

ISBN 951-39-1056-3

ISSN 0359-8470

Jyväskylä University Printing House, Jyväskylä, Finland
2001

Preface

At OOPSLA 2000, Juha-Pekka Tolvanen and Steven Kelly conducted a “Birds-of-a-Feather” meeting. The topic of the BOF was focused on “Domain-Specific Visual Languages”. About 10 people attended the session, each describing their unique experience related to the application of domain-specific languages (DSL’s) within a visual modeling environment. It was decided that a more widely distributed announcement of the topic would attract the interest of others. From that consensus, it was decided to propose a workshop at OOPSLA 2001.

Workshop Themes and Goals

An upward shift in abstraction leads to a corresponding increase in productivity. In the past this has occurred when programming languages have evolved towards a higher level of abstraction. Today, domain-specific visual languages provide a viable solution for continuing to raise the level of abstraction beyond coding.

In a domain-specific visual language (DSVL), the models are made up of elements representing things that are part of the domain world, not the code world. The language follows the domain abstractions and semantics, allowing developers to perceive themselves as working directly with domain concepts. The models are simultaneously the design, implementation and documentation of the system, which can be generated directly from them.

Metamodeling and metaCASE tools significantly ease the implementation of domain-specific visual languages. They provide support for experimenting with the language as it is built, and remove the burden of tool creation and maintenance from the language creator.

Some of the issues addressed in this workshop are:

- Industry/academic experience reports of creating and using DSVLs
- Novel approaches for code generation from DSVLs
- Issues of support/maintenance for systems built with DSVLs
- Approaches for identifying constructs for DSVLs
- Evolution of DSVLs while they are in use
- Metamodeling frameworks and languages
- Tools for supporting DSVLs
- Separation of concerns and the application of new modularity technologies (e.g., aspect-oriented/subject-oriented) to DSVLs
- Specific domains where this technology can be most productive in the future (e.g. DSVLs to describe aspects of embedded systems, product family, systems with multiple implementation platforms)

Results

36 authors submitted a total of 20 position papers. Of these, 14 were accepted for publication in the proceedings. The results of the workshop, including electronic versions of these position papers, will be made available at <http://www.isis.vanderbilt.edu/oopsla2k1/>

Organizing Committee and Backgrounds

Juha-Pekka Tolvanen (jpt@metacase.com) is the CEO of MetaCase Consulting. He received his Master's degree in 1992, and his doctoral thesis was accepted in 1998. His area of expertise is on engineering of business modeling and software development methods. He has acted as a consultant to numerous companies and published papers on method engineering in several journals and conferences (for more info see <http://www.cs.jyu.fi/~jpt>). Dr. Tolvanen is the primary contact for this workshop.

Steven Kelly (stevek@metacase.com) is the CTO of MetaCase Consulting. He received his Master's degree in 1991 from Cambridge University, and his doctoral thesis on metaCASE environments was accepted in 1997 at Jyväskylä University. He has published papers and acted as a reviewer for several journals and conferences, and been an invited speaker at various workshops, seminars etc. In addition to the topic of this workshop, he is a dyed-in-the-wool Smalltalker, some-time linguist, and soccer player in the Finnish 3rd Division.

Jeff Gray (jgray@vuse.vanderbilt.edu) is a doctoral candidate in the computer science department at Vanderbilt University. He is a research assistant at the Institute for Software Integrated Systems (ISIS) and is currently working on a DARPA project that investigates the application of aspect-oriented techniques to domain-specific visual modeling.

Kalle Lyytinen (kalle@po.cwru.edu) is a professor in Information Systems at Case Western Reserve University. He has led research on metamodeling, method engineering and domain-specific modeling frameworks since the late 1980's. He currently serves on the editorial boards of several leading IS journals including EJIS, JSIS, Information Systems Research, Requirements Engineering Journal, and Information Systems Journal. He served as a guest editor for the first special issue on Metamodeling and Method Engineering for Information Systems at 1999. He has published over 70 articles and edited or written seven books on topics covering information system theories and modeling, system design and system design environments, system failures and risk assessment, computer supported cooperative work, and diffusion of complex technologies.

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