The 15\textsuperscript{th} 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
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

The 15th Workshop on Domain-Specific Modeling (DSM’15)
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

The 15th Workshop on Domain-Specific Modeling (DSM’15)
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!