Patentability of Computer Software In India: An Appraisal

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Introduction

Intellectual property protection is generally granted for the benefit of both the creator of the property and public welfare. There is a three step process linking the public welfare with intellectual property. The first step involves expanding the scope of legal protection offered to the creator of a property by granting him enhanced monopoly rights. The second step is that this kind of enhanced protection creates a reward system motivating further creativity. Finally, this encouragement of inventive activity brings about the discovery of more ideas. The end result of this process is that the public receives different kinds of intellectual properties.[2]

It is clear that the laws which govern the protection of computer software also fall under the domain of intellectual property law. However, the matter is not without controversy. One of the most controversial issues in this area is - which form of intellectual property protection is appropriate for computer softwares. Although copyrights and patents are the two possible intellectual property forms under which computer programs might be protected, countries take different attitudes in this field depending on their level of advancement in the sector.[3] Yet, however, the current international consensus on the subject is that copyright protection provided under TRIPS Agreement is the most appropriate. Nevertheless, as this paper argues, since there is no provision in the TRIPS agreement that prevents the patentability of computer programs, these creations could also be a subject matter of patents.

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2 Patent Protection For Computer Program - Analysis of the Forms of IP Protections Available for Computer Programs and Justification for Patent Protection in the Indian Context, By Arya Mathew, IP Attorney with Altacit Global available at http://www.altacit.com/pdf/Patent%20Protection%20for%20Computer%20Progr amme.pdf accessed November 27 2012.
3 Talat Kaya, A Comparative Analysis Of The Patentability Of Computer Software Under The Trips Agreement: The U.S., The E.U., And Turkey, Ankara Law Review Vol.4 No.1 (Summer 2007), p.43.

Thus, in view of this, this paper makes a comparison of the major patent regimes of world vis-a-vis computer software, as an effort to make a case for patentability of computer softwares in India. For that, the paper argues that an amendment is called for in the Indian Patents Act to unambiguously bring the computer softwares within the subject matter of patents.

What are Patents ?

Patents are a twenty-year monopoly granted by the State on any invention. An invention has to have at least four characteristics: (1) patentable subject matter; (2) novelty (it has to be new); (3) inventive step/non-obviousness (even if new, it should not be obvious) and (4) application to industry. A monopoly over that invention, thus, means that if person X has invented something, then I may not use the core parts of that invention ("the essential claims") in my own invention. This prohibition applies even if I have come upon my invention without having known about X's invention. Thus, independent creation is not a defence to patent infringement. This distinguishes it, for instance, from copyright law in which two people who created the same work independently of each other can both assert copyright. Patents cover non-abstract ideas/functionality while copyright covers specific expressions of ideas.

Why Patentability of Computer Software?

The claim of patentability of computer software is made on the premise that while copyright protection impedes wholesale duplication of computer software and codes, certain problems do exist. To illustrate, a copyright on a program to add two numbers prohibits another person from copying exactly the program but does not prevent the other person from writing a program for adding two numbers in a different programming language. The program for adding two numbers in the different programming language would be considered another expression of the idea of adding two numbers. However, if a patent was granted for a method of adding two numbers, then the patent would provide exclusive rights to the patentee and pre-empt anybody else from using the patented method.

Position in United States of America

Until 1970s, the United States Patent and Trademark Office (USPTO) was reluctant to grant patents on inventions involving computer programs. The reasoning behind this was that computer programs did not fall under any of the four statutory classes, namely, processes, machines, articles of manufacture, and compositions of

matter specified in **section 101 of United States Patent Act.** Computer programs were regarded as mathematical algorithms and hence not considered patentable subject matter.

However, the 1981 ruling by the U.S. Supreme Court in the case of **Diamond v. Diehr**[4] caused the USPTO to reconsider their stand on computer programs as patentable subject matter. The respondents (Diehr et al) filed a patent application with the USPTO claiming a process for molding raw, uncured synthetic rubber into cured precision products. It was well known in the art to calculate by means of an established mathematical equation involving the parameters of time, temperature and cure relationships, when to open the molding press and remove the cured product. However, according to the respondents, the industry had not been able to measure precisely the temperature inside the press, thus making it difficult to make the necessary computations to determine the proper cure time. Respondents characterized their contribution to the art to reside in the process of constantly measuring the temperature inside the mold and feeding the temperature measurements into a computer that repeatedly recalculated the cure time by using the mathematical equation and then signaled a device to open the molding press at the proper time.

