Call for Papers: Special Issue on "Automated Software Evolution"


Objectives
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Some software communities already benefit the automation of a subset of central tasks: for example, programming teams are relying more and more on automated testing, when using test-driven development, especially regression testing, when a well-developed test suite of testing scripts is composed. Other communities have benefited for several years of measures to automatically detect quality of a requirements specification document, in order to write the right requirements from the early start of a project.

Software maintenance and evolution present similar challenges: companies, governments, and Open Source communities spend a great deal of resources on a continual basis to fix, adapt, and enhance their software systems. The ability to evolve software rapidly and reliably; and the ability to automatically propose possible paths of evolution and enhancements, or discover maintenance activities, represent major challenges for software engineering.

Topics
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We seek submissions on applications of research results, practical experiences, success stories, and lessons learned related to the automation of activities related to software evolution. These papers should offer practical and reliable insights that have been derived from, or that can be applied to, real-world software-intensive systems. Possible types of contributions include but are not limited to

- articles presenting novel and strong contributions to the automatic parsing of data for the evolution and maintenance of software projects;
- articles describing state-of-the-art methods, models, and tools, supporting or improving the automation of software evolution and maintenance (with evidence of use and study of practical impact) or bridging the gap between practice and research;
- empirical studies in the field, addressing one or many human, technical, social, and economic issues of how to automate software evolution through qualitative and/or quantitative analyses; and
- industrial experiences, including good practices and lessons learned on automating the activities of software evolution or maintenance in specific contexts or domains.

Example contributions include the following:
- presentation of a tool or technique to automate (some of the) software change activities;
- automatic evaluation of code, design, and architecture quality during software evolution and ways to prevent their decay and erosion;
- economic models to assess software evolution research results and/or practices and to support the planning and management of software evolution;
- automatic assessment (and forecasting) of impact of software changes, in particular refactorings and restructurings during software evolution.
Submission Information

All manuscripts and any supplementary material should be submitted via the journal's online submission and peer-review systems at http://ees.elsevier.com/jss. Follow the submission instructions given on this site. Please select the article type as “SPECIAL ISSUE: Automated Software Evolution”. Abstracts should be emailed to the guest editors, a week before the full manuscript submissions deadline. All manuscripts should be compliant with the journal's submission guidelines for special issues. Please refer to the following site: http://www.elsevier.com/wps/find/journaldescription.cws_home/505732/authorinstructions

Manuscripts must not have been published previously or be currently under consideration for publication in any other journals or conferences. Significant extensions to substantive papers published in conferences are also welcome, provided that the editors are made aware of the previous publications.

Important Dates

Deadline for Submissions: 30 November 2010
Publication of issue: Expected Spring 2011 (subject to JSS editorial calendar).

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