

The Interactive Media Industry, Intellectual Property Rights, the Internet and Copyright: *Some Lessons from the TrustDR Project*

A Briefing and Discussion Document for the
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"INTELLECTUAL PROPERTY RIGHTS FOR THE INTERACTIVE MEDIA
INDUSTRY: TRENDS AND PRACTICES"

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THE INTERACTIVE MEDIA INDUSTRY, INTELLECTUAL PROPERTY RIGHTS, THE INTERNET AND COPYRIGHT: SOME LESSONS FROM THE TRUSTDR PROJECT	1
1 INTRODUCTION AND OVERVIEW	5
1.1 THE RELEVANCE OF THE TRUSTDR PROJECT TO THE DEBATE	5
2 POSSIBLE LESSONS FROM EDUCATION FOR THE INTERACTIVE MEDIA INDUSTRY	6
3 IPR BASICS – GETTING THE MINDSET	7
3.1 COPYRIGHT	8
3.2 MORAL RIGHTS	9
4 ONLINE DELIVERY, LICENSING AND VALUE	9
4.1 LICENSING AND THE CREATIVE COMMONS	10
5 INTRODUCING THE TRUSTDR FRAMEWORK	11
5.1 UNDERSTANDING THE TRUSTDR FRAMEWORK	12
6 UNDERSTANDING THE E-LEARNING CONTENT LIFECYCLE	14
6.1 THE ACTORS	14
6.2 RIGHTS TRACKER FORMS	15
7 THE EVOLUTION OF IPR LAW AND TECHNOLOGY	16
8 FAST FORWARD TO THE ‘KNOWLEDGE ECONOMY’	17
9 DRM: A DELICATE BALANCE	19
9.1 DRM WHO DOES IT REALLY PROTECT?	19
9.2 DRM BEYOND THE LAW?	19
9.3 DOES DRM STIFLE INNOVATION?	20
10 CHANGING CULTURES AND DRM	21
10.1 SOME OBSERVATIONS ABOUT DRM	22
11 A WAY FORWARD?	22
12 REFERENCES	23
13 RESOURCES AND LINKS FOR FURTHER READING	24
13.1 GENERAL INFORMATION ON IPR	24
13.2 BALANCING INTELLECTUAL PROPERTY RIGHTS	25
13.3 DIGITAL RIGHTS MANAGEMENT	26

1 Introduction and Overview

The aim of the briefing document and presentation is to:

- Introduce and outline the basics of IPR (Intellectual Property Rights) law relating to the Internet.
- Share some lessons from the education sector that might be transferable to the interactive media industry
- Discuss ways of managing the IPR in our work distributed via the internet
- Present the TrustDR project and those aspects of its work that may be relevant to practical solutions – especially the conceptual IPR framework that it uses to describe DRM (Digital Rights Management)

1.1 The relevance of the TrustDR project to the debate

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 work of the project has been funded by the JISC (Joint Information Systems Committee), the government body responsible for providing strategic guidance, advice and opportunities to use Information and Communications Technology for supporting teaching, learning, research and administration. 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 of e-learning. These problems have a great deal in common with the issues facing the interactive media industry.

The challenge facing education and commerce is much the same - how can they take advantage of the new digital media and technologies without having to pay a huge cost in terms of administration, legal fees, technical measures and insurance? In this, the issue of trust is central. How can the education and commercial sector conduct their 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 the current patent wars in the IT industry being a case-in-point. In a low-trust system, expensive lawyers, contracts, technical measures 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 networked environment? We argue that some of the main barriers to the success of such repositories are not especially technical but legal and cultural.

Thus, the project is interested in looking at the cultural issues that need to be addressed in developing DRM systems. It is very important to point out here that DRM systems cannot be understood solely from a technical point of view, they also involve important legal, social and cultural factors that cannot be ignored. We shall pick up on this 'systems' nature of DRM later in this document, especially when we discuss out TrustDR framework. It is 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 is also looking at how these expressions of rights can be included in rights metadata using a Digital Rights Expression Language (DREL). The project examines 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 digital learning object. The project builds on previous JISC sponsored research and has produced a conceptual model for managing IPR in e-learning – The TrustDR framework.

For more information about the TrustDR project please visit our website at:
<http://www.uhi.ac.uk/lis/projects/trustdr/index.html>

2 Some Lessons from Education for the Interactive Media Industry

These are the emerging findings from our project:

