

1997

An Investigation into the Australian Position on Software Copyright

Nicholas Pinakis
Edith Cowan University

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An Investigation Into the Australian Position On Software Copyright



(Microsoft Office, 1994)

Nicholas Pinakis
1997

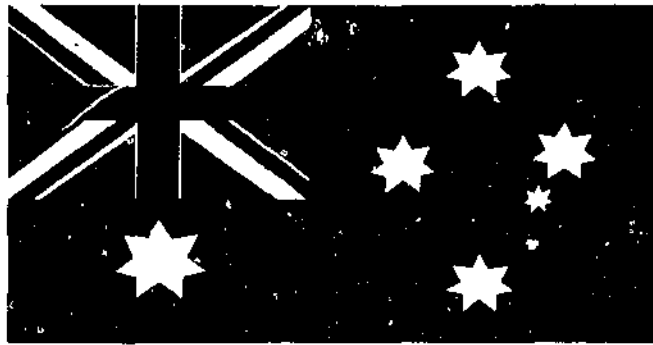
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Disclaimer

This thesis details Australia's current position on Software Copyright as it currently prevails under the governing law statutes. Also provided are the recommendations of the Australian Copyright Law Review Committee (CLRC) for changes to the Australian Copyright Act of 1968 (Cwlth) and the implications of these changes for the protection of software by copyright if adopted into law. It is not intended to render or replace legal advice on individual cases and should not be relied on for that purpose. It details the current position as at November 1997. The views expressed in this thesis apart from those referenced are the sole views of the author and do not represent the views of any other for any other purpose.

An Investigation Into the Australian Position On Software Copyright



(Microsoft Office, 1994)

**By Nicholas Pinakis B.SC.Comp.Sc
1997**

A Thesis Submitted in Partial Fulfilment of the Requirements for the
Award of Bachelor of Science (Computer Science) Honours at the
Computer Science Department Faculty of Science, Technology and
Engineering Edith Cowan University.

Date of Submission: 14th November 1997.

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Abstract

Copyright is the primary means most software authors seek to protect their software. Software, that is work (the ordered expression of thought) put into some tangible form (such as being written down, stored in a computer, programs, data and distributed files) is a truly international product. Where does this copyright protection come from? The current governing laws in Australia are the Australian Copyright Act of 1968 (Cwth) and the Australian Copyright Amendments Act 1984 (Cwth) which afford copyright protection to computer software.

In copyright law, a number of words and terms have specialised meanings, which are different to their meanings in everyday language. These terms are important for determining the scope of copyright law. Including the types of material that are protected by copyright and the types of activities that infringe copyright, they are examined in this thesis.

In Australia, copyright protection is relatively easily, cheap and has been designed so as to be a powerful deterrent to software pirates, in many nations it is completely automatic. Yet independent research conducted by the Business Software Association of Australia (see Chapter 2) estimated that total losses to the software industry from software piracy in Australia in 1992 could have been as high as \$400 million dollars. On this basis alone the clarification of how copyright is applied to afford protection to computer software is a worthy undertaking.

Copyright experts around the world are debating, discussing, conferencing, writing and publishing their views on the direction that copyright law must take to meet the challenges posed by the new modes of communication. The only thing that can be agreed upon is that technology has outpaced the effectiveness of the Australia's Software Copyright Laws. Part of this debate today is not about the need for copyright to cover authors from abuse of their work it is about whether software copyright stretches far enough to protect the rights of the authors. In an Australian context this poses the questions:

- "What is the Australian position on Software Copyright?"
- "What is the Australian position on Software Copyright in the advent of the Information Age?"
- "How effective are these positions?"
- "How will these positions stand up to challenges?"

This thesis, the result of extended descriptive research activity examines these questions in detail. Additionally it considers how the recommendations of the Australian Copyright Law Review Committee for changes to the Australian Copyright Act of 1968 (Cwlth) to afford suitable protection to software and computer programs if enacted in legislation will alter Australia's current position on Software Copyright and impact on the future of the copyright doctrine.

Declaration

"I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text".

.....
Nicholas Pinakis.

27th February 1998.

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Nicholas Pinakis, November 1997.

1. Introduction

Governments around the world including Australia are busy conducting forums and workshops, inviting public opinion and seeking legal advice to clarify the Software Copyright issue. This is exemplified in Australia in lieu of the recent activities of the Australian Copyright Law Review Committee (CLRC) who were commissioned with the task of this clarification. The old "look and feel" question of interpretation for copyright has now been added to by the explosive growth of the Internet. In discussing the purpose of the Internet, Brook (1996, p. 406) asserts its purpose was the free flow of ideas and the creation of a shared pool of knowledge and information. This is in direct contradiction with Australia's Software Copyright Laws, the purpose of which are to protect the rights of copyright holders in the distribution of their work.

Copyright is infringed by the unauthorised copying or adaptation, directly or indirectly, of all or a "substantial part" of a work in any material form (tangible and readable). Adaptation includes translation, which in relation to software, includes a version of a program converted into or out of a computer language or coded into a different computer language or code. The current copyright act of Australia, the Australian Copyright Act of 1968 (Cwlth) provides no definitions of the words "substantial" or "part". Guidance (Sterling & Hart, 1981) to their meaning must be sought from decided cases. Copying involves reproduction of the whole or a "substantial part" of the work.

A program is the set of instructions that directs a computer to perform tasks and produce results in the form of some output. These instructions are statements from one of the numerous programming languages that specify a procedure to carry out a particular function or task. The words "program" and "software" are frequently used synonymously, as will be the case in the course of this thesis.

In Australia the courts are faced with the task of determining the scope of protection available to software under copyright. The narrow scope of direct copying is quite distinguishable and judgement is just a simple matter of direct comparison. Yet the technology of computer software has extended the boundaries of interpretation by the legal system to new limits. New concepts such as "look up tables", "user-interfaces" and "microcode" do not readily adhere to traditional means of comparison for determining if copyright has been infringed. The broad scope of protection (Bainbridge, 1989) for copyright identification and determination extended in relation to software has created a dilemma. Traditional tests for determining alleged copyright infringement for software such as direct comparison have proved difficult to apply consistently. The reason being that the technology of software and computer programs has extended such traditional tests to boundaries they do not encompass.

1.1 Research Objective

The objective of this thesis is to detail the Australian Position on Software Copyright. It is the result of an extensive literature review to research and investigate the subject area. The documented findings of this thesis are intended to serve as a useful reference tool. The aim of this investigation is to produce a document that can be used as a resource by those familiar with the subject and by laypersons for questions that may arise on the Australian Position on Software Copyright. Achievement of this aim is implemented by the logical sequence in which the findings of the research undertaken for this investigation are presented in the body of this document.

1.2 The Background to the Investigation

Copyright is one form of a concept known as intellectual property. Intellectual property describes those novel and useful, often intangible, products of human industry and creative effort which are afforded protection, according to the provisions of statutory or common law. Intellectual property (Western Australian Department of Commerce and Trade, 1996) is defined as:

The rights relating to: literary, artistic and scientific works; performances of performing artists, phonograms and broadcasts; inventions in all fields of human endeavour; scientific discoveries; industrial designs; trade marks; service marks and commercial names and designations; and all other rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields.

(p. 13)

In the computer industry intellectual property is usually information, or other intangible property such as a computer program, an algorithm or form of data. Australian copyright law provides a protection mechanism for Intellectual Property by extending to the author or creator of a work a series of exclusive rights (see Chapter 3.2).

Copyright is used to protect the expression of an idea. There is no copyright protection for an idea itself. This distinction is sometimes hard to understand. McKeough & Blakeney (1992, p. 27) state "you cannot copyright your ideas, you would use a Patent for that". The idea-expression distinction according to McKeough, et al. (1992), is sometimes difficult to draw especially when trying to copyright computer programs as "literary works". In Australia computer programs are currently afforded copyright protection by their classification as "literary works".

Legal action in the courts has ensured this distinction is still one of active debate, as per the outcome of the Autodesk Inc v. Dyason (1992), 174 CLR 330; 22 IPR; 163 case. The circumstances of this case were that in 1993 the Australian High Court put forward the view that the copyright protection afforded to computer programs went beyond the literal code. In this case, White (cited in Austin, 1994, p. 3) states "the High Court thought a look up table was a "substantial part" of a program by its "look and feel", and therefore enjoyed copyright protection". Hence, copying the look up table therefore infringed the author's copyright. This is a decision of some significance as it created a precedent that may be used in subsequent legal actions.

The dilemma of this ruling was that at the time (McKenna, 1991) there was no authority for the proposition that a program's "look and feel" can be the subject of copyright protection within Australia in either

the Australian Copyright Act of 1968 (Cwlth) or the Australian Copyright Amendments Act 1984 (Cwlth), (see Chapter 5.2).

In copyrighting "look and feel" is a delicate issue at the moment. White (cited in Austin 1993, p. 4) comments "there is no clear precedent providing a definite or even helpful answer". Therefore, the issue remains undecided in Australia for the time being at least. In the United States Camabuci & Ives (1993) suggest there is some precedent to suggest that "look and feel" protection exists from legal decisions arising from actions involving "look and feel" flavours in United States legislatures. The example often quoted is the Whelan v. Jaslow Dental Laboratory Inc, 609 F Supp 1307 (ED Pa 1985) Affd 797 F 2d 1222 (3rd Cir 1986) case. It was ruled by the United States Supreme Court that the structure, sequence and organisation of the plaintiff's (Jaslow Dental Laboratory Inc) program was protected by copyright, and that the copyright protection of a program was not limited to the literal code. The program in question was used to aid in the administration of dental laboratories, it ran on large mainframe computers. The defendant (Whelan) had also developed a program with similar functions and screen displays to run on personal computers. The decision of court in the case (Francis, 1992) was reached after an analogy with various cases which held that the copyright in a book or play (works traditionally classified as "literary works") encompassed the arrangement of dramatic incidents.

The court held the defendant's (Whelan) program reproduced the structure, sequence and organisation of the plaintiff's (Jaslow Dental Laboratory) program because there were other ways of structuring programs to perform the function of aiding the business operations of a dental laboratory. It represented a sensible application of the law to the particular circumstances of the case (Francis, 1992).

The position on copyright in Australia is that a work is protected in Australia if it is made by a citizen or resident of Australia, or a country listed in the International Copyright Protection Regulations (ICPR). A work will also be protected if it is first published in Australia or in a country listed in the ICPR (see Chapter 5.1). Current signatory countries to the Berne and Universal Copyright Conventions are an example of the type of information contained in the ICPR database (see Chapter 4).

It is also important to stress that in copyright law the term "original" is used in a different sense than in everyday language. It is a requirement of the Australian Copyright Act of 1968 (Cwlth) that only "original" works are protected, but the meaning of this requirement has been one of the most problematic for interpretation by the courts of Australia. These problems are discussed in Chapter 3 of this thesis. As Negroponte (1995, p. 58) states, with no specific reference to any geographic region, "copyright law is totally out of date. It is a Gutenberg artefact. Since it is a reactive process, it will probably have to break down completely before it is corrected".

1.3 The Significance of the Investigation

Copyright legislation and case law in Australia is shared with other former Commonwealth English Law countries such as Canada, New Zealand and India. This shared tradition traces back to the Imperial Copyright Conference in 1910, at which it was agreed that common copyright legislation would be introduced in the United Kingdom and in the then self-governing dominions.

Australia is a federation of six states and two territories. Each state and territory has its own state or territorial government. These governments can make laws for the management of their own state, but naturally their laws do not affect the rest of the country. The Federal Government of Australia can make laws for the whole of the Australia, but only on certain subjects, of which one such subject is Copyright. All such laws are applied evenly across Australia's states and territories. The findings of this thesis are confined to software copyright law as it applies in Australia. It is important to make the distinction that in some respects the position may be different in other countries.

The purpose of copyright law is to provide reward and incentive for creative and intellectual activity. Its aim is to create a balance between protection for creators and producers of new material, and access by others to the results of that intellectual effort. The copyright system operates by giving creators, and those who invest in their work, legal rights that enable them to exploit the work commercially, and to

prevent abuse of their efforts.

Since the 18th century protection by copyright has been extended to "literary works", (Christie, 1994). Traditionally prose, poetry and publications are recognised as literary works. In the Australian context this means that once a literary work has been committed to some fixed tangible form, protection against the copying of the work has been provided by the Australian Copyright Act of the time. This is the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth), which provide copyright protection to computer programs and software by their classification as "literary works". The latter act applies the distinction that the idea(s) to develop software programs to perform certain tasks, and the idea(s) that go into its writing are not protected, but the resultant source and object codes are.

In the early days of computers and programming, the people who wrote and exploited computer software were seen as peripheral devices (machine serving objects) to large machines using what are now regarded as cumbersome technologies. When it came to the issue of intellectual property it seemed as stated by Dempsey (1995, p. 286) "that the boundaries of copyright would provide appropriate protection to computer programs". It is now a matter of historical record that this has not always been the case.

The call for change from software developers, industry and the government to redefine copyright provisions for the protection of software by copyright has gained momentum both in Australia and Internationally.

In response to the calls for changes to the protection of software by copyright the Australian Government has taken action. On the 19th October, 1988 (Fitzgerald, 1996), the then acting Attorney-General, Senator Michael Tate announced the formulation and subsequent inquiry by the Copyright Law Review Committee (CLRC) into the copyright protection for computer programs. Amendments made to the Australian Copyright Act of 1968 (Cwlth) in the Australian Copyright Amendments Act 1984 (Cwlth), s. 10(1) for the protection of Software under copyright, had proved inadequate following the results of appeal challenges that overturned the decision of courts in prior cases, there was a lack of uniformity in legal judgement. The CLRC's Final Report (Computer Software Protection, 1995), recommending changes to the Australian Copyright Act of 1968 (Cwlth) is currently before the Australian Federal Government for consideration.

These recommendations (Fitzgerald, 1996), which although not directed solely to the subject of protection afforded by Australian copyright to information technology products, could well have significant consequences.

Undeniably, copyright is destined to be the regime of the future for the protection of software. Indications by the actions of the Government of Australia mirror those of overseas nations in pursuit of this agenda.

As such, Copyright law will in the future govern ownership of access to information in all forms. In doing so it will create a boundary between the public and private domains of information. Its challenge will be the need to strike a balance between the interests of creators, investors and users.

Emphasis on the debate has shifted on how to tailor the traditional notions of copyright to the specific features of computer software, (Christie, 1994). The usual justifications for intellectual property protection rights for creators are still warranted. These are to reward creators and provide an incentive for those who create. If we consider the hypothesis that computers and software represent a step in the technological process, then the issues of protection in too narrow a context could create difficulties in the software industry. These difficulties could well extend to interpretation in the courts. This challenge of change is alluded to by Gaze (1989), who states:

Like law and other areas of technical knowledge, the computer industry has developed its own set of terms, and lawyers must become familiar with these terms and their conceptual and technical background to understand the area. Computer scientists do not have the same needs as lawyers in defining their terms, and the way they approach the subject matter for a different purpose. (p. 4)

For example, these purposes may be economically motivated or they may represent a new step in the progress of the enhanced mechanisation of a task. The way definitions in copyright are framed, will have a significant impact for the legal application and analysis of copyright deliberation by not only the Australian Judiciary but other nations throughout the world.

1.4 The Purpose of the Investigation

This investigation clarifies in succinct detail Australia's Position on Software Copyright. This clarification is achieved by;

- An examination of the protection of software by copyright.
- The discussion of Australian and International sources of copyright law;
- A description of what constitutes an infringement of software copyright and the penalties which may be levied in Australia under the relevant legal statutes;
- Consideration of the most recent amendments to the Australian Copyright Act of 1968 (Cwlth) of 1968 in the Australian Copyright Amendments Act 1984 (Cwlth) for the protection of software by copyright;

- The 1995 recommendations of the CLRC (Computer Software Protection, 1995) on proposed changes to the Australian Copyright Act of 1968 (Cwlth) presented to the Federal government via the Ministry of Justice for consideration; Which, if adopted into legislation, will alter the scope of protection afforded to software by copyright in Australia; and
- A clarification of Australia's position on Software copyright in relation to the use of the Internet.

1.5 Investigation Research Questions

This investigation addresses four specific questions, detailed below as follows.

- (1). What is implied by Software Copyright?
- (2). What is the Australian Position on Software Copyright?
- (3). What is the specific applicability of Copyright to the area of Software?
- (4). What are the Software Copyright Implications for the Internet?

1.6 Methodology

The material presented in this thesis was researched as part of an extended literature search (see Chapter 2) to address the research questions which were to be investigated (see Chapter 1.5). It (the material) was sourced using a descriptive research approach (based on a systematic review approach) to analyse and discuss the content findings of significant references that were uncovered during the extended literature search.

The boundaries of the extended literature search were defined following the refinement of a series of key-word headings to map out a list of discussion content areas. For each of the discussion content areas (used as key-word search keys) clarification was sought from reference sources containing published works of relevance on situations of fact. For example, current legal statutes. Contrasting opinions on subjective matters were sought, analysed and reviewed for the purpose of clarification.

Following the conclusion of the extended literature review, the key-word headings were moulded into a series of chapter headings to form a provisional "Table of Contents" that were subsequently "fleshed out" with content detail. The content "fleshing out" task was an iterative process of insertion, clarification and review. It was managed with the overriding constraint that a finite period of time was available to complete the task. The results of which are presented in this thesis.

1.7 Thesis Limitations

The research questions addressed in this thesis necessitated a work of significant substance was compiled to adequately address the issues in detail. This could be viewed as a detraction of the work, however it was necessary in order to document the findings of the investigation activity undertaken in a complete form.

The topic(s) addressed provided the challenge to express the positions defined by legal definition in a non-technical manner to help non-lawyers or non-computer professionals grapple with the jargon of law and computing. Expression in this form was on occasions a relatively straight-forward exercise, while on other occasions it was not possible to avoid the use of legal and computing jargon. This has meant that in some sections of the presented material information is expressed in a technical manner. Such situations were impossible to avoid, as simplification would have misrepresented its true meaning. The instances of these occurrences in the findings this thesis presents and the interpretation of the meaning conveyed may be difficult to comprehend at a glance.

