Passing the Baton

Forrest Shull

IT SEEMS FITTING to use my last column as editor in chief (EIC) to report on the results of our 2014 board meeting. One of my guiding touch points as EIC has always been my memory of the first IEEE Software board meeting I attended, in 2007. Given the involvement of so many recognized names in the field, I expected to find a lot of pontificating and some strong personalities to navigate around. What I found instead was a group of forward-thinking, passionate, and collaborative contributors, who were anxious to roll up their sleeves and get to work. In the years since, members have retired and new ones have taken their places (see the sidebar to meet Software’s new EIC, Diomidis Spinellis). We’ve also grown the size of the editorial and advisory boards, welcoming members with perspectives and experiences we felt were missing. But I’ve been very proud that, throughout all these changes, we’ve always managed to maintain that initial sense of constructive collaboration.

Software’s board members are the volunteers who write the departments, recruit authors and guest editors, produce multimedia, oversee peer review, and provide guidance and perspective from different communities. In short, they’re the people who spend their personal time and share their own experience to make Software what it is today. (You can find the names of our board members on page 1.)

During my tenure, I’ve much appreciated the perspectives and intelligence that the boards contribute, and I’ve strived to maintain this community as an energetic group that covers a diverse cross-section of the software industry. Our members cover industries ranging from defense to Silicon Valley; represent universities on five continents; include organizations ranging in size from Google and Microsoft to independent consultants; and cover a geographic spread that includes North America, South America, Europe, Australia, India, and China.

Software already has a reviewer appreciation program, which highlights the many professionals who give their time and effort to ensure the quality of our content through peer review. I hope this column can serve in a way as a board member appreciation as well, in recognition that their generosity is responsible for many of the good things that Software offers.

What We’ve Accomplished

The annual board meeting is a good opportunity for me to take stock of our progress and understand where more effort is needed. The metrics we’ve been tracking painted a positive and energizing picture this year and represented a continuation of trends over the past several years:

• Although we primarily aim to reach practitioners, our impact factor (a measure of how often the

IEEE Software

Mission Statement

To be the best source of reliable, useful, peer-reviewed information for leading software practitioners—the developers and managers who want to keep up with rapid technology change.
As part of the countdown toward the end of my term, I’m happy to announce that the president of the Computer Society has accepted our selection committee’s recommendation. Starting in January 2015, the editor in chief will be Diomidis Spinellis, a volunteer who has been very active already with IEEE Software. Diomidis has been an important contributor to Software’s success. He has been, at various times, an author, a department editor, and a guest editor for multiple special issues, so he knows many parts of the magazine inside and out.

He has also produced compelling contributions to the field as a software developer, consultant, educator, and author. He has received an impressive set of recognitions and awards for his professional activities and publications. His CV shows him to be well suited to lead a publication such as Software, which aims to better connect research and practice. He has the proven ability to perform impactful research and work on timely and relevant problems and has garnered a compelling set of accomplishments in the private and government sectors.

In his application for the position, he laid out a vision for the magazine that I found energizing. I’m sure you will, too, but I’ll leave it to Diomidis to tell you more about his initiatives over time.

Over the past several years, our article influence rating (which weights citations by the reputation of the citing journal, hence measuring the prestige of a periodical) has risen sharply and is higher than our competitor journals and magazines.

• Over the past four years, I’ve been pleased to have overseen the launch of our digital edition we launched. In the past few years, we’ve added thousands of subscribers.

• Although the previous metrics are important, our content is also accessed through our digital library archives. In 2013, we had 180,000 downloads of our content, on par with prestigious journals such as Transactions on Software Engineering.

Over the past four years, I’ve been pleased to have overseen the launch of our digital edition, the annual Software Experts Summit (the latest of which drew a gratifyingly large crowd in Bangalore this year—see the related sidebar), and our move into multimedia offerings. We’ve made important strides in achieving digitalization we launched. In the past few years, we’ve added thousands of subscribers.

• Although the previous metrics are important, our content is also accessed through our digital library archives. In 2013, we had 180,000 downloads of our content, on par with prestigious journals such as Transactions on Software Engineering.
SOFTWARE EXPERTS SUMMIT 2014

The first Software Experts Summit to take place in India was an outstanding success. The event occurred on 30 May in Electronic City, Bangalore. With 254 attendees, the summit increased Software’s visibility in a location with a large, vibrant software development community, but in which we haven’t historically been very visible.

This year’s speakers weighed heavily on the practitioner side, with representation from experts and thought leaders associated with the magazine and drawn from the local software community. Presenters included:

- Grady Booch of IBM,
- Gerd Hoefner of Siemens Technology and Services,
- Tom Zimmermann of Microsoft Research,
- Jan Bosch of Chalmers University of Technology (formerly Vice President of Engineering Process at Intuit),
- Michiel van Genuchten of VitalHealth Software, and
- Jayant Prabhu of Wipro.

