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Book Recommendation System Using Collaborative Filtering

Pratik S. Chopade, Mrs. Mrunalini S. Patil, Aniket R. Rathod, Pratik R. Chaudhari, Mayur A. Jain

Head of Department, Department of Computer Engineering, JSPM's RSCOE Polytechnic, Pune, India

Lecturer, Department of Computer Engineering, JSPM's RSCOE Polytechnic, Pune, India

Students, Diploma in Computer Engineering, JSPM's RSCOE Polytechnic, Pune, India

ABSTRACT: Book Recommendation System using Collaborative filtering is program that proposes comparable things to a buyer
based on his/her prior buys or inclinations. Book Recommendation System (BRS) analyzes colossal information of objects and compiles a list of those objects which would satisfy the necessities of the buyer. These days most ecommerce companies are utilizing Recommendation frameworks to draw buyers to buy more by advertising things that the buyer is likely to prefer. Book Proposal Framework is being utilized by Amazon, Barnes and Respectable, Flipkart, Goodreads, etc. to prescribe books the client would be enticed to purchase as they are coordinated with his/her choices. The challenges they confront are to channel, set a need and allow suggestions which are exact. Book Recommendation System (BRS) frameworks utilize Collaborative Filtering(CF) to produce records of things comparable to the buyer's inclinations. Collaborative Filtering is based on the suspicion that on the off chance that a user has evaluated two books at that point to a user who has read one of these books, the other book can be suggested.

 KEYWORDS: Recommendation System (RS), Collaborative Filtering(CF),Online book purchase,Most Rated Books.

I. INTRODUCTION

Proposal framework channels data by anticipating appraisals or inclinations of buyers for items that the customer would like to utilize. It tries to prescribe things to the buyer concurring to his/her needs and taste. Book Recommendation System (BRS) basically applies two strategies to channel data - Content-based and Collaborative filtering. Content-based filtering includes prescribing those things to a buyer which are comparable in substance to the things that have as of now been utilized by him/her. To begin with, it makes a profile of the shopper, which comprises his/her taste. Taste is based on the sort of books appraised by the customer. The framework investigates the books that were enjoyed by the buyer with the books he had not evaluated and looks for likeness. Out of these unrated books, the books with the most extreme esteem of similarity list will be prescribed to the shopper. Paul Resnick and Hal Varian were the ones who proposed Collaborative Filtering calculation in 1997. It got to be prevalent in the midst of the different frameworks.

1] User-based approach: As per this strategy, clients with alike choices frame a neighborhood. If a thing isn't evaluated by the buyer, but it has been evaluated exceedingly by other individuals of the neighborhood, at that point it can be embraced by the buyer. Subsequently the buyer's choices can be anticipated based on the neighborhood of comparable buyers.

2] Item-based approach: In this strategy, likeness between the gathering of objects appraised emphatically by the buyer and the desired question is calculated. The things which are exceptionally alike are chosen. Suggestion is computed by finding the weighted implies of the user's appraisals of the alike objects.

II. LITERATURE SURVEY

 As we identified that there are paid books which are given on the recommendation of the user's given data on various websites or previous data so we recommend books to the users on their previous searches and gives him/her information about the various books in which he/she may be interested.Some platforms from where we took our idea for recommending books using collaborative filtering:

1] Algorithms and Methods in Recommender Systems. Daniar Asanov, Berlin Institute of Technology Berlin, Germany To get information about collaborative filtering. In this paper we describe traditional approaches and explain what kind of modern approaches have been developed lately. All the paper long we will try to explain approaches and their problems based on a Books recommendations.

2] Online Book Recommendation System Using Collaborative Filtering. Avi Rana, K. Deeba SRM Institute of Science and Technology,Chennai, India. To get information about the Recommendation system. Recommendation System (RS)

is software that suggests similar items to a purchaser based on his/her earlier preferences. RS examines huge data of objects and compiles a list of those objects which would fulfill the requirements of the buyer.