The results of the extended literature search applied to the task as part of the methodology used (see Chapter 1.6) uncovered a significant amount of quality reference material. The sheer number of references (see Chapter 10) was considered too large for review in the literature review chapter of the thesis (see Chapter 2). As a consequence only

selected references of significant relevance in entirety of content were reviewed, reference sources for legal statutes and legal cases were not considered appropriate to review. Reference sources which did not meet the entirety of content criteria have been used only in support of discussion and argument (in text referencing). These reference sources were not considered as warranting any detailed review. The use of references in this manner in the text without a detailed review could be viewed as inappropriate. It is important to note that without exception the complete reference to all in text references in either the Literature Review (see Chapter 2) or the remainder of the text is provided in chapter ten (References).

1.8 Thesis Outline

This thesis details Australia's current position on Software Copyright as it currently prevails under the governing law statutes. It details the current position as at November 1997. The structure of how this position is presented in this thesis is provided in this chapter.

Chapter One provides significant detail on the background to the research investigation. It outlines the significance of the research activity, states its purpose and objectives.

Chapter Two contains a literature review of research undertaken to address the research questions detailed for investigation (see chapter 1.5). This review looks at general literature in the software copyright

subject area, details previous findings and discusses specific studies similar in content to this investigation.

Chapter Three describes what is implied by the concept of Software Copyright. The issues detailed are its boundaries, subject matter and substance.

Chapter Four details the sources of Software Copyright Laws in Australia and International Laws to which Australia is a signatory.

Chapter Five looks at a series of specific issue areas on Software Copyright. Specifically these are, obtaining software copyright, the infringement of software copyright and the penalties for the infringement of software copyright in Australia by laws enacted into legislation and the relationship between these laws.

Chapter Six looks at the activities of the Copyright Law Review Committee (CLRC), its findings (Computer Software Protection, 1995), its recommendations (Computer Software Protection, 1995) and the possible implications of the changes it proposes to current Australian copyright law, if adopted into legislation.

Chapter Seven discusses the Australian Position on Software Copyright on the Internet. It outlines the dilemmas of the issue, what is certain, what is still to be resolved and the barriers to finding a suitable means for the use of copyright to protect software on the Internet.

Chapter Eight summarises the findings of this investigation “Into the Australian Position on Software Copyright” under a series of key-word sub-chapter headings. The supporting text provided succinctly summarises the significant detail previously presented in Chapters two to seven. These conclusions assesses objectively the success of this investigation, details its weaknesses, draws conclusions on the research undertaken and highlights a number of possible future research areas.

Chapter Nine is the final chapter of the thesis, it is a brief series of concluding statements on the thesis topic that summarizes the “themes” of the study that form the purpose of the investigation (see Chapter 1.4).

1.9 Summary

This chapter has provided a framework for the thesis, discussed the methodology used in its formulation, outlined the limitations of the thesis and established the requirements and research questions that the thesis will answer in the remaining chapters.

2. Literature Review

Through a review of the relevant literature, this chapter will establish the foundation for the investigation. This will be done by discussing copyright protection for software and the published findings of authors on the subject.

2.1 General Literature

Software is now truly an international product and copyright is a regime of law enforced in almost every country in the world (see Chapter 4.2.1). In a general review of the literature that follows, a division is made between general literature on copyright in Australia, copyright internationally and sources of general copyright literature on Australia available online.

2.1.1 General Literature on Australian Copyright

In order to gain an understanding of copyright it is necessary to consider that as a law it has been in existence since well before the turn of the century. This being the case, its relative merits and detractions have been subject to widespread debate. Evidence of this debate as one of public interest dates back to the early 18th century. Consider the following quote from the parliament of the United Kingdom that reflects the issues of this debate.

In (Green, Reader & Dyer, 1978) Lord Macaulay from a speech delivered in the House of Commons on the 5th of February 1841 stated that:

The question of copyright, Sir, like most questions of civil prudence, is neither black, nor white, but grey. The system of copyright has great advantages and great disadvantages; and it is our business to ascertain what these are, and then to make an arrangement under which the advantages may be as far as possible secured, and the disadvantages as far as possible excluded. The principle of copyright is [sic] this. It is a tax on readers for the purpose of giving a bounty to writers. The tax is an exceedingly bad one; it is a tax on the most salutary of human pleasures: and never let us forget, that a tax on innocent pleasures is a premium on vicious pleasures. (p. 610-613)

Australia's present system of copyright protection derives from English legislation enacted and inherited in the 18th century. It is beyond the scope of this investigation to include a detailed summary of how and why English law developed a law of copyright and this theme will not be expanded upon.

Patterson (cited in Brudenall, 1997, p. 2) in support of this view (Lord Macaulay, 1841) states "that copyright protection was a reaction to laws that existed as tools of censorship, and thus was aimed at promoting the widespread dissemination of information".

The history of copyright and the concept of copyright is examined by Foster & Shook (1993), in an easy to read text for the layperson. Their commentary provides information in a non-legal sense as an alternative to more technical commentaries. The key point made is that the development of computer technology has brought useful innovations to the marketplace. These innovations required investment, so those investing required protection and the granting of exclusive rights to the ownership of these innovations to prevent misappropriation by others. One means of providing this protection was by the use of copyright, Foster, et al. (1993) state:

One person's innovation is the next person's underlying technology on which to build a further improvement. So a reasonable balance must be struck between exclusive ownership and free availability. (p. 197)

The role of copyright, as a protective means for intellectual property, has been the subject of much conjecture in the United Kingdom. Australia as a member of the Commonwealth (see Chapter 1.3) inherited many of their laws, including copyright. In Australia, the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth) provide specific legal statute detail on the laws relating to copyright and protection of software by copyright. As law statutes they present significant detail and definition. These laws are written using a legal expression and to a person with no legal training they are difficult to interpret and understand. Alleged infringement of copyright in Australia is also considered by the provisions of the Crime Act 1914 (Cwlth) and the Trade Practices Act of 1974 (Cwlth), (see Chapter 5.3).

While the laws relating to copyright are quite exact there are a significant number of published works that canvass software copyright issues and copyright, a form of something known as intellectual property (see Chapter 1.2). Intellectual Property, which in relation to the computer industry may be software, an algorithm or data. This concept is discussed in detail by McKeough & Stewart (1991), who provide a comprehensive insight into the subject. It is widely acknowledged that while the concept of Intellectual Property is largely familiar and is easy to define, the problem remains on how to find comprehensive detail for questions on copyright (McKeough et al. 1991).

McKeough & Stewart (1991), also examine copyright under the heading of "The Protection of Computer Technology", referring to the circumstances of the Apple Inc Ltd v. Computer Edge Ltd (1983), 1 IPR; 353 and the Autodesk Inc v. Dyason (1992) cases. These cases are seen as those that challenged the effectiveness of the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth) specifically enacted into legislation to afford appropriate copyright protection to software and computer programs.

The outcomes of the Apple Inc Ltd v. Computer Edge Ltd (1983) and the Autodesk Inc v. Dyason (1992) cases (Australian legal actions) attracted a great deal of controversy. The events of these cases have been pivotal in the fuelling of the current debate on the suitability of copyright as a protection mechanism for software and are discussed as follows. The controversy (Gaze, 1989) involved the consideration of the suitability of Australia's copyright laws to protect software adequately and appropriately. In the Apple Inc Ltd v. Computer Edge Ltd (1983) case, the decision of the High Court on a question of infringement of copyright in the Federal Court was reversed in the High Court under appeal (see Apple Inc Ltd v. Computer Edge Ltd (1984) 2 IPR; 1).

Gaze (1989), discusses the Apple Inc Ltd v. Computer Edge Ltd (1983) case in detail as the theme example in a discussion on the problems of the protection of computer software by copyright. In this case it was alleged that the company trading under the name of

Computer Edge had infringed copyright by the use of programs contained in the memory chips of its computers.

When the case was first heard the court did not make a distinction between programs in source code (computer language syntax) and programs in object code (source code which has been compiled). The decision of the Federal Court was that programs in this state were not protected as literary works. The reason for this decision as stated by the Australian Copyright Council in their summation of the case (1995) was:

The programs were not intended to give information, instruction or pleasure in the form of 'literary enjoyment'; they were simply intended to control the sequence of operations carried out by a computer and were therefore not literary works.

(p. 56)

The decision by the High Court of Australia in the Apple Inc Ltd v. Computer Edge Ltd (1983) case was seen as the reason why the Federal Government of Australia introduced the 1984 amendments to the Copyright Act in the form of the Australian Copyright Amendments Act 1984 (Cwlth) to ensure protection for computer programs by their classification as a form of literary work (Gaze, 1989).

Meanwhile the decision in the Apple Inc Ltd v. Computer Edge Ltd (1983) case was appealed to the Federal Court in the Apple Inc Ltd v.

Computer Edge Ltd (1984) case and then to the High Court in the Computer Edge Ltd v. Apple Inc Ltd (1986), 161 CLR; 65 ALR 33; 6 IPR 1 case. The High court had to deal with the law prior to the amendments in the Australian Copyright Amendments Act 1984 (Cwlth), as this was the law applying at the time the dispute arose. The High Court held that (Australian Copyright Council, 1995) written source code programs were protected as literary works and object code programs did not fall within the then definition of a literary work, nor were they adaptations or reproductions of their counterparts (see Chapter 3.1).

McKeough and Stewart (1992, p. 172) state "the furore caused by the judgement at the first instance prompted the Federal Government to legislate to amend the effect of the decision". The judgement being that handed down in the Apple Inc Ltd v. Computer Edge Ltd (1983) case when it was first heard in the Federal Court.

Francis (1992) and McKenna (1991) examine the consequences of the Autodesk Inc v. Dyason (1992) case and the Autodesk Inc v. Dyason (1989), 15 IPR; 1 cases respectively. The Autodesk Inc v. Dyason (1992) case (Federal Court of Australia) was an action of appeal to the High Court against the previously reversed decision of judgement by the Federal Court in the 1990 case (Dyason v. Autodesk Inc (1990), 96 ALR 57; 18 IPR 109). In the original legal action (see Autodesk Inc v. Dyason (1989)) an employee of Autodesk used an oscilloscope to observe signals passing from a computer to the hardware lock (a

connection on the parallel port) on the computer. The set of digits which formed these signals was then stored in a programmable memory chip that replicated the performance of the hardware lock. This device was subsequently sold as a substitute for the AutoCad hardware lock used by Autodesk. The decision of the High Court was that that was an infringement of copyright.

Under appeal the High Court of Australia in the Dyason v. Autodesk Inc (1990) case found that a breach of copyright had occurred, but this could not be attributed to any reproduction of the expression or function of the interface, in this instance the hardware lock. It was ruled the function was a hardware interface, which was not capable of supporting copyright, but was an infringement of copyright by "black box" engineering.

This decision in the Dyason v. Autodesk Inc (1990) case reversed the original decision of the Federal Court on the matter, in which it had been originally ruled that there had been an infringement of copyright (see Dyason v. Autodesk Inc (1989)). In doing so (Francis, 1992) the high court made no direct decision on the protection of user interfaces. However, neither did it eliminate the possibility of such protection. As it did not preclude the conclusion that copyright in an expressive interface may be infringed where its function is reproduced. McKenna (1991) concludes that the original decision by the Federal Court in the Autodesk

Inc v. Dyason (1989) case represents a simple problem that had become confused in the complexity of the subject matter.

To further complicate the matter an appeal to the High Court on the reversal of the decision in the 1990 Federal Court case, (see Dyason v. Autodesk Inc (1990)) was overturned in the Autodesk Inc v. Dyason (1992) case. It was ruled by a majority decision of the judges hearing the appeal action that an infringement of software copyright had occurred. This yet again reversed judgement of the 1990 decision (see Dyason v. Autodesk Inc (1990)). Further appeal on this decision in to the High Court in the Autodesk Inc v. Dyason (No 2) (1993), 25 IPR; 33 case upheld the 1992 decision (see Autodesk Inc v. Dyason (1992)).

The debate on copyright has not only focused on the technology of computers and the application of copyright law. In parallel with these debates there has been an expression of a concern for the personal interests of creators, specifically the consideration of their moral rights.

Anderson & Saunders (1992) examine the issue of the moral rights of creators, based on both local and international factors. Their work based on contributions by a number of different authors provides an insight into the range of issues that need attention if the moral rights issue is to be addressed within the public arena in Australia. The issues examined in the work of Anderson, et al. (1992) are;

- Protection;
- The changing international climate;

- The tendency of creator groups to focus on the economic aspects of copyright;
- Australia's obligations as a signatory to international agreements such as the Berne Convention (see Chapter 4.2.1);
- The needs and approaches of publishing and the audio visual industry;
- The possibility of moral rights becoming another commercial bargaining point in negotiation; and
- The introduction of specific legislation in the moral rights area.

Also on the subject of the moral rights question, Brudenhall (1997) examines the defence of fair dealing as an important component of modern Australian copyright law. In which the provision of a balance against the rights of copyright owners with the requirements of users to access material is discussed. This discourse (Brudenhall, 1997) looks at the current law of fair dealing in Australia and how changes to copyright laws in Australia and internationally may impact on the future of the copyright doctrine. Brudenhall (1997) finds that copyright reform has traditionally been reactive rather than proactive.

The issue of fair dealing was also examined by the Copyright Law Review Committee (CLRC) as part of their investigation on the suitability

of Australia's copyright laws to protect software (see Chapter 6). The current fair dealing provisions for copyright in Australia are contained in the Australian Copyright Act of 1968 (Cwlth), s. 40, s. 41, s. 42 & s. 43. They provide for; research and study; criticism or review; reporting news in a newspaper or similar periodical; or by broadcasting in a film and the giving of professional advice by a legal practitioner or patent attorney.

The final recommendations of the CLRC (Computer Software Protection, 1995) for changes to the fair dealing provisions of the Australian Copyright Act of 1968 (Cwlth) are still being considered by the Federal Government of Australia with assistance from the Ministry of Justice.

To date very little at a legislative level has occurred as a result of the recommendations by the CLRC. This (Fitzgerald, 1996) may be a result of the Commonwealth Government's indifference to the reform of copyright laws. It may also be partly due to a "wait and see" approach to see how the final report of the CLRC is received in the international community. The final recommendations of the CLRC for changes to the Australian Copyright Act of 1968 (Cwlth), including the subject of fair dealing are discussed in detail of Chapter 6.3 of this thesis.

2.1.2 General Literature on Australian Copyright Online

Published hardcopy in the "information age" is not the only information source available. For online reference sources two World Wide Web Site (WWW) sites provide reference sources on the subject of copyright. The site maintained by the Electronic Frontier Foundation contains copies of their journal Legal Bytes (online n.d) that has articles on various aspects of copyright. The material provided consists of well structured articles explaining various aspects of copyright law in Australia, the U.K. (the United Kingdom) and the U.S.A. (the United States of America). Although it does not provide in depth research material, it is a good starting point.

The Australian Legal Index (online) provides pointers to general legal information. The material available covers Australian law, high court case details, law reform papers and links to international indexes of legal resources. It is an outstanding site for Australian legal research.

More often than not in relation to any subject there is always some misinformation. The 10 Copyright Myths FAQ by Templeton (online, 1994), provides an explanation about the myths concerning copyright. Templeton (1994, p. 4) states in an introductory disclaimer to the material provided that "the article is not intended to be a complete treatise on all the nuances of the subject". Regardless, it does provide a reference source for "de-bunking" any mis-held views on the subject of copyright.

2.1.3 General Literature on International Copyright

Outside Australia's borders there are also international sources of law applicable to the protection of software by copyright (Sookman, 1995). The Berne Convention, The General Agreement on Tariffs and Trade (GATT, 1993) and The Trade Related Aspects of Property Rights (TRIPS, 1994) are all international arrangements and international sources of Copyright Law (see Chapter 4). Australia is a current signatory member of the Berne Convention (1971), GATT (1993) and TRIPS (1994) international agreements.

The Berne Convention is an agreement to which signatory countries are afforded international copyright protection. GATT (1993) creates regulations that establish international rights for the protection of intellectual property rights. TRIPS (1994) forms part of GATT (1993) and also deals with intellectual property rights, standards for protection, rules on enforcement and a dispute mechanism. The role of the Berne Convention (1971), GATT (1993) and TRIPS (1994) is to enforce regulatory disciplines in the international market place (Karnell, 1995, Lehmann, 1994, Otten & Wager, 1996 & Reichman, 1993 & 1996).

These disciplines also have detractions in terms of overlap. Still, they perform an important function. While they may overlap in the enforcement of protection mechanisms, the international protection of intellectual property rights is seen as being paramount to ensuring harmonious economic relations in a world wide sense (Reichman, 1996).

GATT (1993) and TRIPS (1994) are historically preceded by another international agreement known as the Universal Copyright Convention (1996).

The Universal Copyright Convention (UCC) is a UNESCO derivative from the 1950s and attempts to recognise different legal systems in different countries. It should be noted that it is not widely quoted in recent available literature on the subject of International agreements for the recognition of the legal systems of different countries. Primarily as it is now seen as being dated by the other more high profile international agreements, particularly GATT (1993) and TRIPS (1994). The UCC (Kerever, 1991) created a pathway of communication between different legal systems and improved the international protection of intellectual works (Kerever, 1991).

2.2 Literature on Previous Findings

Literature on the previous findings of authors in both an Australian and International context are relevant to this thesis. They are discussed in a logical sequence under the separate chapter sub-headings that follow.

2.2.1 Literature on Previous Findings on Australian Copyright

McKenna (1991) discusses the copyright protection for computer software in the nineties enforcing the point that the debate on the suitability of copyright to afford protection to software is one that is ongoing. McKenna (1991) emphasises that the application of the law of copyright to protect the rights of creators of computer software has occasioned difficulty. This is supported by reference to the Apple Inc Ltd v. Computer Edge Ltd (1983) case, the Autodesk Inc v. Dyason (1989) case and the Dyason v. Autodesk Inc (1990) case (an appeal case against the decision handed down in the Autodesk Inc v. Dyason (1989) case). In these cases the courts experienced difficulty in the application of the law by uniform judgement, following appeal actions on original rulings in both the Federal Court and the High Court (see Chapter 2.2.1).

The protection of software by copyright in Australia has not been an automatic response by legislation nor is it accidental. An evolution of copyright protection for software programs in Australia is discussed by Dempsey (1995). This commentary (Dempsey, et al. 1995) undertakes a

critical analysis of the paths by which the moves have been implemented to change copyright legislation in Australia to include computer programs. Dempsey's (1995) critical analysis considers the forces of industry, the government and stakeholders in the copyright debate. All of which are or have been involved in successful/unsuccessful moves to change copyright legislation in Australia to include computer programs. The effects of these activities and international influences such as the Berne Convention (1971) are also discussed. The key point made is that computer program copyright should be considered as a broader public policy issue within the political debate on its suitability as an appropriate form of legislation (Dempsey, 1995).

