Research Paper Engineering

Content-Based Trusting in Social Networking Systems

*N. ShravaniReddy **Dr. P. Govardhan

* MTECH(CSE) VCE,Hyderabad ,India.

** Prof .IT,VCE,Hyderabad India

ABSTRACT

The on-line social networks (osns) have become a popular interactive medium to communicate, share and disseminate a considerable amount of human life information. Daily and continuous communication implies the exchange of several types of content, including free text, image, and audioand video data. Social Facebook,Wikipedia, twitter, another social websites–are emerging as a powerful new paradigm for distributed social-powered information management. For example, the presence of poor quality users and user's intention manipulating the system can disrupt the quality of socially- powered information and knowledge sharing applications. In this paper, we present wsnrs, the system proposed for recommending content within social networks. The main goal of the system is to identify and filter the recently published valuable resources while taking into account the interactions and the relationships the user has within social structures. The interactions are logged and aggregated in order to determine the trust scores between users.

Keywords: WSNR (wise social network recommender system), collaborativefiltering, Trust scores.

INTRODUCTION

The past few years have seen the explosive rise of web-based social networks, online social media sites, and large-scale information sharing communities –all part of a social computing push that has attracted increasing media, industry, and research interest. beyond popular successes like face book, Wikipedia, You Tube, delicious, and twitter, the emergence of social information systems is promising to fundamentally transform what information we encounter and digest, how businesses market and engage with their customers,how universities educate and train a new generation of researchers, how healthcare and medical advance managed and disseminated, how the government investigates terror networks, and even how political regimes interacts with their citizenry indeed, both the database and information retrieval communities have recentlyrecognized the immense research challenge inherit in these emerging social systems

One of the key features of social information systems is their reliance on users as primary contributors of content and as annotators and ratters of other content. this reliance on users can lead to many positive effects, including large-scale growth in the size and content in the community (e.g.; YouTube, Wikipedia),bottom-up discovery of "citizen-experts" with specialized Knowledge, serendipitous discovery of new resources beyond the scope and intent of the original system designers, and soon. This paper present the architecture of the social recommender system WSNRS (Wise Social Network Recommender System),the method used for implementing it and a case study..Our approach presents several advantages over classic Collaborative Filtering (CF)-based approaches and content-based recommendation. As the saying goes, birds of a feather flock together and we believe that in a group of friends/sympathizers there are common tastes. In our opinion, this approach does not suffer from the "cold-start" problem due to the fact that the user doesn't have to rate the content in order to receive recommendations, to send recommendations, only the social structure to which the user belongs needs to be considered. Moreover, we don't have to take into account all the elements of the clusters of users and resources, which is a major advantage when considering the scalability problem.

Content recommendation in social networks considering the collective intelligence:

According to, there are two approaches for recommending content- based approach and collaborative filtering (CF). The content-based recommendation system attempts to recommend resources similar to those a user expressed interest for in the past. The main flaw of this system is its inability to provide "serendipitous recommendations".an recommendations that are not in the context of user's history of visited resources and have the ability to surprise in a positive and pleasant way. The collaborative filtering system takes into account reviews, ratings or explicit voting; its main role is to identify users with preferences similar to those of the current user in order to recommend resources that they prefer. Leaving its advantages aside, the collaborative filtering system faces problems, such as "cold start", sparsely, scalability and the malicious ratings. Cold start problem applies to new published resources that anyone in the community has not rated yet.

Wise Social Network Recommender System (WSNRS)

We will describe the formal approach,the architecture and the way to implement WSNRS. On the one hand we will describe the method to calculate trust among users and on the other hand wewill present the deduction of the follower's implicit status. In this article we define a follower as a user who is an enthusiastic supporter of another user in regard to his or her ideas or belief.

The formal approach

In our approach any existent relation between two users is represented by a vector that contains all interactions the users had over time.

Definition: A user-user relationship is represented by a vector: V = (IdUiiduj,It,nf,nrw,nr,nc,nck,tst,t) m 1x9 (r). in this formula, I represents the number of existing links among users and vt the vector corresponding to each relationship for t=1,I. in what follows we will describe the vector attributes

-V: IdUj: represents the existing connection from user i to user j.

