11-2014

Conceptualizing Copyright Enforcement and Management in the Digital Age Through Two Models: The Right-Holder-Centric Model and Cooperative Model

Yang Sun
Indiana University Maurer School of Law, shunkyo@hotmail.com

CONCEPTUALIZING COPYRIGHT ENFORCEMENT AND MANAGEMENT IN THE DIGITAL AGE THROUGH TWO MODELS: THE RIGHT-HOLDER-CENTRIC MODEL AND COOPERATIVE MODEL

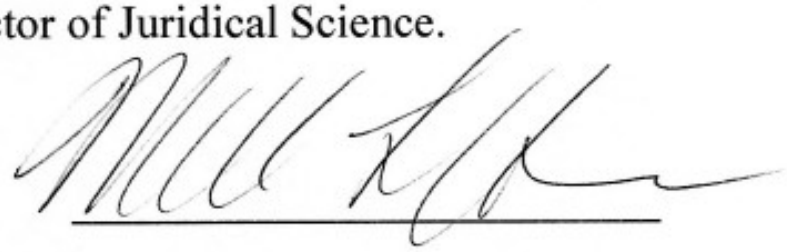
Yang Sun

Submitted to the faculty of Indiana University Maurer School of Law
In partial fulfillment of the requirements
for the degree
Doctor of Juridical Science

November 2014

Accepted by the faculty, Indiana University Maurer School of Law, in partial fulfillment of the requirements for the degree of Doctor of Juridical Science.

Doctoral Committee:



Marshall Leaffer(Chair)

Distinguished Scholar in Intellectual Property law and University Fellow

Professor of Law, J.D.

Mark Janis

Robert A. Lucas Chair of Law; Director, Center for Intellectual Property Research

Michael Mattioli

Associate Professor of Law

Date of Dissertation Defense

October 21st, 2014

This dissertation is dedicated to my parents, Mr. Jian Sun and Ms. Xiaoping Wang.

ACKNOWLEDGEMENTS

At this moment, I am honored to express my appreciation with my sincere gratitude to Professor Marshall A. Leaffer for all his instruction during my SJD study as my dissertation supervisor. He is the leader who guides me to complete my SJD program and provides me with insightful instruction on my academic research. As a doctoral candidate, I am proud to have him as my supervisor in the very beginning of my academic career. With his brilliant and thoughtful comments, I am able to continue my academic research on copyright issues in the future.

I am also grateful to Professor Michael Mattioli, my second Committee member, who offer me constructive instruction on the idea of establishing the cooperation between different parties. His knowledgeable comments enlighten me to expand my research scope. I would like to thank Professor Mark Janis who provides terrific lectures and classes for international students in our law school. His valuable comments on my dissertation stimulate my future research on how to expand my current research framework. I am sincerely appreciate all your instruction for guiding me to make further improvement on both my dissertation research as well as my academic methodology.

During my four and a half years life in Maurer School of Law as an LLM and SJD student, I obtained significant help from Professor Lisa

Farnsworth, Dean Lesley E. Davis, and Ms. Lara Gose. They gave me generous help and substantial support for my study and life in Maurer. I cherish the grateful experience and unforgettable memory with them.

Last but not least, I would like to express my sincere appreciation to my parents, Mr. Jian Sun and Ms. Xiaoping Wang. I thank them for their generous support and understanding for their son. Because of them, I am able to overcome all the difficulty and challenge during my past four and half years. I love both of you forever.

ABSTRACT

YANG SUN

CONCEPTUALIZING COPYRIGHT ENFORCEMENT AND MANAGEMENT IN THE DIGITAL AGE THROUGH TWO MODELS: THE RIGHT-HOLDER-CENTRIC MODEL AND COOPERATIVE MODEL

This dissertation focuses on the issues of copyright enforcement and management. Especially, the research looks into how the digital technology reshapes the general perceptions and landscape of the copyright system in terms of online enforcement and management. Stepping into the digital age, the interaction between copyright holders and other parties, including online users and the ISPs, establishes two coexisting models—the right-holder-centric model and the cooperative model. Therefore, the dissertation analyzes which model is more appropriate and efficient with respect to online copyright enforcement and management.

As a matter of fact, the coexistences of two models provides copyright holders and other parties with multiple options in terms of copyright enforcement and management. Each model has distinctive features and

mechanism, and builds upon different perceptions and foundations. The idea that one model can replace the other does not support the analysis in this dissertation because each model covers strengths and weaknesses. Consequently, each model should be the supplementary option to the other according to specific circumstances. To sum up, the two models should works as a general entity to promote the copyright enforcement and management.

TABLE OF CONTENTS

Chapter I Introduction

A. Overview

A complete circulation of copyright system includes two indispensable aspects: the copyright enforcement and the copyright management. Despite the difference underlying two aspects, copyright enforcement and copyright management jointly work to ensure the normal operation of the copyright system.

On the one hand, copyright enforcement focuses on the protection of copyrighted works as an *ex post* strategy against copyright infringement. In other words, copyright enforcement enable copyright holders to force third parties to comply with the copyright law and meanwhile restore the damages due to copyright infringement.

Moreover, the copyright enables copyright holders to exclude third parties' intervention and empowers them with limited monopoly. As a result, they obtain substantial benefits through the exploitation of copyrighted works. [1] Consequently, copyright enforcement has long been the major reliance to copyright holders with respect to the security of their interests under copyright system.

On the other hand, copyright management concentrates on a different perspective: the creation and licensing of copyrighted works. When a copyright holder creates an intellectual work, one of his objectives is to license and distribute this work in

[1] *See generally* Art. I §8 of US Constitution.

exchange for revenues. Hence, the creation and licensing of copyrighted works essentially sustain the management of copyright through financial benefits.

Distinguished from copyright enforcement that emphasizes *ex post* measures, the copyright management focuses on the framework to sustain the creation and licensing of copyrighted works. Because copyright management is largely under the discretion of copyright holders, they often refer to the most reliable and stable approach to accomplish this object.

As a consequence, copyright enforcement become the most appropriate option to the majority of copyright holders regarding the support of copyright management. As a widely implemented approach, the underlying rationale is simple: efficient copyright enforcement sustains and ensures the operation of copyright management through copyright law system. Furthermore, copyright scholars argue that without the protection from copyright enforcement, copyright holders may fail to continue their creation when they do not receive sufficient rewards as incentives.[2]

Under the circumstances, the interaction between copyright enforcement and copyright management constitutes a mainstream mechanism under the copyright system and establishes the first kind of model in our analysis—the right-holder-centric model.

On the other hand, digital technology brings about new landscape which fundamentally distinguishes from the traditional perceptions of the copyright

[2] CRAIG JOYCE ET AL., COPYRIGHT LAW, §1.06 (9th ed. 2013).

system.

The revolutionary features of digital technology not only expands copyright holders' exclusive control on copyrighted works, but also give rise to new challenges as well as opportunities. In addition to the strategies under the right-holder-centric model, the interaction between copyright holders and other parties, including the ISPs and online users, breeds alternative strategies outside the right-holder-centric model. Under the circumstances, a new kind of model emerges in our analysis regarding copyright enforcement and management—the cooperative model.

The coexistences of two models provides copyright holders and other parties with multiple options in terms of copyright enforcement and management in the digital age. Each model has distinctive features and mechanism, and builds upon different perceptions and foundations.

The idea that one model can replace the other does not support the analysis in this paper because each model covers strengths and weaknesses. To the contrary, each model should be the supplementary option to the other according to specific circumstances. In summary, the two models should works as a general entity to promote the copyright enforcement and management.

To facilitate the analysis, this paper looks into copyright enforcement and management by summarizing different strategies into two models—the right-holder-centric model and the cooperative model.

B. The Two Models

Stepping into the digital age, new technology challenges the copyright system by changing the landscape of copyright creation and distribution. Online users are able to copy, modify, and share copyrighted works at minimal costs with the aid of digital technology.[3] Under the circumstances, copyright enforcement and copyright management encounter challenges and opportunities. On the one hand, the online piracy become the major threat to copyright holders in the course of copyright enforcement. On the other hand, online licensing enables copyright holders to explore new markets and commercial opportunities.

For example, imagine Allen Brown who is a famous musician recently creates three popular songs and receives high appraisal from both professional commentators and music fans. Due to the success of these songs, several big record labels seek for his licensing of his songs on the Internet.

Being inspired by the ambition to promote his music to a higher level, he authorizes his songs to two recording companies for online licensing and distribution. Two months later, however, Allen finds a website called "Great Sharing" which distributes his songs without authorization and also provides a P2P software named "Free-Ride" that facilitates the sharing of his songs among online users.

This hypothetical scenario is highly common to every copyright holders in online environment.

As a response to the threat, Allen acts like other copyright holders in the digital

[3] For a detailed analysis, see generally Chapter II Section A. 2.

age. They usually rely on the right-holder-centric model by adopting two general strategies to support their copyright enforcement. One is the private implementation system through digital technology. The other is the copyright law enforcement. Both strategies concentrates on the interests of copyright holders in the course of copyright enforcement.

Right-holder-centric Model

The right-holder-centric model is as straightforward as its literal meaning. This model focuses on copyright holders as the only center with respect to copyright enforcement by emphasizing their interests at the expense of other parties' interests.

The first strategy adopted by copyright holders, the private implementation system, relies on digital technology to enhance the control of copyrighted works. Moreover, the private system is also reinforced by copyright legislation that precludes the circumvention to the technology. As a result, copyright holders enjoy twofold protection under right-holder-centric model.

By the same token, copyright law enforcement as the second strategy echoes the nature of right-holder-centric model as well. In general, copyright law enforcement operates through the judicial system and primarily targets on copyright infringement by compensating copyright holders and deterring copyright piracy. Due to its decisive feature, copyright holders usually depends on copyright law enforcement as the last resort to protect their copyrighted works. Continuing our scenario, Allen decides to employ the right-holder-centric model

to enforce his copyright against the piracy. First of all, he hires a software developer to design an encryption software on his songs to prevent unauthorized access. Moreover, he brings action against the website "Great Sharing", the P2P software "Free-Ride" and a number of online users who infringe his copyright through the website and P2P software.

By implementing these two kinds of strategies under the right-holder-centric model, Allen seeks to eliminate the piracy on his copyrighted songs and secure his financial benefits through the licensing. The implementation, however, leads to mixed results which is far from his expectation.

On the one hand, the encryption software indeed prevents unauthorized access to his songs. Moreover, the lawsuits against the "Great Sharing" and "Free-Ride" successfully shutdown the illegal website as well as the P2P software. Under the circumstances, the right-holder-centric model works to achieve the objectives of copyright enforcement.

On the other hand, the encryption technology and the lawsuits against individual online users give rise to unexpected side effects and undesirable results. For one, the hacker groups keep on attacking the encryption software in order to decrypt the technology. For another, ordinary users, including Allen's fans, are annoyed by both the technological restriction and the massive lawsuits. As a consequence, Allen begin to reconsider his strategies regarding his copyright enforcement.

Despite the above hypothetical scenario, the right-holder-centric model in practice leads to mixed results. For one, the anti-piracy effect is difficult to reach a clear

conclusion. Although copyright law enforcement effectively force several P2P platforms shutdown and block access to illegal websites, the private system through digital technology fails to protect copyrighted works due to the technological weakness.[4]

For another, the right-holder-centric model contains inherent defects—the imbalance between copyright holders and other parties. For instance, the private system through digital technology provides twofold protections to copyright holders through technology as well as copyright law. This greatly limit the public access and users' experiences to copyrighted works.[5]

Moreover, the statutory damages under copyright law enforcement sometimes are disproportional to individual infringers.[6] The undesirable results do not effectively convince them the importance of copyright enforcement, and triggers misunderstanding and resistance from individual online users. In a word, the right-holder-centric model alone is incapable of supporting copyright enforcement in the digital age, which in turn affects the copyright management.

Cooperative Model

As aforementioned, the right-holder-centric model is not the only model regarding copyright enforcement. Rather, the cooperative model supports online copyright enforcement as well.

Briefly speaking, the cooperative model establishes cooperative partnership

[4] *See* generally Chapter II§C.1 & Chapter III§C1.
[5] *See* generally Chapter II§C.
[6] *See* generally Chapter III§C2.

between copyright holders and other parties. Contrary to the right-holder-centric model, the cooperative model takes the interests of other parties into consideration so as to establish the cooperation. Specifically, the cooperative model includes two tracks: one focuses on copyright enforcement and the other concentrates on copyright management.

The first track concentrates on copyright enforcement. Specifically, it primarily aims at increasing the efficiency of online copyright enforcement based on the cooperation.

One high-profile example is the graduated responses system that forges the cooperation between copyright holders and Internet service providers (ISPs). The graduated responses system requires ISPs to actively monitor their subscribers' activities and cooperate with copyright holders to take actions against online infringement. Because ISPs have the technological advantage in terms of online regulation, they are generally in a better position to prevent online piracy than copyright holders. By incorporating the advantage and establishing cooperation, the cooperative partnership creates an alternative enforcement option to the right-holder-centric model.

Although the graduated response system is a prospective system under the cooperative model, its practical experiences indicate it cannot replace the right-holder-centric model with respect to copyright enforcement in the short run. The graduated responses system does not lead to a clear conclusion as to its general effect on copyright piracy. Since the system has recently been introduced and

adopted, the statistics and evidences in this aspect are inadequate and sometimes lead to opposing results

For example, the French HADOPI system reports its success in terms of curtailing online piracy and changing online users' behaviors, while the French government report indicates its failure to achieve the objectives.[7] Furthermore, despite the graduated response system decreasing the illegal usage on P2P network, online piracy still exist and switched to other platform.[8]

On the other hand, the second track of the cooperative model emphasizes copyright management. In other words, the cooperative model establishes an alternative channel to supplement the creation and licensing of copyrighted works. To begin with, copyright creation and licensing has long been monopolized by copyright holders and the content industry. Due to growing demand from the public, the investment in copyright creation and licensing gradually increase to a large figure which demand substantial financial returns. Consequently, copyright holders and relevant stakeholders generally rely on the right-holder-centric model to sustain the creation and licensing of copyrighted works.

However, digital technology enables ordinary users to participate in the process of copyright creation and licensing. Moreover, the Internet connection facilitates the distribution of copyrighted works with marginal costs. An author does not need to rely on the copyright industry for the transaction or marketing. The technological advance brings about the possibility of creation outside the

[7] *See* generally Chapter IV§D1(b)&(c) .

[8] *See* generally Chapter IV§E1.

copyright industry. It also leads to the possibility of cooperation between copyright holder and ordinary users.

A case in point is the open access program, including the open-source software project and creative commons licenses. The focal point of the open access program lies in the licensing mechanism. Simply put, the licensing mechanism allows a copyright holder to license his work outside the copyright system with fewer restriction.[9] As a matter of fact, copyright holders under the licensing framework reduce the control on copyrighted works in exchange for the cooperation from ordinary users. Because copyright creation builds upon available resources, the flexible accessing by the open access program provides a low threshold and an alternative route for copyright creation and licensing.

Analogous to the graduated responses system, the open access program is a prospective system with respect to the creation and licensing of copyrighted works. Nevertheless, it is far from ultimate success and cannot replace the mainstream creation and licensing mechanism under the copyright system. Although the cooperative model provides an alternative route to copyright creation and licensing, this model currently is limited in terms of commercial distribution and production. To be sure, the Android operating system is the successful example in the area of software industry which can sustain commercial scale production and distribution.[10] However, other successful examples such as Jonathan Coulton in

[9] Open Access, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Open_access (last visited 8/2/2014).
[10] *See* generally Chapter V§D1(b).

music area is more like an exception and hardly reaches the commercial scale.[11]

As a matter of fact, the right-holder-centric model generally is the major option to professional creation and licensing of copyrighted works for commercial distribution and consumption. Large companies in copyright industry have sufficient resources to sustain the marketing of copyrighted works. Moreover, copyright industry often invest a lot to the discovering of new and talented creators, especially in the music industry. Without the protection and support from the right-holder-centric model, copyright industry is unlikely to maintain the investment in their production and distribution, which eventually decrease available copyrighted works.

Back to Allen's case, the coexistence of two models provides him with two options in terms of his copyright enforcement and management. Because the right-holder-centric model does not meet his expectation but triggers side effects, Allen decides to opt into the cooperative model. Due to the different features and mechanisms, Allen is able to avoid the side effects from the right-holder-centric model.

However, the cooperative model is not flawless. Rather, neither the graduated responses system nor the open access program displays the eligibility to be the optimal model according to the practical experiences. Accordingly, it is unwisely to assume that the cooperative model alone can be the solution to Allen's problem. Under the circumstances, Allen seems to encounter a dilemma: choosing one

[11] *See* generally Chapter V§D2(b).

model and denying the other, then bearing the side effects or undesirable results. But is this really the case?

In fact, Allen does not need to choose one model at the expense of the other. Instead, he can aim at specific problem by employing the most appropriate model. If one model fail to accomplish the objective, Allen should be free to choose the other one as long as the model eventually solve the problem. More importantly, Allen is able to use two models simultaneously to solve his problem. The combination of two models allow Allen to maximize the strengths of both models. To sum up, neither the right-holder-centric model nor the cooperative model can be the only option to copyright enforcement and copyright management. To the contrary, the two models are the result of online copyright development and the interaction between copyright holders and other parties. Because each model include the strengths and weaknesses, the coexistence of two models enables copyright holders to choose the appropriate one or rely on the combination of two models according to the specific circumstances.

Generally, copyright holders should consider the cooperative model when the adoption of right-holder-centric model lead to undesirable results or side effects, and *vice versa*. Put another way, the existence of second model supplements the incapability of the first model.

More importantly, the lesson from the coexistence of two models implies that developing a supplementary alternative is better than relying on single mechanism to copyright enforcement and management.

Furthermore, the cooperative model brings about a prospective insight. That is, transforming non-stakeholders to stakeholders is a new approach to increase the efficiency of copyright enforcement and the wealth of copyrighted works.

For one, graduated responses system facilitate the enforcement to online piracy. For another, the open access program opens an alternative route to copyright creation and licensing outside traditional copyright system. Being the stakeholders, the participation from ISPs and online users into the cooperative model ensures the reciprocal benefits to copyright holders. The reciprocal benefits, on the other hand, expand the scope of stakeholders and promote the idea of cooperation.

C. Framework of Dissertation

This dissertation is organized into seven chapters for analysis. Chapter I is the introduction which illustrates the general thesis and relevant arguments of the dissertation. This chapter also clarifies the entire structure of the dissertation.

Chapter II and chapter III address the analysis of right-holder-centric model. This section contains two working examples of the right-holder-centric model: the private implementation system through digital technology and the copyright law enforcement. Because copyright holders employ the two strategies in the course of copyright enforcement. The two chapters focus on the structure and practical experiences with respect to two working examples.

Following the right-holder-centric model, chapter IV and chapter V introduce the cooperative model for analysis. Contrary to the analysis of the right-holder-centric

model, these chapters emphasize the cooperation between copyright holders and other parties by concentrating on two aspects. The first aspect is how the graduated responses system forges the cooperative partnership between copyright holders and ISPs in terms of online copyright enforcement.

The second aspect looks into the open access program and figures out how this program contributes to the creation and licensing of copyrighted works through cooperation.

Chapter VI serves as analytical section in the dissertation. This chapter primarily analyzes the right-holder-centric model and the cooperative model. The analysis focuses on the structures, foundations, features and practical experiences of the two models. Based on the analysis, this chapter concludes the implementation and the interaction of the two models.

Based on the above chapters, chapter VII concludes the whole dissertation by summarizing the right-holder-centric model and the cooperative model with respect to copyright enforcement and management. The chapter reiterates the general arguments of two models and make a final conclusion.

Chapter II Right-holder-centric Model: Copyright Private Implementation through Digital Technology

Copyright holders have long been the center players under the copyright system simply because they are the generally the only source of creative works. As a consequence, the entire copyright system designs to serve the interests of copyright holders and thus establish the right-holder-centric model as the mainstream model in copyright realm.

The right-holder-centric model consists of two tracks: one is copyright law enforcement in which copyright holders enforce their rights through judicial system. The other is that a copyright holder is able to employ digital technology to control the access to creative works under a private implementation system.

The digital technology, simply put, enables copyright holders to control the access to copyrighted works even after distribution.[1] Major content providers such as *Apple*, *Amazon*, and *Sony* employ the technology to control not only copying, but distribution, printing, and adapting of works.[2] From the perspective of copyright holders, the digital technology provides an extra layer of security in addition to the copyright law.[3]

To the contrary, the enhanced level of control often leads to severe tension between copyright holders and ordinary users, because the control adversely affects users' experience and breaks the balance under the copyright system.

---

[1] Digital Rights Management, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Digital_rights_management (last visited 9/11/2013).

[2] *Id.*

[3] *See generally* 17 U.S.C. §106.

Additionally, digital technology is not flawless and the circumvention to digital technology frequently occurs. The legislation on anti-circumvention become a second layer of protection to copyright holders. In international level, the WIPO Internet Treaties (WCT) and Performances and Phonograms Treaty (WPPT) both introduced the protection on technological measures and rights management information.[4] In domestic area, the US, EU Community, and China respectively enacts statutes on regulating the circumventions of digital technology.[5]

As a result, copyright holders enjoy a twofold protection upheld by digital technology as well as the law. The twofold protection, however, give rise to side effects to online users and place them in an unfavorable position.

The first type of side effect is an observation from judicial interpretation in the US jurisdiction with respect to the DMCA. The judicial cases in the US indicates a trend that fair use exception is difficult to obtain when a violation of the DMCA is at issue. The courts in the US are reluctant to grant fair use exception and further admit the difficulty in establishing the fair use defense.

The second type of side effect concerning the user's experience. For instance, imagine Steven is a music fan who frequently purchases digital sound tracks from an online music retailer. He usually store these digital music in his laptop and portable device so that he can enjoy the music regardless time and place.

One day, however, the online music retailer announces that all music purchased

[4] *See* Art. 11-2 of WCT; Art. 18-9 of WPPT.

[5] *See generally* §1201-02 of DMCA; Art. 6-7 of EU Directive 2001/29/EC; Art. 4-5 of Regulation on Protection of the Right to Network Dissemination of Information (RPRNDI).

from their website must be play on their exclusive brand laptop and portable devices without exception, and music already purchased by consumers cannot play on other platforms anymore. Under the circumstances, what is the option to Steven? Obviously, he has basically two choices. He has to either purchase the exclusive brand laptop or portable device to continue his enjoyment on music, or give up all the music he already purchased.

The twofold protection provided under the private implementation in fact break the balance between copyright holders and ordinary users. Being the center under the copyright system, copyright holders enjoy unprecedented control with the aid of digital technology. However, the right-holder-centric model is not as reliable and sustainable as expected. Because of the twofold protection, users react negatively to the legitimate licensing of copyrighted works through digital technology. They have to either accept the digital protected works with undesirable users' experience, or access the contents through illegal channel. Neither one is a desirable result.

Moreover, industrial practice indicates that digital technology is not effective to deter copyright piracy. Digital encryption is always vulnerable to talented hackers and decryption technology. The Internet transmission enables widespread distribution of unencrypted digital contents.

Furthermore, successful online licensing is founded on the combination of multiple business strategies rather than the digital restriction of copyrighted works. Under the circumstances, the private implementation system lacks of justification

to maintain its operation.

To make the system sustainable and justifiable, copyright holders should make a change to the current system. They should switch their stance from absolute control to a more flexible and user-friendly approach under the system. Fortunately, the voluntary pricing mechanism and endogenous mechanism echo the shifting trend among certain copyright holders

A. The Foundation of twofold protection: Law & Technology

As aforementioned, copyright holders enjoy a two-fold protection under private implementation through digital technology. Specifically, the protections are legislation on anti-circumvention and the digital technology itself. The legislation of anti-circumvention have been an overwhelming trend in copyright legislation both on international and domestic level. In addition to international treaty, domestic jurisdiction such as the US, the EU community, and China has passed relevant legislation. As a consequence, the legislation become the first type of foundation to uphold the private system.

In addition, copyright holders are good at employing the best available technology to control the production and distribution of copyrighted works. So long as the media technology is under control of copyright holders, they are able to force online users to access contents under specialized licensing framework. The situation remains the same regarding digital technology. The advance of digital technology enables copyright holders to expand their control over copyrighted works. Under the circumstances, the digital technology becomes the second type

of foundation to copyright private implementation.

Integrating the law and technology into a whole, the private system provides copyright holders with a two-fold protection with respect to copyright enforcement. This section specifically describes the two types of foundation in sequence.

1. Legislation on Anti-circumvention

The call for legislative support is a long-term strategy by copyright holders to deal with the impact by advanced technology. Similarly, digital technology is not an exception. The legislation on anti-circumvention is a high-profile example.

Because the Internet is not subjected to the limitation of territory, the international copyright community pays much attention to the problems on the circumvention of digital technology. Their efforts on anti-circumvention stipulate the legislation on International, regional and domestic level.

a) International Treaty

The World Intellectual Property Organization (WIPO) is the major international organization and a United Nations agency that "dedicates to the use of intellectual property as means of stimulating innovation and creativity."[6] To establish an appropriate legal mechanism in the digital age, the WIPO enacted two international treaties in order to provide sufficient legal protection to copyright holders: the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT). Both treaties mention the protection of digital

[6] About WIPO, WIPO, available at http://www.wipo.int/about-wipo/en/ (last visited 9/12/2013).

technology and provide specific provisions with respect to the anti-circumvention. Article 11 of WCT provides that "Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures". [7] Article 12 prevents any person "to remove or alter any electronic rights management information without authority", or "to distribute, broadcast or communicate copies of works…without rights management information without authorization."[8]

Article 18 of WPPT similarly provides that "Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures used by performers or produces of phonograms". [9] Article 19 precludes any person "to remove or alter any electronic rights management information without authority", or "to distribute, broadcast or communicate copies of fixed performances of phonograms…without rights management information without authorization"[10]

Both treaties provide general guidelines and standards to the legislation on anti-circumvention. Because the texts in the treaties only require state members to "provide legal protection and effective legal remedies against the circumvention"[11], each jurisdiction is able to enact the most appropriate statutes

[7] *See* Art. 11 of WCT, WIPO, available at http://www.wipo.int/treaties/en/text.jsp?file_id=295166#P87_12240 (last visited 9/12/2013).
[8] *See* Art. 12 of WCT, WIPO, available at http://www.wipo.int/treaties/en/text.jsp?file_id=295166#P87_12240 (last visited 9/12/2013).
[9] *See* Art.18 of WPPT, WIPO, available at http://www.wipo.int/treaties/en/text.jsp?file_id=295578#P141_21174 (last visited 9.12/2013).
[10] *See* Art.19 of WPPT, WIPO, available at http://www.wipo.int/treaties/en/text.jsp?file_id=295578#P141_21174 (last visited 9.12/2013).
[11] *Id.*

according to specific circumstances. As a matter of fact, the domestic or regional legislation on anti-circumvention is the primary legal resource to protect digital copyrighted works.

b) Domestic & Regional legislation

1) US: DMCA §§1201

The Digital Millennium Copyright Act (DMCA), as the major response to digital technology in the US, governs the circumventions of digital technology as well as the protection of DRM information. Section 1201(a) provides that "No person shall circumvent a technological measure that effectively controls access to a work protected under this title", which governs the direct access facilitated by circumvention. [12] Section 1201(b) further prohibits the violations that "manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof" [13], which governs any indirect facilitation to the circumvention.

Moreover, section 1201(c) emphasize that the anti-circumvention provision under the DMCA should not affect the normal operation of copyright law regarding "rights, remedies, limitations, or defenses to copyright infringement…"[14]

Therefore, the anti-circumvention provisions under the DMCA govern the circumvention of digital technology on two aspects, including direct circumvention and indirect facilitation to circumvention. Compared to the WIPO

[12] 17 U.S.C. §1201(a).
[13] 17 U.S.C. §1201(b).
[14] 17 U.S.C. §1201(c).

treaties, the DMCA offers more comprehensive and specific regulation.

2) EU: Directive 2001/29/EC

In the European Community, anti-circumvention are regulated by the Directive 2001/29/EC on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society.[15] This Directive primarily concentrates on digital technology. Meanwhile, the Directive aims to transpose international obligation from WCT and WPPT into the EU Community Standard.

Article 6 and 7 respectively governs the circumvention of digital technology and rights management information. Pursuant to Article 6(1) of Directive, EU Member States shall provide "adequate legal protections" against "the circumvention of any effective technological measures…"[16] Article 6(2) further obliges Member States to prohibit "the manufacture, import, distribution, sale, rental, advertisement for sale or rental, or possession for commercial purposes of devices, products, or components" that facilitate the circumvention directly or indirectly.[17]

Compared to the provisions under the DMCA, the EU Directive displays more freedom and allow certain degree of autonomy among Member States on implementation. For example, the Directive does not clearly define "adequate legal protections"[18]. As a matter fact, each Member State is obliged to determine

[15] Directive 2001/29/EC of the European Parliament and of the Council, EUROPA, official texts available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2001:167:0010:0019:EN:PDF (last visited 9/12/2013).
[16] *See* Art.6 (1) of Directive.
[17] *See* Art.6 (2) of Directive.
[18] *Id.*

the extent of "adequate" protection. Moreover, as EU Community directive mentions, the underlying feature of this Directive is closely connect to regional commercial activity. Hence, the Directive primarily targets on circumvention occurs in commercial area, while the private possession of circumvention tools is also prohibited.[19]

3) China: Regulation on Protection of the Right to Network Dissemination of Information (RPRNDI)

Distinguished from the US and EU framework, China does not enact specialized legislation on the aspect of anti-circumvention. To the contrary, the technology measures are incorporated into the protection of "the right to network dissemination of information".[20] The Regulation on Protection of the Right to Network Dissemination of Information (RPRNDI) primarily aims at "protecting the right to network dissemination of information for copyright owners", and "encouraging the creation and dissemination of works".[21] Article 4 of the Regulation provides that,

"No organization or person shall intentionally avoid or destroy the technical measures, shall intentionally manufacture, import, or provide the public with devices or components mainly used to avoid or destroy the technical measures, and shall intentionally provide technical services to others to avoid or destroy the

[19] *See* Directive, Recital 49.

[20] *See generally* Regulation on Protection of the Right to Network Dissemination of Information (2013 Revision), LAW INFO CHINA, English version available at http://bl-law-komodo.ads.iu.edu:2433/display.aspx?id=12572&lib=law&SearchKeyword=&SearchCKeyword=73%2bQtGjPEs2SL4wVcq17uI3XUiMtiR%2bW (last visited 9/12/2013).

[21] *Id.*

technical measures."[22]

With respect to rights-management information, Article 5 prohibits any person or organization without permission to

1) Intentionally deleting or altering the electronic information on the management right of the works, performances, or audio-visual recordings as provided to the public through the information network, or

2) Providing the public through the information network with works, performances, or audio-visual recordings while knowing or should have known that the works, performances, or audio-visual recordings have been deleted or altered without the permission of the owner.[23]

Generally, the legislation is primarily suggested by the central government in order to comply with the obligation of WCT and WPPT. Although online piracy is severe and rampant in China, the interest groups for copyright are not as strong as those in the US and the EU Community. Moreover, the perception for copyright protection is still undergone development. As a consequence, anti-circumvention legislation in China is not a central issue compared to the development in the US and the EU community.

2. Digital Technology

The legislation on anti-circumvention establishes the first type of foundation to the private implementation. Copyright holders thus is entitled to the legal protection on their digitally copyrighted works. On the other hand, digital

[22] Art. 4 of Regulation.
[23] Art. 5 of Regulation.

technology forges the second type of foundation to uphold the two-fold protection to copyright holders.

Basically, there are two concepts with respect to digital technology on regulating copyrighted works. Digital rights management, also known as DRM, refer to "technology systems facilitating the trusted, dynamic management if rights in any kind of digital information, throughout its lifecycle and wherever and however it is distributed."[24] The definition of DRM concentrates on the management of given rights over creative works, which is distinguished from Technological Protection Measures (TPMs).

The TPMs refer to technological methods used to control the access to digital works by various kinds of means such as copying, distribution, performance, and display.[25] Simply put, the TPMs emphasize on whether certain use of digital contents under authorization. Generally, most DRM contain TPMs to control the access to creative works. Hence, some scholars categorize the mainstream DRM as "TPM-enabled DRM".[26] Therefore, the discussion on digital technology in this chapter employ the same conceptual framework.

The digital technology varies according to specific functions. Because of the widespread adoption by copyright holders, the technological strengths on controlling digital works are the focal point. In general, there are three kinds of technologies with respect to the licensing and use of works:

---

[24] Ian Kerr, Alana Maurushat & Christian Tacit, *Technological Protection Measures: Tilting at Copyright's Windmill*, 34 OTTAWA L. REV. 7, 25 (2002-03).
[25] *Id.*, at 13.
[26] JOAN VAN TASSEL, DIGITAL RIGHTS MANAGEMENT: PROTECTING AND MONETIZING CONTENT, Elsevier, 77 (2006); *also see* Kerr et al. *supra* note 24, at 25.

1) Technology that control the access to content;

2) Technology that restrict the copying of content;

3) Technology that prevent the transforming content to other devices.[27]

The first kind of digital technology concentrates on the access control. This technology "blocks access to content unless the user is authorized to consume it or the machine is authorized to play or display it."[28] Specific examples include identification and password technologies, DVD regional encryption, Content Scramble System (CSS), and Advanced Access Content System (AACS).[29]

The second type of technology is the copy protection technology, which primarily designs to control the copying of copyrighted works. For example, the Analog Copy Protection (ACP) to an encryption DVD player can make the unauthorized copy from the DVD player distorted and unable to play.[30] Similarly, the Copy Generation Management System (CGMS) is a copy protection mechanism for analog television signals.[31] The system contains waveforms which can be detected by compatible devices. Once detected, the device blocks or restricts the recording of video contents.[32]

Finally, the third kind of technology focuses on the transforming of content into other devices, such as Digital Transmission Content Protection (DTCP) and High-bandwidth Digital Content Protection (HDCP).[33] Needless to say, this technology

---

[27] Hiram Melendez-Juarbe, *DRM Interoperability*, 15 B.U. J. SCI. & TECH. L. 181, 195 (2009).
[28] *See* Van *supra* note 26, at 92.
[29] *Id.*, at 88, 92-102.
[30] *Id.*, at 105.
[31] CGMS-A, WIKIPEDIA, available at http://en.wikipedia.org/wiki/CGMS-A (last visited 9/11/2013).
[32] *Id.*
[33] *See* Hiram *supra* note 27, at 196.

restricts the compatibility among different devices. Contents can only be transferred through exclusive channels and permission.

According to the analysis, all three kinds of technology substantially expands the control of copyright holders when they license copyrighted works to online users. The users, by contrast, are adversely affected by the technology and confined to single licensing framework.

Moreover, digital technology enables copyright holders to control copyrighted works after distribution or licensing. They are able to prevent users from transforming the content into other formats and playing the works on incompatible devices. In other words, a user or consumer is binding to a given licensing platform. A high-profile example is the FairPlay technology adopted by Apple in licensing online music through iTunes.

The FairPlay is a proprietary digital technology and is incompatible to other mobile devices on music playing.[34] The FairPlay consisted of multiple security keys in digital format that are designed to prevent hacking and reduce relevant damages.[35] All the musical files purchased through iTunes can only be played on Apple's devices such as iPod, iPad or the Mac with iTunes software.[36]

Moreover, the FairPlay automatically encodes DRM-free music files and restricts the playback to five computers.[37] To some extent, the Apple's DRM limit its

---

[34] Priti Trivedi, *Writing the Wrong: What the E-Book Industry can Learn from Digital Music's Mistakes with DRM*, 18 J.L. & POL'Y 925, 943 (2009-10).

[35] Daniel Eran, *How FairPlay Works: Apple's iTunes DRM Dilemma*, ROUGHLYDRAFTED, available at: http://www.roughlydrafted.com/RD/RDM.Tech.Q1.07/2A351C60-A4E5-4764-A083-FF8610E66A46.html (last visited 9/11/2013).

[36] Nicola F. Sharpe & Olufunmilayo B. Arewa, *Is Apple Playing Fair? Navigating the iPod FairPlay DRM Controversy*, 6 NW. J. TECH. & INTELL. PROP. 332, 335 (2007).

[37] *Id.*

consumers' freedom on choosing the devices and bind them to apple's services.

From the perspective of copyright holders, digital technology enhances their control on digital works and brings about substantial benefits. For one, online users gradually tend to access works in digital format through online transaction. The ease of copying, distributing, and sharing of electronic copies are highly attractive to most people, especially among young generation. By employing digital technology on works, copyright holders are able to binding consumers to his products with various technological restrictions. Under the circumstances, consumers have to continue on purchasing relevant products from copyright holders.

For another, copyright holders rely on digital technology to prevent unauthorized access to copyrighted works. Ordinary people often are incapable of circumventing digital technology to access works. The costs of circumvention to consumers or users far outweigh the payment to legal licensing. Due to this assumption, copyright holders still insist on incorporating digital technology into copyright works for the copyright enforcement.

B. the Root of Failure: the Imbalance by Twofold Protection

Copyright holders enjoy twofold protections under the private system. One is the legislation that prohibit any circumvention to digital technology, the other is the digital technology that control the access to copyrighted contents. Theoretically, this twofold protection ensures the interests of copyright holders and it functions as the most appropriate strategy to online copyright enforcement.

The emphasis on the interests of copyright holders accords with the right-holder-centric model. This accordance, however, sometimes omits other party's interest. Put differently, a healthy development of the copyright system should take the interests of online users into consideration.

On the one hand, copyright system emphasizes the importance of balance between copyright holders and the public, aiming at promoting culture progress by widespread access and participation. On the other hand, although copyright is designed to solve the problem of market failure, copyright holders are still granted with limited monopoly power.

Nevertheless, the private implementation through digital technology potentially denies the balance of interests. Put into practice, it leads to tension between copyright holders and online users form both legal and technological aspects.

1. Side effect on Legal Aspect: the Unavailable Fair Use

Since the legislation on anti-circumvention among various jurisdictions, copyright holders are able to bring actions against any circumvention on their digital technology through judicial system. As a consequence, copyright holders actually obtain an extra layer of protection. Under the circumstances, online users begin to concern the expansion of copyright.

