
Technical Briefing

Intellectual Property Rights for Software

Importance of Intellectual Property Rights (IPR)

Intellectual Property, and its protection, has been recognised as of major industrial importance in the manufacturing sectors for many years. In recent years, however, IPR has taken on a new and vital importance in many of the new industries that have grown up based on, or facilitated by, the advances in electronics and software. This Note focuses on IPR from the perspective of software, while recognising that it has become equally important for music, video and sound technologies and the new digital media.

Central to many of these areas, and especially so for software, is the intangible nature of the 'product'. This is why they have been termed "Intellectual Property". Software, like other intellectual property, is an asset, is valuable and needs protection just like any other property or asset. Indeed, for software companies, it may be their primary asset and form the basis of the valuation of the company – despite the fact that it rarely shows up on the company Balance Sheet. Thus getting the IPR strategy wrong can be expensive for a company. In some cases it has even led to the collapse of the company.

It is also important to remember that the intellectual property which is generated with software is not only the binary code as issued to customers, but also all source code, associated documentation (user documentation, requirements and design specifications, algorithms, etc) as well as the user interface and the product name.

Types of IPR

Intellectual Property can be protected in several ways. Each has advantages and disadvantages (having evolved from the world of books and manufacturing, and just recently been adapted for Software and other IT related areas), so it is important to ensure that the optimum mix of approaches is taken. It is also important to recognise the steps that must be taken to ensure that the chosen means of protection are applicable. In general, protection must be planned in advance – it is difficult, or may be impossible, to do so after a problem has arisen.

The principal forms of IPR that are available are as follows:

- Copyright
- Patents
- Trade Secrets
- Trade marks



Each of these will now be outlined in the sections below.

Copyright

Copyright is the most important form of IPR protection for software. It is also the simplest and cheapest to implement. It covers the **expression** of ideas, not the ideas per se. This expression of ideas must be in some fixed form – traditionally published hard copy – but this can be in any medium including code (source or binary) or graphics images, sound files etc. As the name implies, it gives the author the exclusive right to control the copying and publication of the item. While the law is based on traditional concepts relating to books and publications, in the case of software it would include: -

- prohibiting the making of unauthorised copies
- preventing use by more than the licensed number of people,
- installing a ‘new’ software product to be largely copied from the code of another product
- and of course prohibiting the commercial pirating of software.

Copyright protection is **automatic** (with no formalities required) on ‘publication’ – i.e. making available to other than the author or their organisation. It applies to **original** work, with no criteria as to merit or use. While, as stated, copyright is automatic on first publication, nevertheless it is important to publicly define the ownership and that protection is being claimed. Otherwise it may be very difficult to enforce the owner’s rights at a later stage if the matter is in dispute. A copyright notice is usually shown in the form outlined in the box below.

© 2000 Centre for Software Engineering Ltd.
All Rights Reserved

The essential elements of this notice are:

- The copyright symbol © (the word copyright can be used as an alternative)
- The date (year) of ‘publication’ – in the case of software this would be the year of first issue. Where multiple versions are released, this may be expressed as a range of dates, e.g. 1998-2000
- The name of the copyright holder
- The term “All Rights Reserved” is not strictly part of the standard copyright notice but is often included, and usefully so, particularly for items such as software.

The law is largely standardised in Europe as a result of a 1991 EU Directive. Internationally, activities with the WTO and WIPO are bringing a similar degree of standardisation to the rest of the world. These initiatives draw on the classical legal basis of copyright as applied to books, and adapt it to the requirements arising from software, digital media, etc.

In Ireland the main legislation is the Copyright Act 1963 (amended '87 & '98) along with the associated Regulations bringing the EU Directive into force here. The whole area of Copyright has recently been consolidated and modernised by the Copyright & Related Rights Act 2000.

In the USA, the situation is similar but not identical to EU law. In the USA, there is a concept of an “unpublished work”. Also, they have a scheme - optional but recommended - of **registration** of published works (and therefore including software). This registration is generally necessary in order to **enforce** copyright through a legal action.



