Meta-Modeling as a Concept:  
The Conceptualization of Modeling Methods

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Abstract: A growing number of individual conceptual modeling methods are designed not only for the use of software generation but also for model value creation. Hence modeling methods need to provide the necessary concepts and functionality to perform value creation within their application domain. Yet the construction of useful modeling methods is a complex task and requires high effort particularly when the entire spectrum of a method, ranging from language artifacts to dedicated functionality in terms of platform mechanisms (e.g. comparison, composition, translation etc.) is addressed during development.

This tutorial concentrates on the conceptualization, i.e. the early development- and prototyping phases of a modeling tool, and reflects contemporary concepts and challenges for meta-modeling platforms as implementation environments.

Domain specific modeling method development includes conceptualization, implementation and deployment all embedded here into a generic modeling method framework based on a meta-modeling concept. Its ingredients comprise a (a) modeling languages – syntax, semantic and notation, (b) modeling procedures/Vorgehensmodelle and (c) processing based on their mechanisms and algorithms.

The tutorial addresses researchers and practitioners dealing with conceptual modeling, domain- or application-specific modeling languages, and method or tool development with a strong background in computer science.