

The 15th Workshop on Domain-Specific Modeling

<http://www.dsmforum.org/events/DSM15>

SPLASH
27 October 2015
Pittsburgh, Pennsylvania



Objectives

- Share new insights and observations
- Identify new areas of DSM research and practice needs
- Intensive collaborative sessions
- Attempt to discuss, share and solve challenging problems
- See others' work, DSM languages, tools etc.
- Have something to report to the community
- Have fun!

About past workshops

- BOF at OOPSLA'00
- First DSVL workshop at OOPSLA'01
- ...



- 14th DSM workshop at SPLASH'14

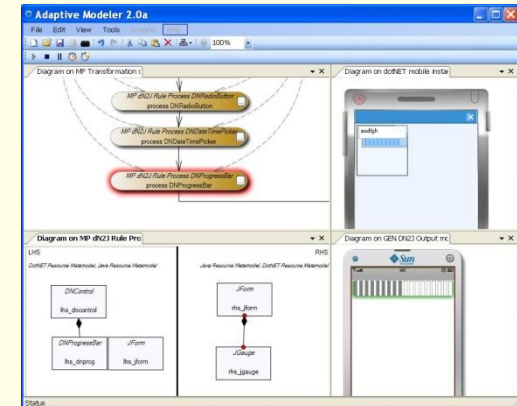
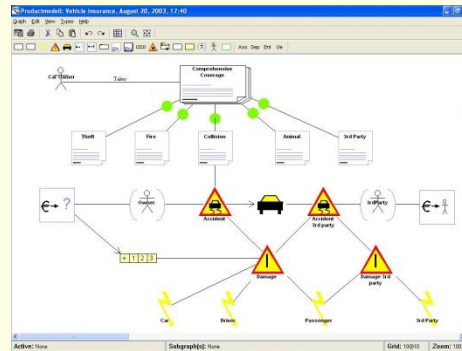
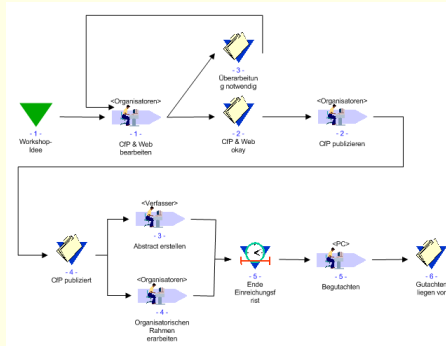
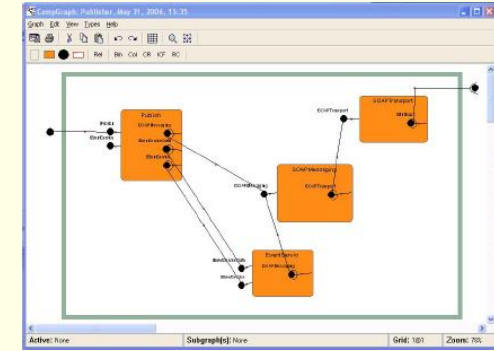
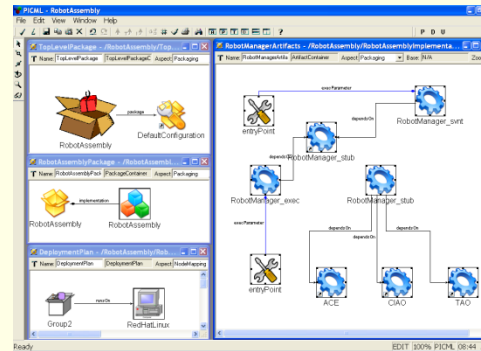
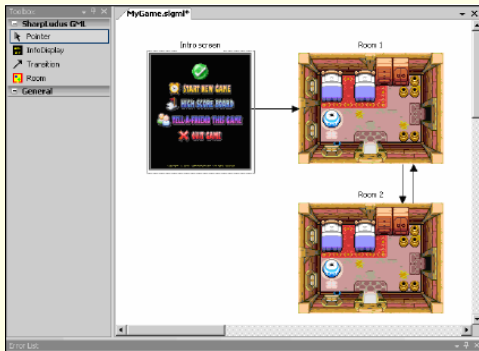
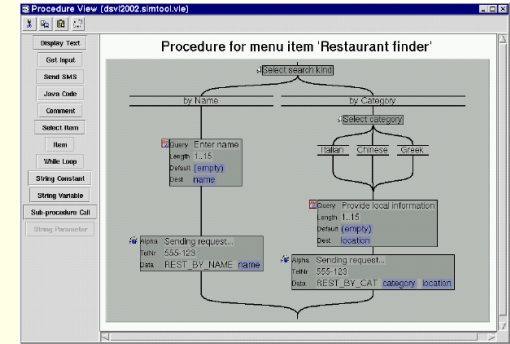
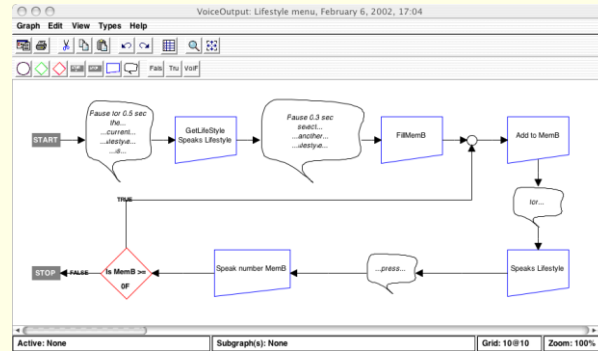
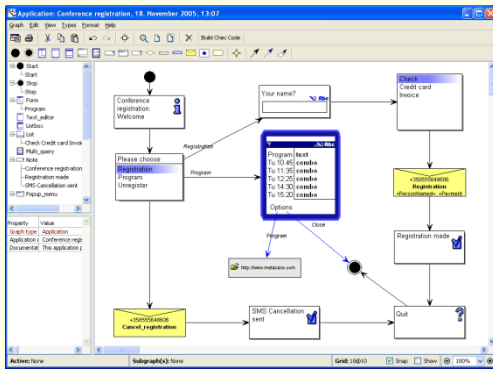


