Report on ICSE 2005

Gruia-Catalin Roman
General Chair

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1. Personal Thoughts

The key considerations in agreeing to organize ICSE 2005 were: a desire to bring the conference for the first time to the Midwest and St. Louis; the conviction that ICSE can be organized in such a manner as to have a lasting impact on the host region; and the hope that ICSE will have an increasingly stronger voice in shaping the future of the profession. At a time when software is a critical part of our social fabric and of our personal lives, using the conference as a way to carry out this message to society at large seemed a challenge worth pursuing. Far from my thoughts at the time was any awareness of what it means to lead a conference that is three years in the making, entails a team of almost 200 volunteers, and is judged largely on a one-week performance. Now that the experience is behind me, I am happy to have assumed this role. It was indeed a most rewarding experience, intellectually, professionally, and personally.

2. Guiding Principles

Early on we selected "Software Everywhere" as the conference theme. This was done in recognition of the role software plays in society today and the increasing level of responsibility being placed on our profession. Throughout our program planning we sought to be faithful to this theme. The same was true in the interactions with industry and the press.

We made a concerted effort to increase and facilitate student participation at the conference. While some efforts did not succeed (undergraduate research competition, high school programming competition in collaboration with the St. Louis Science Center), graduate student participation was high and significant funding was provided to defray conference and travel costs for student volunteers and doctoral symposium participants.

I felt all along that the intellectual and technical strength of the conference had to be complemented by a first-class social experience. This affected the choice of hotel, organizational details, reception, etc.

A major effort has been extended to ensure that the conference will, in fact, have a lasting impact on information technology in the host region. This benefited the conference financially, increased attendance, mobilized important regional players, and gave us coverage in the business section of the St. Louis Post-Dispatch.

3. Organization

The way a conference is put together depends to a large degree on the personalities involved. My own style is very much hands-on. I seek advice, assume responsibility for key decisions, delegate on trust, and expect to be kept informed without prodding. Interactions were intensely personal, the volume of email was large, and the response to email requests was as immediate as possible. Because of this, the selection of the Conference Program Chairs, Bill Griswold and Bashar Nuseibeh, was critical. I sought their advice constantly in weekly conference calls and their suggestions left an indelible mark on many conference workings.

The Organizing Committee was large and met face-to-face only once to report on early individual efforts. A small fraction of the overall committee was actually present at the meeting. Most positions entailed a two-member team, highly focused on a particular task, and in close communication with the general chair.

The choice of chairs was somewhat conservative, most people on the committee were known to me personally. However, in areas where we reached out and invited members based on outside recommendations, the new faces performed exceptionally well. Now, I feel that this should have been done more aggressively, maybe by pairing the new with the experienced.

A subtle but important departure from the past was the dual role played by Bill and Bashar, as Conference Program Chairs and as Research Track Chairs. The former role placed them constantly at my side as members of a leadership team overseeing the overall conference program. In the latter role, they acted as independent chairs of the research track, working closely with the (research track) program committee to shape the core element of the overall program. They worked independently and assumed full responsibility for the review and paper selection. The Chairs of the Experience Track and those of the Educational Track had similarly independent roles. To the greatest possible extent the three tracks were treated equally, had separate committees, and generated separate publicity materials. The general Call for Professional Involvement was complemented by separate call for papers for each of the three tracks. This was part of a deliberate effort to strengthen the experience and education tracks at ICSE.

4. Management

Conference Management Team. I chose IEEE as the conference management team based on the assumption that they had learned from some of the difficulties encountered in Portland in 2003. Also, I felt that two years later I would have a more experienced and effective support team. Their interactions were very professional and their on-site performance was excellent. On occasion, there were gaps of understanding and differences in expectations. Meeting the team on a personal level before starting to work together could have helped a great deal by avoiding the problems often associated with electronic communication. Also, I never got the sense that we were building on a body of previous experience. A lot of things took longer than expected and entailed processes more complicated than initially imagined. There was not a well worked out process in place for me to adjust. Everything seemed to be a new endeavor. In retrospect, I should have been more prescriptive in the early phases and should have had bi-weekly conference calls. There were also some tense moments regarding coordination with ACM and IEEE; at the same time, having the conference management team be associated with one of the sponsors made a lot of things easier, e.g., financial management. Finally, it is disappointing to me that at this late date I still do not have a financial report in my hand.

Design Work. We used two design teams. The first one, JAM Communications, was selected based on prior work with IEEE and without examining their portfolio—we got behind schedule and had to move forward under pressure. JAM did the design work for the poster and the postcards. The design was acceptable but not very inspired. We exercised an option to generate two additional designs, but they were unacceptable. In all other respects JAM handled things without any trouble.

