

A measurement framework for software product maturity assessment

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Abstract

The need to ensure the quality of software is growing in importance on a daily basis due to the growing role of software in critical products and application areas, such as defense, aerospace, aviation, and medicine. To meet this need, many organizations use the Capability Maturity Model Integration process model to assess and improve software development processes. This paper proposes a framework for measuring software product maturity as an indicator of product quality. The proposed framework consists of two parts: a reference model and an assessment method. The reference model provides a platform for gathering product quality indicators as evidence of product capability, which reflects the product's maturity. The quality indicators are then used to assess the product maturity level. The assessment method utilizes standard steps for assessing product maturity that are reflected in the degree of the product's conformance with the relevant quality attributes defined and agreed upon by the product's stakeholders. The proposed framework enables measuring the quality of the product from the developers' and the users' perspective. The proposed maturity model and the assessment method can help software organizations and software clients ensure that software products meet the appropriate quality levels.

KEYWORDS

product capability, product maturity assessment, product quality, software product