An analysis of the evolution of copyright protection of computer software in Australia is often based on the events of the Apple Inc Ltd v. Computer Edge Ltd (1983) case. The original decision of the court in the first instance of this case was subsequently reversed under appeal in 1984 (see Apple Inc Ltd v. Computer Edge Ltd (1984)). It is acknowledged as the case that led to the passage of legislation responsible for the Australian Copyright Amendments Act 1984 (Cwlth). It was enacted into legislation (Gaze, 1989) with the specific aim of providing suitable protection to software by copyright (see Chapter 2.2.1).

This case and the circumstances of the Autodesk Inc v. Dyason (1989) case are not the only legal actions of alleged software copyright infringement to stimulate debate in the public consciousness of the legal

fraternity. The current debate is a result of the suitability of the original Australian Copyright Act of 1968 (Cwlth) to provide adequate protection by copyright. Some consideration as to the applicability of the act in the 1990s is warranted.

The application of specific sections of the Australian Copyright Act of 1968 (Cwlth) are examined by Fairley, Pang & Fakhruzzaman (1996). In this source, cases are outlined that have been brought before the judiciary under relevant sections of the Australian Copyright Act of 1968 (Cwlth). The details of these cases, the alleged infringement type, the ensuing legal argument and the judgements handed down by the courts in consideration of these cases are presented. In a summary on the findings it was found that the scope for legal action is large. Additionally judgements by the courts for circumstances that on face value seem similar in content are still very much a matter of interpretation (Fairley, et al.). This is a result of legal argument presented, a lack of precedent for the legal system to follow and the reconciliation of what is alleged to have occurred with what actually happened (see Chapter 4.1).

While the legal system struggles to apply the laws in the current form, changes in computer software and hardware technology are ongoing and the rate seems exponential. In relation to the evolution of copyright protection for software Derrick (1996), makes the observation that times are changing; of course some things change faster than

others. Considering all the changes in computer technology over the past five years, it is an unrealistic expectation to expect the laws to keep up with such a pace. This view is also supported by Trotter (1996, p. 5) who states "copyright will survive but in lieu of new information technologies, it would seem unlikely it will survive in its current form".

Copyright has had a long and durable history, but the pressure on it to keep pace is immense (Dempsey, 1995). There is an important need to keep abreast of the changes required to copyright law in the protection of software in a proactive manner, as opposed to a reactive manner.

Consider that there are many interests represented in the Australian copyright regime, namely;

- Economic development;
- Software producers in Australia;
- The motivations of investors in support of software development; and
- The agenda of the Federal Government to maintain compliance with International Treaties.

Weight to this opinion is also found in the Copyright Law Review Committee's Report (Copyright Law Review Committee, 1996) which considers rationales, interests and objectives. The CLRC (Copyright Law Review Committee, 1996, p. 2) states "that its proposed

recommendations for changes to the Australian Copyright Act of 1968 (Cwlth) endeavours to support a balance between them".

The Copyright Law Review Committee (CLRC) investigated within their terms of reference (Fitzgerald, 1996) as to whether the Australian Copyright Act of 1968 (Cwlth) as amended by the Australian Copyright Amendments Act 1984 (Cwlth), adequately and appropriately protects computer programs in human and machine readable forms, works created by or with the assistance of computer programs, and works stored in computer memory.

The findings of the CLRC and their recommendations for changes to the Australian Copyright Act of 1968 (Cwlth) have been a subject area of intense discussion. The merits of the report by the CLRC (Computer Software Protection, 1995) are examined by Fitzgerald (1996). According to Fitzgerald (1996, p. 111) on the proposals for changes to the Australian Copyright Act of 1968 (Cwlth) "the final recommendations for changes to the Act are well balanced and consensual". In support Band & Katoh (1995), postulate the view that even if the recommendations of the CLRC (Computer Software Protection, 1995) are not enacted into legislation as laws they will prove extremely helpful to both the courts and legislatures throughout the world in the consideration of software copyright issues. In contrast, after reviewing the report of the CLRC (Computer Software Protection, 1993), Christie (1994) found that one of the crucial objectives of its investigation activity

was the determination of the appropriate form of protection for software programs. Christie (1994) states:

That the formation of the CLRC provided the opportunity to acknowledge the mistaken path Australia and other countries have trodden in the past decade. It should give some guidance to the international community as an alternative approach. the unwillingness of the Copyright Law Review Committee to do so is a great disappointment.

(p. 81)

The investigation by the CLRC as per its commissioned terms of reference is now complete. The CLRC's recommendations (Computer Software Protection, 1995) for changes to Australian Copyright Act of 1968 (Cwith), were presented in late 1994 to the Australian Ministry of Justice and the Australian Federal Government for due consideration of the content and recommendations.

2.2.2 Literature on Previous Findings on International Copyright

From an international perspective Drexel (1994, p. 19) examines the question: "What is protected in a computer program by copyright protection in the United States and Europe?". The key point made in relation to the changes in copyright protection for software according to

Drexel (1994, p. 104) is "software is an international product and laws relating to the protection of software by copyright in the United States and Europe seem to be converging".

The legal protection of computer software in the United Kingdom is analysed by Robertson (1995). Robertson (1995) presents the argument that the present copyright law (in the United Kingdom) can be used to provide an effective legal framework for software protection. Provided it is recognised that legal protection is seen as forming only part of the solution to a business problem. Where the business problem from an economic perspective and that of the software developer (Robertson 1995) is the safeguarding against misappropriation and unfair competition by those persons involved in the development and marketing of the program.

The world would seem as though it is becoming smaller as a consequence of what is now commonly referred to as the "Information Age". The "Information Age" is a now a commonly used term to describe the advent of advances in computer technology and the dissemination and access to information through computers by the public and industry.

In terms of software copyright in the "Information Age", Drahos (1996), discusses 'Copyright and Creativity in the Information Society', in which he poses the question: "Do we in the information society have to rethink the role of copyright and creativity?" (Drahos, 1996, p. 2). According to Drahos (1996) international business is pouring large sums

of money into a strategy that is attempting the global redesign of copyright. This is by no means an unrealistic proposition. Where the term "information society" is used to describe the fact (the situation in reality) that many more people are making a livelihood through the trade of information (Drahos, 1996).

McLean (online, 1995), examines Copyright, the WWW (World Wide Web) and the issues involved in the rights and responsibilities of WWW users. This discussion is extended to cover the legal framework, licence agreements, technology, the problems awaiting solution and sources of information used. The key point raised by McLean (online, 1995) is that technology continues to change the way things are managed. The impact of this is that the ability of our present copyright and other intellectual property related laws to copyright, with the current level of technology available, is being questioned. Powerful self-interest groups are exerting their influence on legislators for changes that will be advantageous to themselves. There is a need for all of us to be aware of the debate, and to participate. Otherwise the only right we may be left with will be the right to reminisce (McLean, online, 1995).

Within Australia it is not only published works keeping the area of software copyright in the public scrutiny. Active in Australia is an organisation called the Business Software Association of Australia (BSAA), a non-profit organisation founded in 1968 which has links with other International software monitoring organisations. The BSAA is part

of an alliance of leading software companies with the following primary goals:

- To combat software theft and piracy; and
- To help and protect the people who use, create and distribute legitimate software.

Many international and local software developers are members of the BSAA, their aims are;

- To build software awareness of copyright law as it relates to computer software and encourage compliance with the Australian Copyright Act of 1968 (Cwlth);
- To communicate the benefits of users purchasing and using authorised software; and
- If necessary, to initiate legal action against offenders who breach software copyright.

The BSAA is maintaining a public profile in Australia through a national education campaign, the maintenance of a WWW site, public speaking, seminar presentations and provisions of reward incentives of up to \$2000.00 for reports of software theft.

The need to be proactive in software protection (Australian Information Industry Association, 1993) should allow software developers and suppliers to exploit and protect their rights, and to reduce the risk of

liability. The findings of the Australian Information Industry Association (1994) are that the law in Australia can be managed to advantage by the use of risk management and liability control. The key point in the protection of software by copyright is, understanding the current position of the law and minimising any risks of liability.

2.3 Specific Studies Similar to this Study

Presently, no studies of a similar nature are known to exist that address the research questions of this study (see Chapter 1.5). Studies of specific part content relevance are reviewed as follows.

Sterling & Hart (1981) examine Copyright in Australia in lieu of the protection provisions provided by the Australian Copyright Act of 1968 (Cwlth). Their work is extremely detailed on the definition of the subject matter of the Australian Copyright Act of 1968 (Cwlth), and this is supported by the illustration of case examples brought before the judiciary. The obvious omission from their work is as a consequence of its publication date, as it makes only a passing mention of computer programs. Particularly as the Australian Copyright Amendments Act 1984 (Cwlth) was introduced specifically to provide protection to computer software post-dates their published findings. The only addressing of the issue is the expression of the view that despite the complexities, the general principles of Australian copyright are seen as being capable to adaptation to the computer age. However, the

significant point is made that copyright reveals two important challenges (Sterling, et al. 1981).

Firstly to those in international organisations, the challenge to achieve a unified system for the effective recognition and implementation for the works of authors. And secondly to those in Government, the challenge to adopt legislation establishing recognition of the rights of authors, the means of the effective implementation of these rights and the modernising of outdated laws in this respect.

The specific issue of copyright protection for computer programs is also examined by Gaze (1989). Apart from discussing the Apple Inc Ltd v. Computer Edge Ltd (1983) case (see Chapter 2.1.1), an examination and comparison is made on the development of copyright doctrine relating to protection of computer software in Australia and the United States of America. It is an extremely detailed synopsis that provides an evolution and comparison of software copyright in Australia and the United States of America.

By way of shortcomings, Gaze (1989), makes no mention of the penalties for infringement of copyright in either Australia or the United States. Also, in retrospect, the discussion of protection afforded to software by copyright is dated; particularly in lieu of the proposed recommendations by the Copyright Law Review Committee (Computer Software Protection 1995) for changes to Australian Copyright Act of 1968 (Cwlth).

Austin (1994) focuses primarily on various aspects of Australian Copyright Law. The work is a summary of the topic, concise in detail, well written and referenced. By way of subjective analysis three key weaknesses of Austin's (1994) work are evident; these are outlined below as follows. Firstly it is prefaced with a disclaimer that reminds readers the work is not, and does not pretend to be, a replacement for legal advice. Secondly the level of detail under the subject heading of Infringement of Copyright and Penalties is minimal and it concludes with the comments that the level of detail in this section is very general and very light on detail. Lastly no mention is made of the Australian Copyright Law Review Committee (CLRC) or their review on the suitability of copyright to afford adequate and suitable protection to software.

The Australian Copyright Council has published a series of publications related to the topic of Copyright. In its publication (Computer Software and Copyright, 1996) it aims to provide a detailed introduction to the application of Australian Copyright Law as it applies to computer software and discusses some of the areas that may require legal reform in the future, such as those issues considered by the CLRC (Computer Software Protection, 1995), discussed in detail in Chapter 6.2 of this thesis.

The Australian Copyright Council (Computer Software and Copyright, 1996) does not detail the penalties for the infringement of software copyright. Additionally it fails to qualify that alleged infringements of software copyright are not unique considerations of the provisions enforced by the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth). Copyright infringement is also considered by the provisions contained within in the Crime Act 1914 (Cwlth) and the Trade Practices Act of 1974 (Cwlth), (see Chapter 5.3). It does, however, quite adequately address the final recommendations (Computer Software Protection, 1995) of the Australian Copyright Law Review Committee (CLRC) for legislative changes on the protection of software by copyright. Yet, it fails to provide any commentary on the possible implications of the proposed recommendations for changes to the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth) by the CLRC (Computer Software Protection, 1995).

Fitzgerald (1996) also discusses the CLRC's report on computer software copyright (Computer Software Protection, 1995). Fitzgerald's (1996) work details the proposed recommendations by the CLRC (Computer Software Protection, 1995) for changes in relation to the protection of computer software under the Australian Copyright Act of 1968 (Cwlth) copyright. Fitzgerald's (1996) work is extremely specific in

detailing the major recommendations for changes and a little too presumptive in stating that there now seem to be few impediments to the immediate legislative implementation of the majority of the CLRC's recommendations. The reality could well be that those with interests vested in software copyright see the recommendations of the CLRC as a focus to lobby the Federal Government in pursuit of their own agenda (Knight, 1995). Whether or not this is the case has yet to be established.

2.4 Summary

This chapter has outlined the significant general, previous and similar literature published relevant to the debate on copyright protection for software. Included in this outline were the works of authors which discussed the evolution and history of the use of copyright as a mechanism to afford protection to computer software. Additionally the significant works of authors and their respective findings on the positions defined by copyright law in Australia and beyond its borders (international arrangements) that address the protection of software by copyright were appraised.

The controversy generated by the Apple Inc Ltd v. Computer Edge Ltd (1983) case, the Apple Inc Ltd v. Computer Edge Ltd (1984) case, the Autodesk Inc v. Dyason (1989) case, the Dyason v. Autodesk Inc (1990) case and the Autodesk Inc v. Dyason (1992) cases were detailed. The basis for this controversy was the lack of uniformity in rulings by the Australian judiciary on the constitution of an alleged infringement of

software copyright in appeal actions against previous rulings where these rulings were in fact overturned.

Copyright as a form of intellectual property and the moral rights debate on the suitability of computer software protection by copyright were examined. The role of the Copyright Law Review Committee (CLRC) of Australia, who recently reviewed the suitability of the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth) to adequately protect software in Australia, was also introduced (see Chapter 6).

3. Software Copyright - the Concept

In order to understand copyright as it applies to software it is necessary to detail the current definition of a computer program as defined in the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth). Further it is necessary to examine the concepts of Copyright, literary Copyright and non-literary Copyright. These are discussed as follows.

3.1 Software in the Context of Copyright - A Definition of the Term

The current definition of software or a "computer program" in the Australian Copyright Amendments Act 1984 (Cwlth), s. 10(1) is:

an expression, in any language, code or notation, of
a set of related instructions (whether with or without
related information) intended, either directly or after
both of the following;

- (a) conversion to another language, code or
notation;
- (b) reproduction in a material form;

to cause a device having digital information
processing capabilities to perform a particular
function.

The definition of software or a "computer program" was an amendment enacted into legislation in the Australian Copyright Amendments Act 1984 (Cwlth). Additional amendments enacted relevant to the new definition of a "computer program" provided a new definition for "material form", a new paragraph in the definition of "adaptation" to define the term as it relates to "computer programs" and amendments to existing definitions of "infringing copy" and "literary work".

The specific details of "literary works", "infringing copies", "material form" and "adaptation" are discussed under the separate sub-headings of literary copyright (see Chapter 3.3), obtaining software copyright (see Chapter 5.1) and software copyright Infringement (see Chapter 5.2).

The World Intellectual Property Organisation, was until the 1970s, an affiliate of UNESCO which administered international intellectual property rights (Porter, 1991). Its approach was underpinned by two driving rationales: The first was that intellectual property rights were primarily human rights, attached to human persons, not legal persons. The second was that it is essential to adopt a global approach which could reconcile the widely divergent interests of the developed and less developed countries. The World Intellectual Property Organisation (cited in Gaze, 1989) in its "1977 Model Provisions on the Protection of Computer Software" defined "computer software" as containing three elements:

These were the program defined as "a set of instructions capable, when incorporated in a machine readable medium, of causing a machine having information-processing capabilities to indicate, perform or achieve a particular function, task or result"; the program description defined as "a complete procedural presentation in verbal, schematic or other form, in sufficient detail to determine a set of instructions constituting a corresponding computer program"; this would include such forms as "flow charts" or "decision tables", and the supporting material defined as "any material ... created for the aiding and understanding of a computer program, for example problem descriptions and user instructions". This involves analysis of the task to be undertaken, specification of the logical design of a program or series of programs to achieve the task in relation to data collection, processing, and output, coding the programs to specifications, then testing and debugging and documentation of the program or system for users and for use in later maintenance or modification. (p. 7)

The World Intellectual Property Organisation's definition of computer software is now widely recognised as the standard source from which versions of derivative definitions of "computer software" have been published. As can be seen from the previous description (Gaze, 1989. P. 7) a computer program is in the strictest sense a set of instructions for the performance of certain tasks.

Whereas, in contrast the software design process can be thought of as the defining of tasks to be performed at certain levels. These tasks are then converted into computer code which are all linked together to create the completed version of a computer program.

It is generally conceded that the most time consuming task in creating a computer program is the development of the structure and mapping of the program sequence rather than the actual coding. The term "software" in general use also covers computer programs, instructions and other material prepared in connection with the use of computers. This extends to include any program descriptions and explanatory material concerning the application of computer programs.

Software and computer programs may carry out many different types of work, but can be classified on the basis of function into two groups, operating system and application programs. Operating systems that perform the interface tasks between the user and the machine itself. Application programs typically direct computers to perform tasks that are required by the user(s).

Programs are written in computer languages, each of which contains a set of instructions to achieve a task generally in compliance with its own syntax rules. Computer languages are often created by the hardware manufacturer to run on the hardware they produce, PL/I and RPG created by the International Business Corporation (IBM) are examples of computer languages created to run on IBM hardware. Other languages such as JAVA are machine independent and can be run on any type of hardware, subject to compatibility with the operating system in use.

A second sub-classification of languages occurs by their level. High level languages that are close to the English language in the format and type of their syntax, or mathematical statements, that have been designed to make the programming task easier for programmers. For example, Oracle and C++ are examples of languages of this type.

~~Another classification is that of source and object code programs.~~

Source code refers to the program in the original language in which it was written. Object code is source code that has been passed through a special program known as a compiler. This translates the source code to a form that can be understood by a computer, that is the object code.

Firmware is yet another product of the computer industry. It signifies something (Sprowl, 1984) which lies on the boundary between hardware and software. One example of firmware is ROM (read only memory), PROM (programmable ROM), and EPROM (erasable

programmable ROM). ROM is a computer chip containing an etched pattern of circuits that represents software that is stored in a hardware form.

Another type of firmware is "microcode". Microcode refers to the instructions used for programming the very basic functions that take place inside the microprocessor of a computer. For example, the movement or examination of data within the internal architecture of a computer.

