

THE GOWERS REVIEW

Submission by Edward Barrow, Copyright Consultant

1 Background

This submission is made by me, Edward Barrow, a freelance copyright consultant, on my own behalf. It does not necessarily represent the views of any of my clients.

1.1 *Economic importance*

Creativity is an important driver of economic growth. Growth reliant on increasing per-capita consumption of energy or other physical resources is not sustainable in the longer term; there is, however, no such constraint on growth derived from human creativity.

1.2 *A global resource*

Human creativity is a global resource. In the interests of global equity, reducing poverty and helping to prevent conflict, it is important that the creativity of all people, in every nation of the world, is free to flourish and to receive its fair reward. The international intellectual property system must not discriminate against those in poorer countries nor perpetuate inequities; rather, it should encourage development through the international exchange of the products of human creativity.

1.3 *A human right*

Article 27 of the Universal Declaration of Human Rights reads:

- (1) *Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.*
- (2) *Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.*

It is the purpose of intellectual property law to reconcile the two parts of Article 27 so that the one supports the other.

2 General Questions

2.1 *How IP is awarded*

2.1.1 *The publication bargain*

Intellectual property is the result of a bargain between the public and the author or inventor. In consideration of publication – that is, of disclosure of the work or invention to the public – the author or inventor receives a limited monopoly. Publication or disclosure satisfies the requirements of Article 27(1); the consequent protection satisfies the requirements of Article 27(2).

The publication bargain is explicit in the case of patents; in the case of copyright, the position is slightly less clear because the same body of law is used to protect unpublished works, and in particular to establish that the author has the right to decide whether or not to make a work public in the first place.

If the central importance of this public/private bargain is relegated, so that the intellectual property system allows IP owners to earn monopoly rents without fully publishing the essence of the work or the invention, distortions and excess profit will occur and abuses may

follow.

Two suggestions are made for radical reform of IP law to reinforce, indeed revitalise, this essential bargain:

- in patent law, priority should be determined not by “first-to-file”, or by “first-to-invent”, but by *first to publish*.
- In the case of copyright in computer programs, copyright in the published program should subsist only to the extent that the source code of the program is published.

2.1.2 Fixation and works in an oral tradition

While the fixation requirement of UK law provides evidential clarity, and is easily met in the digital age, it is important that it not be used to undermine the interests, and indeed the human rights set out in Article 27(2) of the Universal Declaration, of people from cultures whose tradition is based less strongly in the written word.

2.2 How IP is used

2.2.1 Barriers to entry

The use of IP to maintain artificial barriers to entry to new markets, or to preserve existing business models against the tide of technological change is, regrettably, not unknown. It is, however, difficult to legislate against such regressive and, indeed, reprehensible business practices.

An example would be the refusal (by a commercial publishing house) to license a digital edition of a publication, in order to preserve sales of the print edition. Frequently, fears of piracy are used to justify such a refusal, despite the fact that e-book piracy of print editions is widespread. Popular print books are available in pirated electronic form within hours of print release.

2.2.2 The Creative Citizen

All humans are fundamentally creative and the IP system should aim to liberate that creativity for the benefit of humanity. Creativity, however, does not exist in a vacuum: for each advance, we stand on the shoulders of giants. It is legitimate, indeed desirable, that creative individuals should be inspired by the works of their antecedents; and copyright jurisprudence must address the point at which inspiration stops and copying begins.

Digital technology may have fundamentally changed that point. “Cut-and-paste” uses such as sampling in music have enabled radical new forms of work, yet the original cut-and-paste may technically infringe both economic and moral rights.

2.3 How IP licensed and exchanged

Innovative forms of licensing, such as the GNU Public License (GPL) for functional computer programs and the Creative Commons licences for creative works support and build on the fundamental copyright principle, that the author is entitled to decide the disposition of his or her works.

These licences typically encourage further modification of the works and thus address the problem of deciding the boundary between inspiration and copying: authors who license their works under them accept that they will be copied and may be subjected to treatments which a conventional analysis might consider derogatory.

They can and should be made complementary to commercial forms of licensing. Their fundamental weakness is that they do not, as yet, admit of a business model that supports professional authorship: those who license their works on such terms are obliged to retain alternative sources of income (“keep the day job”); however, it is very likely that variations on them incorporating a viable revenue stream will be developed.