- Think about IPR and DRM as a ‘systems’ problem
- Without an adequate record and administration system how do you know what you own? And what you have used? This ‘lo-tech’ activity is the absolute foundation to IPR and DRM
- An adequate IPR recording and audit system also helps you to:
 - Identify and manage your assets
 - Offset the cost of creating IPR data to be more organised and efficient in your project management activities by knowing more about ‘what, who and when’ in your production activities
- Think carefully about ‘where the value lies’ in your economic model – in education the learning materials generally hold little financial value. In the networked economy the real value may not lie where you thought but elsewhere in such things as repeat business, the quality of service and administration, costs, customer relations, image etc
- Whether you work wholly in the digital realm or more likely in a ‘hybrid’ mode, it is very useful have a working model of your business in terms of supply lines and distribution channels.
- Understand your business - take the opportunity to rethink your business model – in education the prevailing concentration on content in e-learning has been challenged by a fresh look from an IPR perspective to suggest that the real ‘value added’ occurs elsewhere in the educational enterprise from teaching and administration and student support and the cultural ethos of the institutions. Content is relatively trivial outside the specialised open learning sector.
- Know your market – and where it is going
- In many cases the recognition, assertion and expression of the IP rights in your work may be enough
- Investment in expensive DRM technical enforcement measures may be a waste of time and be counter-productive to your business
- Using a mixture of existing copyright law and a simple set of licenses that can be reused without expensive lawyers may be enough for your needs

- Rights Management is both a way of protecting resources for producers and a way of managing resources for both producers and users, for educational institutions this will be mainly concerned with risk management
- A secure and robust form of Content Management should be used to record and protect all rights Management Information. Policies should be embedded and clearly communicated, with processes in place such as licence templates and standard contracts.
- The application of IPR law has always been an exercise in steering between extremes best exemplified by these quotations:

“the fact that our system of communication, teaching and entertainment does not grind to a standstill is in large part due to the fact that in most cases infringement of copyright has, historically, been ignored”

Mr Justice Laddie, 1996

"It was never the object of patent laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax on the industry of the country, without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of unknown liability lawsuits and vexatious accounting for profits made in good faith."

U.S. Supreme Court, *Atlantic Works vs. Brady*, 1882

3 IPR basics – getting the mindset

Intellectual Property Rights (IPR) is a catchall term used to describe the legal status and protection that can be claimed for information and knowledge. It is fair to say that the law is lagging behind the digital technology that is changing the way that the creation, publication and access to the products of intellectual activity now happen (Casey, 2004). Intellectual Property (IP) is concerned with the results of human creativity. Value is recognised in its expression, and IP law exists to provide protection and to encourage development of ideas into assets. This protection must be balanced with the rights of those wishing to access these assets.

Intellectual Property Rights include:

- Copyright
- Moral Rights
- Patents
- Trademarks and logos
- Design rights
- Ideas or “know-how”
- Database rights

- Performance rights The further links section provides references for more information, but we will deal here with copyright, moral rights and performance rights in relation to the scenario above.

In the work of the TrustDR project we are primarily concentrating on Copyright and Moral Rights.

3.1 Copyright

In most countries, Copyright exists immediately for the creator of a intellectual *work* as soon as it is fixed or recorded in some material form such as in writing, on video or as digital media¹.

The main categories of “work” protected in UK law are:

- Literary works (any textual record - this includes computer programmes)
- Dramatic works (must include described actions or dialogue)
- Artistic works (2D or 3D works such as paintings, sculpture, photography)
- Musical works (notation and recordings)
- Sound recordings (Any sound on CD, tape etc)
- Films (Moving images in any medium)
- Broadcasts (Transmission to the public)
- Published editions (typographical arrangement)
- Databases (Original selection and arrangement of contents)

Ideas are not protected by copyright (but they can be protected under patent law), only the various physical manifestations of an intellectual work are. However, copyright is not a single entity, it should be viewed as a “bundle” of *rights* that can be sold or granted in many different ways (McCracken, 1995). The copyright owner may grant permission to a particular person or group to use a work in a certain way, in a particular format, or in a certain location, or for a certain amount of time.

Copyright *ownership* can arise automatically, or be formally transferred (Madhavan, 2006). Joint ownership may exist for multiple authors, and employer-employee relationships will be governed by relevant legislation. Written agreements allow copyright ownership to be assigned to another party, or licensed under specific terms.

Copyright law gives the owner of the copyright the right to prevent others doing certain acts with the copyright work, known as restricted acts. To break or infringe copyright law a person must have carried out a restricted act with a work that is protected by copyright.

These are:

- Copying the work
- Issuing copies to the public
- Renting or lending copies to the public

¹ The Berne Convention (Article 5) provides for protection without any formality. Text of the Berne Convention is available at <http://www.wipo.int/treaties/en/ip/berne/index.html>
 The Interactive Media Industry, Intellectual Property Rights, the Internet and Copyright: Some lessons from the TrustDR Project
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- Performing, showing or playing the work to the public
- Broadcasting the work
- Including the work in a cable programme service
- Adapting, or amending the work.

While copyright law outlines restricted acts, it also allows certain permitted acts. UK law gives a concession known as “fair dealing”, where a work can be used for:

- Criticism and review
- Reporting on current events
- Private study and research for non-commercial purposes

There are also specific educational exemptions, such as copying in the course of instruction or for the purpose of examination. To use a work, therefore you will need to do one of the following; take advantage of legal concessions, be granted a *permission* or licence, or to negotiate individually with the rights holder or their agent.

International treaties such as the Berne Convention and the TRIPS agreement² exist to protect intellectual property distributed between countries to a minimum level.

