Lecture Notes in Computer Science 3054

Commenced Publication in 1973
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Component-Based Software Engineering

7th International Symposium, CBSE 2004
Edinburgh, UK, May 24-25, 2004
Proceedings

Springer

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Library of Congress Control Number: 2004105115

CR Subject Classification (1998): D.2, D.1.5, D.3, F.3.1

ISSN 0302-9743
ISBN 3-540-21998-6 Springer-Verlag Berlin Heidelberg New York

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© Springer-Verlag Berlin Heidelberg 2004
Printed in Germany

Typesetting: Camera-ready by author, data conversion by Olgun Computergrafik
Printed on acid-free paper SPIN: 11006947 06/3142 5 4 3 2 1 0

Preface

Component-based software engineering (CBSE) is concerned with the development of software-intensive systems from reusable parts (components), the development of such reusable parts, and the maintenance and improvement of systems by means of component replacement and customization. Although it holds considerable promise, there are still many challenges facing both researchers and practitioners in establishing CBSE as an efficient and proven engineering discipline.

Six CBSE workshops have been held consecutively at the most recent six International Conferences on Software Engineering (ICSE). The premise of the last three CBSE workshops was that the long-term success of component-based development depends on the viability of an established science and technology foundation for achieving predictable quality in component-based systems.

The intent of the CBSE 2004 symposium was to build on this premise, and to provide a forum for more in-depth and substantive treatment of topics pertaining to predictability, to help establish cross-discipline insights, and to improve cooperation and mutual understanding. The goal of the CBSE 2004 symposium was to discuss and present more complete and mature works, and consequently collect the technical papers in published proceedings. The response to the Call for Papers was beyond expectations: 82 papers were submitted. Of those 25 (12 long and 13 short) were accepted for publication. In all 25 cases, the papers were reviewed by three to four independent reviewers. The symposium brought together researchers and practitioners from a variety of disciplines related to CBSE.

CBSE 2004 was privileged to have very competent, engaged and cooperative organizing and program committees with members involved in the forming of the symposium, its organization and in the review process. The review process, including the virtual review meetings, was organized completely electronically and succeeded thanks to the devoted work of the members and additional reviewers, and the excellent support from Richard van de Stadt who provided the electronic review system. The organizers of the ICSE 2004 conference, in particular Anthony Finkelstein, the General Chair, and Neno Medvidovic, the Workshops Chair, with great help and flexibility made it possible to organize CBSE 2004 as an adjunct event to the ICSE 2004 workshops. Springer-Verlag kindly agreed to publish the proceedings volume and helped greatly in its realisation. Finally all the contributors, the authors of the accepted papers, invited speakers and panelists contributed to the success of the symposium. We would like to thank each of them for their excellent contributions.

March 2004

Ivica Crnkovic
Heinz Schmidt
Judith Stafford
Kurt Wallanu

Message from the General Chair

Many hold that component software is the way to the next level of the software field's productivity. Others object that progress has been slow and that fundamental road blocks continue to be in the way. Ultimately, it is the need to move from manufacturing to an industrial approach that encourages the move away from monolithic software towards component-based engineering. Yet, it is true that much remains to be done and that component technologies available today have significant shortcomings. The same holds at the level of methodologies, processes, design and implementation languages, and tools.

The successful call for contributions to CBSE 2004 was a strong sign of the growing international attention. Research in academia and industry alike is embracing component software. With a maturing understanding of how components relate to other approaches, such as services and generators, the field is moving into a phase that promises good progress on both fundamental and practical issues. The broad range of topics covered by the authors of the accepted papers is a clear indication. From fundamental concerns of correctness and extrafunctional properties of composition to the architectural embedding of components, to methods and processes, and to the implications of using commercial off-the-shelf components – this symposium covers all of these topics.

With a strong and healthy community forming and growing, it was about time for CBSE to move from being a well-attended workshop to being a fully peer-reviewed and published symposium in its own right. This year's contributions inspire us to go that much further in the future. Hence, I am confident that we are seeing but the beginning of what I trust will develop into a successful series of events.

At this point, I would like to thank Ivica Crnkovic for running a smooth and efficient paper reviewing and selection process. Heinz Schmidt, Judy Stafford, and Kurt Wallnau supported the process greatly. I would also like to thank the two invited speakers, Hans Jonkers and Oscar Nierstrasz, who where quick to accept the invitation to speak at the newly shaped CBSE 2004 symposium, for delivering timely and thought-provoking contributions.

March 2004 Clemens Szyperski

Organization

CBSE 2004 was organized by Microsoft Research, USA, Monash University, Australia, Mälardalen University, Sweden, Carnegie Mellon University, USA and Tufts University, USA as an adjunct event to workshops at the 26th International Conference on Software Engineering (ICSE 2004).

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Previous events

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