Abstract

Software architecture is an undeniable role in the software life cycle. Some criteria should be noted at the time of analysis and evaluation of software architecture including quality characteristics, risks and non-risks, architectural decisions or tactics. Software architecture evaluation involves evaluating different options for architectural decisions, and combining them in order to achieve the desired quality characteristics. Most of the architectural techniques such as scenario-based architectural analysis is based on compromise to analyze how architectural decisions and their possible combinations to achieve the quality characteristics is based on the stages and sequence of steps performed only on the inputs and outputs. In this paper, a new method for supporting the software architecture evaluation is proposed. In this method we clarify the circumstance of the analysis steps during the evaluation which depends on the experiences and knowledge. In addition, reusing and sharing of architectural knowledge is enforced and therefore two types of anthologies have been offered that the attribute-based architectural styles have significant roles in construction of them. Finally, to show the effectiveness of the proposed method in different conditions, two sample surveys have been considered and analyzed. The simulation results on prototype data show the effectiveness of the proposed method.
References


**Index Terms**

Computer Science  
Architecture

**Keywords**

- software architecture  
- architecture evaluation  
- ontology  
- architectural decisions  
- architectural styles