Recent years have seen the booming development of computer programs, in particular applications in smart phones and tablet computers. At the same time, unauthorised copying and unlicensed use of proprietary computer programs has become a widespread phenomenon over the world. It now becomes increasingly important for computer program developers, publishers, venture capital investors, etc., to seek proprietary protection of computer programs, in order to safeguard their commercial interests. But under which regime would it be feasible for them to seek maximum protection? Copyright? Patent?

Before proceeding to discuss the intellectual property protection afforded to computer programs, it is important to understand the nature of computer programs. A computer program uses a number of algorithms to produce a certain result; but the given result can usually be obtained by more than one software program (and/or different algorithms). The question is which object intellectual property right should attach to: (i) algorithms; (ii) various software source codes implementing the algorithms; and/or (iii) the computer program as a method to implement the given result?

Limited Protection under Copyright Law

While computer programs and adaptations of such programs¹ (e.g. converting the software source codes from one computer language into another computer language) are protected as literary works under copyright law,² the availability of the defence of fair use (in some jurisdictions like the United States) in cases of reverse engineering³ has undermined the protection. In such case, decompiling a software by reverse engineering in order to analyse

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¹ “An arrangement or altered version of the program or a translation of it,” section 29(3)(b) of the Copyright Ordinance (Cap. 528). Under section 29(4), “translation” includes “a version of the program in which it is converted into or out of a computer language or code or into a different computer language or code”.

² Section 1(1) of the Copyright (Computer Software) Amendment Act 1985, extended to Hong Kong by the Copyright (Computer Software) (Extension to Territories) Order 1987 (SI 1987 No 2200 UK).

³ See for example the United States authority Sega Enterprises, Ltd. v Accolade, Inc. (1993) 977 F.2d 1510
the algorithms and results (for the purpose of copying the idea), may be a fair use and thus
not copyright infringement. Further, copyright only seeks to protect expression of the work
(e.g. the software source codes); ideas, algorithms, procedures, and methods of operation
underlying a computer program, which are of considerable commercial value, are not
protected under copyright laws.

Computer Program Patent

Given the limited protection offered by copyright, many computer program developers and
publishers have applied for proprietary protection under the patent system instead.

It is worthy to note that algorithms per se are not patentable in many jurisdictions as they are
considered purely abstract ideas. For example, in Hong Kong, it is expressly provided in the
Patents Ordinance that “a scheme, rule or method for performing a mental act, playing a
game or doing business, or a program for a computer” shall not be regarded as an invention,
and thus not patentable. A computer program patent, in its conventional meaning, actually
refers to a computer program being a method to implement the algorithms. The question
then turns on whether such method is patentable.

Recent decades have seen skyrocketing numbers of computer program patent applications,
amongst which often contain claims based on trivial or existing techniques. The increasing
number of patent grants has also been considered to stifle innovation and competition.
Against such background the policy aim of reducing the number of patent applications with
trivial technical contribution has gained an upper hand worldwide.

As discussed in our article Business Method Patents - Development in the US and a
Comparison with China in July 2009, in the United States, the scope of patentability of
computer program is now narrower with the adoption of “machine-or-transformation” test in
place of the “useful, concrete and tangible” requirement. The European approach is even
more restrictive. It is now difficult to obtain a computer program patent even in New Zealand.

New Zealand Patents Act 2013

On 27 August 2013, the New Zealand Parliament passed a third reading of the Patents Bill,
which is due to replace its age-long Patents Act 1953. Apparently following approach taken

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4 See further Patentability Criteria for Computer Programs and Business Methods in US (ONC Newsletter, May 2008)

by the European Patent Convention ("EPC") (and specifically the United Kingdom), the Patents Act 2013 precludes a computer program from falling within the definition of "invention" or "a manner of manufacture", if the actual contribution it makes lies solely in it being a computer program. Hence computer programs “as such” are not patentable, that is, it will be denied of patentability if it is no more than an excluded matter (e.g. a business method or computer program).

However, if there are something more, e.g. if the computer program is combined with a hardware machine to form a new machine, then it may be patentable. A leeway is given to embedded software. Under the commentary to section 11 of the Patents Act 2013 of New Zealand, an example of embedded software is given. The example patent claim provides for “a better method of washing clothes when using an existing washing machine”:

“The computer program controls the operation of the washing machine. The washing machine is not materially altered in any way to perform the invention. The Commissioner considers that the actual contribution is a new and improved way of operating a washing machine that gets clothes cleaner and uses less electricity…The computer program is only the way in which that new method, with its resulting contribution, is implemented. The actual contribution does not lie solely in it being a computer program.”

Hong Kong

Provided that Hong Kong’s Patent Ordinance is also modelled on the British Patents Act 1977 (which in turn adopted the EPC), it is likely for Hong Kong to follow the restrictive British approach in assessing patent grant for computer programs. In other words, patent would only be granted to computer-program-related inventions only if their claims reached beyond computer programs and their actual or alleged contribution was more than technical in nature. This view would now be strengthened in light of the recent development in New Zealand.

On the other hand, the New Zealand position on embedded software is commendable, as it now clarifies what computer-program-related inventions reach beyond the category of computer programs “as such”. It is likely for Hong Kong to take this safe harbour into account when assessing patent applications: a green light is much more likely to be given for embedded software patent applications in Hong Kong.

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6 i.e. Computer software which plays an integral role in the electronics it is supplied with (e.g. cars, pacemakers, telephones, and washing machines)
Conclusion

As seen from above, computer program codes and their adaptations would be protected under copyright law. However if the same result is obtained by reverse engineering (i.e. a mere stealing of the idea but not copying or adaptation of the source codes), copyright owners cannot take action against the party implementing the algorithms giving the same result.

In order to enable a comprehensive protection of intellectual property rights, patent registration is necessary. But it is important to note that not every computer program (even as method) is patentable. Further, each jurisdiction has its autonomy in providing for its own patent rules: the successful registration of a computer program patent in New Zealand does not automatically imply that the patent can be registered in Hong Kong or elsewhere, even for embedded software patents. Before proceeding onto applying for computer program patents in Hong Kong or elsewhere, it is prudent to consult patent attorneys and/or lawyers.

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Important: The law and procedure on this subject are very specialised and complicated. This article is just a very general outline for reference and cannot be relied upon as legal advice in any individual case. If any advice or assistance is needed, please contact our solicitors.

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