

Integrated Online Social Network and Expert System in Knowledge Sharing

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Abstract –The previous method of knowledge sharing was limited in either in social network group or through network search. But the OSN(Online Social Network) will fail because of lack of experts in their group, many of un answered queries because of scarcity of experts with in the group. This paper we integrating the expert system and social network and there by elaborating boundaries of knowledge through out the network.

Index Terms – Knowledge Sharing, Social network, Expert system

1. INTRODUCTION

In the past, knowledge sharing among people has typically done by means of traditional learning approaches such as formal training workshops or seminars, textbook etc. But all these approaches go behind by the emergence of internet and social network. But picking up useful information from the amount of returned results still remains a challenge. People follows their social circle to improve their knowledge there by sometimes prefer to directly receive the answers rather than going through a long tiresome searching process. It is much easier to be directly told about the answer. In addition to the search engine based information, retrieval give very well in answering actual queries.

Online social networks have given people the opportunity to interact with others across time and space. Individuals are able to connect with family, friends, and others in real time using social networks. Social networks refer to a variety of online applications that afford users connectivity and support, collaborative information discovery and sharing, content creation and knowledge. Social networks allow connections, or ties, to be formed and maintained, thereby enabling the sharing of information easily and freely. Networked interactions allow users to share knowledge, rather than being the passive recipients of expert knowledge, and such interactions provide opportunities for useful discussion.

The Web is speciously and perfect source of answers to a large number of variety of questions, due to the large amount

of information available online[1]. A particular characteristic of this system is that, it only takes advantage of the snippets in the search results returned by a search engine like Google. Web-based question answering systems typically employ the technique with rewriting procedures for converting components of questions into sets of queries posed to search engines, along with techniques for converting query results into one or more answers[2].

But web engine based knowledge acquisition will fail when a large number of data retrieve with in seconds and finding out the best or correct knowledge is very difficult task. Social Network based Question Answer (OSN-based Q&A)system will give poor result due to lack of experts in their social network. In an OSN-based knowledge sharing , users post and answer questions through the OSN to take advantage of the collective intelligence of their friends. By integrating the web Q&A system for knowledge sharing and OSN-based Q&A system for knowledge sharing both system's shortcomings can be overcome.

This paper integrating the OSN based Q&A knowledge expert system.

The rest of the paper can be organize as follows. Section I reviews the recent methods. Section 2 gives integrated online social network and knowledge system architecture explanation. Section 3 is devoted to discuss the results. Section 4 presents conclusions.

2. RELATED WORK

In recent literature various knowledge sharing system has been proposed . They are based on either online social network [3][4][5][6][7]or either by web based expert system[1][2].

Mark S. Ackerman et.al[8]presents outcomes from a field study of one organizational memory system, the Answer Garden. The paper discusses the usage data and qualitative

evaluations from the field study, and then gives a set of lessons for next-generation organizational memory systems.

Author EinatAmitayet.al[9] proposed a web 2.0 approaches in improving the search engine. But this method fails because of using the social information, it wants to do more than just return better documents.

David Carmel et.al[10] work on User's Social Network and explore personalized social search based on the user's social relations – search results are arranged and ranked according to their relations with in individuals in the user's social network. Authors study the success of several social network types for personalization. Authors examine the contribution of the different personalization methodology by an off-line study and by a user survey within organization. In the off-line study it apply bookmark-based evaluation, suggested recently, that exploits data gathered from a social bookmarking system to evaluate personalized retrieval.

ShenghuaBao et.al [11] This paper explores the effectiveness of social observations to improve web search. Authors observe that the social annotations can benefit web search in two aspects: 1) The annotations are usually good summaries of corresponding web pages; 2) The count of annotations indicates the popularity of web pages. This uses two algorithms Social Sim Rank (SSR) calculates the similarity between social annotations and web queries; 2) SocialPageRank (SPR) captures the popularity of web pages. Experiments show that both SSR and SPR benefit web search significantly.

Gary Hsieh proposes[12] a Market-Based Real-Time Question and Answer Service. In this paper authors present the design and evaluation of a market-based real-time Q&A system. It compared its use to a similar Q&A system without a market. It found that while markets can reduce wasted resources by reducing the number of less important questions and low quality answers, it may also reduce the socially conducive questions and usages that are vital to sustaining a Q&A community.

