Software Protection and the Copyright Bill

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If you are involved in the creation of a valuable intellectual property like software, you should know something about the law in order to protect your software from unauthorised copying. With the knowledge of the relevant law, you will be in a better position to influence future legislation by actively participating in the consultative stages before any new law is passed.

Copyright law, patent law and the law of trade secrets can be used to protect software. Contract law may also be used to enhance protection by imposing contractual obligations on others. This article is concerned with copyright law, which is the most appropriate form of protection available, and specifically with the provisions made in the Copyright Bill.

The existing law governing software copyright is the Copyright Act 1911 of the United Kingdom which was modified by the Copyright Act 1956. The ineffectiveness of the present law to solve copyright problems necessitates the introduction of substantial revisions. The Copyright Bill, which was first read in Parliament on 25 March 1986 and is expected to become law before the end of this year, attempts 'to make new provisions in respect of copyright and related matters.'

Literary works

Under the Bill, copyright may subsist in original literary, dramatic, artistic and musical works and in sound recordings, cinematograph films, broadcasts and cable programs and published editions of works.

Computer programs or compilations of computer programs are classified as 'literary works' and a computer program is interpreted as:

> "an expression, in any language, code or notation, of a set of instructions (whether with or without related information) intended, either directly or after either or both of the following:
>
> (a) conversion to another language, code or notation;
>
> (b) reproduction in a different material form, to cause a device having digital information processing capabilities to perform a particular function."

For a work to be original in copyright terms, the ideas expressed in the work need not be new; it is the expression of the ideas which must be original. Two persons may produce two different programs using the same ideas and the programs will be considered as original in copyright terms unless they have copied each other's program. Therefore independent development of works based on similar ideas is permitted.

In order to prove that a program is original, enough evidence must be present. All relevant documents including specifications, designs, coding sheets and notes should be safely kept and produced when needed. A record must also be made of when and by whom the programs were developed.

Program specifications written in a natural language or pseudocode, and instructions written in a low, high or even a non-procedural fourth generation language should all qualify as computer programs. The computer programs can also be reproduced and stored in any 'material form', whether visible or invisible. That is, the program can be on disk, tape or in ROM.

Ownership of Copyright

The owner of the copyright in a work is the author. However, if the author is employed under a contract of service and produces copyright work as part of his normal duties for his employer, then the employer will automatically own the copyright. Any copyright work produced by an employee that is outside the scope of his duties under his employment contract will be owned by him.

Published Works

A piece of work is considered published if reproductions of the work have been supplied (sold or otherwise) to the public. The quantity supplied is not relevant.

Copyright shall subsist in the published work if:

a) the first publication of the work took place in Singapore,

b) the author of the work was a 'qualified' person at the time when the work was published;

c) the author died before the work was published but he was a 'qualified' person immediately before his death.

A work may be published earlier elsewhere before being published in Singapore but can still be considered as if first publication occured in Singapore if the two publications took place within a period of not more than 30 days.

An author is a 'qualified person' if he is a citizen of Singapore or a person resident in Singapore. For evidential purposes, the addresses of all program developers should be recorded for the period during which the program was developed together with their nationalities, countries of birth and usual residence. The information will be useful in proving that the authors of the program were qualified persons.

It is not necessary to register the published work in order to protect the copyright but the affixation of proper copyright notice is. Copyright notices should be on all programs and documentation even though they are used in-house and not distributed to the public.

Unpublished Works

For copyright to subsist in an unpublished work, the author must be a 'qualified person' at the time the work was made or for a substantial part of the period when the work was made, if the making of the work extended over a period of time.

Rights given to Copyright Owners

The Bill gives the copyright owner the exclusive right to do, and to authorise others by granting licences to do, certain acts in relation to the copyright work. These acts are, inter alia, adapting, publishing, and reproducing the work and an adaptation of the work.

The definition of 'adaptation' proposed in the Bill is:

> 'in relation to a literary work being a computer program, 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.'

An adaptation of a computer program derives its copyright from the

work from which it is adapted. It is the copyright owner's exclusive right to, inter alia, reproduce, adapt and publish an adaptation of the original program.

It is therefore not possible for any 'pirate' to reverse engineer to avoid infringing. A 'pirate' normally translates a copyright program into, for example, structured English and then retranslates the structured English version into a conventional programming language. When the Bill becomes law, the 'pirate' would have no right to adapt a copyright program.

The conversion of an enciphered program into a computer language or code by a non-owner is not allowed since only the owner may adapt the enciphered program which is an adaptation of the original program using a cryptographic technique.