Yet by comparison with the conventional publication channels, these licences used in association with the Internet remove significant barriers to entry and allow new authors to market-test their work without the lottery of securing the publishing or recording agreement. Rather than regarding these licences as a threat to their role as gate-keeper, forward-thinking commercial publishers and record companies recognise that they can make the process of selecting authors, or musical acts, for investment considerably more objective than it has been in the past.

2.4 How IP is challenged and enforced

2.4.1 Affordable dispute resolution

There is an urgent need for a cost-effective regime to handle copyright disputes. As the knowledge economy grows, intellectual property becomes a factor of production in more and more small and medium sized enterprises, for whom the cost of proceedings in the High Court is wholly disproportionate. These costs mean that copyright justice is denied to many SMEs.

2.4.2 Affordable legal advice

In the legal profession, intellectual property remains a specialist discipline in which services are offered only by high-cost City firms. Basic IP law should, in the knowledge economy, be a requirement for qualification for all practitioners, and affordable advice on IP matters should be provided by all high-street solicitors with any level of commercial practice.

3 Specific Issues

3.1 Current term of protection for sound recordings and performers' rights

It has been widely, and incorrectly, reported that works from a key period in the history of popular music, the 1960s, will shortly fall out of copyright. The musical works concerned will remain in copyright for some time to come; however, the rights in the sound recordings and the performances concerned will indeed expire shortly.

The term of protection for these rights, considered to be neighbouring rights in most European jurisdictions, was harmonised upwards to 50 years from publication or production across the European Union in 1993. Any extension must be made at the European level and will require the support of other Member States, many of which, until implementation of the 1993 Term Extension Directive, provided for far shorter terms, typically the Rome Convention's 20 year minimum.

The rationale for harmonisation was the creation of the Single Market; the rationale for upwards harmonisation (which resulted in the term of copyright proper being harmonised upwards to the level of 70 years *post mortem auctoris* (pma) then extant in Germany) was the Treaty of Rome's prohibition against uncompensated sequestration of property. *Neither rationale is applicable to term extension of sound recordings or performers' rights.*

3.1.1 Extending the term of existing sound recordings

At present, the main driver for extension of the sound recording right comes from commercial organisations having interests in maintaining monopoly rents in established profitable productions for longer. *No public interest is served by extending the term of existing rights.*

3.1.2 Transatlantic (and global) harmonisation

US copyright law treats sound recordings (“phonorecords”) as full copyright works and affords them the full term of 70 years pma. The term of US copyright was harmonised to the EU term of 70 years pma in 1999. In an age of digital downloads which know no national boundaries, there is a case for *globally-uniform* copyright terms. However, the proposed change will not result in transatlantic harmonisation because of the different way in which US copyright treats works produced in the course of the author’s employment (“works made for hire”), which includes most sound recordings. In the EU, the term for such works is still 70 years pma and the author’s employer is considered either the first owner or an exclusive licensee, whereas in the USA the employer is considered the author *ab initio*, and the term is fixed at 95 years from creation. Unless all aspects of term are harmonised, (as they are within the EU), transatlantic “harmonisation” will merely create another opportunity for copyright owners to press for “leapfrog” term extension, leading to the spectre of perpetual copyright.

The appropriate forum for global harmonisation is WIPO; bilateral EU-US half-hearted harmonisation (without reference to the rules of subsistence and authorship) undermines the authority of WIPO. There is, however, a case for the Berne and Rome conventions to specify both minimum *and maximum* copyright terms, in the interests of a uniform global environment for trade in creative content.

3.1.3 Extending the term for performers’ rights

The case for an extension of performers’ rights is, arguably, slightly stronger, since these rights are generally retained by the performers themselves. It can, however, only be made in terms of redressing an existing injustice, and has no merit as an incentive to further productions and performances.

3.1.4 Term extension as an incentive to production

The argument that term extension provides a stronger incentive for new productions is specious. The present value of an additional twenty years of unpredictable cash-flow fifty years in the future is, for almost all scenarios and discount rates, vanishingly small and would in no conceivable commercial case affect a production decision.

3.1.5 Redressing an injustice

The sole argument for extension that has any merit is to recognise that sound recordings and performances are creative works which should be treated in the same way as literary, musical, dramatic and artistic works. If this is to be the case, the creative hurdle should be set significantly higher than mere fixation. It is true that a sound recording of a performance may involve substantial creative input from the producer; similarly, it is evident that a musical performance of any quality is very far from being a mere mechanical repetition of a pre-existing work.

