THE TORTOISE AND THE HARE

{This is the text of talk delivered by Justice Yatindra Singh (Judge, Allahabad High Court, email: ysingh@allahabadhighcourt.in) in the seminar 'Intellectual Property Rights & Open Source Software - Issues & Challenges' organised by Centre for Intellectual Property Rights & NRCFOSS/ AU-KBC Research Centre Anna University Chennai at Srinivasa Ramanujan Hall, Mathematics Department, Anna University Chennai (Main Campus) Guindy, on 3rd March 2010.
Summary: The paper explains how computer software is protected and open source software is also protected by copyright. }

I had occasion to interact with NRC FOSS Academia in different conferences; I was also a part of the conference organised by them at Moti Lal Nehru National Institute of Technology, Allahabad: I am happy to have met them.

When my programme was finalised, I checked up the home page of Anna University where NRC FOSS is situated. To my surprise and happiness, I found that it has numerous patents in its name. These patents are not only process, but product patents too. This could not have happened without help from the cell for IPR at the University. These patents are in diverse fields. All of them are good but the ones that I liked most are in the field of environment and helping the physically challenged. After all we have not inherited mother earth from our parents but have borrowed it from our children. It is our duty to return it in good condition to them and the physically challenged require our maximum attention.

CYBER LAWS

Inventions, discoveries and technologies widen scientific horizons but also pose new challenges for the legal world. Information Technology—brought about by Computers, Internet, and Cyberspace—has also posed new problems in jurisprudence. These problems have arisen in all areas of law. The law (statutory or otherwise) providing answers to these problems or dealing with Information Technology are sometimes loosely referred to as 'Computer Laws' or 'Information Technology Laws' or simply 'Cyber Laws'. Intellectual property rights (IPRs) are an important aspect of Cyber laws. Today we will talk about relationship between IPRs and computer software to bring about Open source software.

INTELLETUAL PROPERTY RIGHTS (IPRs)

IPRs rights refer to the property that is a creation of the mind: inventions, literary and artistic works, symbols, names, images, and designs used in commerce. About a centuery ago, Paterson J said {University of London vs. University of Tutorial Process Ltd. 1916(2) Ch 601},

'What is worth copying, is prima facie worth protecting'

This is the genesis of all intellectual property rights.

These rights are of various kinds but IPRs. The computer industry is affected by the following areas of IPRs:

(i)Copyright

(ii)Undisclosed Information or Trade Secret

(iii)Patents

(iv)Trademarks

(v)Layout - designs (Topographies) of Integrated Circuits

The first three have an impact on computer software. The fourth one (trademarks) and the fifth one (layout-designs) are more relevant to the Internet and to computer hardware respectively rather than to computer software. The three that have an impact on the computer software are broadly:

(i)**Copyright**: It lies in a description that could be literary or artistic—such as novels, poems, plays, films, musical works, drawings, paintings, photographs, sculptures, and architectural designs.

(ii)**Trade secret or 'undisclosed information**: is a secret that offers an opportunity to obtain an advantage over competitors who do not have knowledge about it.

(iii)**Patents**: They are granted for inventions that is new and useful. It could be a process, or an article, or a product or any new and useful improvement in them.

A few words about computer software, before we talk about interplay between the two.

SOFTWARE—LEGAL PROTECTION

The software consists of two parts

(i)Source code; and

(ii)Object code/ machine code.

Nowadays, computer programmes are written in high level computer languages using compact English words. This part is known as source code. The computer languages also have a programme called compiler. It compiles source code into machine language so that computers may understand it and run computer

applications. This is called object code or machine code.

Protection - Source code

Copyright: Copyright lies in the description. Source code is a kind of description and is a literary work within the Copyright Act.

Authors have a right to publish their work; they may or may not do so. No one else can publish their work. If it is published without the author's consent or if an unpublished work is stolen and published as someone else's work—it is illegal. Nevertheless an independent work cannot infringe any other work unless the other work is published.

Trade secret or 'undisclosed information: The source code may or may not be published. In case it is published, it is protected as a copyright. In proprietary software, the source code is generally not published; it is a secret. In such an event, it is protected as undisclosed information or trade secret.

Protection - Object Code

Copyright: There was some debate as to how the object code is protected. The Australian High Court in 1986 held that the source code is a literary work and is protected as a copyright. But no such protection was given to the object code. One of the judges in the majority held[1],

> 'I have not found anything … that has persuaded me that [the object code] a sequence of electrical impulses in a silicon chip, not capable itself of communicating anything directly to a human recipient, and designed only to operate a computer, is itself a literary work or is the translation of a literary work within the Copyright Act.'

However Article 11 of the TRIPS mandates its members to protect it, as a copyright. The object code is so protected in our country as well as almost all other countries.