III. METHODOLOGY

1] To access the website, the user first needs to authenticate himself/herself. If the user has already an account he/she can simply login using the email and password. If the user doesn't have an account, he/she can sign up/register from the signup screen as shown in Figure-1. After successful signup and verification of the email, the user will be redirected to the login page for login, as shown in the Figure-2. From there he /she can login to the website. After successful login,

the user will be directed to the home page of books, as shown in figure-3.
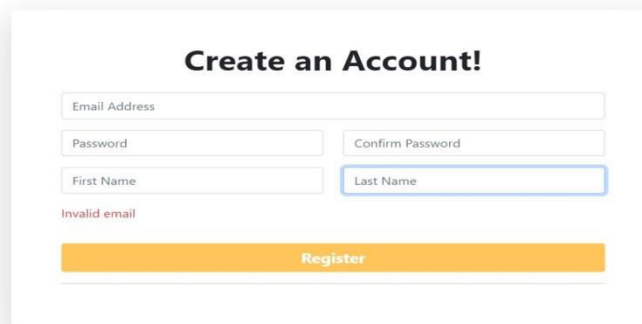
FIGURE-1
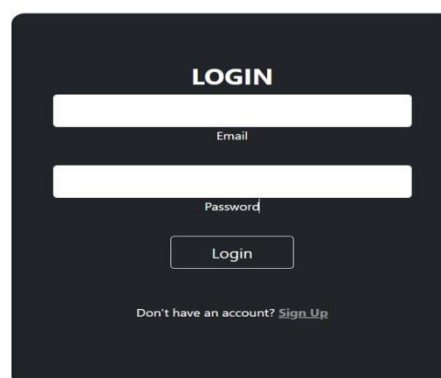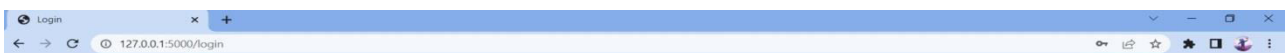
FIGURE -2
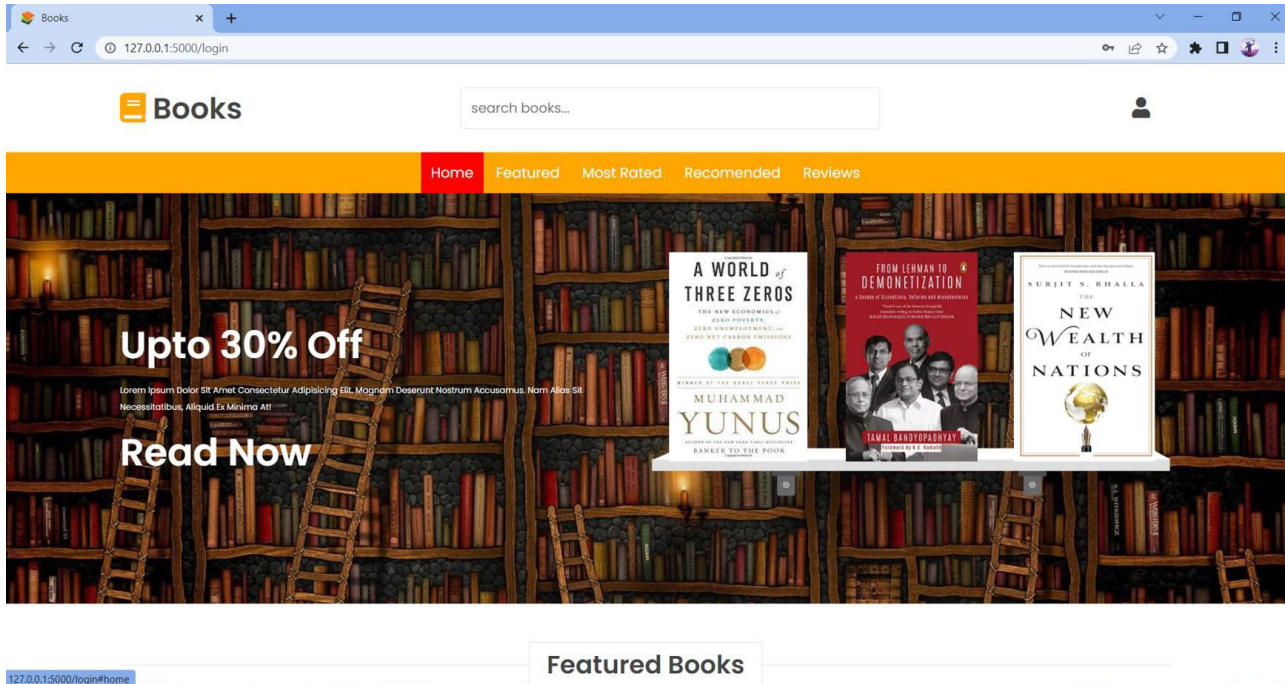
FIGURE -3

