards (with one exception outlined below).

The first award year will be made in 2008, and thus the initial 10 year eligibility year will be 1998. In the first 5 years of the award, an additional selection committee will be appointed in the same method as above, to make up to 23 additional retrospective awards, no more than 5 per year, for papers published prior to 1998, the first N-10 year (SIGSOFT was founded in 1975, 23 years prior to 1998). This committee will communicate with the other committee to avoid duplicate awards. Retrospective awards will comprise an award certificate for each author and a public citation of the award.

### SIGSOFT SEN Keywords

Authors are encouraged to use the keywords found on the ACM Computer Classification System (CCS) that is available online at: <http://www.acm.org/class/1998/>

## Interviewers Needed

Greg Cooper

<GC1@acm.org>

<http://www.acm.org/sigsoft/SEN/interviewers.html>

Want to talk to a pioneer? Interested in getting the inside story on how software engineering advances are made, what's in store for the future, and what drives some of the leaders in the field? How about seeing your name in print? And all without leaving the comfort of your home?

You can do all of this -- and more -- by interviewing ACM Fellows and writing profiles of them, to be published in **Software Engineering Notes (SEN)**. The profiles published so far are available at [SEN's Fellows web pages](#).

The procedure for profiling is:

1. Contact the Fellows editor, Greg Cooper at [gc1@acm.org](mailto:gc1@acm.org) for the latest list of fellows, and select one to profile
2. Contact the Fellow and get their agreement to participate
3. Conduct the interview by email, phone, or even in-person at a conference, etc.
4. Draft the profile and have the Fellow review it
5. Submit the profile for final editing and publication

The content of the interview is up to you and the Fellow. Here's a list of questions that may help get you started:

- Can you elaborate on the work leading up to your achieving the distinction of ACM Fellow?
- What is the best reference to your work (book or paper, full citation)?
- What are your current research interests?
- What are your current outside interests?
- What was the greatest influence on you?
- What was your greatest influence?
- Who do you think has made the greatest impact on software engineering?
- What's your favorite story about software engineering or development?
- Which computer-related areas are most in need of investment by government, business or education?
- What advice do you have for computer science/software engineering students?
- What is the most often-overlooked risk in software engineering?
- What is the most-repeated mistake in software engineering?
- What are the most exciting/promising software engineering ideas or techniques on the horizon?
- What are your plans for the future or the next five years?
- Any additional comments?

You don't need any special credentials to be an interviewer. Give it a try -- it's fun!

## SIGSOFT SEN Keywords

Authors are encouraged to use the keywords found on the ACM Computer Classification System (CCS) that is available online at: <http://www.acm.org/class/1998/>

## Ethics: An Interview with Stephen Unger

*Stephen Unger is a professor of Computer Science and Electrical Engineering at Columbia University. He is a member of the Board of Governors of the IEEE Society on Social Implications of Technology (SSIT), and played a principal role in the development of the IEEE Ethics Code. Stephen Unger maintains a blog on various aspects of the social implications of technology at <http://www1.cs.columbia.edu/~unger/myBlog/endsandmeansblog.html>. Unger was interviewed for SEN by Robert P. Schaefer in Autumn, 2007.*

### *When did you first become involved in the ethics aspect of technology?*

My parents were very independent-minded people, concerned about social and political issues, including, well before this became popular, environmental matters. It was natural, when I started out as a high school student to become an engineer (At Brooklyn Tech), that I thought about not only the technology (which I was fascinated with) but also what it was going to be applied to and how.

### *Who have been the greatest influences on your work?*

I assume you are asking about the area of ethics rather than about my technical work. During my first year of grad school at MIT, Norbert Wiener gave a talk at the Graduate House about technology and society issues, and the role of engineers. Years later, when I joined the Columbia University EE Department faculty, I met Victor Paschkis (a professor of mechanical engineering) who pioneered the idea of engineers and scientists organizing to promote the constructive aspects of engineering. He founded the Society for Social Responsibility in Science to promote the concept of personal, professional responsibility.

### *What sources influence individuals in their ethical choices?*

I suppose many, but not all, people, are strongly influenced by their parents (as I was). Others may encounter teachers who influenced them, and others are influenced by books. Of course, several of these factors may be at work. I believe some engineers are affected by some dramatic incident at work that starts them thinking along new lines.

