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The Education Trust Recommendation System

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Abstract*— In this Era of ever increasing technology as we are going forward that much we are facing dilemma. Every day we hear or read about issues like an individual is not able to study further or many undesirable circumstances or due to financial weakness. Main facts are our government propose many scheme for common people ,Even though there are various organizations and trusts that provides different facilities regarding education to the poor seeking for financial help , but still some people are not able to receive those facilities due to lack of a centralized system. So the aim is to propose a system- The Education Trust Recommendation System which will categorize education Government scheme and charitable trusts in a centralized manner and it will recommend the ongoing or upcoming policy of Government along with NGOs which will provide a required help also will highlight the availability of funds to the users availed by several organizations. So the ERS will contain modules such as , Education, Posts and a module for upcoming events and it will analyze the users rating based on recommender system. Recommender system will be based on information about user's rating given to NGO in general and recommend the organizations based on their ratings to the users.

Keywords—Education Recommendation System(ETRS),Collaborative Filtering(CF),Centralized System.

1. Introduction

Nowadays there is rapid growth of the Internet & Smartphone users and the magnitude of the applications depending on the internet. Every day we hear or read about issues like an individual is not able to study further or able to pay for higher studies due to financial weakness. Even though there are various organizations and trusts that provides different facilities regarding health and education to the poor seeking for financial help and there are several messages regarding such organizations that are forwarded over social networking sites and messaging applications, but still some people are not able to receive those facilities due to lack of a centralized system. So the aim is to propose a system The Education Trust Recommendation System which will contain education charitable trusts in a centralized manner and it will highlight the availability of funds to the users availed by several organizations.

2. Literature Survey

A. The Intelligent Health and Education Trust Recommendation System - Bhavin Rathod, Deepraj Sawant, Tejas Shetye, Silviya D'Monte. Nowadays there is rapid growth of the Internet every day we hear or read about issues like an individual is not able to study further or able to pay for treatments of various diseases due to financial weakness. Even though there are various organizations and trusts that provides different facilities regarding health and education to the poor seeking for financial help and there are several messages regarding such organizations that are forwarded over social networking sites and messaging applications, but still some people are not able to receive those facilities due to lack of a centralized system. So the aim is to propose a system- The Intelligent Health and Education Trust Recommendation System (IHERS) which will categorize health and education charitable trusts in a centralized manner and it will highlight the availability of funds to the users availed by several organizations. So the IHERS will contain modules such as Health, Education, Posts and a module for upcoming events and it will analyze the users rating based on recommender system which will be supported by Collaborative Filtering.

B. User-based Collaborative Filtering for Tourist Attraction Recommendations - Zhiyang Jia, Wei Gao have proposed a suitable recommendation method with the help of Collaborative filtering for use in a Recommendation System Based on Tourist Attraction to provide personalized tourism information to its users. Suppose that users with similar interests should favourite to the same items as each other. So, as long as the maintenance of a database on the user's preference, the neighbour users with similar interests can be calculated by analyzing the stored preference, and then it can be recommended to the user based on the neighbour users' interest.The goal of this technique is that the recommendations of attractions are generated according to make certain decisions for development desired place.

C. Personalized Location aware Recommendation System - R. Shanmugalakshmi, Veningston. K have proposed a system which analyzes the location-aware reviews, so as to understand the experiences of community users and further it is matched with a specific user search preference to suggest preferable locations for meeting their goal especially when they visit a new place. The idea was to infer the user's preferences and thus to recommend nearby locations such as hospitals, food courts, shopping and so on. The main aim of Personalization in Location Recommendation system is to present the users with what they need without the need to ask for it explicitly. This means that a personalized system must somehow infer

what the user requires based on either previous or current interactions with the user.

D. A new user similarity model to improve the accuracy of collaborative filtering - Haifeng Liu, Zheng Hu, Ahmad Mian, Hui Tian, Xuzhen Zhu have proposed a paper which focuses on the recommended performance in memory-based collaborative filtering algorithms. The core of collaborative filtering is to calculate similarities among users or items. The traditional similarity measures, such as the Pearson's correlation coefficient, cosine, mean squared difference, are not sufficient to gain or capture the effective similar users, especially for an inactive user who only rates very few number of items. This paper presents an improved heuristic similarity measure model. The new similarity model combines the local context for common ratings of each pair users and global preference of each user ratings. In order to test and verify the new similarity measure, experiments are implemented on three most used real data sets. In comparison with many state-of-the-art similarity measures, the new model can show better recommended performance and better utilizes the ratings in cold user conditions.