The USPTO rejected the claims of Diehr's application on the contention that steps performed by a computer program to enable the above process did not fall under any of the statutory classes and hence was not patentable subject matter. The ruling was eventually reversed by the U.S. Supreme Court based on the argument made by the respondents that although their process employed a well known mathematical equation, they did not seek to patent the use of that mathematical equation, but rather to patent a process which implemented that mathematical equation. **The court held that "an invention as a whole that falls under the statutory classes ("process" in this case) cannot be considered non statutory simply because it uses a mathematical formula, computer program, or a digital computer. The Supreme Court ruled that "when a claim containing a mathematical formula implements or applies the formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies section 101's requirements."**

4 450 U.S. 175 (1981).

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After the above ruling, inventors, patent attorneys and USPTO examiners alike were left wondering which applications could be interpreted as inventions claiming mathematical algorithms as such and which could be considered processes that implement or use mathematical algorithms.

Although Diamond v. Diehr slightly opened the door for computer implemented inventions, the permission for computer implemented inventions was still restricted to the control of technical processes i.e., computer implemented inventions could be considered patentable only if they contributed to a technical process. The **State Street v. Signature**[5] case, however, blew the door wide open for software patents.

The State Street v. Signature case in 1998 had a significant effect on the law of eligible subject matter. The verdict of State Street made the utility requirement more lenient. The utility requirement suggested that certain types of mathematical subject matter or algorithms, standing alone, represented nothing more than abstract ideas, however, once this subject matter was reduced to some type of practical application that produces a useful, concrete and tangible result it could be patented. The wide scope imparted to software inventions in light of the ***State Street v. Signature*** case caused a large number of software and computer implemented inventions to be granted over the last few years.

However, another consequential case with regard to software patents is the **re bilski case**[6] which was decided recently in 2008. **In this case, the Federal Circuit court affirmed the rejection of the patent claims involving a method of hedging risks in commodities trading. The court reiterated the machine-or-transformation test**[7] **as the applicable test for patent-eligible subject matter, and stated that the test in State Street Bank v. Signature Financial Group should no longer be relied upon.**

Position in European Union

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5 149 F.3d 1368 (Fed. Cir. Jul. 23, 1998)
6 545 F.3d 943, 88 U.S.P.Q.2d 1385 (Fed. Cir. 2008)
7 In United States patent law, the machine-or-transformation test is a test of patent eligibility under which a claim to a process qualifies to be considered for patenting if it (1) is implemented with a particular machine, that is, one specifically devised and adapted to carry out the process in a way that is not concededly conventional and is not trivial; or else (2) transforms an article from one thing or state to another. This test was articulated in ***Diamond v. Diehr.***

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The European Patent Office (EPO) has a different view from US legislature in terms of software patents. **Article 52, paragraph 2 of the European Patent Convention (EPC)** excludes from patentable matter:

(a) Discoveries, scientific theories and mathematical methods;

(b) Aesthetic creations;

(c) Schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;

(d) Presentations of information.

Paragraph (3) of Article 52 states "Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such."

The use of "as such" in paragraph (3) of Article 52 adds a degree of ambiguity to its interpretation. Due to this, it can be interpreted in a number of ways. The interpretation followed by the Technical Board of Appeal of the EPO states that programs for computers may be patented if:

- They have technical character and solve a technical problem.
- They are new.
- They involve an inventive technical contribution to the prior art.

Thus, according to above interpretation, we can state in other words that the EPO grants patents for computer implemented inventions and computer programs only if they provide a "further technical contribution" over existing technology, subject to the other patentability requirements, such as novelty and inventive step. As an example, a patent application for an Internet auction system was not granted by the EPO because the system used conventional computer technology and computer networks – which meant it made no further technical contribution to the level of existing technology.