Both ROM and microcode challenge legal analysis (Sprowl, 1984), based on the notion that physical or material form, rather than function, distinguishes hardware from software. As copyright law treats programs differently from electrical circuitry, materials must be classified as either software or hardware.

The consequence of these new terms and their functional purpose has, in the views of some in the available literature on the subject, added to the classification of the traditional dichotomy of industry classification. The emergence (McKeough & Stewart, 1991) of the "electronic state" has been identified as a "fourth sector" which supplements the declining primary (agricultural), secondary (manufacturing), and tertiary (service) sectors of the Australian economy. This "fourth sector" has created an immense industry which has been developed to pursue and support advances in Information Technology brought about by the advent of the advances in the sophistication and the variety of uses for computers.

3.2 Software Copyright

Copyright is the term for the rights given to the creators and owners of certain products of the intellect that meet specified requirements. In being accorded these rights the creators or owners are referred to as "right holders". Software in Australia is defined as a form of "literary work" and as such accorded certain rights which are recognised under copyright. The rights that apply to "literary works", traditionally recognised such as prose, publications and poetry, are also applied to software. These rights (Australian Copyright Council, 1995, p. 19) are:

- To reproduce the work in a material form;
- To publish the work for the first time in Australia;
- To perform the work in public;
- To broadcast the work;
- To cause the work to be transmitted to subscribers of a diffusion service;
- To make an adaptation of the work; and
- In relation to an adaptation which is a "work", to reproduce, publish, perform in public, broadcast, or transmit the adaptation to subscribers of a diffusion service.

These rights provide regulatory guidelines on the methods of disseminating or communicating the material. They provide the copyright owner with certain exclusive rights. As such anyone who wants to use the material for the means of dissemination or communication in any one of these ways is obliged to obtain permission from the owner of the copyright.

Those other than the rightholders are excluded from performing certain acts involving these products within Australia's borders. Outside Australia's borders, countries who are current signatory parties to international agreements such as The Berne Convention (1971), GATT (1993) and TRIPS (1994) are bound to provide the same minimum protection levels as provided by Australian Law (see Chapter 4.2).

The right to exclude others from the performance of such certain acts (involving these products within Australia's borders) is granted by copyright. However, it is important to qualify that these rights are generally for a limited time and can be subject to some exceptions. A non-rightholder's entitlement to these exceptions (Computer Software Protection, 1995, p. 2) "is not absolute and does not apply to all intellectual productions or all rights" (see Figure 5.2 and Chapter 6.2).

A classification nomenclature of exactly what subject headings the creations of authors are classified under by the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth) is provided in Figure 3.1 reproduced from Anderson & Saunders (1992).

<i>literary works</i> poems, books (historical fiction, etc), articles, short stories, rules to games, instruction manuals, lyrics to songs, catalogues, compilations, <u>computer programs</u> and indeed all other forms of writing (except trivial expressions such as titles or slogans).
<i>dramatic works</i> plays, films, scripts, scenarios and other works intended to be performed such as choreographic works.
<i>musical works</i> 'pop' or 'serious' scores and other combinations of melody and/or harmony. [Note: songs involve two types of work: literary (the lyrics) and musical.]
<i>artistic works</i> paintings, sculptures, engravings, photographs, maps, drawings (sketches, architectural drawings, dress patterns, technical drawings etc) and works of artistic craftsmanship (ceramics, wood carvings etc).
<i>films</i> motion pictures such as documentaries, feature and animated films, TV programmes, videotapes, video-cassettes and other fixed or recorded sequences of visual images.
<i>sound recordings</i> vinyl and compact discs, audio tapes and cassettes and other fixed or recorded sounds, e.g. taped interviews.
<i>broadcasts</i> radio, television and certain satellite broadcasts-that is, the signals of sounds and/or images transmitted by the broadcaster.
<i>published editions of works</i> the publisher's typesetting.

Figure 3.1: What is Protected By Copyright.

The general rule used in the identification of the owner of copyright and the exceptions to the rights of ownership (referred to earlier) extended to copyright owners is detailed in Figure 3.2 reproduced from Anderson & Saunders (1992).

<p>WHO OWNS COPYRIGHT?</p> <p>General rule</p> <p>The general rule is that the author (creator) owns the copyright in literary, dramatic, musical and artistic works. Accordingly, the artist generally has the relevant exclusive rights over his or her work.</p> <p>Exceptions</p> <p>1. Works created in the course of employment where the author is an employee, rather than freelancer.</p> <p>In this situation the employer owns the copyright if the work was created as part of the employee's usual duties.</p> <p>If the author is a newspaper or magazine employee, the journalist and the employer own separate parts of the copyright: the employer owns the rights for newspaper and magazine publication and broadcasting; the journalist will own the other rights, for example book publication rights.</p> <p>2. Commissioned photographs, portraits, engravings, sound recordings and films.</p> <p>In these situations, the person who commissions the materials owns the copyright, provided there is 'valuable consideration' (e.g. a fee).</p> <p>In most other cases of commissioned works, for example music, the author owns copyright.</p> <p>3. Material created under the direction or control of the Crown or first published by the Crown.</p> <p>This includes material created by or for Federal and State Government departments and other instrumentalities within the concept of the crown. It is important to note that both the general rule and the exceptions can be varied, excluded or confirmed by agreement.</p>

Figure 3.2: Who Owns Copyright and Exceptions to Ownership.

Copyright does not grant an absolute monopoly right. If person A writes a computer program and person B produces an identical program without ever having been aware of person A's efforts then person B has not infringed person A's copyright. In this instance there has been no copying, it was the result of independent effort.

The underlying aim of all copyright regimes is to prevent the misappropriation of the creativity, skill, labour and efforts of the author in certain types of work. Originally copyright operated only in respect of manuscripts. It was later extended to cinematography, radio and television broadcasts as technological advances were made. However, the existing law of copyright to protect the rights of creators of computer software according to McKenna (1991, p. 184), "has occasioned difficulty". Particularly in consideration of the originality of a work.

The Australian Copyright Act of 1968 (Cwlth), s. 32, provides that "copyright subsists in certain original literary, dramatical or artistic works". Copyright protects only those intellectual creations that are original. The word original is not defined in the Australian Copyright Act of 1968 (Cwlth). The words "initial", "first", or "earliest" are not the sense in which original has been interpreted in copyright law (Sterling & Hart, 1981). A work need not be original in the sense of being the first of its kind, or the first one having a particular formulation, in order to receive protection.

Copyright law in Australia requires more than just a minimal amount of skill. The application of judgement or mental labour must form part of the work for it to be afforded protection. To further complicate the matter the amount of skill, judgement or mental labour which must be bestowed upon a work is not precisely defined in the Australian Copyright Act of 1968 (Cwlth). This means that each case in which the amount of skill, judgement or mental labour involving copyright is considered becomes a subjective review component in consideration of the case-related facts.

Just as the test of the degree of originality varies depending on the facts, so does the extent of protection. As a form of intellectual property, copyright protects the form in which an idea is expressed, but not the idea itself. That is, the owner of the intellectual rights of a work does not also obtain rights in the ideas underlying the work. Works of a similar nature will be separately protected if produced independently. The Copyright Law Review Committee (CLRC) states "that where the idea ends and the form of expression starts has been the subject of intense debate, especially in relation to intellectual works such as software" (Computer Software Protection, 1995, p. 3).

The application of limitation, like the test of originality, depends upon the specific circumstances of each instance as illustrated in the Apple Inc Ltd v. Computer Edge Ltd (1983) case. The High court decision in this case was that computer programs in a material form

(tangible and readable) are capable of copyright protection (see Chapter 2.1.1). This is in contrast with programs reduced to an intangible form (i.e. contained on a computer disk) that are protected as literary works. Francis (1992) reminds us that the Apple Inc Ltd v. Computer Edge Ltd (1983) case was the catalyst for amendments to the Australian Copyright Amendments Act 1984 (Cwlth). These amendments extend copyright protection to software. Stern (1986) is quoted by Gaze (1989) as claiming that:

Following Computer Edge, copyright protection of computer programs in Australia is entirely dependent on the *Copyright Amendment Act 1984*, which made little attempt to limit the scope of the literary copyright in programs which it purports to confer. (p. 92)

The Australian Copyright Amendments Act 1984 (Cwlth) brought into legislation in 1984 was, in historical analysis as per the comments of the Attorney General's Department of Australia at the time, seen as a short-term measure pending a review of long term software copyright policy in Australia (Gaze, 1989). This review did not commence until October 1988, when commission was given to the Australian Copyright Law Review Committee (CLRC) to investigate copyright as a suitable protection mechanism for computer programs (see Chapter 6).

Modern copyright law (in Australia and Internationally) employs a relatively direct formula (specific pre-conditions) for determining when rights exist (proof of ownership). The formula of specific pre-conditions yielding these specific rights can be applied also to information rights law, but the specific pre-conditions and the resulting rights can differ substantially. Figure 3.3, reproduced from Nimmer & Krauthaus (1994) following below indicates the difference between these rights.

INTEGRITY RIGHT		COPYRIGHT	
SOURCE	PRECONDITION	SOURCE	PRECONDITION
Copyright	originality expression fixed in copy	Copyright	originality expression fixed in copy
Criminal	location secrecy value of data	Patent	inventiveness utility disclosure
Privacy	personal nature not public concern	Trademark	distinctiveness use
Communication	location encryption encryption	Publicity	public and distinct commercial use not newsworthy
		Misappropriation	effort value

Figure 3.3: Sources of Information Rights

Figure 3.3 summarises the source of the law that considers the data integrity right and that part of the law which considers copyright.

These sources of law include trade marks, copyright, patents, criminal and communications law. Each of these contributes to a spectrum of rights in information, but each does so in a different manner. It illustrates that the specific pre-conditions used for the determination of rights will vary depending on the source of the law.

It is important to note that the exclusive rights afforded to the owner of the copyright in a computer program are in the climate of the current time not absolute. In fact they leave out a number of important rights, including the rights to control access and disclosure (Gordon, 1989). By being subject to limits, there are implications for the use of software protected by copyright on mediums such as the Internet (see Chapter 7 and Chapter 8.7.3). It is beyond the scope of this chapter to include a detailed discussion of the distinction applied to the various elements of copyrighted works this theme is expanded in Chapter 3.3 and Chapter 3.4.

3.3 Literary Copyright

Prior to the Australian Copyright Amendments Act 1984 (Cwlth) the Australian Copyright Act of 1968 (Cwlth) provided the sole legal protection mechanism to an author of a computer program in Australia. This was provided by the classification of computer programs as "literary works"; extending to the author certain exclusive rights in relation to the communication or dissemination of the subject matter.

Subject matter is identified by the Australian Copyright Act of 1968 (Cwlth) Part IV, as either "works", which comprise a literary, dramatic, musical or artistic work, or as "other than works", which comprise sound recordings, cinematograph films, television broadcasts and sound broadcasts, and published editions of works (see Figure 3.1).

In the Australian Copyright Amendments Act 1984 (Cwlth) the definition of a "literary work" was altered to include "computer program", the definition of which was provided in Chapter 3.1. In the Australian Copyright Amendments Act 1984 (Cwlth), s. 10(1), "literary work" includes;

- (a) table, or compilation, expressed in words, figures or symbols (whether or not in a visible form);
- (b) a computer program or compilation of computer programs.

The undertaking to include a definition of "literary work" in the Australian Copyright Amendments Act 1984 (Cwlth) was not an Australian initiative. Australia was in fact following similar developments taking place in other developed nations in the International arena who had or were doing the same (McKeough & Stewart, 1991).

The protection of computer programs as "literary works" is now an international standard. This standard is imposed under the obligations of the Berne Convention (1971) and the General Agreement on Tariffs and Trade (discussed in Chapter 4), to which Australia is a signatory, as are

115 other nations. In these international arrangements (Berne and the General Agreements on Tariffs and Trade) the obligation exists to provide at least the minimum level of copyright protection for certain types of material, including "literary works".

Copyright law has traditionally, in regard to the notion of "literary works" (Leonard & Waters 1991), drawn a distinction between ideas behind the "literary work" which are not protected, and the author's expression of those ideas, which are protected.

Applied to software this means the idea(s) to develop software programs to perform tasks and the idea(s) that go into its writing are not protectable, but the resultant source and object codes are protected. Difficulties arise as software, unlike most literary works, has a purely functional character. It is created to achieve some specific purpose rather than just for the sake of appreciation (Leonard & Waters 1991).

Such were the circumstances when the Apple Inc Ltd v. Computer Edge Ltd (1983) case arose (see Chapter 2.2.1) and both the Federal and High courts in Australia were asked to consider whether computer programs were protected by the current provisions contained within the Australian Copyright Act of 1968 (Cwlth).

According to Grewal (1996) the test for copyright infringement is purely an objective one. It simply involves a comparison of two works side by side to see if there is any unexplained similarity between them and hence whether there is any casual connection between the two

works. Such a comparison in relation to literary works is a relatively straight-forward exercise.

The current position in most jurisdictions, according to Waters & Leonard (1990, p. 126), is "that the appropriate means to protect software is to treat it as literary work in which copyright can subsist". The Australian legislature adopted this approach in amending the Australian Copyright Act of 1968 (Cwlth) via the Australian Copyright Amendments Act 1984 (Cwlth), s. 10(1) with the redefinition of the term "literary work" to include computer program (see Chapter 3.1).

Still to be decided however is the extent to which software is protected by copyright beyond the literal copying of the computer software code (Francis, 1992). The problem arises with computer software as to knowing what to compare in order to establish reproduction. One can neither use or analyse a computer program without either reproducing or making a copy of it.

The problem as stated by Christie (1994, p. 78) with treating software as literary works is that "the copyright protection given to literary works is very wide and very long". This is currently the life of the author plus 50 years as per the terms of the Berne Convention (1971).

This period of protection is calculated from the end of the calendar year in which the author dies, and lasts to the end of the fiftieth calendar year thereafter. In the case of multiple copyright owners or companies claiming copyright the 50 year term of protection is an inclusive period

that commences once the work is made available to the general public. It should be noted that in Australia special provisions exist under which the Commonwealth or a State or Territory who own the copyright in a work may have this term extended indefinitely. With regard to foreign works the protection may cease on the expiration of protection in the country of origin.

3.4 Non-Literal Copyright

Copyright infringement is established where a “substantial part” of a software program is copied, or it is copied entirely and is used verbatim. It is a more subjective process (Grewal, 1996) to decide that copyright has been infringed, where allegations of copyright infringement are made by the borrowing of elements from one piece of software and subsequent application to another.

Software is generally a series of modules, routines and sub-routines arranged in a particular sequence. Copied code may represent segments of these (this is known as a “non-literal” copying), or might have used a similar structure of the alleged infringed software. For example, in the way it sorts and retrieves numbers, or the way it divides tasks between modules in the computer program.

Under non-literal copying the prohibition extends to producing a version of a literary work in different form of expression, commonly

referred to as the idea expression dichotomy. Christie (1994) states:

The principle of non-literal copying has been applied to computer programs, so as to find infringement of copyright where the function and appearance of a protected program was reproduced in another program written in another language. (p. 408)

Copyright (Waters & Leonard, 1990) law traditionally draws a distinction between ideas behind a protected work, which are not protected, and the author's expression of those ideas which are not protected. This concept is referred to as the "idea/expression" dichotomy, one that further complicates the identification process of who has the copyright ownership in a work. It ensures the author maintains the right to profit from the intellectual effort involved in the creation of a work, while also contributing to the store of ideas available to all.

While the "idea/expression" dichotomy (Francis, 1992) is readily stated and understood in this abstract sense, it is difficult to determine where exactly to draw this line through the complex hierarchy of programming elements that make up a computer program. The "idea/expression" dichotomy concept is now common to a number of

copyright regimes throughout the world, including Australia. The concept may differ slightly between countries, but each of the respective legal systems of these countries is having to deal with the problem of keeping free all elements of an original work that belong to the public domain.

The level of abstraction that is protected by copyright and hence what is regarded as expression becomes a unique matter of judgement for each case under consideration. In such instances the use of precedent to ensure uniformity of decision is the norm. In support of this view Francis (1992) emphasises that where an idea is only capable of being expressed in a limited number of ways the courts will accord only narrow protection to any particular representation of that idea.

Non-literal copying cases fall into two broad categories: look and feel type cases and structure, sequence and organisation type cases. Structure, sequence and organisation cases are those where an author in the employ or contract of an organisation develops software for that organisation and later develops similar software for another organisation to compete against the software developed in the first instance.

Look and feel is where software developed by an author is made to look and operate in the same manner as software already available. It can be expressed in another language and be of a completely different design but behave in the same way as the original on which it was

based. Software in this form as stated by Grewal (1996, p. 455) "will not be a literal copy of the original".

In the case of software several factors can complicate the identification of the protected expression and the unprotected idea. Firstly, software is functional and not artistic. Secondly software may be functional in several forms. Lastly, software is created by computer code, user interfaces and screen displays that allow its use.

The current position in Australia on the unique identification of software is that any "look and feel" software that creates a screen display or user interface would infringe copyright in both the code and the user interface. Software that did not copy the original but replicated its user interface would be a non-literal infringement of the interface only.

Christie (1994) highlights that the principle of non-literal copying can be applied to software in order to find infringement of copyright where the functions and appearance (the "look and feel") of protected software was reproduced in another computer program written in another computer language.

The principle of non-literal infringement as an element of the issue in the determination of an alleged infringement of copyright is highlighted by Polfanders (1990), Waters & Leonard (1990), Francis (1992) and Christie (1994) who assert that non-literal infringement has generated much controversy in both academic writings and legal decisions. One

aspect of this controversy concerns that of monopolies. Mennell (1988) states:

Drawing the line too liberally in favour of copyright protection would bestow strong monopolies of specific applications upon the first to write programs performing those applications and would thereby inhibit other creators from developing improved products. Drawing the line too conservatively would allow programmer's efforts to be copied easily, thus discouraging the creation of all but modest incremental advances. (p. 1047-1048)

The key point is that there is a fundamental difference in considering the eligibility of a computer program for copyright protection (the making a subjective distinction of evaluation) and the question of whether the alleged copyright of a program has been infringed (Mennell, 1988).

