**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 trade off 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:***

In the existing system, research on data forwarding in DTNs originates from Epidemic routing], which floods the entire network. Some later studies focus on proposing efficient relay selection metrics to approach the performance of Epidemic routing with lower forwarding cost, based on prediction of node contacts in the future. Some schemes do such prediction based on their mobility patterns, which are characterized by Kalman filter or semi-Markov chains. In some other schemes, node contact pattern is exploited as abstraction of node mobility pattern for better prediction accuracy, based on the experimental and theoretical analysis of the node contact characteristics. The social network properties of node contact patterns, such as the centrality and community structures, have also been also exploited for relay selection in recent social-based data forwarding schemes.

**PROPOSED SYSTEM:**

In the proposed system, we propose a novel scheme to address the aforementioned challenges and to efficiently support cooperative caching in DTNs. Our basic idea is to intentionally cache data at a set of network central locations (NCLs), each of which corresponds to a group of mobile nodes being easily accessed by other nodes in the network. Each NCL is represented by a central node, which has high popularity in the network and is prioritized for caching data. Due to the limited caching buffer of central nodes, multiple nodes near a central node may be involved for caching, and we ensure that popular data are always cached nearer to the central nodes via dynamic cache replacement based on query history.

**SYSTEM SPECIFICATION**

**Hardware Requirements:**

* System : Pentium IV 3.5 GHz.
* Hard Disk : 40 GB.
* Floppy Drive : 1.44 Mb.
* Monitor : 14’ Colour Monitor.
* Mouse : Optical Mouse.
* Ram : 1 GB.

**Software Requirements:**

* Operating system : Windows XP or Windows 7, Windows 8.
* Coding Language : Java – AWT,Swings,Networking
* Data Base : My Sql / MS Access.
* Documentation : MS Office
* IDE : Eclipse Galileo
* Development Kit : JDK 1.6

**CONCLUSION:**

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 trade off between data accessibility and caching overhead. Extensive simulations show that our scheme greatly improves the ratio of queries satisfied and reduces data access delay, when being compared with existing schemes.