

▼ Introduction to Enterprise Modeling for Information Systems Development Minitrack

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The organizational environment increasingly requires that information systems are capable of meeting changing business needs. This situation is evidenced in the general cost profile of systems development where the bulk of spending and effort lies in the (evolutionary) maintenance, integration and interoperability of existing systems. This situation provides a challenge to the generally accepted approaches to systems development and, in response, one stream of thought seeks to divorce business issues from the underlying technology platforms by placing 'models' at the heart of systems development. In principle, model-driven approaches see the system development process as consisting only of models and their transformations. A concern for these approaches is that of providing a structure within which models can be developed at the right level of abstraction and can then be transformed into more concrete models. In fundamental terms, however, model-driven development requires significant thinking in relation to both models and the modeling process.

The minitrack is composed of three papers covering three important and interrelated themes of enterprise modeling in information systems development: (1) Collaborative conceptual modeling; (2) Model-driven development; and (3) Modeling the scalability of services. The three themes are representative of the wide spectrum of topics that underpin the area of enterprise modeling as a whole.

The first paper, titled "Towards a Belief-Theoretic Model for Collaborative Conceptual Model Development" and presented by Bagheri and Ghorbani, proposes a belief-theoretic model for facilitating collaborative conceptual modeling during the initial stages of the information systems development process (namely requirements engineering). The main focus of this work is the problem of merging and integrating conceptual models based on diverse perspectives and produced by different analysts. Such diverse worldviews may lead to contrasting conceptual models that ultimately need to be integrated. The authors propose a model that aims to (1) capture experts' uncertainty towards their expressed model specifications, (2) via a well-defined

process, formally negotiate the different viewpoints in order to build common grounds and (3) ultimately arrive at a unified conceptual model.

The second paper, titled "Enterprise Modeling for Information Systems Development with MDA" and presented by Osis and Asnina, proposes a mathematically based method (called TFMfMDA) for holistically analyzing and representing a business system. From a Model-Driven Architecture (MDA) perspective the models that the work helps to develop are computationally independent models (CIM). The research is quite timely and innovative. In fact, although the MDA approach is becoming increasingly widespread, the literature on computationally independent modeling remains limited. TFMfMDA applies Topological Functioning Modeling within the context of MDA in order to provide a formally sound method for enabling an analysis of business systems in order to produce what clients require rather than what clients want.

The third paper, titled "Multi-perspective Assessment of Scalability of IT-enabled Networked Constellations" and presented by Derzsi, Gordijn and Kok, proposes a model-based analysis method which combines two different techniques (e^3 -value and UML) in order to explore the technical and financial effects of scale in the design of networked constellations of enterprises providing commercial IT services. Through a case study the authors demonstrate how the proposed method helps to analyze and pinpoint concerns of system scale fundamental in assisting system designers to align IT and business requirements.

The three papers in the minitrack provide new insights into the field of "Enterprise Modeling for Information Systems Development." On the one hand, the research presented highlights and rationalizes the significance of modeling at an enterprise level within IS development, while on the other hand sound approaches to overcoming problems that enterprise modelers may encounter are proposed. We recommend the papers to your reading.