Hence the eligibility of software or a computer program to be afforded copyright protection establishes whether a person (the author) has copyright in a program. Infringement tells us whether the holder of the copyright has a claim for a violation of rights. Originality then becomes the criterion for determination of copyright and consequently for the existence of this right. The "idea/expression" dichotomy attempts to answer the question as to whether infringement has occurred and the

extent that infringement had actually occurred. In the matter of non-literal copyright infringement in the strictest sense using the idea/expression dichotomy” creates the monopoly situation referred to earlier. That is developments in software are locked in and cannot be learnt from or used as a basis for enhancement or reproduced in another form without infringing copyright.

3.5 Summary

This chapter has provided a definition of software and computer programs and their various classifications that are functionality specific. Copyright grants rights to the owners of creations in Australia, where software is defined as a form of “literary work” and accorded literary copyright with its subsequent pertaining rights. This definition is clouded by the concept of non-literal copyright which considers the “idea/expression” dichotomy. It challenges the traditional notions of copyright. The next chapter discusses the sources of law that are applied to the protection of software by copyright.

4. Sources of Copyright Law

Copyright Law is legislation that enforces a regime of protection enacted in some form, almost without exception in every technologically advanced country throughout the world. In order to understand these law sources and their effects an examination of the sources of Australian Copyright Laws and International Copyright Laws follows.

4.1 Australian Copyright Law

In Australia copyright law is governed by the Federal Government. Therefore, the law is uniform across all states and territories. The Federal government can make laws for the whole of Australia but only on certain subjects. One such subject is copyright. The government's authority for legislation on copyright comes from Part V of the Australian Constitution (1901). Australia's copyright law is contained and administered in the Australian Copyright Act of 1968 (Cwlth), the Crime Act 1914 (Cwlth) Part VIA, s. 76(a), s. 76(b), s. 76(b), s. 76(c), s. 76(d), s. 76(e) & Part VIIB, s. 85(ze) and the Trade Practices Act of 1974 (Cwlth), s. (51) (a). When Australia was first settled, settlers from the United Kingdom brought their legal system with them. Australia inherited the United Kingdoms "Common Law" system and by default many of their laws. The Australian courts are no longer bound to follow the courts of the United Kingdom. However, many of Australia's laws, including copyright, mirror those of the United Kingdom.

Australia is a common law country. Common law countries have two sources of law, legislation (acts of parliament) and precedent (the decision of judges based on previous occurrences). Legislation is set by parliament when the elected representatives of the Federal Government agree on a proposal, it becomes passed and is then law. Such a law is referred to as legislation. Common law is set by the courts. Judgements on cases dealt with by the courts are recorded and can be used by judges to select (use a source of reference) cases before them that have similar facts. This is referred to as precedent. Together legislation and precedent make up the law.

Australia currently has two court systems, the Federal system to hear cases under federal laws and the State system to hear cases under state laws. Copyright laws are Federal laws, so copyright disputes are generally heard in the federal court system. Exceptions can occur sometimes within Australia; federal jurisdiction is also given to the states and territories, so some copyright cases are conducted in state or territorial courts.

In Australia, the Federal court system has two levels. These are the Federal court and the High Court. Within the Federal court there are two divisions, the lower court (the first level), in which an action under federal law will commence. Appeals from the lower court (the first level) can be taken to the Full Court (the second level) of the Federal Court (it consists of three Federal Court judges sitting together), and from there

to the High Court. The High Court has seven members and is the highest court in the Australian court system.

In Australian law, copyright exists by virtue of two Commonwealth statutes. The Australian Copyright Act of 1968 (Cwlth) and The Designs Act 1906 (Cwlth). The role of copyright is defined differently in the two acts and the difference is worthy of mention.

In the Australian Copyright Act of 1968 (Cwlth), s. 31, copyright is defined as "the exclusive right to do certain acts relating to dramatic, literary, musical and artistic works, sound recordings, television or sound broadcasts, cinematograph films and published editions". Copyright is defined (Sterling & Hart, 1981, p. 206) in The Designs Act 1906 (Cwlth) as "relating solely to designs and means the exclusive right to apply the design, to certain articles". This copyright is quite distinct from copyright under the Australian Copyright Act of 1968 (Cwlth) which provides protection to the authors of literary, dramatic, musical and artistic works.

Computer software is classified and afforded protection in Australia as a form of literary work (see Chapter 3.2). Prior to the Australian Copyright Act of 1968 (Cwlth) cases were decided in the Australian Courts under the Australian Copyright Act of 1912 (Cwlth) and the U.K. Copyright Act of 1911. These were in force in Australia from July 1 1912 to 30 April 1969.

These Acts (the Australian Copyright Act of 1912 (Cwlth) and the U.K. Copyright Act of 1911) are still of importance in two respects (Sterling & Hart, 1981). Providing guidance to the general principles adopted by the Australian Courts in applying the copyright law and consideration of the copyright status of works made before May 1 1969.

The copyright laws of Australia contained in the Australian Copyright Act of 1968 (Cwlth) were at the time of their of enactment seen as being adequate for the protection of software by copyright (Gaze, 1989). They were amended in 1984 via the Australian Copyright Amendments Act 1984 (Cwlth) to make this coverage more explicit following the Apple Inc Ltd v. Computer Edge Ltd (1983) case which illustrated deficiencies in their application (see Chapter 2.1.1).

The copyright legislation acts in Australia, the Australian Copyright Act of 1968 (Cwlth) and the Australian Copyright Amendments Act 1984 (Cwlth), currently enacted into legislation in Australia create the situation where any computer program written by any person in Australia is automatically copyrighted once reduced to a "material form" (tangible and readable). With copyright and the exclusive rights it confers (provides to) residing with the author(s), in the absence of any agreement to the contrary (see Chapter 6.2.3).

4.2 International Sources of Copyright Law

International copyright conventions (International Agreements of Law) were instituted to safeguard the interests of copyright holders whose creative works enter the international marketplace. These conventions developed as governments recognised the need for international copyright protection Strong (1993). By giving effect to international agreements, countries give rights in their own territories to nationals of other states.

Provisions in such agreements detail the degree of protection, that must be extended to nationals of other countries who are signatory members of the same International Agreement. In Australia compliance with this arrangement is made possible with the power conferred on the Federal Parliament by the Australian Constitution 1901 (Cwlth), s. (51) (xviii). This allows the parliament to legislate in respect of copyright for the adherence to international conventions through legislation. In addition the Australian Copyright Act of 1968 (Cwlth), s. (51) (xxix) provides an external affairs power in relation to the implementation of international conventions.

The most important of these international agreements are the Berne Convention (1971), The Universal Copyright Convention (UCC), The General Agreement on Tariffs and Trade (GATT, 1993) and Trade Related Aspects Of Intellectual Property Rights (TRIPS, 1994). Australia

is a signatory member of all of these international agreements and Australia's obligations under these international agreements are for minimum protection requirements only.

4.2.1 The Berne Convention

The world's first major copyright convention was held in Berne, Switzerland in 1886. The resulting agreement has become known as the Berne Convention (1886). There have been follow up conventions in 1908 and 1948. The Berne Convention is administered by the World Intellectual Property Organisation (see Chapter 3.1). Under the Berne Convention, signatory countries (members of the convention), also referred to as parties, of which Australia is one, are guided by four basic principles. These are:

- (1). **National Treatment:** Under Berne, an author's rights are respected in another country as though the author was a citizen of the country. For example the works of Australian programmers are protected by the laws of other signatory countries.
- (2). **No formalities:** Copyright is not dependent on formalities such a registration or notice.
- (3). **Minimum Terms:** The Berne Convention also prescribes a minimum term of copyright protection, this is the life of the author plus 50 years.

- (4). **Minimum Rights:** The Berne Convention also prescribes a list of minimum rights. For example the granting of "moral rights" bestows the author the right to claim ownership, to disclaim authorship of copies, to prevent or call back distribution under certain conditions, and to object to any distortion, mutilation or other modifications of the author's work injurious to his or her reputation.

Lehmann (cited in Ricketson, 1987, p. 2625) asserts that the Berne Convention has not been revised since computer technology became widespread and does not specifically cater to computer programs. It may be interpreted as applying to computer programs if countries which are party to the Convention do in fact treat computer programs as if they are covered by the convention.

It is also important to note that while there are 115 nations including Australia as current signatory members of the Berne Convention some countries (e.g. North Korea & Burma) are outside the Berne Convention. In these cases protection for Australian authors depends on bilateral arrangements or local laws, where such arrangements of law exist (Sterling & Hart, 1981).

4.2.2 The Universal Copyright Convention

The Universal Copyright Convention (UCC) is an international instrument that was drawn up in 1952 under the auspices of UNESCO. It was an attempt to recognise different legal systems in different geographic locations. It represents (Kerever, 1991) an effort that endeavoured to devise a legal common denominator that fostered respect for the rights of creators and encouragement for the circulation of literary, artistic and scientific works. The Universal Copyright Convention was ratified in the United Nations by a majority of signatory parties to the Berne Convention in 1971. Kerever (1991) reminds us that the UCC served the purpose of creating a pathway of communication between different legal systems, while improving international protection of intellectual works.

4.2.3 The General Agreement on Tariffs and Trade

The General Agreement on Tariffs and Trade (GATT, 1993) creates international regulations amongst its members concerning the trade of goods. The overall goal of GATT (1993) is to ensure national treatment of imported goods by the importing country, and to ensure common levels of tariffs for all signatory members of GATT (1993) for intra-GATT trade. GATT (1993) is a treaty regulating world-wide commerce amongst member countries.

In the area of copyright one of the most important aspects of GATT (1993) is the way in which it establishes international standards for the protection and enforcement of intellectual property rights. The underlying proposition on which GATT (1993) operates in the area of intellectual property rights is largely driven by developed countries operating in International Trade as indicated by Worthy (1994) and Reichman (1993). This was that industrialised countries saw intellectual property rights as the primary means of promoting technological development by offering inventors the chance to gain rewards for their labours.

4.2.4 Trade Related Aspects of Intellectual Property Rights

The agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS, 1994) came into effect on the 1st of January 1995 and forms part of the General Agreement on Tariffs and Trade. TRIPS is the commonly used acronym used to refer to the agreement. It deals with each of the main categories of intellectual property rights (Copyright, Trade Marks, Industrial Designs, Patents & Trade Secrets), establishes standards for protection and details rules on its enforcement. It provides a dispute settlement mechanism to resolve disputes between member parties. One of the areas of intellectual property that TRIPS (1994) covers is Copyright. Article 10(1) of TRIPS (1994) specifically requires protection of computer programs by stating that "computer programs", whether in source code or object code, shall be protected as literary

works under the Berne Convention" (see Chapter 4.2.1).

TRIPS (1994) is a minimum standard agreement that leaves members free to provide for more extensive protection of intellectual property. The TRIPS (1994) agreement sets these standards by requiring compliance with the obligations imposed by the most recent version of the Berne Convention (1971).

It clarifies two important points in relation to new technology. Firstly, it states that computer programs, whether in source or object code, shall be protected under the Berne Convention. Secondly, it clarifies that a database or other compilation of data or other material shall be protected under copyright. Reichman (1996) states:

TRIPS is the most ambitious international intellectual property convention ever attempted. The breadth of subject matters comprising the intellectual property to which minimum standards apply is unprecedented. (p. 369)

The TRIPS (1994) agreement requires member countries to protect intellectual property on a basis broadly similar to those in the Berne Convention. Its intention is to create a system of international protection based on the principle of non-discrimination backed by a minimum base line of protection in all signatory countries. It is now widely acknowledged (Reichman, 1996) as the vehicle along with the

GATT (1993) agreement by which the nations of the world will arrive at a consistent approach to the protection of intellectual property which is ignorant of geographic boundaries.

4.3 Summary

This chapter has examined the Australian and the International sources of law that extend to copyright protection of software. The standards set by International sources of law relevant to copyright should be viewed minimum standards only. The Australian sources of law are quite specific, but to date, in the determination of an alleged infringement of software copyright, they have been subject to a variation of interpretation by the legislature. In many ways the current Australian laws that enforce copyright complement the minimum standard set by International arrangements (Austin, 1994).

International sources of law which extend copyright protection to the works of creators are extremely detailed and are implemented by almost every industrialised nation in the world. The one possible failing of these agreements (Worthy, 1994) is their overlap in terms of coverage and the lobbying of member nations party to these agreements for changes to their terms with the aim of achieving some competitive advantage.

5. Obtaining Software Copyright and Copyright Infringement in Australia

In Australia software copyright is not an exclusive right and is available to the creator (a citizen or resident of Australia) of any original work when committed to some tangible form (such as being written down, stored in a computer or recorded in some way). When this right is compromised it is referred to as being infringed. This chapter looks into obtaining software copyright in Australia, infringement of software copyright in Australia and the permissible exemptions to software copyright infringement provided within the provisions of the Australian Copyright Act of 1968 (Cwlth).

5.1 Obtaining Software Copyright in Australia

Copyright is created once the work "comes into being" or "made" (reduced to some "material form"). The current definition of "material form" was introduced in the Australian Copyright Amendments Act 1984 (Cwlth), s. 10(1). This is:

In relation to a work or any adaptation of a work,
any form (whether visible or not) of storage from
which the work or adaptation, or substantial part of
the work or adaptation, can be reproduced.

Where an "adaptation" in relation to a computer program in the Australian Copyright Amendments Act 1984 (Cwlth), s. 10(1) now means "a version of the work (whether or not in the language, code or notation in which the work was originally expressed) not being a reproduction of the work".

This means that, as soon as a work is put into some tangible form (such as being written down, stored in a computer or recorded in some way) the author or creator of the work is extended the exclusive rights provided by copyright (see Chapter 3.2). Software, computer programs and distributed files are copyrighted as soon as they are published. For example, in the case of software, publishing can mean either completed or stored in some medium, such as on a diskette.

In the Australian Copyright Amendments Act 1984 (Cwlth) software in Australia is protected if it is made by a citizen or resident of Australia, or a country listed in the International Copyright Protection Regulations (ICPR). A work is also protected if it first published in Australia or a country listed in the ICPR. The ICPR is a copyright resource facility provided jointly by UNESCO and the World Intellectual Property Organisation (see Chapter 3.1).

The current position in Australia is that no formal requirement or registration procedure exists for authors to claim reserved rights on software (Austin 1994). However, in the majority of cases the normal practice is the placement of notices claiming copyright.

In Australia the following guidelines (Computer Software and Copyright, 1995) are suggested for the placement of a copyright notice on all general works (including computer programs). These are;

- Copyright Owners are entitled to put the copyright notice on copies of their work. Use of this notice is not a requirement for protection in Australia but it serves as a general useful warning. The notice should consist of the copyright symbol ©, followed by the name of the copyright owner and the year of the first publication.

For computer programs it is suggested (Computer Software and Copyright, 1995) these notices are placed as per the following.

- The notice appears in the header of the source code listing so the notice is preserved in the compiled source code listing when displayed. It may also appear on any screen displays when the computer program is started, diskettes on which the software is provided and any media (books and packaging) provided with computer software.

Figure 5.1 on the following page provides examples of copyright notifications for software using the method suggested by the Australian Copyright Council.

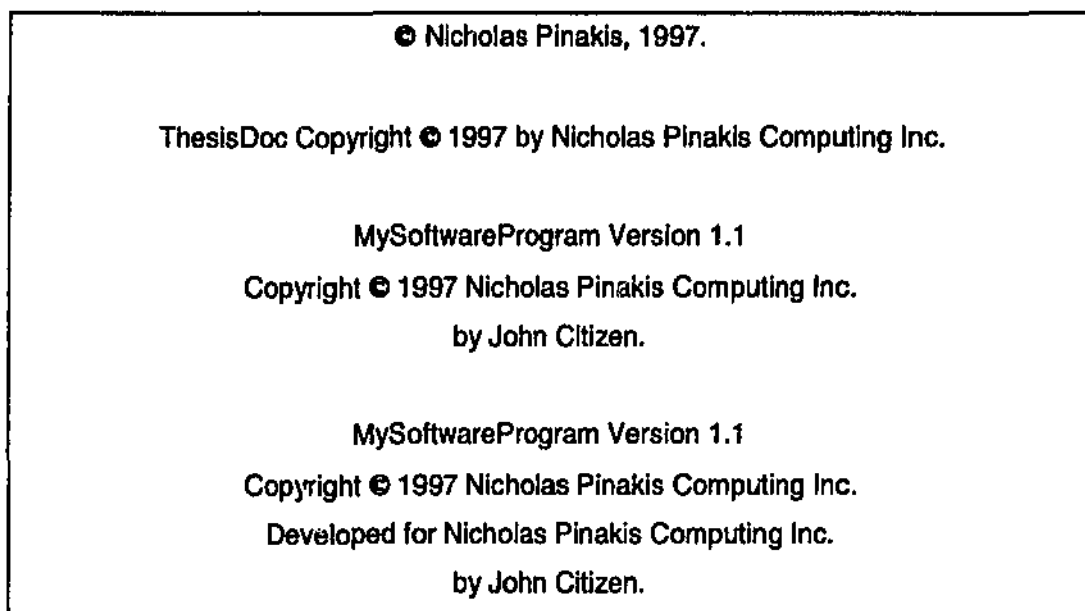


Figure 5.1: Examples of Copyright Notifications.

5.2 Infringement of Software Copyright in Australia

Infringement of a copyrighted work occurs when the work or a "substantial part" of the work is copied without the express consent of the copyright holder, that is the owner. The size of the copy may be a factor or the importance of the copy may be a factor. Whether or not an alleged copy constitutes a "substantial part" depends on the specific instance and an interpretation by the judiciary. Currently "substantial part" is not defined in the Australian Copyright Act of 1968 (Cwlth), and to date it has been left to the courts to decide on the "substantial part" question after a consideration of the particular circumstances of each case in which the question arises.

Factors considered as to whether an infringement of copyright (not just only for software) has occurred are;

- The originality of the part that is taken;
- The purpose or reason for the taking; and
- Competition in the market place between two works to determine whether the second work was made through the misappropriation of the skill and labour of the author.

In the Autodesk Inc v. Dyason (1989) case, Autodesk (vendors of the AutoCad computer system) sold a device designed to prevent unauthorised use of the AutoCAD computer system. The device developed by those alleged of infringement (Dyason), was used to imitate signals used by the Autodesk device. This device used a "look-up table" that formed a part of the software program in the AutoCAD system. The decision of the Federal Court of Australia was that it was a "substantial part" of the program and infringement of copyright had occurred.

