Getting Practical with IPR in E-Learning

Contents

This paper was written for the IPR in E-Learning Conference organised by Middlesex University - School of Computing Science, on the 21st March 2006 at the London office of the British Computer Society 2006. This paper appears in the conference proceedings, published by Middlesex University Press. The full proceedings (ISBN: 1 859242 67 7) are available from the Middlesex University Press at http://mupress.co.uk/. The conference summary is available at http://www.cs.mdx.ac.uk/news/ipr_news06.html

Acknowledgements: Kevin Brosnan, L2L project manager Stirling University. Prof. Charles Oppenheim, Loughborough University and Intrallect Ltd. (http://www.intrallect.com/).

1 Introduction

Getting Practical with IPR in E-learning covers the potentially difficult and complex area at the intersection of technology, education, and the law. It is an area characterised by changing institutional and professional roles, rapidly developing technologies and strong political and commercial agendas with some of the academic players encountering legal constraints (and opportunities) for the first time. We start by presenting a short case study about the experience of managing IPR in e-learning from the JISC L2L project and from there give a brief description of the work of the TrustDR project which is tackling some of the problems raised by the L2L project.

2 The Learning to Learn Project: a short case study

The Learning to Learn Project (L2L) was a 3 year project that started in 2002 and ended in 2006, it was based on a consortium of five FE/HE institutions in central Scotland, led by the University of Stirling, the website can be found at http://www.daice.stir.ac.uk/l2l/index.html. The project focused on re-purposing existing resources to create learning objects that can be used to support learners as

they develop their learning and study skills. L2L was funded through the JISC Exchange for Learning programme (X4L) http://www.jisc.ac.uk/programme_x4l.html.

X4L was motivated by the imperative to make the most of the considerable investment that has taken place in a range of electronic content in recent years which has high potential value for use in learning. To do this it was recognised at a high level that the key to sustainability and widespread adoption of electronic learning materials, is to unlock the potential of the work taking place in a number of complementary areas, not only in the JISC, but also in other UK educational initiatives – the NLN (National Learning Network), the UFI (the University for Industry), and the NGFL (National Grid for Learning).

The project work highlighted the considerable challenges inherent in trying to initiate and sustain a viable learning-object exchange network. Amongst these challenges were some significant technical issues but the most serious challenges were those concerned with social and organisational matters. In particular, the L2L project highlighted that individuals and institutions need to perceive clear benefits from developing and sharing learning-objects to convince them to incur the costs (financial and time) of repurposing and sharing. The conclusion was that although these challenges are significant they are not insurmountable and are worth pursuing.

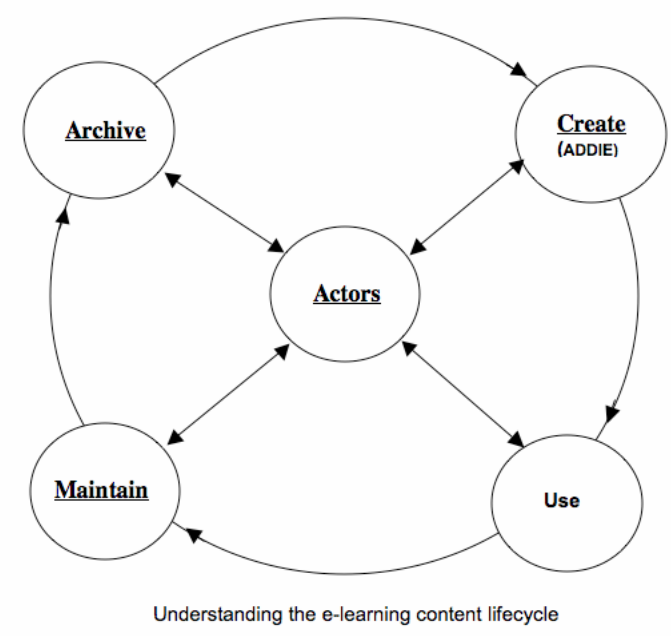
A problem that was encountered (which was not unique to L2L) was the considerable time and effort required in attempting to obtain copyright clearance from commercial and public organisations. Particularly frustrating in this respect was the lack of communication from a number of publicly funded organisations. However, a positive output from this situation was the production of an introductory guide to IPR issues *'Intellectual Property Rights (IPR) In Networked E-Learning - a beginners guide for content developers'*. The guide was written by the L2L project officer (John Casey) and published by the JISC Legal service and can be found on their website at http://www.jisclegal.ac.uk/publications/johncasey_1.htm. The expertise developed in writing the guide and the support it provided in obtaining copyright permissions proved very valuable to the L2L project and others. One of the most important things the L2L project discovered about managing IPR in e-learning was the need to keep accurate records to document the 'IPR Audit Trail'. This meant understanding the 'lifecycle' of a learning object, the 'actors' who may be involved with it and documenting the relevant IPR information with 'IPR tracker forms'. The relevant parts of the L2L IPR guide covering this are reproduced below.