3.2 Moral Rights

These are rights the original author has automatically as the creator of the work. One of the reasons these rights are called ‘moral’ rights is that they are not economic in nature - they cannot be sold or bought. These rights stay with the author even when the copyright to the work has been sold or given to someone else; they also can be passed on to others after the author has died. However they can be waived if done in writing.

The main moral rights of the author are:

- The right to be identified as the creator – the ‘right of paternity’
- The right not to have their work subjected to ‘derogatory treatment’ – the ‘integrity right’
- The right not to have work falsely attributed to them.

In order to use a work lawfully, it is therefore necessary to respect the moral rights of authors. Moral rights law vary from country to country with little or no provision in the USA or UK to considerable protection in parts of the EU (where it can be asserted effectively over works originating from the UK and the USA)

4 Online delivery, licensing and value

We have touched on the types of concessions, permissions and restrictions that may apply to using a copyright work, and it is crucial to be aware of how these are affected by the digital environment of internet delivery. It is more common to gain *access* to a

² TRIPS Agreement available from http://www.wto.org/english/tratop_e/trips_e/trips_e.htm

work than to acquire complete ownership in it outright, usually through some form of licensing. This raises all kinds of issues about the way works can be used, and the costs associated with gaining access – particularly important if you are including the work in your own materials from third parties. Licensing has become a common way to allow controlled access to material, and there has been much in the news about the types of technical measures now used to enforce licensing terms by Digital Rights Management (DRM)³.

The increasing difficulties faced by educators attempting to ensure compliance with intellectual property legislation leads to concern over the transactional cost of reusing work available digitally – both their own and that of third parties. This work may not have much economic value, but its social and utility value may become much greater when shared widely. A report from the UK Institute for Public Policy Research (IPPR) looks at the evidence for changes in Intellectual Property regimes and notes that the IP debate should consider the question of value (Withers, 2006), to that we would add the notions of social value.

There is, however, a danger that commercial interests will override the interests of the educational sector:

“The economic contribution of creative industries, that is those industries for which copyright protection provides the basis, has become increasingly important to developed nations and the protection of such intellectual, creative assets, a matter of renewed focus”. (Withers, 2006 p14)

A study from Consumers International (CI) recently looks at access to educational materials in developing nations, and contends that their copyright laws should take advantage of flexibilities under international treaties to allow public access to material for teaching purposes. It examines the provisions available, and finds that all of the 11 countries studied, including China, India and Malaysia, have given copyright owners far more protection than the intellectual property treaties they have signed up to require. “An important objective of this report is that it should serve to inform policy makers of the options available to them” (CI, 2006). The report also notes:

“A variety of efforts have been mounted to ensure that the public ‘right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits’ are given effect. These efforts include... the work of the Creative Commons in making available flexible copyright licences for creative works” (CI, 2006)

4.1 Licensing and The Creative Commons

One way of radically reducing transaction costs and risk in using material delivered on the Internet is the application of a standard licence to convey how the work may be used. Until recently licences were time-consuming and expensive to create and

³ For example <http://news.bbc.co.uk/1/hi/technology/4816930.stm>

institutions or individuals were unlikely to be able to create suitable agreements covering use of their material. Now, however, there is a range of ‘off-the shelf’ ready-made licences in use covering creative content including learning material.

The Creative Commons (CC) movement builds on traditional copyright and is based on the notion of “some rights reserved”, providing a balance between creators and consumers of intellectual property. A set of licences allows rights to be offered under certain conditions, with “Attribution” being a base right for all. These licence terms are projected by presenting symbols and logos with distinct meanings along with the work, and referring to the full legal code. The intention is for the symbols to become widely recognised and so ease the uncertainty prevalent in using copyright material. These licenses are now widely used by individuals and institutions on the Internet.

A recent report (Barker, 2005), commissioned by public sector organisations in the UK has concluded the Creative Commons licences are suitable for use by the public sector as well as commercial organisations. The benefit of using licences to protect your work is that they have the power of contract law and are easier to enforce, a recent court ruling has shown that they are enforceable⁴.

The main [Creative Commons](http://creativecommons.org) website has information on the [range of licences](#) available and tools to help publish your work online with a CC licence. A specific licence is available for developing nations⁵

“The Developing Nations license allows, for the first time, any copyright holder in the world to participate first-hand in reforming global information policy. The fact is that most of the world's population is simply priced out of developed nations' publishing output. To authors, that means an untapped readership. To economists, it means "deadweight loss." To human rights advocates and educators, it is a tragedy. The Developing Nations license is designed to address all three concerns”

(Creative Commons, 2006).

