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Topic 1
Comparison of Trust Algorithms in Peer to Peer System

Trust relationships are able to mitigate attacks in peer to peer system. The trust in peer to peer system could be measured by two factors: behaviors when providing service directly and behaviors when giving recommendations to others. Some algorithms have been created to establish trust among peers. In this topic, students read reference and make comparison for these algorithms.

Students should have basic knowledge of peer to peer system and trust.

Reference:
[1] Managing trust in a peer-2-peer information system
http://portal.acm.org/citation.cfm?id=502585.502638&dl=GUIDE&dl=ACM&type=series&idx=502585&part=Proceedings&WantType=Proceedings&title=Conference%20on%20Information%20and%20Knowledge%20Management&CFID=11111111&CFTOKEN=2222222
[2] PeerTrust: Supporting Reputation-Based Trust for Peer-to-Peer Electronic Communities
http://csdl2.computer.org/persagen/DLAbsToc.jsp?resourcePath=/dl/trans/tk/&toc=comp/trans/tk/2004/07/k7toc.xml&DOI=10.1109/TKDE.2004.1318566

Topic 2
Trust-privacy tradeoff in reputation based peer to peer system

The trust in peer to peer system could be measured by two factors: behaviors when providing service directly and behaviors when giving recommendations to others. On the other hand, research about trust-privacy tradeoff aims to provide minimal privacy to gain certain level trust. In this topic, student analyze trust-privacy tradeoff in peer to peer system by literal work.

This is a hard topic and it needs a lot of workload.

Reference:
[1] Using Entropy to Trade Privacy for Trust
Y Zhong, B Bhargava - Proc. Workshop Secure Knowledge Management, 2004
[2] B. Bhargava, L. Lilien, and D. Xu, ¡°Private and Trusted Interactions,¡± slides, The 5th Annual Information Security Symposium " Energizing the Enterprise: Cyber Security in Context," CERIAS, Purdue University, March 2004;

Topic 3
Trust Management in Peer to Peer System

Trust management includes trust lifecycle management, trust and risk assessments, decision algorithms, and etc. The trust in peer to peer system could be measured by two factors: behaviors when providing service directly and behaviors when giving recommendations to others. Decision algorithms normally make decision based on the privacy disclosed. In this topic, students focus on the trust management in peer to peer system.

This is a very hard topic and it needs a lot of workload.

Reference:
[1] Managing trust in a peer-2-peer information system
http://portal.acm.org/citation.cfm?id=502585.502638&dl=GUIDE&dl=ACM&type=series&idx=502585&part=Proceedings&WantType=Proceedings&title=Conference%20on%20Information%20and%20Knowledge%20Management&CFID=11111111&CFTOKEN=2222222
[2] Trading privacy for trust
http://www.niksula.hut.fi/~shaoxing/558_10993781_Chapter_8.pdf