Representation of Performance Anti-patterns

Description

The problem of capturing performance problems is critical in the software design, mostly because the results of performance analysis (i.e. mean values, variances, and probability distributions) are difficult to be interpreted for providing feedback to software designers. In the work by Smith and Williams [3], many common mistakes that provide negative impact on performance have been identified as performance anti-patterns. While there are works for their detection in different phases of software development [1, 4], what is required is an approach that will allow representation of anti-patterns and their solutions in language independent way [2]. This would allow for easier implementation of combined approaches, and possibly automatic, detection and removal of anti-patterns.

The main task of this topic is to provide the guidelines and prototype for this kind of approach. In addition to studying and summarizing the research literature, it is a mandatory part of this seminar to gather and share hands-on experience with the available tooling infrastructure. The provided references are to be considered a starting point and it is expected to extend the literature search and present a coherent view on the current state of the art in this area.

References


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