

## DEVELOPING OBJECT ORIENTED SOFTWARE METRICS FOR JAVA

Shaheenur Akhter

### **Abstract**

Interest in object-oriented technology has been rapidly increasing as software developers and project managers try to reduce escalating development and maintenance costs. There are several object-oriented programming languages available to choose from, including Smalltalk, Eiffel, C++, Objective C, Objective Pascal, Java, Ada, and even a version of Lisp. There are two clear marketplace winners, C++ and Java. Today, Java is the emerging object-oriented language of choice for many programmers and software projects. Software metric is an important technique used to measure software complexity, to improve software quality and enhance software correctness. Conventional software metrics are inadequate for analyzing object-oriented systems. Object-oriented metrics are an essential part of the continuing advancement of object technology. This work presents a prototype (package jmetrics) for the measurement of object-oriented software metrics like depth of inheritance (DIT), number of children (NOC), weighted method per class (WMC), number of methods (NM), number of variables (NV), inheritance complexity, number of methods inherited by subclass (NMI), subclass path complexity, number of interfaces, number of method overridden (NMO), messages to self, messages to ancestor, messages to other, average method size (AMS), along with two well known traditional metrics named LOC and cyclomatic complexity, in a Java program.