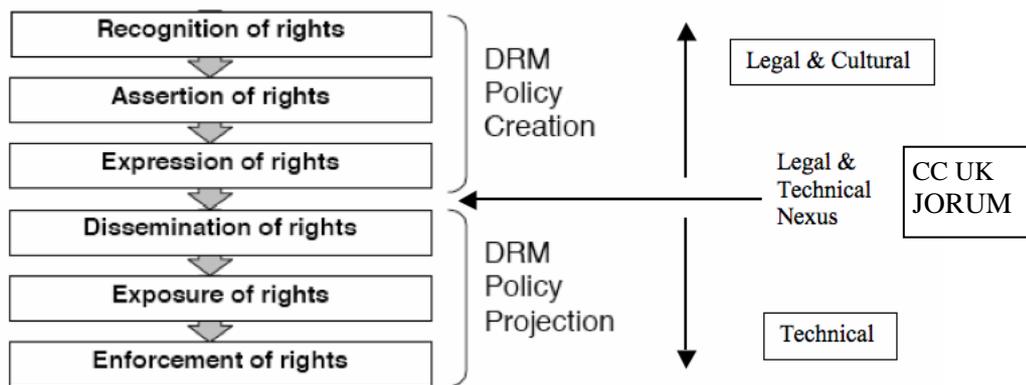
In common with all CC licences, it provides attribution and copyright protection for authors. Additionally it provides freedoms to be exercised within developing nations, for example to allow translation of the work.

The TrustDR project is looking at how Creative Commons licences (and other solutions) may be applied to the sharing and reuse of digital learning materials in the UK education sector.

5 Introducing the TrustDR Framework

⁴ http://news.com.com/2100-1030_3-6052292.html

⁵ Details available from <http://creativecommons.org/license/devnations>



The TrustDR framework for managing IPR in e-learning

5.1 Understanding the TrustDR Framework

The 6 layers of the framework 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 defensible 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 JORUM⁶ (the national UK learning materials repository) would exist. Because these licences are both human and machine-readable they can perform this ‘nexus’ function.

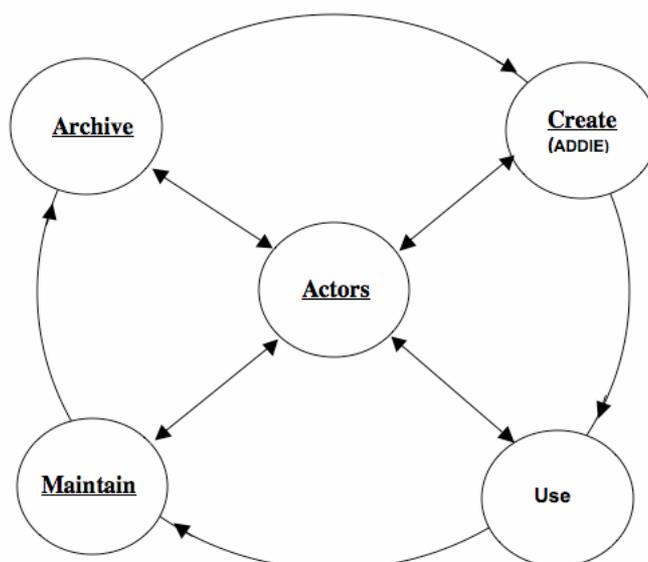
A useful concept to consider is how you would place yourself and your work on this 6-stage mode. If you regard the 6 stages as a continuum where would you place your needs? If it is in the first 3 or 4 levels you might not need expensive DRM technical enforcement measures.

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.

⁶ <http://www.jorum.ac.uk/>

6 Understanding The E-Learning Content Lifecycle

For us it has been essential to try and understand the ‘lifecycle’ of the content of digital learning materials. Similar considerations will apply to the interactive media industry. The key to success in IPR management is good record keeping and administration, here are some ideas from our sector. The diagram below shows our conceptual model for e-learning content production that we use help identify rights holders – the ‘actors’.



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.

6.1 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	

6.2 Rights Tracker Forms

Here are a simple set of generic administration and record keeping tools that we use.

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

Form for identifying media content, description, location, purpose and IPR status

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.

Form for identifying and recording people and their IPR relations to the content

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

Form for identifying media content and its IPR status and history

7 The Evolution of IPR Law and Technology

In a networked society the means to communicate, share and collaborate between human beings on a global scale has never been easier – at least technically. Ideas, information, knowledge and cultural values can now be transmitted digitally with an ease that would have been unbelievable less than a generation ago. But the very ease of digital communications makes it potentially much easier technically to violate the intellectual property rights of authors, creators and the owners of intellectual works. It is a truism to say that the world is changing increasingly faster and that after many, many centuries of very slow and gradual change we are now in the steep part of the exponential curve of change (McEvedy, 2002) it can help to have some historical perspective.

We have been here before – the creation of the printing press revolutionised human communications and caused the same problems. Then, as now, this was followed by legislation to protect the intellectual property of the authors and publishers of books and printed materials in the form of the Statute of Anne in 1610. Then, as now, this was accompanied by claims that illegal copying was causing great harm to the authors and publishers see the useful article by Ilkka Tuomi (Tuomi, 2004) that describes the development of IPR law. The introduction of the electrical telegraph in the first half of the 19th century made reliable high-speed communication available for the first time in human history. As Tom Standage (Standage, 1999) points out in *The Victorian Internet*:

“At the time, sending a message to someone over a 100 miles away took the best part of a day – the time it took a messenger travelling on horseback to cover the distance. This unavoidable delay had remained a constant for thousands of years: it was as much a fact of life for George Washington as it was for Henry VIII, or Charlemagne, or Julius Caesar.”

