

The Impact of DRMs on Personal Use Expectations and Fair Dealing Rights

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Abstract

This study undertakes a review of fair dealing provisions in Australian copyright law and compares our fair dealing rights with the fair use rights under American law. It examines the impact of eight DRM systems providing music and films online on users' expectations of personal use and fair use of copyrightable material. Users of copyright information in whatever form – print, digital material, music, films and so on – hold certain expectations about their rights to use and copy that information and to communicate it to others. The fact that users may have no legal right to undertake any of these actions as they have not sought the approval of the copyright owner does not undermine the fact that users hold these expectations and have acted on them for many years without repercussion in a number of circumstances. Digital Rights Management (DRM) systems now have potential to remove from users the ability to use, copy and communicate copyright material without permission. This study finds that DRMs, for the most part, grant users rights to copyright digital content which exceed those permitted by the Copyright Act.

Keywords: DRM Systems, DRMs, Personal Use, Fair Dealing, Fair Use, Copyright

1 Introduction

Users of copyright information in whatever form – print, digital material, music, films and so on – hold certain expectations about their rights to use and copy that information and to communicate it to others. That users may have no legal right to undertake any of these actions as they have not sought the approval of the copyright owner does not undermine the fact that users hold these

expectations and have acted on them for many years without repercussion. Digital Rights Management (DRM) systems now have potential to remove from users the ability to use, copy and communicate copyright material without permission.

DRM is 'a term used to describe a range of techniques that use information about rights and rights holders to manage copyright material and the terms and conditions on which it is made available to users' (DCITA 2003). DRM systems, therefore, will enable copyright owners and creators, through the DRM manager, to enforce their copyright in respect of digital material in a way that has not been possible previously.

This article reviews the fair dealing provisions in the Australian *Copyright Act* 1968 (Cth) and compares them to the equivalent fair use provisions in the American legislation. It explores the impact of eight DRM systems providing music and films online on users' expectations of personal use and fair use of copyrightable material. It examines the licence agreements to identify rights relating to CD burning, transfers to a portable player, downloading to personal computers, numbers of copies allowed, ability to send to another person, sharing of registration number, and so on. The authors also tested registration, logging-in and logging-out, downloading, service and content upgrades, service cancellation, and content provision (including playback on a second computer and portable CD player, copying, format conversion, and excerpting).

The study duplicates many, but certainly not all, aspects of a US project undertaken in 2003 at the University of California, Berkeley, led by Professor Deirdre Mulligan which looked at the impact of DRMs on user expectations of privacy, fair use and personal use (Mulligan, Han and Burstein 2003). For the purposes of this paper, it was decided to narrow the scope of the Australian study to the impact of DRMs on personal use and fair dealing expectations of users. Privacy policies and the expectations of users about how their personal information is handled by collecting organisations will be the subject of a separate paper by the first author.

2 Digital Rights and DRMs

DRMs are concerned with 'digital rights', that is, the rights associated with reproducing and communicating material in digital form and then communicating it onwards. DRM systems can be used to digitally communicate copyright material to users, to pass on the licence conditions, to accept payments and to monitor whether the user is following the conditions of use. Such systems will enable copyright owners and creators, through the DRM manager, to enforce their copyright in respect of digital material in a way that has not been possible previously.

DRMs, therefore, have a multifaceted role. First, they can establish the agreement between the various parties – the owner, the user, the supplier and the system manager. One aspect of the role that should not be overlooked is that exceptions can exist to the exclusive right of the copyright owner. Concerns have been expressed that DRM systems operate on the narrow assumption that the only rights to be enforced are those contained in the licence (Fox and La Macchia 2003). One example of possible exceptions to be considered are the 'fair dealing' exceptions available to users.

Second, they can enforce the agreement between the parties, ensuring that permissions to copy or to read only or to communicate to others are not ignored. Third, they can collect licence fees from users. Fourth, they can handle extensions, variations or terminations of licences.