After successful login and directed to the home page and scrolling down we get to see the featured books in which featured books are quality books that the community believes to be the best of what wikibooks has to offer and should inspire people to improve the quality of other books, as shown in figure-4. After the featured books section we get to see the books which are most rated by the users in the most rated books section and here we get the books which are most liked, as shown in figure-5. Scrolling down after the most rated book section we get to see the recommended books section in which the user gets books recommended on the basis of his previous searches and previous books visits and which type of books users like to read as shown in figure-6.
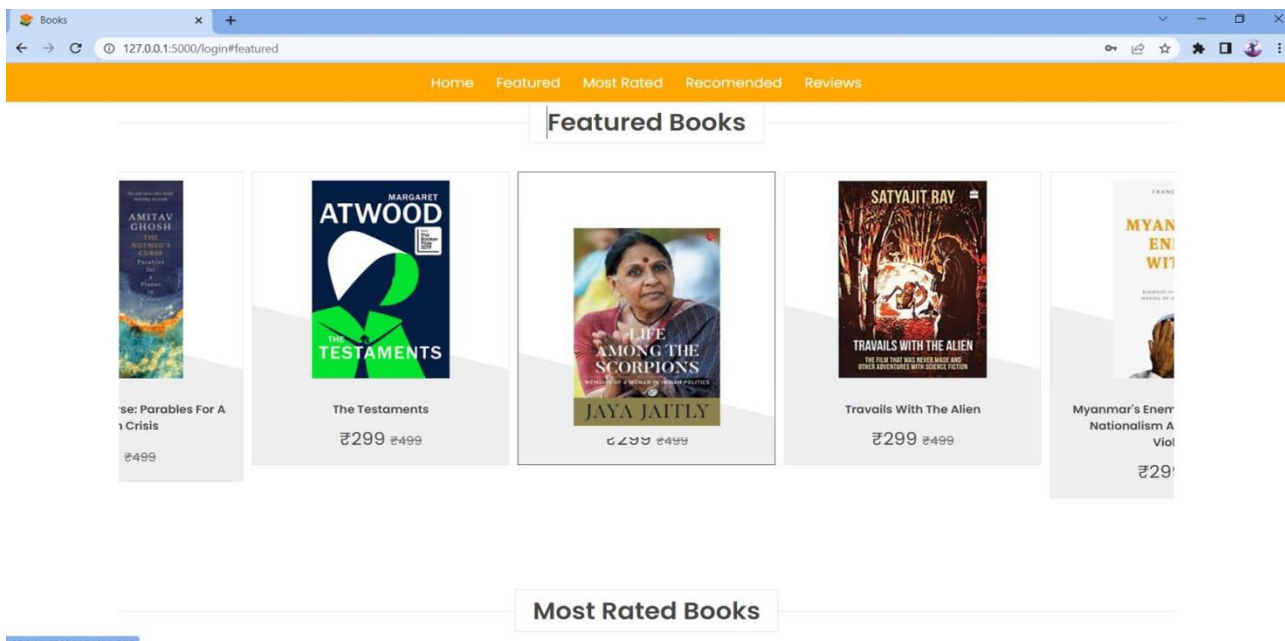
FIGURE -4
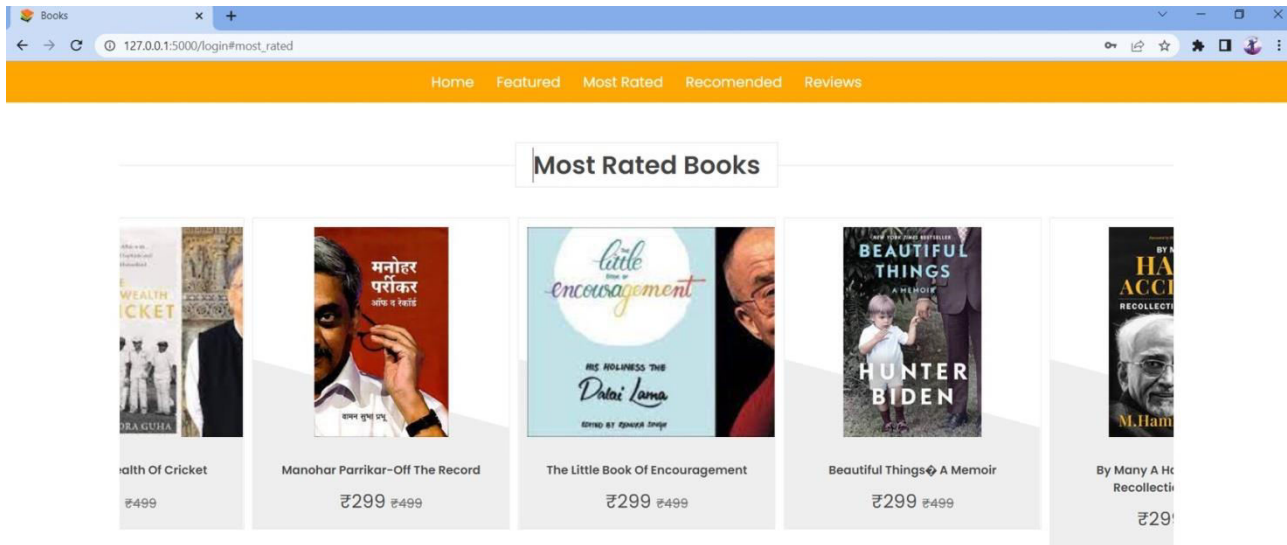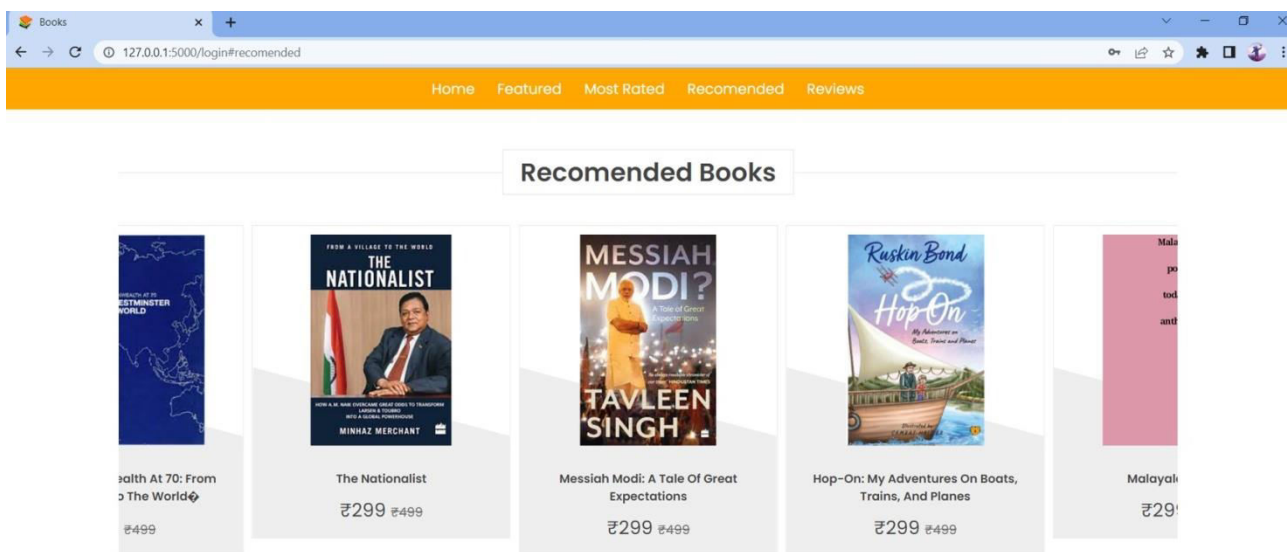
FIGURE -5