2.1 Summary of Related Work

Limitations of the related work are :

A. In e-tourism or e-shopping application domains, users prefer real time, locating and fine granularity recommendations. To handle these requirements, real time context awareness-based recommendation methods need to be further investigated.

B. In e-shopping or e-learning application domains, the distribution of data, such as the users' behavior towards, their interests keeps changing. Using the outdated data to predict users' current preferences will result in poor performance. Concept drift techniques should be introduced into recommender systems toimprove the recommendation performance.

The summary of methods used in literature survey is given in Table 1.

Literature	Year and publication	Title	Research Graphs
Bhavin Rathod, Deepraj Sawant, Tejas Shetye, Silviya D'Monte	2018 IJSR	The Intelligent Health and Education Trust Recommendation System	Need to make a centralized website.
Zhiyang Jia, Wei Gao, Yuting Yang, Xu Chen	2015 IEEE	User-based Collaborative Filtering for Tourist Attraction Recommendations	The recommendations based on visiting time of neighbours cannot be reliable always.
Veningston. K, R. Shanmugalakshmi	2015 ICACCS	Personalise Location aware Recommendation System	Travel locality property may not be recommending appropriate location.
Haifeng Liu, Zheng Hu, Ahmad Mian, Hui Tian, Xuzhen Zhu	2013 Elsevier B.V.	A new user similarity model to improve the accuracy of collaborative filtering	As different users have different preferences the rating preferences may not be accurate.

Table 1 Summary of literature survey

3. Proposed Work

As mobile phones have become increasingly powerful and prominent in everyday life, their potential to be used to improve their knowledge in daily life also increases due to the increase in the number of internet users. The statistic of how data become big epochs back to seven decades when the first phenomenon of information explosion was

recorded. Education applications targeting the end user are a reality: food recommendation systems, medication reminders are examples of such applications. But it is possible to extend the usefulness of mobile computing applications to education providers by creating a system to help the needy people who need funds for their studies. Today if anyone needs funds for education related purposes, they have to search on individual sites for it. Also many students can't follow their dreams because of financial problems, so sometimes they cannot get funds on time. There are many trusts for education but then also most of the needy people will not get funds. This may be because of lack of awareness about the organizations. People give away their used books to shop and don't know about the NGOs which collect those books and give them to poor people. So this project on education organizations focuses on the awareness and conditions for funds. It consists of modules namely, education grants, events and a module for posts in which people that are in need of financial aid can post their requests. The system will consist of a website application connecting to the remote server; the server will be integrated with a database which will store the information about all the Organizations, the posts and information about the user, etc. The system will also consist of a web portal for the admin to update the contents displayed to the users of the application.

3.1 System Architecture

The system architecture is given in Figure 1. Each block is described in this Section.

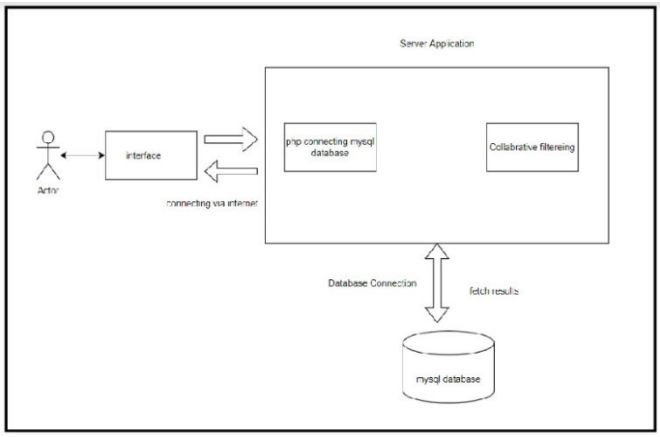

Figure. 1 Proposed system architecture

***A. Education*:** This module will recommend all the government and non-government organizations that provides all the necessary help like financial help for students who are willing to study but cannot afford it, study material at a low price, etc.