Generally, DRMs are viewed from the point of view of the copyright owner, rather than the viewpoint of the user of the copyright material. For instance, the following definition of DRM is found on the DestraMusic.com website:

DRM (Digital Rights Management) is the process in which digital content (audio, video or ...) is securely delivered to consumers over the Internet. This process ensures the owners ... including artists and writers get paid for their copyrighted materials (DestraMusic 2004).

This study, however, is more concerned with the impact on users of the services provided by and allowed for by the DRM.

3 Copyright Law in Australia

The *Copyright Act 1968* (Cth) (the Copyright Act) grants exclusive rights to copyright owners to deal with their copyright works. Under the Copyright Act, users are entitled to only limited fair use rights and no personal use rights to copy, transfer and amend a work, unless specifically provided in a licence.

3.1 Fair Dealing

The Copyright Act operates by requiring a user to get permission for use of copyright material from a copyright owner. However, certain uses of copyright material without permission will not infringe copyright. These uses are described as 'fair dealing' or 'fair use' and are very limited. Sections 40 to 43 state that the uses must be for:

- research or study
- criticism or review
- reporting news, or
- professional advice by a lawyer, patent attorney or trademark attorney

and must constitute 'fair' dealing. Fair use exceptions in Australia apply predominantly to academics and students, research centres, journalists, the media and the legal profession when giving advice. So fair use exemptions only apply to a relatively small group of users in a few instances. The exception of 'fair dealing' is used as a defence to a claim of infringement, rather than as recognition of a particular right.

What constitutes 'fair' use? Section 40(2) of the Copyright Act states that the following matters should be taken into account when deciding if the use is fair:

- (a) the purpose and character of the dealing;
- (b) the nature of the work or adaptation;
- (c) the possibility of obtaining the work or adaptation within a reasonable time at an ordinary commercial price;
- (d) the effect of the dealing upon the potential market for, or value of, the work or adaptation; and
- (e) in a case where only part of the work or adaptation is reproduced – the amount and substantiality of the part copied in relation to the whole work or adaptation.

What a court will be looking for is the use to which the reproduction was put, the type of work involved, whether the work is available for a reasonable fee, whether the dealing had damaged the economic interests of the owner, and how much of the work was reproduced (Ricketson and Creswell 2002, para 11.35).

If used for research and study, s 10(2) provides that an article in a journal or a reasonable portion of a document, but not music or pictures, can be copied for research and study purposes without the need to prove that the use was 'fair'. Under s 10(2), a reasonable portion of a published text document of not less than 10 pages will be considered to be up to 10 per cent of the number of pages in aggregate or, if divided into chapters, a whole or part of a single chapter. Under s 10(2A), a reasonable portion of 'a published literary work (other than a computer program or an electronic compilation, such as a database)' in electronic form is stated to be when no more than 10 per cent of the words are copied or, if the work is divided into chapters, a part or all of one chapter, even if the reproduction may exceed 10 per cent.

There are no specific guidelines in the Act for what constitutes fair dealing for the purpose of criticism or review, but, under s 10(1), there must be 'sufficient acknowledgement of the work', usually requiring citing the name of the author, the title of the work and any other relevant descriptors. Similarly, there are also no specific guidelines for fair reporting news, or fair use for the purpose of judicial proceedings or professional advice (Ricketson and Creswell 2002, paras 11.60-11.70).

3.2 Digital Agenda Copyright Amendments

The Digital Agenda Copyright Amendments to the Copyright Act came into operation on 4 March 2001. The most significant impact of the amendments is the creation of a new right for copyright owners, a right of communication to the public, which extends copyright protection to materials accessible online and in digital format. The new right of communication exists alongside other existing rights granted by the Copyright Act, namely, the rights to reproduce, to adapt, to publish, and of public performance. It is aimed at copyright material that is distributed by electronic means or is included on a website, made available online or included in an email.

Section 10(1) of the Copyright Act defines 'communicate' as 'make available online or electronically transmit (whether over a path, or a combination of paths, provided by a material substance or otherwise) a work or other subject-matter'.

