



Chapter III

Privacy and Security in E-Learning¹

George Yee, Institute for Information Technology, Canada

Yuefei Xu, Institute for Information Technology, Canada

Larry Korba, Institute for Information Technology, Canada

Khalil El-Khatib, Institute for Information Technology, Canada

Abstract

For a variety of advantages, universities and other organizations are resorting to e-learning to provide instruction online. While many advances have been made in the mechanics of providing online instruction, the needs for privacy and security have to-date been largely ignored. This chapter examines privacy and security issues associated with e-learning. It presents the basic principles behind privacy practices and legislation. It investigates the more popular e-learning standards to determine their provisions and limitations for privacy and security. Privacy requirements for e-learning systems are explored with respect to the “privacy principles.” The capabilities of a number of existing privacy enhancing technologies, including methods for network privacy, policy-based privacy/security management, and trust systems, are reviewed and assessed.

Introduction

One of the key characteristics of our information economy is the requirement for lifelong learning. Industrial and occupational changes, global competition, and the explosion of information technologies have all highlighted the need for skills, knowledge, and training. Focused on attracting and retaining staff, companies have placed an emphasis on training to bolster soft and hard skills to meet new corporate challenges. In many cases, career training has been placed in the hands of employees, with the understanding that employees must be able to keep ahead of technological change and perform innovative problem solving. One way of meeting the demand for these new skills (especially in information technology) is through online e-learning, which also offers the potential for continuous learning. Moreover, e-learning provides answers for the rising costs of tuition, the shortage of qualified training staff, the high cost of campus maintenance, and the need to reach larger learner populations.

From the corporate perspective, employee training is an approach to increase the level and variety of competencies in employees, for both hard and soft skills. Online learning has become an important tool to implement corporate learning objectives. Indeed, specific e-learning courseware may be used to target specific corporate needs pertaining to strategic directions. Key trends for corporate e-learning, germane to privacy and e-learning include (Hodgins, 2000):

- Learners may access courseware using many different computing devices and from different locations, via different networks.
- E-learning technology will overtake classroom training to meet the needs for “know what” and “know how” training.
- E-learning will offer more user personalization, whereas courseware will dynamically change based on learner preferences or needs. In other words, e-learning applications of the future will be intelligent and adaptive.
- Corporate training is becoming knowledge management. This is the general trend in the digital economy. With knowledge management, employee competencies are assets which increase in value through training. This trend has pushed the production of training that is more task specific than generic. Changes in corporate strategic directions are often reflected as changes in e-learning requirements prompted by the need to train staff for those new directions.
- E-learning is moving toward open standards.

22 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/privacy-security-learning/18745

Related Content

Elements of a Successful Distributed Learning Program

Lore Meyer-Peyton (2000). *Distance Learning Technologies: Issues, Trends and Opportunities* (pp. 82-90).

www.irma-international.org/chapter/elements-successful-distributed-learning-program/8582

A Data Mining Approach to Diagnosing Student Learning Problems in Sciences Courses

Gwo-Jen Hwang (2005). *International Journal of Distance Education Technologies* (pp. 35-50).

www.irma-international.org/article/data-mining-approach-diagnosing-student/1663

Implementing Learning Support Systems

J. Bernardesand J. O'Donoghue (2005). *Encyclopedia of Distance Learning* (pp. 1033-1041).

www.irma-international.org/chapter/implementing-learning-support-systems/12229

Developing an Appropriate Design for E-Learning with Web-Mediated Teaching Methods to Enhance Low-Achieving Students' Computing Skills: Five Studies in E-Learning Implementation

Chia-Wen Tsaiand Tsang-Hsiung Lee (2012). *International Journal of Distance Education Technologies* (pp. 1-30).

www.irma-international.org/article/developing-appropriate-design-learning-web/62285

Scalable Video Streaming in Wireless Mesh Networks for Education

Yan Liu, Xinheng Wangand Liqiang Zhao (2013). *System and Technology Advancements in Distance Learning* (pp. 1-20).

www.irma-international.org/chapter/scalable-video-streaming-wireless-mesh/68748