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Digital Rights Management and Access to Information: a developing country's perspective

By

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Abstract

Digital rights management systems (DRMs) together with technological protection measures (TPMs) have become a controversial topic of discussion around copyrighted works, particularly since the controversial Sony BMG case. This paper addresses some of the concerns around TPM-enabled digital rights management systems as they apply to and impact on developing countries. It highlights issues such as digital censorship, international support for digital rights management and the current legislation in South Africa relating to digital rights management. It also discusses types of digital rights management systems and how they affect access to information and knowledge, as well as their impact on the public domain and privacy. The paper provides some recommendations and challenges to librarians and educators in South Africa and for librarians in other developing countries, on how to address digital rights management issues in relation to their obligations and mandates to provide users and learners with unrestricted access to information.

Introduction

Throughout history, librarians and educators have been called upon to combat censorship imposed by various powers over the flow of information.

> Today, the "censorship" being applied in the digital environment comes in the form of licences and digital rights management that lock away the tools to build the information age, as well as restrictive copyright laws that limit, or block, fair use in ways that are unprecedented in the modern era. As a result, a scarcity of information is created, where the tools to unlock this information are controlled by a few (mainly multinationals). ("Why should open...", p.1)

Librarians continue to have the explicit responsibility of protecting access to information, with a special obligation to ensure the free flow of information to the widest possible audience, and for future generations. Librarians support copyright, that is, *balanced* copyright. However, they are concerned at the growing imbalance of copyright laws in favour of rights-holders, and to the detriment of users of copyrighted information.

"The greatest resource for development is the human resource. In the information society, this means that an educated population is essential for economic progress" (International Federation of Library Associations and Institutions. *Library Copyright Alliance and Electronic Information for Libraries*, 2007, p. 2). Libraries build capacity by promoting information literacy and providing support and training for the effective use of information resources. Restrictive copyright laws negatively affect the core business of libraries. Now copyright is being extended beyond the realm of protection - into the realm of complete *control* over works, either through restrictive legislation, licensing or by digital rights management systems.

What is digital rights management or DRM?

Digital rights management (DRM) refers to "a collection of systems used to protect the copyrights of electronic media. These include digital music and movies, as well as other data that is stored and transferred digitally" (DRM (Digital Rights Management, [n.d.]). DRM is a system of information technology components and services, along with corresponding law, policies and business models, which strive to distribute and control intellectual property and its rights. Product authenticity, user charges, terms-of-use and expiration of rights are typical concerns of DRM. (Lyon, 2002, p. 4) "DRM systems comprise a number of technological components, which can include encryption, a surveillance mechanism, databases of works, owners and users, license management functionality and technological protection measures (TPMs)" (Cameron, 2007, p.1). DRMs are also known as electronic copyright management systems, or Intellectual Property Management and Protection Systems.

DRMs generally fall into two categories: digital rights management systems that do not utilize technological protection measures and those that do. The former types of DRMs are readily associated with copyright management organizations (CMOs) or copyright societies or collective agencies, which represent authors and creators and manage their intellectual property rights. The latter type refers to DRMs which are enabled by technological protection measures (TPMs) (Canadian Heritage. Copyright Policy (n.d.]). This paper focuses on TPM-enabled DRMs.

While copyright holders have exclusive rights of copyright, such as the right to make a copy, or the right to distribute a work to the public – thus far, they have not had the right to control how works can be used, for example, the right to see a work, or to read a work. In addition, fair use/fair dealing limitations on rights owners allow users to exercise certain functions to access information, without copyright clearance from rights owners (American Library Association, 2003, p.1).

Rights owners have realized that due to the proliferation of digital content, where the copy is as pure as the first, and the Internet, which enables the instantaneous distribution of digital content, they have to find alternative methods of controlling their works. They find themselves in a new arena where they are adjusting to ensure, assert and in some cases, enhance their rights (American Library Association, 2003, p.1). DRM systems are one way that rights owners feel they can have more control

over their works. They are designed to *automatically* manage rights in relation to information. This management functionality can include restricting or preventing copyright works and other information from being accessed, used or copied, without authorization, and establishing and enforcing restrictive licence terms with individuals. "DRMs are capable of controlling, monitoring and metering most uses of a digital work" (Canada. Canadian Heritage, [n.d.], par. 5.1.1.). "DRMs are a form of persistent protection that protects works, and manages rights, at all times, no matter where the works are located, or who has possession of them" (Cameron, 2007, p.2).

