

# MASTER'S THESIS

## Dialect-specific 2-way structural XML-Merge

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### Motivation

During the development of large software entities on top of standardized software architectures more and more software artifacts or at least code snippets could be generated. Thus there are thousands of different generators developed or currently in development, where any of them generate a slightly different or more customized code. Only a few projects focus on a more generalized approach, which enables customized results without adapting the generator. Moreover, there is no implementation of an incremental one-time generator, which is able to merge newly generated code artifacts into existing, possibly manipulated files.

Such an approach will lead to the question how to merge XML documents appropriately, as different XML dialects come up with different semantics and therefore should be differently treated during structural merging two documents.

### Task

This Master's Thesis should cope with the problem of merging XML documents in a domain-specific manner, meaning it should be possible to structurally merge two XML documents according to their dialect specification. Addressing this topic, a meta-language for specifying necessary semantics of any XML dialect should be developed. Furthermore, a prototypical implementation on top of possibly existing tools should be provided, which is able to integrate the newly developed specification into the structural XML merging process.

The Master's Thesis is carried out in cooperation with Capgemini (Offenbach/Frankfurt).

### Prerequisites

- Good programming knowledge (implementation language: Java)
- Interest for open source development

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