Patents: Under our laws, computer programme *per se* or algorithm is not an invention under section 3(k) of the Patents Act and cannot be patented. In the US the law for granting software patents is broader. As held there in State Street Bank

1 Gibbs, J. in *Computer Edge Pty Ltd* v. *Apple Computer Inc,* (1986) 161 CLR 171. The text of the judgement is also available at http://www.hcourt.gov.au/

vs. Signature Financial Group (149 F, 3d 1352 Decided on 23.7.1998) (the StateStreet case)[2], patents have been granted in business methods if algorithm is applied to produce a useful, concrete, and tangible result. Japan and Australia follow the US pattern. The European law[3] is similar to the Indian law but because of law prevailing in the US, there is variation in its application in Europe.

The Federal Court 'In re Bilski case' (US 545 F 3 d 943, 88 US PQ 2d 1384) has modified the principle in the StateStreet case. An appeal has been filed before the US Supreme Court. The judgement has been reserved. This judgement may change the law in US and the other countries may follow the same.

Copyleft and Open Source Software

Everyone is not using copyrights to hoard rights in software. Some are using copyrights so that no one is able to hoard them. They are copylefting it. In order to copyleft a software, the owner publishes/ discloses the source code; states that it is copyrighted; and grants permission to everyone to freely use, modify, and redistribute the computer programme in the original or modified form only if the similar permission is granted in redistribution or distribution of the modified version. Thus, copylefting ensures that:

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2 There was an earlier debatable US Supreme Court decision in 1981 *Diamond* v. *Diehr*, (1981) 450 US 175: 67 L Ed 2d 155 (the *Diehr* case) where software was patented in conjunction with an industrial process. It involved a process for curing rubber that included a computer programme. Rubber in a mould is to be heated for a given time according to the Arrhenius equation, named after its discoverer Svante Arrhenius. The inventor had found a process for constantly measuring temperature inside the mould, which was fed to a computer that opened the mould at the right time. The court by a five to four decision held that a patentable claim does not become unpatentable merely if it uses a mathematical formula, or a computer programme, or a computer. In short, a computer programme may not be patentable as such but may be patentable as a part of an industrial process.

In the State Street case, Signature was the assignee of the patent. The patent was for data processing system (the system) for implementing an investment structure. The system was developed for use in Signature's business as an administrator and accounting agent for mutual funds. The investment configuration provided the administrator of a mutual fund with the advantageous combination of economies of scale in administering investments coupled with the tax advantages of a partnership.

State Street negotiated with Signature for a license to use its patented data processing system. When negotiations broke down, State Street filed a case for declaration that the patent is invalid. This was allowed by the Massachusetts district court. This judgement was in appeal that was allowed and the case was remanded. It later on ended in compromise.

3 The English law was different. They interpreted the patentibility of computer software strictly in terms of article 52 of the European treaty that barred patenting of computer software. However with decision in 'In re Astron Clinica Ltd.' it has been brought to same terms as other countries. In this case the question was whether Astron Clinica could be granted patent for skin imaging technique that was implemented by programming a computer to process images in a particular way.

(i) The software is royalty free;

(ii) The source code is disclosed;

(iii) There is freedom to modify the software; and

(iv) Anyone who redistributes the software, with or without changes, must grant similar freedom to others i.e. disclose the source code and permit further modification.

Copylefted software is also called free software as there is freedom to modify it. In fact the term 'Free Software' was used much before the term open source software was used. It all started in 1984 when Richard Stallman started the GNU (a recursive acronym for GNU is Not Unix) project under the umbrella organisation of Free Software Foundation (FSF).

Richard Stallman, with the help of lawyers, drafted the General public licence (GPL). It contains a condition that copylefts software. Most of the software under the GNU Project are under GPL. Software, under a GPL licence, is also known as GPLed software.

Open Source Initiative (OSI)

Software—where the source code is disclosed—may or may not be copylefted and there can be degrees of copyleftness: it all depends on the terms of the licence under which it is released.

The philosophy of FSF conveyed an anti business message. In late 1990's, free software enthusiasts got together to start 'Open Source Initiative' a non profit public organisation. It has come out with ten guidelines. These guidelines ensure that software is copylefted to some degree. Software satisfying the guidelines[4] is known as 'Open Source Software'(OSS). The three basic guidelines are:

•Free Distribution - No Royalty

•Program must disclose source code

•Must allow modification - distribution on original terms of the license

At present 66 licenses are identified as OSS licenses. They are copylefted to some degree: the GPL is at one end and the BSD is at the other—the rest lie in between.

4 These guidelines can be seen here http://www.opensource.org/docs/osd

Anyone can copy, distribute or modify open source software. No one infringes copyright by merely using or modifying it. This does not mean that it is not copyrighted. There is copyright in OSS. In fact, OSS is copylefted by using copyright. Anyone who uses OSS contrary to the conditions governing the license not only breaches the contract but also infringes the copyright. This has been clarified in Jacobsen vs. Katzer.

