Abstract

Query optimizers in current database management systems (DBMS) often face problems such as intolerably long optimization time and/or poor optimization results when optimizing complex subqueries using classical techniques [1]. There are computational environments where metadata acquisition and support is very expensive. A ubiquitous computing environment is an appropriate example where classical query optimization techniques are not useful any more. To tackle this challenge, we present a new similarity-based optimization technique using case-based reasoning in this paper[2]. The key idea is to identify cases of similar subqueries that often appear in a complex query and share the optimization result within each case in the query [3]. An efficient algorithm to identify similar queries in a given query and optimize the query based on similarity is presented. Our experimental results demonstrate that the proposed technique is quite promising in optimizing complex subqueries in a DBMS. It is possible to learn from each new experience in order to suggest better solutions to solve future queries.
A Framework to Subquery Optimization using Case-based Reasoning


- Christiane Gresse von Wangenheim, "Case Based Reasoning- A Short Introduction", in University of Italy in 2000

Index Terms

Computer Science

Keywords

Classical query optimization techniques, ubiquitous computing environment, metadata, case-based reasoning, similarity function