

Technical Program Introduction

Welcome to the Third International Conference on Requirements Engineering (ICRE '98) at Colorado Springs, Colorado, U.S.A. We hope that you enjoy attending the conference as much as we have enjoyed preparing the technical program, and we hope that you learn as much from the papers in these proceedings and the presentations at the conference as we having during the review process of the papers.

The Technical Program Introduction of the last conference, ICRE 96, bemoaned the widening gap between requirements engineering research and practice. Steps were taken at that conference that began to narrow the gap. While the gap still exists, the situation is better these days. As reflected in the nature of recent publications and the attitudes of paper authors and referees, not only in requirements engineering, but also in software engineering, a greater focus has been placed on tying past and new research ideas to practice. One sees more papers validating methods with case studies and controlled experiments. Nowadays, a paper presenting a new method is likely to be rejected if it does not also report on at least a case study of applying the method to a, preferably, industrial strength, real-life problem.

Accordingly, for this conference, care was taken to continue and strengthen this concern for closing the gap, for insuring the practicality of any research ideas, and for abstracting lessons learned from any reported industrial experiences. We are very happy with the resulting program. Innovations in the reviewing process for this conference include the following.

- We established a well-balanced Program Committee comprising nearly equal numbers of practitioners and researchers, of industrialists and academics, and this extends even to the chairs; one is a professor at a prime research university who applies research ideas in his consulting activities, and the other is a successful consultant for a well-known consultancy firm who teaches software engineering in the University of California at Santa Cruz's extension program.
- We decided that each kind of paper, research and experience, would be evaluated to its own standards rather than to a single, common standard. However, research papers were expected to evaluate the research ideas in an application of these ideas. Moreover, experience papers were expected to draw general conclusions from the experience.
- We decided that the ICRE '96 practice of suggesting submission of extended abstracts for early feedback would be extended to all papers, not just experience papers. In these early reviews, the authors were exposed to the additional expectations mentioned in the previous item.
- We decided, to avoid any sense of relaxing standards for any kind of paper, to ignore paper classifications during the acceptance process. That is, a paper would be accepted if its reviewers thought the paper were very good and no attempt would be made to balance the acceptances; we were prepared, in principle, that only one kind of paper would be accepted.

In the reviewing process, we tried to assign each research paper to at least two reviewers from academia and one from industry and each experience paper to at least two reviewers from industry and one from academia. Papers that had at least one author who was a Program,

Steering, or Organizing Committee member were subjected to an additional reviewer and a requirement for unanimous acceptance.

Interestingly, a number of papers could be classified as both experience and research. While these papers posed an initial difficulty in assigning to reviewers, they were a sign that the gap between research and practice is closing. These papers reported on experiences using a novel research idea or derived a novel research idea from past experiences.

Five of the accepted paper are flagged in the Table of Contents as best papers. Two of these five were selected for publication in a companion, special issue of *IEEE Software*, based on that journal's criteria. The two papers accepted for *IEEE Software* are represented by only their abstracts in these proceedings. To insure that all getting these proceedings get the full contents of all papers, the special issue of *IEEE Software* is bundled with these proceedings.

As with ICRE 96, the best papers all deal with the application of research learned ideas to real-world requirement engineering problems or with abstractions derived from lessons learned from real-world requirements engineering efforts, or both. The two for *IEEE Software* deal with

1. a case study validating a method for devising requirements for systems to be built largely from off-the-shelf components, software included, and
2. a report on lessons learned from examination of actual industrial uses of scenarios and use-cases in requirements engineering.

The other three best papers deal with

1. a case study of managing inconsistency and change in requirements specifications by restructuring those specifications,
2. a case study of model checking for the purpose of validating requirements for a fault tolerant system, and
3. an approach to writing human-centered specifications of systems derived from the author's experience writing requirements for safety-critical systems.

The sessions of the papers reflect the growing concern for closing the research-practice gap.

- Safety, Survivability, and Fault Tolerance
- Traceability and Change Management
- Elicitation
- Modeling and Requirements
- Scenarios
- Research in Progress
- Intentions
- Requirements and Software Reuse

Of the 27 accepted papers, 17 are from Europe, 9 are from North America, and 1 is from South America. Of these same 27 accepted papers, 8 are classified by this author as experience papers, 8 are classified as research, and the remaining 11 are classified as both. Another classifier might get slightly different numbers. In any case, it is clear that the goal of achieving a research-experience balance was achieved, even without being aware of which papers were what during the acceptance process and without trying to achieve a balance.

We are grateful for the guidance and support of the previous Program Committee Chairs, Chandra Chekaran and Jawed Siddiqi, as well as to the the rest of the Steering and Organizing Committees, Annie I. Anton, Carl Chang, Al Davis, Merlin Dorfman, Steve Easterbrook, David Hottman, Pei Hsia, Rick Hubbard, Nancy Mead, Pattanasak Mongkolwat, Yahya Al-Salqan, Charlene Svitek, and Greg Zelesnik, some of whom have been Program Committee Chairs of earlier ICREs or other conferences. Most of all, we are grateful to the members of the Program Committee, listed elsewhere in these proceedings, without whom these proceedings would never exist. We are particularly grateful to the Program Committee members who agreed to mentor panel sessions, namely Sol Greenspan and Greg Zelesnik, and who agreed to mentor some papers that needed some additional help, namely Annie I. Anton, Daniel Berry, Janet Drake, Mark Feblowitz, Sol Greenspan, Robert Johnson, and Linda Rosenberg.

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