International provisions for technological protection measures

The World Intellectual Property Organization has two Internet Treaties, namely, the WIPO Copyright Treaty (World Intellectual Property Organization, 1996) and the Performances and Phonograms Treaty (World Intellectual Property Organization, 1996). Both Treaties "provide for technological measures of protection and rights management information, the protection of which is assured by a set of obligations assumed by the Contracting Parties". These obligations are designed to ensure that right holders may effectively use technology to protect their rights, and to license their works online. The first obligation requires countries to provide adequate legal protection, and effective remedies, against the circumvention of technological measures, such as conditional access systems and encryption used by right holders to protect their rights.[i] The second type of technological safeguards enhance the reliability and integrity of the online marketplace by requiring countries to prohibit the deliberate alteration, or deletion, of electronic information, which accompanies any protected material, and which identifies the work, right owners, and the terms and conditions for its use[ii] (Lung, 2004, p.4). DRMs are therefore legally protected under these WIPO Treaties. The set of rights and obligations contained in these Treaties, have added complexity to the traditional balancing of the interests of rights holders and users, including the field of education.

The WIPO Copyright Treaty of 1996 provides that users of digital works continue to have statutory rights of access to information in the same way as users of analogue works, in the form of limitations and exceptions. Yet, the same Treaty allows DRMs or technological protection measures to protect digital content. Those users' rights are then removed by the DRM or TPM since they are accessible by licence. Licences or contracts tend to override copyright exceptions and limitations. Most licences for digital products are non-negotiable and libraries as organisations do not enjoy consumer protections. Furthermore, out-of-copyright content, which is already in the public domain in analogue formats, can become locked up by DRMS when it is digitised by commercial companies (Stratton, 2005, p.1).

Striking the right balance between the legitimate interests of rights owners and users of educational materials is not straightforward or practical in the digital environment. While the Internet Treaties do not mandate the use of DRMs, beneficiaries of limitations and exceptions have raised concerns that application of DRMs may thwart or hinder certain legitimate practices or uses of works, for example,

legitimate access to content in electronic form, or hamper the conversion process of works into alternative formats or, in general, weaken the exercise of limitations and exceptions to copyright, for example fair use or fair dealing (International Intellectual Property Alliance, 2005).

Article 14 of the controversial Broadcasting Treaty (World Intellectual Property Organization, [n.d.]) proposed by WIPO, also provided for technological protection measures, which would have had far-reaching implications for broadcasters, cablecasters and webcasters. This Treaty was "put on the backburner" by WIPO during 2006, but it remained an agenda item for meetings of the WIPO Standing Committee on Copyright and Related Rights (SCCR) during 2007 and was again discussed at the SCCR Meeting in Geneva in November 2008.

The European Union and the United States of America have taken the WIPO Internet Treaties even further. The European Union provides for strong technological protection measures in its Copyright Directive, which member countries have to adopt into their domestic laws. The United States has entrenched its provisions for digital rights management in its Digital Millennium Copyright Act or DMCA. The DMCA criminalizes production and dissemination of technology that can circumvent measures taken to protect copyright, not merely *infringement* of copyright itself. It also heightens the penalties for copyright infringement on the Internet (United States of America, 1998). The statutory exceptions for circumvention are very narrowly drawn. They fail to recognize legitimate reasons for circumventing technical measures, such as to engage in research, for example, about watermarking technologies, or to analyze computer viruses or worms non-encryption-based watermarking technologies, or to analyze computer viruses or worms (Samuelson. 1999, p.519).

Despite the DMCA being very controversial in the United States itself, it has included provisions for anti-circumvention protection measures in the Intellectual Property Chapter in its Free Trade Agreement, which it has been negotiating with various countries around the world. This means that any country which negotiates a Free Trade Agreement with the United States will be obliged to adopt its strict Intellectual Property regime. For example, Australia's Copyright Amendment (Digital Agenda) Act 2000 (Australia. 2000), introduced a prohibition on the supply of circumvention devices and services, but included certain exceptions, such as supply of such devices to libraries, for their use in making permitted copies, and the use of such devices for the purposes of reverse-engineering compatible computer software. Possession or use of such devices was *not* prohibited. Having signed the U.S. Free Trade Agreement in 2004 (United States of America, 2004), Australia was obliged to replicate in its copyright laws, the DMCA's prohibition on circumvention devices. It would totally prohibit the possession of a circumvention device. Interestingly enough, it does not allow the use of such devices in Australia, even for purposes that would otherwise be permitted under the U.S. copyright law, such as making personal copies of one's own CDs. This strict application of the DMCA would be followed in Free Trade Agreements with other countries ("Free trade" sounds... [n.d.], p.1).

In its 2002 Final Report, the UK Commission on Intellectual Property Rights stated that "Developing countries should think very carefully before joining the WIPO Copyright Treaty". It warned that -

> Developed countries often proceed on the assumption, that what is good for them, is likely to be good for developing countries, but in the case of developing countries, more *and* stronger protection, is not necessarily better (Commission on Intellectual Property Rights. 2002a).

Developing countries should not be encouraged or coerced into adopting stronger intellectual property rights through bilateral Free Trade Agreements and Economic Partnership Agreements with industrialized countries, such as the United States and the European Union, without regard to the impact that this may have on their development, and on poor people. They should be allowed to adopt appropriate rights regimes - not necessarily the most protective ones (Commission on Intellectual Property Rights. 2002b).