Under appeal in the Dyason v. Autodesk Inc (1990) case the decision of the court was reversed. The decision of the High Court was that while the copying of this table involved the reproduction of a "substantial part" of Autodesk's software, it was an infringement of copyright by "black box" engineering. It did not infringe the copyright in the "look up table" used in the program.

Further legal action (see Autodesk Inc v. Dyason (1992)) in the High court on the 1990 judgement (see Dyason v. Autodesk Inc (1990)) still yet again reversed the decision by upholding the original 1989 judgement made in the Autodesk Inc v. Dyason (1989) case. Appeal to the High Court in 1993 (see Autodesk Inc v. Dyason, (No 2) (1993)) on its 1992 decision (see Autodesk Inc v. Dyason (1992)) proved unsuccessful. The circumstances in the "Autodesk" cases are significant as they highlight the lack of uniformity in decisions made by the Australian judiciary (see Chapter 2.2).

The events of this series of follow up legal actions ensured the "about face" by the courts in the determination of copyright infringement and the interpretation of what constitutes a "substantial part", has been maintained as one of active debate. This was in fact the first time the definition of "computer program" had been considered by the Federal Court of Australia.

The decision of the High Court at the time created two alternative views in the debate. Those that saw the decision as promoting a dynamic software industry by allowing scrutiny of and improvement upon original ideas and the manufacture of compatible products and accessories. And those representatives of the computer industry who saw it as leading to the possible stifling of development, limiting the choice of available product and affecting the quality of support enjoyed by users (McKeough & Stewart, 1991).

Within Australia software and data stored on a computer requires the granting of permission for its use from the copyright owner otherwise its copyright has been infringed. This use includes making a reproduction and or the making of an adaptation of the software in its object code version or program source code version (see Chapter 3.1).

An example of data storage and its use on a computer is that of the storage of data and its use on an electronic computer database. For the determination as to whether the copyright in a database (an electronic computer database) has been infringed different elements (Australian Copyright Council 1995) need to be considered; these are:

- The individual records or items which make up the database;
- Whether any selection of the individual records or items which make up the database has involved skill, labour and judgement;
- The existence of any indexes which form part of the database, but are not records or entries in the database; and
- Whether the database contains any computer programs which enable manipulation (i.e. sorting, arrangement) of the data.

Knight (1995) reminds us of the quandary faced by the judiciary in the determination of an infringement of copyright imposed by the technology of computers and software in an overall sense by stating:

Concern has also been raised that copyright in a computer program is infringed by another program only if there is some 'objective similarity' between instruction sets. While it may be clear that a program that performs a similar function or produces a similar result to another program does not for that reason alone, infringe copyright, it is not clear what is meant by 'objective similarity' between the two programs. (p. 7)

Where the term 'objective similarity' referred to by Knight (1995) is reference to the comments made by the presiding judge in the summation of the Barson Computers Australasia Ltd v. Southern Technology Pty Ltd (1993), 16 IPR; 143 case. This case involved the reproduction of silicon chips by Barson computers containing certain computer programs. These computer programs were already in use by Southern Technology who had imported the chips on which its computer programs were contained. It (Southern Technology) was using the chips to promote a new prototype of personal computer for future manufacture and sale. The decision of the Federal Court in the case was that the

manufacture of the chips by Barson Computers was incidental to the activities of Southern Technology in the promoting of its prototype personal computer.

Under the current provisions of the Australian Copyright Act of 1968 (Cwlth), s. 38, or the Trade Practices Act of 1974 (Cwlth), s. (51) (a), a person may also infringe copyright by selling privately or commercially an infringing copy of computer software or dealing with and importing diskettes that contain computer software without the consent of the copyright owner in the country of manufacture.

5.2.1 Exemptions to the Infringement of Software Copyright In Australia

The Australian Copyright Act of 1968 (Cwlth), s. 183, allows the government to use copyrighted material without the permission of the copyright owner provided the use is for the services of the government. While permission is not required for use of a work, the Australian Copyright Act of 1968 (Cwlth) specifies the copyright owner(s) is to be notified as soon as possible of the use of a work by the government and may be eligible to negotiate payment for use of the work.

There are also a number of other situations where permission from the copyright owner is not required. In legal jargon these are referred to as exceptions and are detailed in the Australian Copyright Act of 1968 (Cwlth). The conditions that prevail under which these exceptions are permissible are provided as follows:

- Making a back-up copy of a computer program: the Australian Copyright Amendments Act 1984 (Cwlth), s. 43(a), permits the owner of a legitimate copy of a computer program to make a back-up copy of the program.
- Fair Dealing: the use of copyright material for research, study, criticism, review and the giving of legal advice. Where the use must be for that purpose and must also be fair.
- Making copies of works in libraries: the provision that allows staff of libraries and archives to make copies in collections for certain purposes such as the replacement of stolen work.
- Making copies of works in educational institutions: the allowance for educational institutions to make copies of work for educational purposes on the provision copyright fees are paid to copyright holders.

5.2.2 Actions for Infringement of Software Copyright in Australia

The remedies available to the copyright owner in respect of unauthorised use of a work or other subject matter in which copyright subsists are civil action, prosecution and seizure by customs. Civil actions may occur under the Australian Copyright Amendments Act 1984 (Cwlth), the Crime Act 1914 (Cwlth) or the Trade Practices Act of 1974 (Cwlth), (see Chapter 5.3).

The main difference between a civil and criminal action is that in a criminal action the intent of copyright infringement must be proven. While in a civil action, damages as a result of an alleged copyright infringement must be proven. In a civil action the plaintiff, that is the person suing, may allege that because of the illegal copying (copyright infringement) losses have been suffered and compensation is required. In an action for infringement of software copyright in Australia the court may award the following remedies; these are discussed below as follows.

Damages - payment of money to compensate for the infringement.
Account of profits - payment of any profits that the infringer has made from using the work. Delivery of the infringing articles, where the court can order an infringer(s) to deliver any infringing articles to the copyright owner. Injunction - an order by the court prohibiting a party from doing something, or requiring a party to do something.

Further the Australian Copyright Act of 1968 (Cwlth), s. 36, provides a person who authorises an infringement of copyright may be liable for the resulting infringement in addition to the person(s) who actually does the infringing act, an instance of what is referred to as fair dealing.

The notion of fair dealing is prominent in the determination of copyright infringement. The Australian Copyright Act of 1968 (Cwlth), s. 40(2), provides guidelines for assessing whether the use of copyrighted material is fair. These include the amount of the work used, purpose of

the use, the commercial availability of the work and the effect of the use upon the market for the work (see Chapter 5.2).

The circumstances of The University of NSW v. Moorhouse (1975), 133 CLR; 1 case provide an example of an instance where the Australian judiciary considered fair dealing. In this case the University of NSW provided photocopying facilities without the posting of any notification that the use of the facility in the reproduction of material may infringe copyright. The decision of the court was in doing so the University of NSW had authorised infringements of copyright. The Australian Copyright Council (cited The University of NSW v. Moorhouse (1975)), states "the court found the University had authorised infringements of copyright by providing a photocopier without supervision or warning its use may infringe copyright". While the decision in The University of NSW v. Moorhouse (1975) case (an instance of "fair dealing") on face value may seem harsh, Brudenhall (1997) found the breadth of provisions in the Australian Copyright Act of 1968 (Cwlth), s. 40(2) provided the courts with the discretion to implement the law in its decision based on facts of the case. Where the breadth of the provisions provided in the Australian Copyright Act of 1968 (Cwlth), s. 40(2) empowers the courts with a wide discretion to shape the law based on varying factual situations (Brudenhall, 1997).

5.3 Penalties for Infringement of Software Copyright in Australia

The penalties for software copyright infringement vary according to the type of infringement and whether the offender(s) is an individual or registered company. They are imposed in Australia on the basis of three acts of Law that are administered by the judiciary that consider the circumstances of the case in question. These acts are the; Australian Copyright Act of 1968 (Cwlth), Crime Act 1914 (Cwlth) Part VIA, Part VIIB and the Trade Practices Act of 1974 (Cwlth), s. (51) (a).

The relevant sections of these Acts that apply to software copyright and the relevant sections of these Acts that prescribe the penalties applied for software copyright infringement follow as sub-chapter headings in the order provided in the preceding paragraph. The penalties detailed are the maximum permissible under the specific acts.

5.3.1 The Penalties for Software Copyright Infringement Imposed by the Australian Copyright Act of 1968 (Cwlth).

The penalties detailed for copyright infringement are provided in the Australian Copyright Act of 1968 (Cwlth), Section 133, penalties. These are as stated (Business Software Association of Australia, n.d.) in Figure 5.2. These copyright infringement penalties are applied in contravention of the following sections of the Australian Copyright Act of 1968 (Cwlth).

- s. 13, acts comprised in Copyright, Australian Copyright Act of 1968 (Cwlth).

- s. 132, offences, Australian Copyright Act of 1968 (Cwlth).
- s. 133(a), advertisement for Supply of Infringing copies of computer programs, Australian Copyright Act of 1968 (Cwlth).

INDIVIDUALS		COMPANY	
First Offence	Not a First Offence	First Offence	Not a First Offence
Fines of up to \$500.00 can be applied for each unauthorised copy made or distributed of an article of software covered by copyright.	An individual can be sentenced to a maximum of six months imprisonment and or fines of up to \$500.00. For each unauthorised copy made or distributed of an article covered by copyright. If more than one article of software is copied, an individual can be fined for each unauthorised copy made or distributed of an article of software covered under copyright up to a maximum of \$50,000.00.	A company is liable for a fine of up to \$2,500.00 for each unauthorised copy made or distributed of an article of software covered by copyright.	A company can be fined up to \$5,000.00 for each unauthorised copy made or distributed of an article of software covered by copyright. If more than one article of software is copied, a company can be fined up to \$25,000.00.

Figure 5.2: Penalties for Infringement of Software Copyright in Australia in the Australian Copyright Act of 1968 (Cwlth), s. 133.

5.3.2 The Penalties for Software Copyright Infringement Imposed by the Crime Act 1914 (Cwlth) Part VIA, s. 76(a), s. 76(b), s. 76(b), s. 76(c), s. 76(d) s. 76(e) & Part VIIB, s. (85)ze

The Penalties for infringement are provided in Figure 5.3, (see Chapter 5.3.4 for the relationship between the Crime Act and copyright).

SECTION OF THE <u>Crime Act 1914 (Cwlth)</u>.	SCOPE OF THE SECTION OF THE ACT.	PENALTIES.
Section 76(a).	Provides definitions for carrier, computer and data as a definition source to sections following 76(b) to 76(e).	There are no penalties prescribed in this Section of the Act, it is merely a definition section.
Section 76(b).	Infringements of unauthorised access to Commonwealth data.	Imposes a penalty of imprisonment for 6 months or 2 years dependent on the infringement instances detailed in this section.
Section 76(c).	Infringements to destroy, alter or impede access to Commonwealth Data.	Imposes a penalty of imprisonment for 10 years.
Section 76(d).	Infringements of unauthorised access to data using a Commonwealth computer or carrier.	Imposes a penalty of imprisonment for 2 years or 10 years dependent on the infringement instances detailed in this section.
Section 76(e).	Infringements that destroy, alter, or impede access to data using a Commonwealth computer or carrier.	Imposes a penalty of imprisonment for 10 years.
Section 85(ze).	Infringements of harassment or offensive behaviour while using a Commonwealth computer.	Imposes a penalty of imprisonment for 10 years.

Figure 5.3: Penalties for Infringement in the Crime Act 1914 (Cwlth) Part VIA & Part.

5.3.3 Penalties for Software Copyright Infringement Imposed by the Trade Practices Act of 1974 (Cwlth)

The provisions in this act provide that a person or corporation may infringe the provisions of the Trade Practices Act of 1974 (Cwlth), s (51) (a), by exercising rights under the Australian Copyright Act of 1968 (Cwlth) in a way not permissible under the provisions of the Trade Practices legislation. Where this infringement is unauthorised importation of software, conviction of this offence imposes a maximum penalty of imprisonment for 10 years.

5.4 The Relationship between the Acts of Australian Law that Apply Penalties for Infringement of Software Copyright in Australia

The Crime Act 1914 (Cwlth) Part VIA & Part VIIB are applied as a law in relation to copyright as they provide the provision that it is an offence to make and or distribute works without the prior consent of the owner. This is either on a personal or commercial scale. To do so is to infringe the copyright of the work and is deemed an abuse of the exclusive rights have that been conferred (provided to) on the copyright owner the work (see Chapter 3.2).

This means that a person(s) who commits an offence under the Australian Copyright Act of 1968 (Cwlth), s. 132, can be prosecuted under the Crime Act 1914 (Cwlth) Part VIA or Part VIIB and under Trade Practices Act of 1974 (Cwlth), s. (51) (a), by having knowingly made an infringing copy of a work.

The use of the Trade Practices Act of 1974 as a law which can be applied to an infringement of copyright is important to qualify. The Trade Practices Act of 1974 (Cwlth) is later in time (historically) than the Australian Copyright Act of 1968 (Cwlth) and specifically indicates in s. 51(1) (a) that copyright is not excluded from its area of jurisdiction. Hence it can be applied to alleged cases of copyright infringement.

Prosecutions for offences that are alleged to have occurred in contravention of the Australian Copyright Act of 1968 (Cwlth), the Crime Act 1914 (Cwlth) or the Trade Practices Act of 1974 (Cwlth) may be brought to case in the Federal Court of Australia or in any other court of competent jurisdiction. The application of penalties prescribed within their provisions is dependent on the circumstances of the case under consideration and precedent (see Chapter 4.1).

5.4 Summary

Software copyright in Australia is easy to obtain and the penalties for infringement are severe. They can be levied on either individuals or registered companies. Infringement actions apart from civil actions for damages arising from copyright infringement are also provided for in the provisions of the Australian Copyright Act of 1968 (Cwlth), Crime Act 1914 (Cwlth) and the Trade Practices Act of 1974 (Cwlth).

The interpretation of the determination of infringement by the pertaining Australian Legislature in the court system (see Chapter 4.1) has been a difficult task. This statement is exemplified by the events of case examples brought before the judiciary (see Chapter 2.1.1).

In recognition of this problem the Australian Federal Government instituted a review by the Copyright Law Review Committee (CLRC) to assess the suitability of copyright to afford suitable protection to software and computer programs. These and other issues are further discussed in the next chapter.

6. The Australian Copyright Law Review Committee (CLRC)

On April 12, 1995 the Australian Copyright Law Review Committee (CLRC) concluded an almost eight year study of software copyright issues. The CLRC's 350 page final report concluded an open process of public hearings, several rounds of comments, a series of technical demonstrations and draft recommendations. The CLRC's Report (Computer Software Protection, 1995) is currently before the Australian Federal Government for consideration.

As a consequence of this report there are a number of proposals for amendments to the Australian Copyright Act of 1968 (Cwlth). Fitzgerald (1996) finds in relation to the recommendations of the CLRC that while their recommendations are not directed solely to the subject of the protection afforded by Australian copyright to information technology products, they may well have significant consequences. The implications of these consequences are discussed in Chapter 6.3.

The CLRC (Computer Software Protection, 1995) examines the question of whether Australia's copyright regime will be appropriate in the coming decades, in light of important social, commercial and technological changes. Particularly whether the current system of copyright will continue to reflect a balance most appropriate to securing Australia's long term cultural, social and economic interests.

In addition to its Final Report (Computer Software Protection, 1995), the CLRC also released a report (Copyright Reform: A Consideration of Rationales, Interests and Objectives, 1996) that was released with the intention of being a review paper on its recommendations for proposed changes to the Australian Copyright Act of 1968 (Cwlth). The primary purpose of this document was to stimulate debate on the argument made in support of the modern copyright regime.

6.1 History of the Copyright Law Review Committee

The Copyright Law Review Committee (CLRC) was first established in 1983 as a specialist advisory body appointed to inquire into and report on specific copyright issues referred to it by the Government. The Australian Copyright Amendments Act 1984 (Cwlth) brought computer programs under the protection of Australian Copyright Law. On the 19th October, 1988 the then acting Attorney-General, Senator Michael Tate (representing the Australian Federal Labour Government) announced the formation of and inquiry by the CLRC to investigate the suitability of copyright to provide protection for computer programs in Australia. The CLRC was composed of jurists, intellectual property lawyers and industry representatives.

Amendments made to the Australian Copyright Act of 1968 (Cwlth) in 1984 for the protection of Software in the Australian Copyright Amendments Act 1984 (Cwlth) had proven inadequate following challenges in action in the courts for conclusive legal definition. This had been exemplified (see Chapter 2.2.1) as per the outcomes of the Apple Inc Ltd v. Computer Edge Ltd (1983) and the Apple Inc Ltd v. Computer Edge Ltd (1984) cases seen as the catalyst for the enacting of the Australian Copyright Amendments Act 1984 (Cwlth).

The CLRC received an addition to its terms of reference by letter dated the 5th of January 1989 (Fitzgerald, 1996). This was;

- Whether there was any need to amend the Australian Copyright Act of 1968 (Cwlth), s. 88 to provide expressly that the copyright in a published edition extends beyond reproduction by a means that includes; a photographic process to reproduction from a database where entry of the work was effected by purely electronic or mechanical means.

This was further extended on the 18th of January 1991 when the committee (the CLRC) was asked to review its 1988 Report on the Importation Provisions of the Australian Copyright Act of 1968 (Cwlth) as they applied to computer programs (Fitzgerald, 1996).

The additions to the CLRC's terms of reference (Band & Katoh, 1995) by the Government were made as the question of the suitability of copyright as a regime to provide adequate protection to intellectual property was the subject of intense debate in both the Commission of the European Communities (CEC) and the United States of America (see Chapter 6.3). The Australian Federal Government was (Christie, 1994) concerned that countries important to Australia's economic and trading interests may impose trade sanctions if Australia was to break ranks on the appropriate form of protection for computer programs. Waters & Leonard (1991) found that these additions were as a consequence of lobbying of the Government by software producers to assist in the protection of Australia's relatively infant software industry.

6.2 The Recommendations of the Copyright Law Review Committee

This section discusses the recommendations (Computer Software Protection, 1995) made by the Copyright Law Review Committee (CLRC) for changes to the Australian Copyright Act of 1968 (Cwlth). The implications of these proposed changes are discussed later in Chapter 6.3. It is important to qualify that the CLRC emphasised (Computer Software Protection, 1995) that none of its recommendations is intended to undermine or weaken the quality of protection of the rights, that owners of computer programs should have.