### *What role do you see for professional societies in promoting ethics?*

I would like to see engineering societies stepping up to the plate on behalf of engineers who try to practice ethically. Some useful activities would be:

1. Operate help lines to provide advice to engineers in difficult situations.
2. Set up ethics support funds to provide financial assistance to engineers in trouble as a result of doing the right thing. These can be funded by voluntary check-offs on society dues bills.
3. Provide an informal conflict resolution service whereby, at the request of an engineer, ethics committee members or staff might informally contact the engineer's management to

discuss an ethics-related controversy and try to resolve it quietly. (Often, such conflicts can be resolved simply as a result of an engineering society displaying an interest and thereby showing that the engineer is not without institutional support.)

4. Survey society members periodically about how their employers handle ethics-related controversies. Publish the results and make them available to engineering school job placement offices.
5. Regularly publish in their periodicals articles and reports on ethics-related matters.

***How well do you think professional societies have been doing in filling that role?***

Right now, their role is miniscule, mainly paying low key lip service to the notion that engineers should practice ethically. Some make some effort at helping educate students about ethics. The IEEE has moved backwards during the past nine years. The story about how real progress was made and then undone can be found at:  
<http://www1.cs.columbia.edu/~unger/articles/assault.html>

***Technology appears to be a two-edged sword, either helpful or harmful depending on the ends and the means used. What advice can you give to today's computer science/software engineering professionals in their day-to-day ethical decision making? Can being ethical involve risks?***

Most employers and most managers want to operate legally and ethically. Sometimes, questions arise as to what is the right way to go. Most controversies at work involve arguments about what is the best technical route to follow. Unfortunately there are times when the views of various people involved are biased by considerations such as who is going to benefit personally from various possible decisions.

Occasionally, conflicts arise between engineers and managers that do have important ethical aspects. There may, for example, be pressure due to contractual deadlines to release a product that has not been properly tested and which may therefore lead to financial hazards for a customer, or even risks to public safety. In such cases, it is necessary for engineers to proceed very carefully in order to maximize the chances for a good outcome and to minimize career jeopardy.

There are also situations where an engineer is concerned, not about HOW a project is being carried out, but about whether the objectives may be, on balance, harmful. This might be in connection with technology with mainly military applications, or perhaps technology that may have harmful environmental aspects. Often the best that can be done is to raise the issues in the workplace and then ask to be transferred to other work, or to resign.

Useful advice for engineers in all such situations (and even in cases where the disputes are about purely technical disagreements) can be found in the following document produced by the IEEE Ethics Committee in 1996:

<http://www.onlineethics.org/CMS/profpractice/ethcodes/13411/guidelines.aspx>

There can be serious career risks for engineers who take strong ethical positions. But it is important to understand that the damage that they might suffer is usually not permanent. There is also significant compensation in being able to feel that one has acted properly under difficult circumstances. On the other hand, backing down can lead to terrible feelings of remorse if the result is of a tragic nature.

***Here's the Big Brother question: Is it possible to have, at the same time, both security and privacy?***

The idea that it is necessary for the public to surrender more and more power to the government in the name of protection against various enemies is an old one. Government-imposed secrecy was and has been justified this way, as has the weakening of basic rights such as habeas corpus. Allowing big brother to eavesdrop on our communications is another step in the same direction. I believe that none of this is justified.

Freedom is not a luxury that we can enjoy only in tranquil times. Free societies tend to be robust and well able to defend themselves when the going gets rough. At least since the Vietnam War we have seen how claims by government leaders that we should trust them because they know better have repeatedly proven to be false. Secrecy, domestic surveillance, and violations of due process are tools used by corrupt, power hungry, and often incompetent people to consolidate their power. They don't make us safer.

***Could you provide us a few URLs that you have found useful?***

<http://www.onlineethics.org/>  
<http://engineeringethicsblog.blogspot.com/>

***Are there any questions that I haven't asked that I should have?***

Doubtless there are many other questions that could be asked, if time and space were unlimited. One that comes to mind is, "What can the individual engineer do about all this ethics stuff?"

Of course, one obvious answer is, "Behave ethically". But individual action may not be sufficient in a conflict with a big organization. When faced with problems affecting groups, possibly very large groups, of people, we should react by trying to join with other like-minded people. This is an important concept, not only with respect to ethics-related conflicts, but also in connection with other societal problems. The ancient proverb, "In union there is strength" is more important than ever.

***Thank you, Professor Unger.***

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## 2007 A.M. Turing Award Winners

ACM Bulletin Service

ACM has named Edmund M. Clarke, E. Allen Emerson, and Joseph Sifakis the recipients of the 2007 A.M. Turing Award for their original and continuing research in a quality assurance process known as Model Checking.

