

An Online Based Question and answer system in Cloud Environment

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Abstract – Question and Answer (Q&A) systems play a fundamental role in our daily life for information and knowledge sharing. Users post questions and choose questions to answer in the system. Due to the rapidly growing user population and the number of questions, it is not likely for a user to stumble upon a question by chance that they can answer. Also, humanity does not encourage all users to provide answers, not to mention high quality answers with a short answer. The major objective of this manuscript is to develop the performance of Q&A systems by dynamically forwarding questions to users who are proficient and willing to answer the questions. Social Q&A leverages the social network properties of common-interest and mutual-trust relationship to identify a reader through friendship, who are more likely to answer the question, and enhance the user security. We also improve Social Q&A with safety measures and efficiency enhancements by protecting user privacy and identifies, and retrieving answers automatically for recurring questions. We describe the architecture and algorithms, and conducted complete large-scale simulation to evaluate Social Q&A in comparison with other methods. Our results suggest that social networks can be leveraged to improve the answer quality and reader’s waiting time. We also designed a real web application of Social Q&A, and analyze the Q&A behavior of real users and questions from Social Q&A system.

Keywords- Question and answer systems, Social networks, Information search, etc.

I. INTRODUCTION

The Internet is a main source of information, where the large amount of data and constantly growing. Readers rely on search engines to find specific information in this knowledge base. Search engines such as Google and Bing use keywords provided by the users to perform searches. Recently, industrial research and development activities, such as Microsoft and Facebook’s social-featured Bing search endeavor, try to combine search engines and online social networks for higher search performance.

Traditional search engines like Google and Bing are used to retrieve answerers for the factual questions through Internet [1]. In order to improve efficiency and performance of the search engine we proposed new method by using keywords in the search question itself. Social search engine helps to group the people with their similar interests in any particular field and refers to historical results [2].

Although the search engines answer factual queries that are already stored in centralized server hence this technique is not suitable for answering non-factual queries that are more subjective. If the valid information is not in database then we forward these queries to the human, which are the most “intelligent machines”[4].

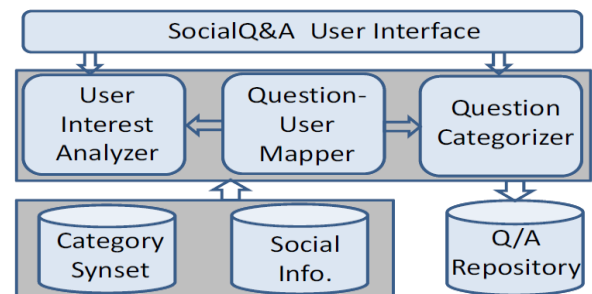


Fig.1 The architecture of Social Q&A.

Also, web Q&A sites such as provide high-quality of answers (e.g. yahoo! Answer and Ask.com) to enhance Q&A sites emerging efforts have been focused on social network. The Social-based Q&A system can be classified into two categories: Broadcasting-based and centralized server based, In Broadcasting method questions are broad cast to the user and to user’s friends,

In Centralized server we constructs and maintains the social network of each user, it searches potential answer from the asker’s friends, friends of friends and so on. Due to the rapid development of smart phones, we can make use of internet access very fast hence it makes Q&A system a very compatible and promising application. However, the previous broadcasting and centralized methods are not suitable for the mobile

environment (smart phones) because mobile nodes as the limited resources, higher bandwidth and cannot guarantee the quality of the answers. Later they proposed new technique called Distributed Social-based mobile Q&A system (SOS). SOS is the light weighted distributed answer search which enables to identify friends who can answer the queries by framing question ID with the social IDs[10].

1.Decentralized: Instead of lying of the centralized server for choosing answer for the question SOS can get answer or forward the question to friends in the Decentralized manner hence avoid query congestion and server band width cost.

2. Low Cost: Reduces the node cost, node overhead, and mobile Internet access.

3.Quick Response: Reader's identifies potential answers from his or her friends based on clustering technique.

In this paper we proposed new method called mobile Q&A system in the cloud based environment which serves as a mobile cloud computing based on the cloud computing concepts. Cloud computing are used to meet the requirements like adaptability, scalability, availability, and self awareness.

II. LITERATURE SURVEY

The paper that helped in this work is,[2] Damon Horowitz's Aardvark, a social search engine. With Aardvark users can ask queries through emails, text messages or either by voice or instant messaging. Aardvark routes the question to the users in the social network who are more likely to answer the question. The main components of Aardvark are:

- **Crawler and Indexer:** finds the appropriate user.
- **Query Analyzer:** To extract the topic of the query.
- **Ranking Function:** To select the best user that provides the information.
- **UI:** To present the information to the user in understand able manner.

In any case, it is difficult for the asker to check the content that is given back is trustworthy or right for them. In these cases, askers are looking for personal opinions, recommendations, or advice, from someone they feel a connection with and trust. [3] The main objective of this research is to enhance the quality of answers and to reduce wait time by forwarding questions to users who are interested or expert in the area to which the question belongs.

This paper proposed Social Q&A which is a social network based Q&A system that identify and notify the users who are more interested to answer a question. Social Q&A includes three major components:

- **User Interest Analyzer:** It analyzes the interest of the user.
- **Question Categorizer:** identify the category of the question

- **Question-User Mapper:** identifies list of potential answer providers for each question. A prototypical testing was also done on the system to evaluate the performance, which was satisfactory.