Tom Standage, 1999

It is hard to overestimate the considerable impact that the resulting explosion in high-speed communication via the telegraph had on established social and business structures of the day.

More recently the last great leap forward in human communications has been the arrival of the internet and its continuing development to the present day, with an impact arguably greater than the arrival of the telegraph due to its ability to encompass all the existing media and communication forms. Yet as John Naughton (Naughton, 2000) points out in *A Brief History of the Future: Origins of the Internet*

this amazing development was made possible in an environment where the control of IPR was at a low level.

8 Fast Forward to the ‘Knowledge Economy’

It is a commonly accepted orthodoxy that we are moving into the era of the so-called knowledge economy where the creation, management and exchange of information and knowledge becomes more important than that in traded goods. We should be wary of accepting such orthodoxies, especially when driven by the ‘spin doctors’ and hype merchants working through to the commercial and political agendas of public relations companies. In many western economies the idea of the knowledge economy could just as easily be perceived as a thin rationalisation for de-industrialisation and the replacement of mass employment by mass consumerism and a large service sector with an accompanying sharp rise in economic disparity and social insecurity. Such sceptical views can be at odds with prevailing intellectual fashions but can provide illuminating and useful perspectives nonetheless (Klein, 2001), (Hardt & Negri, 2001).

Unfortunately we now live in a legal IPR environment marked by increasing paranoia, aggression, and acquisitiveness. At the level of the individual we are presented by the attempts to turn civil offences under copyright (copying) into criminal offences (the EU Copyright Directive and the US Digital Millennium Act). We are also facing media campaigns that are attempting to conflate possible individual copyright violation with piracy, organised crime and terrorism. We are also faced with high-profile campaigns that seek to prosecute those involved in the illegal sharing of music such as those waged in the USA in 2004 and that starting this year in the UK. This forces commercial and public sector organisations to open their records to inspection and can cause considerable disruption.

8.1 A Suitable Case for Regulation? Four Examples of the Negative Commercial IPR Environment

At the business level we are seeing the aggressive use of patents (both real and imaginary) to hold successful companies to ransom - this has the potential for disruption and loss on a scale that dwarf the alleged losses from personal copying. Thus, patent law has been accused of:

“Stifling innovation by allowing opportunistic companies to register business methods and software patents in the hope they can extract huge licensing fees from big technology companies at a later time” (Malone, S. 2006)

Four examples to illustrate this rapidly growing problem of ‘legalised piracy’:

eBay and MercExchange which reached the US supreme court on the 29th of March 2006. “MercExchange claims a patent on a technology that allows customers to buy products online at a fixed price while eBay made its name as an auctioneer with people bidding for goods, the alleged infringement occurred when it introduced the ‘Buy It Now’ Button.” (Malone, S. 2006)

A similar circumstance has occurred with ContentGuard, a company owned by Microsoft, Time Warner and Thomson, has registered a patent for any rights expression language / rights grammar. The consequences of such a patent being upheld would be that no one else would be able to develop a digital rights expression language (DREL) , an essential part of any DRM system, without being obliged to pay ContentGuard for the privilege (Vienna, S., G., & Brisbane, R., I., 2005). This has actually now happened with the Open Mobile Alliance a consortium of large equipment and content vendors(<http://www.openmobilealliance.org/>) receiving a demand from ContentGuard (via the MPEG Licensing Agency) to pay a levy for the right to implement a DRM system of their own invention. A royalty payment of \$1 is due for every device that is issued using the OMA DRM specification and a further 1% of any transaction in which an end user pays for delivery of a digital asset. This is despite the fact that the OMA have invented their own DRM system!
(http://www.indicare.org/tiki-read_article.php?articleId=90)

The case of the Blackberry is equally worrying as the vexatious claim of patent and demand for payment has been acceded to despite the US federal government objecting. The BlackBerry is a highly successful wireless handheld device introduced in 1999 which supports push e-mail, mobile telephone, text messaging, web browsing and other wireless information services. It was developed by Research In Motion (RIM) and delivers information over the wireless data networks of cellular telephone companies. RIM was involved in a patent dispute with NTP, Inc., Virginia-based patent holding company which could have potentially forced RIM to suspend service to most Blackberry users in the United States. On 9 February 2006, the United States Department of Defense filed a brief stating that an injunction shutting down the Blackberry service while excluding government users was unworkable. The DOD also stated that the Blackberry was crucial for national security given the large number of government users. On 3 March 2006, after a stern warning from judge Spencer, RIM and NTP announced that they had settled their dispute. Under the terms of the settlement, RIM has agreed to pay NTP \$612.5 million (USD). Story courtesy of Wikipedia at: http://en.wikipedia.org/wiki/NTP%2C_Inc.#Patent_Litigation

Microsoft has lost a \$ 521 million lawsuit brought by Eolas Technologies and the University of California. Ludicrous as it sounds, Eolas was given a patent “for the embedding of small interactive programmes such as plug-ins, ‘applets’ etc. To comply with the ruling Microsoft has had to change the code for its browser to comply with the ruling – resulting in possible widespread disruption worldwide for developers and consumers. (Source: The Guardian April 20th 2006)

It has become an orthodoxy that the ‘market knows best’ and will sort it self out over time to fulfil the needs to society better than any government imposed legislation. What these four examples show is that this is not the case; society needs protection from these short-sighted interest groups and so does the world of commerce.

