

Indirect Reputation Assessment in Electronic Markets

Abstract

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The Internet allows for A2A commerce at an unprecedented scale; anyone can do business with anyone. The new markets made possible by the Internet bring with them new challenges. This research presents a system for buyers in electronic markets to avoid bad sellers by modeling the reputation of a seller. The model proposed by Cohen and Tran [?] is extended to provide a method for the exchange of indirect information about the reputation of sellers among buying agents. The subjectivity that arises when buyers use different standards to model seller reputation is addressed and a way to correct for any systematic differences between these reputations is developed. We assume that the indirect reputation shared by buyers may not be truthful and provide a model for the reputation of other buyers along with methods to minimize the impact of deceptive buyers. In particular the reputations gathered from other buyers are combined in a manner which ignores the information provided by buyers who have been deemed disreputable. Information gathered after a purchase is then used to update the reputations of all buyers involved. This work is of interest to anyone who wishes to address the issues of deception and cooperation in electronic markets, in order to model the reputability of sellers for purchasing decisions. We discuss how the algorithms proposed in our model can protect against harm from deception and can provide important improvements over models that do not make use of ratings provided by other buying agents, for scenarios where the buyer is new to the marketplace and lacks experience with the potential sellers.