Chapter IX

Privacy Policies and Their Negotiation in Distance Education

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Abstract

This chapter begins by introducing the reader to privacy policies, e-services, and privacy management. It then derives the contents of a privacy policy and explains “policy matching”. It next presents an approach for the negotiation of privacy policies for an e-learning service. Both negotiating under certainty and uncertainty are treated. The type of uncertainty discussed is uncertainty of what offers and counter-offers to make during the negotiation. The approach makes use of common interest and reputation to arrive at a list of candidates who have negotiated the same issues in the past, from whom the negotiator can learn the possible offers and counter-offers that could be made. Negotiation in this work is done through human-mediated computer-assisted interaction rather than through autonomous agents. The chapter concludes with a discussion of issues and future research in this area.
Introduction

Most distance education innovations have focused on course development and delivery, with little or no consideration to privacy and security as required elements. However, it is clear that there will be a growing need for high levels of confidentiality and privacy in e-learning applications, and that security technologies must be put in place to meet these needs. The savvy of consumers regarding their rights to privacy is increasing; new privacy legislations have recently been introduced by diverse jurisdictions (Canadian Standards Association, Department of Justice). In addition, the move to corporate outsourcing of distance learning will lead to requirements of confidentiality of student information, to protect company-sensitive information that might be disclosed if training records were obtained by competitors.

A promising solution to the lack of privacy and security for e-learning systems is to put in place a policy-based management system, that is, formulate privacy and security policies for the e-learning system and back them up with security mechanisms that ensure that the policies are respected. Policy-based management approaches have been used effectively to manage and control large distributed systems. As in any distributed system, e-learning may also use a policy-based framework to manage the security and privacy aspects of operations. However, policies must reflect the wishes of the e-learning consumer as well as the e-learning provider. In this chapter, we introduce privacy policies, e-services, privacy policy management, and describe an approach for the negotiation of privacy policies between an e-learning consumer and an e-learning provider. We examine negotiation under certainty and uncertainty (where the offers and counter-offers are known or unknown, respectively) and propose a scheme for resolving the uncertainty using the experience of others who have undergone similar negotiation. The choice of whom to call upon for negotiation experience is resolved through the identification of common interest and reputation. The results of this chapter are applicable to all types of e-services, including e-business and e-learning.

The negotiation approach presented in this chapter does not employ autonomous agent negotiation (AAN). We find that: a) AAN is not necessary for our application area, b) current AAN technology would be unable to capture all the nuances and sensitivities involved with privacy policy negotiation, including cultural impacts (Kersten et al., 2002), and c) the level of trust that consumers would have in autonomous agents negotiating privacy policy would be low.
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