

# E-Commerce Platform Recommendation System

#1 Mohini Jaiswal, #2 Aishwarya Jakate, #3 Harshal Pawar, #4 Srushti Kale

<sup>#1234</sup>Department of Computer Engineering, Dhole Patil College of Engineering, Pune.

Submitted: 01-05-2021

Revised: 09-05-2021

Accepted: 10-05-2021

**ABSTRACT** :The sale and purchase of goods are now starting to move from being offline to online using the internet, or what is known as e-commerce. With the development of the internet and intelligent computing technology, e-commerce is increasingly being used. The product offered by e-commerce platforms is a matter that needs to be considered because it can influence the user's decision in buying a product. This study aims to build itemized collaborative recommendation system for products on an e-commerce website according to the user's needs. There are several methods that can be used to recommend a particular product, one is based on popularity and the other is purchase history based. Thus, the product recommendations are expected to be in accordance with the user's interest which suits the user's need. Based on the case studies conducted, the results of recommendations provided with this approach not only provide recommendation for specific products but also consume less time and energy of the users. Thus, the recommendation will be more varied and are expected to be more in line with the user interests.

**Keywords:** Recommendation system, itemize collaborative, popularity based, purchase history.

## I. INTRODUCTION

Recommendation systems become an important research area since the appearance of the first papers on collaborative filtering in 1990s. There has been much work done both in the industry and academic area for developing new approaches in recommender systems over the last decade. The interest in recommendation system still remains high because it constitutes a problem-rich research area and because of practical applications that help users to deal with information overload and provide personalized recommendations, content, and services to them. Examples of such applications include recommendations of various books, CDs, products at Flipkart.com, movies by Movie Lens. Online E-commerce websites like Amazon, Flipkart uses different recommendation models to provide

different suggestions to different users. Amazon currently uses item to item collaborative filtering, which scales to massive data sets and produces high quality recommendation in real time. This type of filtering matches each of the users purchased and rated item to similar items, then combines those similar items into recommendation list for the users. In this project we are going to build recommendation model for the products of such website. Recommendation system is one application which is being used by many vectors and online service providers to believe the necessity of online users. Thus, the recommender system is presented as an intelligent system, which identifies the user category having a basis on the user information (purchase history) and then user interest analysis. Once such information is obtained, in second stage, the analysis is performed to obtain the similarity group respective to necessity products and services. To perform such kind of analysis there are some existing techniques such as popularity based and purchase history based.

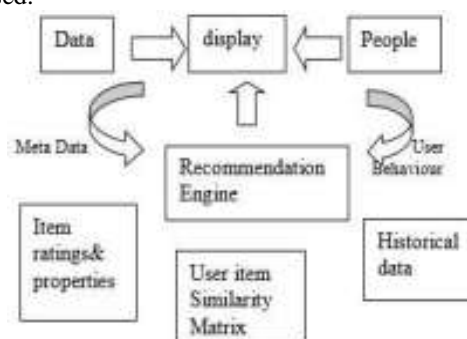


Fig: Architecture of Recommendation system

## II. LITERATURE SURVEY

1)Deng Ailin, Zhu Yangyong, Shi Bole [1] proposed a collaborative filtering algorithm that is one of the methods used in recommendation system. The traditional algorithms focus only on user ratings and do not consider the changes of user interest and the credibility of ratings data, which affect the quality of the system's recommendation. Hence this paper presents an

improved algorithm to solve this problem. The idea is based on the assumption that similar users have same preferences. Find users similarity to find the neighbors having the similar interest with that of the user.

Combine the neighbor's scores for giving the user's preference. Then the top-N items for that user are provided. But the similarity measurements in collaborative filtering algorithm pay attention to the similarity score rather than the user interest.

2)Wang Guoxia, Liu Heping [4] proposed survey in personalized recommendation systems. Service recommendation systems are very efficient. These are applied in a many applications. The number of customers has grown fast, resulting in big data analysis problem for the service recommendation systems. Collaborative filtering builds model from customer's past behavior as well as from similar decisions made by others having similar interests. Content-based filtering uses many attributes of an item to recommend more items having similarities in properties. These are combined to form hybrid recommendation

systems. Each type of system has its advantages and disadvantages. This paper helps to choose better algorithm strategies for recommendation based on the requirements and input set of the system.

Problem statements: Building itemized collaborative recommendation system for products on an e commerce website.

### III.PROPOSED SYSTEM

Proposed system is a better E-Commerce recommendation system that can give out effective recommendations for users which are satisfying to them to a great extent. Customers can get many benefits and also the trading volume can be increased .Proposed system aims at implementing the recommendation system for customers to get the items they want. Proposed recommendation system mainly consists of models namely – ERD, Recommendation system, ect.as shown in fig-1. Proposed system satisfies the consumers to a better extent.

