E-books and Technical Protection Measures
Comparing the situation in the United States and Japan

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I. Outline of Copyright on Books. The Potential Growth of the Digital Publishing Industry

The history of copyright laws has been, in part, a history of changes in the law striving to keep pace with changes in technology and media.[1] Some hundred years after Gutenberg's invention, copyright does not only governs books and charts, but covers original works of authorship fixed in a tangible media.

The possibility of fixing works not only in a tangible, but also in a digital media caused new denominations of works and created confusion over what kind of a work something is.

An electronic book (also ebook, Ebook, E-book, or e-book) is the digital media equivalent of a conventional printed book. It's a specialized type of e-text suitable to be read on computers or any other device designed as an e-book reader.

Therefore, an e-text can be defined as the character presentation of a book, article, or other printed material that is retrieved and read on a computer or other device. A more complete definition for e-text will generally read: "information that is available in a digitally encoded human-readable format and read by electronic means, but more specifically it refers to files in the American Standard Code for Information Interchange (ASCII) character encoding". [2]

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[1] Stefik, Mark and Silverman, Alex, *The Bit and the Pendulum, Balancing the Interests of Stakeholders in Digital Publishing*, (Jul.29, 1997), http://www.xrml.org/reference/Pendulum97Jul29.pdf

[2] http://en.wikipedia.org/wiki/E-text

E-text describes the case where data is presented in ASCII text encoder, whereas the term e-book reflects a file format designated by publishers with the clear intention for distribution of electronic versions of books, newspapers and other material, to be read by as many machines as it can interoperate with.

Despite the traditional idea that e-books represent the digital version of already existent physical books, the fact that many e-books are firstly created in the digital version and after that published in hard copies, allows the use of the term e-books interchangeably for original e-books or converted e-books.

As previously experienced by other industries, the e-book technology brought a great euphoric environment. The phenomenon was accompanied by fear of eventual crises in the traditional industry of printed books.

Due to the peculiar features of this technology, the market for e-books focuses both the electronic devices and the electronic characters representation, meaning the software.

E-book readers or reading machines are devices capable of interacting with an e-text and allow a user to read it, such as a computer, a palm-top, a mobile phone, a smart phone, etc. Software represents the language in what the e-text itself is “written”, such as HTML, Plain Text, Ogg Vorbis Audio, PDF, PDB and PCR - in the case of Chinese language, as well as MP3 Audio or Apple iTunes Audiobook in the case of digital audio books.

A race towards the lightest, the most attractive, the most functional or simply the most “intelligent” electronic device is currently taking place in one side of this market. Whereas in

the arena of software for designing e-text, the questions of standardization and interoperability remits to the historical battle witnessed in the field of intellectual property on how to balance public and private interest.[3]

Software as such is already protected by autonomous statutes of law. As the concept of e-books covers software and physical devices, this paper will focus on the legislation regarding technical protection of copyrighted works, in disregard of the autonomous provisions available for protection of software in both America and Japanese jurisdictions, either under copyright or patent laws.

Despite all initial positive expectations, the e-book industry's performance hasn't fulfilled the expected success. Investors, publishing houses, authors and copyright owners have different views over the problem.

Consumers' behavior and the initial absence of functional devices were deemed to be the mains causes. As consumer lacked interested on this new modality of media, more comfortable displays, paper sized readable texts and long battery lives devices had to be construed in order to make this new market more attractive.

The presence of technical measures impeding some acts was also deemed to be a problem. Although activities on the cyberspace have showed the world how copyright owners cannot put their trust on user's behavior, the existence of a technical system tying completely consumer's hands might lead to an extreme user unfriendly environment which naturally does not attract any interest.

[3] International Trade and Standard Organization for the Digital Publishing Industry, at http://www.idpf.org/

This work intends to briefly analyze the technological measures of protection of copyrights under international laws, together with a closer approach in the United States of America and Japan's jurisdictions.

II. Technological Protection Measures and the International Treaties

Intellectual property laws have been designed under the architecture of the traditional geographical world[4]. The existence of a digital space implies the reanalyze of traditional legal concepts such as jurisdiction. As the cyberspace has no boarders, neither is located at a geographical place, the effects of "cyber behavior" can be felt in one or one hundred countries concomitantly.[5]

This situation led to the development of an environment where reproduction of books can be done in industrial scale and under a high standard quality, in a very short time. The fact that authors wanted to enforce their exclusive rights in the cyberspace leaded to the decision of applying technological measures of protection. Because technology has no boundaries, author's measures for protection of their rights on the digital environment suffered constant circumvention. This fact then, led to the scenario where not only author's works, but also author's legitimate measures to protect their works, needed legal protection on the digital era.