A consequence of this analysis is that the producer of a sound recording should have inalienable moral rights in the recording, as should performers in their performances. It

would be wrong, inequitable, and merely extend unjustifiable monopoly rents to the detriment of the public, to extend the term of existing sound recordings owned by commercial organisations without giving due recognition to the moral rights of the creative individual who created the work.

3.2 Copyright – licensing of public performances

Collective management organisations which administer the public performance right in music typically take either an assignment or an exclusive licence of the performance right from their composer and publisher members.

This exclusivity is wrong. Such organisations (indeed, all collective management organisations) should take only a non-exclusive licence from their members. Most of the competition abuses perpetrated by collective management organisations, which have resulted in a number of references to the competition authorities over the years, could not have taken place had they operated on a non-exclusive basis.

3.2.1 Enforcement and status to sue

However, an impediment to change remains in the form of the Government's failure fully to implement Article 4 of the European Union's Enforcement Directive. Under the current law, collective management organisations which take an assignment or an exclusive licence thereby acquire the *locus standi* to institute proceedings for infringement, giving them a valuable enforcement tool which would not be available if they took only a non-exclusive licence from their members. Full implementation of Article 4 of the Enforcement Directive, would empower collective management organisations operating on non-exclusive mandates to sue the promoters of unlicensed public performances. A licence obtained by an alternative – and competing - route would be an overriding defence.

3.3 Copyright – digital rights management

I have long had an interest in digital rights management, since before it was known as such. In 2000, I produced a paper "Principles of Digital Rights Management" which was circulated to my clients; this (although no longer fully current) is attached in evidence.

Current DRM technology is unsatisfactory at a number of levels.

- It is predicated on a relationship of distrust between rightsholders and their customers, the paying public including music-lovers and readers. This distrust is, in the long term, deeply harmful to the industry. Copy-protection systems such as the MediaMaxx and XCP systems deployed by SonyBMG on CDs released in the USA in 2005 installed potentially-harmful software on users' PCs without their consent, exacerbating the distrust. It is to be hoped that that event marks the nadir of the distrust problem, to which both consumers and record-companies have contributed.
- The lack of interoperability between systems creates exclusive non-compatible channels. A user who purchases the right to use a musical work loses that right if, for some reason, he chooses to change the platform on which it plays. This perpetuates unreasonable monopolies in the underlying platform. The recent decision of the French legislature to require interoperability is wholly to be applauded, and should be adopted across the EU.
- Its restrictive nature limits the extent to which protected works can be used creatively using cut-and-paste methods such as sampling to create new works, and therefore limits the potential of the creative citizen.

3.3.1 Trust-based, permissive DRM

In order to promote user-acceptance of DRM, rightsholders need to present it as a tool to help user compliance with a fair law, rather than an obstacle to doing what they may reasonably wish to do. In many cases “what they reasonably wish to do” includes acts – such as copying works from audio compact discs to computer hard drives – which are technically infringements of copyright, but which have little or no adverse impact on the copyright holder. DRM should be permissive rather than restrictive, and thus recast it is also considerably easier to implement.

3.4 Coherence between Competition Policy and IP policy

Intellectual property rights, including copyright, confer limited monopoly rights and therefore have implications for competition.

3.4.1 Presumption against exclusive licensing

Much of the competition mischief arising from IP law stems from the use of exclusive licences. Such licences do have their place, for example when they are used to secure substantial investment in a specific work by a publisher. They should, however, be the exception rather than the rule, and the competition authorities should be required to approve all uses of exclusive IP licences, either by a general exception for a certain class of case (such as publishing agreements) or on a case-by-case basis.

3.4.2 Interfaces and Interoperability

In 2.1.1 above I advocate that publication of the source code of published computer programs should be a condition for the award of copyright. This is probably too radical a step to be politically-achievable. It is more important that the specification of interoperable interfaces should be published. The Software Directive authorises reverse engineering of interoperable interfaces; in its current dispute with Microsoft, the European Commission has recognised that this is not sufficient protection.

Since the introduction of unregistered design right in 1988, following the industrial logic if not the legal reasoning behind the House of Lords’ decision in *British Leyland plc vs Armstrong Patents*, UK law has recognised that interfaces have considerable potential for monopoly abuse. Unregistered design right contains an exception for so-called must-fit and must-match aspects of a design.

