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Institute Recommendation System Using ML

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Abstract: ***To choose any educational organization is one of the major or foremost decision for every student because it plays a vital role for growth and development of students and it also helps to boosts their career. SSC is one of the crucial stage of every student's life in India. It decides the future of every student career. SSC decides in which stream the student will make his career. SSC scores of the student decides in which college the student will take admission. College selection is second step after SSC in student's career. The college selection plays an important role as college selection requires a lot of searching work. Students search for the various aspects like college campus, teaching staffs, extracurricular activities in colleges, infrastructure of colleges, etc., even the reviews of college is searched to get extra confirmation about the genuinely of details. Searching all the details requires a large amount of time. Hence, it's important to reduce this manual work and automate this with help of software.***

I. INTRODUCTION

In India we hardly do have common forum where onecan get information about various engineering colleges and its ranking. Recommendation system are software or tools which provides recommendations of items to the user in which they might be interested [1] [2]. These systems are playing vital role in Information and ecommerce ecosystem, assisting users in the process of identifying items that fulfill their wishes or needs. These systems represent important powerful method enabling users to filter out large information and product space [6].

Various types of Recommendation Techniques include:

1) Collaborative Filtering
2) Content Based Recommendations
3) Demographic Recommendations
4) Knowledge Based Recommendations
5) Hybrid Recommendations

A. Content-based Filtering

In Content-based filtering the system generates recommendations from two sources: the features associated with the products and the ratings that a user has given them [1]. This typically is treated as a user-specific problem in which a user profile/model is built by understanding user's interest in the product features. For example if 'X' person likes 'Sci-Fi' book then next time when he/she searches for book he will be recommended 'Sci-Fi' books and so on.

B. Collaborative Filtering (CF)

Collaborative Filtering generates recommendations using only information about rating profiles for different users That is, system locates users whose preferences are similar to those of the given user and recommend items they have liked in the past. For example if a teenager likes Harry Potter book then it is likely that all users who are teenagers are going to like Harry Potter Books and the same can be recommended to them. This can be done by generating User-item similarity matrix.

Advantages of CF includes

1) Since CF systems works on ratings, it does not depend on additional profile information of users and items
2) CF systems considers users' experience and taste it has capability to produce personalized recommendations,

C. Hybrid Approaches

To improve the recommendation results multiple recommendation techniques can be combined.

These techniques can be combined in 7 different types as: Weighted, Switching Mixed, Feature. Combination, Cascade, Feature Augmentation, and Meta level Hybridization type that takes into account the scores of both the recommendation techniques and after combining both the results generates final recommendations. These Hybrid methods are successfully implemented by different e-commerce titans such as amazon, Netflix [2] etc. successful in reducing overheads and inventory costs. Companies such as Flipkart, Walmart, Amazon and eBay have used this technology to modify their business strategy.

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1) *Recommendation Models:* Today recommendation system is used in many areas to provide ease of selection of product or item or predict the user needs but there is no such system which can predict the college not based on the marks but the best match according to the student profile. This system providesranked list of colleges or university along with all government courses available to the student according to preference given by the student.

2) *Analytic Hierarchy Process*

The Analytic Hierarchy Process is a technique created by Tom Saaty for making complex decision based on mathematics and psychology. The steps for implementing the AHP proposed model are:

a) Decompose the problem into a hierarchy of goal, criteria, sub-criteria and alternatives.

b) Collect data from experts or decision-makers corresponding to the hierarchic structure, in the pairwise Proposed framework

The proposed framework is presented in Fig. 1. It is based mainly on the proposal made by Cordon [15] for recommendation systems based on content/knowledge adapted to the characteristics of the application domain and allowing flexibility in the aggregation of the similarity of the characteristics in the user profile with respect to ideal profiles of the college degree.