Nevertheless in the creation and protection of property rights, an attempt has been made to strike a balance between adequate protection and the need to provide the community with access to intellectual property and the rights it provides (Computer Software Protection, 1995).

That there should be such access to protection is important to the owners of intellectually property (copyrighted material) as well as to potential users of copyright material. As stated by the CLRC "the striking of this balance is something which must be attempted in the public interest. The task has not been an easy one" (Computer Software Protection, 1995, p. 2).

Whether the recommendations of the CLRC will be adopted into law is still unknown. Band & Katoh (1995) state in relation to the recommendations of the CLRC (Computer Software Protection, 1995):

It eliminates the confusing reference to the Berne Convention; it permits decompilation to achieve interoperability between software and hardware; and it removes the technologically infeasible limitation of decompilation to only those parts of the program necessary for interoperability. (p. 24)

6.2.1 Literary Works

Fitzgerald (1996, p. 104) states "that fundamental to the CLRC's inquiry was the question of the form of protection that should be given to computer software". The CLRC recommended (Computer Software Protection, 1995) that computer programs should continue to be protected under the Australian Copyright Act of 1968 (Cwlth) as "literary works". For a definition of "literary works" in its present form as provided in the Australian Copyright Act of 1968 (Cwlth) see Chapter 3.3.

The CLRC expressed the view (Computer Software Protection, 1995, para. 2.06 & 6.9.03) that "the term of protection given to computer programs as a result of their categorisation as 'literary works' was too long and should be reduced to an inclusive period of 50 years". This is in contrast to the current term of protection enforced in the Berne Convention (1971), an international treaty for the protection of intellectual property. Australia is a current signatory member of the Berne Convention (see Chapter 4.2.1).

6.2.2 Computer Program Definition

On the question of clarifying the definition of "computer program", the CLRC recommended (Computer Software Protection, 1995, para. 4.07 & 4.09), the definition of "computer program" should be retained in the Australian Copyright Act of 1968 (Cwlth) as if removed it would

create uncertainty. However, the current definition of "computer program" in the Australian Copyright Act of 1968 (Cwlth) needed to be made more comprehensive. For the current definition of "computer program" as provided by the Australian Copyright Act of 1968 (Cwlth) see Chapter 3.1. It was proposed by the CLRC (Computer Software Protection, 1995) that the current definition of computer program should be substituted by the one used in the United States Copyright Act, s. 101, which states that a "computer program" is:

A set of statements or instructions to be used
directly or indirectly in a computer in order to bring
about a certain result. (para 2.04(b) & 6.25)

6.2.3 Copyright Owner's Exclusive Rights

For the exclusive rights of ownership granted to a copyright owner no changes were seen as being necessary to Australian Copyright Act of 1968 (Cwlth), s. 35(6), that deals with identifying the owner of a copyright work and the exclusive rights that they are afforded (see Chapter 3.2). The CLRC (Computer Software Protection, 1995, para. 2.07, 2.08 & 8.03) states that "the owner of copyright in a program should have the same economic rights as those provided for 'literary works' in the Australian Copyright Act of 1968 (Cwlth), s. 31(1) (a)". Where the owner

of the copyright in a "literary work" has the exclusive rights to;

- (1) Reproduce the work;
- (2) Publish the work;
- (3) Perform the work in public;
- (4) Broadcast the work;
- (5) Cause the work to be transmitted to subscribers of a diffusion service;
- (6) Make an adaptation of the work; and
- (7) Do any of the acts (1) to (5) in relation to adaptation of the work.

Further that the owner of a computer program should be able to control the commercial rental of a computer program (Computer Software Protection, 1995, para. 2.12 & 9.85). This is a current requirement of Article 11 of the TRIPS Agreement (1994) that requires an exclusive right to authorise or prohibit rental of films and computer programs. See Chapter 4.2.4 for detail on the TRIPS (1994) agreement as source of International Law for the protection of Intellectual property.

6.2.4 Revision of the Reproduction Definition

It was concluded by the CLRC that in order to overcome any uncertainty, a clarifying definition of "reproduction" was required in relation to works stored in a digital form (Computer Software Protection,

1995). For works stored electronically (in a digital form), the definition of reproduction in the Australian Copyright Act of 1968 (Cwlth) should be amended (Computer Software Protection, 1995) so it is worded as:

The mere act of conversion of a work or an adaptation of a work from its hard copy human readable form to an electronic form of storage, such as digital, which is machine readable and which when printed out is unintelligible by reason of consisting of machine readable symbols to be a reproduction of the work of the adaptation. (para. 6.55)

This revised definition of "reproduction" (Computer Software Protection, 1995) would allow for the conversion of a work or adaptation from an electronic form to a hard copy form (making a printout of a work stored electronically). Additionally the definition of reproduction (Computer Software Protection, 1995) includes but is not limited to;

- An object code version of the program that has been derived from the program in source code by compilation; (para. 6.55 & 6.66) and
- A source code version of the program that has been derived from the program in object code by decompilation. (para. 6.55 & 6.66)

6.2.5 Adaptation and Exclusive Rights

On the matter of adaptation the CLRC recommended (Computer Software Protection, 1995) that the owner of copyright in a computer program should also have the exclusive rights to;

- Make an adaptation of the program (para. 9.53);
- Publish the program (para. 9.58);
- Broadcast it to the public (para. 9.68);
- Transmit it to subscribers of a diffusion service (a subscription database) (para. 9.74); and
- To the extent it may be relevant perform it in public.(para. 9.64)

Where these exclusive rights closely resemble those extended to the owner of a literary work (see Chapter 3.2) that are provided by the Australian Copyright Act of 1968 (Cwlth), s. 31(1) (a). This was not without the application of exceptions to these exclusive rights. The exceptions proposed to these exclusive rights by the CLRC (Computer Software Protection, 1995) were;

- For normal copying the Australian Copyright Act of 1968 (Cwlth) is amended to provide that copyright is not infringed by copying of a computer program which is necessary or reasonable for the normal use of the program. (para. 9.19)

- For back-up copying the Australian Copyright Act of 1968 (Cwlth), s. 43, is amended to allow the user of a computer program to make a copy and use the copy while the original is stored. However this right would not extend to a program which had been locked by the copyright owner against copying.
(para. 9.20)

In addition, the CLRC recommended that (Computer Software Protection, 1995) decompilation activity to understand the techniques or ideas underlying a computer program (see Chapter 6.2.2 for the definition of computer program) should be governed by the fair dealing provisions of the Australian Copyright Act of 1968 (Cwlth). This should be subject to the qualification that this applies only to "non commercial" activities, those that do not involve monetary gain for profit.

Where the Australian Copyright Act of 1968 (Cwlth), s. 40(2) which considers fair dealing currently provides that:

A fair dealing with a literary ... work, or with an adaptation of a work, for the purposes of research or study does not constitute an infringement of the copyright in the work.

6.2.6 Decompilation, Reverse and Black Box Engineering

For decompilation, the CLRC recommended (Computer Software Protection, 1995) it is permissible for the purposes of error correction, interoperability of a hardware device or to ensure the operation of a program with another program(s) or hardware device provided;

- Decompilation is performed by the owner of a lawfully acquired copy of the program or another person having a right to use the copy or on their behalf by a person authorised to do so; and (para. 2.22 & 10.26)
- A version of the computer program free of the error has not previously been made available. (para. 2.22 & 10.26)
- The acts are confined to those necessary to correct the error (para. 2.22 & 10.26); and
- A version of the program free of the error is not available within a reasonable time at a normal commercial price. (para. 2.22 & 10.26)

For reverse engineering by decompilation the CLRC recommended (Computer Software Protection, 1995) it should be left as a matter for negotiation between the user and the copyright owner. In consideration of the instances of "black box" reverse engineering, which does not involve decompilation, it was recommended by the CLRC that

the Australian Copyright Act of 1968 (Cwlth) is amended to allow the reproduction and study of computer programs (Computer Software Protection, 1995).

6.2.7 Program Locks

On the subject of hardware and software locks the CLRC recommended modification to a locked computer program to circumvent a lock is prohibited unless done with the owner's consent. Regardless of whether the lock is either a hardware or software lock (Computer Software Protection, 1995, para. 2.29 & 10.94). This is subject to the recommendations (see Chapter 6.2.6) permitting copying for backup purposes, error correction and interoperability. In the making of this recommendation it was emphasised by the CLRC (Computer Software Protection, 1995) that users of computer software should still be able to circumvent locking devices for error correction.

6.2.8 Parallel Importation

Under the existing provisions of the Australian Copyright Act of 1968 (Cwlth) the owner of copyright in a work can control importation of a copyright work for commercial purposes. This allows the copyright owner to establish a regime of price control over their creation. In lieu of this situation the CLRC recommended (Computer Software Protection, 1995, para. 11.04) that the current restrictions on importation should remain unchanged with a review at the end of 1997 to investigate the

area thoroughly. In the interim, criminal sanctions that apply to unauthorised importation of software should remain unchanged. These are currently administered by the Trade Practices Act of 1974 (Cwlth), s. (51) (a), (see Chapter 5.3 & 5.4).

6.2.9 Computer Generated Materials

For computer generated material two distinctions were made (Fitzgerald, 1996). These were materials created with the assistance of computer programs and materials generated by a computer program where a human author cannot be identified.

In the first case (materials created with assistance of computer programs) the CLRC recommended (Computer Software Protection, 1995, para. 11.41 & 11.46) that software will be afforded copyright protection in the same way as that which is produced by traditional means (written using a word processing program). In the second case (materials generated by a computer programs where a human author cannot be identified) the CLRC recommended (Computer Software Protection, 1995) a new category of subject matter, "computer generated material" should be added to Part IV of the Australian Copyright Act of 1968 (Cwlth). Where "computer generated" means "the material is generated by a computer in circumstances such that there is no human author of the material" (Computer Software Protection, 1995, para. 2.42, 13.17 & 13.18).

To overcome the problem of attributing authorship (identifying the owner of copyright in a work) the CLRC recommended (Computer Software Protection, 1995, para. 2.42) the Australian Copyright Act of 1968 (Cwlth) is amended to a form similar to that of legislation enacted in the United Kingdom (U. K. Copyright Act of 1956, s. 178). This provides that the author of computer generated material is the person by whom the arrangements necessary for the creation of the material are undertaken and computer generated material should be protected for a term of 25 years from which it was made (Computer Software Protection, 1995). This is a significant difference from the term of protection of life of author plus 50 years as imposed by the Berne Convention (see Chapter 4.2.1).

6.2.10 Databases and the Exercising of Copyright Control

"The CLRC saw no need to amend the provisions of the Australian Copyright Act of 1968 (Cwlth) to deal with authorship, ownership and duration of protection in relation to electronic databases" (Fitzgerald, 1996, p. 110). In consideration of screen displays the CLRC recommended that (Computer Software Protection, 1995, para. 2.58 & 14.65), this was a form of "electronic browsing" like the normal use of an on-line database and did not infringe any of the copyright owner's rights. The CLRC envisaged that the licensing of copyright works included in electronic databases could be administered by a copyright collecting

society. To facilitate this administration an extension (the provision of authority) would be required to the Australian Copyright Tribunal under Part VI of the Australian Copyright Act of 1968 (Cwlth), to enable it to consider licence agreements involving the use of copyright materials in electronic databases (Computer Software Protection, 1995, para. 2.45 & 14.16). However, the CLRC did state (Computer Software Protection, 1995):

That the calling up of work from a computer database onto a computer terminal did not constitute a 'public performance', and the Australian Copyright Act of 1968 (Cwlth) should be amended to reflect this. (para. 14.41)

In the making of this recommendation the CLRC recognised that screen displays are likely to become an increasingly frequent means by which copyright works will be used. However, it did not regard the right of public performance as the appropriate means for controlling all acts of displays on a screen without distorting the notion of public performance as it is presently understood in the Copyright Act (Computer Software Protection, 1995).

6.3 The Implications of the Copyright Law Review Committee Recommendations for Software Copyright in Australia

The CLRC has made a series of recommendations for alterations to the Australian Copyright Act of 1968 (Cwlth), a discussion on the possible implications of these changes if adopted into law for the protection of software under copyright follows.

The Copyright Law Review Committee's (CLRC) final report (Computer Software Protection, 1995) may have important implications for the protection of software by copyright if adopted into legislation (Grad, 1995). According to Christie (1994):

The Australian Copyright Law Review Committee recently published its long-awaited Draft Report on Computer Software Protection. This document contains initial recommendations for reform of intellectual property protection for both software and data. It canvasses the important issues which are addressed in the EC Software Directive and the Proposed EC Database Directive, and many others as well. (p. 77)

Where the EC referred to by Christie (1994) is reference to the Commission of the European Communities (CEC) empowered with the duty to develop and interpret both copyright and broadcasting policy

within the European Union. In 1991 the CEC issued a directive (CEC Software Directive, 1991) that placed great emphasis on the growing importance of copyright to industry and commerce and the need to protect copyright owners from the undesirable use of their works by means of new technologies. The proposed EC Database directive reference by Christie refers to the directive issued by the CEC (CEC Database Directive, 1993), the aim of which was to clarify the issue of the legal use of databases as copyrighted works.

Fitzgerald (1996), with a similar opinion on the final recommendations of CLRC's (Computer Software Protection, 1995) states:

The CLRC's Final Report has been welcomed as a comprehensive and well reasoned document which sets out a blueprint for amending the Copyright Act to ensure appropriate protection for computer software in Australia. (p. 103)

What follows is a summary of, and comment on the implications of, the recommendations by the CLRC (Computer Software Protection, 1995) for proposed changes to the Australian Copyright Act of 1968 (Cwlth) for the protection of software by copyright.

6.3.1 Literary Works and Terms of Protection

In receiving submissions on its terms of reference the CLRC was extensively lobbied by representatives in the software industry who expressed the view that the term(s) of protection given to computer programs as a result of their categorisation as literary works was too long. Currently this is the life of the author plus 50 years. While the CLRC (Computer Software Protection, 1995) agreed with this view, it concluded that owing to Australia's obligations under the Berne Convention (1971) and the TRIPS (1994) agreement the existing term(s) of protection should continue to apply to all computer programs whether published or unpublished (see Chapter 4.2.1 & 4.2.4). This reflects the current international position on intellectual property rights which seem unlikely to change in the short term (Conrick, 1995). It may also be viewed as a reluctance by the CLRC to recommend a change which may be poorly received in the international market place if enacted into legislation and which will become a legally binding statute.

6.3.2 Computer Program Definition

The CLRC's proposed recommendation (Computer Software Protection, 1995) for a definition of computer program would seem to possess several distinct advantages in amending the Australian Copyright Act of 1968 (Cwlth), these are;

- It is not limited to programs for digital computers by catering also for analogue computers.
- It extends to include programs written in declarative programming languages; and
- It covers programs in source code, object code and microcode.

While this recommendation on face value is a worthwhile initiative the CLRC did not provide a definition of "computer"; this is currently a notable absence in the Australian Copyright Act of 1968 (Cwlth). As such this may well continue to remain a problem. Simply, it will be left to the courts of Australia, as is the situation now, to establish on a case by case basis an understanding of exactly what a "computer" is, on which software and computer programs are used.

6.3.3 Copyright Owner's Exclusive Rights

On the question of "look and feel" or user interface (the behavioural features of computer programs), the CLRC rejected the submissions of major software producers in making any recommendations for changes. It recommended (Computer Software Protection, 1995) that no amendments should be made to the Australian Copyright Act of 1968 (Cwlth) to establish additional protection for the behavioural features of computer programs. The view of the CLRC (Computer Software Protection, 1995) was that the desirability of promoting standardisation of user interfaces and ensuring that the most efficient user interfaces are used and developed outweighed the need to grant authors copyright protection for the "look and feel" of program behaviour. In the long term whether this view is wise is still very much a matter of adopting a "wait and see" approach.

6.3.4 Reproduction and Non-Literal Infringement

A redefinition of reproduction in the Australian Copyright Act of 1968 (Cwlth) should provide assistance in the difficulties of ascertaining the appropriate scope of the reproduction right and how it extends to copyright owners. These difficulties (ascertaining the appropriate scope of the reproduction right) arise because of the unique nature of computer programs as functional copyright works which cause computers to carry out certain functions (Christie, 1993).

The new definition of reproduction will provide an important supplement in cases of adaptation where a program is translated from one language to another, but is not a reproduction (a distinguishable copy) of the original. It will also cater for those aspects of some computer programs that have a commercial value and arguably deserve protection, but fall outside the proper scope of copyright protection

However, the CLRC has recommended (Computer Software Protection, 1995) that amendment of the Australian Copyright Act of 1968 (Cwlth) occurs to provide that copyright is not infringed by copying of a computer program that is "necessary or reasonable" for the normal use of the program. This action can create problems. As stated by Fitzgerald, (1996, p. 106), "despite comments that the words 'reasonable', 'necessary' and the term 'normal use' lacked certainty, the Committee saw no need to define them". Whether this will pose a problem if this alteration is adopted into law and create difficulties in an interpretation by the legislature has to be tested.

The principle of non-literal copying, highlighted that there may be infringement of copyright in the source code or object code of a program where other software has adopted the same, or a substantially similar design. A program's "non-literal elements" includes the structure, sequence and organisation of its underlying code (see Chapter 3.4).

This issue of infringement of the "non-literal elements" of a computer program has not been addressed by the CLRC and it would seem that the courts of Australia will continue to struggle with this situation subject to the views of the international community (Christie, 1994).

6.3.5 Decompilation, Reverse and Black Box Engineering

The recommendation by the CLRC (Computer Software Protection, 1995) that decompilation for error correction is allowable has created a great deal of controversy. This is clearly indicated by Grad (1995, p. 44) who states that "within the computer software industry according to sources within, it would allow tampering with software without permission from the copyright owner". This could in practice legally allow for the tampering of program locks under the guise of error correction. Conrick (1995) is quoted by Fitzgerald (1995) on the recommendations by the CLRC in relation to decompilation as claiming:

the CLRC's recommendations have been criticised as too narrow on the basis that, by limiting the permissible scope of decompilation cases of interoperability and error correction, copyright protection will be extended to functional aspects of computer programs which will not be protected.

