

The Emerging Digital Academy

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Outline

□ Copyright

- teaching & learning
- scholarly communication
- legal issues for preservation
- long-lived digital research data

□ Intellectual Property

- Science Commons
- ownership of my ideas

□ Digital Rights Management

- research and learning
- metadata and infrastructure
- managing the rights, actually

Copyright

→ teaching and learning

- Students and faculty need to use copyrighted material for teaching, study and research
- Compliance is everyone's goal

- **STANFORD UNIVERSITY**
Reporting Copyright Infringements

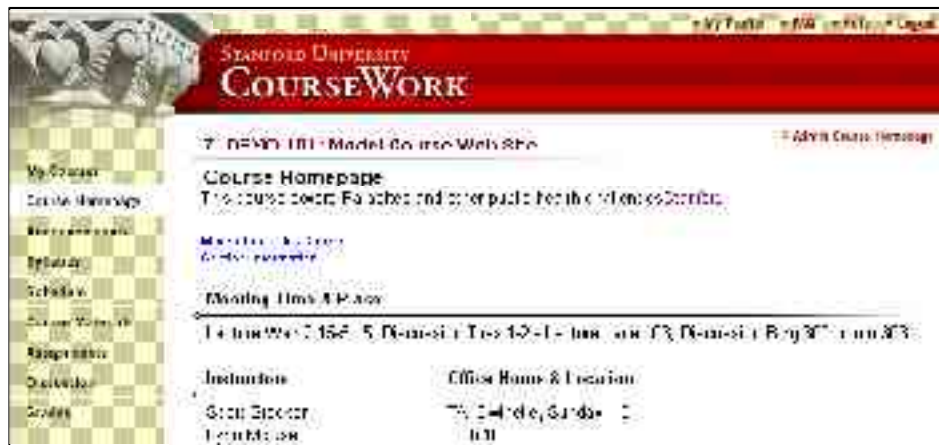
In accordance with Title II of the Digital Millennium Copyright Act (DMCA), an agent has been designated to receive notification of a claimed copyright infringement for the following Stanford University Network domains: Stanford.EDU, Stanford.ORG, Stanford.COM, lightning.ORG. Please consult Stanford's [DMCA Designated Agent](#).

<http://www.stanford.edu/home/atoz/copyright.html>

Copyright

→ teaching and learning

□ Compliance means IT for classes



granular management of

- ✓ course membership
- ✓ class & study materials
- ✓ types of delivery
 - *streamed media*
 - *library reserves*
- ✓ security for servers
- ✓ secure personal/network IDs
- ✓ ...

□ CourseWork locally developed

□ Migrating to Sakai

- <http://sakaiproject.org/>
- community source development
- >100 subscribers to the Sakai Partners Program

→ scholarly communication

□ Journals

- price
- ownership
- persistence

□ Books

- “In many fields opportunities for publishing scholarly books, including specialized monographs, have become scarce, even as they remain critically important to scholarly communication and a requirement for scholarly advancement.”

- <http://www.universityofcalifornia.edu/senate/committees/scsc/monographs.scsc.12.05.pdf>

□ Impacts scholars as well as academic libraries

Copyright

→ scholarly communication

□ Unbundling rights and licenses

- right to first publication
- rights to post-print archiving & non-profit use
- institutional not-for-profit distribution licenses
- Universities support the trend:

<http://www.universityofcalifornia.edu/senate/committees/scsc/reports.html>

http://library.stanford.edu/scholarly_com/

□ HighWire Press

- changing the business model
- largest repository of free full-text life science articles in the world, with 1,217,140 **free, full-text articles** from 264 journals

□ LOCKSS

- pen source, peer-to-peer software that functions as a persistent access preservation system

→ legal issues for preservation

□ Section 108

- library exemptions for preservation and access
 - preservation of at-risk materials
 - replacement for damaged, deteriorating, or lost works
 - copies from formats that have become obsolete
- written for physical copies in physical buildings
 - requires that you come to the library building to borrow copies
- virtual libraries and digital materials raise issues
 - are pure-digital libraries included? Where would the patron need to go?
- Section 108 Study Group
 - report late 2006
 - <http://www.loc.gov/section108/>

→ legal issues for preservation

- identifying public domain works is not straightforward
- Orphan works
 - Copyright Office report, January 2006
 - <http://www.copyright.gov/orphan/>
 - <http://www.copyright.gov/orphan/orphan-report-full.pdf>
 - Proposed amendments to Copyright Act
 - a *reasonably diligent search* for the copyright owner is required
 - the new use must attribute author & copyright owner
 - monetary relief limited to reasonable compensation for use
 - monetary relief eliminated for non-commercial use where the user ceases infringement upon notice
- Copyright Determinator
 - Stanford project to automate the identification of public domain works
 - focus on U.S. books copyrighted between 1923 and 1964

