

Abstract

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Quantifying Software Reliability Attribute through the Adoption of Weighting Approach to Functional Requirements

High quality software can hardly to be assured. The Software project reports refer to failure rate of 71% due to exceeding budget did not fulfill business requirements. Therefore, Quality attributes could not be achieved without certain requirements specified by project managers that should be exhibited within the system thus. Different stakeholder groups are involved in software development and use their conceptual quality requirements to refine the broad concept of quality into a number of well-defined and measurable attributes related to the software product itself. Though, despite the growing awareness of the importance of achieving similar configuring alignment between business stakeholders and software developers, little attempt has been made to empirically examine the requirements for software quality. Software Reliability is an important to attribute of software quality, Software Reliability is hard to achieve, because the complexity of software tends to be high. Providing a failure-free software operation for a certain time within pre-defined environmental setting is key determination of software reliability. This paper is focusing on reliability attributes and its measures. The paper uses weighting factors of software quality attributes in an attempt to quantify the reliability attribute. This paper conducted an empirical study in order to rate the importance of reliability features related to software reliability attribute quality. The paper applies a weighting technique in order to indicate the potential of each reliability features. The results suggested that alike approach to the other quality attributes, like maintainability for example, might align the software developers with the business stakeholders' desired requirements. Direct measurement of quality attributes should be stimulated and in fact such quantified measurement can be utilized to establish consistency using the existing approach. However, the approach needs to be made more accessible to promote its use in order to decide whether consistent independent estimates of the true values of software quality attributes can be assigned for quality attributes developed.