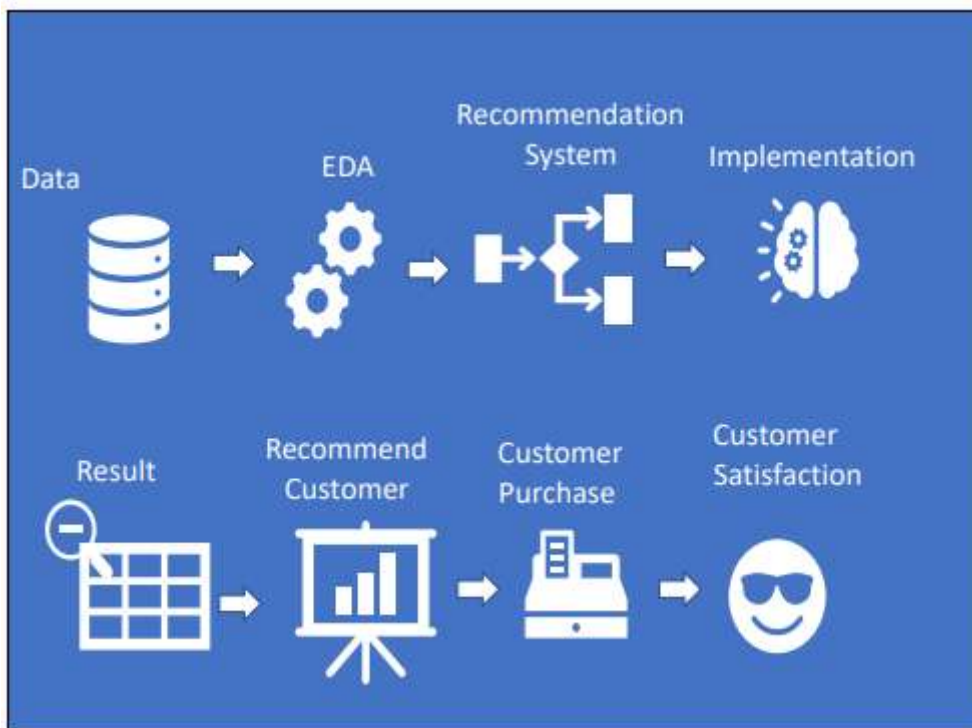


Fig1. System architecture

### IV.CONCLUSION

Recommendation system are an efficient technology that help people to find their interests with less effort ,less work and less spending time with more accuracy .This paper explained about the two recommendation systems. Thus these

recommendation systems have offered many methods for searching and filtering information. Recommender system are rapidly becoming a important tool in E-commerce on the Websites. Based on popularity based and purchased based history recommendation is done easily.The

improved modelling of users and items, incorporation of the contextual information into the recommendation process, support for multicriteria ratings, and facility of a more flexible and less interfering recommendation process.

### REFERENCES

- [1]. G. Adomavicius and A. Tuzhilin." Toward the next generation of recommender systems: A survey of the state-of-the-art and possible extensions". IEEE transactions on knowledge and data engineering, pages 734–749, 2005.
- [2]. M sharma, Smann , "A survey of Recommender systems :Approaches and Limitations ",2013.
- [3]. R pagare ,Ashinde," A study of recommender systems Techniques",2012
- [4]. A .H Rafsanjani, NSalim, A R Aghdam, K B Fard,"Recommendation system: a Review",2013
- [5]. D Asanov,"Algorithms and Methods in recommendation systems ",2012
- [6]. G..Adomavicius, A Tuzhilin," Recommendation Technologies:Survey of Current Methods and Possible Extensions",2004
- [7]. Parul ,k .khanna,"Literature Survey: Recommender Systems", March 2015, Volume 3 Special Issue, ISSN 2349-4476
- [8]. L.Sharma, A. Gera," A Survey of Recommendation System: Research Challenges", Volume4Issue5- May 2013.
- [9]. J.Beel, B. Gipp, S.Langer, and CorinnaBreitinger," Research-Paper Recommender Systems: A Literature Survey"
- [10]. Jiajun.Bu,Xin.Shen,Bin.Xu,chunchen,Xiaofei He,DengCai," Improving Collaborative Recommendation via User-Item subgroups" in IEEE,2016.
- [11]. Leonardo Zanetsste, Claudia L.R. Motta, Flávia Maria Santoro, Marcos Elia "A Trust-based Recommender System for Collaborative Networks" 2009 IEEE.
- [12]. A. Kuepper, "Recommender systems," eCommerce, vol. Chapter 08, p. 13, 2011.
- [13]. A scalable collaborative filtering algorithm based on localized preference, vol. 1, 2008. [Online]. Available: <http://dx.doi.org/10.1109/ICMLC.2008.4620397>
- [14]. Michael J. Pazzani and Daniel Billsus, "Content Based Recommendation System."
- [15]. Diego Campo, MiquelSonsona, Jose Miguel Pulido "A hybrid recommender combining user, item and interaction data".
- [16]. Claypool, M., A. Gokhale, T. Miranda, P. Murnikov, D. Netes, and M. Sartin, "Combining content-based and collaborative filters in an online newspaper". In ACM SIGIR'99, Workshop on Recommender Systems: Algorithms and Evaluation, August 1999.
- [17]. Rong Hu, "Acceptance Issues of Personality based Recommender Systems", RecSys'09, October 23–25, 2009, New York, New York, USA. ACM 978-1-60558-435-5/09/10 (pp 221-224)