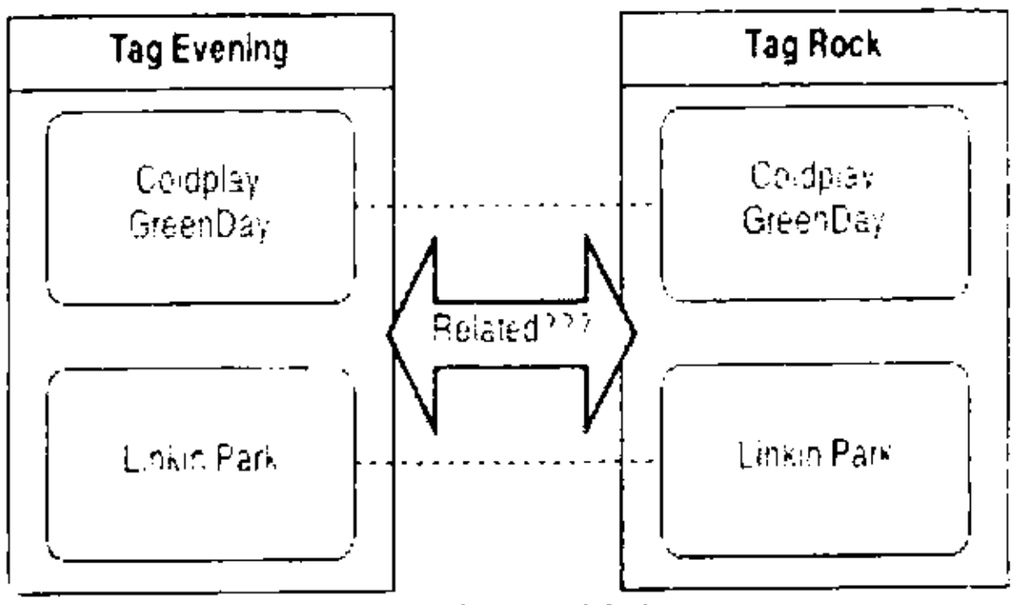
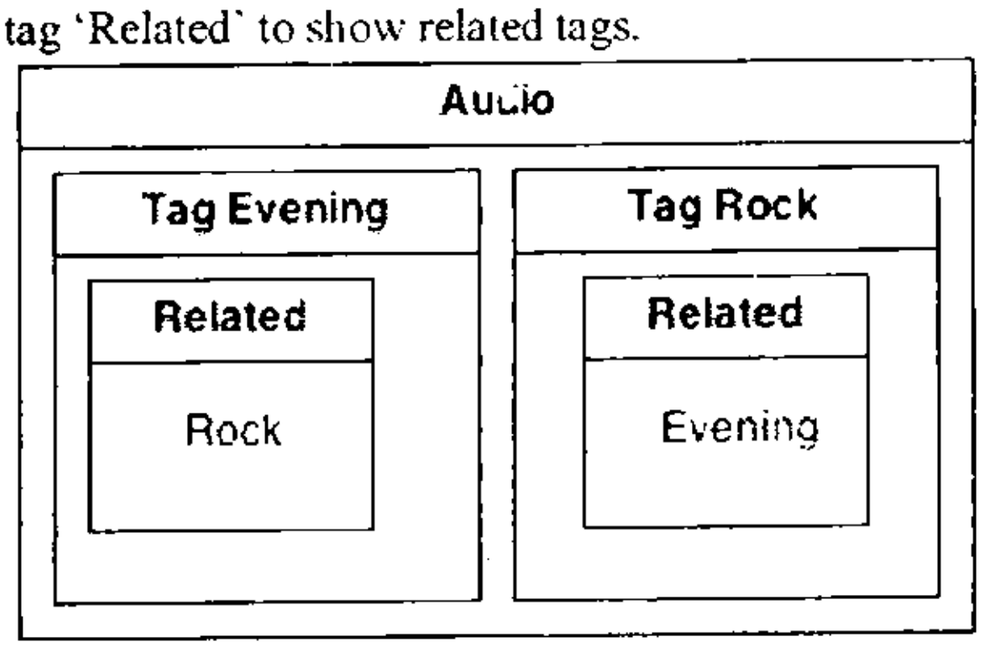
2. Deducing Related tags



The tags 'Evening' and 'Rock' have some common artists. So are they related to each other? It may be possible, since Rock and Evening both can play some common files. Therefore while browsing; a link to this related information can be shown. For example use the tag 'Related' to show related tags.