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Although the system provided business advancement to its users, it was not considered as providing a technical solution to a technical problem by the EPO.[8]

Position in India

The Indian Patent Act as of now still excludes only 'computer programs per se' from patentability. However, the issue of whether computer programs tied to certain hardware can be patented is a controversial one. In 2004, the President of India promulgated the **Patents (Amendment) Ordinance (on December 27, 2004).** The Ordinance split the sub-section 3k into two-sub-section 3(k) and 3(ka). The excluded subject matters as originally contained in sub-section 3(k) were provided in the new sub-section 3(ka). It included 'a mathematical method or a business method or algorithms'. The amended Section 3(k) read as follows:

> "(k) a computer programme per se other than its technical application to industry or a combination with hardware".

Quite obviously, this would have allowed computer software in combination with hardware to have fallen within the scope of patentability. However, the 2004 Patent Ordinance was rejected by the Parliament in 2005 and hence the expansion of the definition as contained in the Ordinance, did not find mention in the **Patent (Amendment) Act of 2005.**

Thus, as of now, it is clear that the interpretation that "computer programme per se" excludes "a computer programme that has technical application to industry" and "a computer programme in combination with hardware" is wrong. By rejecting the 2004 ordinance wording, Parliament has clearly shown that "technical application to industry" and "combination with hardware" do not make a computer programme patentable subject matter.

One may also refer to the recently released **Manual of Patent Office Practice and Procedure (2011)**[9] which clarifies ambiguities in respect of patentability. Even the manual does not provide for patent-ability of computer software in combination with hardware. The text in the Manual is reproduced below.

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8 Supra at 1.
9 Available at http://www.ipindia.nic.in/ipr/patent/manual/HTML%20AND% 20PDF/ Manual%20of%20Patent%20Office%20Practice%20and%20Procedure%20%20pd f/Manual%20of%20Patent%20Office%20Practice%20and%20Procedure.pdf

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> "f. If the claimed subject matter in a patent application is only a computer programme, it is considered as a computer programme per se and hence not patentable. Claims directed at computer programme product's are computer programmes per se stored in a computer readable medium and as such are not allowable. Even if the claims, inter alia, contain a subject matter which is not a computer programme, it is examined whether such subject matter is sufficiently disclosed in the specification and forms an essential part of the invention."

The points of interest in the above proposed amendment were the addition of the "technical application" criteria and "combination with hardware". The intention was to make clear that if an invention directed at computer software had technical application to industry or coupled to hardware — then it was patentable. This seems analogous to the EPO's "further technical contribution" criteria. However, stiff opposition to the above amendments caused the Indian Parliament to reject the Ordinance and not enact the same.

As a result, the law as it stands now has been reverted to the original position of excluding computer programs per se from patentability.

Conclusions and Suggestions

A software code or program is automatically protected by copyright. Why are patents for software required then? Copyrights offer protection to a particular expression of the idea and not to the idea itself. Copyright protection extends to all original literary works including dramatic, musical and artistic works. Since computer programs fall under "literary works" they too are protected by copyright. As argued above, a copyright on a program to add two numbers prohibits another person from copying exactly the program but does not prevent the other person from writing a program for adding two numbers in a different programming language. The program for adding two numbers in the different programming language would be considered another expression of the idea of adding two numbers. However, if a patent was granted for a method of adding two numbers, then the patent would provide exclusive rights to the patentee and pre-empt anybody else from using the patented method. Thus, I argue that computer software must be considered as any other useful art and hence should be given patent protection. It may also provide an incentive for innovation and propagating generation of ideas which may be beneficial to society.

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Further, inventions in the software domain are useful to modern life and hence eligible for a patent. According to the pro-software patent lobby, patents are a fair bargain between inventors and society and as such patents motivate inventors and innovators to disclose their inventions in exchange for exclusive rights to the invention for a period of time.

It is thus submitted that the effect, which was brought by the 2004 ordinance, should be restored in the Indian Patents Act, 1970. That will bring the legal framework in India on the subject at par with the **United States 'Transformation Test'** as laid down in the ***Diamond v. Diehr*** case and reiterated in the ***2008 re bilski case and the European 'Further Technical Contribution' test.***