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Copyright and the Online Library

Copyright management and new technologies

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1.0 Introduction

“We don’t know what the web is for but we’ve adopted it faster than any technology since fire” (Weinberger, 2000)

The internet and digital technologies are redefining how we access and distribute content, offering more choice, more quickly than ever before. Usage trends develop and change as rapidly as new technology is introduced. For those working in the information sector providing and managing access is a never ceasing challenge. Such rapid development, swiftly changing usage patterns and somewhat paradoxical demands for easier, faster access makes for a tricky management task no more so than in relation to copyright policy.

The world’s governing bodies are attempting to adjust to the changes and demands of the current environment by formulating new and reviewing existing IP policies to accommodate the interests of various and at times opposing groups. In Australia, recent amendments to the Copyright Act were expedited through the legislative process with about the speed of a bushfire and typify the struggle to manage the new technologies and usage patterns. But the changes to the Act are somewhat contrary to the digital demand for ‘simplicity’. The Amended Act, with more than 600 provisions, effectively doubles the number and complexity despite the intent to manage access and rights more easily. The consequence, no doubt unintended, may be increased confusion and litigation.

This paper will review some of the issues in the context of the new content models currently on offer to today’s information professionals. We will also look at some plans for future copyright management and how the copyright and creative industries are responding to the emerging technologies, usage trends, and legal developments.

2.0 Market Trends and new technologies

In our space, consumers want the convenience of a “one stop shop” – a single access point such as an online portal which can provide access to multiple works and parts of works on a myriad of topics delivered at “internet-speed”. They also want a seamless process to web-based access to content, rights clearance and subscriptions, at the same time, at the same place.

As the influence and persuasiveness of the net grows, new opportunities and market demands emerge. Eventually, says Sir Martin Sorrell, chief executive of one of the world’s largest communications services group, WPP, the internet will grow to account for 20% of worldwide advertising spending, at the expense of traditional media (broadcast and cable TV, print, radio and outdoor advertising) (*The Economist*, 2006). In an increasingly fragmented market, publishers are under pressure to deliver niche products and services to meet increasingly idiosyncratic demands. The technological capacity for micro-transactions has assisted in building suitable models – for example, a single “iTune”, not the whole album, is downloaded to a home hard drive and later to a portable device. In the same way, micro-transactions enable parts of works to be exchanged online so that content can be sold in a granular format for example, individual chapters as opposed to a full book and articles as opposed to the whole journal.

Add to this the phenomenon of the online self publisher. Huge capacity, universally accessible sites and services have fuelled individual creativity and new online publishing and broadcasting models from blogs to YouTube.

Perhaps the most distinguishing feature of this environment is the culture of free use, evidenced by such activities as peer-to-peer (P2P) networking of musical works and the growing development of free content repositories and the P2P networks of the scholarly and research fields. Free content repositories or “open access archives” have developed as educational institutions and training bodies seek to cut down on subscription costs, share research findings and pool resources. The content offered through these institutional repositories is typically generated within the institution itself.

Free repositories for user-generated content can be a useful resource for specified groups of users. It is unlikely however that free repositories will fully replace publishing subscription models but will instead operate as a complementary source of content.

Content written, shared and edited by large groups of users and hosted on freely accessible sites can often lack systems for quality control which is usually provided through the traditional publishing mechanisms. For instance, content hosted on freely-accessible sites such as Wikipedia has suffered from claims of inaccuracies and plagiarism. These instances highlight the need for the publishing industry to continue to meet the demand for reasonably priced, quality content in the digital environment.

3.0 Concerns for the copyright owner

Copyright owners for their part are rightly concerned about the use of their works in the digital environment and the loss of control over the making and distribution of copies. The potential for their works to be copied, manipulated and disseminated in digital networks throughout the world, without any form of remuneration or even basic attribution, is very real. Similarly, the likelihood of detection, licensing or prosecution for infringement is comparatively small.

