Evaluating Domain-Specific Modelling Solutions

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Abstract. This paper presents criteria and evaluation methods for evaluating domain-specific modelling (DSM) solutions based on analysing state of the art and experiences of developing and evaluating DSM solutions in research projects. The state-of-the-art analysis returned several requirements regarding the quality of domain-specific modelling languages and tools developed based on them that are classified based on the identified stakeholders. The stakeholders are those who develop and those who use a DSM solution, the intended domain and purposes with developing a DSM solution as defined by domain experts, software engineering concerns, integration with other languages or tools, and the quality of artefacts to be modelled or generated. Both quantitative and qualitative approaches may be applied for evaluating DSM solutions based on the development stage and requirements. There is a clear need for a process that supports evaluating the quality of DSM solutions and this research contributes to the definition of such process.