South Africa is one of the developing countries that have signed the WIPO Internet Treaties. The South African Copyright Act No. 98 of 1978 (as amended) does not have provisions for technological protection measures. However, the Electronic Communications and Transactions Act No. 25 of 2002 has restrictive provisions for anti-circumvention technologies in Article 86 (Republic of South Africa, 2002). In fact, it is a criminal offence to circumvent technologies which protect data or other information. The latter Act does not have any limitations or exceptions for legitimate library or other non-infringing purposes, or for circumvention for legitimate access by blind persons. The library community in South Africa needs to challenge the Department of Communication which administers this Act, since this Act, without appropriate limitations and exceptions, could very well be in contravention of the South African Constitution or other laws which mandate access to the public.

Why are rights holders promoting DRMs?

The digital networked environment makes copying and distributing of information far easier for individuals. It also greatly reduces copyright owners' costs of distributing copyrighted works. This has made copyright owners very nervous about the security of their works, and they want protection against reproduction, modification and the making of derivative works. DRMs are anti-piracy mechanisms to give copyright owners the satisfaction that their works *are* secure in the electronic environment. They promise copyright owners a high degree of control over how works are accessed, used and re-used, even after their works are disseminated to users. Apart from reducing online copyright infringement, DRMs allow copyright owners to require users to pay for each access and use of a work they wish to make. DRMs can observe and report on usage characteristics, which can provide distributors of DRMs with unique marketing information not otherwise available, despite this infringing on users' privacy. This provides them with a new business model with a continual revenue stream from copyrighted works (Cameron, 2007, p. 2).

It is possible to design and use DRMs in ways that raise a number of important concerns. For example, they can limit public access to freely available works in the public domain; deny users the ability to make fair uses of copyright works (for research or other purposes); jeopardize the long-term preservation of information (as technologies become obsolete); frustrate attempts to improve the inter-operability of different computer technologies; and infringe individual privacy (by tracking usage). DRMs and legal protections for DRMs can have a corresponding negative impact in the areas of national computer security, free speech, open source software, reverse engineering, network security, price discrimination, scientific research and competition law (Cameron, 2007, p. 3).

DRMs were developed to stop piracy, yet the only ones who are affected are legitimate users of information, many of whom legally have purchased, and have in their possession, the rights-owners' original work. Piracy has not been stopped. In fact, hackers and pirates circumvent DRMs, making them a failure since they are clearly not affecting the targeted offenders. Law-abiding citizens are being targeted and affected instead. Their fair use/fair dealing rights are being infringed, as access to information is restricted or prevented by such technological protection measures. Research is negatively affected, for instance, in that researchers have been arrested in the United States for providing research results on the workings and failures of DRMs. This has made many researchers reluctant to present their findings at conferences in the United States, for fear of prosecution under the DMCA (Electronic Frontier Foundation, 2005).

How do DRMs affect access to information?

When a consumer purchases a book in a bookstore neither the owner of the bookstore, nor the owner of copyright in the book, will be able to know, or control, how or where the consumer uses that book. DRMs fundamentally change that dynamic by forcing an ongoing relationship between the copyright owner and the user, and enable the copyright owner to limit such access and use to a single computer, or to certain technologies or time periods, and to automatically prohibit uses that are not permitted by the copyright owners' licence. Unless the licence permits the lending of a DRM-protected book to a friend, a consumer is not able to do so (Cameron, 2007, p. 2).

DRMs cannot distinguish between infringing use or legitimate use, and therefore create a barrier for all users. Access to works is locked up, and individuals only have the rights that owners provide for them or licence them with, which could be far less than allowed in the Copyright law.

Anti-circumvention measures provided in the Intellectual Property Chapter of the U.S. Free Trade Agreement far exceed countries' international obligations. These copyright protection measures ban acts of circumvention, and the distribution of tools and technologies used for circumvention. Through DRM controls, rights owners have the power to unilaterally eliminate fair use/fair dealing rights, stifle research and block

text-to-speech software for blind people or text sub-titles for deaf people. DRMs can institute differential pricing, using technological control measures, like lock-up or protection codes on electronic books, content-scrambling systems on CDs, or regional coding on DVDs. These controversial laws can also create monopolies over devices and equipment that handle digital media, even domestic items, such as garage door remote controls and cartridges for printers (IP Justice, White Paper.[n.d.]).

