Classification and Filtration of Resources with Collaborative Tagging System

Dr. Soundararajan S[1], Mageshwari S[2], Swathi S[3], Vinothini Maa[4]

[1,2,3,] *Department of Computer Science and Engineering, Velammal Institute of Technology, "Velammal Knowledge Park", Panchetti, Thiruvallur, Tamilnadu, India*

Abstract-The prime intention of this paper is to defend user privacy while tagging resources which will upgrade web access practicalities like content filtering based on user fondness while searching. In general, a user can search any relevant content in the webpage. From the group of web pages, both pertinent and tangential web links are found by the user. The user can label the required web links as bookmarks. Then revisitation of those bookmarks takes place with content and context keywords. The intruders can get user's private data from the tagged bookmarks, and be searching the required bookmark is very complex among the collections of bookmarks. To solve these issues, collaborative tagging system for classification and filtration of resources is preferred. This approach uses the concept of "web-finders" to explore information by tag suppression and data perturbation techniques.

Tag suppression is a technique which classifies the bookmark label and data perturbation is used for avoiding the intruders to detect our sensitive data.

Index Terms- Tag Suppression; Collaborative Tagging System; Bookmark; Data Perturbation; Parental Control.

Introduction

Data mining can likewise be connected to different types of information, for example, information streams requested or sequenced information, chart, or arranged information, spatial information, content information, sight and sound, and WWW [12].

The list items of a client inquiry are regularly returned as rundown now and again called hits. The hits may comprise of website pages, pictures, and different sorts of documents [12]. Assume a web crawler needs to give setting mindful question suggestions i.e. at the point when a client represents a question the web crawler tries to gather the setting of the inquiry utilizing the client's profile and his inquiry history keeping in mind the end goal to return more tweaked answers within a fraction of a second.

The Collaborative tagging is a mechanism in which the resources called web links can be classified into tags based on the end-users necessity. When the collaborative tagging is primarily used to assist tag-based resource discovery and browsing, it could also be utilized for other purposes [5]. The tags possessed by the bookmarking service are used to intensify the web performances like content filtering and classification based on the user [2]. However, to achieve this enhanced use, the current architecture of collaborative tagging services must be extended by including a policy layer. The objective of this layer will be to impose user choices, purposely denoting resources on the basis of the set of tags associated with them, and, possibly, other parameters concerning their trustworthiness (the percentage of users who have added a given tag, the social relationships, and characteristics of those users, etc.).

Existing System

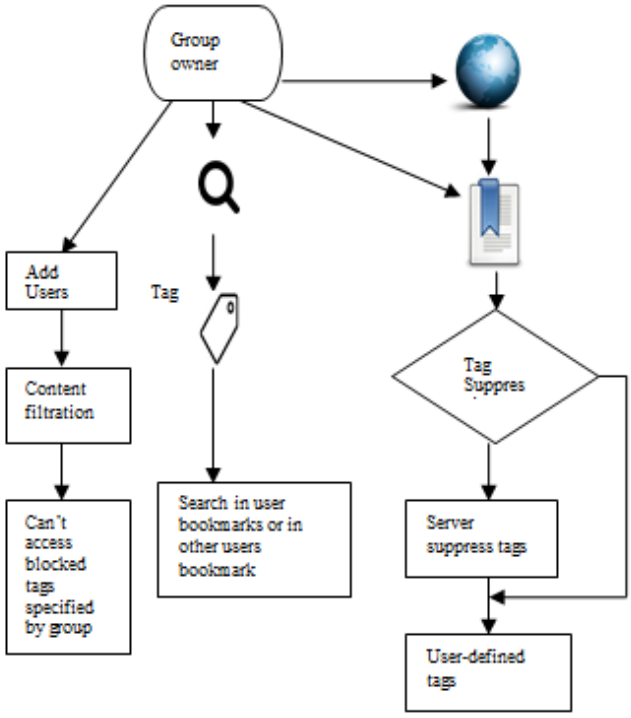
A group of end-users' confidential information gathered by social services, is now perceived as a privacy risk. They use human memory concept for personal web revisitation algorithm [6].

