

Recommender System using sentiment analysis

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ABSTRACT

Recommender systems are meant for recommending products to customers according to their interests. Recommender system has several features namely, data collection and processing, recommender model, recommendation post processing and user interface etc. in order to recommend proper products to given user. These recommendations systems rely on one or more recommendation techniques. The paper proposes a recommender system that will recommend the products that are relevant to user's interests in different fields/ areas/ domains. User interests are extracted with the help of his/her activities in social networking sites such as Facebook. Generally, recommender systems are recommended the products or services regarding one specific domain whereas the proposed system is able to recommend the products from various domains. Along with that, system can recommend text articles as well that user might find on his/her interests.

Keyword : - *Recommender System, User interests, Social profiles.*

1. INTRODUCTION

There is a large amount of E-commerce websites with various products from many different categories. As a result, there's abundant data or number of products everywhere for user to search through. Although this provides wide range of products to surf through for user, user can find most of the products irrelevant to his/her interest. That's why recommender systems came into picture. Recommender systems recommend product in accordance with user's interests. These interests are found with the help of the products that user surfs through or checks regularly. Most recommender systems rely on collaborative filtering which groups the customers having similar interests and recommends the products that users find of their interests to each other. Apart from that, social networking sites can provide the information regarding interests of user. Thus, paper proposes a system that can identify the interests of user from his/her social networking profiles and search products with the help of recommender systems which collects information about products through RSS feeds, different APIs and web crawling systems etc. Using these two information, system then recommends products that can be more relevant to user's interests.

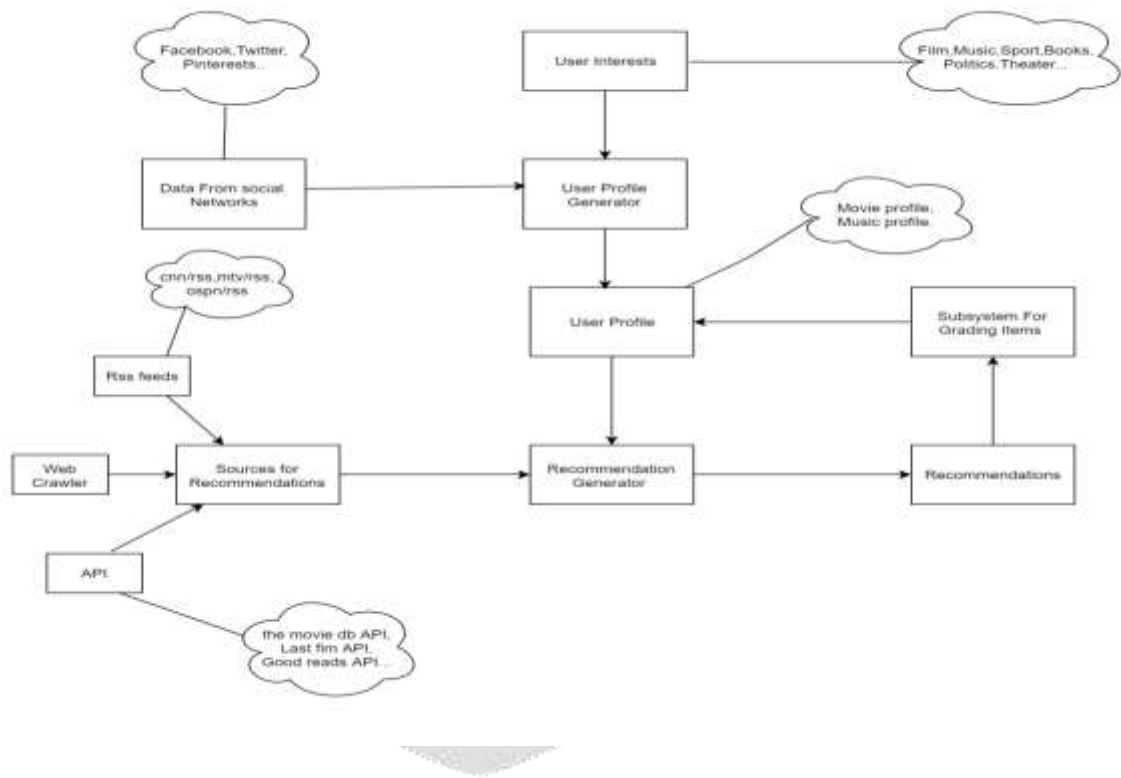
2. RELATED WORK

Recommender systems are being studied and has been one of the hottest topic for research in recent times. The movie and music domain are subject of most of the researches. These researches focus mostly on recommendations based on the genre correlations of the services. Also, most of the recommender systems rely on collaborative filtering techniques. Where user's interests are identified from the items a user has downloaded or bought and items from similar users are recommended among each other. Collaborative filtering algorithms can come in various types i.e. user-based, item-based CF etc.

These methods use methods for calculation of similarity between users or items accordingly for generating the recommendations. For similarity calculations, mostly used techniques are Cosine similarity, Pearson correlation and Jaccard index [15]. As mentioned earlier, collaborative filtering techniques is implemented in many recommender systems like book recommender systems from Amazon [2] and social networking recommender systems [1] which recommends services based on users' tags, comments, posts etc.

3. PROPOSED MODEL

Proposed system consists of three main parts namely, Social networking, profile generator and recommender system. User's data from social networking profiles is fetched to determine the interests or user's behavioral patterns. This information is used to create profile of user. Recommender system will have information regarding different articles, services, products collected from crawling systems, APIs, RSS feeds etc. Once this two information are available. System compares products with users' interests and recommends them whichever find relevant to user's interests. The system architecture is as given below in the figure.



4. CONCLUSION

Recommender system are very useful and helps a lot in achieving customer satisfactory results. These recommender systems use collaborative filtering techniques for recommendation generation. Collaborative filtering relies on users' bought items, liked items etc. for finding user interests. We propose a system which uses user's publicly available information for finding interests of user. The system collects services for recommendations with

the help of RSS, web crawler and other measures. These recommendations are then distributed among users according to their interests.

5. REFERENCES

- [1] T. Pinckney, "eBay NYC - Graph-based Recommendation Engine on Cassandra," 30 July 2013. [Online]. Available: <https://www.hakkalabs.co/articles/tom-pickney-discusses-ebaysrecommendation-engine>.
- [2] G. Linden, B. Smith i J. York, »Amazon.com Recommendations Item-to-Item Collaborative Filtering,« 2003.
- [3] C. A. Gomez i N. Hunt, »The Netflix Recommender System: Algorithms, Business Value, and Innovation,« ACM Trans. Manage. Inf. Syst., 2016.
- [4] C. Mims, "MIT Technology Review - How iTunes Genius Really Works," 2010. [Online]. Available: <https://www.technologyreview.com/s/419198/how-itunes-geniusreally-works/>.
- [5] L. Xiang, "Hulu Tech blog - Hulu's Recommendation System," 19 September 2011. [Online]. Available: <http://tech.hulu.com/blog/2011/09/19/recommendationsystem.html>.
- [6] L. Wu, "Browsemap: Collaborative Filtering At LinkedIn," 23 October 2014. [Online]. Available: <https://engineering.linkedin.com/recommendersystems/> browsemap-collaborative-filtering-linkedin.
- [7] P. Gupta, A. Goel, J. Lin, A. Sharma, D. Wang i R. Zadeh, »WTF: The Who to Follow Service at Twitter,« u Proceedings of the 22nd international conference on World Wide Web, Rio de Janeiro, Brazil, 2013.
- [8] S. K. Rogers , »Item-to-item Recommendations at Pinterest,« u Proceedings of the 10th ACM Conference on Recommender Systems, Boston, Massachusetts, USA, 2016.
- [9] J. Moore, "Building a recommendation engine, foursquare style," 22 March 2011. [Online]. Available: <https://engineering.foursquare.com/building-a-recommendationengine-foursquare-style-4df6dc23ea15#.tk20r8sd0>.
- [10] "Mendeley," [Online]. Available: <https://www.mendeley.com/>.