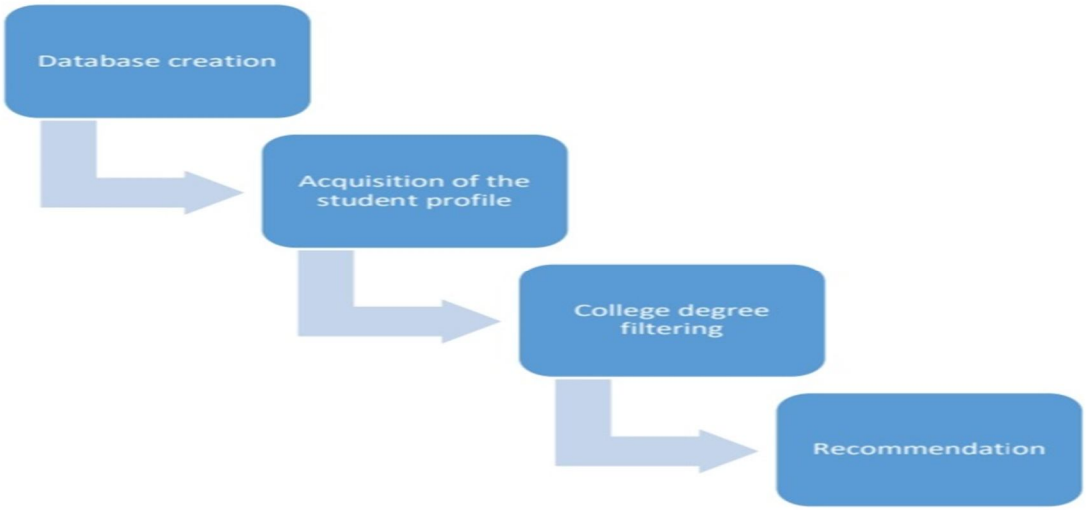


Figure 1 Proposed framework

II. CONCLUSION

This paper introduces the Online Study and Recommendation system. The basic system has been presented in this paper and design issues have been exploited by conducting a user study. Our approach in building such a system is mainly directed towards the computer supported cooperative work considering the individual's behaviour working in a group.

III. FUTURE SCOPE

Our research on the current systems show that not many have the features discussed earlier in the paper. Thus, the Online Study system will be a widely acceptable web system as it has a broad scope of development in the future. Most other famous technical features will be compatible and can be incorporated into it. For instance, the news recommendation would interest many around the world as it would keep them updated with the current affairs and research trends.

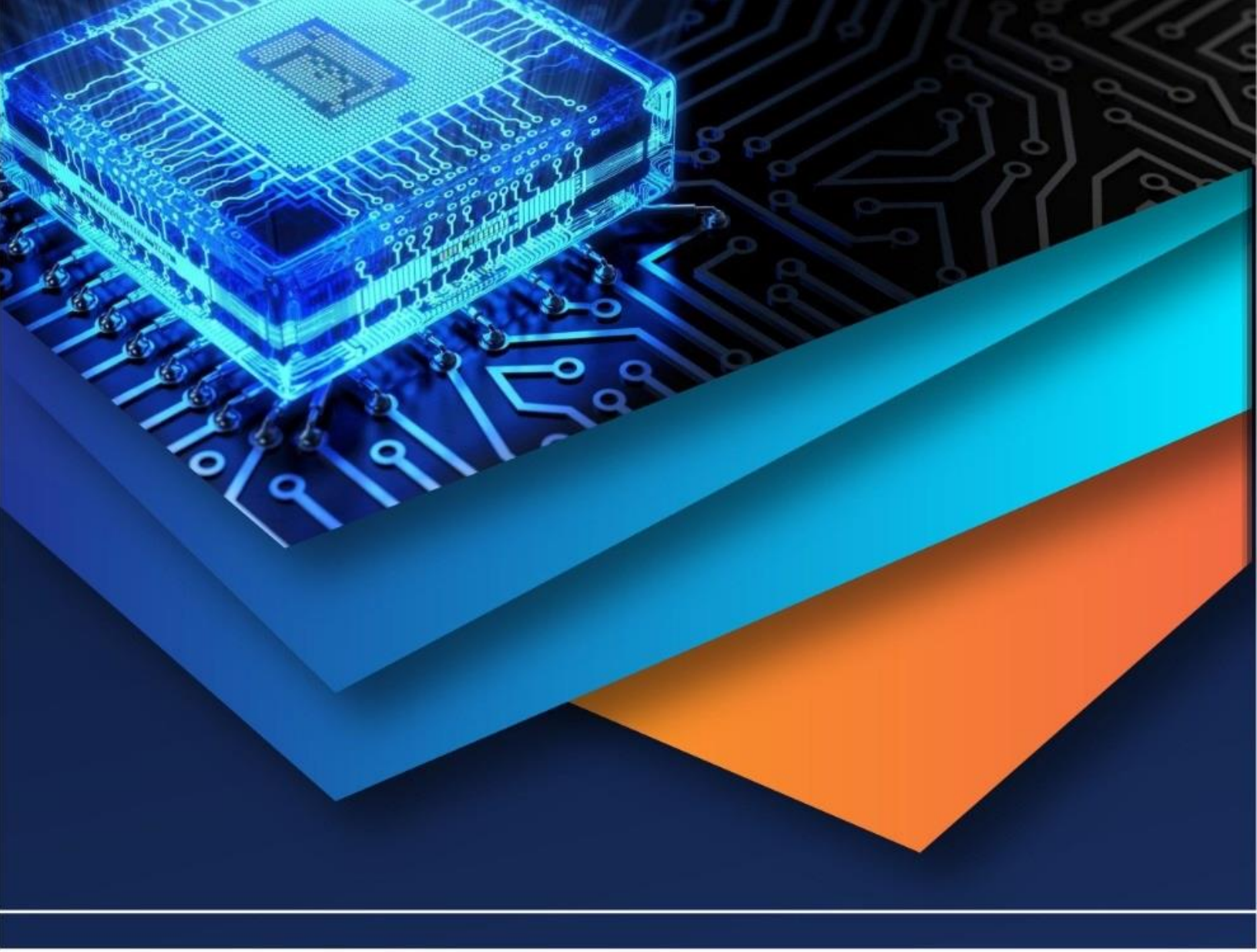
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