DRMs have the potential to render works inaccessible long after the copyright has expired. It is possible for DRMs to become obsolete and as a result, permanently lock up information which should be in the public domain. This has serious implications, particularly for legal deposit libraries and archives. DRMs also have the potential to lock-up public domain material, as well as indigenous knowledge, behind e-databases controlled by multinationals operating content industries in developing countries. They outlaw "reverse engineering" and inter-operability, which creates an impediment to the development of software industries, and open access projects, in developing countries (IP Justice. Stop. [n.d.]). They ban circumvention of technologically-protected material, thus preventing students and educators from accessing material they have purchased to make excerpts for use in lessons. Local technology vendors would be banned from producing or selling technologies or devices that educators need if they are to use copyright exceptions that would otherwise apply to protected digital material that they have purchased.

DRMs undermine distance education which is a key means of providing access to education in developing countries. They raise the cost of providing instructional materials and place barriers to storing, transmitting and using distance education materials (Electronic Frontier Foundation, 2006). South Africa must therefore challenge anti-circumvention laws and DRMs, since they have a serious impact on civil liberties, innovation, scientific research and competition. DRMs also restrict or block legitimate fair use/fair dealing and copyright exceptions. They distort the balance between the just demands of rights-owners and consumers (Nicholson, 2006, p.12).

How do DRMs affect the public domain?

DRMs pose a serious threat to the ability of the public to access and use works in the public domain. They have the potential to protect works indefinitely. This permanent lock-up of public domain material runs contrary to the principle of balance in copyright law. They also threaten to lock up and permanently render works inaccessible because data stored in proprietary DRM formats (whether it be songs, software, e-books or other data) is at a much greater risk of being lost once the playback media becomes obsolete. Due to the lack of inter-operability in DRM-related services, there is the potential that large collections of content will not be able to be accessed at all (Cameron, 2007, p. 7). This has a serious affect on the availability and accessibility of information and shrinks what is available via the public domain. Consider the serious implications this will have for legal deposit libraries and archives, in particular.

While DRMs can certainly prevent illegal copying, and public distribution, of copyrighted works, the capabilities of these systems are far wider. They can as easily prevent copying and distribution of public domain works, as well as copyrighted ones. Furthermore, even though copyright law confers on copyright owners, the right to control only *public* performances and displays of their works, DRMs can also be used to control *private* performances and displays of digital content (Samuelson, 2003, p. 42).

DRMs thwart the exercise of fair use/fair dealing rights and other copyright privileges. Furthermore, they can be used to compel users to view content they would prefer to avoid, for example, they can prevent fast-forwarding on DVDs. This exceeds the bounds of copyright (Samuelson, 2003, p.42).

These technological protection measures could have far-reaching implications for broadcast technologies (such as digital television and radio) and could restrict private, non-commercial uses of broadcasting content. They could be used by a rights-holder, to restrict access to information that is in the public domain, not copyrightable, or has been permissively licensed, for example, by a Creative Commons licence (Electronic Frontier Foundation. 2006, p.3). They could also be detrimental for innovation and competition policy.

There are many different types of DRMs, some more restrictive than others. The following are some examples which can have an impact on access to information or affect librarians and archivists from carrying out their daily functions:

(a) "limiting a document to one PC or one user
(b) specifying the number of times a document can be opened
(c) time restrictions – view from date x to date y
(d) limit document lifetime (minutes, days, months)
(e) enable or disable printing
(f) define number of printed copies allowed
(g) enable or disable copy/pasting facilities
(h) enable or disable saving to file
(i) protection against file copying
(j) expiry at certain date and time
(k) expiry after x hours of reading
(l) allow x sections copied/printed every y days" (Howard, [n.d.]).

Other examples are:

(i) Click-on facilities require users to pay a fee before they can view the content; or they have to click and accept 'shrink-wrap' or 'click-wrap' licences, even though the conditions of the licences are not clear before accepting them;

(ii) Users are sometimes forced to read advertisements, before being able to download licences. Also, on some DVDs, fast-forwarding to cut out advertisements is prohibited, so users are compelled to watch all the advertisements and copyright notices, before watching the movie;

(iii) 24 Hour Previews allow content to be viewed for a 24 hour period only.

(iv) Subscription demos – one licence unlocks all files for one week only.

(v) Scrambling devices on CDs make them unusable on certain equipment.

(vi) There are DRMs which affect the playing and copying of music, for example, on iPods, MP3 players and other similar devices

(vii) Regional coding on DVDs and PlayStation games ties the user to one machine, or certain geographic regions;

(viii) Encryption facilities obscure or scramble information and need a decryption key to decipher the material;

(ix) When printing an article from the Internet, sometimes only the first and last pages print out or they print out in garbled script. A DRM prevents the whole article from being printed.

(x) Some DRMs only allow use of material on one computer, at one location, or restrict use to specific, registered hardware devices. This could affect workers who work at different locations, or families who use more than one computer, for example, a teenager who visits a different parent on weekends, if they live apart. He may only be able to use a DVD, or other work, on his home computer, but not on his parent's computer at the other home;

(xi) DRMs also prohibit the use of generics, for example, HP printers will not work without an original HP cartridge.

