

Copyright Act update & maximising copyright protection

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Suitability of existing laws for protection of computer software

Currently, computer software is protected principally by the *Copyright Act 1968*. In addition, the *Patents Act 1990* and the *Circuit Layouts Act 1989* are relevant in some, fairly limited, circumstances. Until recently, copyright law was being challenged as the most suitable form of protection for computer software by those in favour of a *sui generis* regime - tailored to "fit" computer software as well as possible. However, the Copyright Law Review Committee ("CLRC") and many commentators (with some notable exceptions) now suggest that our international treaty obligations compel us to stretch, manipulate and torture our copyright laws to "fit" computer software.

The question appears not to be whether copyright is the most suitable form of protection but rather, how can we patch-up, or "beef-up", copyright law so that its up to the formidable task of balancing the interests of the creators, the innovators, the investors and the users?

Unfortunately, there are more questions than answers. Many of the questions involve some tough policy considerations which fundamentally revolve around how best to encourage innovation and creativity, bearing in mind the often substantial monetary investment involved, while still enabling unfettered access to ideas.

***Sui generis* protection**

It is worth noting that computer software can be embodied in various media: the same software encoded in a hard drive could equally be represented in a floppy disk, a CD-Rom, an EPROM or an integrated circuit. The form of embodiment is dictated by commercial and technical

considerations, for instance, the speed and ease of processing required. Computer software is treated differently if it is embodied in an integrated circuit which is eligible for protection under the *Circuit Layouts Act*, rather than in say a CD-Rom protected under the *Copyright Act*.

Different treatment exists in such areas as the duration of protection and the provisions relating to reverse engineering and parallel importation, one has to wonder whether such discrimination is either desirable or beneficial on commercial or policy grounds. Perhaps the very fact of the existing discrimination is an indication that computer software, regardless of the physical form it takes, is eminently suited to some form of *sui generis* protection.

Deficiencies in copyright law

If copyright protection of computer programs is what we must have, what are some of the problems that currently exist?

First and foremost, and at a very general level, is the lack of clarity and certainty in the existing law. The CLRC concluded that treating computer programs as literary works under copyright law "does not appear to give rise to any matter of serious contention, at least in the industry" and that "there is a substantial body of case law relating to works which can appropriately be applied to resolve issues relating to computer programs". That is quite a claim to make. In responding to it I am indebted to Professor Peter Thorne of the University of Melbourne; a senior and highly respected academic and an active participant in the computer industry.

Professor Thorne has given expert testimony in just about every major

software litigation in this country, and recently delivered a paper about copyright and the protection of computer software. As an industry participant, Professor Thorne knows that the law must set clear guidelines for computer professionals, and software owners and users, so that everyone involved knows what they can and cannot do. Uncertainties, grey areas in the law, and the ever present threat of litigation must work as a disincentive to innovation. The CLRC appears to credit the law relating to software with an air of "adaptability" which I query as to whether it really does possess.

Unfortunately, as the courts have wrestled with the technology in the context of the *Copyright Act* over the past decade or so, we have seen the grey areas in the law expanding and the black and white areas contracting.

For instance, who knows the difference, with any measure of certainty, between hardware and software in the marginal areas, for example, firmware? As noted earlier (in relation to the *Circuit Layouts Act* discrimination) at the function and design level hardware and software are to a large extent interchangeable. The courts have obviously had some problems with this concept - the *Autodesk* case is a prime example of this confusion.

And what about the difference between a computer program and data? Intrinsically, there is no difference. A program is merely data with a particular role to play, that is, to instruct the hardware how to process other information or data. And as a result of the *Autodesk* case, a single data item may be protected by copyright if it inter-operates with a program. So where do we draw the line between data which, per se, is not

entitled to copyright protection and that which is?

There are still further areas of confusion that appear to be blurring the boundaries of copyright law, for instance, to what extent does the law now protect the "function" of computer software - as opposed to its form?

In conclusion, whether copyright is the appropriate form of protection for computer programs is now largely an academic question. However, the existing laws are clearly in need of reform if they are to cope with the complexities and subtleties of computer software.

Current proposals for reform

In its final report on the protection of computer software, the CLRC made a number of recommendations. Its terms of reference were whether the *Copyright Act*, as amended by the *Copyright Amendment Act 1984*, adequately and appropriately protects computer programs, works created by or with the assistance of computer programs, and works stored in computer memory. As previously noted, the question of the "appropriateness" of copyright law in this context was not, in the long run, an issue for the CLRC due to the obligations superimposed by international treaties (outlined later in this paper).