FIGURE -6

In order to search the books we need to click the search box and after that we can search a book either by author's name or books name and we will get the results. We searched the word world in the search box as shown in figure-7 and we got the result as the following picture shows.
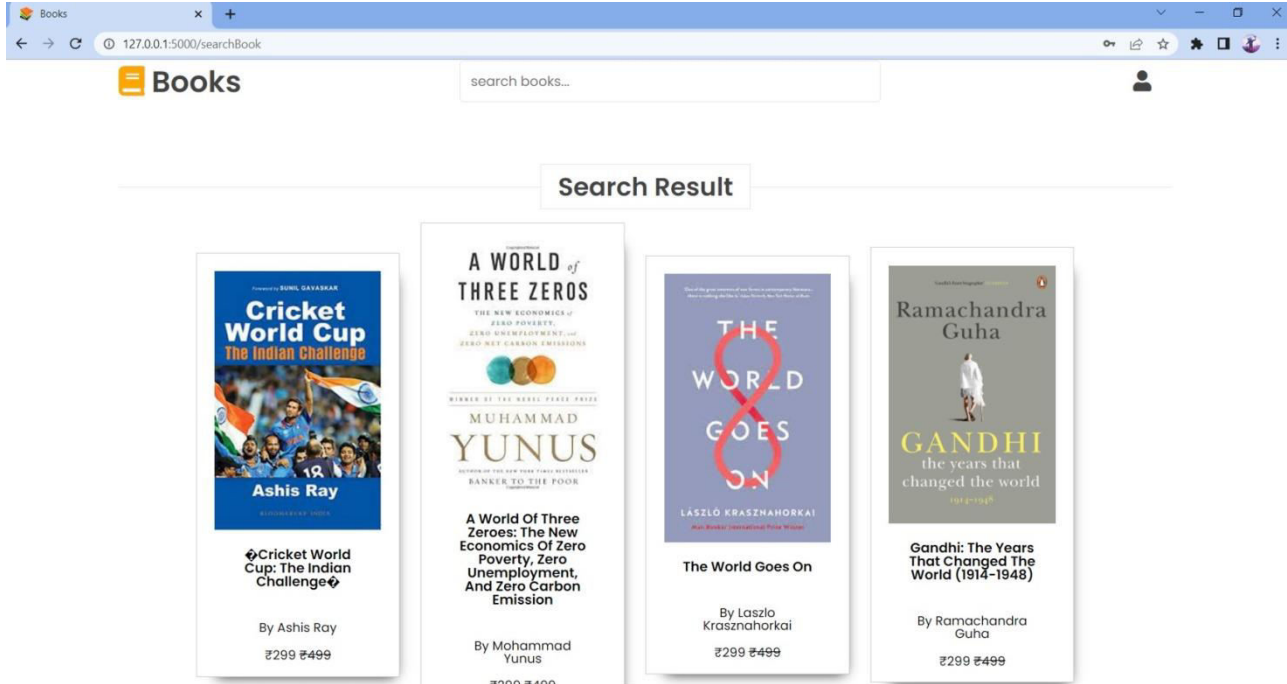
Figure-7

In the admin panel, we get to manage the books we provide on the website. In which we get to edit the Book ID, Book name, Author, Published year and description of the given paper, as shown in figure-7. In the Admin Panel, we also get to manage users data, as shown in figure-8.
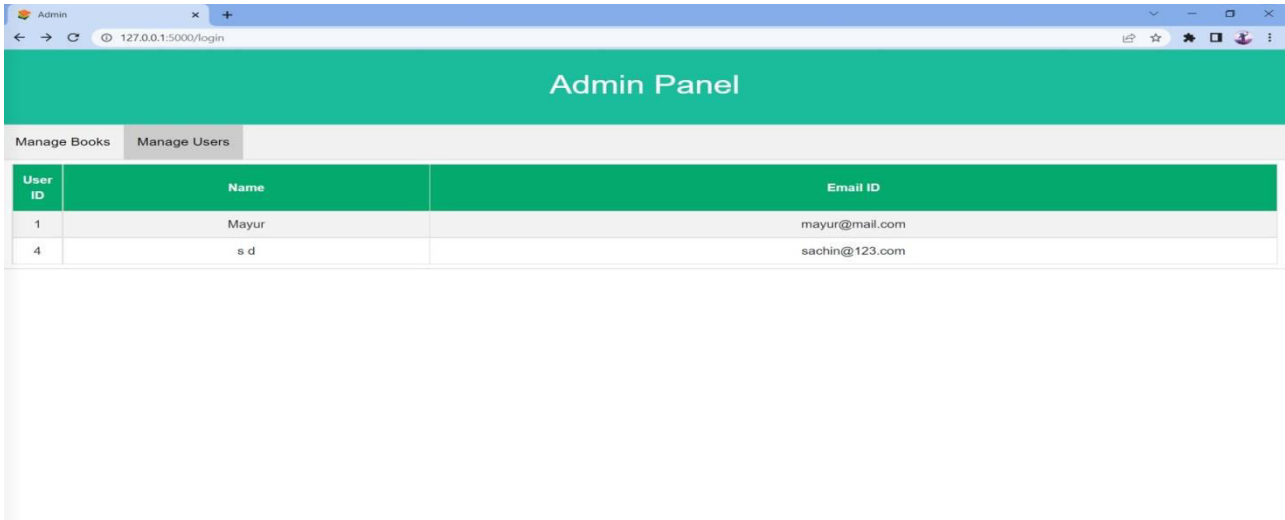

