Invited RoSI-Talk by Ulrich Frank, Universität Duisburg-Essen

Monday, 14.01.2019, 14:50, APB 3105

Title:

Enhancing Reuse and Flexibility of Enterprise Systems through Models: Prospects of Multi-Level (Enterprise) Modelling

Abstract

Enterprise Modelling is aimed at guiding the conjoint analysis and design of organizational action systems and corresponding information systems. For that purpose, conceptual models of the action system, e.g. goal models or business process models, are integrated with models of the information system such as object models, product models, or models of the IT infrastructure. Methods for enterprise modelling usually includes various domain-specific languages. The first part of the presentation will give a brief overview of MEMO, a method for multi-perspective enterprise modelling that has been developed in Ulrich Frank's group. In addition to providing DSMLs, MEMO also includes a (meta) method for the design of modelling methods. Even though MEMO offers clear benefits with respect to the analysis and design of business information systems, its development was challenged by serious design conflicts. The second part of the presentation will focus on these problems that are especially related, but not restricted to the design of DSMLs and to the co-existence of models and code. Against this background, a new, multi-level language architecture is presented that allows for substantially relaxing those conflicts. It features an arbitrary number of classification levels and a common representation of models and code. Thus, it enables a new kind of "self-referential" enterprise systems that promise a substantially higher level of flexibility, reuse, introspection and user empowerment.

Ulrich Frank holds the chair of Information Systems and Enterprise Modelling at the Institute of Computer Science and Business Information Systems at the University of Duisburg-Essen. His main research topic is enterprise modelling, i.e. the development and evaluation of modelling languages, methods and corresponding tools. In recent years, he focused especially on multi-level domain-specific modelling languages. Further areas of research include method engineering, models at run time, methods for IT management and research methods. Together with Tony Clark from Sheffield University, he conducts the project "Language Engineering for Multi-level Modeling" (LE4MM). The project aims at further developing an integrated meta-modeling and meta-programming environment and, based on that, at the development of new self-referential enterprise systems that integrate enterprise software with conceptual models of themselves and the context they operate in at run time.