Some of the more interesting proposals included allowing decompilation of computer programs to achieve interoperability; this would bring Australia into line with international trends. Moral rights for authors of computer programs was also touted as likely, despite the CLRC's earlier recommendations in its draft report.

The former Labor government released a draft Copyright Amendment Bill, prior to calling the federal election. The amendments proposed by that Bill included:

- extending protection to computer-generated material (discussed more fully below);

- recognition of the moral rights of authors of copyright works - broadly speaking, giving authors the continuing right to control use of their material, even after assigning the economic rights in that material;

- a new, technology neutral "transmission" right - which was intended to protect the rights of commercial television broadcasters - but which may of course have a much wider impact, especially with the recent and phenomenal growth of on-line, digital communications; and

- establishing that the parallel importation of non-counterfeit goods, and distribution of those goods in Australia, would not infringe the copyright in the labelling and packaging of the goods.

However, the Bill lapsed with the calling of the election. We must now look to the coalition government's policy, formulated and released prior to the election while it was still in opposition. The then opposition policy proposed a legislative scheme which included the following:

- moral rights for creators, with a particular emphasis on protection of both the economic and moral rights of indigenous artists;
- enhancement of performer's rights; and
- the inclusion of a transmission right for commercial television broadcasters.

Change of policy?

The really interesting question now of course is whether the policies of the coalition in opposition remain the policies of the coalition in government. And if the policy has changed, in what way? The latest information available from the Department of International Trade Law and Intellectual Property in Canberra is that a Copyright Amendment Bill will be introduced into parliament fairly soon, probably in the Budget session. According to a senior spokesperson at the

Department, the Bill will be largely based on the previous government's Bill, although there will be "minor" differences in reforms relating to the transmission of broadcasts, rights in sound recordings and journalist's copyright.

However, we are yet to see the coalition government's reform proposals embodied in draft legislation. The nature and extent of those reforms therefore remains mere speculation.

Ownership of copyright in computer generated works

The CLRC recently examined the question of whether material generated using computer technology is deserving of copyright protection - and if so, who can rightly be called the author or owner of such material?

A considerable amount of copyrightable material is now being produced using computer technology in some way or other. Consider, for example, the now commonplace use of things like computer aided design packages by architects and engineers. And of course, there are many expert systems packages in use in various fields. At a more general level, how many literary works would now be written without the aid of a word processor? Not many.

Authorship and originality

The available technology has now reached such a level of sophistication that human authorship is clearly minimal, and even absent altogether, in some cases. Now this presents something of a problem, because human authorship is the touchstone of both subsistence and ownership of copyright in "works" under the *Copyright Act*. The Act confers copyright protection on only those "works" created by "qualified persons" - and a "qualified person" must be, by definition, a natural person.

In other words, the problem is that some material which would clearly constitute a protectable "work" had it been created by a human author is

now generated solely or predominantly by a computer program - and a computer is not a natural person.

The CLRC recognised that while it is tempting to tar all material generated by computer technology with the same brush, it is possible (and in fact necessary), to draw a clear distinction between materials created with the assistance of computer programs and those generated by computer programs in circumstances where there is no identifiable human author.

In the case of material in the former category - that is, materials created with the assistance of computer programs - we can perhaps include:

- literary works written with the assistance of a word-processing package;
- musical scores composed with the aid of specialist software; and
- artistic works such as design drawings and advertising logos and graphics drawn with the assistance of art and design software packages.

Taking a common sense approach it's pretty easy to conclude that, in this context at least, the computer and the relevant software are simply tools used by the creators of the material - just as pens, paintbrushes and slide rules are tools used in creating other protectable works.

Looked at in this way, we can see that a computer and software together (that is, a programmed computer) is the tool manipulated by a human author for the purpose of creating a work. It follows from that analysis that material created with the assistance of computer programs can properly be the subject of copyright protection according to the existing provisions of the *Copyright Act*.

By contrast, material that is generated by computer programs, in circumstances where it is not possible to say that a programmed computer is the mere tool of a human author, must be considered on a different footing. The CLRC calls this sort of material "computer generated

material" (as opposed to material generated with the aid of computer programs). What is in issue here is whether the computer **output** can properly be said to be the result of the skill and labour of any human author.

In other words, computer generated material presents us with 2 problems in analysing whether such material is copyrightable: firstly, the human authorship problem and second, is such material "original". In other words, even if we could identify a human author, would the computer's output be a product of that author's labour?

