

# Exploring efficient analysis alternatives on feature models

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The automated analysis of feature models is used to extract useful information from the description of variant and common parts in software product lines. The complexity and large-scale of real feature models makes the manual analysis a tedious or even infeasible task. For example, feature models from different domains such as operating systems or mobile ecosystems are available with thousands of features and complex relationships among them. The analysis of this kind of models requires efficient techniques and some have been explored in the past. In this thesis we propose to explore different efficient analysis alternatives. This research work will first explore parallel solutions for the Automated Analysis of Feature Models (AAFM). We review current solutions for the AAFM and, based on their efficiency and quality results, choose a few algorithmic solutions to analyze their availability of being parallelizable and propose their parallel version, to finally evaluate their results quality, performance and improvements respecting their sequential versions. We plan to explore later other efficient alternatives and summarize the advances to provide efficient ready-to-use tools for analysis purposes. © 2017 ACM.

AAFM

Automated analysis of feature models

Explanations

Fama

Inconsistencies

Parallel

Automation

Computer software

Software design

AAFM

Explanations

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Feature models

Inconsistencies

Parallel

Quality control