

## Master Thesis Defense

Speaker:	Maziar Gomrokchi
Supervisor:	Dr. J. Bentahar
Examining Committee:	Drs. B. Jaumard, O. Ormandjieva, D. Ford (Chair)
Title:	A Game Theoretical Approach for Reputation Propagation in Online Social Networks
Date:	Monday, August 23, 2010
Time:	10:00 a.m.
Place:	EV 3.101

### ABSTRACT

Formation of mutual trust between users of an Online Social Network OSN is a function of many parameters. One of these parameters that has been widely investigated is the reputation of users. Users interact with each other with different intentions and as a result of their interactions they propagate each other's reputation. In the absence of centralized trusted parties in OSNs, the only way for an agent to estimate others' reputation is the other agents' thoughts about that agent. Therefore, intention and behavior of agents in the propagation of each other's reputation becomes crucial.

In this thesis, we propose a game theoretic model of reputation propagation among users in OSNs. We use this model to first study the dynamics of propagation and then analyze users' behavior with respect to their reputation in the network. To do so, we expose the Nash equilibria of the proposed game. Finally, we develop some experiments on the large-scale social network of *Epinions* and compare our findings in the theoretical part with the observations from the experiments.