Trust-based Collaborative Privacy Management in Online Social Networks

Abstract—Online social networks have now become the most popular platforms for people to share information with others. Along with this, there is a serious threat to individuals’ privacy. One privacy risk comes from the sharing of co-owned data, i.e., when a user shares a data item that involves multiple users, some users’ privacy may be compromised, since different users generally have different opinions on who can access the data. How to design a collaborative management mechanism to deal with such a privacy issue has recently attracted much attention. In this paper, we propose a trust-based mechanism to realize collaborative privacy management. Basically, a user decides whether or not to post a data item based on the aggregated opinion of all involved users. The trust values between users are used to weight users’ opinions, and the values are updated according to users’ privacy loss. Moreover, the user can make a trade-off between data sharing and privacy preserving by tuning the parameter of the proposed mechanism. We formulate the selecting of the parameter as a multi-armed bandit problem and apply the upper confidence bound policy to solve the problem. Simulation results demonstrate that the trust-based mechanism can encourage the user to be considerate of others’ privacy, and the proposed bandit approach can bring the user a high payoff.

CONCLUSION

In this paper we study the privacy issue caused by the sharing of co-owned data in OSNs. To help the owner of data collaborate with the stakeholders on the control of data sharing, we propose a trust-based mechanism. When a user is about to post a data item, the user first solicits the stakeholders’ opinions on data sharing, and then makes the final decision by comparing the aggregated opinion with a pre-specified threshold. The more the user trusts a stakeholder, the more the user values the stakeholder’s opinion. If a user suffers a privacy loss because of the data sharing behavior of another user, then the user’s trust in another user decreases.
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
• Data Base : MYSQL

REFERENCES