One exception to infringement of copyright under the new amendments (ss 43A and 111A) is that of 'temporary reproductions', that is, any temporary copies of works that might be made as a result of transmitting works online or in accessing them due to the 'technical process of making or receiving a communication'.

The digital amendments were introduced in an attempt to balance the rights of copyright owners and the rights of the public to access information freely or at least for education, research, and cultural institutions to be able to access it and make it available to the public, particularly electronically.

The new amendments replicate the existing balance between the rights of copyright owners and users and so the fair dealing defences discussed above apply to digital material. For instance, s 103C introduced a fair dealing defence for audio-visual items, such as music, films, sound and television broadcasts.

3.3 Can Fair Dealing Rights be Removed by Owners?

Under the Copyright Act, certain exceptions cannot be removed from users by copyright owners. These rights apply only to software and include making a backup copy of a program, and reproduction of a program to correct errors in a program and for security testing (ss 47B-F). Other fair dealing or use exemptions are able to be removed from users under a contract.

In its 2002 report on 'Copyright and Contract', the Copyright Law Review Committee (CLRC) recommended that the four fair dealing exceptions, the provisions dealing with libraries and archives and the exceptions for temporary reproductions should not be able to be excluded by contract (CLRC 2002, paras 7.25-7.26).

After a survey of a number of online contracts, the CLRC found that many of them explicitly or implicitly tried to exclude or modify exceptions to the Copyright Act, particularly the fair dealing exceptions (CLRC 2002, paras 4.93-4.106). Interestingly, it also found that many

offline licences attempted to do the same (CLRC 2002, paras 4.107-4.117).

What it concluded, however, is that copyright material in digital form is usually accessed through a licence agreement, which is not the case with non-digital works such as books, magazines or journals (CLRC 2002, para 4.121). A user does not need a licence to read a book, but it is often necessary in the digital environment to require a licence before accessing (viewing or reading) a site.

The CLRC noted that it is the way we access digital materials which has changed over the last few years, which is leading to a change in the balance between the rights of copyright owners and copyright users. Access to copyright materials is not directly dealt with by the Copyright Act.

3.4 Comparison with American Fair Use Rights

It should be noted that fair dealing under the Australian Copyright Act is not as broad as 'fair use' under the American Copyright Act. Under s 107 of the Copyright Act 1076 (US), fair dealing is defined as:

...the fair use of a copyright work including such use by reproduction in copies or phonorecords or by any other means specified ...for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright.

Ricketson and Creswell note (para 11.25) that while this definition covers the four fair dealing uses in the Australian Act, it also allows activities such as 'home video taping, the photocopying of scientific articles, and even reverse engineering of computer programs'.

The CLRC released a report in 1998 titled 'Exceptions to the Exclusive Rights of Copyright Owners' which recommended, inter alia, that a more open-ended approach to fair dealing should be developed, similar in many ways to the American approach. As yet, the Government has taken no action with respect to this and other CLRC recommendations for change.

Most European countries do not have 'fair dealing' provisions at all (ACC 2001, p. 25).

3.5 Free Use and Personal Use of Copyright

The exclusive use of authors is difficult to enforce in some circumstances and these difficulties have been compounded in particular by the introduction of, first, the photocopier and now computer technology. Attempts by copyright owners to control unauthorised use have led to the introduction of compromise behaviour and action such as statutory licences, which provide some reimbursement to owners based on an estimated use by others. 'Free use' such as home taping and copying of music and films has been impossible to stop and would be uneconomic to police, and so is e-mailing digital articles and other documents to friends and associates. In any case, until the advent of mass reproduction of music clips and similar activities, it has been difficult for an author to demonstrate a substantial detriment from such activities. Mulligan, Han and Burnstein (2003, p. 78) refer to such

use as being 'unregulated' as the Act is silent about such use.

