Efficient Data Query in Intermittently-Connected Mobile Ad Hoc Social Networks

ABSTRACT:
This work addresses the problem of how to enable efficient data query in a Mobile Ad-hoc SOcial Network (MASON), formed by mobile users who share similar interests and connect with one another by exploiting Bluetooth and/or WiFi connections. The data query in MASONs faces several unique challenges including opportunistic link connectivity, autonomous computing and storage, and unknown or inaccurate data providers. Our goal is to determine an optimal transmission strategy that supports the desired query rate within a delay budget and at the same time minimizes the total communication cost. To this end, we propose a centralized optimization model that offers useful theoretic insights and develop a distributed data query protocol for practical applications. To demonstrate the feasibility and efficiency of the proposed scheme and to gain useful empirical insights, we carry out a testbed experiment by using 25 off-the-shelf Dell Streak tablets for a period of 15 days. Moreover, extensive simulations are carried out to learn the performance trend under various network settings, which are not practical to build and evaluate in laboratories.

EXISTING SYSTEM:
An autonomous social network formed by mobile users who share similar interests
and connect with one another by exploiting the Bluetooth and/or WiFi connections of their mobile phones or portable tablets is called MASON. An individual MASON is incomparable with online social networks in terms of the population of participants, the number of social connections and the amount of social media. MASONs gain significant value by serving as a supplement and augment to online social networks and by effectively supporting local community-based ad-hoc social networking. It helps discover and update social links that are not captured by online social networks and allows a user to query localized data such as local knowledge, contacts and expertise, surrounding news and photos, or other information that people usually cannot or do not bother to report to online websites but may temporarily keep on their portable devices or generate upon a request. A query is created by a query issuer. It is delivered by the network toward the nodes that can successfully provide an answer (i.e., data providers). If a data provider receives the query, it sends the query reply to the query issuer.

PROBLEM DEFINITION:

- Opportunistic link connectivity
- Autonomous computing and storage:
PROPOSED SYSTEM:
We propose a centralized optimization model that offers useful theoretic insights and develop a distributed data query protocol for practical applications. Based on the insights gained from the analysis on MASON, a distributed data query protocol is proposed, aiming to enable highly efficient ad hoc query under practical MASON settings. A distributed protocol for the data query in MASONs is based on two key techniques. First, it employs “reachable expertise” as the routing metric to guide the transmission of query requests. Second, it exploits the redundancy in query transmission. Redundancy is not considered in the analysis due to its intractability, but can effectively improve the query delivery rate in practice if it is properly controlled.

ADVANTAGES OF PROPOSED SYSTEM:
- The feasibility and efficiency of the data query protocol is increased
- The proposed system provides facilities to gain useful empirical insights,
- Minimized total communication cost.
SYSTEM REQUIREMENTS:

HARDWARE REQUIREMENTS:

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Drive : 1.44 Mb.
- Monitor : 15 VGA Colour.
- Mouse : Logitech.
- Ram : 512 Mb.

SOFTWARE REQUIREMENTS:

- Operating system : Windows XP/7.
- Coding Language : ASP.net, C#.net
- Tool : Visual Studio 2010
- Database : SQL SERVER 2008

REFERENCE:
Yang Liu, Student Member, IEEE, Yanyan Han, Zhipeng Yang, Student Member, IEEE, and Hongyi Wu, Member, IEEE. “Efficient Data Query in Intermittently-Connected Mobile Ad Hoc Social Networks”. IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, VOL., NO. , APRIL 2014.
IEEE Projects 100% WORKING CODE + DOCUMENTATION+ EXPLANATION – BEST PRICE
LOW PRICE GUARANTEED