

OBJECT-ORIENTED SOFTWARE QUALITY METRICS

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Software quality is a key measure of the software process. It provides a clear record of development progress, a basis for setting objectives, and a framework for current action. There are hundreds of software metrics for traditional and object-oriented software. These already-in-use metrics have certain limitations. Among many other limitations, the most obvious is that, many traditional metrics do not capture certain fundamental aspects of the object-oriented paradigm such as inheritance and polymorphism. At this time, many object oriented metrics proposed in the literature lack a theoretical basis, while others have not yet been validated. Some of these metrics depend on the implementation environment. Currently, research studies are being carried out to develop a new set of metrics that overcome the above limitations.

The objective of this work is to investigate candidate metrics that can be combined with traditional metrics which are capable of measuring the overall quality of object-oriented software. An object-oriented approach is adopted to propose a set of new metrics that use and improve the already-in-use metrics. A prototype system is developed and the experimental results obtained to provide a better indication of the quality of the software system.