Barbara Young   barbara@jamagency.com
Senior Account Manager   202-986-4750, ext. 12
JAM Communications, Inc.   202-232-9146 fax
1638 R Street, NW Suite 400
Washington, DC 20009

Schweppe Studios did all other design work. The difference in quality and the level of personal involvement was astounding. Sixteen design options were put forth in the second meeting, far beyond any contractual obligations. The same level of professionalism and emphasis on quality marked all subsequent interactions.

Charlotte Schweppe   char@schweppestudios.com
Schweppe Studios   http://www.schweppestudios.com
719 Harvard   Phone: 314/863-7708
St. Louis, MO 63130   Fax: 314/863-3610

The lesson to be remembered here is that one needs to select the designer early, a review of the designer's portfolio before selection is very important, and a high level of personal involvement is required if one has definite notions of quality and stylistic preferences.

CyberChair. We used CyberChair for initial electronic submissions, for reviews, for final camera-ready submissions, for proceedings contents generation, and for ACM Digital Library submissions. Everything worked so well that my level of interaction with the entire process was minimal, mostly dealing with the bid, payments, and policies. I cannot imagine better service.

Proceedings. This area held a number of surprises in store. First, I did not realize until late into the process how much work it entailed. The proceedings chair made sure that all the final versions of the accepted papers were in on time, managed the publication format (we were forced to change from ACM to IEEE) after the fact, dealt with copyright rules and procedures, secured bids for the proceedings publication (paper and CD), facilitated interactions between the publisher and me, and interacted to a limited extent with the ACM digital publication process.

We made an early decision to publish the proceedings on CD and the experiment went well. There were no complaints. We did publish 200 paper copies of the proceedings and sold them at $50 a piece. Only about half were sold.

Despite the very diligent work by the proceedings chair, one of the very few major crises I had to manage related to the proceedings: (1) The proceedings cover for the paper version was changed from what I approved without notification and without interacting with the designer; this was discovered just in the nick of time and had to be corrected within 24 hours. (2) Within 48 hours of going to print I discovered that the CD proceedings design was unacceptable, the publisher initially refused to redesign it, and then the redesign was worse than the original. I had one evening to redesign the CD on my own. Also, my staff and I had to proof the CD links and table of contents several times very carefully due to numerous errors.

Finally, I should note that both the paper and CD proceedings were made available to me via a ftp site that had no password protection.

Web Site. Maintaining the web site as a live document, always current, esthetically pleasing, and functional was a major effort. The Web Master was assisted by one of my own graduate students, and both had to work hard to keep on top of things. The Web Master was very aggressive in seeking information out from members of the committee as the conference preparation progressed. This saved a lot of time on my part. The student is both very talented and very responsible which helped a great deal.

Some tasks that entailed careful work were putting the program on line in a manner that was easy to access, creating web protected pages for access to tutorial and workshop materials, and emailing account and password information to registered tutorial and workshop participants.

Tutorials and Workshops. The respective chairs managed this process with only limited input and supervision on my part. The attendance numbers were good and only one tutorial was cancelled. Soliciting tutorial proposals in a direct and personal way is strongly advised (we did not do enough in this respect), promoting the tutorials to local industry is critical to increasing attendance, and selecting tutorials of interest to industry is important; the local arrangements chair is in the best position to promote tutorials. Workshops were a lot more successful both in terms of level of participation and in revenues.

We printed no tutorial or workshop materials. Everything was accessible from password-protected pages on the web. The workshop papers were published in the ACM Digital Library. All workshop materials are subject to copyright release, but authors were told this only late in the process due to some breakdown in communication and delayed decisions by ACM. One other problem that we encountered and never got corrected was the inconsistency in style among the workshop pages. Some were well organized with proper table of contents and pdf files named for logical access. Others had a list of files with random names. Minimal standards must be imposed on the chairs of the individual workshops.

The process of moving the material into the ACM Digital Library was carried out with support from CyberChair and never reached my level.

Electronic Conference. The decision to eliminate most printed materials was backed up by easy electronic access to all conference materials. Every hotel room had free Internet connectivity, the conference area was covered by wireless connectivity (the hotel service was flawed and we ended up buying our own routers), and large plasma displays rolled through the daily schedule during the conference.

We also set up a computer room with 12 computers and two printers for minimal printing and for Internet access. The room also had 20 USB keys for quick download of all conference materials (proceedings, tutorials, and workshops). System administrators from my department at the university staffed the room. There was moderate usage of the resource and what we provided exceeded the need. This is in part due to the fact that we advertised the electronic nature of the conference and urged everyone to bring their laptop along.

Hotel Contract. The first issue I want to raise here is the concern with success disaster. We planned for an attendance of 600 and we ended up with almost twice as many. We were able to move meals to space on another floor, which happened to be free. One needs to negotiate options for expansion with the hotel in case results exceed expectations. IEEE did a very good job of managing the hotel contract and monitoring its implementation.

