Abstract

Information systems of many organizations are processed through system of interrelated ‘C’ programs. In a ‘C’ program each statement contains functional dependencies amongst the attributes. Sometimes these functional dependencies may redundant in different statements. The existing application programs used in the maintenance of the information system are
lengthy, and because of the perennial maintenance of the program, these functional
dependencies are unevenly scattered. Thus, some functional dependencies may be implicitly
present in other statements or sometimes they are unevenly scattered across the entire
program. This situation creates the complication in the reengineering process which creates
scuffle in selecting the attributes for a class on the basis of the cohesive property.

While abstracting the object structures, and making the cohesive groups of attributes, the
recursive implicit containment of one functional dependency within another creates complication
in the granularity of design elements as the implicit dependencies have ripple effect on the
dependencies of attribute. This paper attempts to propose the identification of functional
dependencies from the realization of program code, and their minimization through the minimal
cover process. The correctness and completeness of the abstraction is a straight forward
process.

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An Ameliorated Methodology for the Abstraction and Minimization of Functional Dependencies of legacy ‘C’ Program Elements


Index Terms

Computer Science  Information Technology

Key words

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abstraction
reengineering
business rules
legacy systems
reverse engineering.