Steps Towards a Formal Process/Product Model

This chapter discusses results towards a formal process/product model (abbr. PPM) we have achieved so far. The results are of a preliminary nature. Hence, there is plenty of room for further research.

We have sketched the problem of developing a formal PPM in Sect. 1.1. Section 2.6 has discussed, how the different submodels of the application domain model are interrelated to each other. We have given details in Chaps. 3 to 5 on how tools are systematically constructed in a model-driven way. We are summarizing our findings in a dedicated chapter, since the formal PPM is the most challenging problem we addressed within IMPROVE.

The chapter is structured as follows: Sect. 6.1 gives an overview of a PPM in the context of model-driven tool construction. Sections 6.2 to 6.4 present results for the PPM we have achieved during methodological tool construction for novel cooperative support (Sects. 3.1, 3.2, and 3.4). These sections cover case studies, where the model-driven aspect of tool construction was studied more extensively than elsewhere. The functionality of these tools has to meet the specifications made on the application domain model layer. Finally, Sect. 6.5 gives a summary of what we have achieved as well as a long list of open problems.

The objective of this chapter is three-fold: Firstly, it again gives a motivation for working on the interesting problem of developing a formal PPM. Secondly, it presents preliminary findings achieved within IMPROVE. Thirdly, it is an invitation for other groups to share our endeavor towards a formal PPM, covering all aspects from application domain modeling down to details of tool construction.