Take for example:

- images of geological formations automatically downloaded or printed out in hard copy - produced from data collected automatically by remote sensors on satellites and automatically processed by specialised computer programs; or
- a report generated by an "expert system" - which really is in effect a database of the relevant expert knowledge coupled with a problem solving program. Such systems can be used in say, the legal and medical fields. Facts are entered by the user - the problem solving program enables the expert system to apply the specialist knowledge contained in the database to solve the problem posed by the user's facts. The human involvement in the resulting output - the expert system report - is limited to the inputting of facts, which is in turn determined by the circumstances in which the expert system is used rather than by any exercise of skill or judgment on the part of the human actor.

The compiler of the database and the author of the problem solving program cannot be regarded as the authors of the expert report - because the output will be determined in each case by the facts entered by the user.

Given that some computer generated material lacks a human author, it is hard to imagine how such material

could be protected as "works" under the provisions of the *Copyright Act*. However, the CLRC in its earlier draft report suggested that such material could be classified as "works" if the Act was amended to embrace the notion that an "author" could be something other than a human.

In its final report the CLRC accepts that, in addition to the human authorship obstacle, the requirement of originality might not be satisfied in the case of computer generated material - which makes computer generated material doubly difficult to cope with. And, taking a global, comparative perspective, the CLRC admitted that the worldwide protection afforded to material in the category of "works" is fundamentally premised upon the twin notions of human authorship and originality. In the long run, and after considering submissions on the issue, the CLRC was of the view that computer generated works should not be brought within the category of "works" under the provisions of the *Copyright Act*.

New category of "computer generated material"

So what do we do with computer generated works - do we give them copyright protection at all? If so, how?

The CLRC has recommended that computer generated material be protected as "subject matter other than works" by amending the *Copyright Act* to include a new class of subject matter to be described, not surprisingly, as "computer generated material".

The rationale for the CLRC's recommendation is that, just as other subject matters have been given copyright protection in response to the emergence of specific technologies (for example, sound recordings and broadcast rights) which do not involve the input of human skill and labour, so too protection should be extended to computer generated material.

Of course, the CLRC's recommendation involves adding another technology specific set of rights to the *Copyright Act*. One has to wonder whether this might not be

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a short-sighted or "band-aid" approach - given the current digital revolution. In other words, should we be adding new subject specific copyrights at a time when digital technology is effectively collapsing the distinctions which currently exist in the *Copyright Act*; distinctions which are based primarily on the way in which the relevant subject matter is "fixed" and delivered to users. Additionally, international treaties and conventions do not apply as widely to subject matter other than works when compared to actual "works" as defined.

Ownership

And what about ownership of material within the proposed new category of subject matter - computer generated material? Who should be the first owner when there is no human author to consider? In line with other categories under the Act, the CLRC suggests that the investor or the owner of the computer or computer program should be the owner, or in some cases joint owners, of any copyright generated by its use.

To achieve this, the CLRC has recommended that the Act be amended so that, in the case of computer generated material, the author is taken to be the person who makes the arrangements necessary for the creation of the material. This is a similar treatment of authorship that exists in the case of films and sound recordings.

It's also worth noting that the CLRC has recommended limiting protection of computer generated material to 25 years. This reflects the fact that the object of protection is financial rather than creative investment.

Copyright and the Internet

Some statistics suggest that there are approximately 40 million Internet users worldwide at present with a growth rate estimated at around 10% per month. Many Australian businesses have placed information on the Net. Copyright law, as it applies to that information, can provide substantial protection, but the

enforcement of the *Copyright Act* against Internet "pirates" can be difficult in practice.

Protection of material a business has placed on the Internet

The owners of copyright in "works" (i.e. literary works (including computer programs) and dramatic, musical and artistic works) have the exclusive right to:

- reproduce the works in material form;
- publish the works;
- broadcast the works; and
- transmit the works to subscribers to diffusion services.

Owners of copyright in works other than artistic works also have the exclusive right to:

- perform the works in public; and
- make adaptations of the works.

Owners of copyright in other subject matter such as films, sound recordings and television broadcasts, have the exclusive right (amongst other exclusive rights) to make copies or reproductions of their material.

Typically, an Internet user may infringe the copyright in material placed on the Internet by, without the authority of the copyright owner:

- copying text, audio or images onto a hard disk by downloading the material from the Internet; or
- downloading material then copying it for sale or distribution to others on-line or in hard copy.

However, either of these types of infringement may be uncommon, since generally speaking businesses will only make material publicly available on the Internet precisely because they wish the information to be copied and disseminated freely.