In today’s economy, computer programs are potentially more significant than industrial designs, and the must-fit and must-match principles need to be incorporated into the software economy. Whereas the must-fit and must-match elements of a design can be deduced from simple examination, software is far more complex and deduction of the must-fit and must-match elements by reverse engineering (as envisaged in the Software Directive) is frequently too costly. In the absence of mandatory publication of the entire source code, publication of the technical specifications of interoperable interfaces should be mandatory. A relevant example of an interoperable interface is a word-processor document format: the *de facto* dominance of Microsoft’s Office product means that the Word’97/XP/2000 “.doc” format is a *de facto* business standard, yet the specifications are confidential and proprietary to Microsoft – thereby helping it to maintain its dominance.

4 Summary of Recommendations

This is a short summary of the recommendations made in this submission:

- in patent law, priority should be determined not by “first-to-file”, or by “first-to-invent”, but by *first to publish*.
- In the case of copyright in computer programs, copyright in the published program should subsist only to the extent that the source code of the program is published.
- Affordable IP dispute resolution should be pursued;
- IP law should be a qualification requirement for the legal profession;
- The term of copyright in sound recordings should not be extended;
- Collective management organisations should operate non-exclusively;
- Non-exclusive collective management organisations should have the right to sue;
- DRM systems should be interoperable;
- The specification for interoperable interfaces should be published.

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1 Introduction

This paper sets out to give a broad overview of the principles of digital right management. It starts with a generic description of the technology used in DRM, and then proceeds to set out a broad set of principles which should govern the adoption of the technology.

1.1 Terminology

1.1.1 Digital Rights Management (DRM)

This is taken to include all methods to protect digital rights, whether online or offline, both active and passive. Most of the paper however assumes the use of active DRM technology.

1. Active DRM

Active DRM uses computational techniques actively to lock and unlock content. The distributed data must be processed by a client application, usually using a cryptographic key, before it can be accessed.

2. Passive DRM

Passive DRM techniques interfere with the data or its carrier so as to prevent or impede copying. The distributed data does not require further processing but may contain embedded data exploiting technical characteristics of the format to degrade the signal when copied, or to interfere with its use on certain types of device.

1 Digital Rights Management System

This is intended to mean the *entire* system for managing the rights, which may include several types of server and client devices.

1.2 The Problem DRM aims to solve

The cost of producing copyright works is considerably more than the cost of buying copyright works. A record sells for say, €20; but the cost of production (studio time, rehearsal, paying the musicians, design, promotion etc) is substantially more: say €200 000. The copyright system, and cheap reproduction, make a business model in which many people each pay a little towards the costs of production (which include a return for the author). This business model has, over history, made huge amounts of creative work available to millions.

If, however, users can avoid paying even their little contribution, those who do pay will end up paying more until it becomes uneconomic to produce the material at all. Therefore, both users and rightsholders benefit from a system which makes it harder to avoid paying.

Digital technology makes it easier than ever before to copy material and to circulate it to many different people. This is generally highly desirable and makes for a more open and progressive society; therefore, DRM must not impede the great benefits accruing from the

1.2.1 DRM is not Privacy Protection

Although (see below) DRM uses many techniques in common with privacy protection systems, it is a different problem.

Privacy protection systems, such as PGP (Pretty Good Privacy), protect data in transit between two people who trust each other, but who do not trust the rest of the world.

DRM aims to protect content in such a way that the intended recipient can access it but cannot copy it or pass it on to anyone else. The intended recipient is therefore *untrusted*. This makes it a substantially more difficult problem than the privacy problem.

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2 DRM and Privacy Technology

This isn't a detailed description of DRM technology. Some of the technical points in this paper may be easier to follow if it is understood that DRM technology uses many of the same techniques used for the protection of privacy. However, as noted above, the DRM problem is not the same as the privacy problem.

2.1 Encryption

The principle technology used is *encryption*. There are two types of encryption, both of which are used in both privacy and DRM software.

2.1.1 Symmetric encryption

The same key is used to encrypt as to decrypt material. This means that both the sender and the recipient must use the same key. Anyone knowing the key can decrypt the content; anyone not knowing the key will be practically unable to do so.

