Modelling Academic Resources: An Apriori Approach

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 144 -
Number 9

Year of Publication: 2016

Authors:
Zunera Farooq, Vinod Sharma, Muheet Ahmed Butt

10.5120/ijca2016910426
{bibtex}2016910426.bib{/bibtex}

Abstract

“Data Mining or Knowledge Discovery is the process of discovering patterns in large data sets” [1] in the form databases and data warehouses in structured or unstructured manner. Association Rule Mining (ARM) is primarily focused on analyzing data for frequent if/then patterns and using the criteria support and confidence to identify the most meaningful relationships. In the area of academic data mining, it concerns with developing methods for discovering knowledge from data that come from Academic Enterprise Domain. There are several data mining algorithms pertaining to association rules used both offline and online platforms. One of the most popular and classical is Apriori algorithm that is used to extract frequent itemsets from large database and generating the association rule for discovering the knowledge. In the proposed research we have implemented an Apriori Algorithm implementation using Matlab and Dot Net Technologies using an academic examination registration dataset. The various Association Rules have been used to mine valuable knowledge regarding present, past and future course selection trends on subjects selected by the students at undergraduate level. The results will provide an insight in making future
Modelling Academic Resources: An Apriori Approach

decisions regarding proposing academic infrastructure pertaining to human resource
development/management, building of new departments/ centers, enhancing/ reducing intake
capacity for a course/subject etc in an optimized manner.

References

Technology Journal, 12(6), 55-59.
based on apriori algorithm and application. In Computer Science-Technology and Applications,
5. R. Agrawal, “Mining Association Rules between Sets of Items in Large Databases,” ACM
7. Galit.et.al, “Examining online learning processes based on log files analysis: a case
International Journal of Computer Science Issue, Vol. 8, Issue 2, pp. 277-282, ISSN:1694-0814,
2011.
9. M. M. A. Tair and A. M. El-halees, “Mining Educational Data to Improve Students ’
educational databases for predicting academic trends and patterns. In Technology Enhanced
Education (ICTEE), 2012 IEEE International Conference on (pp. 1-4). IEEE.
algorithm in the courses management. In Software Engineering and Service Science (ICSESS),
2014 5th IEEE International Conference on (pp. 804-807). IEEE.
Apriori Algorithm model in course suggestion system. InComputing and Communication
(IEMCON), 2015 International Conference and Workshop on (pp. 1-5). IEEE.
Data Mining Based Store Layout Architecture for Supermarket.

Index Terms
Keywords

Association rule mining, Support, Confidence, Lift, Apriori Algorithm.