

MASTER THESIS

EXPLORING SOFTWARE LANGUAGE WORKBENCHES

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Task

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The chair for Software Engineering of RWTH Aachen University provides the following master thesis.

YOUR TASK

Software language workbenches are invaluable tools to create, compose, and reuse modeling languages efficiently. They enable description of language constituents based on grammars or metamodels and support various formalisms to describe the static semantics and dynamic semantics of the modeling languages under development.



Unfortunately, the employed formalisms, language composition mechanisms, and synthesized tool chain parts of language workbenches differ significantly. Moreover, the vast majority of language workbenches are incompatible to another. Thus, selecting a workbench entails a form of 'vendor lockin' and prior analysis of the supported formalisms and features is crucial. Based on the requirements of a specific modeling language combination, this thesis should produce an in-depth analysis of the capabilities of popular language workbenches in the spirit of the language workbench competition.

EXPECTED COMPETENCIES

- English
- Object orientation
- Motivation to inspect research software

DESIRABLE COMPETENCIES

- Modeling with domain-specific languages or UML
- Experiences with MontiCore
- Lectures MBSE and/or GSE
- Gute Kenntnisse in der Recherche wissenschaftlicher Arbeiten