

Call for Cases: Transformation Tool Contest 2011

End of June, 2011

Satellite workshop to TOOLS 2011, Zürich, Switzerland.

1 Scope: Why people who have never heard of transformation tools should also submit cases

Today models are used in a wide range of application domains from biology to logistics, from geographic information systems to finance, and, of course, also in software engineering.

With more and more models, the requirement naturally arises to transform (i.e. convert) models into other models. As an example, consider a tool that requires its input data in a particular form, but the actual data is only available in another form. Another popular use case of model transformation is the simulation of dynamic systems. Here, the model evolves by successively applying certain rules. For instance, using state-of-the-art transformation tools, problems such as the intra-cellular synthesis of proteins have been modeled successfully.

A (non-exhaustive) list of typical use cases of transformation tools:

- model synchronisation and merging,
- interoperability and migration,
- model execution and simulation,
- verification (of models or rule sets),
- knowledge extraction.

The Transformation Tool Contest (or TTC) aims at bringing the people from such problem domains together with the people that master tools for solving their transformation problems. Since it is difficult for people unfamiliar with model transformation to judge whether their problem is appropriate for TTC and, if so, to specify their problem in a way understandable by model transformation professionals, the organizing committee (see below) welcomes any questions in this respect.

2 About TTC

The aim of this event is to compare the expressiveness, the usability and the performance of graph and model transformation tools along a number of selected case studies. A deeper understanding of the relative merits of different tool features will help to further improve graph and model transformation tools and to indicate open problems.

This contest is the fifth of its kind (after an AGTiVE 2007 session, as GraBaTs 2008 and 2009 workshops, and as the TTC 2010 workshop). For the third time, it is organized as a satellite event of the TOOLS conference, this time TOOLS 2011 in Zürich, Switzerland. Since TOOLS is colocated again with the international conference on model transformation (ICMT), teams from the major international players in the development and use of model transformation tools are expected to participate again.

3 TTC Procedure

Phase 1: Case proposal submission In order to facilitate the comparison of transformation tools, we are soliciting potential case studies. If you have a suitable case study, please describe it shortly but as detailed as needed and submit it before March 7th to the online submission system. Cases that have already been solved using a particular tool (or general purpose programming language) are also very welcome. Please

include a reference solution for such cases to support the evaluation of the correctness of submitted solutions.

A committee will select a small, but representative set of case studies to be used for the contest. Case descriptions should answer the following questions:

- What is the context of the case?
(provide a short description and references)
 - What is the subject to be modeled?
(what are the input and output modeling languages?)
 - What is the purpose of the models?
(what are they typically used for from a larger perspective than the proposed case study?)
- What are variation points in the case?
(divide up your case in core characteristics and extensions)
- What are the criteria for evaluating the submitted solutions to the case?
 - Correctness test: which are the reference input/output documents (models/graphs) and how should they be used? Ideally, a case description includes a testsuite, as well as a test driver (The test driver can be an online web service, or a local script that can be deployed in SHARE¹.)
 - Which transformation tool-related features are important and how can they be classified?
(e.g., formal analysis of the transformation program, rule debugging support, ...)
 - What transformation language-related challenges are important and how can they be classified?
(e.g., declarative bidirectionality, declarative change propagation, declarative subgraph copying, cyclic graph support, typing issues, ...)
 - How to measure the quality of submitted solutions, at the design level?
(e.g., measure the number of rules, the conciseness of rules, ...)
- How can the solutions be evaluated systematically using information technology?
Please provide one of the following:
 - a simple spreadsheet (an evaluation form that can be aggregated easily²),
 - a so-called “classification scheme” in *ResearchR*³ (or a similar web 2.0 platform.)

Please submit at <http://www.easychair.org/conferences/?conf=ttc2011>. Your submission should include (i) a case description (in PDF format) answering the above questions, (ii) a ZIP archive that contains all test artifacts, and (iii) an evaluation scheme (a spreadsheet file or a pointer to an online "classification scheme").

Phase 2: Case solution submission

All those who like to participate in the contest will be asked to choose one or more case studies, take their favorite transformation tool and submit their solutions. A separate call for solutions will be distributed, after the cases have been selected.

Phase 3: Workshop and live contest

Besides the presentations of the submitted solutions, the workshop will comprise a live contest. For more details (such as example cases and solutions from previous editions), please consult the website of the last, completed TTC: <http://is.tm.tue.nl/staff/pvgorp/events/TTC/>

4 Important dates

Event	Deadline	Interval to next deadline
Call for cases	24 January	6 weeks
Case submission deadline	7 March	2 weeks
Call for solutions	21 March	6 weeks
Solution submission deadline	2 May	3 weeks
Notification	23 May	5 weeks
Workshop	29-30 June 2011	

¹See <http://is.tm.tue.nl/staff/pvgorp/share/>.

²See for example <http://is.tm.tue.nl/staff/pvgorp/events/TTC2010/synthesis-evaluation.pdf>.

³See <http://swerl.tudelft.nl/twiki/pub/Main/TechnicalReports/TUD-SERG-2010-10.pdf>.

5 Committees

5.1 Organizing Committee

- Steffen Mazanek (formerly Universität der Bundeswehr München)
- Louis Rose (University of York, United Kingdom)
- Pieter Van Gorp (Eindhoven University of Technology, The Netherlands)

5.2 Steering Committee

- Richard Paige (University of York, United Kingdom)
- Arend Rensink (University of Twente, The Netherlands)
- Bernhard Schätz (Technische Universität München, Germany)
- Albert Zündorf (University of Kassel, Germany)

5.3 Case Committee

- Jordi Cabot, (École des Mines de Nantes, INRIA, France)
- Barbara König (University of Duisburg-Essen, Germany)
- Tihamér Levendovszky (Budapest University of Technology and Economics, Hungary)
- Steffen Mazanek (formerly Universität der Bundeswehr München, Germany)
- Anantha Narayanan (Vanderbilt University, Nashville, Tennessee)
- Arend Rensink (University of Twente, The Netherlands)
- Louis Rose (University of York, United Kingdom)
- Bernhard Schätz (Technische Universität München, Germany)
- Gabriele Taentzer (University of Marburg, Germany)
- Pieter Van Gorp (University of Antwerp, Belgium)
- Gergely Várro (Budapest University of Technology and Economics, Hungary)
- Albert Zündorf (University of Kassel, Germany)