

ABSTRACT

Modeling software is used to assist users in organizing arguments or information structures systematically. Assurance Case Playground (ACP) is a web-based application developed to model assurance case diagrams, which are used to support safety or security justifications through an argument-based approach. Given its important role, the functional quality of ACP must be ensured to allow effective and efficient usage. During this study, ACP was still under development and had not previously undergone testing, making it unclear whether all of its functions operated in accordance with user needs. This study aims to evaluate the quality of ACP based on the ISO/IEC 25010 standard, focusing on the functional suitability characteristic, which includes functional completeness, functional correctness, and functional appropriateness. Functional completeness was assessed by verifying the implementation of functional requirements, functional correctness through manual and automated execution of test cases, and functional appropriateness through User Acceptance Testing involving 30 respondents. The evaluation results shows that ACP achieved functional completeness score of 1, functional correctness score of 0,88, and functional appropriateness score of 0,88. These findings indicate that most features in ACP have performed as intended, although some deficiencies remain in terms of functional correctness and functional appropriateness.

Keywords: *functional suitability, ISO/IEC 25010, assurance case, modeling tool*