Privacy in E-Learning
Hauptseminar “E-Learning” – Sommersemester 2008

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7/22/08
overview

privacy threats and requirements

network security

standards

samples
why network security?

network security is a fundamental privacy requirement
network security...

authentication  data integrity  network privacy
authentication

- “verification” of the users' identity
- several possible methods, like:
  - user name and password
  - digital signatures

data integrity

- proof of the senders' identity (cp. authentication)
- no data loss, damage or manual changes
- possible method: digital signatures
- but: Are there really the denoted persons sitting on their PCs?
- necessity to use conventional education concepts:
  - monitor students by camera?
  - monitor students by physically present human supervisor?
network privacy

- risk of private data being wiretapped
- use of ciphering algorithms
  - symmetric method:
    - one key for both encryption and decryption (Kerckhoffs' principle)
  - asymmetric method:
    - private and public key
    - need of certification authorities (CAs)
privacy threats and further requirements
privacy threats and requirements

- copyright protection
  → privacy not only for students but also for educators

- stored data
  → user tracking needed to enhance an applications usability?

- credentials
  → prove not only users' identity but also educational credentials

- customizable privacy levels
  → what is stored? what is tracked? what is visible?
standardized privacy and security concepts
Platform for Privacy Preferences

P3P

preferences → site policies

stay or leave

client

server
sample e-learning platforms
Moodle

IfKW Moodle

Nachrichten der Seite

Moodle-Login mit Extranet-Kennung
by Moodle Admin - Monday, 6 June 2006, 01:20 PM

Der Moodle-Login ist nur mit den Kennungen des IfKW-Extranet möglich. Passwort-
Änderungen müssen ebenfalls über das Extranet http://extranet.ifkw.mmu.de
vorgenommen werden.

Falsch dargestellte Namen
by Moodle Admin - Thursday, 19 October 2006, 12:00 PM

Leider wurden Namen mit Umlauten fehlerhaft aus der Extranet-Datenbank
übernommen. Sie können die Fehler selbst korrigieren: Nach dem Login auf den Namen
oben rechts auf der Seite klicken und "Profil bearbeiten" auswählen.

Course categories

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Search courses: [ ] (60)

http://moodle.ifkw.lmu.de/index.php
Moodle

- adjustable security level (only adjustable by educators)
  - access for anybody
  - access with course enrollment key
  - access after manual enrollment

- tracking of registered users

- no possibility to change privacy level for students

- but: modular and extensible design
  \[\rightarrow\] possibility to implement privacy preserving plug-ins
Second Life

http://slurl.com/secondlife/vhs/128/149/24/
Second Life

- hidden user identity
- in-world rights management
- copyright protection (?)
- proprietary platform
- not (yet?) ready to allocate complete e-learning functionality
conclusion

- Increasing number of technologies
- Increasing number of standards
- Increasing attention for privacy related issues
- Increasing number of laws