The LOs (Learning Objects) produced by L2L adhered to a common framework, which was reflected in a standard folder structure for each of the LOs. Although the issue of a standard folder structure may seem unimportant the L2L development team considered that this was an important part of encouraging reusability and longer-term maintenance. In addition to the actual 'assets' making up the L2L LOs information was included in three folders (devnotes, tutnotes, provenance) to provide contextual information in attempt to support others who may decide to use these resources. The information contained in the provenance folder contains information relating to the process of obtaining copyright clearance. There were important technical and administrative reasons for this, the state of rights metadata in learning objects was not rich enough to accommodate the detail and relations needed, and the administrative convenience of having the IPR 'audit trail' associated with a LO embedded within it in this way was a considerable bonus.

One of the recommendations from the L2L project was that JISC should develop a standard project agreement that includes a clause that IPR in all tangible outputs from the project rests with JISC, which is now largely in place. The L2L project experienced considerable difficulty in obtaining copyright clearance from some publicly funded agencies/projects. Out of this experience has come the TrustDR project, which is looking at the feasibility of using a standard set of off-the-shelf licences for institutions and individuals across the educational sector and not just those funded by JISC. If successful this would greatly simplify the legal aspects of sharing and reusing educational materials and drastically reduce the transaction costs involved – thereby making it a much more sustainable activity.

Finally, all the learning objects created by the L2L project were deposited in the free national UK learning object repository for the education sector called JORUM (http://www.jorum.ac.uk).

2.1 The E-Learning Content Lifecycle



Understanding the e-learning content lifecycle

Creation – where the materials are produced. The ADDIE (Analyse, Design, Develop, Implement, and Evaluate) model from the Instructional Systems Design tradition is used for simplicity, but there are many others that can be adopted.
Use – where the materials are deployed and used with real teachers and students.
Maintain – where the materials are altered to keep them up to date, to reflect changes in the curriculum and evaluation comments.
Archive – where the materials are stored in a digital repository to await retrieval and reuse.

2.2 The Actors

In these functions the actors and roles might break down into the following actors' functions / job titles:

Instructional Designers / Learning Designers	Scriptwriters
Subject Experts	Examiners
Teachers /Lecturers	Usability Experts
Students	Accessibility Experts
Audio Designers & Editors	Instructional / Technical Authors
Video Designers & Editors	Evaluation Experts
Graphics Designers & Editors	Database Designers
Photographers	Project Managers
Web Designers	Project Administrators

Animators	
Desktop Publishing & Typography	
Programmers	

2.3 Rights Tracker Forms

Media / Rights Tracker Form	
Production Title	Name of the Course or Project etc.
Title / Description of the media item	e.g. top bar navigation icons
Location / Place in Production	e.g. on all the content pages
Purpose in Production	e.g. Navigate through the instructional content part of the site
File Format	e.g. GIF & JPEG
Name and Location of Master File(s) Note: 'path' to the folder may do	e.g. in the course_archive/icons/top bar/tb1.gif, tb2.gif, tb3.jpg
Created by (and employment status)	e.g. John Doe - freelance
Adapted by (and employment status)	e.g. Peter Perfect - staff
Content IPR (brief description and status)	e.g. Coca Cola bottle images from company web site and coke logo (copyright and trademark) – cleared, project permissions file ref. DMPP12

People / Rights Tracker Form	
Name	John Doe
Employment Status	e.g. Freelance
Role / Job Title	Graphic Designer
IPR Status	e.g. Copyright – Assigned e.g. Moral Rights - Waived
Contract ref.	e.g. standard terms of freelance contract and job spec – contract ref. No.

