

DEVELOPING PRODUCT RECOMMENDATION SYSTEM USING HYBRID FILTERING APPROACH

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Abstract – Endeavors from numerous disciplines including different fields like Human Computer Interaction, Marketing, or Consumer Behavior, Data Mining, Adaptive User Interfaces, Artificial insight, Statistics, Information Technology and Decision Support Systems add to improvement of recommender framework. In the present situation, there exists different recommender calculations utilized for separating information and furnishing client with best appropriate decisions. The manner in which individuals find items and data is significantly impacted by recommender frameworks. Recommender framework is consequently, an instrument to lessen the over-burden information. In this paper, we propose another calculation Composite Search that consolidates not many sifting calculations and presents refined outcome, taking out downsides of different calculations. We present our methodology that processes information and gives more sifted outcome.

Index terms – Product recommendation, Social Network, user modeling.

I. INTRODUCTION

In the period of innovation, information sifting methods have modified the issues to bigger degree in online business and web-based entertainment. Recommender framework, a device utilized for sifting information, changed the way one will see data, stock and different types of information from huge amount of information storehouse. It utilizes assessments of clients of unequivocal networks to help individuals there in local area to recognize content of interest really from a bunch of determinations [2]. It has adjusted the way individuals share their data, feelings and information with various clients. This is applied to changed social parts (for example occasions, folksor gatherings) sharing data or thing based for the most part (TV program/show/episode, motion pictures, pictures, music, news, site pages, logical

written works, books and so on) that are of client's advantage. Client's profile (with pertinent individual data as well as search history of a client) is contrasted and scan history of various clients for a couple of properties of the thing client is searching for and based on 'evaluations' or 'inclinations' given by various clients for that thing, recommender framework predicts the suggestions for that thing.

The Content-based Approach

Content-based sifting procedure works with profiles of clients. A profile has data about a client and his inclinations. Inclinations depend on how the client appraised things and what thing client has purchased and seen. By and large, whenever profile is made, recommender frameworks make a study, to get basic data about a client to keep away from the new-client issue. New-client issue emerges when profile of a similar client is made having various properties. Profiles are gotten by dissecting the things recently seen and evaluated by the client and are ordinarily made utilizing catchphrase examination strategies from data recovery. Inside the suggestion technique, the motor thinks about the things that were at that point decidedly appraised by the client with the things that didn't rate and shows up for likenesses. Those things that are for the most part equivalent to

the decidedly appraised ones will be proposed to the client. A substance based recommender framework would figure out portable from the rundown (Fig 2) that the client has proactively seen and evaluated decidedly. Then, it will contrast those mobiles and the other mobiles from the rundown (Fig 2) and search for similitudes. Comparative mobiles will be prescribed to the client. In the ongoing model we can see that there is a versatile "SamsungGalaxy A5" like the portable "Samsung Note 4" that had been emphatically evaluated by another client. The client hasn't appraised "Samsung Galaxy A7" so it will be proposed to him.

II. BACKGROUND WORK

Character and Recommendation Systems
Many works have examined the significance of consolidating the client's character qualities in the suggestion frameworks. Yang et al. [4] proposed a suggestion arrangement of PC games to players in view of their character qualities. They have applied text mining procedures to gauge the players' Big-five character qualities and ordered a rundown of games as indicated by their coordinating with every predominant quality. They have tried their proposed framework on 2050 games and 63 players from the Steam gaming organization. While Wu et al. [5] introduced a character based covetous reranking calculation

that produces the suggested list, where the character is utilized to gauge the clients' variety inclinations, Ning et al. [6] proposed a companion suggestion framework that consolidates the large five character qualities model and half breed separating, where the companion suggested process depends on character characteristics and the clients' congruity rating. Ferwerda et al. [7] concentrated on the connection between the client's character qualities and music kind inclinations; they have broke down an informational index that contains character test scores and music listening chronicles of 1415 Last.fm clients. Essentially, in [8], they directed a web-based client study where the articipants were approached to connect with an application named Tune-A-Find and estimated scientific categorization decision (i.e., movement, temperament, or kind), individual contrasts (e.g., music mastery elements and character qualities), and different client experience factors. Additionally, Hafshejani et al. [9] proposed a CF framework that groups the clients in view of their huge five character qualities utilizing the K-implies calculation. Following that, the obscure evaluations of the inadequate client thing grid are assessed in view of the bunched clients. Dhelim et al. [10] talked about the advantages of catching the client's social

component, for example, character qualities that are addressed as cyberentities in the internet.

III. PROPOSED WORK

We will present the theoretical framework of the proposed system.

Big-Five Traits

There are numerous character speculations that have attempted to make sense of human character. The most noticeable character hypothesis is known as the five-factor model (FFM) or large five character qualities. The FFM depends on a typical language portrayal of character, which makes it a viable model for registering undertakings, for example, AI character acknowledgment, normal language examination, and semantic innovations, to give some examples. FFM is generally utilized for various purposes, like mental problems determination or occupation enlistment. The model characterizes the accompanying five variables: neuroticism, receptiveness to encounter, extraversion, suitability, and good faith, frequently meant by the abbreviations OCEAN or CANOE.

The motivation behind Meta-Interest is to suggest the most important things by distinguishing the client's effective advantages from its long range interpersonal communication information. Fig. 1 shows the overall framework system of Meta-Interest.

The suggestion interaction incorporates five stages.