9 DRM: a delicate balance

One of the difficulties of digital material is the ease at which it can be copied. The quality of the copy does not diminished with future generations of the copy either. Images and text on the Internet are particularly vulnerable, the simple act of ‘copy and paste’ is sufficient to infringe the rights of the vast majority of images and text on the Internet. Screen capture utilities can also be used to copy media such as animation, films and audio.

In addition to this, peer-to-peer networks such as BearShare, Kazaa and Bit torrents mean distributing illegal content has never been easier, literally in hours media such as a music track can be distributed internationally to thousands upon thousands of users.

With copying never having been easier Digital Rights Management has never been more aggressively enforced. The table below shows some methods of Digital Rights Management used to protect popular media.

Object to be protected	Typical DRM mechanism
Image on Webpage	Disabled right click
DVD	Content Scrambling System (CSS)
Computer Games / Programmes	Serial Codes Copy protection on CD / DVD
Audio Track	Various (No definitive method, but methods include Tracks with in built rights metadata)

Table 1 DRM methods for popular media

9.1 DRM who does it really protect?

The enforcement of Digital Rights (by this it is meant any mechanism used to prevent breach of copyright) is a double edge sword. Those that wish to infringe copyrights will attempt to, and invariably successfully obtain a pre-cracked version of the work, saving themselves the time and effort of overcoming increasingly complex DRM technologies. But those that want to stay within the scope of the law will be burdened with the inconvenience of Digital Rights management.

9.2 DRM beyond the law?

Companies have become so desperate to protect their media that they have taken some questionably legal action. One such current case is Sony, who developed a piece of software known as a rootkit, which hides running processes, files or system

data. The software it was hiding (Extended Copy Protection) was software that would enforce DRM on music tracks on PCs.

This software was not only allegedly installed without the users permission⁷, but also stayed on the computer without the users knowledge. Security fears about the potential of hacker using the preinstalled rootkit for malicious purposes brought the saga to head when in late November 2005 a US rights body, The Electronic Frontier Foundation, and the state of Texas filed a class action against Sony BMG for violating the states Consumer Protection Against Computer Software act, seeking \$100,000 per violation Aughton, S., (2005).

On a more international scale, Digital Rights Management has received some biting criticisms. “The first danger from DRM then is that technological measures used to restrict a work can override national development priorities as expressed in local copyright law. If your nation grants a sweeping exemption to copyright for works used to teach in rural schoolhouses, it will avail you naught in the face of DRM locks placed on works that admit no such exemption. domestic policy will not be able to stand up in the face of DRM” (Doctorow C., 2005).

Indeed an example of this can be found in the combination of the broadcasting industry and Windows Media Centre, a media delivery system written to focus primarily on media such as, music, TV and DVDs. The popular Sopranos television series broadcast in America by HBO, where mid series HBO trigger a flag preventing the series to be ‘taped’ to a local hard drive and then being burnt on CD. If an old-fashioned VCR system had been used, with no digital rights protection, the consumer could still have exercised their rights under fair use, however the DRM system has overturned the rights American law offered to them.

9.3 Does DRM stifle innovation?

Some countries, such as America, have “Anti-circumvention laws that have been used to silence and even jail researchers” (Doctorow C., 2005) who have investigated DRM systems. With DRM system being placed in a black box and carefully watched by anti-circumvention laws less people are willing to explore the would be contents. This can be seen in DVDs, where a teenager from Norway, Jon Johansen, wrote a program to override the regional restrictions of DVD’s. Whilst Norwegian courts refuse to convict him of any wrong doing Jon Johansen lost a sizable part of his boyhood in the ensuing legal battles. DVDs have not developed much since their original release. If DVDs are compare to CDs we can see that CDs have new innovations such as filtering out vocal tracks for use in karaoke, converting CDs to mp3s, read / write CDs, etc. We can see the lack of innovation DVD market where they have remained largely unchanged since their release.

⁷On October 31, 2005, Mark Russinovich posted to his blog (<http://www.sysinternals.com/Blog/>) an article about the Sony rootkit where he alleged it was installed before the End User License Agreement was shown.

10 Changing Cultures and DRM

The creative industries suffer from a conflict between their innate need to be open conflicting with a closed model that is require to make money. On one hand creative industries must promote and demonstrate their work openly, but on the other it must close its gates to non-paying customers in order to make money. However traditional models are starting to fade, as people have culturally changed their attitudes to what they are willing to pay for. The idea of a more open culture is not separate from one that can sustain itself, perhaps even lucratively. This can be illustrated by a number of examples.

