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EXTENDED MODEL OF DATA WAREHOUSE FOR HANDLING FUZZY, FLEXIBLE QUERIES

RAJDEV TIWARI AND MANU PRATAP SINGH

Abstract

Users dealing with Decision Support Systems (DSSs) or Information Systems (ISs) use to mine large Databases or Data Warehouses (DWs) for extracting information related to various domains of applications. In doing so, some times user itself is not sure about what query statement one should write to retrieve the desired information or one may possibly try to get imprecise items when the precise ones are not available. In both these cases users wish to have such an interface that provides the facility for flexible querying without bothering about the syntax and semantics of query languages. Such flexible queries will obviously be full of vague terms. To evaluate these kinds of queries at DW level, firstly these queries are to be translated to such SQL queries that can be easily compiled and executed, secondly the DWs must be modeled to store and manage the fuzzy information along with the classical records. This paper presents a DW model that provides the exible interface to the users and also extends the DWs for storing and managing the fuzzy data along with the crisp data records. It also presents a powerful mechanism to handle the fuzzy queries and fuzzy information storage management.

Key Words and Phrases: Fuzzy Databases, Data Warehouse, Data Mining, Flexible query, Fuzzy Query, Fuzzy Logic, alpha-cut operation, top-k, Fuzzy inference systems.