So by analyzing the recent literature we identified that by synergistically integrating the web Q&A system and OSN-based Q&A system through building a social network in web Q&A system, both systems shortcomings can be overcome.

3. PROPOSED MODELLING

The system can be classified as two categories user module and expert module. By integrating the two modules the problems of knowledge sharing in both the system can be overcome. The user module having the lack of experts for answering their quires on time. And expert system will having a explosion of knowledge with in them. By integrating both the system the performance of the knowledge sharing system

is increased. Figure 1 gives the architecture diagram and figure 2 gives use case diagram. Section A,B,C,D gives different modules.

A. User Interface Design

This module is the user interface design for the user to access the secure Social Network. It consists of user registration and user login. The registration form contains the user's personal information like user name, age, profession, address, mobile number, etc. After registration and login, there is option to form the friends list. The friend suggestions will be there to add a new friend. Accept/ Reject option will be there for accept or reject the friend request. If the friend request is send to the particular user, notifications details are send to the requested user. Through this process, friend circle are formed for each users. Users can also share the information's in their timeline.

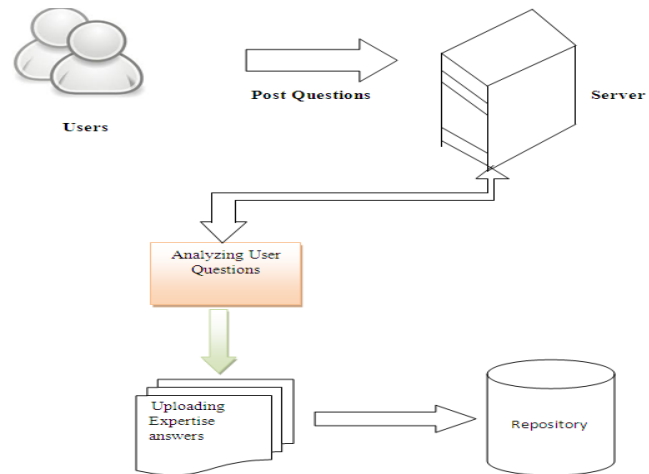


Figure 1 Architecture Diagram

B. Opinion Sharing

This module is for sharing of opinions. It gets the policy of the users and the contents what want to share. As per the policy of each data sharing, the data will share for only the users who all have the access rights. Users can share the questions in online social networks. Users can post the questions by selecting the particular field. These details are stored in the database. Users can also enter their comments for the particular field. They can also rate the fields.

C. Expert Answers

Experts who are expertise in the particular field can register their personal details. This form includes the experts name, age, address, mobile number, email id, etc. They can login in to the system with the respective username and password.

They can view the users posted questions in the selected field. Experts can view the questions in all fields. And they can submit their opinions or their experiences in social network. These details are shared among the users in the OSN. So many of users can get advantage by viewing the expert's opinions. And they can answer for their questions in their expertise areas.

D. Admin Module

Admin can login to the system with the respective username and password. Admin can view the user opinions. He can add the services. Admin can view the report of user interest that is chose by the users. Admin can cluster the individual user behavior. Admin can view the feedbacks given by the users.

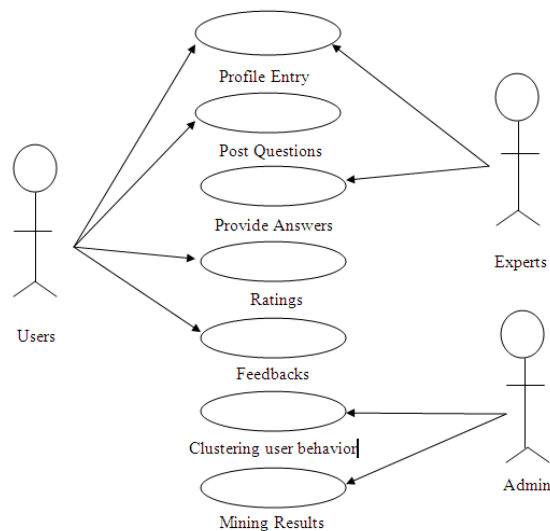


Figure 2. Use Case Diagram

By analyzing the expert's opinions and the user comments, we know the importance of the particular field. We can capture the user needs and expectations easily and accurately. Social network is the important one for sharing the information quickly and can also get the response quickly.