The Arctic Monkeys, the authors of the fastest selling debut album in British history, initially distributed their music for free over the internet before they had a record contract. This 'free' marketing helped to create a buzz and interest in the band. Defying the traditional business models helped them sell more than 360,000 CDs.

Another example is Magnatune (<http://magnatune.com>), an online music retailer, who offers music streamed over the Internet at no charge. The user can then choose to buy it. Purchased music can be moved to a portable device such as an i-pod. Typically the customer can chose how much to pay, usually ranging between 5-18 USD.

The emergence of the i-tunes online music store operated by Apple went against conventional commercial wisdom by selling individual tracks instead of complete packages and has been a runaway success story that has since been much imitated. Much of the success of this venture rests on the ease of use of the system – making it easy for buyers to buy the amount of product they want is an important business advantage. All this is despite the fact the store and Apple are using some heavy-duty DRM enforcement measures that are quite restrictive and causing increasing unrest amongst customers. The success of i-tunes to date is a result ease of use, of knowing your market and 'marketing cool', how it develops as that market matures will be an interesting story.

Innovation is not the exclusive preserve of the music industry, many software companies have chosen open models for example Skype, offers its internet telephony software for free. Skype is one of the fastest growing online companies (Day, J., 2006). Users can call each other's computers at no charge or buy Skype credits to call landlines at a greatly reduced rate, with over 6 million users concurrently online the percentage of costumers that purchases credits can be extremely low for this low overhead venture to still make money.

MySQL, the open source database, is free to download and deploy. In addition to the actual software it's website (<http://www.mysql.com>) offers training and printed manuals for a fee.

An interesting twist is also found in the gaming industry, where online role-playing games are now being offered free. Games such as Kingdom of Drakkar (<http://www.kingdomofdrakkar.com/>) and Conquer (<http://www.conqueronline.com/>) are free to play and users can pay for additional items or landscapes in the game.

10.1 Some Observations about DRM

The key concepts examined in this report are:

- Copyright and Patents are extremely important in technological business models.
- Patent and Copyright legislation needs to be revisited to take into account the tendency towards monopoly and restriction to stifle innovation and competition
- DRM disadvantages those that mainly work within the law,
- DRM can override national laws
- Innovation requires open forums of discussion, experiment and peer review, however the black box tactics of DRM can be seen to stifle this.
- Consumer purchasing behaviour is changing and along with their expectations of what should be a free and what should be a charged for.
- More open business models might bypass and override the need for DRM
- Those vendors who pursue a strong DRM based sales strategy may end up losing their markets

On one hand we have the argument

“As you will see, the answer to ‘Which DRM will spur the most development in my nation?’ is ‘None at all’” (Doctorow C., P6 2005)

On the other we have the need to protect intellectual property and the rights of the producers. Without legal ownership of intellectual property it is hard to cultivate innovation. Without copyright the market could be flooded with distrust, intellectual theft and the impossible trading conditions of a piracy culture that might follow.

11 A Way Forward?

Protection for IPR is gained by the application of the law which in a democracy has to be respected – it may be enforced in many different ways, but current trends in DRM enforcement, left unchecked, is in danger of drifting further into questionable legal waters. The solution requires a balanced approach that will allow innovation to flourish within the protective legal framework of copyright and other laws. For this to happen it is important for the law (and hence the state) to reassert the concept of the ‘public space and the public good’ which has been so eroded by those trying to enlarge the rights of property owners in recent years. We need to redress the balance between private and public property as the Harvard professor of law Lawrence Lessig puts it "between rewarding creativity and allowing the borrowing from which new creativity springs"⁸.

The paradox and challenge here for free-market democracies (and it is not a new one – the history of 19th century America is instructive in this regard) is that they must roll back the unjust and unreasonable influence and control of a minority of property

⁸ <http://arts.guardian.co.uk/features/story/0,11710,1517058,00.html>

owners to help the majority become more innovative and competitive for the benefit of all. As one of the critical voices (Pilger, 2003) in this debate has pointed out, the anti-globalisation protestors are naïve in saying that the power of the nation state has declined. Rather it has increased but instead of serving the social interests of its citizens is now more aligned to an emerging digital plutocracy. Unless the world community can reverse these attempts to privatise knowledge and information we risk forfeiting the creativity and innovation that has brought us this far. One of the ways we can support this process is to assert more control over our own IPR, particularly by the use of licensing schemes and engage in the debate about the future development of IPR laws.