The digital environment, for all its new possibilities and real advantages, disrupts the existing value chains for the delivery of copyright material. Intermediaries that provide a valuable service in an analogue world may no longer be required in a digital environment; or they may merge with other elements of the value chain, and new intermediaries such as eBay, Google and Amazon emerge. The development of “aggregators” such as Infotrieve, Factiva, ProQuest and EBSCO in the journal community is an example of a relatively new intermediary.

The relationships between these new intermediaries and copyright owners are in many cases still developing, and in some cases, subject to litigation. An example is Google’s efforts to enter the value chain in the publishing industry. Google has developed two projects specifically for dealing with digitising books, *Google Library* and *Google Publisher* and one in relation to news articles, *Google News*.

In the *Google Publisher* project publishers elect to participate by making their works available to be sold as a download through the Google site.

In the *Google Library* project, Google has indicated that their objective is to organise the world’s information – including the information held in libraries. This means that Google has been working with libraries around the world to digitise their collections, without seeking permission from the copyright owner in advance.

Google maintain that the use they are making of these copyright works would be covered by the Fair Use exceptions in the USA, therefore the permission of the copyright owner is not required. However, author and publisher groups hotly debate these claims. There is current litigation in the USA between Google and groups of authors and publishers regarding this particular project. The outcomes of that litigation will have important implications for the development of the digital publishing industry.

4.0 Digital Rights Management (DRM) and licensing models

Monitoring and recording capacities of digital technology provide methods of tracing infringing uses of works, and reliance on them is likely to become more widespread.

The development of technology to assist in monitoring use, processing data and allowing secure payment both from the user and to the rightsholder is beginning to play a key role in facilitating efficient and inexpensive rights clearance in a digital environment with minimal burden to the rightsholder or user.

The key technologies presently being explored include:

- encryption (i.e. coded information with public or private keys, either in the form of passwords or mathematical functions to decrypt the information);
- digital signatures or watermarking (electronic means of embedding authentication information in the information itself);
- secure co-processors (use of computer chips to address authentication or access to information);
- software and hardware access controls (eg. use of software envelopes associated with information and server modules that provide for metering or billing);
- smart cards (used to deal with payment and access concerns).

From a copyright management perspective, the key utility of these technological developments are:

- identification of works and copyright owners;
- monitoring of access to and use of works; and
- underpinning the collection and distribution of copyright fees due to rightsholders.

The key benefits of digital rights management tools to the publishing industry include persistent identification of works which are standardised between publishers, the use of a controlled vocabulary to facilitate automatic data exchange between publishers; between publishers and users of copyright; and between authors, publishers, users of copyright and collecting societies.

It is important to distinguish between the two different types of digital rights management. One type, Technological Protection Measures are aimed at controlling the use of works through technology such as encryption and password protection. For

example TPMs place control on the number of times a work can be viewed, printed or downloaded. TPMs may contain a copy-safe mechanism, allowing a file to be viewed only and preventing it from being reproduced. Traditionally these DRM tools are implemented through software. However, some new DRM applications specifically in the audio-visual market integrate DRM into hardware. For example, a consumer will only be able to access or copy a work if their PC is part of a “verified” network.

The other type of digital rights management is focused on identification and description. Identification of digital rights management tools are based on a trust approach rather than a lock up approach. They are being developed in collaboration with stakeholders including libraries and users. An example of one such digital rights management tool is the Digital Object Identifier, or DOI.

The DOI is a standards-based metadata tagged to digital content to assist in identifying, locating and ultimately exchanging content online. It works as a unique identifier which, once assigned to an object, remains persistent and unaltered. This means the DOI tagged to a content item remains unchanged even if the item is moved to another online location or server.

Its use within the international publishing industry as a standard identifier is growing, particularly within the field of scholarly research where it is often used to link cited content. CrossRef, a US-based, cross-publisher citation linking system has assigned over 20 million DOIs to content items since its inception in early 2000. The majority of these have been assigned to online journal articles however CrossRef has started assigning DOIs to technical reports, working papers, dissertations, standards and data elements.