(p. 107)

The recommendation of the CLRC (Computer Software Protection, 1995) to allow for black box engineering which does involve the decompilation of object code (see Chapter 3.1), is a provision seen as necessary in light of the High Court's decision in the Dyason v. Autodesk Inc (1990) case (Grad, 1995). In this case it was ruled that the function of a program lock used as a hardware interface was not capable of supporting copyright, but was an infringement of copyright by "black box" engineering (see Chapter 5.2).

6.3.6 Parallel Importation

The decision of the CLRC (Computer Software Protection, 1995) not to remove any of the current sanctions on the importation of software revolved around a concern that to do so could lead to an escalation of pirated software occurring from parallel importation. The control and management of parallel importation could be dealt with more effectively under the Australian government's competition policy (Band & Katoh, 1995). In a legislative sense instances of parallel importation against Australia's current competition policy platform are enforced by the Trade Practices Act of 1974 (Cwlth), s. (46), s. (48) & s. (51) (3). While in a regulatory and enforcement sense at a Federal level they are provided by the use of price monitoring mechanisms administered by the recently established Australian Consumer and Competition Commission (ACCC). The ACCC is currently empowered with this responsibility.

6.3.7 Databases and the Exercising of Copyright Control

The CLRC (Computer Software Protection, 1995) deferred any recommendation on an extension to copyright protection for "non original" databases (so called as the arrangement of their contents is not sufficiently original). This is to allow consideration on the final form of the Commission of European Communities' draft directive on Databases (1993) which is still to be released. The failure of the CLRC to address the issues of authorship of databases and the duration of protection for "dynamic databases" (electronic databases which are constantly updated) is seen as a failure to adequately address the matters in detail (Fitzgerald, 1996). Whether this will create difficulties will be a matter of adopting a wait and see approach on the deliberations of the Australian judiciary when asked to consider a case involving database authorship issues.

While not specifically related to software and computer programs the warning from the CLRC (Computer Software Protection, 1995) is that the formation of any copyright collection agency (to be used for the licensing of copyright works included in electronic databases) needs to be carefully monitored. The danger of such an arrangement is that a collection agency would, if not strictly regulated, have a virtual monopoly over the licensing of many copyright materials. This is in direct contradiction to the open and competitive market approach Australia is currently promoting to the international community.

6.4 Summary

The Australian Ministry of Justice has duly considered the recommendations (Computer Software Protection, 1995) of the Copyright Law Review Committee (CLRC) and has passed it to the Australian Federal Parliament for consideration. These recommendations propose changes to the Australian Copyright Act of 1968 (Cwlth). The recommendations of the CLRC are designed to alter the provisions in the Act so that copyright provides an appropriate form of protection to software and computer programs (Computer Software Protection, 1995). The key improvements suggested by the CLRC are a new definition of "computer program", the redefinition of "reproduction" and the allowance of decompilation for error correction. In contrast its failure to make any concrete recommendations on the copyright issues of "non-literal" infringement, parallel importation and the extension of copyright in databases are notable absences from its review.

The report of the CLRC (Computer Software Protection, 1995) indicates that copyright is viewed as the favoured form of protection for computer programs overseas. The pursuit of this policy is a deliberate initiative implemented as part of the Australian Federal Government's policy to follow the direction of other nations on the structure of their copyright regimes. The reason being that it is important that Australia, from a trade perspective, has a protection regime for software that is compatible with those of its major trading partners.

7. The Australian Position on Software Copyright in the Information Age

The Internet is arguably the world's biggest network or collection of computers. It spans universities, libraries, on-line journals, special interest discussion groups and an increasing number of commercial services. It is virtually unregulated and world wide there are no specific laws that primarily apply to the Internet and no regulatory body controlling it (Brook, 1996). The purpose of this chapter is to examine the Australian position on Software Copyright and the issues of the Information Age spawned by the profusion of the Internet.

7.1 Copyright and the Internet

Copyright law employs a relatively direct formula for determining when property rights exist and which rights are created. This formula holds that if certain specified preconditions are met, the property owner receives designated property rights in the subject matter.

It has been widely recognised by copyright commentators that there are tensions between the authors who want to be compensated for the works they produce and the public's interest in unhindered access to these works (McCoy & Needham, 1995). This tension has been evident in copyright regimes around the world which are attempting to reconcile these two competing interests by allowing the public to have access to copyrighted work, while simultaneously providing a system which affords

adequate protection to the creators. While the spirit in which the Internet was conceived should be realised (Raysman & Brown, 1994), it cannot survive indefinitely without some type of copyright protection for authors. Another important reason that a workable copyright regime is necessary stems from the fact that the potential exists for widespread distribution of, and unauthorised changes to, copyrighted works in a digital world. Where the digital world is the environment created by the Internet which allows the flow and dissemination of information across vast computer networks (Raysman et al. 1994).

The problem with the application of copyright to the Internet arises from the fact there is really no profile of the average Internet user and hence no profile of a potential copyright infringer (Brook, 1996). Anyone with a personal computer, telephone line and a modem now has access to vast amounts of copyrighted material and could infringe copyright. The current situation in Australia is that copyright law in relation to the Internet has fallen behind technology. Australia's current position and the dilemma of the protection of software by the use of copyright on the Internet is discussed in the remainder of this chapter.

7.2 The Dilemma of the Protection of Software by Copyright on the Internet

The original concept of the Internet as a shared resource encouraging the free flow of ideas, poses a dilemma for legislators (Brook, 1996). The original users of the Internet were not in favour of restricting access to any of the materials made available on the Internet, whether copyrighted or not. Many new users of the Internet are completely unfamiliar with existing copyright laws and any implications their Internet activity may have in the possible infringement of copyright (Godwin, 1997).

The ease, speed and quality of material available on the Internet also poses a problem for those responsible for legislation to protect the rights of software copyright owners. Digitised copies (copies of works in an electronic form) are perfect replicas and can be made extremely quickly with no loss in the performance quality. The ability of copyright infringers to convert already published works, which employ older technologies, into a digital form by such methods as electronically scanning the material without the permission or even the knowledge of the original copyright holder is also a potential problem.

In addition "shareware" which is placed on the Internet operates on an honour system makes it extremely difficult to enforce copyright laws and to ensure that copyright owners are compensated for their work and the efforts of their labours (Barlow, 1994).

“Shareware” is a method of software publication and dissemination in which a software creator wishing to distribute their creation without huge marketing and manufacturing costs puts it on the Internet. Anyone who would like to try the software downloads it from the Internet. If the user wishes to continue to use the software past a certain introductory period, they are obliged to pay a shareware fee to the creator of the software, if they do not they are in violation of copyright law. The concept of shareware makes it a relatively easy matter for users to download this copyrighted software (shareware) free of charge.

Another problem facing legislators (Hardy, 1994) is the sheer size and connectivity of the Internet. The number of bulletin boards, home pages, discussion groups is almost impossible to quantify. The monitoring of these for infringements of copyright is and will continue to become more difficult to monitor as the Internet continues to expand. By way of quantification of the problem the Business Software Association of Australia (BSAA, see Chapter 2.2.2) estimated that using conservative estimates of the percentage of illegal users of software equated to losses of its members alone of around \$260 million a year in 1992 (Business Software Association of Australia, n. d).

The issues (Hardy, 1994) confronting regulation of copyright protection on the Internet by its very nature necessitate an international rather than a national regime of regulation. Even if every nation in the world were to enact the most stringent of legislation, the world would still

be faced with a system of ineffective national laws trying to function within a completely international system (Brook, 1996).

7.3 The Australian Position on Software Copyright on the Internet

It is currently quite unclear whether (Australian Copyright Council, 1995) copyright of a published edition of work would be infringed by the making of a digitised version (an electronic copy) of the edition. Whether copying (downloading or uploading) of a digitised work from the Internet infringes copyright depends on the way the process occurs. Permission from the owner of the software may be required, if the process involved in making a copy after the provision of permission results in alterations or some other use of the work whose rights are exclusively controlled by the owner of copyright (see Chapter 3.2).

In Australia the provisions in the Australian Copyright Act of 1968 (Cwlth), s. 10(1) protect information which is put on the Internet without the owner's consent and, in theory, prevent information from being put on the Internet without the owner's consent and readily copied. In such circumstances the Internet represents a form of storage from which a copyrighted work can reproduced. Reproduction occurs when material is downloaded in to the Random Access Memory (RAM) of a computer and a "copy" of that material is made. If this material is protected by copyright and the copyright holder has not granted permission for that "copy", downloading the material is considered to be an infringement under the provisions of the Australian Copyright Act of 1968 (Cwlth).

The copyright of protected material is not infringed when material is "browsed", the Internet term for viewing material.

The reality is that in practice reproduction of material when it is downloaded in to the Random Access Memory (RAM) of a computer and a "copy" of that material made is common place. The abuse and infringement of software copyright by those participating in such actions has been recognised by the Copyright Law Review Committee (CLRC). It (the CLRC) has deferred any definitive recommendation on the (Computer Software Protection, 1995, para. 6.76) issue by stating "that this is a complex issue which requires substantial further review".

By definition the Internet defies geographic boundaries (Brook, 1996). Whether guidelines can be developed to afford protection to software by copyright on the Internet is a question that needs to be debated and discussed by the representatives of all nations responsible for the creation of intellectual property (see Chapter 1.2). One possible solution to the problem would be for the nations of the world, including Australia, to execute an international Internet treaty that provided the foundation for international software copyright licensing. Under this treaty an administrative type agency consisting of representatives of member nations would preside over its operation. Disputes in software copyright involving the actions of copyright infringers would be brought before the administrative agency for resolution if they were caught violating the copyright regime. The implementation of such a system could in theory substantially reduce the amount of copyright infringement

occurring on the Internet. It would (subject to successful operation) also ensure that society will continue to have access to a wide variety of creators endeavours (the works of authors) at a minimal cost.

7.4 Summary

The enforcement of a copyright regime on the Internet is a complex issue. The financial hardship suffered by authors for unauthorised use of their work is immense and there are no quick fixes to the problems. In Australia the provisions within the current governing legislation to provide copyright protection for computer software on the Internet are subject to widespread abuse. To date the response of many of the creators who create software has been to protect software by the use of internal protection mechanisms such as encryption and password protection. It is highly likely that until a solution to the problem can be agreed upon by the nations of the world, technology will be used as the primary means to protect software on the Internet.

8. General Conclusions

In this chapter conclusions on the findings of this investigation are summarised under a series of headings whose purpose is to:

- Assess the material presented;
- Document any weaknesses in the content of the material presented;
- Highlight the key points made on the Australian Position on Software Copyright in Australia; and
- Provide topic descriptions for issues proposed as future research areas related to this thesis which may extend its findings.

8.1 Assessment and Review of Thesis Content

This thesis analyses Australia's current position on Software Copyright as it currently exists under the existing governing law statutes. Further, a critical recording the recommendations of the Australian Copyright Law Review Committee (Computer Software Protection, 1995) for changes to the Australian Copyright Act of 1968 (Cwlth) and the implications of these changes for the protection of software by copyright if the recommendations are adopted into law

Assessment of this investigation is based on the author's opinion that the material presented answers in detail each of the research questions as stated in Chapter 1.5, with the exception of the Software

copyright implications for the Internet (see Chapter 8.2). The intention of the thesis is to serve as a useful reference tool and resource by those familiar with its subject and by laypersons, for questions that may arise that are pertinent to the subject area.

8.2 Research Content Limitations

In content terms researching the software copyright implications for the Internet proved an extremely difficult task due to the immense amount of material available on the subject, much of it with contradicting views. The stated findings of this investigation presented in Chapter 7 (The Australian Position on Software Copyright in the Information Age) should be treated as very general only, a detailed clarification of the issue would require a considerable amount of “fleshing out” to provide a complete discourse on the subject area.

It is also important to qualify that the results of the research presented involved the addressing of a series of specific research questions (see Chapter 1.5) following by an extended literature review and search. It did not involve the collection of data samples or the conducting of an experiment to prove or disprove a hypothesis. As such the findings presented by the use of the methodology applied to the task (see Chapter 1.6) have produced a work of significant substance which could be viewed as a detraction.

8.3 The Evolution and Use of Copyright in Australia

The evolution of the copyright regime in Australia must continue to evolve as technology changes. Australia's copyright regime has undergone significant changes since its initial inheritance in the form of "hand down" legislation from the United Kingdom as a member of the Commonwealth. The passing into legislation of the Australian Copyright Amendments Act 1984 (Cwlth) to specifically provide copyright protection to software has been indicative of these changes.

Copyright remains attractive to the software industry because protection is easy to secure, broad in scope and relatively inexpensive to apply. It aims to protect literary, artistic and scientific works, but the differences between them should not be overlooked. Whether copyright remains sufficiently flexible in its current form or in an altered form to accommodate all the demands made of it for the protection of software and new technologies is still to be seen.

8.4 Copyright in the International Arena

One thing is certain, information is now becoming all important as a source of power and knowledge. The danger is that the boundaries of its use and disclosure could well become too narrow if copyright laws in Australia, and those of its major trading partners, become too ambiguous. In reality an adoption of the wait and see approach will not solve the problem. There is a real need for the nations of the world to

continue to co-operate in addressing the issue by the further development of International sources of law.

Australia is part of a global economy that will become increasingly centred around intellectual property as industrial economies are transformed into information economies. This process will place enormous pressure on the Australian Federal government to conform to international standards. Vast differences in any allowable exceptions to copyright infringement are not likely to be tolerated where the exploitation and dissemination of material occurs without respect for international borders. This point is enforced with the recent explosion in the predominance of the Internet and the ease by which the rights of software copyright owners can be infringed on the Internet. While Australia has recognised the problems of affording adequate protection to software on the Internet no suitable initiative has been introduced to address the problem. As the Internet largely ignores geographic boundaries the solution to the problem would ultimately seem to be one that will be derived from co-operation and agreement between the nations of the world.

8.5 The Copyright Law Review Committee

The Copyright Law Review Committee (CLRC) has made a series of recommendations (Computer Software Protection, 1995) for changes to the Australian Copyright Act of 1968 (Cwlth) in order to provide adequate and suitable protection to computer programs by the use of copyright. These recommendations endeavour to address many of the current difficulties experienced by the Australian courts on issues of software copyright, namely;

- They address areas of concern that have resulted in the lack of uniformity in decision-making by the Australian judiciary in consideration of alleged infringements of software copyright;
- Strengthen and clarify the rights of software copyright holders; and
- Amend and add to the definition of terms of the copyright regime provided in the Australian Copyright Act of 1968 (Cwlth).

Whether these recommendations, if passed into legislation, will alleviate some of the current difficulties is still to be seen.

8.6 The Future of Copyright in Australia

As we approach the next millennium in Australia, Copyright is the means by which protection will be accorded to software as its classification as a form of intellectual property. This approach is on a parallel with that of Australia's major trading partners and the other industrialised nations of the world.

It is clear is that Australia's copyright laws do require some simplification and technological refinement in order to conform with international directions. Less certain is whether copyright can keep pace with technological development. Despite the prophecies of some that copyright has outlived its usefulness as a law for the protection of software and computer programs, it seems that it will continue as the most likely method of encouraging the creation of software and computer programs by the protection it grants to the creators of these works.

8.7 Potential Future Research

Throughout the course of this investigation several areas came to light where the present findings might be extended, namely:

8.7.1 The Australian Position on the Provision of Software Copyright in the Electronic Age of Computerised Databases.

A database is a related aggregate collection of information. Computerised databases now store, manage and sort huge amounts of information. If we consider that databases originate with the aid of a computer program and are used for the administration of the information therein, then copyright can potentially exist at two levels: in the database program itself and in supporting programs which assist in the use of the data contained in the database. The exacting clarification of the subsistence of software copyright in databases at these levels would be an interesting area of investigation.

8.7.2 Software Copyright after the passing into Law of part or all of the Recommendations by the Copyright Law Review Committee

This investigation has detailed the recommendations of the CLRC (Computer Software Protection, 1995) and the implications of these for the copyright protection of software in Australia. It is an undeniable fact that the proposed amendments to the Australian Copyright Act of 1968 (Cwlth) by the CLRC would alter the Australian Position on software

copyright, whether or not they were adopted in their entirety or in part thereof.

For example, changes to the permissibility of decompilation in certain circumstances would alter what is now regarded as an infringement of software copyright in Australia. An examination of these changes by the incorporation of expert opinion and statement of the new Australian position on software copyright, if the recommendations of the CLRC were enacted into legislation, would build on the findings of this investigation.

8.7.3 Copyright in the Information Age

The Internet provides a mechanism to make information freely available to a large audience. Modern copyright law as discussed in Chapter 3.2 employs a relatively direct formula (specific pre-conditions) for determining when rights exist (proof of ownership). Information specialists will need to be familiar with the application and use of copyright using the Internet. If software is what will bind computers and communications then it becomes necessary to understand copyright law as it applies to software use on the Internet. While this thesis has examined the current Australian position of software copyright and how it extends to the Internet, a more specific investigation into copyright and its role in the global information "super-highway" would be worthy of future research.

9. Final Conclusion

The use, applicability and long term desirability of copyright law to afford protection to software in an era of astonishing advances in computer technology has ensured the issue has been one of intense and active debate in academic and legal forums. The results of this debate have not been confined to just a discussion on the relevant merits and detractions of the suitability of copyright to protect computer software. They have directly contributed to its continuing evolution in response to changes in computer technology as a law in Australia and the other industrialised nations of the world.

Given the ease of communication and access to computer networks, the use of copyright to afford protection to software in Australia is no longer a national issue, rather it has become a global issue. Australia in response is attempting to actively implement changes to its existing copyright laws to achieve a position of correlation in accordance with those of its major trading partners. This is occurring by playing an active part in changes to Australian copyright law via the work of the Australian Copyright Law Review Committee and by active participation in the development and enforcement of international Treaties, such as GATT and TRIPS which provide protection to intellectual property.

The reality for the time being in Australia is that whilst the protection of software by the law of copyright is readily stated in statute form, an interpretation of copyright law by the courts has proved to be

difficult, this is highlighted by the inconsistency of decisions handed down on cases brought before it.

The agenda for the use and reform of copyright as a protection mechanism for software or computer programs in the industrialised nations of the world (including Australia) is a complex one. It involves the extremely complex task of trying to make integrated and workable principles for the creators of software into clear legal lines of demarcation that takes into account the absence of geographic boundaries (a characteristic of the Internet). Ultimately whether the implementation of this agenda is successful is still yet to be seen.

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