

An Analysis on Software Testability and Security in Context of Object and Aspect Oriented Software Development

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Abstract

Testability is a property of program which introduces with the purpose of forecasting efforts need to test the programs. Software quality is the most important factor in the development of software, which depend upon many quality attributes. The absence of testability is responsible for higher maintenance and testing effort. This paper presents a literature review on software testability and its importance. Object-Oriented and Aspect-Oriented metrics are considered for analysis. These metrics are closely related to the Software quality factors i.e. Controllability, Observability, Built in Test Capability, Understandability and Complexity, all these factors are independent to each other. We have identified factors which affect software testability in general as well specific to Aspect Oriented Systems. In addition to testability, security features in term of aspect oriented programming have been explored.

Index terms: Software Testability, Factors of Software Testability, Object Oriented Metric, Software Testing, Aspect Oriented Metrics, Separation of Concerns (SoC), Cohesion, Coupling and Size, Software Security, AOP Security

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