There are many symmetric encryption algorithms (an encryption algorithm is sometimes called a *cipher*). The strength of a cipher is substantially determined by the length of the key used; each additional bit in the key makes it twice as hard to break. Today's symmetric ciphers use 256bit keys; until 1999, the USA forbade the export of algorithms having a key length longer than 40 bits. Breaking 40-bit encryption by brute force still requires hours of fast computing time; 128-bit encryption takes more than 3 followed by 26 noughts times as long.¹

2.1.2 Asymmetric encryption

Keys come in pairs. Material encrypted with one key can only be decrypted with its pair, and vice-versa. This means that material that *can* be decrypted with one of the pair of keys *must* have been encrypted with the other – a property which is used to make digital signatures work.

Asymmetric encryption is computationally-intensive, and uses much longer keys – 1024 bits is common, and 4096-bit keys can be used.

1. Public/Private Key Encryption and PKIs

If asymmetric key pairs are managed so that each pair is associated with an individual, so that one of the keys (the private key) is known only to that individual, and the other key is made public, it is possible to communicate securely without the need for a separate secure channel. A system linking key-pairs with people in a trustworthy way is called a *public key infrastructure*, or PKI.

2.2 Integrity Protection: moral rights.

While the primary DRM problem is concerned with economic rights, to many rightsholders, the moral rights question is almost as important. They do not want their work to be falsely attributed, or to be altered in a way which might be derogatory. A reasonable solution to this problem is inherent in the digital signature algorithms.

2.2.1 How Digital Signatures can Protect Integrity

If the digital version is encrypted using the author's *private key*, anyone who knows their public key (which should be everyone) can decrypt the message; and they know that *it must have been encrypted by the author*. Because there is usually no need to hide the content of published material, and because asymmetric encryption is slow, it is possible to take a shorter approach. Instead of encrypting the whole of the content, a *digest* is encrypted with the public key.

¹Provided that the keys are genuinely random. Ciphers using non-random keys can be broken much, much more quickly.

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The digests are calculated in such a way that any change in the original message will result in an unpredictable change in the digest. The digest algorithm is known and public. To check the authenticity of content, systems first calculate a digest from the content they are verifying. They then decrypt the encrypted digest sent by the author – the “signature block”; and compare it with the digest they have calculated. If the two are the same, then it can be confirmed that the signed content has not changed since the author calculated the digest.

This does not stop people changing content, but it does stop people falsely attributing the alteration to the author, and thus protects the author's moral right of integrity and, potentially, of paternity. Content which has been changed will not validate against the signature.

2.3 Rights Description Languages

Rights description languages are formalised languages which can be understood by a computer and used to describe what can and cannot be done with a work, as well as other rights-related information such as who is authorised to change the rights, who is entitled to any money arising from a particular use, etc. At present, XRML, the extensible Rights Markup Language, is the dominant player in the field; its antecedents were proprietary languages developed by Xerox and others.

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3 Principle 1: Trust and Transparency

By transparency, we mean that the DRM systems must not use underhand means to protect rights. Users must be aware that content they purchase is protected by a DRM system, and what the DRM system is doing. If it records information about them, is charging an account, or making changes to their computer system, it must tell them that it is doing so. If the content they are purchasing will only work in certain circumstances, this must be specified at the time of purchase.

The DRM relationship is inherently about distrust: rightsholders distrust users to respect copyright. Distrust, however, breeds distrust. The DRM system should try to rebuild trust. Copyright compliance is essentially a matter of trust; no DRM system can ultimately prevent copying. Transparency in the rights transactions and in the nature of the restriction will help ensure trust.

3.1 Rationale

The rationale behind this principle is contractual fairness.

3.1.1 Click-through licences

A particular objection is to click-through licences drafted in legalese. These do not provide transparency; rather, they protect the professional indemnity insurance fund of the lawyer who drafted them. Transparency requires that the actual terms of the contract reflect the actual understanding between the user and the rightsholder, and if each party to the transaction has a different understanding, then the transparency requirement is not met.

3.1.2 Spyware

The use of spyware - programs which report back information about the user, or his machine, to a third party, without the user's consent, will destroy trust. Included in this category are "ad-bots" which report the user's browsing habits in order to provide more appropriate advertising. DRM should not use spyware.

