Abstract

Association rule mining is the process of data mining for finding some relationship among the attribute/attribute values of a huge database which will help in taking some decisions. Association rule mining can be of two types frequent association rule mining and rare association rule mining. Frequent association rule mining attempts to generate frequent rules, i.e. rules having higher support and confidence. The rare association rule mining generate rare rule which have lower support but higher confidence. However based on survey it has been observed that researchers have considered the problem of frequent and rare rule generation method separately[8,6]. That motivated to propose a method for generate frequent and rare rule using multiobjective approach. So association rule mining can be considered as a
multi-objective problem rather than as a single objective one. Confidence, comprehensibility and interestingness measure used for evaluating a rule can and making it different objectives of association rule mining problem. Support count is the number of records, which satisfies all the conditions present in the rule. This objective gives the accuracy of the rules extracted from the database. Comprehensibility is measured by the number of attributes involved in the rule and tries to quantify the understandability of the rule. Interestingness measures how much interesting the rule is. Using these three measures as the objectives of frequent and rare rule mining problem, this paper uses a Pareto based non-dominated sorting for extracting some useful and interesting rules from any market-basket type database. Based on experimentation, the algorithm has been found suitable for large databases.

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**Index Terms**

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**Keywords**

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