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Self-Sustaining Systems

First Workshop, S3 2008

Potsdam, Germany, May 15-16, 2008

Revised Selected Papers



Springer

Volume Editors

Robert Hirschfeld
Hasso-Plattner-Institut
Prof.-Dr.-Helmert-Straße 2-3, 14482 Potsdam, Germany
E-mail: hirschfeld@hpi.uni-potsdam.de

Kim Rose
Viewpoints Research Institute
1209 Grand Central Avenue, Glendale, CA 91201, USA
E-mail: kim.rose@vpri.org

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Preface

The Workshop on Self-sustaining Systems (S3) is a forum for the discussion of topics relating to computer systems and languages that are able to bootstrap, implement, modify, and maintain themselves. One property of these systems is that their implementation is based on small but powerful abstractions; examples include (amongst others) Squeak/Smalltalk, COLA, Klein/Self, PyPy/Python, Rubinius/Ruby, and Lisp. Such systems are the engines of their own replacement, giving researchers and developers great power to experiment with, and explore future directions from within, their own small language kernels.

S3 took place on May 15–16, 2008 at the Hasso-Plattner-Institute (HPI) in Potsdam, Germany. It was an exciting opportunity for researchers and practitioners interested in self-sustaining systems to meet and share their knowledge, experience, and ideas for future research and development. S3 provided an opportunity for a community to gather and discuss the need for self-sustainability in software systems, and to share and explore thoughts on why such systems are needed and how they can be created and deployed. Analogies were made, for example, with evolutionary cycles, and with urban design and the subsequent inevitable socially-driven change.

The S3 participants left with a greater sense of community and an enthusiasm for probing more deeply into this subject. We see the need for self-sustaining systems becoming critical not only to the developer’s community, but to end-users in business, academia, learning and play, and so we hope that this S3 workshop will become the first of many.

We would like to thank our invited speakers for their insightful and provocative talks, our presenters for their technical contributions, our members of the program committee for their constructive reviews, all participants for their interest, and the local organizers for their exemplary support.

June 2008

Robert Hirschfeld
Kim Rose

Organization

The Workshop on Self-sustaining Systems (S3) 2008 was organized by the Software Architecture Group of the Hasso-Plattner-Institute (HPI) at the University of Potsdam, Germany, and the Viewpoints Research Institute (VPRI), California, USA.

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Table of Contents

Invited Talks

Open, Extensible Object Models	1
<i>Ian Piumarta and Alessandro Warth</i>	
The Lively Kernel: A Self-supporting System on a Web Page	31
<i>Daniel Ingalls, Krzysztof Palacz, Stephen Uhler, Antero Taivalsaari, and Tommi Mikkonen</i>	
On Sustaining Self	51
<i>Richard P. Gabriel</i>	

Research Papers

Huemul – A Smalltalk Implementation	54
<i>Guillermo Adrián Molina</i>	
SBCL: A Sanely-Bootstrappable Common Lisp	74
<i>Christophe Rhodes</i>	
Reflection for the Masses	87
<i>Charlotte Herzeel, Pascal Costanza, and Theo D’Hondt</i>	
Back to the Future in One Week—Implementing a Smalltalk VM in PyPy	123
<i>Carl Friedrich Bolz, Adrian Kuhn, Adrian Lienhard, Nicholas D. Matsakis, Oscar Nierstrasz, Lukas Renggli, Armin Rigo, and Toon Verwaest</i>	
Are Bytecodes an Atavism?	140
<i>Theo D’Hondt</i>	
Author Index	157