In September 2001, the Australian Copyright Council (ACC) released a discussion paper 'Remuneration for Private Copying in Australia' which focused on the issue of private copying of audio and audiovisual recordings as being the areas of most concern to authors and publishers. The report quoted from a number of surveys which indicated that personal copying of television programs and of music was undertaken by the majority of respondents (ACC 2001, p. 17) and was increasing. In 1998, a retailer, Harvey Norman, reported that its highest selling item were blank recordable compact discs (CD-R) (ACC 2001, p. 1). In 1983, the Federal Government announced the introduction of a levy to be paid on the sale of blank audio recording disks to provide royalties to copyright owners. For a number of reasons, the levy scheme did not proceed (ACC 2001, p. 3).

So the situation in Australia, therefore, in respect of personal use rights of users is that there are no legally recognised personal use rights but home copying of television programs, videos, CDs and DVDs occurs. Other personal uses include sharing subscription accounts, sending copies of files to friends/colleagues, printing, and content modification of songs and videos.

The United States has a private copying scheme that applies to digital music recordings. Contained in 17 US §1008, the scheme allows the non-commercial use of digital audio recording media, a digital audio recording device and/or an analogue recording device to make digital or analogue musical recordings (ACC 2001, p. 18). There is no Australian equivalent.

4 DRM Systems

4.1 The Mulligan Study

As noted above in 3.4 and 3.5, the United States Copyright Act permits a broader definition of what constitutes fair use of a copyrighted work than is the case in Australia. For instance, fair use has been held to include home taping of television programs and personal copying of digital files for use elsewhere (Mulligan, Han and Burstein 2003, p. 78). This means that some 'personal use' activities which are unregulated by the Copyright Act have become accepted as 'fair use' in the United States.

The study undertaken by Mulligan, Han and Burstein focused on the effect of DRMs on personal use of copyright material, with such a term encompassing both fair use and unregulated use activities. Personal use activities specific to the digital environment have been included in a consumer Technology Bill of Rights (digitalconsumer.org 2004). The Bill has no legal standing but offers an interesting list to consider. These rights are:

- The right to record legally acquired or accessed content for a later viewing (time-shifting);
- The right to use the legally acquired content in different places (space-shifting);

- The right to make backup copies;
- The right to use legally acquired content on different platforms;
- The right to translate content between formats; and
- The right to use technology to achieve the above rights.

To achieve these personal use rights through a DRM system, the system had to offer the necessary functionality, which the Mulligan study described as follows:

Portability

The ability to use acquired content on any suitable device, regardless of ownership interest in the device or its physical surroundings. Portability also refers to the ability to shift the format of a copy.

Excerpting

The ability to excerpt from, modify, and in other ways tinker with content.

Limited Relationship and Interaction with Copyright Holders

This criterion refers to the extent to which services relationships and interaction with individuals reflect expectations set in other media (Mulligan, Han and Burstein 2003, p. 79).

The study found that the eight DRMs studied did not permit personal use on several levels and that unregulated use became only possible through licence permissions.

4.2 Organisations in Study

The following organisations have been used for the study:

- Ninemsn Pty Ltd, a joint venture between Microsoft Corporation and ecorp Limited, the operator of an Australia's online network associated the Nine Television Network and ACP magazines, <http://ninemsn.com.au/>
- Bigpond.com which is an internet service provider and a part of Telstra, <http://www.bigpond.com>
- DestraMusic.com, which provides wholesale download services to eleven online music providers, including JB HiFi, Sanity, Chaos and HMV, as well as its own MP3.com.au website, <http://www.destramusic.com>
- iTunes.com, a music download site operated by Apple, <http://www.itunes.com>
- Buy.com, an online shop selling computers, hardware and software, music downloads, books, etc, <http://www.buy.com>
- MuleMusic.com.au, a music download site, <http://www.mulemusic.com.au>
- CinemaNow.com, an online movie provider, <http://www.cinemanow.com>
- Oxmusicweed.com, a website offering free music downloads and file sharing, <http://www.ozmusicweed.com>

Buy.com and iTunes did not allow Australian residents to purchase music through them but were included to provide a comparison to Australian DRMs.