-V: IdUj: represents the existing connection from user i to user j.

- LT: represents the type of the existing connection between user i and user j, the first element r e p r e s e n t s a connection of low intensity, namely below average. The second element represents an explicit connection, and the third one represents aconnection of high intensity, above average.

- NF: is the number of favourite resources published by the user j,- NR w: represents the number of positive reviews granted by user i to the user j or to the resources published by the user j. .

- NR: represents the number of user's recommendations or of the published Resources within the social media sites.

In the of interval [0, 1]. The formula adapted for the NF attribute of the vector V, is shown below The trust score is calculated for vi, i = 1, I.idUj links, all follower implicit links will be deducted, where IdUj will have LT=2.this means that the trust scores is sufficiently high to transform the user in follower.

The architecture and the implementation of WSNRS

The main aim of the system is to identify and recommend the valuable resources that have been published recently. In order to achieve this goal, with in the network. Furthermore, the collective intelligence is collected and quantified with the "Data collection module". The Interactions among users are managed with the "User- user interactions management module", whereas those among users and resources are managed withthe "User-content interactions management module"The Architecture of the system is illustrated in Fig

The user-user interactions management module identifies all interactions that take place among users and among users and resources. All these interactions are managed by this module and then are stored in the user table. If two users interact for the first time, the system creates a new vector vi that contains the link between IdUi

If the IdUi user will add a positive review to IdUj profile or to a published resource, NRw with a unity will be incremented, NRw = NRw + 1. The same happens with the NF, NC and NCk attributes. With regard to the NR's attribute, the update is more complicated compared to the others. This is due to the fact that a user can give a "like" on the facebook button and recommend the text and after a period of time to withdraw the "like". The system succeeds The recommendation module is designed to identify the current user on the basis of IdUi and to prepare for this a recommendation's list. The recommended resources will include not only the texts published by the trusted users but also those that have been favourably rated. In order to achieve this goal, the algorithm will identify connections that IdUi→IdUj has with LT > 0 Furthermore, the algorithm will extract user's IdUj Ids and will return the most recent text published by this users. Likewise, it will also search for the most recent interactions of these users with the published texts and will return the texts list they have interacted with. The final recommendations represent an aggregation of the two lists mentioned above.

Using trust in social networks provides a promising approach to make recommendations to other users based on trust propagation in finding a friend or a friend of a friend with similar interests. However, the quality of recommendations can be improved further by incorporating a users' expertise because trusted expert advice will lead to better recommendations.

