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Intelligent Recommendation Engine for HIPaaS (Human Intelligence Platform as a Service) Repositories

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ABSTRACT

The “Intelligent Recommendation Engine for HIPaaS repositories” facilitates a platform to connect people and share knowledge. It improves customer relationship by providing a platform for organizations of all sizes. One can find, connect and collaborate with colleagues globally and on-demand. This enables sharing one’s own top skills while bringing into use the top skills of other employees in pursuit of achieving global profile and reputation. Main focus is to leverage the feedbacks, reviews and ratings that one gets from across the globe and build the efficient system to best serve the purpose of knowledge sharing. An Intelligent recommendation engine takes the data that user provides, ratings or search history. Based on that data, a user profile is generated to make suggestions to the user.

Keywords : Recommendation Engine, Recommendation system, Machine Learning

I. INTRODUCTION

Intelligence can be defined as a general mental ability for reasoning, problem-solving, analysis and learning. Due to its general nature, intelligence integrates cognitive functions such as perception, attention, memory, language, or planning. Human Intelligence is the capability of brain to learn from past experience, adaptation to new situations, handling of abstract ideas and the ability to change his/her own environment using the gained knowledge. Whereas Artificial Intelligence is the simulation of Human Intelligence by the machines.

Recommender system is a program that recommends the most suitable products or services to users by predicting a user’s interest in an item or product or service. The prediction and recommendation is based on the related information about the items, the users and the interactions between items and users.

Recommender systems usually make use of either or both collaborative filtering and content-based filtering. This model is then used to predict items that are in the interest of the user.

"Intelligent Recommendation Engine for HIPaaS (Human Intelligence Platform as a Service) repositories" is the recommendation system that gives a common platform to both learners and instructors. Learner can benefit out of it the courses or the technology that best suits and serves their area. As an instructor or a teacher, one can showcase its area of excellence and expertise. The user can log into their accounts where they will get the relevant personalised product or service recommendations from the designed system. It mainly works on the ratings given by previous users and area of interest of the learner.

II. METHODS AND MATERIAL

Recommendation system gain information about the user and uses different methods to predict what user needs and recommend items according to this analysis. The techniques used are:

- Content-based recommendations
- Collaborative recommendations
- Hybrid Approaches

Content-based recommendations: Content-based recommendation approaches utilize a series of discrete, pre-tagged properties and characteristics of an item to recommend additional items with similar properties. The basic operation performed by a this system consists of matching the user's basic data like age, gender, location and the rated item list on the site with the similar items having common specifications, in order to recommend new items as per the user's interest.

Collaborative recommendation: This approach builds a model from a user's past behaviour like items previously purchased or selected and/or numerical ratings given to those items as well as similar decisions made by other users. This is called collaborative filtering. By doing so the system gives most accurate results. Collaborative filtering algorithms also can be divided into two categories: Collaborative Filtering (CF) algorithms based on rating prediction where it predicts the actual rating for an item that a user has not rated yet and then ranks the items according to the predicted ratings.

The second category is Personalized Ranking (PR) algorithms based on ranking prediction.

Hybrid Approaches: In a hybrid approach, two techniques such as content-based and collaborative filtering are merged to get the best advantage [9]. Hybrid approaches have multi-methods [3] out of which we have used Average Weighted approach for total rating.

The rating algorithm also known as *weighted algorithm* has a complex formula that calculates the weighted average of total ratings given by the learners. The formula is designed such that ratings from learners have the maximum influence on the overall ratings of the course. The algorithm is also updated regularly to detect spam patterns and identify fake ratings.

III. RESULTS AND DISCUSSION

Numerous courses are available for e-learning which are taught by different faculties around the globe. Finding the desired course along with the best tutor is difficult due to it.
The recommendation system provides the solution by recommending the users with personalized online services to handle the increasing online information overload problem and improve customer relationship management. Also according to the rating given by the previous users, a course is recommended to the user.

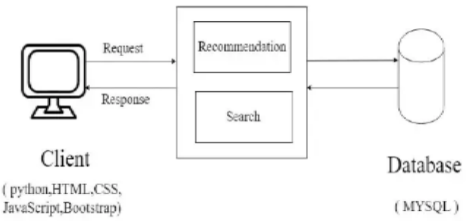

Figure: System Architecture of HIPaaS

IV. CONCLUSION

The "Intelligent Recommendation Engine for HIPaaS repositories" recommends the items based on users

area of interest and the ratings given by previous users. It is time saving and efficient platform for knowledge sharing.

V. REFERENCES

[1] J. Bobadilla, F. Ortega, A. Hernando, A. Gutiérrez, Recommender systems survey, Knowledge-Based Systems, 46 (2013) 109-132.

[2] Jie Lu, Dianshuang Wu, Mingsong Mao, Wei Wang, Guangquan Zhang, Recommender System Application Developments: A Survey

[3] Yagnesh G. Patel, Vishal P.Patel. "A Survey on Various Techniques of Recommendation System in Web Mining", International Journal of Engineering Development and Research, 2015 IJEDR,Vol 3(4),2015,pp.696-700

[4] https://www.uts.edu.au/sites/default/files/desi-publication-recommender%20system%20application%20developments%20a%20survey-accepted%20menuscript.pdf

[5] D.H. Park, H.K. Kim, I.Y. Choi, J.K. Kim, A literature review and classification of recommender systems research, Expert Systems with Applications, 39 (2012) 10059-10072. 30

[6] R. Burke, Hybrid recommender systems: survey and experiments, User Model User-Adap Inter, 12 (2002) 331-370.

[7] https://towardsdatascience.com/how-youtube-recommends-videos-b6e003a5ab2f

[8] https://towardsdatascience.com/build-your-own-recommendation-engine-netflix-demystified-demo-code-550401d4885e

[9] Shah Khusro, Zafar Ali and Irfan Ullah. "Recommender Systems: Issues, Challenges, and Research Opportunities". Information Science and Applications (ICISA) 2016, pp.1179-1189

[10] https://www.educba.com/artificial-intelligence-vs-human-intelligence/

[11] G. Adomavicius, 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, 17 (2005) 734-749.