Rights Clearance Tracker Form	
Title	e.g. 12 Angry Men
Project Permissions File Identifier	e.g. DMPP14
Description / Synopsis and Use	e.g. Courtroom Drama. Useful for showing the importance of argument analysis and rhetorical skills
Media Type	e.g. video
Main Copyright Owner(s)	e.g. Broadcaster
Main Moral Rights Holder(s)	e.g. Director
Individual Content Rights Owner(s)	e.g. actors and performers, directors, producers (but not applicable under ERA)
Clearance Status	e.g. video free to use for educational purposes under the ERA licence scheme
Conditions / Restrictions	e.g. only for educational non-commercial use, with no time limit, only for and between institutions that are members of the ERA scheme. Not for use off Campus

Costs	e.g. institutional ERA license fees

3 Organising IPR in E-Learning for the Future: The TrustDR project

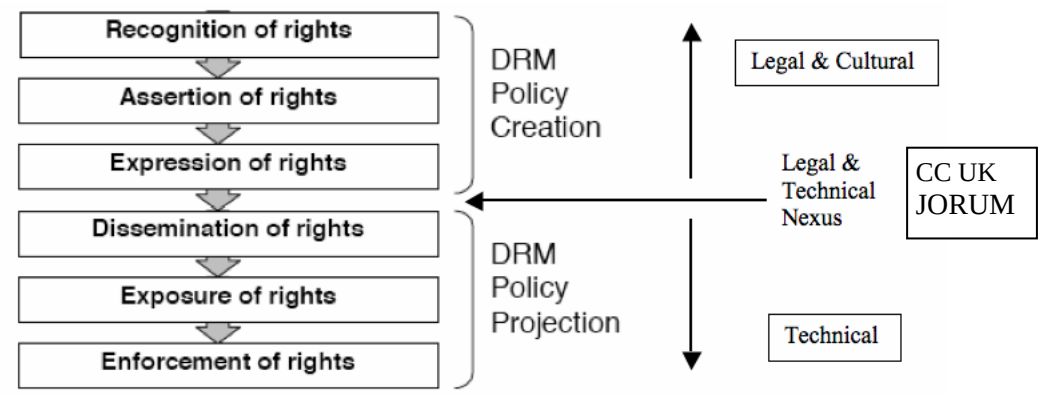
3.1 About the TrustDr Project

The TrustDR project is mainly concerned with exploring the legal, organisational, cultural and technical aspects of operating an institutional digital repository of learning objects. The legal dimensions of e-learning particularly those affecting the sharing and reuse of learning materials in the form of learning objects are currently conceived of as presenting serious obstacles to future development, so this project is very timely.

The real challenge is how the education sector can take advantage of the new digital media and technologies without having to pay a huge cost in terms of administration, legal fees and insurance? In this, the issue of trust is central. How can the education sector conduct its business within this environment in such a way that the various creators, publishers and consumers of intellectual property retain their trust? A social or economic system that has low levels of trust tends to have much higher running costs. In a low-trust system, expensive lawyers, contracts and insurance are used as a substitute for behavioural constraint. So, if trust reduces transaction costs in an economy how can we build and maintain it in the context of digital repositories? Some of the main barriers to the success of such repositories are not technical but legal and cultural.

Thus the project will be interested in looking at the cultural issues that need to be addressed in developing DRM (Digital Rights Management) systems. It will be concerned at how to arrive at an agreed legal expression of rights in the form of licences (especially those developed by the 'Creative Commons', http://creativecommons.org/) and user agreements from various groups of stakeholders, and whether there are any common patterns that can be identified and possibly transferred for use elsewhere. The project will also be looking at how these expressions of rights can be included in rights metadata using a Digital Rights Expression Language (DREL). The project will examine the types of protection and functionality that rights metadata may help provide, now and in the near future, and its possible utilisation in different parts of the lifecycle of a learning object. The project builds on previous JISC sponsored research and has produced a conceptual model for managing IPR in e-learning – see the next section.

3.2 Introducing the TrustDR Framework



The TrustDR framework for managing IPR in e-learning

3.2.1 Understanding the TrustDR Framework

The 6 layers on the left describe the components of a typical DRM system - these are briefly described below:

These first three stages all address the creation of a DRM policy.

- Recognition of rights is the stage at which staff, employers and suppliers (e.g. publishers) all need to be aware of who the rights holders are and what uses they might be licensed for.
- Assertion of rights is provided by a legal framework in which people and organisations can assert their rights in a form that is defendable under law.
- Expression of rights has traditionally involved only a copyright statement in a human-readable form. While this is still important it is also essential to take account of machine-to-machine (m2m) communication when considering digital rights management.

The final three stages concern the projection of a DRM policy.

- Dissemination of rights ensures that wherever a resource is described its rights are also described.
- Exposure of rights is the stage at which a user will see the rights information associated with a resource. This will often be when searching for resources.
- Enforcement of rights includes both protective measures to ensure that rights are not infringed and steps to be taken when infringements are detected.

