Innovations in Informatio Systems Modeling:
Methods and Best Practices

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A large number of strategies, approaches, meta models, techniques and procedures have been suggested to support method engineering (ME). Most of these artifacts, here called the ME artifacts, have been constructed, in an inductive manner, synthesizing ME practice and existing ISD methods without any theory-driven conceptual foundation. Also those ME artifacts which have some conceptual groundwork have been anchored on foundations that only partly cover ME. This chapter presents an ontological framework, called OntoFrame, which can be used as a coherent conceptual foundation for the construction, analysis and comparison of ME artifacts. Due to its largeness, the article here describes its modular structure composed of multiple ontologies. For each ontology, this article highlights its purpose, sub-domains and theoretical foundations. It also outlines the approaches and process by which OntoFrame has been constructed and deploy OntoFrame to make a comparative analysis of existing conceptual artifacts.

Chapter IX

A process-oriented framework (QoMo) is pre-sented that aims to further the study of analysis and support of processes for modelling. The framework is strongly goal-oriented, and expressed largely by means of formal rules. The concepts in the framework are partly derived from the SEQUAL framework for quality of modelling. A number of modelling goal categories is discussed in view of SE-QUAL/QoMo, as well as a formal approach to the descrip-tion of strategies to help achieve those goals. Finally, a pro-totype implementation of the framework is presented as an illustration and proof of concept.

Chapter X

This chapter presents the basic ideas underlying Service Oriented Architecture as well as a brief overview of current research into the phenomena also known as SOA. SOA is defined, and principal components of one proposed SOA framework are discussed. The more relevant historical background behind the move toward SOA is presented, including SOA antecedents such as Web Services, SOAP, and CORBA, and enabling technologies such as XML and EJB. A basis for understanding SOA is presented, based on Krafzig, Banke, and Slama's (2005) three-level hierarchical perspective. The common SOA components including UDDI, Application Programming Interface, Service Bus, Service Contract, Interface, Implementation, Data, and Business Logic are also presented. Finally, relevant research in four categories is presented, including implementation strategies, patterns and blueprints, tool development, standards proposals or modifications (including middleware), and ontological or meta-model development or modification.

methods and meta-methods to model and evaluate software quality properties such as computability and implementability, testing, dynamic semantics capture, and people's involvement. This analysis along with the comparison of the philosophy, assumptions, and quality perceptions of different process methods used in information systems development, provides the basis for recommendations about the need for future research in this area.