Using the data available in public, anyone can infer the user's interest or user portrait containing sensitive information, such as health-related information, political preferences, salary or religion [3][4]. In a lot of social online applications, there is a technique called collaborative tagging which is used by many users will cause the risk of cross-referencing. Even there might be a chance to match up with other social media accounts(Facebook, Twitter) and some personal accounts of users(banking), which can give more information about the users [1].

Proposed System

The Proposed System defends user confidentiality to a certain scope, by introducing the tags which make the user profile show tendency toward certain grades of interest. Tag suppression is a technique that classifies the bookmark label [7]. Data perturbation method allows a user to withhold tagging some resources [9]. An intelligent form of data perturbation is preserving the electronic data of users from the unauthorized person by means of substituting (specific) user tags with (general) tag categories.

The Proposed system addresses two scenarios: resource recommendation and Parental control. In Resource recommendation, provides relevant resources based on user interest [8]. Parental control involves whenever a group user demands the resource to the group owner, the allowance should be given by the group owner to access the bookmarked web links. We also provide Facet block for the particular user.



A. Add Group User

Group owner has to register their details in the web application. After the registration is completed successfully, details are stored in the database. To view the profile, the group owner must login into the web application [7]. Here Group owner only add users by providing username and password. Group users register their details like date of birth, email id, address. For registering their details, group user has to provide username and password given by group owner. Thereafter the user can revise the password. Group owner can limit users to view the prescribed bookmarks.

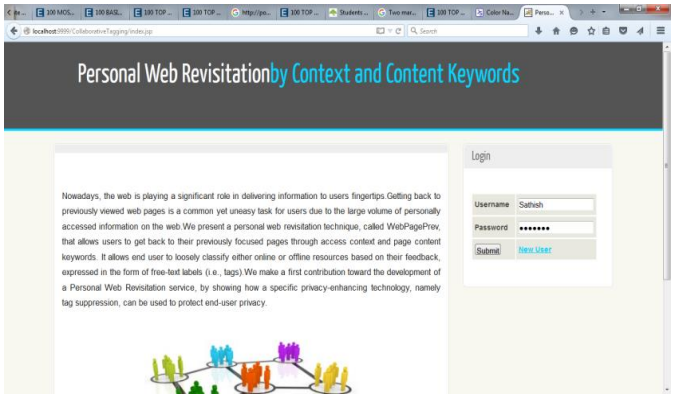


Fig.2: Admin add a new user

Search and Bookmark

The user can search resources in web according to their personal preferences both in online and offline. List of websites displayed where the user can view their interested links. Then they can bookmark their resources for those bookmarks, the user can give their own tag name or they can go for server's suggestion. If the user likes the link, they can bookmark by giving tag for future tag search. While bookmarking, the user can give multiple tags.

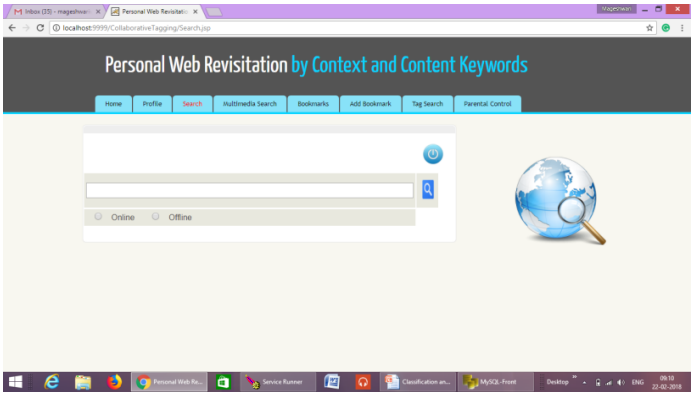


Fig.3: Search the Resources

The database is used to tabulate the details of the user who bookmark the web links along with their username. Similar bookmarks are saved under the category.Users can save their tags in either public mode or private mode. In private mode, only the user can access the bookmarked link whereas in public mode, anyone in the group can access those bookmarks. In the process of revisiting the web page, the user has to give the tag name to get the bookmark detail.The server also provides the related bookmarks for the given tag name, if only those bookmarks are saved as a public mode.