Patents

The granting of Patents is intended to provide protection for **inventions**. It therefore protects **ideas** (= innovation). A Patent gives a monopoly (normally for 20 years) to use and exploit that idea **in return for disclosure** of the details of the invention into the public domain. Patents are complex and expensive to obtain, and specialist advice is always required, but on the other hand may confer tax benefits if granted.

A successful application for a Patent must show that it is an independent invention, which solves some technical problem (“produces a technical effect”) and that it possesses:

- Novelty (i.e. is new)
- Inventive Step (i.e. is an advance on the prior ‘state of the art’)
- Industrial Application (i.e. can be used in practice in some way)

Software has traditionally been excluded from Patent protection in Europe (under the terms of the European Patent Convention), but the position has become more relaxed in recent years. There is a definite trend towards more active use of patents for software in the USA.

There is some argument within the industry as to whether the use of Patents for software IPR protection is on balance the right way to proceed. They protect ideas, but at the expense of disclosure. Copyright protects the expression of ideas rather than the ideas themselves (which must therefore be protected as Trade Secrets). Until recently, the consensus was that Copyright was the best means of protection for Software. At present, however, there are proponents for both points of view.

Trade Secrets

Trade Secrets are precisely that - your secrets! They cover whatever know-how and information which is internal to your company and which is commercially sensitive and/or which gives you a competitive advantage. Examples would be details of your software architecture, design and implementation specifications, algorithms, etc.

There is no formality associated with protecting your Trade Secrets. The basic rule is that they **must not** be disclosed. Therefore the conditions of employment for all employees (and contract conditions for any contractors or others who have access to the information within your organisation) must protect the confidentiality of all relevant material. Such material should also **never** be released outside the company except under controlled conditions. For commercial products this control is achieved by the software Licence. For other material it is essential to use a Non-Disclosure Agreement.

Trade Marks (& Service Marks)

Trade Marks (and Service Marks) are used to protect the names of products or services. Most commonly, this will be for the names of your software products, your logo and possibly also your company name.

Trademarks get some weak legal recognition just from usage, but for proper protection they should be registered. There is a separate register in each country, but a European-wide single registration has also been introduced. For registration, the name (or whatever) must be unique, should not be a common term used in its usual sense, and not likely to cause confusion with another trademark. These conditions relate only to the defined Class into which it falls. Once a Trademark has been registered, you can take legal action to enforce it and stop others using it.



The normal way of identifying marks is to use the format **name**TM for unregistered Marks, and **name**[®] for registered marks, or to specify the status in a sentence such as “**name** is the registered trademark of ABC Ltd”.

Summary

The discussion above can be summarised in this way: -

	Copyright	Patent	Trade Secret	Trade Mark
Ideas		Yes	Yes	
Functionality	??	Yes	Yes	
Design	Yes	??	Yes	??
Documents	Yes		Yes	
User Interface	??			
Code	Yes		Yes	
Names				Yes

Notes: *Cells showing “??” indicate it may apply to some extent in some circumstances.
Trade secrets are protected only to the extent they are kept secret; others can protect in public arena.*

CSE Services

This Briefing Note has just presented an overview of the key points relating to IPR protection for Software. There are many details and legal complexities that have not been addressed here. CSE can provide more detailed advice on request, particularly on the practical implementation of the principles outlined here. It may be also advisable to get detailed legal advice from a firm of Patent Attorneys or from a specialist IPR unit within a legal practice.

Further Information:

- **Intellectual Property Law in Ireland** (R. Clark & S. Smyth)
Butterworths, 1997 ISBN 1 85475 1247
- **Information Technology Law in Ireland** (D. Kelleher & K. Murray)
Butterworths, 1997 ISBN 1 85475 825X
- **Software Copyright Law (3rd Ed)** (D. Bainbridge)
Butterworths, 1997 ISBN 0 406 89421 3
- **EU IPR Helpdesk** www.ipr-helpdesk.org
(mainly focused on IPR issues arising from EU funded projects, but some general IPR information as well)

Technical Briefing Notes are issued on a range of software engineering topics as an aid to software developers, project leaders and managers. The intention is to provide a ‘status report’ on the state of the art (and/or the state of practice) in relation to particular aspects of software engineering. In addition they aim to highlight, where appropriate, a likely roadmap on a time horizon for future developments of the technology.