(xii) DRMs on e-books block text-to-speech software, and some prevent conversions to Braille. Some remain accessible for a certain period, for example, a textbook may be accessible for one year, and after that, it digitally "implodes". The Microsoft LIT "Ownership Exclusive" level only allows an e-book to be read on a small number of authorized and registered installations of MS Readers (Noring, 2004).

(xiii) Some books are accompanied by a CD or DVD, which is password-protected, and only accessible by one user, for a short period only. Some years ago the author's institution ordered a textbook with an accompanying CD for the library. On the CD cover, in tiny writing, it stated "This product expires 180 days from initial use". A password was provided to access a website. In response to a query about this, the publishers confirmed that this was to encourage "sell-through" - i.e. each student had to buy his/her own copy of the text, to be able to access the feature-rich companion website. They could not provide the extra online content for free to students who had not purchased the book. So despite the book being ordered by the library for several users, in essence, only one library user could access the CD and website for a period of 180 days only. No one else could access it, which virtually rendered the work useless.

(xiv) Adobe PDF is a DRM which invokes customer usage restrictions on the document, such as not allowing reading back (text to speech) for blind persons or not allowing printing, cutting and pasting or copying of excerpts.

The Sony Rootkit case (Layton, [n.d.]) proved that DRMs can be particularly harmful to consumers. Sony BMG's "XCP anti-piracy program" or DRM apparently used virus-like techniques, secretly embedded in its CDs, to hide itself as spyware on computers and networks, which sent personal data to Sony, to which it was *not* entitled. Spyware records all sorts of information about consumers and their usage of works, which encroaches on consumers' privacy. This program caused great concern among users, whose computers and network's functionality were compromised, and adversely affected, in the process. It was only as a result of bad publicity, and recommendations to consumers to boycott Sony CDs, which led Sony to belatedly produce a patch to remove the spyware. This opened up serious security risks for thousands of computers and networks around the world, as it rendered them vulnerable to malicious attack, or hijacking of programs. As a result, Sony faced a barrage of litigation. It is clear from the Sony case that DRMs pose potentially serious security and functionality issues (Stratton, 2005, p. 7).

Despite the litigation and bad publicity, the Sony case is not likely to discourage rights-owners from using DRMs. They may just take more precautions before they embed them into their works in the future.

DRMs and privacy issues

DRMs can affect privacy in a number of ways, for example:-

- Login and registration facilities enable the rights holder to establish who is the user and only allows registered users further access to the content;

- Some DRMs use biometric identification, such as iris scans, fingerprints and facial recognition. Using biometric id systems is negatively perceived by users/customers as an undue invasion of their person — a gross invasion of their privacy (Noring, 2004, p. 4).
- Some DRMs, like spyware, attempt to send information back to the publisher or other parties, about the user, without the end user's knowledge and approval.
- DRMs' surveillance functionality allows copyright owners to gather and analyse detailed information about users' reading, viewing and listening habits. These activities are ones that are typically performed in the privacy of one's home, where they would have no expectation of being watched. For example, copyright owners might be able to learn how someone paid for a song online, how many times he/she listened to it, whether he/she replayed any parts of it more frequently, whether he/she copied (or attempted to copy) all or part of the song, and whether he/she sent (or tried to send) the song to a friend. This kind of surveillance and data gathering is a gross invasion of privacy. It could also make users reluctant to access certain content, or to provide certain information, out of fear that their privacy may be compromised (Cameron, 2007, p.5).

DRMs work to control access and use of content. They can control whether the content may be reproduced, including the number of copies that may be printed online, the length of time for which the content may be accessed, and whether or not it may be cut and pasted. They also control whether the work may be loaned and for what duration, and even whether the work, for example, portable standalone formats, such as e-books, CDs or DVDs can be loaned, re-sold, or given to another user, or run on different platforms (Stratton, 2005, p. 1).

National archives and legal deposit libraries, for example, need to be able to provide continuing access to materials, as part of the national record, within the framework of copyright exceptions, after copyright has expired and after relevant proprietary DRMs have fallen into disuse. They also need to pursue regular and necessary functions, such as conservation, preservation, digital curation and migration of content to accommodate changing technologies in order to ensure access to the present generation and to future generations, without hindrance. Their ability to override such DRM mechanisms for legitimate archival and library functions is therefore crucial. The technical knowledge required to accomplish this is likely to be most readily available at the point of receipt of the works, rather than at the point of eventual need (Coult, 2005, p.3). Legal deposit libraries and archives should be empowered to take such steps as an initial conservation measure, when such materials are received or at any point thereafter. To this end, rights-owners depositing works should be obliged to provide to the deposit libraries, the necessary "keys", "decryption codes" or "devices" for unlocking, bypassing or disabling any DRMs embedded in them (Stratton, 2005, p. 6).

