

Domain Specific Conceptual Model Engineering

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Abstract. Models are the fundamental human instruments for managing complexity and understanding. As such they play a key role in any scientific and engineering discipline as well as in everyday life. Many modeling paradigms evolved over time in the various disciplines which lead to a huge variety of modeling languages, methods and tools. This in particular is true for Informatics, which is a modeling discipline per se, and since long tries to systematize the realm of modeling by (1) clarifying the hierarchy of model layers like e. g. in MOF (meta object framework), (2) introducing ontological commitments into model hierarchies for a better semantical grounding, (3) harmonizing various modeling approaches to unified/universal ones, and (4) providing a framework for a systematic domain specific modeling method (DSMM) design where universal approaches fail.

Still, there is much to be done; in particular, to make systematic modeling an everyday activity in any domain of Information Systems and Software Development. But this requires a methodological modeling framework that is both, flexible enough to be applied in diverging fields, and rigid enough to pass assessments and certification as is standard practice in engineering disciplines.

The talk will sketch candidate building blocks of such a framework. First, by means of some examples, attention will be drawn to what is still going wrong in the modeling domain. Based here on and on a taxonomy of modeling method characteristics, the practicability and the effectiveness of these building blocks will be discussed using Ambient Assistance as an example modeling domain.

Short bio: Heinrich C. Mayr has been a full professor of Informatics at Universitt Klagenfurt since 1990, leading the Application Engineering Research Group. Until then he was an assistant professor at the University of Karlsruhe (today: KIT), visiting professor at several universities, and CEO of a German software company. His research is documented in over 200 publications and includes information system design methodologies, requirements and model engineering, and knowledge management. He has held, amongst many other functions, that of President of the Gesellschaft für Informatik (GI). For 6 years he served as Rector of the University. Currently he is editor in chief of the “Lecture Notes in Informatics”, chairman of the ER steering committee, chairperson of the

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