Their innovations transformed the approach from a theoretical technique to a highly effective verification technology that enables computer hardware and software engineers to find errors efficiently in complex system designs, thus increasing the assurance that the systems perform as intended by the designers.

Clarke of Carnegie Mellon University, and Emerson of the University of Texas at Austin, working together, and Sifakis, working independently for the Centre National de la Recherche Scientifique at the University of Grenoble in France, developed this fully automated approach that is now the most widely used verification method in the hardware and software industries.

The Turing Award, first presented in 1966, and named for British mathematician Alan M. Turing, is widely considered the “Nobel Prize in Computing.” It carries a \$250,000 prize, with financial support provided by Intel Corporation and Google Inc.

ACM will present the Turing Award at the annual ACM Awards Banquet on June 21, 2008, in San Francisco, CA.

For additional information on the A.M. Turing Award, visit: <http://awards.acm.org/turing>

View the ACM Press Release and Turing Award News Coverage

## Software Engineering Notes Online

<http://www.acm.org/sigsoft/SEN/senonline.html>

The full text of current and recent back issues of Software Engineering Notes (*SEN*) (including proceedings) is available online as part of ACM's Digital Library

<http://portal.acm.org/dl>

The Digital Library also includes some articles from *SEN* issues from the 1990's, as well as tables of contents and citations from some older issues.

Access to *SEN* in the Digital Library is free for members of SIGSOFT; all you need is an ACM Web Account and password.

If you're a SIGSOFT member and you don't have a Web Account yet, you will first have to set up your free Web Account:

<https://campus.acm.org/public/accounts/create.cfm>

While you're at it, why not create or update your ACM e-mail alias (yourname@acm.org)?

It's a free e-mail forwarding benefit for ACM members. Go to:

<https://campus.acm.org/public/clientfunctions/acmorg.cfm>

## ACM TOSEM: FAQs and Figures

David Notkin  
<notkin@cs.washington.edu>

The appearance of this column proves one thing alone: Will Tracz's patience and goodwill. Thanks for putting up with my delays, Will!

As I am sure I have mentioned previously, improving turnaround time has been a major goal of my first year at EIC of ACM TOSEM. And thanks to the authors, reviewers, associate editors, and the staff, we've made progress. As I look right now at our Manuscript Central queues, I see only five overdue actions – one referee response, two associate editor preliminary decisions, and two referee scores. Although this is more than I'd like, it's still quite an improvement.

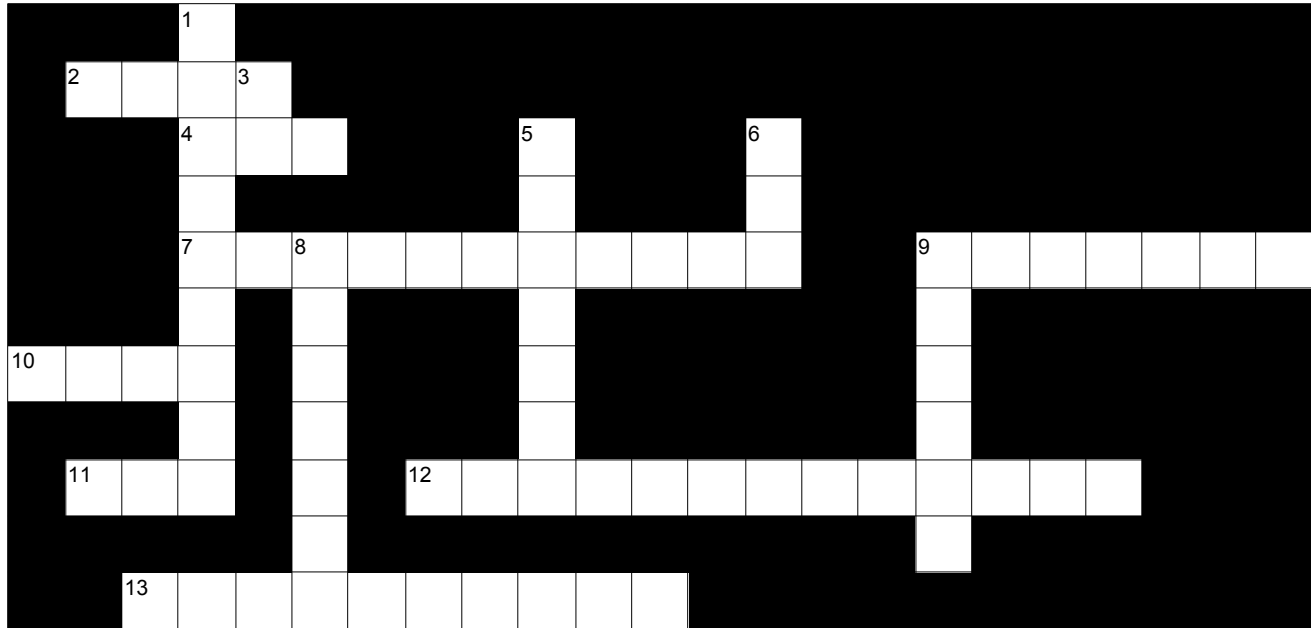
Let's look at the 2006 and 2007 numbers in some detail. Before that, let me make a few points, however. First, I have taken these data directly from Manuscript Central and I haven't fully vetted the numbers yet. Second, I am sure that there are numbers that you want that I don't provide – please ask! Third, remember that these numbers focus on the turnaround time only.

