Editorial: State of the Journal

Bashar Nuseibeh

Happy New Year. It has been exactly one year since I started as Editor-in-Chief of the IEEE Transactions on Software Engineering (TSE), so in this editorial I would like to reflect on to reflect on this last year and to share with you some facts and figures and my plans for the next year.

In my first editorial last January, I suggested three medium term goals for the journals that I reiterate below and which I believe still hold:

1. To reemphasize the broad scope of the journal, encouraging the publication of multidisciplinary research as well as specialization in software engineering.
2. To engage with the software engineering community at large, including other journals, about the software engineering discipline, using not only the journal itself as a forum but through other professional outlets such as conferences and the Web.
3. To support a debate on the nature of scholarly discourse in software engineering, such as the kind and length of papers published in the journal, or the different forms of peer review and discussion around what is published.

My first goal above is rather subtle. The scope of the journal is already quite precisely defined and has not changed for some time. However, I still believe that as software—and software engineering—continues to permeate society and the development of systems of all kinds, software engineering research also has opportunities to grow. To grow in terms of its interaction with other disciplines outside its traditional boundaries, but also to grow it terms of specialization within, say, problem domain boundaries. To this end, I have encouraged the TSE editorial board to help solicit a broader range of submissions, but also to handle submissions outside TSE’s traditional boundaries with tolerance, even enthusiasm. This sometimes means making an additional effort to guide authors to formulate or reformulate submissions to make the work more accessible to a software engineering audience. The impact of this approach will take some time to have a visible effect, as most of the papers submitted to TSE in 2010 have yet to be published.

With respect to my second goal above, community engagement is an ongoing effort. In 2010 I met with the editors-in-chief of many of the software engineering research journals, and we discussed ways in which we can help present research that is novel and exciting, that is rigorous and well-presented, and that is relevant and useful to readers of our publications. I have encouraged, but only been partially successful, in engaging TSE readers to contribute to the debate about the discipline of software engineering. I say “partially successful” because there has been almost no discussion on the TSE electronic forum, but I have received many individual e-mails from readers addressing very specific issues, such as those that I raise in my regular editorials. It does seem that an open ended invitation to discuss the discipline is too vague to engage most readers, and so I will continue to discuss specific topics in each issue of the journal.

The third goal above is one that has been receiving attention from other journal and magazine editors as well. I do sense that the value of journal publications in software engineering is back on the rise, and I feel that my appeal to authors to submit different kinds (and lengths) of manuscripts is being addressed. I have said previously that there is nothing sacred about the kind and length of a software engineering research contribution, and in the last year TSE received more short and a few very long manuscripts. In all cases, I have asked associate editors to consider if content justifies the length, rather than be distracted by any notion of suggested manuscript length. Papers published in 2011 will be partly the result of such an approach.

What else have I learned from year 1? Well, personally, I have been saddened to observe that much of my time is spent handling exceptions of the rather unpleasant variety—plagiarism, duplicate or overlapping submissions, and, in a few cases, appeals. I have absolutely no problem at all with appeals. Authors should feel free to question review decisions on their papers—the review process is not infallible—and queries or complaints help test the robustness of the process and the resultant decisions. Similarly, I encourage readers to write and question or discuss published papers’ content. Some readers have chosen to do this anonymously and that’s fine, although I would welcome more open technical commentaries, which TSE has the mechanism to publish in hardcopy or in the digital library. What does bother me are the incidents of what can only be termed unethical behavior—such as plagiarism. The penalties for this are severe, and a “prohibited authors” list is updated and circulated among all IEEE editors each month, with each additional named author fully investigated before being “blacklisted” and barred from future submission to the journal. Incidence of self-plagiarism or duplicate submissions are equally troubling, and a real time drain for editors and reviewers. In a future editorial, I will also discuss the undesirable phenomenon of an LPU—a “least publishable unit”—which unfortunately seems be a way for some authors to increase their publication counts by publishing very small incremental contributions over previously published work. Duplicate or heavily overlapping submissions are often detected, due to the limited and specialized community of reviewers and the open and interactive relationships between journal editors.
On a more upbeat note, TSE received 384 submissions in 2010, and published 49 papers. Please do not interpret this as an “acceptance ratio,” as the papers accepted for publication are not usually from the pool of submitted manuscripts in any one year. Indeed, the number of papers published (in hardcopy) is actually a function of the page budgets imposed by the IEEE Computer Society rather than any form of publication selectivity. Accepted papers are published electronically in the IEEE Computer Society Digital Library and IEEE Xplore soon after acceptance. On average, papers are finally accepted for publication in less than 7 months from first submission (or finally rejected in less than 4 months).

