The 2004 Int'l MultiConference In Computer Science & Computer Engineering
Monte Carlo Resort & Casino, Las Vegas, Nevada, USA

TUTORIAL SESSION

Digital Rights Management: The Good, The Bad and The Ugly

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June 22, 2004 (6:00 pm - 9:30 pm)

ABSTRACT

Digital rights management (DRM) can be viewed as an attempt to provide for "remote control" of digital content. The required level of protection goes beyond simply delivering the bits—restrictions on the use of the content must be maintained after it has been delivered. For example, consider a digital book that is sold online. Without further protection, the recipient of the book could redistribute a perfect copy to anyone on the Internet at the mere click of a button. DRM attempts to remedy this situation by providing the sender with the ability to restrict the actions of the recipient. While some people worry that DRM will ultimately give copyright holders far more power than they enjoyed in the pre-digital era, to date strong DRM has proven elusive. In this tutorial we consider some of the reasons why robust DRM is difficult to achieve in practice and we discuss a few of the many examples of failed DRM systems. We also outline the architecture of a real-world DRM system that the presenter helped to design and develop. Some research problems related to DRM will also be considered. Finally, the use of DRM within an enterprise will be discussed and we will argue that enterprise DRM is a place where current DRM technology can be applied successfully.

OBJECTIVES

This course should provide you with:

- A basic understanding of the issues—technical and non-technical—that arise when designing, developing, and deploying a DRM system
- A high-level understanding of the architecture of a real-world DRM system
- An introduction to research topics related to DRM
- An understanding of why the DRM problem is inherently more tractable in an enterprise setting than in e-commerce
- A discussion of specific issues that arise in enterprise DRM
- Enough information so that you can make fun of some of the awful DRM systems that have been deployed to date
- A glimpse of life at a Silicon Valley startup company during the dot-com meltdown

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INTENDED AUDIENCE

This course is intended for anyone interested in the topic of digital rights management and the material covered should be accessible to students at all levels and even to professors. Working professionals with an interest in DRM or enterprise document protection might find the course particularly useful.

BIOGRAPHY OF INSTRUCTOR

Mark Stamp spent more than seven years at the National Security Agency working on problems in cryptanalysis, speech, algorithms and networks. He left NSA with the goal of getting rich by developing a digital rights management system for a small Silicon Valley startup company, MediaSnap, Inc. After two years, MediaSnap ceased paying salaries, leaving Mark looking for gainful employment, and definitely not rich. For the past two years Dr. Stamp has enjoyed observing the tech sector from the relative security of his position as Assistant Professor of Computer Science at San Jose State University. Professor Stamp holds a PhD from Texas Tech University and has publications in a wide range of fields, including digital rights management, e-commerce, cryptography, algorithms, computer networks, epidemiology, simulation, speech, graph theory, numerical analysis and control theory. His current research interests are security, networks and algorithms.

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