RUCM: A Measurement Model for Detecting the most Suitable Code Component from Object Oriented Repository

Abstract

Software quality based applications development is the main concern is user satisfaction. It increases the reliability and efficiency of information retrieval and management. As the bundle of code created day by day the repository storing such code is regularly migrates the older code into legacy systems. To develop and facilitate new object oriented model based application with improved problem solving capabilities such code has to be re-factored and reused effectively. The legacy systems have the collection of both the types of the code: procedural and object oriented. The procedural code is converted into object oriented code by using the phenomenon of re-engineering and the object oriented code database is searched for reusable code components. Thus to make the effective and timely detection of such reusable components tools is required. All the existing tools for such detection use various metrics for measuring and analysis of compatibility, price and development effort required to re-engineer those components. Also the current system will only focuses on using cohesion and coupling based metrics. But accuracy is the problematic issues in all of them because of their few metrics usage conditions. This work proposes a novel RUCM (Reusability Utility Count Model) for analyzing the reusability value. It takes various key features of code for calculating the above. The work focuses on satisfying the quality attributes by applying all the modularity principles in metrics design and measurement. To do that effectively this work had developed...
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six composite metrics: LOC, LMD, MD, DOC UOS, and IC. In its primary work level the proposed approach seems to provide effective results in near future.

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Index Terms

Computer Science

Software Engineering

Keywords
RUPM (Reusability Utility Count Model)  Object Oriented  UOS (Understandability of Software)  IC (Interface Complexity)  DOC (Degree of Cardinality)  

LMD (Low Modification Degree)  

ALOC  

MD (Modularity Degree)  

Cohesion  

Coupling;