3.2 Technological feasibility

3.2.1 Popups and dialogue boxes

Many of the appropriate warnings can be integrated into the system as popups and dialogue boxes. Good interface design will achieve a balance between conveying the right information and being excessively irritating to the user.

3.2.2 Open Source Software

Users will be better able to trust that a piece of software is not acting as, for example, "spyware", if the source code to the software is available. Encryption software is more trustworthy if it is open-source: there is "no security in obscurity".

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4 Principle 2: Protection of Privacy

DRM systems should not merely comply with the data protection principles laid down by law, but also be designed actively to protect the users' privacy.

4.1 Rationale

Rightsholders care passionately about freedom of expression. An absolute and fundamental counterpart to freedom expression is the right to read anonymously. DRM systems will be deployed in countries where neither freedom can be guaranteed. It is, therefore, insufficient to rely on domestic data-protection laws. These will, in themselves, not protect a reader from unlawful use of their personal information, including information on the content they have just read. It is just as important that a DRM system should manage this right, as the intellectual property rights which are its primary concern.

4.2 Technical feasibility

A system architecture which separates the authentication, transaction and authorisation servers can preserve anonymity. This should be a fundamental requirement of system design.

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5 Principle 3: Interoperability

DRM systems provided by different manufacturers should be able to interoperate.

5.1 Rationale

In the absence of interoperability, the technology will tend to impose vertically-integrated information markets with consequent competitive disadvantages for both users and rightsholders. Suppose there are two non-interoperable DRM systems on the market, say DRM A and DRM B. In order to access the content protected by DRM A, the user must obtain and install the corresponding client application, obtain the necessary authentication keys for DRM A etc. If the systems are not interoperable, the user must then do the same for system B. Rightsholders will tend to prefer to sell their material through the system which has the highest market share; the process of obtaining new authentication keys and setting up the system presents a further hurdle – in effect, a price.

5.2 Technical feasibility

To ensure interoperability, the relevant APIs (application programming interfaces) must be public and open, so developers can produce programs which interoperate. This requirement goes somewhat further than the software directive; it must be possible to use the information to produce competing as well as compatible software.

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6 Principle 4: Reasonably available to all rightsholders

There should be no significant barriers to entry; rightsholders should be able to obtain the benefit of protection using DRM without incurring prohibitive costs.

6.1 Rationale

Copyright itself is a universal right; there are no barriers to obtaining copyright protection. If, as it is claimed, DRM is essential for the proper functioning of the copyright system in the digital environment, it should be available with no significant barriers to entry, just as copyright protection is available.

6.2 Technical Feasibility

Mandatory interoperability will help produce this result. If the application programming interfaces are published, it will be possible for developers to produce competing implementations of DRM systems. The competition will help drive down prices, and free and open-source implementations may well be produced.

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Author:Edward Barrow

Date:

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7 Principle 5: Respect for Exceptions

DRM systems should be able to accommodate exceptions to copyright law, including both exceptions such as private use and fair dealing and those which relate to fundamental rights.

7.1 Rationale

One view is that exceptions can be overridden by contract: that is, the parties can agree that a particular exception does not apply. In this view, therefore, there is no need to accommodate exceptions in the DRM system. However, some exceptions (such as those giving access to the disabled, and those for the purposes of the administration of justice) should be inalienable. There is a legitimate debate as to whether exceptions such as private use should be inalienable.

The DRM system should be able to provide for the circumstances .

7.2 Support for exceptions not at the expense of flexibility

One of the positive features of DRM systems for users is that they may enable new and more interesting business models. Too strong an insistence on rights under an exception may undermine this. Consider the following two examples

7.2.1 Limited Time licences

It is possible that rightsholders might choose to offer trial versions of products either free or at a much lower price, but time limited. A 'private use' right authorising the making of a copy for private use could completely undermine this model; the user could simply make a private use copy during the time the original was left open.

However, this might be acceptable if the private use copy were also to expire at the time the original expired.

7.2.2 Limited Platform licences

Music-lovers currently buy Cds with certain expectations; in some cases, the expectations are supported by national private copying legislation. It is now considered by most users (regardless of the legislation) that they somehow have the right to make copies into other formats, such as tape, mini-disc or mp3, for use in a personal stereo or in a car, for example². Some also consider that they have the right to make copies and distribute them to their friends. Whether legally supportable or not, it is on the basis of this perhaps mistaken understanding that users are currently prepared to pay the going rate for music sold on CD. However, they might be prepared to pay substantially less for a version which would play only on a specified MP3 player. This lower-cost version could expand the market significantly without substituting to too great an extent for the full-price product.

