Abstract

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Sensitivity Analysis of Maintainability-Based Risk Factors for Software Architectures

Software architecture is a key discipline in software engineering as it performs a central role in many modern software development paradigms. For an evolving complex architecture, assessing the change impact for the components considering all maintenance scenarios is a difficult problem. In this paper, we present a methodology to conduct sensitivity analysis of maintainability-based risk factors for software architectures. The methodology can assist the software architect to determine the components with the least change impact. Two case studies are used to illustrate the methodology. Results show that only small subset of components are highly sensitive to change.