We can see that the first 3 layers (the creation of a DRM policy) are mostly concerned with the legal and socio-cultural (values, attitudes etc.) aspects of DRM. But as we move through the layers towards the centre and on to the final 3 layers (the projection of a DRM policy) we move more towards a concern with the technical factors involved in DRM. The arrows pointing toward the top and bottom of the diagram indicate this implementation continuum in DRM that encapsulates both the legal and socio-cultural aspects and also the technical issues.

Lying at the centre of the 6 layers is an area where the legal and socio-cultural aspects and the technical issues meet and have to communicate with each other for the DRM system to work. Because of this we have called this point the ‘Legal and Technical Nexus’, and it is at this point where the use of off-the-shelf licences such as those developed by the Creative Commons and possible derivatives of those used by JORUM would exist. Because these licences are both human and machine-readable they can perform this ‘nexus’ function.

Note: A useful analogy may be drawn between this diagram and the Open Systems Interconnection model (http://en.wikipedia.org/wiki/Open_Systems_Interconnection--Reference_Model), which is

used to simplify the description of complex computer network and communications systems by breaking them into simpler logical chunks. In a similar way our 6-layer model is used as a way of simplifying the DRM process for all those involved – so those involved in each stage of the model do not have to know about the other stages. The addition of the other elements to the 6 layers completes our TrustDR framework.

3.3 Some Important Themes in the TrustDR Project

3.3.1 The Contradiction of the Low Status and High Value of Teaching in HE

Teaching in higher education has traditionally been accorded a fairly low status yet for most institutions income derived from teaching is the major source of institutional wealth, with figures of 80% - 90% and above not being uncommon. So, for most universities teaching is the de-facto core business activity. As financial constraints bring this reality to the surface and technologies such as Virtual Learning Environments (VLE's) are being deployed one of the emerging strategic gaps in institutional management and policy is a lack of knowledge of how the law applies to the use of teaching materials. The current push towards reuse of teaching materials with learning objects and repositories has highlighted this further. A useful paper commissioned by HEFCE on this subject found that there was considerable ignorance and confusion in the sector - it can be found at: http://www.hefce.ac.uk/pubs/hefce/2003/03_08.htm

3.3.2 Coming to Terms with the Real Value of Learning Materials

An important factor in our project work will be that much teaching material will not actually be worth much in cash terms – and this will have a big effect on any cost – benefit – risk analysis. Of course this flies in the face of a lot of existing attitudes. An excellent discussion of this can be found at this Bath University site
http://www.bath.ac.uk/dacs/cdntl/pMachine/morriblog_comments.php?id=P410_0_4_0
We will need to take on board that the cash value of learning objects will vary greatly. It is likely that learning object value will lie along a continuum from low value (but high utility) classroom handouts to high value distance learning materials with embedded pedagogic strategy, tutor notes and high media production values, IMS Learning Designs (Koper, & Tattersall 2004) may well fit into the latter category.

Although not really in the public consciousness yet, the IMS Learning Design language is currently causing a great deal of excitement in the e-learning community, it is a free open source software language, (http://www.imsglobal.org/learningdesign/index.html). It allows learning designers to model, in a generic, formal way, who does what, when and with which content and services in order to achieve learning objectives. It enables their activities to be specified in coordinated learning flows that are analogous to groupware workflows, and it supports group and collaborative learning of many different kinds. Using the LD language, designers are able to talk in terms of pedagogy rather than technology, helping to bring learning to the forefront in e-learning. What will be very interesting is to see how individuals and institutions attach a value to these shareable learning designs and how they may choose to share them.

Again, the value (real and perceived) of the materials will play a factor in the cost – benefit -risk analysis, which may result in collections also being categorised by value – with appropriate metadata to provide necessary protection.

3.3.3 Managing our IPR

So where can we look for some realistic guidance on operating a digital repository? The information retrieval community is a good candidate, representing a fruitful if sometimes tense collaboration between information science, computer science and librarians (van Rijsbergen, 2000). If we can agree that an institutional digital repository of learning objects is a form of digital library then Sølvberg (2000) proposes three criteria that a such a library should share with a traditional 'bricks and mortar and books' library, they are: permanent, managed, quality controlled. This coincides nicely with research about metadata quality and management issues (Barton and Currier etc) and gives us a 'big picture' view of how a repository should fit into existing institutional structures.

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