Abstract

Due to the popularity of mobile devices and increasing demands of software applications, more and more individual developers join this industry. However, software defects top at the cost of software development. Software metrics are able to show some indication of software defect. This paper reviews popular static code and object-oriented metrics and summarizes heuristics for using the metrics. Correlations between software defect and metrics are presented. Finally, advantages and disadvantages of metrics are discussed. According to the summary of correlation analyses, some metrics show inconsistent relationships with software defect. Implications to practice and research are provided.

References

- Abreu, F. B., Goulão, M., and Esteves, R. 1995. Toward the design quality evaluation
Metrics in Evaluating Software Defects

of object-oriented software systems. In Proceedings of the 5th International Conference on
Software Quality, Austin, Texas, USA, pp. 44-57.
- Abreu, F. B. and Melo, W. 1996. Evaluating the impact of object-oriented design on
investigating the effect of object-oriented metrics on fault proneness: a replicated case study.
- Akiyama, F. 1971. An example of software system debugging. Information Processing,
10, pp. 751-761.
5, pp. 150-154.
relationships between design measures and software quality in object-oriented systems.
international Conference on Software Engineering, pp. 345-354.
11-58.
Technology Reference Guide: A Prototype (CMU/SEI-97-HB-001). Retrieved December 14,
sei.cmu.edu/library/abstracts/reports/97hb001.cfm
- Fowler, M., Beck, K., Brant, J., Opdyke, W., and Roberts, D. 1999. Refactoring:
Improving the Design of Existing Code. Reading, Massachusetts: Addison Wesley.
North-Holland.
object-oriented software metrics. IEEE Transactions on Software Engineering, Vol. 24, No. 6,
pp. 491-496.
Prentice-Hall, Inc.
Metrics in Evaluating Software Defects

Metrics in Evaluating Software Defects

Index Terms

Computer Science  Software Engineering

Keywords

Software defect  software metrics  static code metrics  object-oriented metrics