Provided this limitation were made clear at the time of purchase, (see Principle 1 above), the user would have no reasonable expectation of any private copying right.

7.3 Overriding exceptions

Exceptions intended to preserve fundamental rights and freedoms should always override:

7.3.1 Access for people with a disability

See Principle 4 below

²In the USA, the American Home Recording Act gives this right for analogue formats; in much of continental Europe, private copying legislation permits it. But it is not a universal right; there is no private copying right in the UK for example (other than for timeshifting of broadcasts).

Client:General

Author:Edward Barrow

Date:

Version:

Status:

Circulation:

7.3.2 Preservation of the public domain

It is generally desirable that material, once published, should remain publicly accessible. National archives attempt to preserve everything that has been published for the benefit of future scholars. A DRM system might, at least theoretically, result in content being lost to such future scholars. This requirement lies behind the first sale doctrine, or in Europe, exhaustion of the distribution right. Copyright does not give the rightsholder the right to withdraw material once in circulation. The exhaustion doctrine will not work in an online environment; the DRM system should include a mechanism to provide for perpetual archival access of the content.

7.3.3 Preservation of freedom of expression

The right to quote for criticism or review, or for caricature or parody, should remain. DRMs however might restrict the use of the technology for this – cut and paste – and require the user to copy or quote by hand. However, if possible they should assist this use, in able to exploit the positive benefits of the technology for freedom of expression.

7.3.4 Administration of Justice

Copyright should not override the requirements of the courts for copies of protected content as evidence which should be made available to all parties to the action.

7.4 Technical feasibility

Some of these requirements may present difficulties. DRM systems cannot be expected to make subjective assessments of the nature or purpose of the copying.

7.4.1 “private use”

Transparent limitations on private use are technically feasible; more difficult are limitations to a range of machines. The concept of a “personal domain” within which use is permissible would require linking of each device to a domain, for example storing a domain key.

7.4.2 Disabled access

Alternative provision could be made. For a technical discussion, see below.

7.4.3 Perpetual archival access

Key escrow or additional decryption key mechanisms could provide for perpetual archival access. Note that the objections to key escrow in the case of encryption for privacy do not apply in the case of encryption for DRM purposes.

7.4.4 Freedom of Expression

It may be possible, and will frequently be desirable, for *limited* cut-and-paste to be enabled. DRMs might restrict cut and paste to a certain number of words, a certain period of music, or perhaps a certain level of detail (for example, permit music to be cut and pasted at a lower sampling rate, and thus lower quality, than the original; or permit lower-resolution clips from images).

Client:General

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Date:

Version:

Status:

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8 Principle 6: Enable Access

DRM systems should support the development of universally-accessible digital formats.

8.1 Rationale

People with disabilities have been denied access to much of our culture for many years. Converting books, for example, into formats accessible to blind people is slow and costly, and has in the past been plagued by copyright problems.

Some digital formats are potentially universally-accessible: the digital document can be rendered in any way required, as text on screen (or paper); as Braille; or as synthetic speech.

Visually-impaired people, and those representing them, are anxious to exploit the potential of new technologies to enable them to access content, and the culture it contains, on an equal footing with their sighted fellow-citizens. It would be a retrograde step if DRM technologies were to prevent this

8.2 Technical Feasibility

The distinction between the content and its presentation is inherent in formats based on xml, the emerging open-standard for handling data of all types. Current web design standards, using the latest versions of xhtml, require designers to separate the semantic from the presentational elements of their content; visual attributes, such as font, colour, etc, are held in a separate style-sheet document. Applying a different stylesheet to the same content can present it in a more accessible manner. Separate styleheets can be prepared to suit the reader's disability, for example, showing it in a large clear font; or via a Braille display, or using speech-synthesis. The W3C standard "CSS2" for cascading style sheets provides a syntax allowing speech synthesis attributes to be specified in the same way as text attributes are specified.

With separation of content and presentation, it is simply a matter of ensuring that the protection is also applied separately. That is, the content is protected, and the presentation (contained in a style-sheet document) can also be protected, but it should be possible to access the semantic content without passing through the presentation layer.

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