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Literature Survey on Mobile Q&A System in the Cloud Based Environment

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ABSTRACT: Social search engines like Google, Bing answer factual questions but the recent research efforts have been focused on the social based question and answer (Q&A) system which resolves non-factual questions. The (Q&A) system cannot be resolved by a web search engines and does not depend on the centralized server or broadcasting methods in order to identify friends based on social network. Hence in the mobile Q&A system mobile nodes are accessed through internet however it cannot directly use centralized or broadcasting methods because generates high server bandwidth cost, node overload, and high cost of mobile internet access. Later they propose a new method called Distributed Social- Based Mobile Q&A system (SOS) which gives quick response to the asker. In decentralized manner SOS enables mobile user to forward question and to get potential and efficient answerers. SOS is the engineering techniques of light weighted knowledge used to find accurately the person who are and willing to answer questions, thus reduce searching time and computational cost of mobile nodes. In this survey paper we compare various research parameters for social based Question & Answer system.

KEYWORDS*:* Question and answer system, On-line social network, non-factual questions, Peer to Peer system, and clustering technique.

I. INTRODUCTION

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 is already stored in centralized server hence this technique is not suitable for answering non-factual queries that are more subjective (for example, can anyone recommend me a Doctorate professor for doing my project in social network…?) If the valid information is not database then we forward these queries to the human, which are the most "intelligent machines" [4].

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 broadcast 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].
SOS Advantages:

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(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 bandwidth cost.
(2.) Low Cost: Reduces the node cost, node overhead, and mobile Internet access.
(3.) Quick Response: An asker 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 [11].

The layout of the paper is as follows. In section 2, we address the above mentioned techniques and also give a brief on the literature being reviewed for the same. Section 3, presents a comparative study of the various research works explored in the previous section. Lastly, we concluded in section 4 and section 5 is provided references.

II. RELATED WORKS

In this paper [**1**] Aardvark is the first and foremost of all method for performing the question and answer system in the decentralized manner as a social engine ask question either by instant messaging, email, web i/p, text message or voice. Aardvark routes the question to the person in the user extended social network most likely to answer the question. Aardvark lies in finding the right person to satisfy a user's information need and traditional search engine is based on authority in a social search engine like Aardvark trust is based on intimacy. The core of Aardvark is statistical model for routing questions to potential answer. Aardvark performs very well on queries that deal with opinion, advice, experience or recommendation .The question asked of Aardvark do represent a large and important class of information need, they are typical of subjective questions .In any event, it's difficult for the asker to access whether any content that is returned is trust worthy or right for them.

In this paper [**2**] focused on a specific aspect of a social search, where the searchers asks a question to group of people they know personally and friendly by means of social network message updating. By comparing this kind of social experiences can able to search for information with a web search engine. Search engine's seems to match expectation of no significant changes from pre-search to post– search questionnaires.

In this paper [**3**] we identify the dimension and gratification of users of friends networking sites. As a result there are three kinds of dimensions the information dimensions, friendship dimension and the connection dimension. This paper makes a friend networking sites are mediated into social networking communities that helps people to interact with similar interest. The main purpose of this paper was to better understand of uses and gratification that user's obtain from friend networking sites.

In this paper [**4**] social searching method focus on the creations of links between friends and group members, links associated between parents and children, where parents became collaborator. This kind between parents and children where represented by father and mother can be linked to his or her child as a guardian collaborator.

In this paper [**5**] makes the phenomenon of using social network status message to ask questions. Survey covered by using topics of asking and answering questions via status – message update. This paper helps to understand how people fulfill information needs by using general purpose of social tools and status messages to ask questions rather than to simply describe their current status.

In this paper [**6**] peer to peer network architecture allows to share resources with each other in a decentralized manner by using IP multicasting method. Data has been transmitted and encrypted by a key that is only known to the authorized information's. This paper helps us to understand decentralized system, like P2P have no single server to control the system and play the main role in the system, Peer should wait to get data from the root high performance of data has been developed by using binary- tree. Peer to Peer is more secured because of controlling the communication between Peers in centralized manner. The main disadvantage of Peer to Peer network architecture increase efficiency

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and minimize bandwidth consumption. Encryption and Decryption algorithms require having secret key shared between the sender and receiver.

