Book Thesaurus: A Novel Recommendation System Based Using AWS Cloud

Ms. G V Vaishnavi[1], Vignesh S[2]
[1]*MCA Scholar, School of CS & IT, Dept of MCA, Jain (Deemed-to-be) University, Bengaluru*
[2]*Asst prof., School of CS & IT, Dept of MCA, Jain (Deemed-to-be) University, Bengaluru*

Abstract **- Internet has become easy to access for every individual and users like to get suggestions for what they need from web due to the surge in access of internet. Recommendation systems has seen sudden boom in the usage, the model that we proposed is for recommending books to the users based on their interest. The uniqueness of this model is that almost all the available models in market suggests books to its users based on ratings but our model suggests books to its users based on the genre of their interest. In order to provide high throughput and low latency for the model we used DBaas in cloud. Since, aws is one of the highly rated cloud platforms. We choose it to host our recommendation system.**

Index Terms **- Internet, recommendation system, ratings, genre, DBaas, aws.**

I.INTRODUCTION

Recommendation system means suggesting users with the things they like. Due to the surge in the usage of internet by public recommendation systems can be made available on web which eases the task for the end user in choosing the things they like. The proposed model is a book recommendation system that recommends users books based on the genre user likes. The model is a machine learning based system which inculcates the inclusion of machine learning algorithms to recommend books. Book thesaurus works using apriori algorithm which is one among the best recommendation algorithms available. Recommendation works based on the dataset available. On top of the dataset machine learning algorithm namely apriori works and fetches the desired output to its users. Just developing model doesn't make it available for users to access over internet. In order to make model available over internet it is preferred to host on web server, hosting on cloud platform makes model highly available to end users. We host our database in aws using DBaas service that is mongodb atlas. DBaas stands for database as a service which is an offering of cloud. DBaas ensures low latency and high throughput for the application. Mongodb atlas allows us to use any cloud platform such as (aws, azure, gcp) to host database.

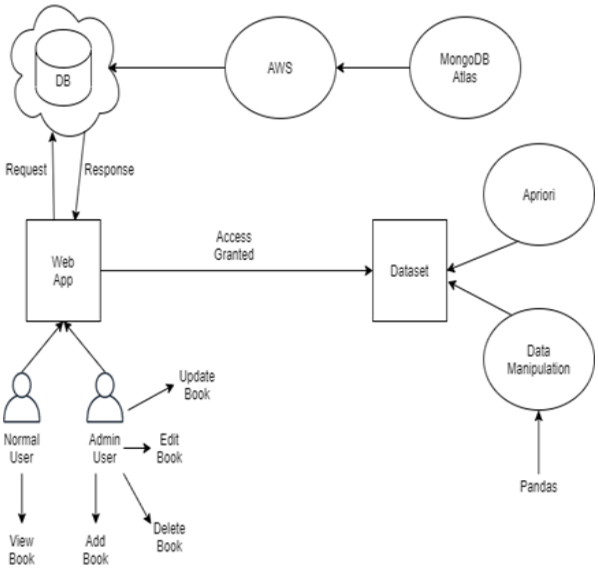

Fig 1: Architecture

II.LITERATURE REVIEW

Throughout the most recent many years recommender frameworks arose as a critical data sifting framework. It utilizes a few strategies for proposal which incorporates content-based, cooperative and cross breed techniques. Anyway, disregarding this progression, the patterns followed by recommender arrangement of current age reviewed in this paper actually requires further changes to improve proposal. We evaluated different issues that are looked by methods followed by recommender framework and examined potential arrangements that can help in giving better suggestions.

The technique used in this paper is good but it is not efficient in suggesting users with the desired products they require. That is because the algorithm recommends users undesired products (surprising elements).

The feedback methods used in this paper are mainly focused on the ratings rather than the genre or category of the things the user likes.

In this paper, we have shown a propose arrangement of a recommender framework in e-learning by utilizing a rationale-based approach, APARELL. The framework will gain from client's distinctive learning style to give a bunch of suggestion. We intend to proceed with our work by carrying out this plan what's more, assess it online by welcoming genuine understudies. We will inquire the speaker to make material dependent on the distinctive learning style. The execution of the proposed model of proposal framework can assist the understudies with tracking down the best material and keep them spurred during their investigation. Not just the understudies will think that it's helpful, yet in addition the teachers when they need to realize their understudies learning style to build up a more appropriate material substance.

Recommender systems are turning out to be a very effective tool embedded in to the websites for increasing the user experience. The successful implementation of mahout or any other recommender architecture can prove out to be a boon for the sites trying to incorporate recommendations as part of their system.

In this paper, the content-based recommender system for the online store was proposed. The recommender system uses a collaborative filtering system for recommending suitable items and expert system for evaluating the popularity of items. The system also proposes an algorithm for showing items from similar users after the first login to decrease the effect of cold start problem.

A two-sessionbased recommender system with FuzzAttention. The SessRS used only the attention weight of an item without the order of the items in session, whereas the other considered the sequence information and used the attention weight to recommend the next item.

CodERS is yet another recommender system for e-learning platforms, its special context (namely programming education) and unique features make it an interesting contribution that could be inspirational for the future works in the field.

This study shows that all users recognized by our proposed algorithm as expert users are indeed expert but some expert users who spent more time in the recommender system to improve their choice of shopping are not detected by this algorithm. The result of this study can be used to offer personalized interaction for users based on their experience level with interactive recommender systems.