- Special issues on Domain-Specific Modeling
 - Journal of Visual Languages and Computing, Vol. 15., 3-4, 2004
 - IEEE Software, Jul/Aug, 2009
 - Software and Systems Modeling, Vol. 13(1), January 2014

What is Domain-Specific Modeling

- Captures domain knowledge (as opposed to code)
 - Uses domain abstractions
 - Applies domain concepts and rules as modeling constructs
 - Narrow down the design space
 - Focus on single range of products
- Lets developers design products using domain terms
 - ➔ Apply familiar terminology
 - ➔ Solve the RIGHT problems!
 - ➔ Solve problems only ONCE!
- Often aims at generation of full production code

Some demonstrated languages



About submissions and review

- 17 submissions
- 43 authors
- 9 countries
- 3 reviews/paper
- 12 accepted
(including 2
demo papers)

Program Committee

- Ankica Barisic, Universidade Nova de Lisboa, PT
- Christian Berger, University of Gothenburg, SE
- Filipe Correia, Universidade do Porto, PT
- Davide Di Ruscio, Università degli Studi dell'Aquila, IT
- Michalis Famelis, University of Toronto, CA
- Oystein Haugen, Østfold University College, NO
- Steven Kelly, MetaCase, FI
- Thomas Kuehne, Victoria University of Wellington, NZ
- Tanja Mayerhofer, Vienna University of Technology, AT
- Bernhard Rumpe, RWTH Aachen University, DE
- Kari Smolander, Lappeenranta University of Technology, FI
- Yu Sun, Cal Poly Pomona, US
- Naoyasu Ubayashi, Kyushu University, JA
- Timo Wegeler, independent, DE