In [**7**] the authors have proposed two types of Peer to Peer network, structured and unstructured networks. Structured core network which acts as backbone for the hybrid technical system and also provide lot of services for maintaining regular topology. Unstructured core network is attached to a node in the core network. This paper makes us to understand distributed data sharing which combines both structured and unstructured Peer to Peer network. Data has been generated by low cost mechanism. Peer hosting of the data may be over whelmed because of huge amount of request.

In [**8**] authors have proposed about multimedia content, the design scheme to support P2P – based on multimedia sharing forums called multimedia board (M- Board). The increasing of bandwidth and storage resources leads to the people increase to share more multimedia content. Mostly people post multimedia materials such as video's and high resolutions pictures as a link to the third party services providers such as you tube. It is a most beneficial to develop a scheme to enable forums in order to share multimedia contents in an efficient, low cost and easy – to – use manner.

In this paper [**9**] Instant messaging based on synchronous social Q&A services were deployed to an On – Line community and to study about prediction and there is a good gain over performance of baseline prediction in order to predicate for the task whether the question will be answered and the number of user's that will be interrupted by a question and helps to understand accuracy is significantly lower performance to be part of related smaller number of features. This paper investigates outcomes of a question life cycle for prediction (eg, before it has been distributed to candidate answers or even before it has been asked).

In this paper [**10**] they proposed a new method called social based mobile Q&A system (SOS) with lower cost system and lower node which makes quick response to the asker's questions. Two categories are integrated in this technology they are broadcasting and centralized methods. An asker can indentifies potential answers from his or her friends based on their past answer quality. SOS users to generate only fewer questions because selecting potential answer, the question is very much likely to be forwarded to provide answer. Tools like registration server, First Order Logic representation (FOL) and Natural Language Processing (NLP).

In this paper [**11**] we can learn about how device can scan nearby user who are really interested in reading the description and makes request for sharing their mobile resources for collaboratively task. Mobile clouds are able to extract the text and then help to translate them into English language.

III. COMPARTIVE STUDY

We have analyzed the various research works on several parameters and presented their comparison in the table below.

Table1. COMPARISON OF VARIOUS RESEARCH WORKS

Sl.No	TITLE	AUTHOR	ISSUES	METHOD USED	TOOLS	ADVANTAGES/ DISADAVANTAGES
1	The Anatomy of a large scale social search Engine**.**	Damon Horovrity Sepander D.Kamvar	IW3C2 Raleigh North Carolina (U.S.A) ACM 978-1-60558-799-8/10/14	Aardvark social Engine method	Crawler and Indexer Query Analyzer Ranking Function	**Advantages:** 1.Aadvark queries to be long highly contextualized and subjective 2. Questions are answered promptly. **Disadvantages:** 1. Aardvark represent a large and important class of information need, they are

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						typical questions. 2. In any event, it's difficult for the asker to access whether any content that is returned is trust worthy or right for them.
2	A Comparison of Information seeking using search Engines and social Networks	Meredith Ringel Morris Jaime Teevan Katrina Panovich	Copyright 2010 Association for Advancement of Artificial Intelligence	Lab study to compare social and non social search for complex.	Social Network Tool. Social Resource Non-social Tool	**Advantages:** 1.One reason why participants preferred web search to asking their social network was that they found answers faster with web search 2. People expectation are meet by the search engines hence there is no significant change. **Disadvantages:** 1. Search engine provides the information seeker with control over the search process.
3	MySpace and Face book : Identifying Dimension of used and Gratification for Friend Networking Sites	Jennifer Bonds John Raacke	Individual Difference Research 2010 vol:8 No:1 PP 27-33	Internet Usage Methods	Two-Part Pack tools	**Advantages:** 1. To keep in touch. 2. To keep in touch current friends. 3. To post/look at pictures. 4. To make new friends. 5. To locate friends. **Disadvantages:** 1.To share information about yourself 2. Dating purpose.
4	Opportunities for remote collaboration in a social web search model that integrates parents and children.	Sandra Regina Rocha Silva Geraldo Bonorino Xexeo. Moacir Florentio Da Silva jr	On-Line Publication Feb2014	Implicit Explicit Method interaction	Web based Social Network Tool. (WBSN) Query search Engine	**Advantages:** 1. Increased coverage 2. Higher confidence in the quality of their finding. 3. Greater productivity due to a reduction in unnecessary redundant work. **Disadvantages:** 1. High cost. 2. Knowledge and time variant.
5	What do People Ask Their social networks and why? A Survey Study of Status Messages Q&A behavior	Meredith Ringel Morris. Jaime Teevan. Katrina Panovich	(IW3C2) 2010 ACM 978-1-60558-929-9/10/04	Social Network Status Message. Demographics. Personalized search	Business-Oriented Networking Tools. On-Line Social Networking Tools.	**Advantages:** 1. Consist only direct contacts of the asker rather than entire community. 2. Q&A sites impose to post more detailed question to post but social networking sites typically impose fewer hundred characters.