Step 1 is the personality traits' measurement, which can be obtained by asking the user to take a personality measurement questionnaire or using automatic personality recognition by analyzing the subject's social network data. The personality measurement phase is the only static part of the system, which is because personality traits have been proven to be relatively stable over time.

Step 2 is mining the user's topical interests, including explicit and implicit interest minings. Explicit interest mining is performed by analyzing the text shared by the user in social networks in order to detect keywords that reflect its topical interests. Implicit interest mining involves a more complex analysis of the social network structure and other latent factors that may influence the user's topical interests.

In **Step 3**, Meta-Interest matches the items with the corresponding topics. The matching is in the form of a many-to-many relationship that is to say that a topic might be related to many items. Similarly, an item might be related to more than one topic.

In **Step 4**, the set of most similar users (neighbors) to the subject user is determined. In this context, Meta-Interest uses three similarity measures, personality similarity,

viewing/buying/rating similarity, and common interest similarity.

Finally, **Step 5** is the item recommendation phase, and the recommendation is refined by updating the neighbors' set and the user's topical interest profile and topics-items matching.

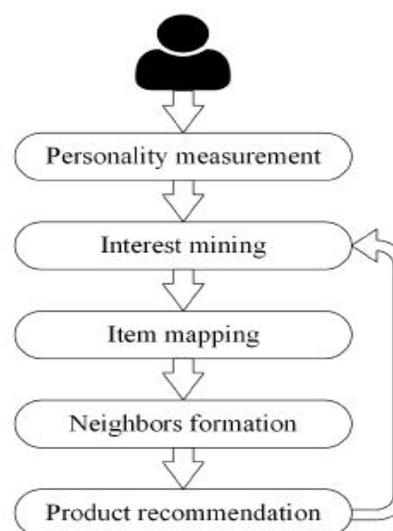


Fig. 1: Meta-Interest recommendations process.

Implementation Modules

Admin

In this module, the Admin has to login by using valid user name and password. After login successful he can perform some operations such as View and Authorize Users ,Add Domains ,Add Product ,View All Product's Posts with Ranks ,View User's Search History ,View All User Reviews ,View All Recommended Posts ,View All Recommended Cluster Similar Posts, View Top N Recommended Posts ,View Post's

Rank Results, View Top K Recommended Posts Results.

User

In this module, there are n numbers of users are present. User should register before performing any operations. Once user registers, their details will be stored to the database. After registration successful, he has to login by using authorized user name and password. Once Login is successful user can perform some operations like My Profile, Search Products, View My Search History ,View Other Products Reviews, Search Top N Posts ,View Top Recommended Posts ,View All Recommended Posts.

Interest Mining

The main advantage of our approach is that the proposed system makes use of the user’s interests along with the user’s personality information to optimize the accuracy of system recommendations and alleviate the cold-start effects. By analyzing the user’s social network posted data, we can infer his/her topical interests. The task can be achieved by applying automatic topic extraction techniques, such as latent Dirichlet allocation (LDA) or frequency-inverse category frequency (TFICF).

Metapath Discovery

A metapath is a sequence of relations between nodes defined over a heterogeneous network,

which can be used to define a topological structure with various semantics. In our case, we investigate the metapaths that start from a user node and end with an item node. Each metapath is characterized by the number of links between the source and destination nodes, and it is called the path length.

IV. RESULTS

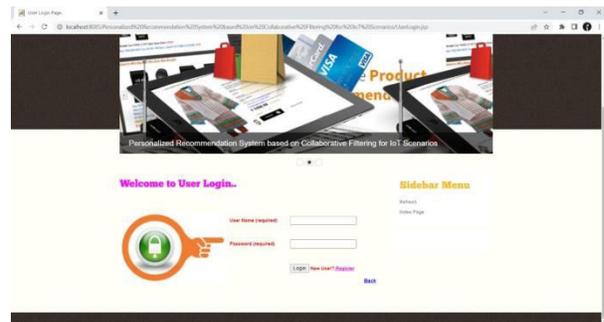


Fig. 2: Login Page



Fig. 3: Admin Home

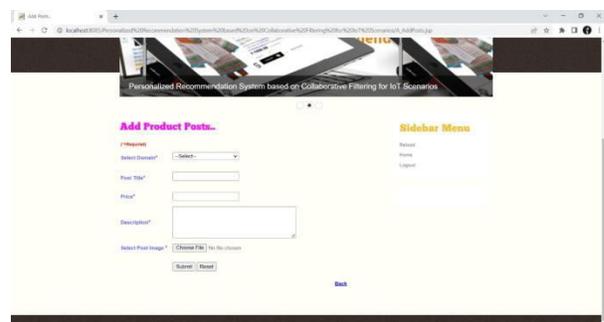


Fig. 4: Add Product posts



Fig. 5: View all recommended Items similar users

V. CONCLUSION

Recommender framework opens numerous new choices for looking and sifting data. It is of truly expanding significance to the circle of web based business. To be sure, a decent recommender framework is identical to a solid promoting or publicizing effort. It can possibly duplicate marketing projections and orientation brand devotion in the client base who develop to trust and depend on the suggestions set forward by the framework. This paper proposes composite inquiry calculation that is based on: (i) Cosine closeness capability (ii) Rating given by different clients. As per investigation, recommender calculations of different sites work on the foundations of either properties or evaluations given by different clients. Proposed calculation refines information on the foundations of traits as well as client given appraisals. This gives further developed suggestions to the clients.

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