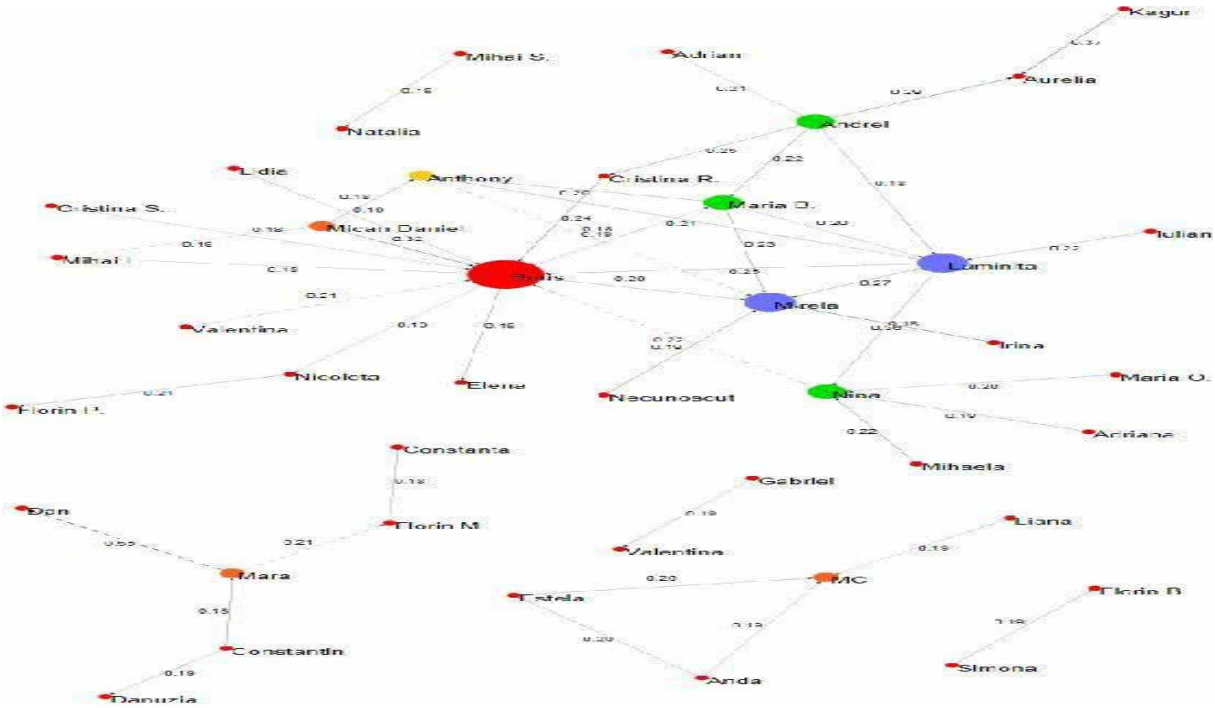

Fig.1 . The interest groups, types of relations and trust scores between users.

In the graph, each vertex represents a user and the size of the vertex corresponds to its centrality with in the network. The arcs between vertices represent the links tha the users established and are labelled with a trust coefficient that was calculated by applying the suggested algorithm. The resulted values were normalized in order to be in the range[0.00,1.00]. The links were ranked based on how close they were to the best result, which tended toreachvalue1.If there is an explicit connection between two vertices, the arc is represented by a continuous arrow and if the connection is implicit, by a broke narrow.

Upon analyzing the graph, we notice that the vertex with the most central position with in the network is Boris. This vertex has high level soft trust provided by the Neighbouring vertices. The vertex MicanDanielhas the highest level of explicit trust in the vertex Borisand itsvalueis0.32.This is followed by the trust level of the vertex Laminate with a value of 0.25and CristinaR.'s with a value of 0.24respectively. As to the implicit trust, we can see that the vertex Nina provides a level of 0.22. The vertex Boris is that much more important considering that

the neighbouring vertices also receive high centrality values and high trust levels.

Authentication :
To satisfythe requirements for confidentiality, integrity, and non-repudiation, there must bevery stringent authentication and authorization mechanisms. Because the data is beingtransmitted over the Internet, encryption should be required.data will be accessible only on a need-to-know basis Then admin need to apply the encrypted technologycalled as a Pseudo-Random Pixel Rearrangement Algorithm. By using this algorithm we are going rearrange the pixel value in that particular un trusted image. If that image hacked in the sense it won't be display the specified image.

Conclusion :
In this paper, we have illustrated and described the architecture of WSNRS which stands for the recommender system proposed for social networks. In order to accomplish our goal ,we have shown the way in which the system logs and aggregates collective intelligence order to calculate the trust scores between users The trust among users is revealed by the information that helps to identify the types of relations established among users and define the social structures.

Likewise, we aim to achieve hybridization through aggregating with the system that was proposed in and that is based on extracting association rules from navigation sessions. Therefore, in future works, we will concentrate on developing a new hybrid system that aims to solve the problems encountered in traditional recommender systems.

REFERENCES

1. S.marti and h.garcia-molina.taxonomy of trust :categorizing p2p reputation systems computer networks.ijctn. | 2. H.ozbay. introduction to feedback control theory. crc press inc,1999. | 3. Page, s.brin, r.motwani and t.winograd. thepagerank citation ranking: bringing order to the web. technical report, standford university,1998. | 4. M.richardson,r.agrawal,andp.domingos.trustmanagementforthesemanticweb.inweb,proceedings of the 2ndintenationalsemantic web conference, 2003. | 5. Konstas,I., Stathopoulos, V.Jose, J.M.: On social network and collaborative recommendation. | 6. Mican, D., Tomai, N.: Association-rules-based recommender system for personalization in adaptive web-based applications. | 7. Petrusel, r.stanciu, p.l.: making recommendations for decision processes based on aggregated decision data models.