It is very difficult to determine whether DRMs *are* embedded in library products and rights-owners prefer not to disclose this information. Libraries should therefore insist, as a matter of course, that rights-owners provide adequate information about DRMs on *all* their e-products, using information labels, instruction manuals, explanatory leaflets and discs. When purchasing access to electronic resources, librarians should negotiate licences, which do not override fair use/fair dealing provisions or any copyright exceptions, or which do not restrict or prohibit access to the product or content. Libraries should refuse to accept products which have DRMs that interfere with or prevent rightful access for which they have paid. They should demand refunds on products which are marketed to libraries but which are inaccessible to their users.

Nor should they accept any products for the library which have mechanisms that limit use to a single user or allow access and usage for very short periods of time. Nor should they accept products which lock up the information indefinitely, or have the potential to interfere with the library's electronic systems. Libraries should refuse to purchase or subscribe to any printed publications, which include DRM-restricted CDs, DVDs or other multimedia.

> Many publishers of books, audio and movies believe in the religious mantra that having iron-fisted control of their content — making certain that the buying public "feels" their total control — is always necessary to achieve maximum revenue and profits. However, reality shows differently, and exercising such control using onerous DRMs actually works against this goal. A reasoned balance is necessary (Noring, 2004, p. 3).

To ensure better access to information, libraries should promote Open Access initiatives, for example, Electronic Theses and Dissertation (ETD) projects, institutional repositories, research archives and public domain portals, to free up information, particularly public-funded research, so as to avoid lock-up of information by DRMs.

Finding solutions

Libraries need to find solutions:-

- To support the diverse applications and uses of content in education and libraries, for example, for e-learning, distance learning, digital libraries, online collaboration and institutional repositories;
- To support the preservation and archiving roles of libraries;
- To support fair use/fair dealing and other library and educational exceptions, and avoiding DRMs or other devices that disable use;
- To enable the documentation and declaration of rights and permissions for both analogue and digital resources.(American Library Association, 2003, p. 1)
- To provide full access to digital works to users with sensory-disabilities.

> The International Federation of Library Associations and Institutions (IFLA) states that overprotection of copyright could threaten democratic traditions, and impact on social justice principles …. If copyright protection is too strong, competition and innovation is restricted, and creativity stifled" (International Federation of Libraries and Information Science (IFLA). Committee on Copyright and Other Legal Matters (CLM), 2002).

The world-renowned Royal Society for the Encouragement of Arts, Manufactures and Commerce called on governments around the world to adopt its Adelphi Charter on Creativity, Innovation and Intellectual Property, which sets out the need for balance in intellectual property laws ("Adelphi Charter on creativity", [n.d.]).

The WIPO Copyright Treaty recognizes the need to "maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information" (World Intellectual Property Organization, WIPO Copyright Treaty, 1996).

Challenges for librarians and archivists

Information has value for rights-owners, but what about its value for the individual, for communities, and society at large? The balance has become skewed in favour of rights holders. Copyright, with its digital lock-up systems, has become a tollgate on the information super-highway. Developing countries need the information. Developed countries control the information. The knowledge and digital divide between the North and the South continues to widen (Nicholson, 2006, p.313).

Librarians in South Africa therefore need to take up the challenge, through the National Council for Libraries and Information Services (NCLIS), the Library Association of South Africa (LIASA), and their own organizations or institutions to:-

- Lobby Government for appropriate changes to the Copyright Act, the Legal Deposit Act, the South African Library for the Blind Act, the National Library of South Africa and the Electronic Communications and Transactions Act;
- Become pro-active and get involved in international fora, such as the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO), as well as local, regional and international copyright projects and Access to Knowledge (A2K) initiatives. One such initiative is the African Copyright and Access to Knowledge Project (ACA2K) which is currently researching the copyright frameworks in eight African countries, with particular reference to access to learning materials. The author is the Policy and Dissemination Advisor for this project (African Copyright and Access to Knowledge Alliance (ACA2K), [n.d.]).

If librarians do not get involved at the highest level, it may just be too late when restrictive laws and policies filter down to national copyright laws. Assistance and

advice on how to go about this can be obtained from any of the following organizations, which are involved in addressing copyright and access issues for developing countries:

- IFLA Committee on Copyright and Other Legal Matters (CLM)[iii]
- eIFL.net - the Electronic Information for Libraries Network [iv]
- The Commonwealth of Learning (COL)[v]
- The African Copyright and Access to Knowledge Project (ACA2K)[vi]
- African Digital Commons [vii]
- Creative Commons [viii]
- iCommons [ix]
- Copy South Project [x]

Conclusion

Digital Rights Management Systems, or DRMs, are supported by international treaties and enjoy three layers of legal rights, namely:

- The technology itself, and laws about protecting protection;
- Copyright law - where countries have adopted these measures into domestic laws;
- Contract law - where copyright law is overridden by contracts or licences.