One decision that simplified the hotel contract, meal management, final program, etc. was to require all conference events to conform to a predefined schedule. Even the evening events were placed on the standard schedule, but they were given more flexibility. It is important to check the web pages of the workshops and the co-located events to ensure compliance. We had one unpleasant incident with SoftVis, which did not respect the predefined schedule, and interacted in an unprofessional manner with the student volunteer assigned to that event.

Lunch was provided each day. Breakfast was provided only during the three conference days. We should have included at least coffee at the start of every day. Participants found the meals to be very good. Out of 1100 attendees we only received a small number of complaints (less than a dozen) about the vegetarian options and the breakfast selection, and we were able to make appropriate adjustments during the conference.

Publicity. The key is to develop a publicity plan very early and not get behind. We separated the electronic and printed efforts. We relied much on the former (which is also free), but we also spent the money to have posters mailed to the organizing committee, postcards mailed both nationally and regionally, ads placed in most standard journals, etc. In retrospect, the cost of the poster is not justifiable in terms of benefits. All other items seem to be necessary.

Locally, we sought individuals in supporting organizations willing to relay our electronic advertising on the company intranet with an added personal message. This strategy is effective if the individual is well placed in the organization and if the organization contributed to support of the conference.

We separated the initial wave of publicity into four calls: Call for Professional Engagement (from the general chair), for research papers, for experience papers, and for education papers. Later on we sent separate (electronic only) calls for other events.

Local Arrangements. Most local arrangement activities were actually carried out by me with a great deal of assistance from my executive assistant. The local arrangements chair handled local publicity prior to the conference. This was a useful activity but not very demanding. However, the position really made a difference during the conference when the local arrangements chair formed a team with the student volunteer chair.

Student volunteers. We had an open application process that sought to balance international representation and regional volunteers. The final number was about 36. They did a great job and were indispensable to the running of the conference. Their success was, to a large extent, the result of excellent training and leadership by the student-volunteers chair and the local arrangements chair. Both were on site about 12 hours a day during the week of the conference starting with the day before on site registration

opened. Setting up a base in the registration area, they were always accessible to the student volunteers and able to provide advice and resolve issues, which was a great help to the conference management.

We secured outside funds specifically for the support of the student volunteers.

Co-located Conferences. The common wisdom is that such events attract additional attendance. I believe this is true but I did not study this in any systematic way. Managing them adds significant levels of complexity. Among them is the issue of mixing of the finances. Their organizers need early accurate information for preparing their budgets. All registration activities, meals, and AV are handled through the ICSE budget and reconciled at the end.

Exhibits. We kept exhibit fees low and free for the platinum level supporters. The number of exhibitors was larger and more varied than I expected. The exhibits added color and some elements of interest. Despite the very successful exhibits program, I continue to wonder about the benefits of it and about the possibility of making the exhibits more technical and more focused. This is an issue deserving further investigation and a discussion at the steering committee level.

Registration. This is the only area that did not meet my expectations. By and large, everything went very smoothly and there were no great difficulties or crises on line or on site. Nevertheless, the process is seriously flawed and much more complicated than necessary. Here are the main concerns: (1) The software package in use is not well designed and is cumbersome to customize. (2) Complimentary registration and special discounted rates had to be processed mostly by hand and required a lot of coordination between IEEE and my own office. (3) The reports could have been customized to meet my needs but this was not done. (4) Minor software errors led to the generation of reports (Excel) that were time consuming to manipulate—the problem was eventually fixed. (5) The process of generating badges was more complicated than necessary and the initial layout was very bad.

5. Program

We tried to carry the conference theme and aspiration into the program structure. Each day had a specific sub-theme that carried into the keynote and also into two sessions of invited talks: state of the art, state of the practice, and extending the discipline. Since the conference was in the U.S., I favored non-U.S. speakers and had two from Europe. The third speaker, Richard Florida, was from outside our community but had a very strong impact on the audience. Even though we were limited to paying honoraria that did not exceed $1,000, we had no problem attracting the keynotes—even Florida, whose normal fees exceed $20,000. It takes some effort, but it worked out well. One of the speakers turned down the honorarium altogether. Efforts to secure women, minorities, or speakers from outside North America and Europe for keynotes did not succeed. Personal contacts are key in this respect.

The research, experience, and education tracks received very much equal treatment. Acceptance rates for the experience track were comparable with those for the research track. The education track decided to pursue a post-conference proceedings; it solicited position papers and invited speakers to make up the program.

The research demonstrations were concentrated all in one day and followed up by informal demos in the exhibit area in the following two days.

We had only one panel session, which worked out well. We would not have had room in the program for more than that.