The global, instantaneous nature of Internet communications may make it difficult, if not practically impossible, to identify specific infringements and infringers of copyright. Various technical devices

and strategies may be employed by Internet users to prevent their on-line activities being traced back to their terminals and therefore to themselves.

The most positive steps a business can take to try to prevent infringement of copyright in material it places on the Internet (for instance, material it places on its home page) are:

- to clearly identify its material on-screen with a copyright notice - for example, it may be desirable to place on every screen of a home page the notice: "© Copyright 1996 Bloggs Pty Ltd" (As a short aside, a business which engages a consultant to set up an Internet site for the business should always put in place a contract which specifies that all copyright in the site and in the materials supplied to the consultant for the purpose of establishing the site belongs to the business.); and
- to state clearly the purpose for which any material that can be downloaded from its Internet site may be used. For instance, the following words might be used: "Click here to download a demo version of our software. You may only use this demo version for your own personal, non-business purposes and must not copy it."

But even if these protective measures are taken, the business still faces the fact that an individual Internet user who infringes its copyright will typically be very hard to identify, and even if identified, rarely worth taking legal action against because he or she has few assets or is outside Australia.

The question that arises, then, is whether a business which knows of a copyright infringement by a particular Internet user may pursue the user's Internet service provider, which at least is likely to have more assets than the typical Internet user.

Liability of service providers for authorising copyright infringement

An Internet service provider will be liable for infringement of copyright if it can be said to have authorised an

act in infringement of copyright.

In the 1975 case of *University of New South Wales v Moorehouse*, the High Court of Australia held that photocopying, in breach of copyright, on machines installed in a university library constituted acts of infringement "authorised" by the University. The university was said to have authorised acts of infringement because of the clear likelihood of copyright being breached and the failure by the University to take adequate steps to prevent this. The Act was subsequently amended in 1980 to remove liability for libraries which provide photocopying facilities with appropriate warning notices placed near the machines.

However, even in light of that case, it would seem very difficult to argue in 1996 that an Internet service provider in any sense "authorises" copyright infringement, since in practical terms the service provider can do very little to monitor the flow of information which passes through its computer equipment.

Nevertheless, Australian businesses might find some comfort in recent US court decisions which have held Internet bulletin board operators liable for "contributory infringement", when material was placed on the bulletin boards in breach of copyright (even, in one case, when the bulletin board operator had no knowledge that the material had been posted).

Conclusion

The reality faced by Australian businesses which place material on the Internet is that copyright infringement involving the Net is usually very hard to detect and often happens overseas. There are very few practical precautions a business can take, other than marking its material with appropriate warnings and stipulations.

Of course, the best precaution is not to make publicly available on the Net any information the business does not want copied.

Australia's obligations under international treaties

The internationalisation of copyright piracy has brought an international response both in the traditional forums for debate and determination of intellectual property issues and, more recently, in the context of international trade law. Following a long and conspicuous absence, intellectual property rights and issues have now risen to unprecedented prominence in the international trade law arena, demanding the attention and adherence of both the developed and developing countries.

Copyright Law Review Committee

The two major sources of the reform proposals discussed above are:

- the Berne Convention for the Protection of Literary and Artistic Works ("**the Berne Convention**"), to which Australia is a signatory; and
- the Agreement on Trade Related Aspects of Intellectual Property Rights ("**the TRIPS Agreement**"), which is one of a package of agreements signed in April 1994 by 115 members of the General Agreement on Tariffs and Trade ("**the GATT**"), including Australia.

The Berne Convention

Through a history of intense debate and revision, the Berne Convention has progressively extended to deal with emerging technologies, reproduction techniques, including the radical impact of digitisation, broadcasting, cinematography and moral rights.

The World Intellectual Property Organisation ("**WIPO**") has traditionally been the forum in which the principles of international intellectual property law have been debated and formulated and it is the organisation responsible for the administration of the Berne Convention. While WIPO and the Berne Convention have been very important in the development of

international copyright law, WIPO lacks the force and immediacy demanded in the multibillion dollar, multinational technology industry because of the sheer scale and nature of WIPO, an international body which requires consensus and compromise amongst member states as disparate as Taiwan and the United States in order to formulate and implement reform proposals.

A major obstacle in combating piracy on both the national and international front is the speed with which technology changes. Each new development brings a new (and generally more effective) technique for copyright piracy which will often maintain the quality of the copyright work and allow for instantaneous electronic delivery of the pirate work. Traditional international intellectual property bodies and treaties inevitably struggle to keep pace with technological innovation. The capacity for WIPO and the Berne Convention to effectively combat copyright piracy has therefore been brought into question. Such criticism prompted WIPO to raise the possibility of a new Protocol to the Berne Convention. However, many consider that the potential Protocol has already been superseded by developments in the GATT.