The number of papers submitted to TOSEM in 2006 was 114 and in 2007 was 122, an increase of about 7%. Using the “Time from Submission to Decision” report for papers submitted in 2006 and 2007, across all papers the time-to-decision for 2006 had a mean of 145 days and a median of 144 days, while 2007 had a mean of 61 days and a median of 65 days, both of which are improvements by well over a factor of two. The larger median than mean for 2007 is most likely indicative of an increase in the papers that are immediately rejected without a full review: these went from 14 to 30 over the two years. Immediately rejected papers took 21 days on average in 2006 and seven days on average in 2007. (Although neither of these seems “immediate,” some of the papers I reject immediately while others I forward to an associate editor who recommends that it be rejected without review.) Immediate accepts – again, those without reviews – tend to take slightly longer, since that usually describes a situation where a paper is accepted contingent on minor revisions and the associate editor must spend some time after receipt to make a final decision.

What about other categories of papers? The time-to-decision for accepted papers dropped from 88 to 50 days over the two years, for major revisions from 228 to 96 days, for minor revisions from 172 to 92 days, and for rejected papers from 142 to 96 days. There is still, of course, a fairly large variance. The maximum time to decision for any paper submitted in 2006 though, was 398 days, and this dropped to 160 days in 2007.

In other words, TOSEM now makes decisions on the full gamut of papers in a little over two months on average and no paper in 2007 took as much as six months. “Wait! My paper took much longer than that!” Of course that is almost certainly true. Specifically, I am reporting “time to decision” numbers, but when that decision is (for example) a major revision, the authors must then revise the paper, resubmit the paper, and it must go through another “time-to-decision” process. Indeed, this sometimes happens multiple times – papers revised and resubmitted for a third time are not particularly unusual and

# Crossword



## Across

2. Highly fashionable Web development technology which also happens to be a brand of soap.
4. A type of report, specified in IEEE 829, describing software testing procedures. Made infamous in the movie *Office Space* for its time-wasting abilities.
7. A change to a program which confounds managers because it does not involve fixing a bug or adding a feature.
9. Stodgy old term for “software solution.”
10. The easiest way to describe C# and .NET: They're Microsoft's re-creation of \_\_\_\_.
11. Notation for describing software using stick figures, boxes, and an assortment of lines and arrows. Looks best when drawn with crayons and hung on the refrigerator.
12. Formal methods prove that an implementation contains exactly the same mistakes as its \_\_\_\_.
13. (Two words) The media portray this type of software as having been constructed by large numbers of magnanimous individuals working in their free time. In reality, much of it is constructed by people simply doing their job on company time, but that makes for a pretty boring news story.

## Down

1. A software process best applied by teams that are incapable of making mistakes. Ironically, endorsed by the U.S. Government.
3. Abbreviation for a software process described in a book whose second edition emphasizes the importance of bathing regularly.
5. When it becomes necessary to improve the performance of code, the first step is to \_\_\_\_\_. Note that “rewrite in assembly language” does not fit in the space provided.
6. A euphemism for “programmer error.” Use of this term works wonders for programmers' self-esteem because it places the blame entirely on fictitious, six-legged creatures.
8. The only programming language with both object-oriented constructs and a source form originally intended for 80-column punch cards.
9. Arguably the most popular debugging technique.

Submitted by Jeff Overbey · <http://jeff.overbz>  
Thanks to Brian Foote for the clues to 11-across and 8-down.