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Important Dates:
Paper submission: **31 March 2011**
Extended to 30 April 2011
Final notification: 31 August 2011
Expected publication: Spring 2012

Submission Guidelines:
All manuscripts and any supplementary material should be submitted through Elsevier Editorial System. The authors must select "Special Issue: Self-Adaptive Systems" when they reach the "Article Type" step in the submission process. The Elsevier Editorial System website is located at http://www.elsevier.com/locate/jss/.

Submission format:
Submitted papers must be written in English and describe original research, which is not published nor currently under review by other journals or conferences. Author guidelines can be found at http://www.elsevier.com/locate/jss/. For more information, please contact the Guest-Editors or the Editor-in-Chief, Hans van Vliet (hans@cs.vu.nl).

CALL FOR PAPERS

Special Issue of the Journal of Systems and Software on

"State of the Art in Self-Adaptive Software Systems"

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Submission deadline extended until April 30, 2011

Scope:

Modern software systems have to operate under highly dynamic and unpredictable operating conditions. User needs may change dynamically, availability of resources may vary, subsystems may come and go at runtime, etc. To deal with such dynamics, systems must be self-adaptive, i.e. they must be able to adapt themselves at runtime to optimize performance, protect from intrusions, heal from failures, etc. During the last decade, multiple approaches have been proposed to engineer self-adaptive systems. From these efforts, we learned that the construction of self-adaptive systems is significantly more challenging than traditional systems.

The aim of this special issue is to provide an overview of the state of the art in the field of self-adaptive software systems and outline the challenges for future research. We invite quality submissions focusing on all aspects of self-adaptation, with an emphasis on the engineering of self-adaptive software systems. Topics of interest include, but are not restricted to:

- models and theories for self-adaptation
- formal methods for self-adaptive systems
- architectural styles and patterns for self-adaptive systems
- control loops and reflective architectures for self-adaptation
- quality of service concerns in self-adaptive systems
- mechanisms that support monitoring, analysis, planning, and execution phases of self-adaptation
- dealing with uncertainty in self-adaptive systems
- self-adaptation versus self-organization
- verification of self-adaptive systems, incl. runtime verification
- methods for engineering self-adaptive systems
- evolution of self-adaptive systems
- case studies and empirical experiments involving self-adaption
- validation of self-adaptation
- application of self-adaptation techniques in industrial and real world settings
- self-adaptation in component-based system
- self-adaptation in service-oriented systems
- agent-based approaches to self-adaptation
- aspect-oriented approaches to self-adaptation
- self-adaptation in pervasive and mobile systems
- application of principles from biology, sociology, and physics to engineer self-adaptive systems

All articles should consider the practical application of the idea through case studies, experiments, empirical validation, or systematic comparisons with other approaches already in practice.