E. Predicting User Interest

The user opinions are stored in the log files. Opinions of users can be varied or it can be closely related or relevant to each other. The information's collected from the user are their comments, user's ratings and their reviews. Admin can analyze these opinions and predict the user interest or behavior.

Admin can produce the result in the form of graph. So we can view the status of the fields easily.

F. Clustering Result

In this module, the particular result can be clustered or grouped together. We can group the result for the single query and thus admin know the user interest for the particular query.

4. RESULTS AND DISCUSSIONS

The system developed in JAVA platform. By synergistically integrating the web Q&A system and OSN-based Q&A system through building a social network in web Q&A system, both system's shortcomings can be overcome. The advantages is, uses extremely large scale knowledge sharing and expertise distribution through online communities. By the social network we can find out the user needs and requirements. These systems take advantage of the collective intelligence of users to find information. Figure 3 added the resultant figures

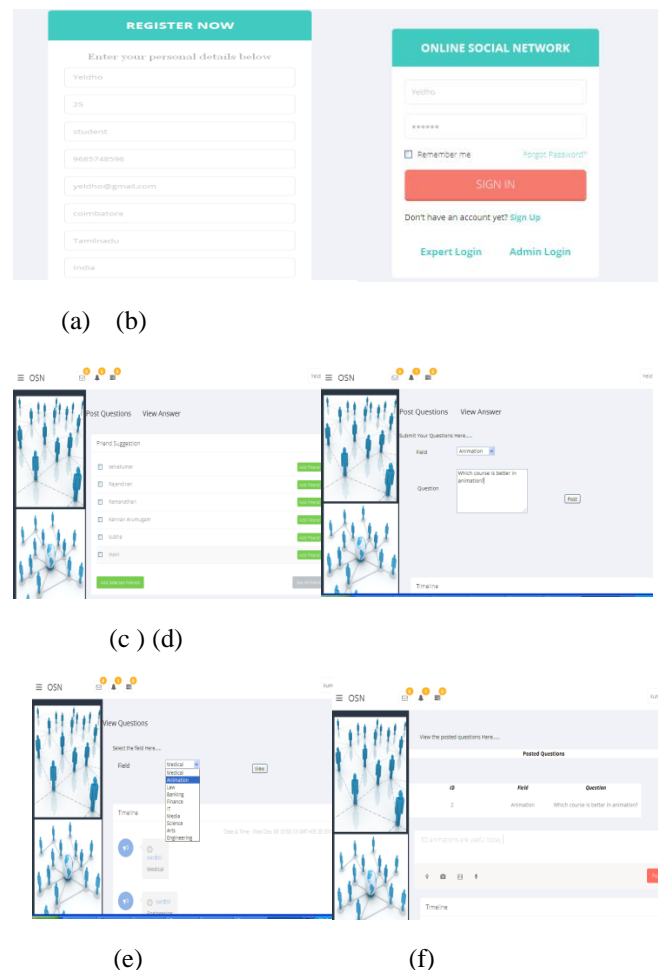


Figure 3. Resultant figures 1) login page of user and b) registration form c) home page of OSN and d) posting queries e) expert login to system

The developed system has many applications. The proposed system can be used in any applications like sports, health, education etc. For example in sports, there are many categories. In each category, user's points can be collected. Users with many points are recognized as top contributors, whose profiles indicate the general and details (Knowledge Categories) KCs they are knowledgeable in.

5. CONCLUSION

The Web is speciously a good source of answers to a large no. of variety of questions, due to the tremendous amount of information available online. Social networks having getting personal answers with in less time. But the knowledge sharing in the online social network will fail due to lack of experts in the social network group.

The integrated online social network (OSN) and web Q&A have been developed. By synergistically integrating the web Q&A system and OSN-based Q&A system through building a social network in web Q&A system, both system's shortcomings can be overcome.

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