

Workshop on Managed Software Evolution

WMSE-SPP1593-2013

February 28 – March 1, 2013
GI-SE Conference 2013, Aachen

In this workshop the subprojects and common case studies of the *DFG Priority Programme 1593* (SPP1593) are presented to the community for the first time. The approaches of our subprojects and their applications are illustrated on posters. Furthermore, we have invited speakers from science and industry. In a separate session, short tutorials about platforms, methods, and tools are offered to the subprojects. These tutorials are also very interesting for external visitors. The objectives of our workshop are:

- Networking inside of the SPP1593
- Exploit internal and external synergies
- Discuss early results from joint work on case studies
- Explore platforms, methods, and tools for joint work

Program Overview:

- Poster session concerning the SPP1593 subprojects
- Two invited talks from science and industry
- Talk about results of the first SPP1593 workshop
- Two talks about case studies and evolution scenarios
- Four short tutorials on platforms, methods, and tools

This workshop is co-located to the 5th *Workshop Design for Future - Langlebige Softwaresysteme* of GI AK L2S2.

Thursday, February 28

Associated Keynotes in the Main Programme of SE'13

8:30 am – 10:00 am, **Room Fo 2**

B. Vogel-Heuser: *Automatisierungstechnik & Softwaretechnik*

U. Goltz: *Design for Future: Das DFG-Schwerpunktprogramm für langlebige Softwaresysteme*

10:00 am – 10:30 am

COFFEE BREAK

Workshop Programme Day 1

10:45 am – 11:15 am, **Room Fo 6**

U. Goltz: *Opening and Organisational Issues*

11:15 am – 12:30 pm, **Room Fo 6**

M. Goedicke, W. Hasselbring: *Guiding Themes revised*

12:30 pm – 1:30 pm, **e.g., Pontviertel***

LUNCH BREAK (self-payd)

1:30 pm – 2:30 pm, **Room Fo 6**

G. Kappel (TU Vienna): Scientific Keynote: *Transforming the Change – The Model-driven Way of Managed Software Evolution*

2:30 pm – 3:00 pm, **Room Fo 6**

B. Vogel-Heuser: *Scenarios for Evolution in the Case Study from Production Systems in Automation Engineering Domain*

3:00 pm – 3:30 pm, **Room Fo 6**

R. Reussner: *Scenarios for Evolution in the Case Study from Information Systems Domain*

3:30 pm – 4:00 pm

Poster Session and *COFFEE BREAK*

4:00 pm – 5:00 pm, **Room Fo 6**

H. Koziol (ABB AG): Industrial Keynote: *Evolving an Industrial Software System for 30 Years*

Social Programme

5:30 pm – 7:00 pm, **City**

Sightseeing and Organ Concert in Dome or Guided City Tour

7:30 pm, **Krönungssaal, Town Hall**

Conference Dinner (self-payd)

* A broad variety of gastronomy close to the conference location, further information at <http://www.pontviertel.com>.

Friday, March 1

Programme of the co-located Workshop of GI AK L2S2

8:30 am – 1:00 pm, **Room Fo 6**
Scientific and industrial Talks

Closing Session in the Main Programme of SE'13

1:00 pm, **Room Fo 2**
S. Kowalewski, B. Rumpe: *Closing Session*

Workshop Programme Day 2

1:30 pm – 2:15 pm
Short Tutorials Pt. 1
Room Fo 6 **Room SFo 3**
W. Hasselbring, R. Jung: T. Hesse, T. Röhm:
Kieker *UNICASE*

2:15 pm – 3:00 pm
Short Tutorials Pt. 2
Room Fo 6 **Room SFo 3**
T. Kehrer: R. Reussner, P. Merkle:
Henshin and SiDiff *Palladio*

Short Tutorials

W. Hasselbring, R. Jung: *Monitoring with Kieker*

The Kieker framework provides monitoring capabilities and comes with tools and libraries for the analysis and visualization of monitored data. Kieker was designed for continuous monitoring in production systems inducing only a very low overhead, which has been evaluated in extensive experiments.
<http://kieker-monitoring.net>

T. Hesse, T. Röhm: *UNICASE*

UNICASE is an Eclipse-based open source CASE tool supporting knowledge documentation and use in software projects. It supports project management (create work items or plan meetings) as well as the development activities (document requirements or design the system). UNICASE integrates the Papyrus editor for UML diagrams and provides version control via EMFStore, enabling the distributed use of all knowledge for all team members.
<https://teambruegge.informatik.tu-muenchen.de/groups/unicase>

T. Kehrer: *Henshin and SiDiff: Specifying and Recognizing Model Changes Based on Edit Operations*

The first part of the tutorial introduces the model transformation system Henshin. We show some of the basic concepts of the Henshin transformation language and tool environment by means of selected edit rules for Ecore class models. The second part of the tutorial is dedicated to the recognition of the edit operations that have been applied to our example models. We introduce the SiDiff model comparison framework and show some basic configuration options to adapt the differencing engine to dedicated modelling languages and user-specific preferences.