III.PROBLEM STATEMENT

Recommendation systems are available almost in all the sectors of usage and there are various recommendation models available for suggesting books and novels but the main drawback in the existing models is that almost every model function based on the ratings of books and novels.

IV.PROPOSED SYSTEM

The proposed model works based on the dataset which contains books and novels of various genres and this dataset functions on the apriori algorithm which is an machine learning algorithm and this helps users to get results based on their genre of interest. To make web app perform with low latency and high throughput we use DBaas. We configure mongodb atlas with aws to ensure high availability and fast performance of web application.

V.METHODOLOGIES

Collecting dataset according to model functionality was a hectic task. So, we gathered data through surveys conducted across social media platforms like whatsapp, facebook etc.

Another tedious task was to deploy model in aws cloud. Since, there are various services available in aws like elastic beanstalk, ec2, DBaas offerings, they even have disadvantages like in elastic beanstalk can't be used for code modification or upgradation in future where we have to upload entire code again. In EC2 we have to configure the dependencies and here code modification is allowed that to code can be modified segment wise rather than uploading whole code again. Choosing a right service with affordable pay was tougher job.

VI.ALGORITHMS

Apriori is the algorithm that is used in this model development. Apriori is basically used to retrieve frequent items used in the dataset. This algorithm is modified according to the model. In this case algorithm highlights the places in dataset according to user interest.

Parameters of Apriori:

- Support: This refers to frequency of occurrence of data in the data set.
- Confidence: This refers to number of times that the if – then conditions are found true.
- Lift: This parameter is used to evaluate the likelihood of two or more places association in the dataset.

VII.RESULT ANALYSIS

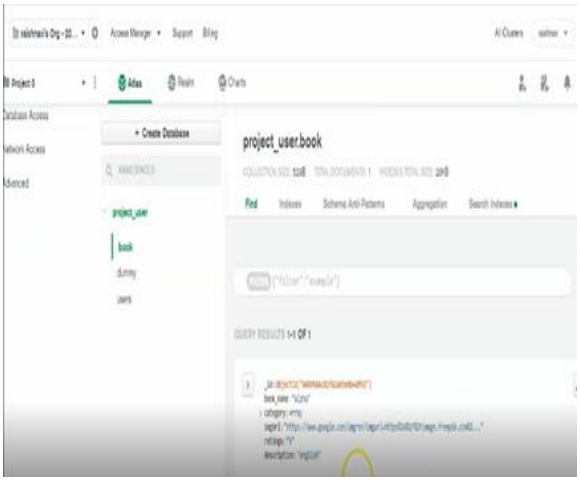

Fig 2: Data stored in cloud using DBaas offering

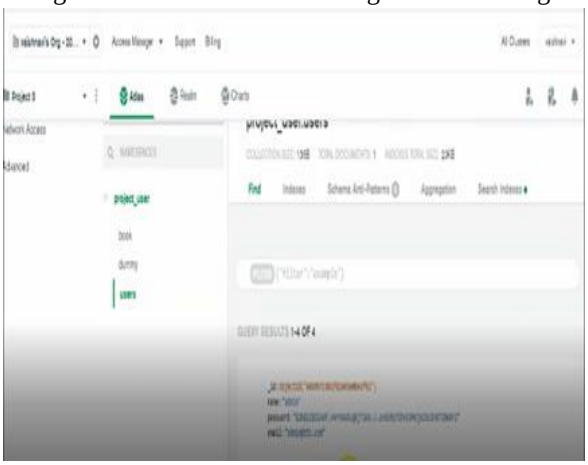

Fig 3: Data in cloud using DBaas offering

VIII.CONCLUSION

The results shown by the model are satisfactory and the interface that is developed is user friendly and attractive. Difficulty in accessing the model is quite minimal.

REFERENCES

[1] Trends, Problems and Solutions of Recommender System Authors: Dr. Sarika Jain, Anjali Grover, Praveen Singh Thakur, Sourabh Kumar Choudhary

[2] Surprise and Curiosity in A Recommender System Authors: Ahmad Al-Doulat

[3] A Survey of Recommender System Feedback Techniques, Comparison and Evaluation Metrics Authors: Masupha Lerato, Omobayo A. Esan, Ashley-Dejo Ebunoluwa, Ngwira SM, Tranos Zuva

[4] Recommender System for e-Learning based on Personal Learning Style Authors: Nunung Nurul Qomariyah, Ahmad Nurul Fajar

[5] Building an effective recommender system using machine learning based framework Authors: Ruchika, Ajay Vikram Singh, Mayank Sharma

[6] Content-Based Recommender System for Online Stores Using Expert System Authors: Bogdan Walek, Petra Spackova

[7] FuzzAttention on Session-based Recommender System Authors: Chi-Shiang Wang, Jung-Hsien Chiang

[8] CodERS: A hybrid recommender system for an E-learning system Authors: Mohammad Hossein Ansari, Mohammad Moradi, Omid NikRah, Keyvan M. Kambakhsh

[9] Personalization of Interactive Recommender Systems for Expert Users Authors: Ali Bodaghi, Elaheh Homayounvala

[10] A Recommender System for Ordering Platform Based on an Improved Collaborative Filtering Algorithm Authors: Chengchao Yu, Qingshi Tang, Zheng Liu, Bin Dong, Zhihua Wei