→ long-lived digital research data

□ Management

- proliferation of collections
 - agency funding varies
 - NOAA and NASA maintain collections supporting funded research
 - NSF funds hundreds, perhaps thousands of collections
- complex webs of ownership/IP, data services, infrastructure, ...
- *Long-Lived Digital Data Collections*, National Science Board,
<http://www.nsf.gov/pubs/2005/nsb0540/>, p.32ff
 - England: <http://www.dpconline.org/docs/reports/uknamindthegap.pdf>
 - EU: <http://tfpa.kb.nl/Strategic%20Action%20Programme.pdf>

□ Preservation

- research communities often own/service their own data collections
 - preservation requires long-lived strategies
 - research communities require *do it now* timelines
- standards face same pressures – common practice trumps standards
 - other disciplines & future/related vectors of research likely to suffer
- common for research to cross international boundaries

Intellectual property

→ “*a tangled web of IP & professional secrecy*” Science Commons

□ Science Commons

- proponents of *some rights reserved* for IP
 - working to address constraints on the flow of information, *e.g.*
 - legal aspects of databases in many research fields
 - note England's specific approach to matters of *databases*
http://www.intellectual-property.gov.uk/resources/other_ip_rights/database_right.htm
 - third-party stance apart from research, funding, corporate, etc. interests
- ☞ *Frequently Asked Questions*, Science Commons, <http://sciencecommons.org/resources/faq>

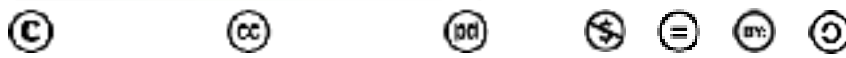
□ Another take – <http://www.law.ed.ac.uk/ahrb/script-ed/vol2-1/3ps.asp>

- constraints on next generation of research; new research facing patent claims
- publicly funded research creating personal and corporate wealth
- voices & efforts pushing for improvements all to the good, BUT
 - few trends indicate that IP laws will in fact change

□ And – *The Role of Scientific and Technical Data and Information in the Public Domain*, National Research Council, <http://www.nap.edu/catalog/10785.html>

□ Ownership of my ideas

■ Creative Commons

- range of owner's control – 
- ccMixter – community music site for remixes, mash-ups, ...
- media content (ccPublisher, ccSampling, ccMusicShare, ...)
- text, blogs, ...
- education & learning (learning objects, MIT OpenCourseWare, ...)

<http://creativecommons.org/about>

■ Digital portfolios

- life-time learning
- permanent, auditable record of
 - education, work publications, research, contributions, ...
- OSP ... Open Source Portfolio project

<http://www.osportfolio.org/>

http://www.rsmart.com/assets/understandingOSP_Dec2005.pdf

Digital Rights Management

→ metadata and infrastructure

□ Authentication & authorization

- lots of variation (e.g., kerberos, shibboleth, PKI, Athens, ...)

□ Content identifiers

- still more variation (handles, URI/L/N, DOI, PURL, ARK, ...)

□ Rights languages

- multiple alternatives
 - for expression of copyright, or provisions of contracts & licenses
 - for control over access and use via business process rules
- a variety of use cases, *e.g.*
 - institutional & commercial learning objects
 - commercial & federated channels for scholarly communication
 - access to & management of digital research data

<http://www.loc.gov/standards/relreport.pdf>

<http://www.educause.edu/LibraryDetailPage/666?ID=ERB0422>

<http://www.educause.edu/LibraryDetailPage/666?ID=ERB0421>

→ research and learning

□ Complex heterogeneity rules

- A miasma of laws, legal precedents, patents and practices that differ from region to region ... [ranging] from high profile cases concerning music sharing and open source software to education-specific legislation and patents that potentially affect the technology being developed to implement DRM.
- Models of intellectual property rights and market mechanisms that may need complete overhauls if the goal is to enabling knowledge sharing in communities of practice.
- Emerging architectures, technologies and standards that are still under development ... [snip] The lack of mature standards and of versions specific to education and learning is a cause of concern to anyone implementing DRM solutions.
- “Born Digital” content that is dynamically generated; that is a collage of other content incorporated through hyperlinks; that is data in a database; and that is streaming multimedia. These newer forms of content challenge traditional mechanisms for rights management.

📁 *Digital Rights Management*, Robby Robson on behalf of DEST (Australia) and JISC-CETIS (UK), http://www.jisc.ac.uk/uploaded_documents/Altilab04-DRM.pdf

Digital Rights Management

→ managing the rights, actually

□ Bringing it all together

■ Requirements

- content with unique identifiers
- codification of
 - rights (print, copy, modify, distribute, sell, ...)
 - conditions (group membership, free ↔ pay by the drink)
- manage people and services (authenticate, authorize)
- invoke machine actionable expressions of contracts, rights, licenses
- bring content, users, and rights together in a transaction

■ Impediments

- it's early days in many academic venues – vagaries abound
- intellectual property issues are real and pervasive, *e.g.*
 - digital source materials of scientific research
 - patent issues within the implementation requirements for DRM