A panel discussion I led made further connections to local industry with participation from Girish Krishnamurthy (vice president, Tata Consultancy Services), Mandar Muta-likdesai (head of engineering, DataWeave), C.N. Raghupathi (vice president and head, India Business Unit, Infosys), and Sreedhara Narayanaswamy (executive director, Dell R&D).

Involvement from the IEEE Software editorial and advisory boards has always been critical to the event’s success. This year was no exception, as ed board member Girish Suryanarayana of Siemens was the event’s general chair.

FIGURE A. The event drew a record crowd of 254 attendees. Here, the audience reacts appreciatively to remarks by speaker and advisory board member Jan Bosch.

FIGURE B. Speaker and editorial board member Tom Zimmermann references a point about software analytics in our 2013 dual issue on the topic.
FROM THE EDITOR

my vision of making Software more than a collection of printed pages that arrives in subscribers’ mailboxes every two months. I’m sure that these channels for reaching our audience will continue to innovate and adapt and become even more exciting. I’ll continue watching with great interest.

These results are possible only because of community involvement and volunteer effort. The chance to work with such a professional, impressive, and generous set of board members over the past four years has been a highlight of my career. My gratitude for all this effort is immense—I hope the board members are as happy with what we’ve built together as I am.

Looking into the Future
One of the most important things we do at every board meeting is brainstorm priority topics for the coming year’s special issues. These aren’t binding recommendations—some won’t come together in the way we would like, and others will be superseded by new topics. But it’s a useful exercise that helps keep us focused on, and cognizant of, the cutting-edge topics of interest to our readers. I always find it particularly useful to see which priorities emerge from such a diverse cross-section of the software field. This time around, our wish list included the following special-issue topics.

Security by Design
What robust, usable principles can help build secure systems from the ground up? Topics of interest might include API design principles (especially those that balance security effectiveness versus usability), mobile security, software architecture implications for security, design principles or patterns, security requirements, and tradeoffs regarding privacy for any of the previous solutions.

Scaling and Agility
Agile software development is part of the mainstream. This special issue would focus on concrete experiences and lessons learned (both positive and negative) and viable strategies for teams trying to apply agile at scale. Topics of interest might include applying agile on large teams or teams of teams, agility in software system acquisition, architectural tradeoffs in agile, and the interfaces between agile teams and the rest of the organization.

Raising Your Organization’s Software IQ
There’s no shortage of software practices that claim to be best practices, but how do organizations (rather than teams or individuals) learn about, test, and institutionalize effective practices? Topics of interest might include software engineering education and professional training, approaches for building the workforce, strategies for improving organizational software capabilities, learning organizations, communication within and across teams (especially when dealing with distributed or global development), and recruiting.

Software for Smart Industry
This special issue would focus on methods for building the software (and applications of the software) that’s powering the revolution in industrial automation. Topics of interest might include cyberphysical industry, safety-critical software (especially regarding assurance), online or physical connections, and the Internet of Things.

The Role of the Software Architect
We’ve had no shortage of content on technical issues related to software architecture. This issue would take a different tack and focus on team organization and the architect’s role vis-à-vis the larger organization. Topics of interest might include how the architect interacts with requirements and DevOps (development operations), the role of architects in an agile context (is there a perceived conflict?), the impact of leadership or facilitation skills, scaling the role of architect, and architecting the “-ilities.”

DevOps
Although DevOps is certainly a buzzword, the underlying idea has performed a real service by emphasizing the tight interconnections between software development and IT operations. An exploration of DevOps would include continuous development and deployment, monitoring and observability, DevOps tools, software evolution with a perspective on operations, and open stack.
The Science of Measurement

Software measurement has been with us for a long time, but recent advances in unobtrusive data collection, software analytics, and other related technologies have led to a renaissance of sorts. Topics of interest might include data-driven decision making, automated data collection and instrumentation, software versus system metrics, the role of analytics in effective management, and understanding business value. Also, experience reports on what happens when metrics “lie” would fit this topic.

Participate!

If you find these special-issue suggestions interesting, be on the lookout for some of these issues sometime in 2016. Better yet, think of articles to submit in these areas—or propose special issues you would find more relevant. After all, more than just board management is necessary for a successful magazine. The software engineering community as a whole has a stake in what we publish, and I hope that the boards continue to hear your voice.

It has been an honor and a pleasure to serve the community in this role for the past four years.

FORREST SHULL is assistant director for empirical research in the Software Solutions Division of the Software Engineering Institute, a federally funded research and development center at Carnegie Mellon University. Contact him at fshull@computer.org.