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				algorithm.		**Disadvantages:** 1. Question Q&A sites can be posted anonymously.
6	Optimizing Key Distribution in Peer to Peer Using B-Tress	Abdul Rahman Aldhaheri Hammod Alshamari	arxiv : 1308. 4895 v1 [CS.CR] 22Aug2013	Peer to Peer network architect IP Multicast Binary Tree	Online Time User ID Simulation Tools	**Advantages:** 1. High performance has been developed by using b-tree. 2. Peer to Peer is more secure because of centralization. **Disadvantages:** 1. Increase network efficiency and minimize bandwidth consumption. 2. High level of decentralization increased complexity and security threats. 3. Secret key shared between sender and receiver.
7	An Efficient Hybrid Peer to Peer System for Distributed Data Sharing	P.Elamathi S.Saranya	IJREAT Volume:1 Issue:1 Mar2013	Structured Peer to Peer. Un Structured Peer to peer.	Web Caching. Distribute Hash Table(DHT) Multicast Routers	**Advantages:** 1. Distributed data sharing combines structured and unstructured peer to peer network 2. Data is generated and distributed among the peers. 3. Low cost of mechanism **Disadvantages:** 1. Hosting the data over whelmed by large amount of request 2. Goal of caching balanced by hosting when popular data request
8	Toward P2P-based Multimedia Sharing in User Generated Contents	Harrison Chandler Haiying Shen	IEEE Transactio n on Parallel and Distributed System Vol:23, No:5, May2012	M-board. User Generated Content. Distribute Hash Table(DHT) Peer to Peer Network.	DISBoard M-Board Sever Bandwidth (SWB) Video On Demand (VOD)	**Advantages:** 1. It's a beneficial to develop a scheme to enable forums to share multimedia contents in an efficient, low cost and easy to use manner. **Disadvantages:** 1. Meeting user demand due to limited bandwidth.
9	Supporting Synchronous Social Q&A throughout the question life cycle.	Matthew Richard Ryen.Whit	(IW3C2) www 2011 ACM 978-1-4503-	Algorithm Measureme nt Experiment Human	IBM Community tools.	**Advantages:** 1. There is a good gain over the baseline prediction performance for the task of predicting whether question will be answered and predicting

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			0632-4/11/03	Factor.		the number users that will be interrupted by a question. **Disadvantages:** 1. Accuracy is lower. 2. Lower performance is related to smaller number of features.
10	Mobile Question and Answer System based on Social Network	G.Manora jithim. S.J Veeraselvi	IJREAT Volume:2 Issue:9 Sep2013	Distributed Social based Mobile Q&A System. (SOS)	Registration Server (RS) First-order logic representation (FOL) Natural language Processing (NPL)	**Advantages:** 1. Avoids query congestion and high server bandwidth and maintenance cost problem 2. Reducing the node overhead, traffic and mobile internet access 3. Quick response. **Disadvantages:** 1. SOS generates only much less question since selecting potential answers, the question is very likely to be forwarded to answer provide answer.
11	Mobile cloud computing: A survey	Niroshinie Ferando Seng W.Loke Wenny Rahayu	© 2012 Elsevier B.V. All rights reserved.	Off loading method Cost benefit method	Remote Procedure Calls (RPC) Remote Method Invocation (RMI)	**Advantages:** 1.Mobile cloud computing aims to empower the mobile user by providing a seamless and rich functionality, regardless of a Resource limitation of mobile devices. **Disadvantages:** 1.mobile cloud computing could become the dominant model for a Mobile applications in the future.

IV. CONCLUSION

Distributed mobile Q&A system enables a node to accurately identify the friends who can answer the question. FOL representation and inference engine finds the capability and willingness of the friends to answer the question. By comparing various parameters in the above literature survey papers we understood advantages and disadvantages of their existing work. Hence we proposed a new method “Mobile Q&A System in The Cloud Based Environment” by reading concern papers. Our literature paper helps to study about cloud computing which is responsible for searching and discovering other mobile resources, connecting, maintaining, connections and communicating with external device.

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