Schedule and format

- 08:30 – Overview and introductions
- 09:00 – Paper presentations:
 - Language Engineering Experiences
 - Code Generation
- 10:00 – *Break*
- 10:30 – Paper presentations:
 - Code Generation
 - Language Evolution and Reuse
- 12:00 – *Group Photo and Lunch*
- 13:30 – Paper presentations:
 - Language Engineering Perspectives
- 14:30 – Group work topic selection, group work begins
- 15:00 – *Break*
- 15:30 – Group work continues
- 16:50 – Group work reporting and discussion
- 17:00 – Wrap-up and closing

Publishing results

■ Workshop web-site

- www.dsmforum.org/events/DSM15
- Papers and Presentations
- Workgroup results
- Photos

■ Twitter: #dsm15

■ ACM DL

- Post-proceedings, instructions coming in a few weeks

Schedule

- 08:30 **Introduction**
- 08:50-10:00 **Chaired by Jeff Gray/Sprinkle**
 - **Break**
- 10:30-12:00 **Chaired by Jonathan Sprinkle/Gray**
 - **Lunch**
- 13:30-14:30 **Chaired by Jonathan Sprinkle**
 - **Kick off group work**
- 15:00-16:50 **Group Work**
- 16:50 **Wrap up and reporting**

Program 1/4: Language Engineering Experiences

Session Chair: Jeff Gray

- 08:50 **Domain-Specific Modelling for Clinical Research**
 - Jim Davies, Jeremy Gibbons, Adam Milward, David Milward, Seyyed Shah, Monika Solanki and James Welch
- 09:05 **CHARIOT: A Domain Specific Language for Extensible Cyber-Physical Systems**
 - Subhav Pradhan, Abhishek Dubey, Aniruddha Gokhale and Martin Lehofer
- 09:25 **Experience Report: Constraint-Based Modeling of Autonomous Vehicle Trajectories**
 - Kennon McKeever, Yegeta Zeleke, Matt Bunting and Jonathan Sprinkle

Program 2/4: Code Generation

Session Chair: Jonathan Sprinkle

- 09:40 **Adaptable Symbol Table Management by Meta Modeling and Generation of Symbol Table Infrastructures**
 - Katrin Hölldobler, Pedram Mir Seyed Nazari and Bernhard Rumpe
- 10:00 **Break**
- 10:30 **Automating Engineering with a Domain-Specific Language and a Code Generator**
 - Al Niessner, Oh-Ig Kwoun, Belinda Randolph and Honghanh Nguyen
- 10:50 **Management of Guided and Unguided Code Generator Customizations by Using a Symbol Table**
 - Pedram Mir Seyed Nazari, Alexander Roth and Bernhard Rumpe
- 11:10 **Mixed Generative and Handcoded Development of Adaptable data-centric Business Applications (demo)**
 - Pedram Mir Seyed Nazari, Alexander Roth and Bernhard Rumpe

Program 3/4: Language evolution and reuse

Session Chair: Jeff Gray

- 11:25 **Reusing Legacy DSLs with Melange (demo)**
 - Thomas Degueule, Benoit Combemale, Arnaud Blouin and Olivier Barais
- 10:30 **Supporting Users to Manage Breaking and Unresolvable Changes in Coupled Evolution**
 - Juri Di Rocco, Davide Di Ruscio, Ludovico Iovino and Alfonso Pierantonio
- 12:00 **Lunch**

Program 4/4: Language engineering perspectives

Session Chair: Jonathan Sprinkle

- 13:30 **Towards Improving Software Security using Language Engineering and mbeddr C**
 - Markus Voelter, Zaur Molotnikov and Bernd Kolb
- 13:50 **Extensible Visual Constraint Language**
 - Brian Broll and Akos Ledeczi
- 14:10 **Systematic Evaluation of Three Data Marshalling Approaches for Distributed Software Systems**
 - Hugo Andrade, Federico Giaimo, Christian Berger and Ivica Crnkovic

Introductions

- Please take 10-15 seconds, and say a few words about yourself, and where you're from
- Keep it short!