The Devil Citing Scriptures: Jacobsen vs Katzer

Robert Jacobsen is a high-energy physicist. He is a model train hobbyist too. At the end of the last century, he started an open source software group called Java Model Railroad Interface (JMRI). Through the collective work of participants, JMRI created a computer programming application called DecoderPro: a set of Java tools for configuring and controlling the trains. It allows model railroad enthusiasts to use their computers to program the decoder chips that control model trains These (DecoderPro) files can be downloaded from SourceForge website under Open source license called the Artistic License.

Matthew Katzer runs a company called Kamid Associates (KAM). It develops commercial software products for the model train industry and hobbyists. It offers competing software product, Decoder Commander, which is also used to program decoder chips. In this connection, he also obtained a patent for a client/ server software system. KAM industries send a letter to Jacobsen informing him that:

- JMRI software violates patent of KAM industries;
- He should change it; and
- Pay $19 per download.

When Jacobson asked him how JMRI violates the patent, $19 was enhanced to $29 per download, claiming $203,000 for 7000 downlads and $3000 as cost.

Jacobsen took proceeding for declaration that:

- The patent of KAM industries is void;
- There was prior art before it was granted; and
- Jacobson's software was ready for download before application for patent was

granted.

During these proceedings, it was revealed that an employee of the KAM industry not only downloaded a part of Jacobson's programme but it is also part of his patent. However the following conditions of the Artistic License were not complied with:

- The authors' name;
- JMRI copyright notices;
- References to the COPYING file;
- An identification of SourceForge or JMRI as the original source of the definition files;
- A description of how the files or computer code had been changed from the original source code.

Jacobsen filed an application for an injunction but this was refused by saying,

> 'Defendants' alleged violation of the conditions of the license may have constituted a breach of the non-exclusive license, but does not create liability for copyright infringement where it would not otherwise exist.
>
> …
>
> Jacobsen had a cause of action only for breach of contract, rather than an action for copyright infringement based on a breach of the conditions of the Artistic License.'

Jacobson filed an appeal. It was allowed[5] on 13 August 2008 holding,

> 'Copyright holders who engage in open source licensing have the right to control the modification and distribution of copyrighted material. ... Indeed, because a calculation of damages is inherently speculative, these types of license restrictions might well be rendered meaningless absent the ability to enforce through injunctive relief.
>
> In this case, a user who downloads the JMRI copyrighted materials is authorized to make modifications and to distribute the materials "provided that" the user follows the restrictive terms of the Artistic License. A copyright holder can grant the right to make certain modifications, yet retain his right

5 http://www.cafc.uscourts.gov/opinions/08-1001.pdf

to prevent other modifications. Indeed, such a goal is exactly the purpose of adding conditions to a license grant.'

This case was mutually settled on 16 February 2010.[6] Among the others, the terms of settlements are,

(i) A permanent injunction restraining Katzer from,

•Further Misusing the software created by JMRI; and

•Registering any domain names used by JMRI

(ii) He explicitly released all JMRI users and developers from any liability for anything related to JMRI upto 18 months;

(iii) Katzer will pay $100,000, spread over the next 18 months.

Katzer had also registered a domain name with the name of Jacobsen's software, decoderpro.com that was used by Jacobsen, who had already recovered it through a WIPO hearing.

THE TORTOISE AND THE HARE

The philosophy of Open Source reminds me of a story from 'Panchtantra': the tortoise and the hare.

The tortoise and the hare were friends. One day, they decided to race against each other. The hare obviously took the lead; he thought of relaxing and went off to sleep. The tortoise, walking slowly but steadily, overtook the hare and won the race. The moral is,

'Slow but steady wins the race'.

In recent time, some new chapters have been added to this story.

The hare was perturbed by the defeat. He asked the tortoise to race again. This

6 The history of the case can be seen here:
http://jmri.org/k/History.shtml#2008-08-13
The terms of the mutual settlement can be seen here:
http://jmri.org/k/docket/402-1.pdf

time he did not take rest and won the race easily. The moral is,

'It is better to be fast and reliable'.

But, this is not the end of the story.

After some days, the tortoise asked the hare to race once again but with a condition that the course will be chosen by him. The hare, who was confident of his victory, gave him a free hand. This time the course included a river. The hare ran up to the river and then stopped. The tortoise came and swam across the river to win the race. The moral is,

'Every one has weak and strong points – play on your strong side'.

However, the story still does not end here.

After some days, the tortoise and the hare repeated the race over the same course but the rules were changed. This time they decided run as a team. On the ground, the hare carried the tortoise on his back and on the river, the tortoise carried the hare on his back. The result was that both of them reached the destination quickly, saved time and enjoyed the race too. The moral is,

'It is best to consolidate strong points'.

CONCLUSION

This is, what the open source is about. It,

- Consolidates strong points;
- Uses the IPR to prevent hoarding of technology;
- Invite others to participate in its development.

It is 'Make love, not war' in atypical way. It is key to the future. NRC FOSS at Anna University is a step in the right direction. Centre for IPR of the University is part of this seminar. This is a good sign as FOSS also relies upon IPRs.

The picture in the article is courtesy Wikipedia