**Cooperative Caching for Efficient Data Access in Disruption Tolerant Networks**

**ABSTRACT:**

Disruption tolerant networks (DTNs) are characterized by low node density, unpredictable node mobility, and lack of global network information. Most of current research efforts in DTNs focus on data forwarding, but only limited work has been done on providing efficient data access to mobile users. In this paper, we propose a novel approach to support cooperative caching in DTNs, which enables the sharing and coordination of cached data among multiple nodes and reduces data access delay. Our basic idea is to intentionally cache data at a set of network central locations (NCLs), which can be easily accessed by other nodes in the network. We propose an efficient scheme that ensures appropriate NCL selection based on a probabilistic selection metric and coordinates multiple caching nodes to optimize the tradeoff between data accessibility and caching overhead. Extensive trace-driven simulations show that our approach significantly improves data access performance compared to existing schemes.

**EXISTING SYSTEM:**

* A common technique used to improve data access performance is caching, i.e., to cache data at appropriate network locations based on query history, so that queries in the future can be responded with less delay. Although cooperative caching has been studied for both web-based applications and wireless ad hoc networks to allow sharing and coordination among multiple caching nodes.

**DISADVANTAGES OF EXISTING SYSTEM:**

* The average inter-contact time in the network is reduced and enables efficient access on data with shorter lifetime.
* Ratio of data access is reduced.

**PROPOSED SYSTEM:**

* In this paper, we propose a novel scheme to support cooperative caching in DTNs. Our basic idea is to intentionally cache data at a set of NCLs, which can be easily accessed by other nodes.
* We ensure appropriate NCL selection based on a probabilistic metric; our approach coordinates caching nodes to optimize the tradeoff between data accessibility and caching overhead

**ADVANTAGES OF PROPOSED SYSTEM:**

* Our scheme greatly improves the ratio of queries satisfied and reduces data access delay and performance.
* When T is large, indicating long inter-contact time among mobile nodes in the network, our experimental setup increases the data lifetime accordingly.

**SYSTEM ARCHITECTURE:**

****

**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 : JAVA/J2EE
* IDE : Netbeans 7.4
* Database : MYSQL

**REFERENCE:**

Wei Gao, Guohong Cao, Arun Iyengar, and Mudhakar Srivatsa, “Cooperative Caching for Efficient Data Access in Disruption Tolerant Networks”, **IEEE TRANSACTIONS ON MOBILE COMPUTING, VOL. 13, NO. 3, MARCH 2014**