Symposia repeated from the past (New Software Engineering Faculty Symposium, Doctoral Symposium) were well attended and continue to be very popular. Two one-time symposia (Foundations of Empirical Software Engineering, Midwest Software Engineering Consortium) also enjoyed a high level of attendance and suggest that we ought to consider additional events of this nature in the future.

Efforts that failed to materialize either due to lack of leadership (ACM Undergraduate Research Competition) or due to lack of opportunity (high school programming competition—too few students had the background to compete) tended to be associated with new outreach ideas. We should not give up on such endeavors. The country and the profession need them and we should explore new avenues to make them happen.

6. Regional Impact

A lasting impact on the host region was one of the explicit goals of the conference. Central to the effort was the initiative to form an IT Coalition to be unveiled as part of a regional IT Summit held at the conference. While work on putting together the IT Coalition is still under way, the IT Summit was held and attracted almost 100 regional IT leaders across a broad spectrum (CIOs of major corporations, entrepreneurs, politicians, academics). The effort generated a significant momentum for the region with key leaders supporting an initiative to plan for new major regional investments in IT. In addition, both politicians and the press seem to have a better understanding of the challenges ahead and to be supportive of our efforts.

7. Venue

The Adam's Mark worked out very well for the conference in terms of size, facilities, quality, and willingness to work with our team. Located just across from the Gateway Arch, a national monument and the site of the conference reception, it offered visitors an impressive view and eliminated the complexities associated with transporting a large number of attendees to a distant reception site. The reception was extremely well attended; the food was excellent, the presentation very nice, the live music added to the event, and the open bars kept everyone until the very end. With such a unique venue, we had to abide by very strict security and scheduling rules. The security measures mandated by the National Park Service did not interfere with the event (attendees took the security screening to enter the monument in stride), and it actually smoothed out the arrival function leading to better service and no lines for food or drinks.

8. Attendance

The attendance level was higher than most previous conferences. A summary is given below and a more detailed breakdown appears at the end of the report.

Technical Program	714
Other Events ONLY	269
Information Technology Summit	97
TOTAL	**1080**
Co-Located Conferences	213
Symposia	192
Tutorials	209
Workshops	544

9. Finances

From the very beginning I made it one of my first priorities to secure strong financial backing for the conference. We established three levels of support ($20,000-platinum, $10,000-gold, $5,000-silver) and I took it upon myself to raise the platinum level funds. I seeded the fundraising effort with an initial $20,000 contribution from my own department, focused strictly on raising funds from St. Louis, leveraged off personal connections, and exploited the fact that ICSE was being held for the first time in the Midwest. To my surprise, I succeed in getting $160,000 in commitments and found the level of enthusiasm for using the conference as an instrument for the promotion of IT development in the region exceptionally high.

Having the funds committed early in the process made planning much easier and simplified interactions with the sponsors, who did not have to put down any advance amount for the conference preparation to start.

Here is a rough estimate of the financial picture as it appeared to us at the end of the conference:

INCOME

Outside support	212,000	
Conference	235,000	
Tutorials	37,000	
Workshops	104,000	
Symposia	13,000	
Exhibits	8,000	
Co-located events	70,000	(non-ICSE income)
Total income	**$650,000**	

ESTIMATED NET

ICSE income	580,000
ICSE expenses	400,000
ICSE net	**$180,000**

I am very disappointed with the fact that at this late date I still do not have an updated financial report from IEEE. This is another example of a situation in which they have to do more work than necessary in order to get the job done.

9. Conclusions

Organizing ICSE was a wonderful experience and a major effort. Good results are the direct consequence of having an outstanding team whose members, once having assumed a specific responsibility, work independently while maintaining a high degree of visibility at the level of general chair. The process is intensely personal and reflects the traits of people involved. It is also a new experience every single time. I estimate that corporate knowledge, in the form of continuity of personnel and process, could reduce the level of effort by 60%, thus allowing more time to be dedicated to innovations related to the program.

A. Appendix (Attendance)

ICSE 2005 Technical Program	714
Other Events ONLY	269
ICSE Information Technology Summit	97
OVERALL ATTENDANCE	**1080**

CBSE 2005 - 8th International SIGSOFT Symposium on Component-based Software Engineering	51
IWPC 2005 - 13th International Workshop on Program Comprehension	81
ProSim 2005 - 6th International Conference on Software Process Simulation and Modeling	34
SoftVis 2005 - 2nd Symposium on Software Visualization	47
CO-LOCATED CONFERENCES	**213**

Doctoral Symposium	27
Foundations of Empirical Software Engineering	81
Midwest Software Engineering Consortium (MSEC)	26
New Software Engineering Faculty Symposium	58
SYMPOSIA	**192**

F01 - Rules of Thumb for Secure Software Engineering	11