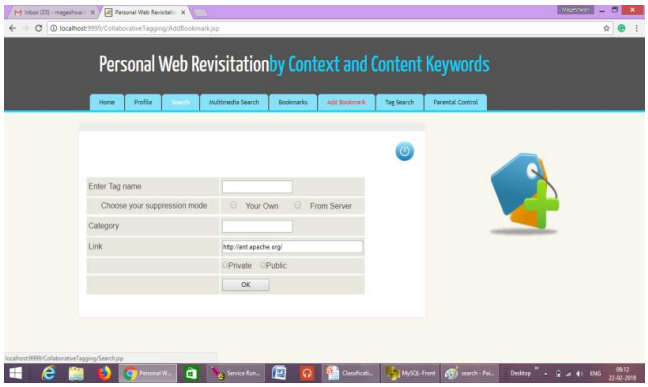


Fig.4: Add new Bookmarks

Tag Suppression and Resource Recommendation

User likes a link in web and bookmarks that link. User tag the bookmark. While tagging, the user can give own tag or ask the server to suggest tags [11]. The server will recommend some suppressed tags to protect the user's privacy. All the bookmarking information will be stored in the database. If the user searches a tag, he/she can search in their bookmarks or in all bookmarks [5]. If the link has multiple tags, the user searched tag and other tags for that links will be displayed. Recommending users for the past 1 week links and tags.

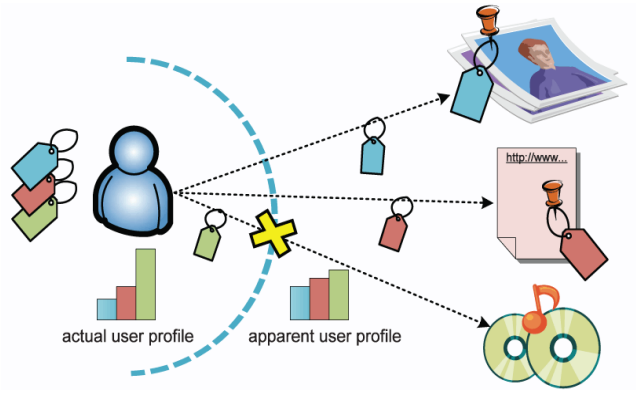


Fig.5: Tag Suppression

For instance, the users visit the website of an online bookstore with the intention of purchasing a book. Then the user types the name of the book. This is not the first time the user have visited the website. The user has browsed through the website before and even made purchases. The web store remembers the user's previous visits having stored click stream information and information regarding past purchases [12]. The system displays the description and the price of the book user has just specified it compares the user's interest with other customer having similar interest and recommends additional book titles.

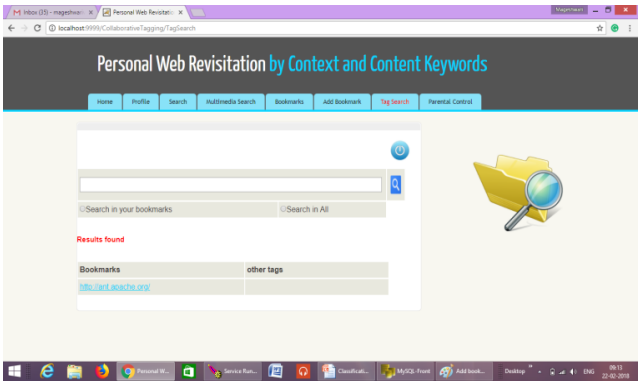


Fig.6: Tag Search

Parental Control

Group owner can add users for content filtration purpose. Group owner is the authorized person who provides privilege to the users in a group [7]. By checking the available tag categories, group owner blocks the tags for users. Group user can use the tags giving username and password. Group user has restrictions only on Tag Search. All the other services, group user can reach (Search and bookmark, Add bookmark). If anyone of the facet is blocked to a particular user, then he cannot access (Search, Bookmark, and Tag) that facet.