***B. Posts*:** Along with searching for organizations, the user will also be able post about their needs along with their contact details on the posts section. And if an individual/organization wants to help the needy then they can check the Posts module to check for posts made by people and contact them.

***C. Events*:** This module will recommend all the upcoming educational events like scholarships, exams, admissions , education camp, etc.

D. Government Schemes - This module will display various government schemes like scholarships ,etc with its individual information will be displayed.

E. Non Government Schemes - This module will display various non government schemes like college fees,exam,eligibilty criteria with its individual information will be displayed.

E. Rating Module - This module will allow to rate the organisations based on users interest .

F. ContentBased and Collaborative Filtering - The Content-Based approach tries to suggest to the user items similar to her previous selections. To achieve this, content-based RSs need a representation in terms of features of the items. Such a representation can be created automatically for machine parsable items (such as news or papers) but must be manually inserted by human editors for items that are not yet machine-parsable (such as movies and songs). This activity is expensive, time consuming, error-prone and highly subjective. Moreover, for some items such as jokes, it is almost impossible to define the right set of describing features and to "objectively" classify them. Collaborative Filtering on the other hand, collects opinions from users in the form of ratings to items. When asked for a recommendation, the system identifies similar users and suggests the items these users have liked in the past. The interesting point is that the algorithm doesn't need a representation of the items in term of features (i.e. genre and actors for movies) but it is based only on the judgments of the user community. Because of this, CF can be applied to virtually any kind of item: papers, news, web sites, movies, songs, books, jokes, locations of holidays, stocks. Since CF techniques don't require any human intervention for tagging content, they promise to scale well to large item bases. In the rest of this paper we concentrate on RSs based on CF.

The system's backend will have a SQL Server DB/Firebase.The Admin will be able to make updates to the system through the web portal like Add a new Organization in the Education module, view the list of registered users with the app, add new events to be displayed in the event notification section of the application. The figure 1 illustrates the block diagram for the system.

As illustrated in Figure 1, the user will search the organizations/trusts through the application. The server side will query the request onto the database and the database will return results according to the given query. With the help of Collaborative filtering, other related results are also displayed to the user.

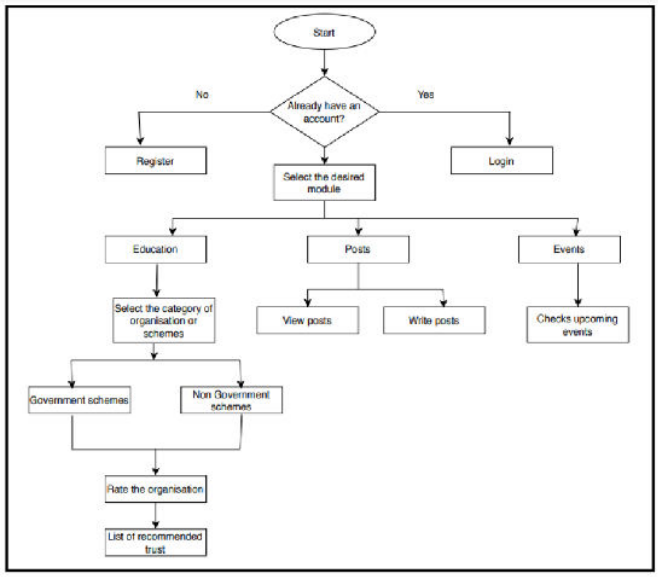

Figure 2 Flow Chart of the system

Figure 2 illustrates the steps of the proposed system, after opening the application the user will register if the user does not have an account. After this step, three modules of the application will be visible to the user and he can select the module according to his needs. If the user opens the h education module, the list of various organizations will be visible to the user. In the posts section the users will be able to post their requests. If any user wants to donate some unused books or buy such books at less cost then the user can contact the organizations.

4 Requirement Analysis

The implementation detail is given in this section.

4.1 Software

In the operating system we will require a Windows 7 or higher version. Programming languages will be HTML,CSS,PHP,Java,Javascript,Bootstrap. We will also need a database so we will make use of MYSQL and the server will be Xampp.

4.2 Hardware

The hardware requirements are 2GHz Intel ,Hard Disk 4GB and more , Memory 1 GB.

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