In June 2010, the 2009 Thompson/ISI Impact Factors were published, and I reported in a subsequent editorial that TSE’s impact factor had risen to 3.75 (from 3.57 the previous year). Impact factors measure the number of times, on average, a paper published in a journal is cited during a 2-year period, and is also a function of the number of papers published in the journal as a whole. It is just one measure of a journal’s “influence,” and some argue against its utility. It is nonetheless gratifying that TSE’s impact factor places it at the very top of the league tables that use such measures. This reflects the high quality work that authors publish in TSE, and in this case is an acknowledgment of the stewardship and judgment of former Editor-in-Chief Jeff Kramer and his Editorial Board.

I would like to wrap up with some further acknowledgments, starting with different groups of associate editors. First, the associate editors, whose terms ended before I started as Editor-in-Chief in January 2010, who nonetheless continued to volunteer their time and expertise to handle papers already in the journal’s pipeline. I’d like to acknowledge them by name and hope that I have not missed any: Shing Chi Cheung, Prem Devanbu, Wolfgang Emmerich, Mark Harman, Audris Mockus, Hausi Muller, Wilhelm Schafer, Susanna Donatelli, Sebastian Uchitel, and Alex Wolf. Next, I would like to thank those associate editors whose terms have now ended, namely, Phyllis Frankl, Katsuro Inuoe, Adam Porter, Heinz Schmidt, and Axel van Lamsweerde. I look forward to their continued support in 2011 as their manuscript assignments wind down. And finally, I am very grateful to the current editorial board for their continuing hard work and wise counsel in 2010. I have learned tremendously from them, and TSE has been shaped and directed by their vision and diligence. I am pleased to welcome three new member of the Board in this issue: Drs. Siobhán Clarke, Patrick Heymans, and Laurie Williams, whose biographical sketches are included below.

The TSE Editorial Office has provided me with excellent support and shepherding that has made my job possible. So, many thanks to Debby Mosher, Joyce Arnold, Hilda Carman, Kathy Santa Maria, and Alicia Stickley for all their help.

Last but not least, my warm thanks to TSE’s three Rs— readers, writers and reviewers— the hundreds of individuals who make the journal work. My acknowledgment to these individuals notwithstanding, as I indicated in my last editorial, I would like to recognize particularly outstanding reviewers and authors, and I await nominations for “Best TSE paper in 2010” and “Best Reviewer in 2010.”

Best wishes for 2011.

Bashar Nuseibeh
Editor-in-Chief

Siobhán Clarke is a senior lecturer in the School of Computer Science and Statistics, and a fellow of Trinity College Dublin. She leads the Distributed Systems Group, is Course Director for the MSc in Computer Science (Networks and Distributed Systems), is the School’s Postgraduate Director of Teaching and Learning, and is a Principal Investigator in Lero: The Irish Software Engineering Research Centre. Dr. Clarke currently serves as Associate Editor-in-Chief of IEEE Internet Computing, and on the Editorial Board of the Transactions on Aspect-Oriented Software Development. She was general chair of Onward! 2010 and COMSWARE 2009, PC cochair of ECOWS 2009, has served on many program committees, including OOPSLA, AOUSD, ICSEC, ECOWS and MODELS, and on the organizing committees of numerous conferences and workshops. Dr. Clarke’s research interests are in design and programming models for adaptive systems and in improving techniques for the modularization of software. The complexities associated with developing adaptive systems require advanced software engineering techniques. The research follows on from her previous work on aspect-oriented software development by attempting to apply and extend those principles to design and programming models for systems that require (possibly unanticipated) adaptation at runtime. She leads a number of projects that investigate issues particular to engineering software for adaptive systems, and are working toward providing design models and programming frameworks to better support the applications programmer in building adaptive systems.
Patrick Heymans received the PhD degree in computer science from the University of Namur, Belgium, in 2001. He is now a professor of software engineering at the University of Namur. He is a founding member of the PreCISE Research Centre, where he leads the requirements engineering and software product lines activities. His main research interests are in the application of formal and visual modeling techniques to improve the quality of software products and processes. He is (co)author of more than 60 peer-reviewed international scientific publications and has supervised six PhD theses. He is a regular referee for international journals and conferences in the field of software engineering. He was the program (co)chair of major requirements engineering conferences: REFSQ ’07, REFSQ ’09 and RE ’11. He is principal investigator on a number of national and European research projects, which range from fundamental to applied research. He also regularly acts as an advisor, consultant, and trainer for IT companies.

Laurie Williams received the PhD degree in computer science from the University of Utah, the MBA degree from the Duke University Fuqua School of Business, and the BS degree in industrial engineering from Lehigh University. She is an associate professor in the Computer Science Department at North Carolina State University. Her research focuses on agile software development practices and processes; software reliability, software testing and analysis; software security; open source software development; and broadening participation and increasing retention in computer science. She is the Research Director of the Laboratory Director of the Institute of Next Generation IT Systems (ITng), the Director of the North Carolina State University Laboratory for Collaborative System Development and the Center for Open Software Engineering, and an area representative for the Secure Open Systems Initiative. She worked for IBM Corporation for nine years in Raleigh, North Carolina, and Research Triangle Park, North Carolina, before returning to academia. She is a member of the IEEE and the ACM.