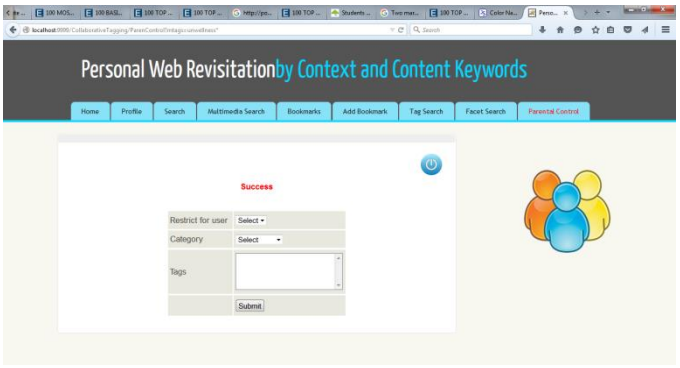


Fig.7: Blocking the entire category

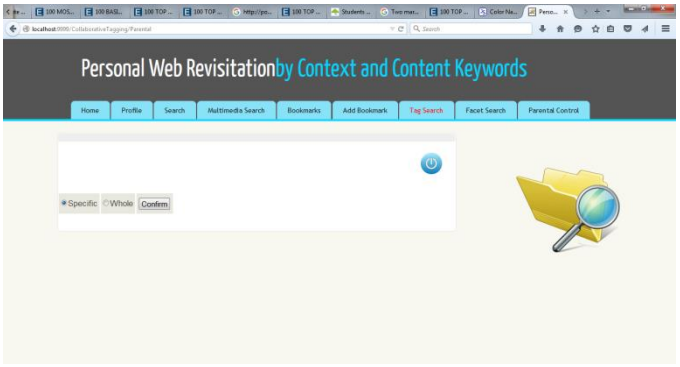


Fig.8: Specific option to block any one category

Conclusion

In data mining, maintaining secrecy of user is a critical issue in many applications [9]. Data mining techniques can be used to develop strong intrusion detection and prevention systems, which may employ signature-based or anomaly-based detection. Using data perturbation technique we can easily accomplish the privacy [11]. In our proposal, we solve the privacy issue using private tags by tag suppression technique and provide more security.

When the information tagged by other users in public mode that can be utilized by anyone in that group. This will help the user to find the more accurate web link for their requirements. It also provides privilege to the user by means of parental control. Our future work is to recommend the resources for the user and ranking [5] the bookmarks in the specified category itself. An advantage of Tag recommendation is that they provide personalization, and promoting one-to-one interaction [12].

REFERENCES

[1] D. Horowitz and S. D. Kamvar. The anatomy of a large-scale social search engine. In WWW, pages 431–440, 2010.

[2] D. Carmel, N. Zwerdling, I. Guy, S. Ofek-Koifman, N. Har'el, I. Ronen, E. Uziel, S. Yogev, and S. Chernov.

Personalized social search based on the user's social network. In CIKM, pages 1227–1236, 2009.

[3] L. Tauscher and S. Greenberg. Revisitation patterns in World Wide Web navigation. In CHI, pages 399–406, 1997.

[4] E. Adar, J. Teevan, and S. T. Dumais. Large scale analysis of web revisitation patterns. In CHI, pages 1197–1206, 2008.

[5] The Structure of Collaborative Tagging Systems.Scott A. Golder and Bernardo A. Huberman, 2006.

[6] Personal Web Revisitation by Context and Content Keywords with Relevance Feedback. Li Jin, Gangli Liu, Chaokun Wang and Ling Feng, Senior Member, IEEE, 2017.

[7] Tag Suppression and Classification Resources in Collaborative Tagging Systems. Charulatha M, Ashwini M, Arul U. Information Technology, Dhanalakshmi College of Engineering, Chennai, Tamilnadu, India

[8] Resource recommendation in social annotation systems: A linear-weighted hybrid approach. Jonathan Gemmell , Thomas Schimoler, Bamshad Mobasher, Robin Burke Center for Web Intelligence, School of Computing, DePaul University, 243 South Wabash Avenue, Chicago, IL 60604, United States.

[9] Random Data Perturbation Techniques and Privacy Preserving Data Mining.Extended version of the Best Paper Award winning Paper, 2003 IEEE International Conference on Data Mining.

[10] Z. Dou, R. Song, and J.-R. Wen. A large-scale evaluation and analysis of personalized search strategies. In Proceedings of WWW, pages 581–590. ACM, 2007.

[11] A privacy-preserving architecture for the semantic web based on tag suppression. J Parra-Arnau, D Rebollo-Monedero- Conference on Trust, 2010 – Springer.

[12] Data Mining: Concepts and Techniques. Jiawei Han, Michelin Kamber, Jian Pei, Elsevier publictions