In this paper People Rank approach was developed in which the nodes are ranked according to the social information in order to reduce the retransmission. People Rank is a social distributed algorithm which measures the importance of a node in a social graph based on the social interaction contact frequency between the nodes. It achieved a success rate by reducing the number of retransmission by 50%

III. EXISTING SYSTEM

In the proposed research work to design and implement a system than work as classify and re-rank all type of query events along with the current events as well as news. The Google API will provide the third party interface for communicate with search engine the classify the all data using machine learning approach and re-rank with page rank as well as click through algorithms. We will collect the data from Google API, YouTube as well twitter and rank the entire news base on current user query. The general public of daily events has been provided by social media, specifically the news media.

Media focus (mf) : marketing ,news sites, social networks. User attention (ua): videos, performance, images. User interaction (UI): presentation, followers, discussion To find a way filter noisy data and capture the content of data. it found that for Yahoo! Answers, only 17.6% of questions were answered satisfactorily; for the remaining 82.4%, one fifth of the questions remained unanswered. For Baidu Zhidao, 22.7% of questions were successfully answered, and 42.8% of the unresolved questions were not answered at all. Thus, there is an increasing need for an advanced Q&A system that can decrease the number of unanswered questions, enhance the answer quality and decrease the response time. Some research categorizes questions into predefined categories, making it easier for users to locate previously asked questions and for experts to find questions they can answer.

1. Disadvantages

- Current Q&A systems may not meet the requirement of providing high quality answer with a short answer wait time, though users wish to receive satisfactory answers quickly.
- Since Social Q&A is built upon social networks. The asker and answerer are social close to each other. Therefore, protecting the privacy is important and challenge.
- Hard to find a way to filter news from noisy.
- High computational demand to prioritize.
- However after noise data is removed.

- Information overloaded may still exist in remaining data hence it is difficult to prioritize.

IV. PROPOSED WORK

In this paper, we propose social search on cloud based Q&A system that provides the large resources to store the information. It also provides quick response to the question and sharing questions is also feasible. We also analyze the appropriate value for the Time-To-Live (TTL) that provides a satisfactory success ratio, it avoids redundant message overhead and reduces the waiting time. The First Order Logic Technique also been used to calculate interest ID's and speed of the answers. SOS associates with an online social network, where nodes are socially connected.

Every user has an interest ID which is created based on the profile of the user which represents the interest of the user. The users who give answers are considered as best answerers only if the reader is satisfied with the answer to that question. The architectural diagram in above figure helps to find the answerers. When a question is posted by the user, the node processes the question using NLP (Natural Language Processing) and then represent the in first order logic format by dividing question into tokens keywords then apply inference rules on the tokens to infer the questions interest.

Finally a question id is created based on the interest. This question id is compared with the friends Interest id and if the id's match, question is forwarded to those friends. When a question is posted by the user, the node processes the question using NLP (Natural Language Processing) and then represent the in first order logic format by dividing question into tokens keywords then apply inference rules on the tokens to infer the questions interest.

Finally a question id is created based on the interest. This question id is compared with the friends Interest id and if the id's match, question is forwarded to those friends. After finding the friends with similar interest, it will select k number of best answerers among those friends. It will select the k answerers based on the feedback or performance of the users. If they have a good response feedback then they are selected among k friends.

V. METHODOLOGY

In this paper, we present how these Q&A system can accurately identify the best answerers who are expertise in that area. SOS leverages lightweight techniques to identify the related friends. This system also provides answers to non-factual queries which are specific and multi-dimensional. It uses FOL for the retrieval of interest of the user and the question. It also earns high user satisfaction ratings for the accurate answers. SOS

generates very less overhead with limited question forwarding.

Since each user is connected to several social groups, it selects most probable answerers and forward to an answerer that can provide an answer. We can also get response from any location by accessing through internet by means of cloud server which provides storage of large resources.

Question Routing SOS incorporates an online social network, where nodes connect each other by their social links. A registration server is responsible for user registration. Each user has an interest ID, which represents his/her interest. Users who have been willing to answer questions and provided high quality answers to node i's questions previously are more likely to be willing to answer node i's questions and provide high quality answers. Question / User Interest Representation When a user first uses the SOS system, s(he) is required to complete his/her social profile such as interests, professional background and so on.

Based on the social information, the registration server recommends friends to the user, and the user then adds friends into his/her friend list. Each user locally stores his/her own profile and interest ID, and friend list and their interest IDs and answers quality values. Each user calculates his/her own interest ID on his/her social information and sends it to their friends. To calculate interest ID, a node first drives the first order logic representation (FOL) from its social information, then conducts first-order logic inference to infer its interests, from which it decides the interest ID.

VI. CONCLUSION

In this paper, we present how these Q&A system can accurately identify the best answers who are expertise in that area. SOS leverages lightweight techniques to identify the related friends. This system also provides answers to non-factual queries which of interest of the user and the question. We can also get response from any location by accessing through internet by means of cloud server which provides storage of large resources. All the question and answers are stored in the cloud. The future of Q&A System in cloud is demandable and scope full.

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