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Software Measurement and Estimation

*Proceedings of the
12th International Workshop
on Software Measurement*

October 7 – 9, 2002, Magdeburg, Germany

Magdeburger Schriften zum Empirischen Software Engineering

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Alain Abran,
Manfred Bundschuh,
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Preface

Software measurement is one of the key technologies in control and management of the software development process. Issues such as the applicability of measures and metrics to software, the efficiency of measurement programs in industry and the theoretical foundations of software engineering have been researched in order to evaluate and improve modern software development approaches like component-based development, object-oriented and agent-based systems, as well as reliable telecommunications systems.

In the tradition of our software measurement research communities, the German Computer Science Interest Group on Software Measurement (GI), the Canadian Interest Group in Software Metrics (CIM) and the Common Software Measurement International Consortium (COSMIC) have all addressed these concerns. This year we involve the communities of the Deutschsprachige Anwendergruppe für Software-Metrik und Aufwandschätzung (DASMA) and the Metrics Association's International Network (MAIN) including their wide background on practical experience.

Initially, research initiatives were directed towards the definition of new software measurement methods and the validation of the methods themselves. This was followed by further investigation into the various practical applications of software measurement. Key findings in the area of software engineering have already been published in:

- * Dumke/Zuse: *Theory and Practice of Software Measurement*, 1994
- * Ebert/Dumke: *Software-Metriken in der Praxis*, 1996
- * Lehner/Dumke/Abran: *Software Metrics - Research and Practice in Software Measurement*, 1997
- * Dumke/Abran: *Software Measurement - Current Trends in Research and Practice*, 1999
- * Dumke/Abran: *New Approaches in Software Measurement*, 2000
- * Dumke/Abran: *Current Trends in Software Measurement*, 2001
- * Dumke/Rombach: *Software-Messung und Bewertung*, 2002
- * Dumke/Bundschuh: *Software-Metriken in der Praxis – Metrikon 2001, 2002*

Our new book includes the proceedings of the 12th International Workshop on Software Measurement (IWSM2002) held in Magdeburg in October, 2002, which constitute a collection of theoretical studies in the field of software measurement and case reports on the application of software metrics in

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companies and universities in Bulgaria, Canada, Finland, Germany, Italy and the United Kingdom.

In the proceedings the problems in metrics applications are discussed, the COSMIC-FFP functional size method is investigated further, and new kinds of measurement for object-oriented and agent-based systems are described. Specific aspects of the software development process (risk analysis, code inspection and dealing with remaining defects, among others) and improvement of the development process itself are also addressed. We conclude with our own exploration of ways to improve the process and a discussion of possible new approaches in software engineering and measurement education.

The book will be of interest to software engineering researchers, as well as to practitioners in the areas of project management and quality improvement programs, for both software maintenance and software development.

We would like to thank the members of the program committee:

Alain Abran, École de Technologie Supérieure Montreal, Canada

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October 2002

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Alain Abran
Manfred Bundschuh
Charles Symons

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