

Preface

This volume is a documentation of the main results in the research area “Integration of Software Specification Techniques for Applications in Engineering”. On one hand it is based on the Priority Program “Integration von Techniken der Softwarespezifikation für ingenieurwissenschaftliche Anwendungen”, short SoftSpez, of the German Research Council (DFG). On the other hand it contains new contributions of international experts in this research area, some of which were presented at the third international workshop INT 2004 on “Integration of Specification Techniques for Applications in Engineering”. INT 2004 was launched as a satellite event of ETAPS in Barcelona, the “European Joint Conferences on Theory and Practice of Software”.

The Priority Program SoftSpez was initiated by W. Brauer, M. Broy, H. Ehrig, H.J. Kreowski, H. Reichel, and H. Weber concerning different aspects from computer science, and by E. Schnieder and E. Westkämper concerning two main application areas in engineering, namely “Traffic Control Systems” and “Production Automation”. After acceptance of SoftSpez by the German Research Council for the period of 1998–2004 a call for specific projects within this priority program was launched, where 11 projects from about 75 project proposals were accepted for a period of two years. Since 1998 each year the main research proposals and results of the projects have been presented at an annual colloquium of the priority program, and every two years the projects have been evaluated by an independent group of referees appointed by the German Research Council. At this point we would like to thank A. Engelke and G. Sonntag, the responsible officers from the DFG, the group of referees, with chairman W. Brauer, and our colleagues mentioned above for setting up the initial proposal for SoftSpez.

The cooperation between the projects was organized into different subject areas, with several meetings since 1999. In addition to the annual colloquia and the subject area meetings on a national level, also three international workshops were organized by SoftSpez. The workshops INT 2000, 2002, and 2004 were launched in cooperation with the ETAPS conferences in order to present the concepts and results of SoftSpez to the international scientific community and to get feedback from international experts.

The contributions in this volume are organized according to the six different subject areas of SoftSpez, where the coordinators for the subject areas are the coeditors for the corresponding parts of this volume. All papers were carefully reviewed by national and international experts.

In addition to a general introduction to the research area of this volume there are also introductions for each subject area. They present an overview and a short introduction into each paper of the corresponding subject area, including contributions from the projects of SoftSpez and papers from international (non-German) experts in this area.

The organization of the priority program SoftSpez and of the six subject areas was coordinated during the program and for this documentation by the editor and the coeditors of this volume, respectively. For great support we would like to thank the following researchers of the project: M. Bengel, A. Braatz, B. Braatz, R. Geisler, H.M. Hanisch, L. Jansen, G. Juhás, M. Klar, M. Klein, J. Klose, R. Lorenz, G. Saake, Ch. Schaeffer, G. Schellhorn, G. Schröter, R. Slovak, A. Thums, and B. Westphal.

Finally let us thank all national and international reviewers and authors of the papers in this volume and Springer for a smooth publication.

We hope that this volume offers new insights and suggests new research topics and applications in various related areas of computer science and engineering.

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