<http://www.eclipse.org/modeling/emft/henshin>

<http://sidiff.org>

R. Reussner, P. Merkle: *Palladio*

Palladio is a simulator for software architectures, an ADL and an approach for modelling component-based software. The architecture simulator predicts performance and reliability metrics for a certain class of software systems. In this presentation we talk about usage scenarios, modelling constructs and some internal algorithms of the Palladio architecture simulator. In the demonstration of the tool we show a usage scenario where response times, resource utilisation and scalability of an exemplary system are predicted. Also we present how to model this system.

<http://www.palladio-simulator.com>

Keynotes

G. Kappel (TU Vienna): *Transforming the Change – The Model-driven Way of Managed Software Evolution*

The talk will survey model transformation techniques coping with evolution and co-evolution problems in the software development life cycle.

Gerti Kappel is a full professor at the Institute of Software Technology and Interactive Systems at the Vienna University of Technology, chairing the Business Informatics Group. She is head of the Doctoral College “Adaptive Distributed Systems”, funded by Vienna University of Technology. Her current research interests include Model Engineering (model transformation/versioning/evolution, model-driven software development, object-oriented modeling), Web Engineering (ubiquitous Web technologies, context awareness, information integration, model-driven development), and Process Engineering (process modeling, inter-organizational systems, workflow systems).

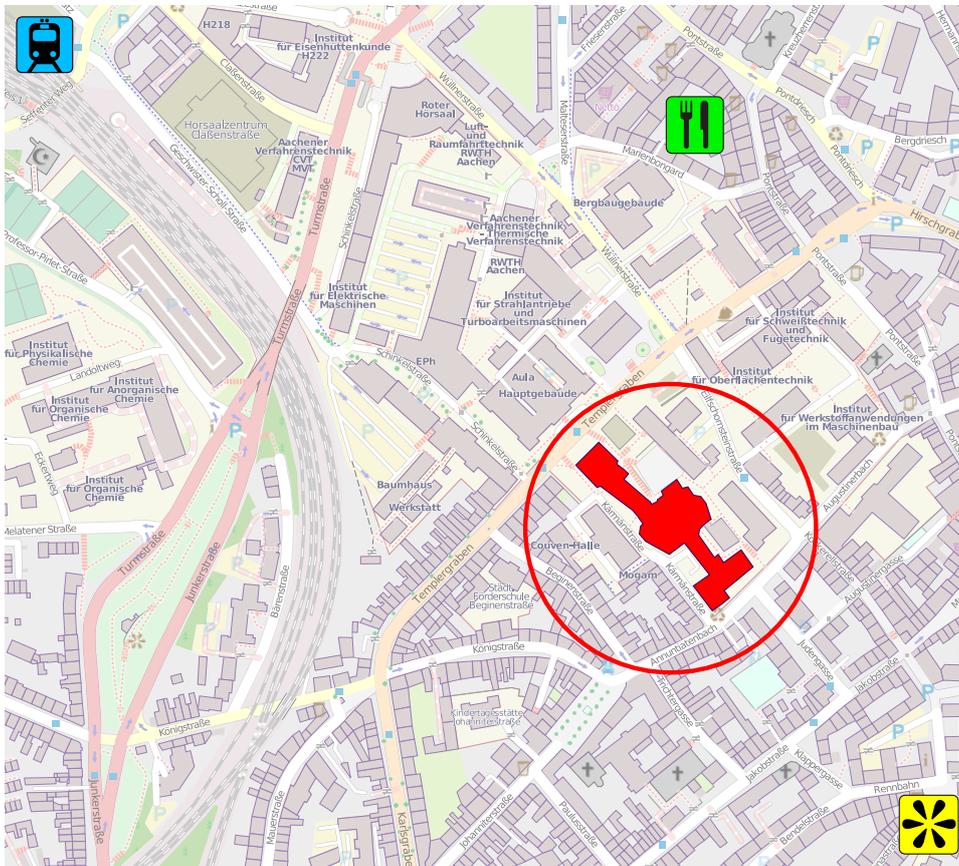
H. Koziolk (ABB AG): *Evolving an Industrial Software System for 30 Years*

Long-living software systems are a necessity in the industrial automation domain, where automation devices are typically operated for decades. Thus, it is a major challenge to design, implement, and maintain such software-intensive systems. This

talk presents the case of an industrial control system called MicroSCADA, which has an evolution history of already more than 30 years. We analyze several technical and organizational factors that contributed to the successful evolution of the system since the 1980s. By this, the talk argues for more empirical research in the area of long-living software systems. The talk concludes with an overview of some recent approaches for sustainable software architectures at ABB Corporate Research.

Location

Kármán-Auditorium, Eilfschornsteinstr. 15, 52062 Aachen



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Further information in the programme of SE'13 or online at <http://www.se2013.rwth-aachen.de/anreise>.

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Organisation

- SPP1593 Coordination Board
- Prof. Dr. Ursula Goltz
- Lukas Märtin

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