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Abstract

For measuring software quality, majority of approaches focus on metric calculation based on code, which comes very late in the software development life cycle. The proposed approach presents a forward as well as reverse engineering approach that will detect software design patterns in UML model for forward engineering and from Java source code as a part of reverse engineering. Our approach uses structural, behavioral and semantic analysis. We introduce behavioral and semantic analysis that removes false positives from our structural analysis results. We are interested in assessing the quality of the software design by checking whether it conforms to design pattern and calculating package software metrics. Based on these two

parameters the quality of the software system can be analyzed. We provide a tool that implements our approach. An XML schema of design pattern(s) which further facilitates to automate the process of design pattern identification given a class diagram with the help of a tool base. Design patterns are a proven way to build high-quality software.

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