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Conceptual Modeling

31st International Conference, ER 2012
Florence, Italy, October 15-18, 2012
Proceedings



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Foreword

This volume collects the papers selected for presentation at the 31st International Conference on Conceptual Modeling (ER 2012), held in Florence, Italy, during October 15–18, 2012. The ER International Conference on Conceptual Modeling is one of the top conferences in the area of information systems and database design and it gathers more than 100 well-known researchers from all around the world, involving both university and industrial research teams.

We are proud to present the proceedings of the ER 2012 conference that is a forum to exchange ideas and experiences, and to discuss current research and applications, with major focus on conceptual modeling for computer-supported and networked applications. The topics of interest include research and practice in areas such as theories of concepts and ontologies underlying conceptual modeling, methods and tools for developing and communicating conceptual models, and techniques for transforming conceptual models into effective implementations.

The host city of ER 2012 was Florence, one of the most important and historic cities in Italy, steeped in culture and atmosphere. At the time of Charlemagne, Florence was a university town. Today it includes many specialized institutes and is an international cultural center. Academies, art schools, scientific institutes, and cultural centers all contribute to the city's intense activity. The mingling and the mutual interaction of ancient and modern culture make Florence a magical, suggestive, and inspiring city that can offer modern, efficient, and impressive conference premises.

ER 2012 was the outcome of a joint effort from several sponsoring societies and organizations, plus many individuals including our colleagues, volunteers, and friends. We would like to take this opportunity to express our gratitude for their help and contributions. We would also like to thank all the authors who submitted papers, demos, tutorials, and panels and all the conference participants. We are especially grateful to the ER Steering Committee members for their support in organizing ER 2012, and to the Program Chairs, Committee, and external referees for their relentless work in reviewing submissions with expertise and patience to forge a top-quality scientific program. Many thanks are also due to the Workshop, Panel, Tutorial, Demos, and PhD Symposium Chairs and Committees for their experienced contributions and their support. The Organizing and the Sponsorship Chairs devoted plenty of time to ensure the success of the conference. Last but not least, we express our warm gratitude to Devis Bianchini and Alfio Ferrara, our Publicity Chairs and Conference Webmasters, and to Michele Melchiori, Stefano Montanelli, and Marco Patella, our Registration and Proceeding Chairs, for their excellent and timely job.

July 2012

Valeria De Antonellis
Stefano Rizzi

Preface

Conceptual modeling is a way to represent real-world objects, data, processes, systems and their inter-relationships. The International Conference on Conceptual Modeling is a premier venue for the presentation and exchange of the latest knowledge and cutting-edge research on conceptual modeling. It has been 36 years since Peter Chen's seminal paper on the Entity Relationship (ER) Model appeared in print. It profoundly impacted the world of data modeling and provided the impetus for this conference and its community. Since then the ER model has been used, modified, extended, and applied in many different fields including databases, software, business processes, and information systems. This year, we were pleased to initiate the fourth decade of the Conceptual Modeling conference. Traditionally, this long-lived conference has enabled the meeting and melding of computer science and information systems researchers. The 31st International Conference on Conceptual Modeling was appropriately held in Florence in Italy, the birthplace of the Renaissance movement.

Over the years the conference has attracted the best researchers working in the area of conceptual modeling and 2012 was no exception. This year we received a total of 176 abstracts and 141 full papers. Each paper was reviewed by at least three reviewers and based on these reviews we selected 24 regular papers, 13 short papers, and three poster papers. The acceptance rate for regular papers is 17%, for regular and short papers together it is 26.2%, for all categories it is 29.7%. In keeping with advancements in technology, this year's program reflects contemporary issues relating conceptual modeling to the social and Semantic Web. This year, the organizers decided to promote the PhD Symposium by offering to the three best contributions the opportunity to publish a full paper. Similarly, three additional papers were offered space for a poster. They are all included in this volume. The scientific program included three very interesting keynote talks by Stefano Ceri, Umeshvar Dayal, and Christian Jensen, each of which has a companion paper in these proceedings.

We sincerely thank the 83 members of the Program Committee and the external reviewers who worked very hard and provided thoughtful reviews on time. We also appreciate the diligence of the senior reviewers who facilitated the discussion and provided recommendations for a subset of the submissions. Most importantly, we thank the authors who wrote high-quality research papers and submitted them to ER 2011: without them, the conference would not have existed.

July 2012

Paolo Atzeni
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