

Sharing clinical information in P2P environment with RBAC mechanism.

ABSTRACT

This paper proposes a Peer-to-Peer (P2P) distributed database system (PDBS) with Role Based Access Control (RBAC) mechanism for sharing the clinical information. In the proposed system, peers as health centers have their own local databases and information in these local databases can be shared among health centers through user queries. As a fully decentralized P2P distributed database information sharing system, each health center has both server and client functions. Each health center can act as a client that sends queries to others and also can act as a server which responds to the client health center. The proposed system supports health center operators to send queries and update queries to other health centers and integrates the distributed query results and displays the results through a user interface based on the role of the user in the system. Furthermore, health centers are able to discover other online health centers to send queries and receive responses. The proposed system is implemented with the JXTA platform in P2P environment.

Keyword: P2P; PDBS; RBAC mechanism; DDBS.