4.3 Methodology

At each site, we examined licence agreements to identify rights relating to CD burning, transfers to a portable player, downloading to personal computers, numbers of copies allowed, ability to send to another person, sharing of registration number, and so on. We also tested registration, logging-in and logging-out, downloading, service and content upgrades, service cancellation, and content provision (including playback on other computers and portable CD players, copying, format conversion, and excerpting).

4.4 Overview of Findings

A summary of the findings of the DRMs studied is contained in Appendix A. The main focus of the findings is around the issues of portability, excerpting and modifying content, and on account sharing, re-licensing and backup. Of the eight sites studied, none required a subscription before tracks, albums or movies could be downloaded, although subscriptions were encouraged. Login and registration were mandatory at all sites.

4.4.1 Portability

In our study, portability was defined as being the right to transfer and use content on handheld (portable) devices, media player (software playing the content), computers and operating systems (backup and re-licensing), and CD ripping (that is, burning a file to a CD and then re-copying it onto a computer). These other media may be owned by the same person, who legally acquired the license for that media. Generally, portability of content to handheld devices and media players was permitted by the DRM systems studied but not portability to different computers and operating systems. For the latter, a new licence had to be acquired.

A diverse number of transfers to portable devices per purchase were allowed for all the DRM systems for music. The transfer of movies (downloaded from CinemaNow) to a portable device, however, was not permitted or possible due to size restrictions. Ninemsn allowed unlimited transfer to compatible portable devices. iTunes also allowed unlimited transfers to portable devices but only to Apple iPods. DestraMusic allowed three transfers per purchase but only to DRM enabled and WMA compatible devices. Buy.com allowed unlimited transfer to portable devices. BigPond and MuleMusic allowed unlimited copying to two portable devices but they had to be registered with Windows Media Player version 9 which covers most portable devices. Ozmusicweed allowed a file to be transferred to an unspecified number of portable devices.

Most of the DRM systems studied were only supported by Windows Media Player version 9 (or later) except iTunes, which runs on the iPod player. That meant that the transfer of content to a media player other than Windows Media Player version 9 made the content unusable.

Portability among different computers and different operating systems was not explicitly supported in most

cases as the actual transfer of the content was not permitted under the licence. Licenses were stored in the local file system on the first computer used by the purchaser and could not be transferred. Generally, however, ozmusicweed, iTunes and Buy.com allowed users to play tracks on up to three different computers. iTunes allowed up to 5 computers.

Most of the other operating systems (including Linux and Unix) were not supported by the DRMs. In the event of future migration of consumer market to open source platform based operating system, the adoption of such operating systems would certainly restrict the transfer of licensed contents.

iTunes allowed unlimited burning to a CD while Buy.com allowed 10 CD burns of the purchased tracks. BigPond, Ninemsn, DestraMusic and MuleMusic allowed three burns per purchase. Ozmusicweed appeared to allow unlimited burning. CinemaNow does not allow CD burning.

Windows media-encoded tracks can be only rendered in *.wmp* (windows media player) format, which does not allow file conversion (Mulligan, Han and Burnstein 2003). iTunes, which uses Apple's proprietary *.aac* (advanced audio coding) format, also lacks apparent methods for converting files to other formats.

CD ripping, the process of copying a music track contained in an audio CD into computer memory as a file, was possible for all the services studied (except CinemaNow which does not allow CD burning at all). All of the DRM restrictions can be worked around by burning the track into the CD and re-copying them onto the computer. Ripping the music tracks from CDs using Windows Media Player converts the tracks into *.wmp* format. In the process of converting content back for use on a computer, users are prompted to select them as either 'protected' content or not. However, by selecting 'protected' during this process, the content is restricted from rendering on subsequent computers and from further CD burnings. In other words, rejecting the 'protected' option will result in a fully portable, DRM-free copy of the file. However it has been documented (Mulligan, Han and Burnstein 2003, p. 80) that iTunes enforces the additional limitations that ripped versions of the tracks cannot be re-burned to CD by making these files non-readable to CD burning software like Roxio and NeroBurn.

