

GEMOC 2015

3rd International Workshop on

The Globalization of Modeling Languages

September 28th, 2015 – Ottawa, Canada

Organizers: Benoit Combemale, Julien DeAntoni and Jeff Gray

<http://gemoc.org/gemoc2015>



The GEMOC Initiative

An open initiative to

- coordinate (between members)
- disseminate (on behalf the members)

worldwide R&D efforts on the globalization of modeling languages

Website: <http://gemoc.org>

Twitter: @gemocinitiative

Studio: <http://gemoc.org/studio>

The GEMOC Initiative

Challenge:

- DSMLs are developed in an independent manner to meet the specific needs of domain experts,
- DSMLs should also have an associated framework that regulates interactions needed to support collaboration and work coordination across different system domains.



Benoit Combemale, Julien DeAntoni, Benoit Baudry, Robert B. France, Jean-Marc Jezequel, Jeff Gray, "Globalizing Modeling Languages," *Computer*, vol. 47, no. 6, pp. 68-71, June, 2014

The GEMOC Initiative

*Supporting **coordinated use of modeling languages** leads to what we call the **globalization of modeling languages**, that is, the use of multiple modeling languages to support coordinated development of diverse aspects of a system.*



Benoit Combemale, Julien DeAntoni, Benoit Baudry, Robert B. France, Jean-Marc Jezequel, Jeff Gray, "Globalizing Modeling Languages," Computer, vol. 47, no. 6, pp. 68-71, June, 2014

The GEMOC Initiative

- Context: new emerging DSML in open world
 - ⇒ impossible *a priori* unification
 - ⇒ require *a posteriori* globalization
- Objective: socio-technical coordination to support interactions across different system aspects
 - ⇒ Language-based support for technical integration of multiples domains
 - ⇒ Language-based support for social translucence
- Problem: relationships among heterogeneous languages must be established (incl., data, control and time concerns)



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The GEMOC Initiative

Globalizing Domain-Specific Languages

The development of modern complex software-intensive systems often involves the use of multiple DSMLs that capture different system aspects. Supporting coordinated use of DSMLs leads to what we call the globalization of modeling languages, that is, the use of multiple modeling languages to support coordinated development of diverse aspects of a system.

In this book, a number of articles describe the vision and the way globalized DSMLs currently assist integrated DSML support teams working on systems that span many domains and concerns to determine how their work on a particular aspect influences work on other aspects.

Globalized DSMLs offer support for communicating relevant information, and for coordinating development activities and associated technologies within and across teams, in addition to providing support for imposing control over development artifacts produced by multiple teams.

DSMLs can be used to support socio-technical coordination by providing the means for stakeholders to bridge the gap between how they perceive a problem and its solution, and the programming technologies used to implement a solution. They also support coordination of work across multiple teams. DSMLs developed in an independent manner to meet the specific needs of domain experts have an associated framework that regulates interactions needed to support collaboration and work coordination across different system domains.

The articles in the book describe how multiple heterogeneous modeling languages (or DSMLs) can be related to determine how different aspects of a system influence each other. The book includes a research roadmap that broadens the current DSML research focus beyond the development of independent DSMLs to one that provides support for globalized DSMLs.

Betty H.C. Cheng · Benoit Combemale
Robert B. France · Jean-Marc Jézéquel
Bernhard Rumpe (Eds.)

State-of-the-Art
Survey

LNCS 9400

International Dagstuhl Seminar, Dagstuhl Castle
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Globalizing Domain-Specific Languages

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The GEMOC Studio

- An eclipse package that contains components supporting the GEMOC methodology for building and composing executable Domain-Specific Modeling Languages (DSMLs)
 - The GEMOC Language Workbench: *Melange, MoCCML, GEL, BCOOL and Sirius Animator*
 - The GEMOC Modeling Workbench: *execution engine (incl., concurrency), a trace manager, a model animator and omniscient debugger*
- Add-ons mechanism to add your own features

The GEMOC Initiative

Tribute to Robert B. France

(founding member of the GEMOC initiative)

<http://people.irisa.fr/Benoit.Combemale/tribute-robert-france/>

<http://dl.acm.org/authorize.cfm?key=N93709>

<http://www.sosym.org/editorials/files/CGG+15.pdf>

GEMOC'15: Overview

- **A workshop co-located with MODELS**
- **Call for papers *and models***
 - Papers: <http://gemoc.org/gemoc2015/#program>
 - Models: <http://www.cs.colostate.edu/remodd>
- **1 keynote**
- **3 paper presentations**
- **1 discussion for looking at the past, present and future of the initiative.**
- **Supported by**
 - The GEMOC initiative (see <http://gemoc.org>)
 - The ReMoDD Initiative (see <http://www.cs.colostate.edu/remodd>)

GEMOC'15: Overview

- **Statistics**

- 6 final submissions (8 abstract submissions)
- 3 papers have been finally accepted
 - Excellent fit of the scope
 - Complementarily with the 1st and 2nd editions
- Acceptance rate: ~50%

- **Proceedings**

- All accepted papers
- Published on CEUR (soon!): joint proceedings with MPM'15

GEMOC'15: PC Members

- Cédric Brun
 - Marsha Chechik
 - Tony Clark
 - Jean-Marc Jézéquel
 - Gabor Karsai
 - Ralf Laemmel
 - Marjan Mernik
 - Gunter Mussbacher
 - Richard Paige
 - Bernhard Rumpe
 - Matthias Schöttle
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 - Eric Van Wyk
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Univ. of Maribor, Slovenia
McGill, Canada
University of York, UK
RWTH Aachen Univ., Germany
McGill University
TU/e, The Netherlands
University of Minnesota, USA
Independent, Germany

GEMOC'15: Program

- **09:00 – 09:15: Welcome and Introduction**
- **09:15 – 10:30: Keynote by Bran Selic (chair: Jeff Gray)**
- *10:30 – 11:00: coffee break*
- **11:00 – 12:30: Paper presentations (chair: Julien DeAntoni)**
 - Programming against Multi-Version Metamodels: A Model Differencing and Virtualization Approach (*Robert Bill and Manuel Wimmer*)
 - Towards a formal semantics of the TESL specification language (*Hai Nguyen Van, Thibaut Balabonski, Frédéric Boulanger, Safouan Taha, Benoît Valiron, Burkhart Wolff, and Lina Ye*)
 - Property-Based Methods for Collaborative Model Development (*Marsha Chechik, Fabiano Dalpiaz, Csaba Debrececi, Jennifer Horkoff, Istvan Rath, Rick Salay, and Daniel Varro*)
- *12:30 – 14:00: lunch*
- **14:00 – 15:30: Looking at the past and present of the initiative**
- *15:30 – 16:00: coffee break*
- **16:00 – 17:00: Looking at the future of the initiative**

Let's welcome our keynote speaker...

GEMOC'15: Keynote

“Seeking Meaningful Relationships: A Challenge”

by Bran Selic