TRIPS and the new force in international intellectual property law

In 1991, copyright piracy cost the phonogram industry something in the order US\$1.5 billion. The impact of piracy on the Australian music, film and software industry is significant and the improvements in electronic copying and delivery has increased the scope and scale of international copyright piracy dramatically.

The United States now implements trade sanctions against nations deemed by the US government not to adequately or effectively protect intellectual property rights or fair and equitable market access for US persons who relied on intellectual property protection. Other nations in the EEC, and Japan, also flex economic

muscle in order to protect their intellectual property rights, often with positive results. In addition, multinational organisations began intense lobbying, in the late 80s, in relation to copyright piracy. It came as no surprise that intellectual property aspects of international trade were of major importance in the Uruguay round of the GATT, which resulted in the TRIPS Agreement.

Content of the TRIPS Agreement

The TRIPS Agreement imposes obligations on member countries, including Australia, in relation to copyright and related rights. It includes issues relevant to copyright in computer programs and it requires that members comply with certain articles of the Berne Convention (notably, TRIPS does not require moral rights to be included in copyright).

The Berne Convention provides that, in addition to the author's economic rights (that is, copyright), the author retains the right to claim authorship of his or her work (the right of attribution) and the right to object to any distortion, mutilation or modification of, or other derogatory action in relation to such work which would be prejudicial to his or her honour or reputation (the right of integrity). It was principally due to pressure by the United States that the TRIPS Agreement neglected to impose any obligation on member States to implement moral rights. Nevertheless, Australia's new coalition government appears to support moral rights for creators of copyright works.

Ironically, with more member nations than the Berne Convention, the TRIPS Agreement arguably succeeds in applying the principles of the Berne Convention more broadly and effectively than the Berne Convention could ever hope to.

TRIPS and computer programs

Of particular relevance to the issue of the protection of computer programs are:

- computer programs, whether in source or object code, are to be

protected as literary works under the Berne Convention;

- authors of some subject matters (including computer programs) must be given a commercial rental right (this right is now reflected in section 30A *Copyright Act*); and
- member States must enable copyright owners to apply to judicial or administrative authorities to have customs seize or suspend the release of imported counterfeit goods, and to order destruction of such goods in appropriate cases.

Enforcement

In addition to its substantive provisions, TRIPS imposes extensive and detailed obligations in relation to *enforcement* of intellectual property rights, including criminal procedures, civil and administrative procedures and remedies and trade sanctions against nations who do not act to implement their international obligations in domestic legislation, in Australia's case, by 1 January 1996. The Agreement does not go so far, however, as to specify the actual method by which its substantive provisions are to be implemented or enforced.

Potential Impact of the TRIPS Agreement

The procedures for enforcement thus act to give teeth to the Berne Convention. It has been estimated that the long-term effects of the Uruguay round will be an increase in Australia's exports of over \$A5 billion, and an increase in Australia's GDP of around \$A3.7 billion. For example, while the provision in the TRIPS Agreement that computer programs are to be protected as literary works does not require any change to Australian legislation, it will have a dramatic impact on Australian exporters of computer software to newly industrialised or developing countries. The ease and quality of reproduction technology in countries which do not recognise or protect intellectual property currently act as a disincentive to exporters of software.

Furthermore, the protection of intellectual property rights in new technology is critical to organisations considering often expensive research and development projects or the transfer of technology in developing countries. Without the limited monopoly which intellectual property rights confer on the creator or developer of a work, it will often not be commercially viable to invest in the development of new technology. If developing countries want investment by foreign companies and entry into lucrative world markets, they will have to first comply with the requirements of recognition and protection set out in the TRIPS Agreement.

Unfortunately, under the Agreement, 'developing' nations (not defined) are entitled to delay implementation of the provisions of TRIPS for a period of 4 years from the formation of the World Trade Organisation ("WTO"), which is the GATT's successor organisation. That is, 'developing' nations have until the year 2000 to implement these provisions. 'Least developed' nations (not defined) have an extraordinary 10 years to implement the provisions of the TRIPS Agreement. Given that the developing countries are precisely the nations tolerating gross intellectual property rights infringements, and given the rapid growth of the manufacturing and technology industries and the economies in many nations which may arguably come within the concept of 'developing' nations, there are real concerns about the effectiveness of the TRIPS Agreement to attain its stated objectives in the short term.

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