Efficient algorithms for mining frequent weighted itemsets from weighted items databases

Le B., Nguyen H., Vo B.
Faculty of Information Technology, University of Science, Ho Chi Minh, Viet Nam; Faculty of Information Technology, Saigon University, Ho Chi Minh, Viet Nam; Faculty of Information Technology, Ho Chi Minh City University of Technology, Viet Nam

Abstract: In this paper, we propose algorithms for mining Frequent Weighted Itemsets (FWIs) from weighted items transaction databases. Firstly, we introduce the WIT-tree data structure for mining high utility itemsets in the work of Le et al. (2009) and modify it for mining FWIs. Next, some theorems are proposed. Based on these theorems and the WIT-tree, we propose an algorithm for mining FWIs. Finally, Diffset for fast computing the weighted support of itemsets and saving memory are also discussed. We test the proposed algorithms in many databases and experimental results show that they are very efficient in comparison with Apriori-based approach. ©2010 IEEE.

Author Keywords: Frequent weighted itemsets; Frequent weighted support; Weighted items transaction databases; WIT-FWIs; WIT-tree

Index Keywords: Frequent weighted support; Item sets; Weighted items transaction databases; WIT-FWIs; WIT-tree; Algorithms; Data structures; Database systems; Innovation; Trees (mathematics)

Year: 2010
Art. No.: 5632814
Link: Scopus Link
Correspondence Address: Le, B.; Faculty of Information Technology, University of Science, Ho Chi Minh, Viet Nam; email: lhbac@fit.hcmus.edu.vn
Conference date: 1 November 2010 through 4 November 2010
Conference location: Hanoi
Conference code: 83982
DOI: 10.1109/RIVF.2010.5632814
Language of Original Document: English
Document Type: Conference Paper
Source: Scopus
Authors with affiliations:
References: