ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 6, June 2017

Video Recommendation for user behavior Prediction using Big data Hadoop

Shraddha Walwadkar, Prof. Y. B. Gurav

M.E Student, Department of Computer Engineering P.V.P.I.T Bavdhan, Pune, Maharashtra, India

Assistant Professor, Department of Computer Engineering P.V.P.I.T Bavdhan, Pune, Maharashtra, India

ABSTRACT: The large number of online video-sharing systems, You-Tube is the most popular web site, provides features that allow internet users to post large number of video on social networking site and video-sharing website as a response. The mobile user is very difficult to find out their favorite video. The proposed work define collaborative filteration technique to help the mobile users can easily find out their favorite videos. In this paper , video-based recommendation system using big data of hadoop which can reduce the network and fast of collaborative filteration system. The mobile user can easily find out their favorite videos. The recommendation system mainly described on content-based filteration, collaborative-based and context-aware filteration. The collaborative filteration used as user-based recommendation and item to item based recommendation system. The result shows that the proposed approach collaborative filteration desired services with similarity and ratings.

KEYWORDS: collaborative filtering, Mobile user behavior analysis, Multimedia service recommendation, hadoop, Map-Reduce.

I. INTRODUCTION

In the recommendation system all forms of video likethat (TV, video on user demand, Internet, and P2P) will continue to be approximately 90% of global consumer traffic by 2015. Internet users post a manylarge number of audio, video clips onaudio, video-sharing websites and social network(Facebook, Twitter) applications everyday [1]. The number of audio, video may be duplicate, similar, related, or quite different. The user facing billions of multimedia web-pages, online users are usually vey hard time finding their favorites videos. This situation is very hard for mobile users because of screen limit and low bandwidth.How to help mobile users obtain their favorite content lists from millions of webpages in a short time is very challenging [2]. Some video-sharing websites recommend video lists for end users according to video classification, video description tags, or watching history.The existing recommendation algorithms,the typical system consists of two essential components: 1) a content recommender that takes charge of user interest identification, user interest recommendation, and result re ranking and 2) various collectors that collect user context and activities, content attributes, and updates. In recommendation system initialization, a few contextual information, e.g., time and location, is collected [6]. To capture the interests of users in a ubiquitous environment, more and more contextual information, such as user opinions, watching times, and video ages, is logged in the recommendation system [4]. Real-time recommendation cannot be guaranteed due to inevitable increment of computations.User interests and content clustering are often used to narrow the searching range of related content.The system is implemented on the Hadoop platform to satisfy the huge computation requirements for real-time recommendation systems. The Hadoopis open-source framework uses a simple programming model to enable distributed processing of large data sets on clusters of computers. The complete technology stack includes common utilities, a distributed file system, analytics and data. The recommender systems, there are three differences: 1) the collector and user profiles are decentralized into several computing nodes; 2) the user behavior clusters are collected except for only user profiles; and 3) the graph-based optimization mechanism is introduced into the recommender to. The collaborative filteration used as userbased recommendation and item to item based recommendation system. The result shows that the proposed approach collaborative filteration desired services with similarity and ratings.

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 6, June 2017

II. RELATED WORK

In Recommendation systems have changed the way people find their favorite video, books, products, music, information, and even other people. The mobile user easily find their favorite video ,product and other information by using recommendation system. The filteation system based on the users choice have been used to user favorite choice of filteration. In recommendation services for several of online readers. YouTube uses the recommmender system to help user find their favorite video or watching history to previous [1]. The recommendation system mainly used for the content base filteration, Collaborative filteration, context-aware filteration and graph-based filteration.

CB Filteration:-

In content based filteration system . The content-based systems make recommendation based on the content names, tags, or explanations.Some systems determine user-interested items based on user's individual reading history in term of content. CB recommendersystems are very easy to implement. In the content based systems are provided by automatically matching a user's interests with item contents. In content based recommendation very similar items to previous items consumed by the user are recommended which creates a problem of overspecialization.. A large number of learning algorithms have been adapted to learning user profiles, and the favorite of learning algorithm depends upon the representation of content.

CF Filteration:-

In collaborative filteration, The Collaborative Filtering-based systems make filtration based on abundant user transaction histories and content popularity. In the collaborative systems, individual user's interests arepredicted by a group of similar users .CF systems obtained enough historical consumption record and feedback. On other side prediction, implicit feedback, or opinion classification methods should beadopted to solve new user issues. In collaborative filtering,The ratings of users were used to clustering users to groups, todetermine a social lcommunity.Then the similarity of users find out within the group to be used for prediction and recommendations..The CF recommendation system is important for filtering items to users depends on various similarity content. The collaborative filtering mainly focused on user based recommendation and item based similarity. Forever the social network application like video, with a large number of video post by users.to slove this problem by collaborative filteration, in determine user rating and item to item based similarity such as MapReduce [5]. The CF recommendation system can decrese popularity by using item to tem based recommendation of algorithm in the filteration.

Context-aware Filteration:-

In context-aware recommendation, system make easily provide constant filteration do not consider user context information.However user interest differ according to real-time, location-aware and their emotions. context-aware recommendation is very hard concept to briefly explain;semantic context-aware are used to enrich the explanation of context. Quality of context-aware are considered user not satishfied factory for the start of research in context-aware systems[6]. Initially context-aware systems have also needed to collect and model additional data with context.

Graph-based Filteration:-

Graph-based filteration is used in the recommendation system to calculate the similarity and correlation between user video rating [1]. The user based recommendation and item to item based recommendation ,links on video rating pages are converted to undirected weighted graph. With the large number of user id different categories of videos, user gives the different video categories of different rating, graph based filteration system require more and more computation capacity[1]. To resolve the large computation requirement, user based and item to item based recommendation algorithms have been implemented on hadoop platforms to improve performance and scalability of the filteration system.

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 6, June 2017

III. PROPOSED WORK AND SYSTEM ARCHITECTURE

A. *Proposed Work:*

The proposed system work for the users are easily search their favorite video by using collaborative filteration. The user easily analse the video by browsing the data. Then the user-based recommendation system recommend user favorite video by video average rating. The item based recommendation system recommend the user similarity of video ratings.. Proposed approach can filtered desired services with high precision, high recall, and low response delay. User clusters are collected instead of detailed user profiles. To avoid the explosion of network overhead, user behavior-based clustering is performed first, and the collectors calculate user clusters according to the clustering rules and then report the user cluster to the recommender only.

B. *System Architecture:*

As shown in the below fig. the system will work as follows:

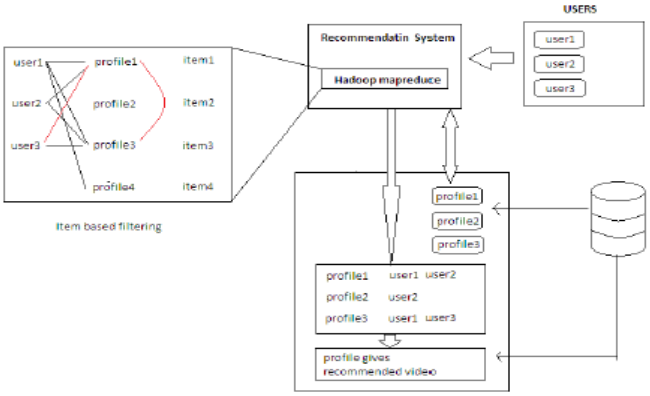

Fig.1. System Architecture

The system architecture as shown in fig. the system architecture divided in to two parts user based recommendation and item to item based recommendation.

In user based recommendation, user analyse the video and number of user gives the different rating of different categories of videos. The videos displayed in yearly. The user gives the high rating of their favorite video then next time that video easily search. The user based recommendation ,user does not get recommend their own video. The recommendation is based on calculating video average.

In item based recommendation system, user find out the similarity of user gives the different rating of different categories of videos. Similarity calculate between items are more likely to converge over time than similarities between users. Item based recommender begin with a list of user's preferred item and therefore do not need a nearest item neighborhood as user based recommender do. In item based recommendation one of the video does not have any rating this video automatically deleted.

IV. RESULTS

(1) Registration Process:- The first starts the registration process it gives the user name and password then it sign in the system and also in signup we can create a new user and clear buttons are present as shown in fig. 2.

(a) Analyse Data:-

(1) Then it browse the data from usr/local/video/video.dat and click the show dataset and click the Copy to HDFS. Then click on analyse button, go to localhost:70 input 1 and output1 file generated and also go to

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 6, June 2017

localhost:30 video analysis completed. Click on show o/p yearly, all video shows in yearly and also video display on video types as shown in fig 3.

(b) Recommendation System:-

(1) In recommendation, firstly browsing rating from usr/local/video/rating.dat and click on Copy To HDFS then all data copy to HDFS.

(2) In user based recommendation, click on Run button then go to localhost:70 Input 2 and Output 1 And Output 2 file generated and also go to localhost:30 userbased recommendation completed. Then click on recommend button user rating average calculated as shown in fig. 4.

(3) In item based recommendation, click on Run button then go to localhost:70 Output 3 and Output 4 file generated and also go to localhost:30 item based one and item based two recommendation completed. Then click on recommend button item to item similarity calculated as shown in fig. 5.

(c) Rate Video:-

(1) First enter video id then enter video id and then gives the rating and then submit and finally video rating completed as shown in fig. 6.

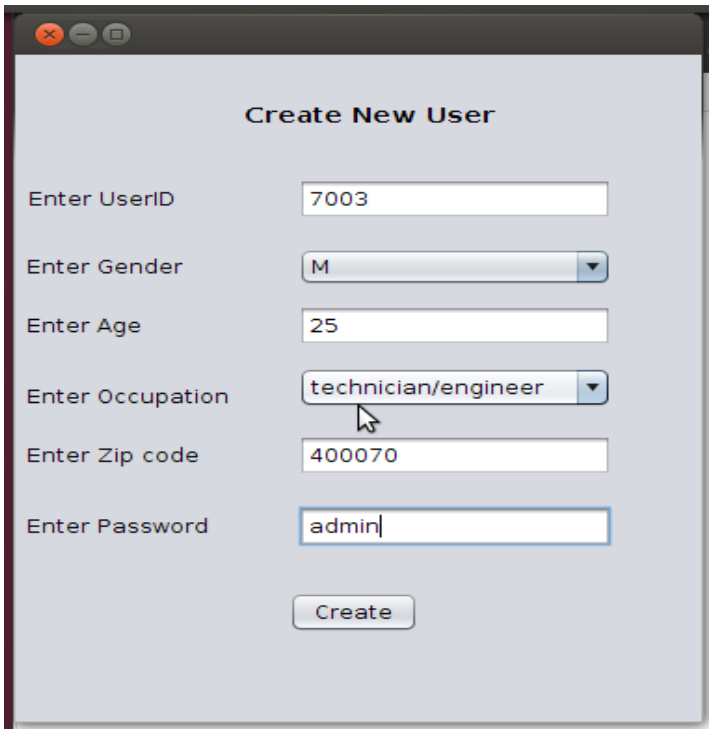

Fig. 2 Registration process

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 6, June 2017

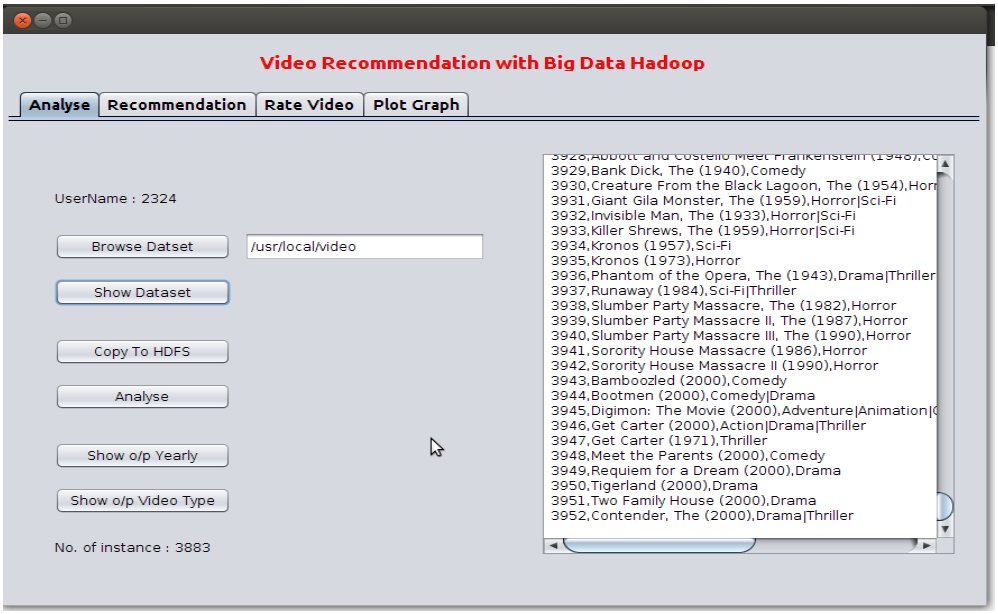

Fig. 3 Analyse the video

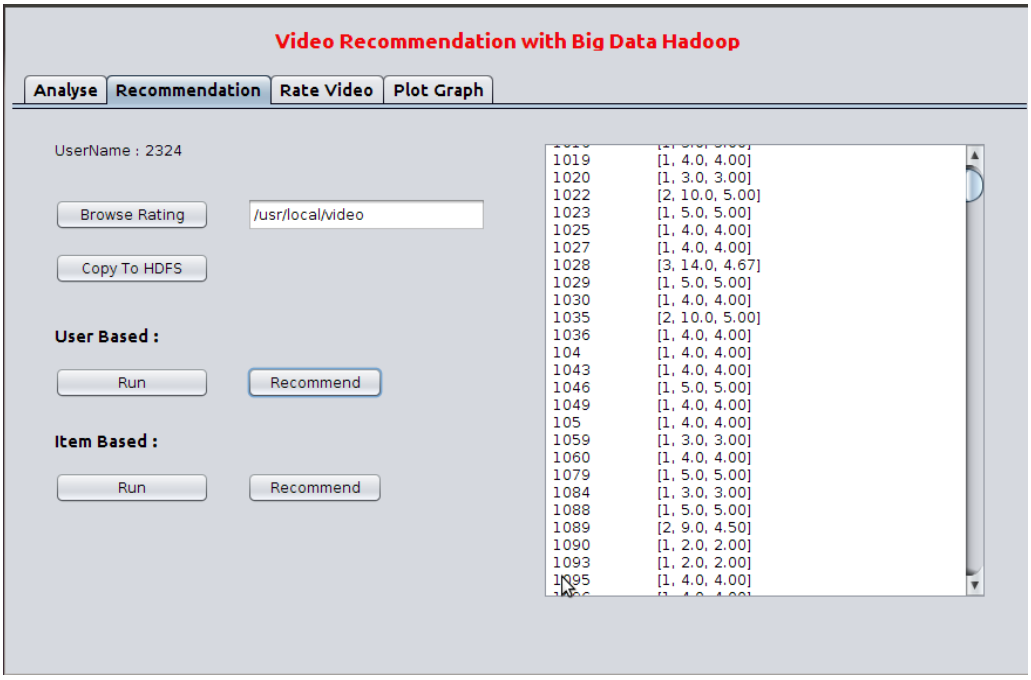

Fig. 4 User based recommendation

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 6, June 2017

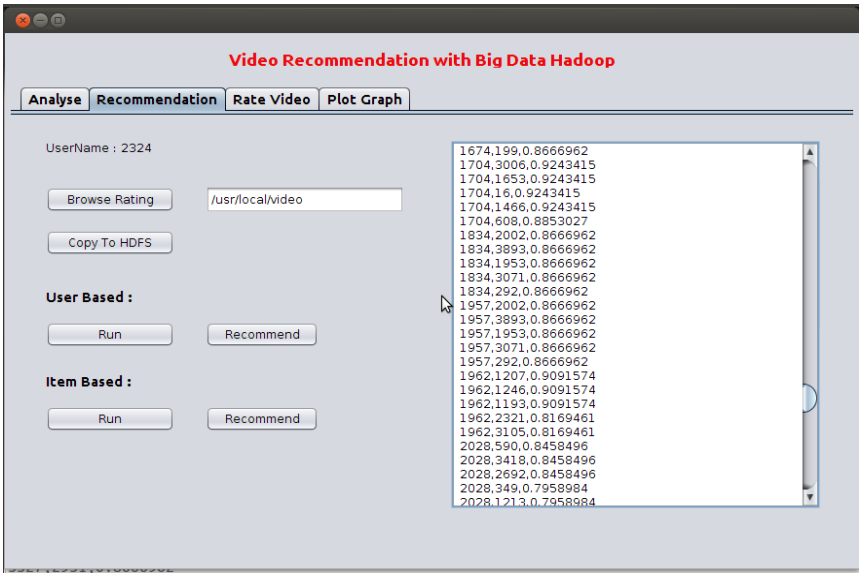

Fig. 5 Item based recommendation

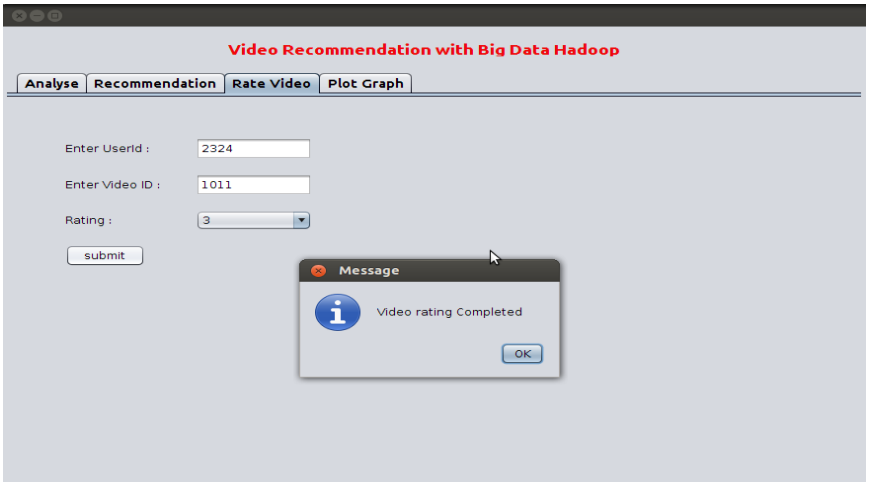

Fig. 6 Video rating

V. CONCLUSION

Recommendation systems are a very powerful technology for personalization. Thus the users are easily recommending the video by using collaborative filteration for user behavior prediction using big data hadoop.The collaborative filterating proves to be the well recommended video to the user, valid recommendation and most important time efficienc.

ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Website: www.ijircce.com

Vol. 5, Issue 6, June 2017

REFERENCES

1. Yijun Mo, Jianwen Chen, Xia Xie, Changqing Luo, and Laurence Tianruo Yang, Cloud-Based Mobile Multimedia Recommendation System With User Behavior Information,IEEE System Journal & Vol.8, 1,March 2014.
2. K.-D. Chang, C.-Y. Chen, J.-L. Chen, and H.-C. Chao, Challenges to next generation services in IP multimedia subsystem, J. Inf. Process. Syst & Vol 6, no. 2 , pp. 129-146, Jun. 2010.
3. X.Wu, Y. Zhang, J. Guo, and J. Li, Web video recommendation and long tail discovering, Proc. IEEE ICME, pp. 369-372, 2008.
4. M. J. Pazzani and D. Billsus, Content-based recommendation systems,in TheAdaptiveWeb. Berlin,Germany: Springer - Verlag, pp. 325-341, 2007.
5. Z.-D. Zhao and M.-S. Shang, User - based collaborative-filtering recommendation algorithms on Hadoop,in Proc. WKDD, pp. 478-481, 2010.
6. P. Pawar and A. Tokmakoff, Ontology -based context-aware service discovery for pervasive environments ,, in Proc. IEEE Int. Workshop Service Integr. Pervasive Environ ., Jun., pp. 1-7, 2006.
7. D. Li, Q. Lv, X. Xie, L. Shang, H. Xia, T. Lu, and N. Gu, Interest based real - time content recommendation in online social communities ,Proc. Knowl.-Based Syst., vol. 28, pp. 1-12 Apr. 2012.
8. Z. Zheng, H. Ma, R. Lyu, and I. King, WSRec:" A collaborative _ltering based web service recommender system" , in Proc. IEEE Int. Conf. ICWS, , pp. 437444, 2009.

BIOGRAPHY

Shraddha Walwadkar student of ME Computer Engineering second year from the college TSSM's Padmabhushan Vasantdada Institute of Technology, Bavdhan, Pune.