



Proceedings of the  
Third Workshop on Software Evolution  
through Transformations:  
Embracing the Change  
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Preface

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## Preface

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**Abstract:** Transformation-based techniques such as refactoring, model transformation and model-driven development, architectural reconfiguration, etc. are at the heart of many software engineering activities, making it possible to cope with an ever changing environment.

This workshop, held as satellite event of the 3rd International Conference on Graph Transformation (ICGT 2006) in Natal, Rio Grande do Norte, Brazil on 22nd September 2006, provided a forum for discussing these techniques, their formal foundations and applications.

**Keywords:** software evolution, model and program transformation, graph transformation, term rewriting

Since its birth as a discipline in the late 60ies Software Engineering had to cope with the breakdown of many of its original assumptions. Today we know that it is impossible to fix requirements up front, the design of the system is changing while it is being developed, the distinction between design time and run-time is increasingly blurred, a system's architecture will change or degrade while it is in use, and technology will change more rapidly than it is possible to re-implement critical applications.

This recognition of lack of stability in software means that we have to cope with change, rather than defending against it. Processes, methods, languages, and tools have to be geared towards making change possible and cheap.

Transformations of development artifacts like specifications, designs, code, or run-time architectures are at the heart of many software engineering activities. Their systematic specification and implementation are the basis for a wide range of tools, from compilers and refactoring tools to model-driven CASE tools and formal verification environments. The workshop provides a forum for the discussion transformation-based techniques in software evolution.

Papers present in these proceedings cover a range of artifacts and formalisms of transformations, from program to model transformation and from XSLT to term and graph rewriting. They address activities like model-driven development, model and code refactoring, model merging and consistency management, requirements evolution, and run-time evolution of web service processes.

An invited presentation by Michael Löwe addressed the *Refactoring Information Systems* using techniques based on graph transformation and category theory. The final discussion focused on the pros and cons of graph- and tree-based models for the transformation of programs, which are not obviously graphical in structure.



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