In many instances, these rights overlap each other. This means that the power of the rights-owner is expanded, far beyond the limits of copyright, and the user's rights are diminished (Gross, 2006).

DRMs can enforce legal rights; they can displace legal rights; they can override legal rights; and the law can constrain the design of DRMs (Samuelson, 2003, p.45). They are a major threat to legitimate access to information.

In view of the above, and given its use by copyright industries to restrict users' rights, an alternative, and perhaps more appropriate name, for Digital Rights Management, would be **"**Digital Restrictions Management" or "Digital Rights Malware" (Free Software Foundation, [n.d.]).

End Notes

[i] Article 11 of the WCT and Article 18 of the WPPT
[ii] Article 12 of the WCT and Article 19 of the WPPT
[iii] http://www.ifla.org
[iv] http://eifl.net
[v] http://www.col.org
[vi] http://www.aca2k.org
[vii] http://www.commons-sense.org
[viii] http://www.creativecommons.org/

[ix] http://www.icommons.org
[x] http://www.copysouth.org

References

Adelphi Charter on creativity, innovation and intellectual property. Retrieved 31 August 2008 from http://www.ipcharter.org/adelphi_charter_document.asp

African Copyright and Access to Knowledge Alliance (ACA2K). Retrieved 31 August 2008 from www.aca2k.org

American Library Association. 2003. *Digital Rights Management and Libraries*. Retrieved 18 September 2008 from http://www.ala.org/ala/washoff/woissues/copyrightb/digitalrights/digitalrightsmanagement.cfm

Australia. Commonwealth Consolidated Acts. Copyright Amendment (Digital Agenda) Act, No. 110, 2000. Retrieved 18 October 2008 from http://www.austlii.edu.au/au/legis/cth/consol_act/caaa2000294/

Cameron, A. 2007. *Digital Rights Management.* Retrieved 18 September 2008 from http://www.cippic.ca/digital-rights-management

Canada. Canadian Heritage. [n.d.]. Copyright Policy. Technical Protection Measures: Part I -- Trends in Technical Protection Measures and Circumvention Technologies. 5.0. DRMs. Retrieved 18 October 2008 from http://www.pch.gc.ca/progs/ac-ca/progs/pda-cpb/pubs/protection/5_e.cfm

Commission on Intellectual Property Rights. 2002a. *Integrating Intellectual Property Rights and Development Policy. Report of the Commission on Intellectual Property Rights.* London, United Kingdom. Retrieved on 18 October 2008 from http://www.iprcommission.org/papers/text/final_report/reporthtmfinal.htm

Commission on Intellectual Property Rights. 2002b. *Press Release: Independent Commission Finds Intellectual Property Rights Impose Costs on Most Developing Countries and Do Not Help to Reduce Poverty*. September 12, 2002, London. United Kingdom. Retrieved 31 August 2008 from http://www.biotech-info.net/independent_commission.html

Coult, G. 2005. Response to the All Party Internet Group Inquiry Into Digital Rights Management From Aslib, The Association For Information Management, 21 December 2005. Retrieved 2 September 2008 from http://www.apcomms.org.uk/apig/current-ctivities/apig-inquiry-into-digital-rights-management/apig-drm-written-evidence/Aslib.doc.
DRM (Digital Rights Management). Retrieved 31 August 2008 from http://www.techterms.com/definition/drm

Electronic Frontier Foundation. 2005. *Digital Rights Management: A failure in the developed world, a danger to the developing world.* Retrieved 31 August 2008 from http://www.eff.org/wp/digital-rights-management-failure-developed-world-danger-developing-world

Electronic Frontier Foundation. 2006. *TPMs and Technology Mandate Laws. 14th Session of WIPO Standing Committee on Copyright and Related Rights, May 1-5, 2006*. Retrieved 7 September 2008 from http://www.eff.org/files/filenode/broadcasting_treaty/TPMs-and-Technology-Mandates.pdf

Free Software Foundation. *Some Confusion or Loaded Words and Phrases That are Worth Avoiding*. "*Digital Rights Management*". Retrieved 31 August 2008 from http://www.gnu.org/philosophy/words-to-avoid.html

"Free trade" sounds like a good thing. Apart from a few farmers, surely nobody could have a problem with it... could they?. Retrieved 31 August 2008 from http://www.ilaw.com.au/public/ftaarticle.html

Gross, R. 2006. *Law and policy issues for search engines and access to knowledge* [PPT]. Presented at the A2K Conference at Yale University, USA, 21-23 April 2006. Retrieved 5 October 2006 from http://research.yale.edu/isp/a2k/wiki/images/5/56/RDG_2007yale-a2k-search-engines.ppt

Howard. P. *What you cannot protect, you cannot own. Digital Rights Management: a revolutionary copyright protection system to benefit both the owners and users of digitized intellectual property*. Retrieved 12 September 2008 from http://www.ansi.org/news_publications/other_documents/protect.aspx?menuid=7

