Background

Research in software evolution and evolvability has been thriving over the past few years, with a stream of new formalisms, tools, techniques, and development methodologies. On the one hand, these new techniques aim to facilitate the way long-lived successful software systems can be changed in order to cope with demands from users as well as the increasing complexity and volatility of the contexts in which such systems operate. On the other hand, they aim to understand and, if possible, control the processes by which demand for these changes come about.

Besides facilitating changes to software systems, researchers have also increasingly been looking at the past evolution of systems, in order to understand that history and to learn lessons for their future evolution. Due to the size of historical repositories and the complexity of current software systems, much of the research and practice in software evolution is supported or driven by tools that automate various processes, like management of software versions, mining source code and bug repositories, and detecting bad smells to guide refactoring opportunities, among many other processes. Co-locating this workshop with ASE brings the software evolution and the automated software engineering communities together for a mutual benefit: both communities have lots of tools and domains of application to offer each other.

This workshop is a merger of the ERCIM Workshops on Software Evolution and the IEEE International Workshops on Software Evolvability, each series looking back on three successful events. The two workshop series thus complement each other and this led to the merger and to the theme stated next.

Theme and Topics

This year’s workshop theme is “bridging boundaries”. Examples of boundaries to be bridged are:

- **Academia and industry**: How can academic research in software evolution become more accepted by industry and how can industry contribute to academic research?
- **Theory and practice**: How can insights gained from empirical studies and theoretical research impact on software development tools, techniques and methodologies, and vice-versa?
- **Intangible and tangible**: Can evolutionary theories, concepts and measurement techniques developed in science and engineering for the evolution of man-made objects and in the natural world (decay of materials, evolutionary biology, virus epidemics, etc.) be adapted to the evolution of an intangible man-made artifact like software?

The topics discussed at the workshop fall into the following categories.

- **Application areas**: distributed, embedded, real-time, ultra large scale, and self-adaptive systems,
• **Paradigms:** support and barriers to evolution in aspect-oriented, agile, component-based, and model-driven software development, service-oriented architectures, etc.

• **Technical aspects:** co-evolution and inconsistency management of various software artifacts, impact analysis and change propagation, dynamic reconfiguration and updating, architectures and notations for evolvability, etc.

• **Managerial aspects:** effort estimation and risk analysis for software evolution, processes explicitly supporting evolvability, etc.

• **Empirical studies**

• **Industrial experience**

• **Interdisciplinary approaches:** adaptation of evolutionary concepts and measures from other disciplines (biology, geology, etc.) to software evolution.

• **Theories and models** of system evolution processes.

### Goal of the workshop

The wide range of the theme and topics within the scope of the workshop aims to attract academic and industrial participants interested in the theoretical, technological or managerial aspects of software evolution. Moreover, participants outside the software engineering discipline but with an interest in evolution are most welcome.

The goal is to bring together a diverse spectrum of participants, working on different activities of and different approaches to software evolution and evolvability, in order to discuss how different 'sub-fields' of research and practice can learn from each other.

Towards that goal, and besides the range of topics suggested, three types of paper were solicited and submitted to the workshop:

• position papers can present wild and speculative ideas, and were judged on the potential to generate interesting discussions at the workshop;

• tool papers describe academic, not commercial, tools; and

• research papers describe original research.

Given the scope of the host conference, authors were asked to present concepts, techniques or methodologies that are automated or amenable to automation.

Following the selection of revised versions of the best papers of 2006 and 2007 for *IET Proceedings Software* and the peer-reviewed open access journal *Electronic Communications of the EASST*, the publication of a special journal issue dedicated to Evol’08 is under consideration. The workshop’s website (http://evol08.inria.fr) will provide more details.

### Program Committee

The program committee is composed of the following members. The organizers are grateful to them for their reviewing efforts.

- Giuliano Antoniol, Montreal Polytechnic, Canada.
- Mikio Ayoama, Nanzan U., Japan.
- Jesús González-Barahona, U. Rey Juan Carlos, Spain.
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- Vaclav Rajlich, Wayne State U., USA.
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- Terry van Belle, Google, USA.