

# Lecture Notes in Computer Science

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# Extreme Programming and Agile Processes in Software Engineering

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# Foreword

This book contains most of the papers presented at the 4th International Conference on Extreme Programming and Agile Processes in Software Engineering (XP 2003), held in Genoa, Italy, May 2003.

The XP 200n series of conferences were started in 2000 to promote the exchange of new ideas, research and applications in the emerging field of agile methodologies for software development. Over the years, the conference has become the main world forum for all major advances in this important field.

Also this year the contributions to Agile Methodologies and Extreme Programming were substantial. They demonstrate that the topic is continuing to gain more and more momentum. In spite of some criticism of agile methodologies, everyone agrees that they address some unresolved needs of software practitioners. People still do not know how to develop software on time, with the desired features, and within the given budget!

This volume is divided into several thematic sections, easing reader's navigation through the content. Full papers are presented first, followed by research reports, papers from the Educational Symposium, and papers from the Ph.D. Symposium. The presentations given during three panel sessions held at the conference conclude the book.

The section on *Managing Agile Processes* includes contributions highlighting the sometimes difficult relationship between agile methodologies and management, and includes approaches and suggestions that should facilitate the acceptance of agile methodologies at the different levels of management.

The section on *Methodology Issues* presents papers on general-interest methodological issues, covering topics such as design in agile methodologies, RUP and XP, and dynamic models of the agile software development process.

The section on *Extending Agile Methodologies and XP* deals with applying XP to real-time and embedded systems, and, at a more abstract level, with extending XP toward important software engineering topics such as the CMM and formal methods.

The section on *Methods and Tools* includes papers on agile development and naked objects, and on continuous integration, refactoring, and process support tools.

The section on *Teaching and Introducing Agile Methodologies* reports experiences, studies and guidelines that will be surely useful to those practitioners wishing to adopt agile methodologies.

Three sections on more specific XP and agile development practices follow: *Testing*, *Pair Programming*, and *Other XP Practices*. These papers discuss the state-of-the-art of agile design, programming, and project management techniques. We are confident that they will be of utmost interest to researchers and practitioners.

The section on *Experience Reports* completes the first part of the book, presenting successful experiences on the introduction of agile methodologies in industry.

The next two sections present short papers discussing trials, novel and hot ideas, and research plans. They are divided into *Methods and Tools* and *Experience Reports*. We believe that these short, sharp, easy-to-read papers give a taste of what is really going on in the field of agile methodologies.

The section on the *Extreme Educational Symposium* includes papers and short communications on teaching and learning agile methods presented at this symposium held at XP 2003.

The section on the *Ph.D. Symposium* includes short communications presented by Ph.D. students at this symposium held at XP 2003. They document the work done now by the people who will become the leaders of the discipline in the near future.

The last section documents the three panels that were presented at XP 2003, on the hottest topics related to agile methodologies. It includes position papers by some of the most prominent leaders in the field.

We are grateful to all contributors for their excellent papers and to those members of the Program Committee who participated in the review process.

We thank Jutta Eckstein for organizing the Educational Symposium and reviewing the related papers, Paul Grünbacher for organizing the Ph.D. Symposium, and Steven Fraser for setting up the panels.

We also thank Marco Melis and Katiuscia Mannaro for their contribution to the preparation of these proceedings.

We express our appreciation to the Free University of Bolzano-Bozen, the University of Cagliari, and the University of Genoa. They made the XP 2003 conference possible!

We thank Microsoft (10,000 Euro), ThoughtWorks (5000 Euro), the Agile Alliance (1000 Euro) and eSoftware (1000 Euro) for sponsoring XP 2003.

Special thanks also go to the members of the Organizing Committee, Alberto Sillitti (Chair), Matteo Canessa, Paolo Vernazza, Marco Scotto and Sara Picardi for their essential contributions to the XP 2003 Website management and local organization.

March 2003

Michele Marchesi  
Giancarlo Succi

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