The international response to the problem came with the World Intellectual Property Copyright Treaty (WCT) and World Intellectual Property Performances and Phonograms

[4] Dan L. Burk, *Legal and Technical Standards in Digital Rights Management Technologies*, 1-23, (2005)
[5] Bellia, Berman, and Post, *Cyberlaw: Problems of Policy and Jurisprudence in the Information Age* (3D ed. 2007)

Treaty (WPPT), which prescribe measures to be adopted by contracting parties regarding technological measures of protection of copyright and digital rights management.[6]

The treaties dedicate two articles[7], which contain generally the same provisions, demanding member states to assure adequate and effective legal protection for two different situations: first, for the case where technological measures of protection are circumvented; second for the case where digital rights management is violated.

While passing domestic legislation, the governments of the USA, Japan, and also the European Union, showed the same concern to cover not only the act of circumvention itself, but also other acts capable of helping the spread of piracy on the cyberspace.

As a result, common to these three jurisdictions, the concepts of "access" to a work and "use" of a work were separately introduced. Besides that, provisions regarding the "trafficking" on circumventing devices where also introduced. We'll analyze the main provisions relevant to the e-book industry under the United States and Japan's Copyright Acts.

III. The Digital Millennium Copyright Act in the USA

The Digital Millennium Copyright Act of 1998 ("DMCA") implemented the provisions of the WIPO treaties in the United States of America. The statute has been considered for many authors as a response to the copyright industries lobby much more than a single necessity of legislative compliance with the new international standards.

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[6] WIPO Copyright Treaty, December 20, 1996, *available at* http://www.wipo.int/treaties/en/ip/wct
WIPO Performances and Phonograms Treaty, December 20, 1996, *available at* *http://www.wipo.int/treaties/en/ip/wppt/*

[7] Articles 11 and 12, WIPO Copyright Treaty and Articles 18 and 19 WIPO Performers and Phonograms Treaty

The statute touches primarily upon the control of "access" of a protected work and demand protection to be "effective". Pursuant to 17 U.S.C. § 1201(a), no person shall circumvent a technological measure that effectively controls access to a work protected under the copyright laws.

Courts have already decided a bundle of cases regarding the interpretation of circumvention of access and use control, as well as what effective measures of protection should be considered.

The second part of the new act is directed to the trafficking activities and focus on the devices which allow circumvention of "access to" and "use of" a copyrighted work[8]. It prescribes that no person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof that is primarily designed or produced for the purpose of circumventing access to a protected work.

It also demands that the commercial purpose of the device should be limited to the circumvention activity in order to impose liability and, that the person responsible for its marketing, or anybody acting in concert with her, has to have knowledge about the use of the device for the above mentioned purposes.

The statute clearly omits a prohibition of circumvention for usage purpose. That is justified on legislator desire to provide a lawful user permission to perform these acts, for the exercise of fair use legitimate rights and exceptions.

[8] 17 U.S.C §1201 (a) (2) (A)(B)(C) and (b) (1) (A)(B)(C)

Whereas circumventing to copy, after legally accessing a work is found not to be illegal, supplying any means of doing so would fall into the scope of the anti-trafficking provisions. That means it is decisive that a user, when circumventing to make a legitimate private copy, does so without receiving any kind of help from third parties.

Exceptions to the trafficking provision are found under a much narrower scope than those necessary for the exercise of fair use. The statute does not prohibit trafficking when connected with the purpose of law enforcement, reverse engineering, encryption research, and security testing activities.

At that point, a user who has lawfully accessed the content of an e-book can lawfully circumvent to reproduce it for private purposes in case the right holder does not allow it through the application of a technical measure. Note that, when access to an e-book is prohibited by the copyright owner, or aloud under certain conditions, circumventing access to merely read it can be already enough to find infringement. Even if any copy rights are infringed.

IV. The Japanese Copyright Act – Main differences and Similarities with the DMCA

The Japanese Copyright Act, hereinafter JCA, has been last revised on December 2006. The provisions regarding the implementation of the WIPO treaties provisions have, nevertheless, been introduced in December 1999.

An important peculiarity of the statute has to be highlighted: copyright and right of publication are different rights under Japanese Law and have been also differentiated during the legislative procedure to comply with the new international standard.

Article 2, (xx), was introduced into the JCA to define technological protection measures. Article 120*bis* assures the adequate and effective protection of works, comprising a prohibitive prescription against trafficking of devices or copies of a program having a principal function of circumventing protection of copyright. It also approaches the acts of circumvention as constituting an infringement on moral rights of authors, copyright, moral rights of performers and neighboring rights.