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13 Resources and Links for further reading

From the TrustDR project

13.1 General Information on IPR

An international perspective from the World Intellectual Property Organization
<http://www.wipo.int/portal/index.html.en>

TRIPS (Trade-related aspects of intellectual property)
http://www.wto.org/english/tratop_e/trips_e/trips_e.htm

A European service providing information <http://www.ipr-helpdesk.org>

An official UK government source of information
<http://www.intellectual-property.gov.uk/>

Information and advice for UK education from JISC Legal
<http://www.jisclegal.ac.uk/ipr/IntellectualProperty.htm>

Lessig, L. (2003) *Future of ideas*. Random House

Explores the meaning of IP in the new high-tech digital age, addressing the legal, social, and economic factors at work and provides a thought-provoking argument that those qualities that have made the Internet a dynamic force for creativity, freedom, and innovation could destroy the Internet's potential

13.2 Balancing Intellectual Property Rights

The TrustDR project believes in the basic premise that creators, publishers and consumers of intellectual property need to build and maintain trust in order to take advantage of digital resources and technologies. In order to increase awareness of both the tensions and potential opportunities for balancing the rights of all stakeholders, this document sets out to link to relevant literature. This first section points to a selection of articles/reports in favour of reducing copyright restrictions:

Copyright and the law. (2005). *The Economist* [online] Available at http://www.economist.com/opinion/displayStory.cfm?story_id=4128994 [Accessed 18.01.2006]

Discusses the conflicts between media companies and technology developers caused by application of copyright law, and argues for shorter period of copyright protection to allow legal use of content.

Barker, E. et al. (2005). *The Common Information Environment and Creative commons: Final report to the Common Information Environment Members of a study on the applicability of Creative Commons Licences*. Intrallect and AHRC Research Centre for Studies in Intellectual Property and Technology Law. Available at <http://www.common-info.org.uk/publications.shtml> [Accessed 17.10.2005] or <http://www.intrallect.com/cie-study/> [Accessed 18.01.2006]

Burkeman, O. (2005). Is it time for copyright law to change? *Guardian Unlimited* [online] at <http://books.guardian.co.uk/comment/story/0,16488,1636058,00.html> [Accessed 18.01.2006]

The Guardian introduces the concepts of Creative Commons in this article

RSA. (2005) *The Adelphi Charter*. London: Royal Society of Arts. Available at <http://www.ipcharter.org/> [Accessed 18.01.2006]

The Charter on Intellectual Property promotes fair divisions of Intellectual Property

McCreevy, C. (2005). *Music copyright: Commission recommendation on management of online rights in musical works*. *UK Presidency Conference on Copyright and the Creative Economy*. Available at <http://europa.eu.int> [Accessed 18.01.2006]

This is a speech by the European Commissioner for the Internal Market and Services, regarding the proposals for “introducing effective models for cross-border licensing of copyright-protected content in the online environment” and other work to remove barriers and encourage creativity in the EU market.

Open Content Alliance website at <http://www.opencontentalliance.org> [Accessed 18.01.2006]

The Open Content Alliance (OCA) “was conceived by the Internet Archive and Yahoo! in early 2005 as a way to offer broad, public access to a rich panorama of world culture”.

The Zwolle Principles are available at

<http://www.surf.nl/copyright/keyissues/scholarlycommunication/principles.php>

[Accessed 18.01.2006]

A document giving examples of University Copyright policies is useful for viewing best practice when implementing policies in line with the Zwolle Principles.

http://www.surf.nl/copyright/keyissues/scholarlycommunication/implement_Zwolle_principles.pdf

JISC, and its partner organisation in the Netherlands SURF have collaborated to support an organisation known as the Zwolle Group. The group exists to facilitate the balance between stakeholders in access to scholarly work. SURF hosts a website “Copyright Management for Scholarship” in order to disseminate guidance and good practice for academic institutions.

Downes, S. et al. (2004). *Distributed Digital Rights Management: The EduSource approach to DRM*. Stephen’s Web at

http://www.downes.ca/files/DDRM_19April2004.pdf [Accessed 18.01.2006]

Presents a vision where DRM occupies a “middle ground” between weak and strong DRM.

13.3 Digital Rights Management

[Europe4DRM](#) aims to educate policy makers on emergent services and technologies in the digital content sector.

Briefing paper on Digital Rights Management systems from [IPR-Helpdesk](#)

[Intrallect](#), suppliers of the UHI Digital Repository *IntraLibrary*, have carried out a number of studies including [DRM](#) for JISC

[ContentGuard](#) implements DRM in the commercial sector, and promotes use of [XrML](#) Digital Rights Language

[CEN/ISSS](#) (EU body for standards in ICT) published a [DRM: final report](#)

Robson, R. (2004). *Digital Rights Management: a White paper for Alt-i-Lab 2004*

Available at <http://www.imglobal.org/altilab/altilab2004/Alttilab04-DRM1.pdf>

[Accessed 18.01.2006]

This paper deals with real activities involving digital material in education and the implications for managing intellectual property in this context. It discusses DRM in a broad sense rather than purely technical measures for protection of content. The phenomenon of disaggregation of content and the changing nature of distribution

platforms are highlighted as impacting on rights management. In discussing the impact of IP laws, Robson suggests that “the shift of responsibility for rights management from societal institutions to technological solutions will be accentuated” (p6) and this will require increasing standardization to allow interoperability.

The paper appears to illustrate the dilemma faced by attempting to transfer traditional models of rights management to the digital environment (which then requires technical measures), rather than creating new models for sharing resources.