

## Privacy-Preserving Location Sharing System with Client/Server Architecture in Mobile Online Social Network

**Authors :** Xi Xiao, Chunhui Chen, Xinyu Liu, Guangwu Hu, Yong Jiang

**Abstract :** Location sharing is a fundamental service in mobile Online Social Networks (mOSNs), which raises significant privacy concerns in recent years. Now, most location-based service applications adopt client/server architecture. In this paper, a location sharing system, named CSLocShare, is presented to provide flexible privacy-preserving location sharing with client/server architecture in mOSNs. CSLocShare enables location sharing between both trusted social friends and untrusted strangers without the third-party server. In CSLocShare, Location-Storing Social Network Server (LSSNS) provides location-based services but do not know the users' real locations. The thorough analysis indicates that the users' location privacy is protected. Meanwhile, the storage and the communication cost are saved. CSLocShare is more suitable and effective in reality.

**Keywords :** mobile online social networks, client/server architecture, location sharing, privacy-preserving

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