4.4.2 Excerpting and Modifying Content

This remains an area that is not handled well by DRMs. All DRM systems studied either prohibited or did not permit sampling, excerpting and other forms of content modification. Also technologically DRM-encoded files were not interpretable using media editing software. As noted earlier, limitations of this nature which are enforced by DRM can be easily overridden by burning to CD and then ripping them.

4.4.3 Account sharing, licensing, re-licensing and backup

Licences varied in duration. The licence could be for a limited time span, say, a month or for the duration of the subscription, or can be for a specified number of tracks and a specified number of times the track can be played. Ninemsn, for example, allowed streaming of tracks at price of 5c a track, where no permanent copy was downloaded or no license was needed but the track could only be listened to once. Ozmusicweed allowed tracks to be listened to free three times before a purchase was required and access to it was blocked. Some licences were for a lifetime but CinemaNow restricts the initial download of the movie file to within 48 hours of the purchase time.

What complicated the situation was that, on some sites, like DestraMusic and ninemsn, for instance, individual tracks had different licence conditions so it was necessary to view the restrictions on a track by track basis.

Ozmusicweed allowed sharing of files with anyone as long as the files remained in their original form as Windows Media files. iTunes also allowed sharing of files. MuleMusic specifically prohibited distribution of files to others and sharing of accounts, as did ninemsn, Buy.com and CinemaNow. DestraMusic and BigPond were silent on the issue.

Provision for backing up the license and restoring it into new system (i.e. new operating system needed due to a hard disk crash or other reason) was supported differently by each DRM. BigPond allowed the use of backups for the same computer in order to restore the purchased content in an event such as corruption of the license or the content itself. The other DRM suppliers, except CinemaNow and Buy.com, allowed backup and restoration of the license up to three times in the event of loss of license due to hardware or software failures.

Between two to four re-licenses was allowed by all other DRM suppliers studied. DestraMusic allowed four re-licensings per year, the most generous.

4.4.4 Relationship and Information Flows

Only ozmusicweed required installation of local proxy software. In all other cases except for iTunes, Microsoft Media Player 9 was the only key software in the local system which was handling the DRM and relevant internet traffic. License copies were stored at unknown locations. All of the complexities of installing proxies of each service provider found in the Mulligan study (2003, p. 85) have now been addressed by the Microsoft DRM management system inbuilt into Windows Media Player version 9. Each time a licensed track is downloaded, communication from the media player to the Microsoft DRM server was required. The registration and acquisition of that license copy is completed with the Microsoft DRM server exchanging a local unique identification of the hardware (Operating System) and license key id. One can play that content on the same hardware for a specified number of times (indefinitely in most cases studied).

Unlike the situation when a music CD is purchased, for instance, all the DRMs exercised control over the licensed works beyond the initial purchase of the licence. This post-purchase control was achieved through technical means. In a number of focus groups on user attitudes to DRMs being undertaken by the User Centred Design Group in the Smart Internet Technology CRC at RMIT, in which the first author is involved, this continued link from the media back to the DRM system was viewed as being an intrusive and particularly unwelcome component of the system.

5 Impacts on Users

In Australia at present, there is no right to copy music, television programs, movies or other copyrighted material for private use. At the same time, there is clear awareness at all levels of society and government that private copying and other personal uses of copyright material occur frequently and that this activity is increasing. The Australian Government is considering a private use licensing scheme but has not indicated whether it will adopt the proposal. It will need to do so before DRMs become too widespread. Private use licensing schemes currently operating in up to 12 European countries, are being reviewed as their use, together with a DRM scheme can result in the user paying a copyright owner twice (Commission of the European Communities 2002, p. 15).

Fair dealing can be argued as a defence by users but, in Australia, these rights are quite narrow and apply to a relatively restricted group of users, such as academics and students, researchers, journalists, the media and the legal profession. Fair dealing rights can be, and are, removed by contract. In all of the DRM terms and conditions studied, fair dealing was excluded either explicitly or implicitly.

It is possible for a copyright owner to contract with an individual or organisation to grant them personal use rights, in the same way that it is possible to remove fair dealing rights from users. The DRMs studied grant users, through their licence terms and conditions, a number of rights relating to downloading, copying, transferring and transmittal of copyright material which lessen the exclusive control of copyright owners

In effect, the licences legalise many users' actions. In this respect, DRMs expand the rights of the copyright users.

