New Proposed Inheritance Metrics to Measure the Software Complexity

International Journal of Computer Applications
© 2012 by IJCA Journal

Volume 58 - Number 21
Year of Publication: 2012

Authors:
Preeti Gulia
Rajender S. Chillar

10.5120/9403-3486

Abstract

Inheritance is an important aspect of object-oriented paradigm during software development. Inheritance supports the class hierarchy design and relation between classes and inheritance also has an impact on the complexity of software. Complexity of software increases the testing and maintenance efforts. So researchers and developer always try to reduce the software complexity because low software complexity reduce testing and maintainability. In this study, we propose two new inheritance metrics based on level of methods like CCDIT (Class Complexity due to Depth of Inheritance Tree) and CCNOC (Class Complexity due to Number of Children) to measure the complexity of methods in classes. Firstly we present the Chidamber & Kemerer (C & K) metrics for class inheritance and related work. Secondly we measure and investigate the software complexity by generating UML diagram of software. Lastly we present comparison of newly proposed metrics with other inheritance metrics proposed by other researchers.

References

Park, CA.

Index Terms

Computer Science
Software Engineering
Keywords

Complexity  software metrics  inheritance  NOC  DIT  Object Oriented system