The first similarity with the US and Japan's laws are the existence of anti-trafficking provisions. Whereas the Japanese legislator opted to require that the devices or copies of a program "have a principal function" of circumventing, the American terms "primarily designed" and "limited commercial purpose other then", seem to require the same criteria, assuring that devices like the former home video recording are not deemed to be designed to infringe copyrights, although they can be potentially highly capable of doing so.[9]

Another peculiar feature of the JCA is the express mention to moral rights and neighboring rights. As the US recognizes performers' rights as copyrights, a "neighboring right" does not exist on that jurisdiction and, consequently should not be targeted under a special differentiation.

Moral rights are as well another peculiarity. As American Copyright Law does not recognize them as an independent class of rights, but only reserves author's the rights to be mentioned as author and to have the original version prevented from any unauthorized modification, the special provisions could only be present under the Japanese Laws, due to the historical influence of European Civil Law jurisdiction in that country.

[9] Sony Corp. of America v. Universal City Studios Inc, Supreme Court of the United States, (Jan.17, 1984)

Because Japanese legislators believed that circumventing to "access" a copyrighted work could not be considered infringement to copyright itself, the prohibitions focus the "usage" control through technological measures, reaching a totally opposite direction when compared with the DMCA provisions.

Discussions regarding a new reform of the Act are being carried between the Copyright Council and the Agency of Cultural Affairs. They understand "access" and "copy" control overlap and a new amendment has already been introduced in the Unfair Competition Prevention Law protection including the both acts[10]. Under this law, not only copyrighted content would be protected but also any act to be considered as harming competition could be regarded as illegal.

The circumvention to use a copyrighted content is punishable under the JCA, whereas the Unfair Competition Prevention Act prevents any act of circumvention, for "access" o for "use", as far as the act is to be considered as affecting the competition rules.

In a very similar situation to the USA, Japanese readers have shown concern regarding exercises of legitimate rights and limitations to copyright. Reproduction for private use is also allowed under the provisions of Article 30 (1) JCA. The statute expressly demands that, in order to be allowed to reproduce for private use, a user shall to it "by himself".

Circumvention for copying can be considered legal as far as the act is performed by a user "himself". Again close to the DMCA, the JCA ratifies the intention of the international legislators to punish acts considered as promoting piracy, but not those coming from lawful users.

[10] Article 2 (1) (x) (xi) and Article 7

V. Current Issues, Future expectations and Conclusion

From what was shortly exposed, the question of how a user is able to exercise his legitimate rights might be part of the diagnostic of the e-books market problems and a balance between user' and copyright holder interest can be already found on the politics of price discrimination adopted by some companies. Through this policy, consumers are left the possibility to tell the right holder how many times he wants to read a book for example, being given the opportunity to buy a lower price for the case of one time reading or no printing aloud version, and a higher price to exercise for example a larger number of digital or printed copies.

Much more than laws are necessary to control and change human behavior. The architecture of the reading devices in the beginning of the 90's did not prove to seduce consumers as they are capable to do today.

With a new generation of electronic papers hitting the market, there's a potential encouragement to the broad of sales.

Some recent facts might change the route of the international e-book industry. There's no doubt changes will be lead by the US and Japan. In the year of 2006, Japanese publishing companies announced sales of mobile-phone novels have increased from nothing five years ago to over ¥ 10 billions (yens), or US$ 82 millions dollars.[11]

[11] http://www.economist.com/business/displaystory.cfm?story_id=9231860

The fact proved not to be isolated phenomena. Sales are growing fast and constantly in the North American territory. Data from the International Trade and Standards Organization for the Digital Publishing Industry shows the North American revenues with e-books jumped from USD$ 5,794,180 in 2002, to about USD$ 20,000,00 in 2006, meaning a growth of almost four times in four years.[12]

We have seen some of the main important issues regarding the new design of copyright in the cyberspace and the consequent new legal provisions regarding is adequate and effective protection. The analysis showed, further, how architecture of law, cyberspace and electronic devices are able to influence consumer's behaviors, to build new tendencies and to create or enhance new business models.

A small sample of market information was then provided sustaining the possible chances for the digital publishing market growth, after the legal assurance that copyright owners can trust technology to safeguarding their rights in internet.

It does not seem to be a matter of mere coincidence that new propagation of modern devices allied to the use and the legal protection of technical measures have propelled the digital industry these last years.

[12] http://www.idpf.org/

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