

ESTIMATING RELIABILITY OF SOFTWARE SYSTEM USING OBJECT-ORIENTED METRICS

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ABSTRACT

Software quality has been a major challenge in the software industry. Reliability is one of most important quality factors of any software and an important issue in the development of successful applications. Software reliability is affected by many factors during the life cycle of a software product. Software metrics provide a quantitative basis for planning and measuring software development process. By the introduction of object oriented technology and programming, software designers experience another paradigm shift in the field of software engineering. Available traditional software metrics are not sufficient for evaluating various software products. As a result, a set of new object oriented software metrics came into existence. In this work, we use CK metrics for measuring the reliability of software. A tool is designed and developed called 'Java Class Analyzer' which extracts the values of the metric parameters from the source code. Based on the values of metric parameters extracted, some relationship is established between reliability and object oriented metrics. These results help the customer and producer to improve the software development process.

KEYWORDS: Object Oriented Metrics, Software, Reliability