6.0 Licensing models

To support the legal exchange of content most content providers are opting to enter into licensing arrangements supported by the DRM tools outlined above.

Licensing provides the outline for a clear relationship between the rightsholder and the consumer to determine terms for payment, attribution and reuse. Many of the new business models emerging in the digital environment are based on a licensing model as opposed to a sales model.

Most digital publishers offer licensed access to materials using one or more of the following methods:

- Publisher/author access – where individual publishers and authors license rights straight to business consumers;
- By subscription where the client has access to the digital version via an online portal and password;
- By pay-per-view where the client pays for one article of their choice; and
- Access to a database or online digital repository.

Most consumers seek access to online material through direct delivery which involves consumers entering into a licence for the provision and use of digital materials directly with a publisher or content provider. However aggregator services and e-libraries offering access to a database or online digital repository are becoming increasingly popular document delivery channels.

Creative Commons licences are another example of a licensing approach. Creative Commons has developed as a reaction to the perceived complexity of the copyright system. It takes the view that the copyright system and the exceptions that are permitted under that are too complex and vary significantly between countries. Creative Commons also maintains that many creators do not wish to be remunerated unless someone else is making commercial use of their work.

Simply, Creative Commons is a licensing system in which some standard, easily understandable licences have been developed whereby copyright owners identify their works with a logo to help users identify the licence conditions for the work.

In the last year there has been some criticism of the Creative Commons model – firstly as the number of options in terms of licensing increases the system is losing the benefit of simplicity which it previously had. Secondly, non-commercial uses such as reproduction in educational institutions and corporations are important to many copyright owners.

Most rightsholders choose to license their work through a variety of channels on a non-exclusive basis. However, while many individual publishing and licensing options are gaining momentum, licensing through a copyright management organisation is generally the preferred solution when licensing copying and communication of content on a mass scale.

Centralised rights management is more efficient than individual rights management for consumers who wish to aggregate many works and segments of works like articles or chapters from a variety of diverse sources. This applies especially when consumers wish not only to access the works but require licences to re-use or redistribute, downstream or “to intranet” the aggregated works to others within or outside their organisation: “superdistribution”.

7.0 Future of copyright management

The key to effective copyright management on the side of both the rightsholder and the consumer lies in the ability to offer content in a way which enables a seamless exchange of data. For this to be achieved standardisation or interoperability in the way content is offered and exchanged are key to success.

There has already been a backlash to some degree on proprietary DRM tools. For example in August 2006, France introduced legislation which enables Apple’s rivals to request information necessary to make their services and MP3 players interoperable with iTunes and iPods. However, unlike the music industry the publishing industry has been working on developing interoperable metadata language and tools.

But beyond the DRM tools there is also the need for a “one-stop-shop” for content - a centralised rights management system where mass users can gain access to licensed content from multiple publishers and right holders. This is where copyright management bodies such as Copyright Agency Limited (CAL) can be of assistance.

Copyright management organisations can assist in providing a centralised rights management service as a neutral facilitator. Their unique relationships on the demand-side (licensed user groups) and supply-side (rightsholders) provide them with the necessary infrastructure to facilitate centralised rights management services for the digital environment. It is likely they will need to act on specific mandates from rightsholders and continue the role of intermediary – assisting rightsholders in adopting

digital technologies to make their content available to consumers and serving consumers by providing seamless access to digital content.

Copyright management organisations are in the process of building interoperable technological infrastructure such as databases of rights information relevant to the various aspects of copyright licensing. Those databases will allow instant access to information regarding the licensing of works and content and also assist in payment options and distributing payments to copyright owners for new uses of their works within the digital environment.

8.0 Case Studies

The first step in developing a common rights management infrastructure involves piloting different approaches to delivering digital content for select markets. CAL, a member-based not for profit company, has approached the digital challenge by taking an active role in building digital infrastructure for online rights management and developing new content models for the Australian and international market.

CAL has used a partnership approach with publishers and consumer groups to facilitate transactional online e-commerce for granular content. CAL's offerings provide access to content from participating publishers with rights management for valuable systematic downstream uses or "superdistribution".