When the user browses the tags Evening and Rock under Audio, related tags (Evening – Rock) can be shown as linked. This allows the user to play all related files from one location.

V. EXTENDING MODEL FOR ALL FILE-TYPES

This example demonstrated how association rule learning can be useful and helpful to the user wishing to play related files. Similarly it can be easily demonstrated that the model can be extended to work with almost any file-type as long as it has been tagged properly. For the apriori algorithm, the file-type is of no special significance. As long as the semantic database keeps meta-information about the file, the apriori can form association rules by scanning the database.

The association rules thus obtained can be utilized to show related files and directories to the user while navigating the semantic file system. Extending the example to include all files, the Apriori algorithm can be utilized to include the following: 1. Give suggestions when the user is tagging a file. For example a user tagging a certain document as 'Project' can be suggested to also tag it under 'Confidential' as most files under 'Project' are tagged as 'Confidential'.

2. Show related files and tags while browsing. Consider a user is browsing through all pictures tagged under 'Monuments'. Suggested pictures can include cities where the pictures were taken or documents tagged describing those Monuments.

CONCLUSION AND FUTURE WORK

Combined with the semantic file system's ability to store data by context, associations rules help improve the user experience by providing a richer experience in browsing data. This is achieved by providing links to directories which are determined to be related using algorithms such as the apriori. Users can navigate to related directories using these links. This allows the users to browse through related data without the burden of long or incomprehensible pathnames.

REFERENCES

[1] Jon. B, "DuckDuckGo: A New Search Engine Built from Open Source"

[2] Mangold. C, *A survey and classification of semantic search approaches*, Int. J. Metadata, Semantics and Ontology, Vol. 2, No. 1, 2007, Page(s): 23-34.

[3] Google Desktop Search, *http://googledesktop.blogspot.in*

[4] Apple Spotlight, *http://developer.apple.com/macosx/spotlight.html*

[5] Gopal. S, Yang. Y, Salomatin. K, Carbonell. J, *Statistical Learning for File-Type Identification*, 2011 10th International Conference on Machine Learning and Applications, Page(s): 68-73.

[6] Bloehdorn. S, Grlitz. O, Schenk S, Vlkel. M, *TagFS - Tag Semantics for Hierarchical File Systems*, In Proceedings of the 6th International Conference on Knowledge Management (I-KNOW 06), Graz, Austria, September 6-8, 2006.

[7] Mohan.P, Venkateswaran.S, Raghuraman, Dr.Siromoney.A, *Semantic File Retrieval in File Systems using Virtual Directories*, Proc. Linux Expo Conference, Raleigh, NC, Page(s): 141-151, May 2007.

[8] Piatetsky-Shapiro, Gregory; and Frawley, William. J, *Discovery, analysis, and presentation of strong rules*, Knowledge Discovery in Databases, AAAI/MIT Press, Cambridge, MA (1991).

[9] Rakesh. A, Tomasz. I, Arun. S, *Mining Association Rules between Sets of Items in Large Databases*, SIGMOD Conference 1993, Page(s): 207-216.

[10] Chang. K, Perdana. I, Jain. M, Kartasasmita. I, Ramadhana. B, Sethuraman. K, Le. T, Chachra. N, Tikale. S, *Knowledge File System - A principled approach to personal information management*, 2010 IEEE International Conference on Data Mining Workshops, Page(s): 1037-1044.

[11] Rakesh. A, Ramakrishnan. S, *Fast algorithms for mining association rules in large databases*, Proceedings of the 20th International Conference on Very Large Data Bases, VLDB, Page(s): 487-499, Santiago, Chile, September 1994.

★ ★ ★