FIGURE -8

FIGURE -9

In the Admin Panel, we also get the add button in the bottom right corner in which admin gets to add any specific book in which we need to specify the Book ISBN No, Book Name, Book Author, Published Year, Book cover link and Book Description and after that we can add that book after clicking on the add book button, as shown in figure-9.
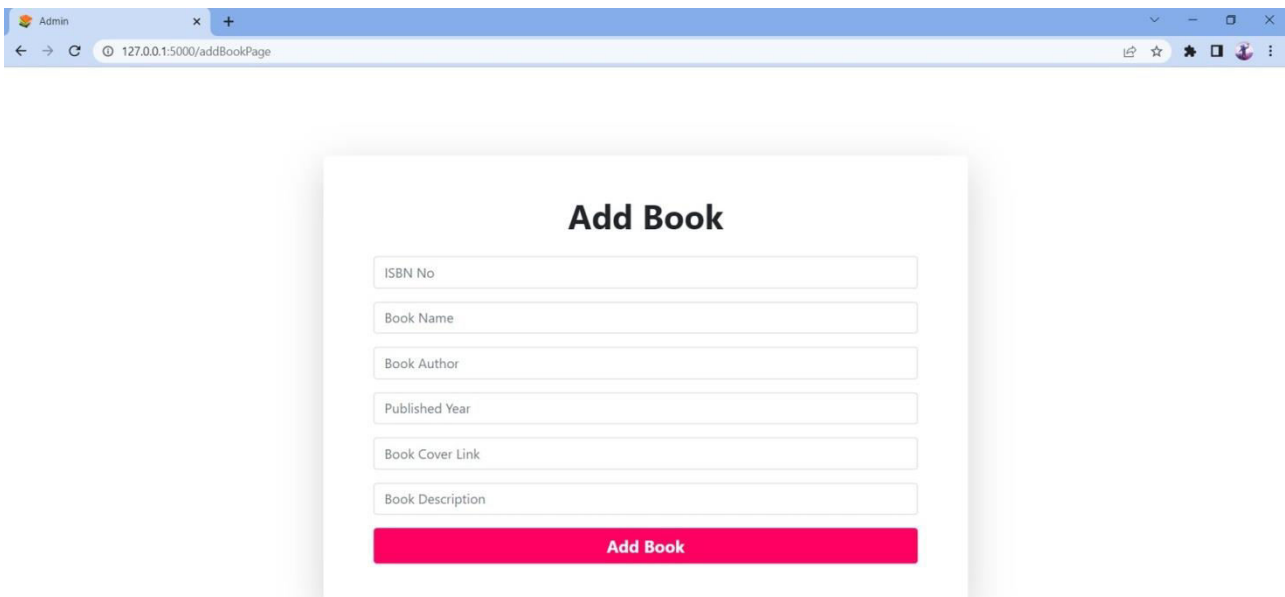

FIGURE - 10

IV. SOFTWAREAND TECHNOLOGIES USED

1]Visual Studio Code Editor
2]XAMPP Server-Mysql Database
3]Google Collab
4] Python IDE
5]Microsoft Excel-for Cleaning Data
6]Google Chrome-Web Browser

V. CONCLUSION

We have successfully developed a Book Recommendation System using Collaborative Filtering. Even with the adaptation of a fitting algorithm for recommendation, the RS faces an obstacle because of the large quantity of data that needs to be handled. According to the experimental results, the proposed algorithm with compact dataset was more accurate than existing algorithms with full datasets. In addition, JS uses the number of common users as a basis for measuring similarity, rather than the absolute ratings, as used by most existing algorithms, which gives a more accurate result.

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3. https://www.researchgate.net/publication/337310327_Online_Book_Recommendation_System_using_Collaborative_Filtering_With_Jaccard_Similarity
4. http://pzs.dstu.dp.ua/DataMining/recom/bibl/1aggarwal_c_c_recommender_systems_the_textbook.pdf
5. https://www.snet.tu-berlin.de/fileadmin/fg220/courses/SS11/snet-project/recommender-systems_asanov.pdf
6. https://www.researchgate.net/publication/200121027_Collaborative_Filtering_Recommender_Systems
7. https://www.hindawi.com/journals/wcmc/2021/7036357

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📱 9940 572 462   🟢 6381 907 438   ✉ ijircce@gmail.com

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