International Federation of Libraries and Institutions (IFLA). Committee on Copyright and Other Legal Matters (CLM). 2002. IFLA's Position Paper on Copyright in the Digital Environment. Retrieved 7 September 2008 from http://www.ifla.org/III/clm/p1/pos-dig.htm

International Federation of Library Associations and Institutions, Library Copyright Alliance and Electronic Information for Libraries. Provisional Committee on Proposals Related to the WIPO Agenda , Fourth Session, Geneva, 11-15 June 2007. *A Development Agenda for WIPO. Why libraries care*. Retrieved 31 August 2008 from http://www.librarycopyrightalliance.org/JointLibraryHandout_pcda4final.pdf

International Intellectual Property Alliance. June 15, 2005. Comments on Theme Four. What is the impact of copyright law, both at international and national levels, on education and research. Retrieved 31 August 2008 from http://www.wipo.int/roller/comments/ipisforum/Weblog/theme_four_what_is_the

IP Justice. *Stop the FTAA information lockdown. Delete the IP Chapter of the FTAA.* Retrieved 30 June 2008 from http://www.ipjustice.org/FTAA.
IP Justice. *White Paper on FTAA Treaty Chapter on Intellectual Property Rights. FTAA: A threat to freedom and free trade*. Retrieved 30 June 2008 from http://ipjustice.org/FTAA/IPJ_FTAA_White_Paper_r_1_2.org

Layton, J. *How Digital Rights Management Works. DRM Controversy. The Sony-BMG Debacle*. Retrieved 31 August 2008 from http://electronics.howstuffworks.com/drm3.htm

Lung, G. 2004. *Overview of Copyright Issues.* Presented at WIPO Regional Symposium in Educational Institutions and Libraries in the Digital Era, Hong Kong SAR, March 15 and 16,

2004. Retrieved 18 September 2008 from http://www.ipd.gov.hk/eng/promotion_edu/seminars/20040315/geidy_lung_materials.doc

Lyon, G.E. NIST Special Publication 500-241. Information Technology: A Quick-Reference List of Organizations and Standards for Digital Rights Management.2002. Retrieved 12 September 2008 from http://xml.coverpages.org/Lyon-NIST241assmOct9.pdf

Nicholson, D.R. 2006. *Intellectual Property – Benefit or Burden for Africa?* Retrieved 4 September 2008 from http://www.ifla.org./V/iflaj/IFLA-Journal-4-2006.pdf

Noring, J. 2004. *The Perils of DRM overkill for large publishers*. Retrieved 11 September 2008 from http://www.teleread.org/publishersdrm.htm

Republic of South Africa. 2002. *Electronic Communications and Transactions Act No. 25 of 2002*.Retrieved 31 August 2008 from http://www.info.gov.za/gazette/acts/2002/a25-02.pdf

Samuelson, P. 1999. Intellectual Property and the Digital Economy: Why the Anti-Circumvention Rules Need to be revised. Berkeley Tech. I.J. 14:519 (1999).
Samuelson, P. 2003. *DRM {and, or, vs.] the Law.* In: Communications of the ACM. Vol. 46, no. 4, 2003. Retrieved 31 August 2008 from http://people.ischool.berkeley.edu/~pam/papers/acm_v46_p41.pdf

Stratton, B. 2005. APIG Public Inquiry into Digital Rights Management Systems. Response of the Libraries and Archives Copyright Alliance, 20 December 2005. Retrieved 31 August 2008 from http://www.cilip.org.uk/NR/rdonlyres/0D637922-44E5-43E1-B1F3-01F943FA815D/0/LACAAPIGresponse20dec05FINAL.pdf

United States of America. 1998. *Digital Millennium Copyright Act, 1998.*. Retrieved 31 August 2008 from http://en.wikipedia.org/wiki/DMCA

United States of America. Office of the United States Trade Representative. 2004. Final Text of the U.S.-Australia Free Trade Agreement. Retrieved on 18 October 2008 from http://www.ustr.gov/Trade_Agreements/Bilateral/Australia_FTA/Final_Text/Section_Index.htm

Why should open source software be used in schools? Retrieved 31 August 200 from http://edge-op.org/grouch/schools.html

World Intellectual Property Organization. *Treaty on the Protection of Broadcasting Organizations.* Retrieved 31 August 2008 from http://www.wipo.int/edocs/mdocs/copyright/en/sccr_11/sccr_11_3.pdf
World Intellectual Property Organization.. 1996. *WIPO Copyright Treaty*. Retrieved 31 August 2008 from http://www.wipo.int/treaties/en/ip/wct/

World Intellectual Property Organization. *WIPO Performances and Phonograms Treaty*. Retrieved 31 August 2008 from http://www.wipo.int/treaties/en/ip/wppt/trtdocs_wo034.html