In other respects, DRMs, through the post-purchase technical controls they currently impose in particular, reduce the normal rights and expectations of users. A person who buys a CD from a retail store can listen to it again and again, and can play it on a number of devices in a number of locations. They can listen to it in the company of others. It is theirs and such activities are within the law. DRMs operating in the sphere of digital music and other digital media restrict such activities. Serious thought about alternatives should be given by those organisations utilising the current business model of extended control and restriction in respect of digital media. A review of what controls are really necessary to protect copyright owner rights and a better understanding

of how users wish to use digital media might lead to some models which are more acceptable to users, copyright owners and content providers.

A DRM system, therefore, has potential, in the Australian context at least, to provide users legally with many of the rights that users have assumed are theirs anyway. At this stage, none provide the opportunity to share accounts and to allow group use of subscriptions and purchases. There are various limitations placed on use, such as the number of copies able to be made and the number of times that content can be transferred to other devices. Whether or not greater flexibility of use is given to users will ultimately depend on the success of the DRM business model. Greater adoption of, and alignment with, accepted traditional personal uses of non-digital content, such as lending a book or sending a copy of an article to friends, might result in greater usage of digital content. Some DRMs offer lifetime licences of use to subscribers. These licences could be extended to others if desired, on a one user at a time basis, similar to a lending library concept, although whether this concept would be of value to users in the digital environment is not known. It is not certain that the needs of digital users, particularly when dealing with music and similar media, equate to non-digital content use.

It is interesting to note that since the Mulligan study in 2003, music DRMs (or at least those studied) have expanded the user rights available, allowing more copying, transfer rights and more flexibility overall for users. More flexibility is still required but this expansion is welcome.

6 Conclusion

DRMs regulating digital content grant both fair dealing and personal use rights to users which are not permitted by Australian Copyright law. Users can make copies, transfer those copies to specified other devices and obtain new copies if the version they purchased is lost or damaged.

The DRMs studied did not, however, permit a number of uses of the content which are available to users who purchase actual CDs, videos or DVDs. Sharing, interchangeability of formats and excerpting are specifically restricted. As well, the DRMs maintained an ongoing restrictive relationship with the purchasers through technical means. It would appear an appropriate time for content providers to review whether there are other models for providing digital media to users which might improve useability and protect the rights of copyright owners and providers.

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Acknowledgement:

We wish to acknowledge the support of the Smart Internet Technology CRC in the development of this paper

No	Site	No. of CD burns per purchase [^]	No. of portable device transfers per purchase	No. of computers per purchase	CD ripping possible	Format conversion allowed	Account sharing allowed	Excerpting allowed	Player portability	Re licensing	Portability to other OS
1	BigPond	3	2	1	Y	N	No mention	N	Windows Media Player only	2	N
2	Ninemsn	3	Unlimited	1	Y	N	N	N	Windows Media Player only	3	N
3	Destramusic.com through Whammo.com.au	3	3	1	Y	N	N	N	Windows Media Player only	4	N
4	MuleMusic	3	2	1	Y	N	No mention	N	Windows Media Player only	2	N
5	CinemaNow	0	0	1	N	N	N	N	Windows Media Player only	4	N
6	iTunes [®]	unlimited	Unlimited (iPods only)	5	Y	N	N	N	Windows Media Player and Mac (iPod player)	Not found	Y
7	buy.com [®]	10	Unlimited	3	N	N	N	N	Windows Media Player only	0	N
8	ozmusicweed	No limit stated	unlimited	3	Y	N	Sharing of files allowed	N	Windows Media Player, Real Player, MusicMatch Jukebox	3	N

Appendix A: Summary of findings of various DRM-based services

[^] even after CD burns only usable on the same windows media player/computer with licences stored.

[®] US only subscription and download allowed.

Note that these details are for the purchase of typical tracks. Some tracks had different licence restrictions