Duration of Copyright

An author has exclusive rights in his work during his lifetime and for another 50 years after his death. If the work was not published before the death of the author, copyright of the work will subsist for 50 years after publication.

Infringement of Copyright

A work is infringed by a person who, not being an owner of the copyright and without the licence of the owner of the copyright, reproduces, adapts or publishes the work.

To prove there has been an infringement of copyright, it is necessary for the copyright owner to show firstly that copyright subsists in the published or unpublished work.

The copyright in a computer program is not infringed by the making of a reproduction of the program if:

a) the reproduction is made by, or on behalf of, the owner of the copy ('original copy') from which the reproduction is made; and
b) the reproduction is made for the purpose of being used, by or on behalf of the owner of the original copy, for backup purposes.

Remedies For Infringement of Copyright

The following acts will become offences if done in relation to an infringing copy of a computer program:

a) selling or letting for hire
b) by way of trade offering or exposing for sale or hire
c) exhibiting by way of trade in public
d) importing other than for private or domestic use.

A person who has committed any of the above offences shall be liable on conviction to a fine not exceeding $10,000 for an infringing copy of the program or for each infringing copy or $100,000 whichever is lower, or to imprisonment for a term not exceeding 5 years or to both.

Any person, who at a time when copyright subsists in a work, distributes for trade or otherwise articles which he knows to be infringing copies of the work will be liable to a fine not exceeding $50,000 or to imprisonment for a term not exceeding 3 years or to both.

Also, any person who advertises for the supply in Singapore (whether within or outside the country) of an infringing copy of software is liable to a fine not exceeding $20,000 or imprisonment for a term not exceeding 2 years or both.

Protection of Foreign Works

There are also provisions in the Bill for the Copyright Act 1986 to be applied to other specified countries. Regulations could be made to accord foreign works the same copyright protection given to Singapore works.

Conclusion

The provisions made in the Copyright Bill will encourage creative efforts in the country. All individuals and organizations who are engaged in the creation of industrial and intellectual products like software should know how the new Bill aims to tackle the problem of software piracy. This article only looked at the Copyright Bill in relation to computer software. Legal protection of computer software also comes from three other sources namely, patent law, trade secret law and contract law. These other forms of protection, though relevant, should be the subject of another article.

Author

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STOP PRESS! — SEARCC '86

The Singapore Computer Society will be leading a delegation to the SEARCC '86 conference in November 1986. Members who join this delegation will be given special rates for airfare and accommodation. Please contact Susan Lim, tel 4746757, for more details as soon as possible.

Special Interest Groups

The SCS Special Interest Groups (SIGs) provide a forum for IT professionals to interact, to share ideas and experiences, and to help each other resolve common difficulties in the implementation, operation, and maintenance of their EDP Systems. The excellent response to the many activities that have been organised for members is proof that SIGs have an important and useful role to play in SCS.

The SIGs would like to continue to expand the nature and scope of its activities. It is for this reason that the SIG Board is now inviting SCS members to come forward and join one or more of the SIGs as sub-committee members. Alternatively, some SCS members may wish to set up new Special Interest Groups within the SCS. These members should contact the SIG Board Chairman, Mr Lim Say Beng, for more details.

We list below the names, addresses and contact telephone numbers of the SIG Chairmen. SCS members who wish to come forward to serve in any of these groups are cordially invited to write to or phone the respective chairmen. We look forward to your support.

OFFICE AUTOMATION (SIGOA)	Mr Lim Say Beng, (SIG Chairman) Rhema Systems Technology Pte Ltd 2 Finlayson Green #18-00 The Penthouse Asia Insurance Building Singapore 0106 Tel: 225-7811
MICROCOMPUTER (SIGMICRO)	Mr Robert Cook, (SIG Vice Chairman) Institute of Systems Science National University of Singapore Heng Mui Keng Terrace Singapore 0511 Tel: 772-2007
COMPUTER SECURITY (SIGCS)	Mr Gerard Tan, (SIG Treasurer) Coopers & Lybrand 9 Penang Road #12-00 Supreme House Singapore 0923 Tel: 336-2344
DATA COMMUNICATION NETWORKING (SIGCOM)	Dr Poo Gee Swee Department of Information Systems and Computer Science National University of Singapore Kent Ridge Singapore 0511 Tel: 772-2734
PRODUCTIVITY TOOLS (SIGPRO)	Mr Tan Heng Meng Vocational & Industrial Training Board Vocational Drive Singapore 0513 Tel: 775-7800 × 254
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