Abstract

Software architecture is an essential early stage in the software design process. In this stage, the architect should give the quality attributes a special consideration because a good level of meeting these attributes can be performed by well-designed architecture. This means that there is a close relationship between quality attributes and software architecture. However, quality attributes can be achieved through the appropriate application of a set of unit operations. A unit operation is a systematic designing operation that can be applied directly to system architecture. Architectural styles (patterns) include high level design decisions that address quality attributes. Many general architectural styles are defined in the literature. For the domain of user interactive systems there are many architectural styles that address some important quality attributes. In many cases, it is essential to evaluate software styles in terms of their achievement of the required quality attributes by analyzing the relationships between these attributes, unit operations, and styles. This evaluation can help and facilitate the process of selecting a specified style. In this paper the authors propose a structured quantitative evaluation method to show a rank of four well-known user interface management systems (UIMSs) in terms of their supporting a set of six important selected quality attributes.
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Index Terms
Keywords