The access and the rights management are performed in the one transaction. While the process is specialised and streamlined, the terms and conditions of access and use are set by the individual publishers. The systems and processes developed provide publishers with additional channels for content which are complementary to their primary sales channels (their direct subscription services). But the unique selling point for the new offerings lies in their ability to provide users with a single point of access for multiple publisher content.

One such pilot project is the Digital Course Materials (DCM) custom publication system for the training and higher education market. DCM allows course providers to search, browse and access content online including segments of work from various publishers. The content is provided at different levels of granularity such as chapters and articles.

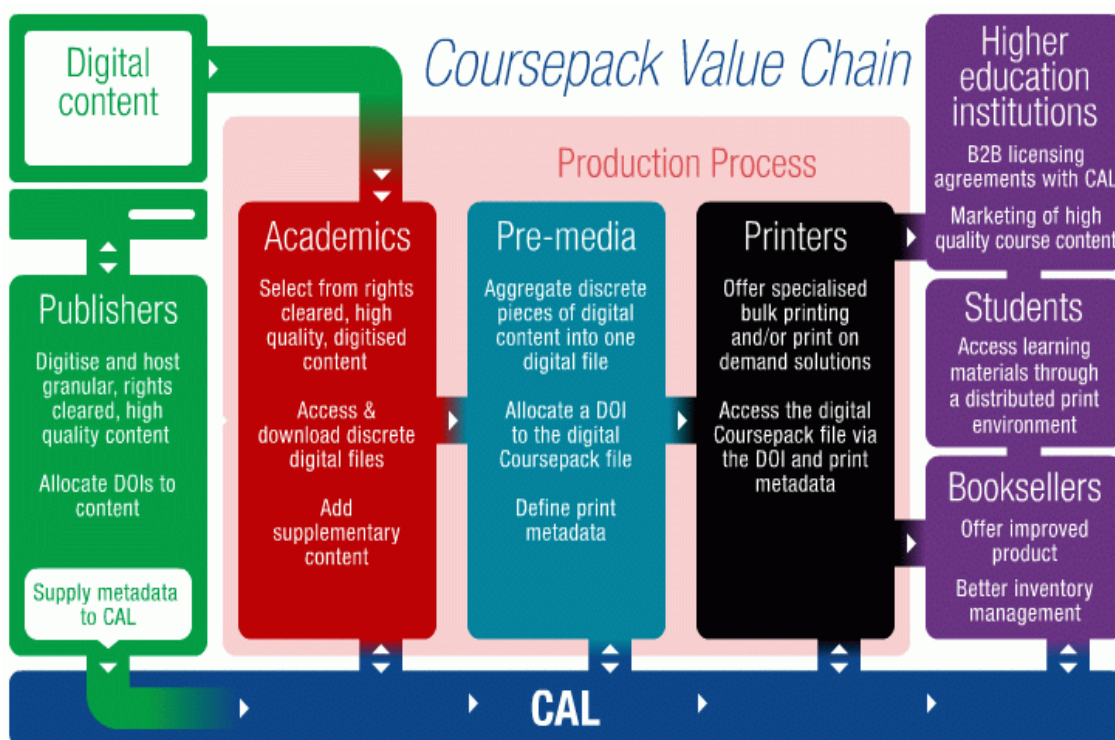
DRM technology (the Digital Object Identifier or DOI) is used to identify each compilation of content and the rights management information embedded in that compilation. That information includes price per content item.

The educational institution then produces and aggregates the customised content as selected by the lecturer, and creates a digital coursepack. The compilation is then delivered to students in either a digital or hardcopy format.

It enables course providers to use copyright content beyond the 10% or one article limits imposed by the statutory educational licence.

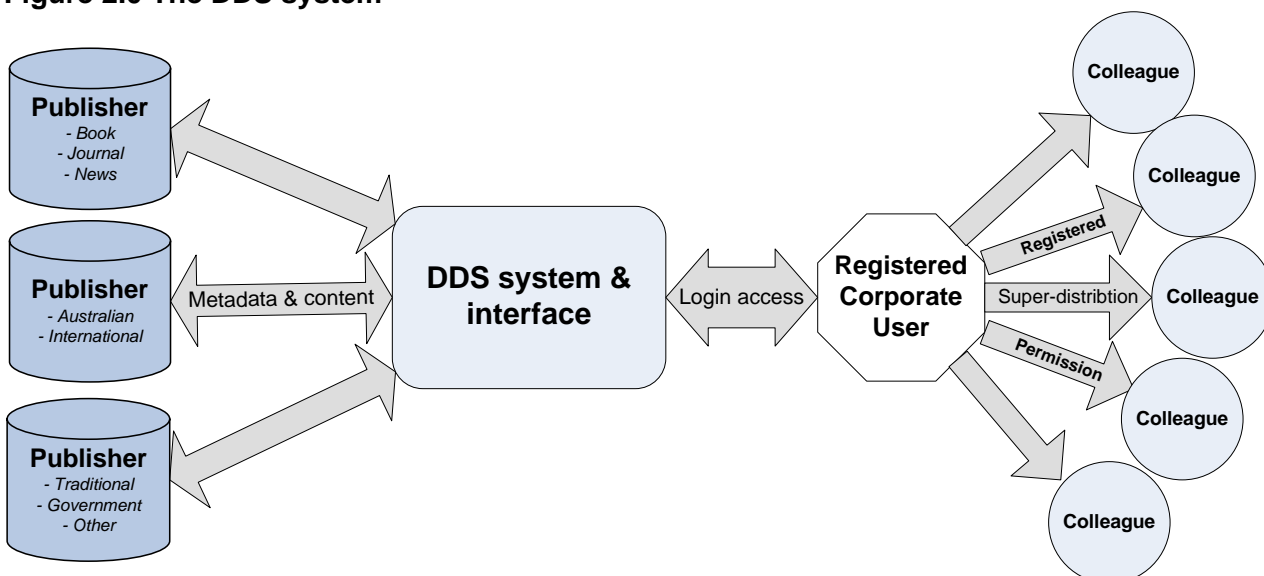
As a commercial offering it is essential that DCM provides added value at all levels of the delivery chain (see Figure 1.0 below). The diagram below documents the value chain specifically within the University market but it is also easily applied to TAFE and other training institutions.

Figure 1.0 DCM value chain



Another online initiative under development includes the Document Delivery Service (DDS) which is planned for the corporate market in particular those based within the science, technical and medical industries. DDS applies similar principles to the DCM model in that it provides, under a licence agreement, access to granular content in this case individual journal articles, from multiple publishers. It allows for systematic downstream uses for organisations to superdistribute content internally.

Figure 2.0 The DDS system



The lessons learned from the DCM and DDS projects will be applied to a number of new online content initiatives CAL is undertaking in partnership with user groups and its author and publisher members. These pilot projects assist CAL and its partners to build and test the systems needed for a fully transactional online service.

9.0 Conclusion

We can access, communicate and repurpose content more easily than ever before. It is evident, the internet and digital technologies provide unique opportunities for content providers to enhance and improve upon traditional supply channels providing efficiencies and further value for all parties.

The traditional publishing industry has had the opportunity to learn from the experiences of the music industry and is in the process of applying emerging technologies to meet consumers' ever evolving demands. Transactional services need to operate in a manner that appears seamless to the consumer and provide easy access to granular content, allowing the consumer to search for and compile quality content to suit their particular needs.

For this to happen, a standardised language needs to be adopted to facilitate the exchange and to avoid issues of interoperability between varying media and publishing platforms. A common infrastructure will also mutually benefit rightsholders and consumers by offering a single point of access for the consumer and economies of scale for the rightsholder.

Yes we are at the nascent stage of development of a fully transactional rights management service but DRM technologies are rapidly evolving. Stay tuned.

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