For instances, the US DMCA anti-circumvention provisions attracts widespread criticism from the public over the years.[38] Specifically, they worry that copyright

[38] *See* e.g. Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U.L. REV. 354 (1999) (arguing that DMCA restrict the diversity of information sources and bridge the freedom of speech).

holders may employ the anti-circumvention provision to suppress the space of users' fair use, resulting in a stronger control and insufficient access to copyrighted works.

Their concerns are not groundless regarding both theoretical and practical aspects. In theoretical aspect, copyright commentators use "Para-copyright" as a specialized word to describe the extra protection granted to copyright holders by means of anti-circumvention legislation.[39] It is like, for example, an umbrella that is above and beyond the traditional copyright, which also called "pseudo-copyright" or "meta-copyright".[40]

Para-copyright provides protection on digital technology adopted by copyright holders. By imposing liability and penalty to persons who unauthorized circumvent digital technology, copyright holders essentially enjoy new rights and remedies created by the legislation, regardless whether the circumvention relevant to copyright protection.[41] As a matter of fact, the legislation indirectly empowers the copyright holders and "compromising other legitimate interests in digital content, such as fair use."[42]

In practical area, the implementation of anti-circumvention provision had already caused undesirable results in the early days of the DMCA. Judicial interpretation in the US indicates that the fair use exception is generally difficult to obtain when

---

[39] Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U.L. REV. 1, at 18 (2004).

[40] Para-copyright, Wikipedia, available at http://en.wikipedia.org/wiki/Para-copyright (last visited 9/13/2013).

[41] Stacy F. McDonald, *Copyright for Sale: How the Communication of Intellectual Property Distorts the Social Bargain Implicit in the Copyright Clause*, 50 HOW. L.J. 541, at 561 (2007).

[42] Jacqueline D. Lipton, *Solving the Digital Piracy Puzzle: Disaggregating Fair Use from the DMCA's Anti-device Provisions*, 19 HARV. J.L. & TECH. 111, at 126 (2005-2006).

violation of the DMCA is at issue. As a result, copyright holders are in an advantageous position.

a) *Universal City Studios v. Reimerdes*

The first salient US cases regarding the fair use exception under the DMCA anti-circumvention provision was *Universal City Studios v. Reimerdes*.[43] The focal issue in the case concerns an encryption technology on DVDs. The copyright holders, namely the Studios, employed an encryption technology on their distributed DVDs in order to protect their copyrighted movies.[44]

The encryption technology is called Content Scrambling System (CSS) which enable the encryption on DVDs and thus protect against unauthorized piracy.[45]

The dispute arose when a Norwegian teenager, as a member of a high school science project, developed a decryption algorithm for the CSS technology.[46] The decryption code was called "DeCSS" and widely distributed in United States via the Internet, resulting decryption of the Studios' propriety DVDs.[47]

The Studios thus brought an action against the website that posted the decryption code and also facilitated others to download or use the code.[48] The defendant argued that the fair use doctrine is a constitutionally protected right based on the First Amendment.[49] The Second Circuit rejected the argument and ruled that the Supreme Court has ever held the fair use doctrine is constitutionally guaranteed.[50]

---

43 111 F. Supp. 2d 294 (S.D.N.Y. 2000).
44 *Id*., at 309.
45 *See* Lipton *supra* note 42, at 127.
46 *Reimerdes*, F. Supp. 2d, at 311.
47 *Id*.
48 *Id*., at 294.
49 *Id*., at 327.
50 *Universal City Studios v. Corley*, 273 F.3d 429,455(2d Cir. 2001).

The court further ruled that the defendant could not avail themselves of the fair use exception because they were not engaged in fair use of copyrighted works, and the legislative preservation of the fair use defense in the DMCA said nothing about rights to circumvent a digital lock.[51]

b) *United States v. Elcom Ltd.*

This federal court case involves the claim for an Adobe eBook format and is the first case that the defendant is prosecuted under criminal provisions under the DMCA.[52]

The person at the center of this case was a 27 year old Russian programmer, Dmitry Sklyarov, who was arrested in Las Vegas on July 2001 and was charged for "trafficking in and offering to the public a software program that could convert a restricted eBook file into a standard PDF file."[53]

In the litigation, the defendant raised a fair use defense and claimed that the DMCA was constitutionally invalid under the First Amendment.[54] The defendant further argued that the decryption technology to the eBook file, the AEBPR, could be sued for fair use purposes that were protected under the First Amendment.[55]

The court rejected defendant's argument regarding the First Amendment defense by referring to the same arguments in *Reimerdes* while eventually acquit Elcom because it did not intend to violate the law.[56] More importantly, the court made

---

[51] *Reimerdes*, F. Supp. 2d, at 332-35.
[52] US v. ElcomSoft Sklyacov, ELECTRONIC FRONTIER FOUNDATION, available at https://www.eff.org/cases/us-v-elcomsoft-sklyarov (last visited 6/11/2014).
[53] *See* Lipton *supra note* 42, at 130.
[54] *United States v. Elcom Ltd.*, 203 F.Supp.2d 1111, 1117-1118 (N.D. Cal. 2002)
[55] *Id.*, at 1134-35.
[56] *Id.*, at 1135-37.

an observation with respect to the argument that DMCA adversely affected the fair use:

[W]ith regard to the argument that fair use rights are impaired [by the DMCA], the DMCA does not eliminate fair use or substantially impair the fair use rights of anyone. Congress has not banned or eliminated fair use and nothing in the DMCA prevents anyone from quoting…The fair user may find it more difficult to engage in certain fair uses with regard to electronic books, but nevertheless, fair use is still available.[57]

The court expressly accepted that DMCA, especially the anti-circumvention legislation, did not affect or negatively impacted fair use rights, while indirectly admitted that digital technology indeed impose more difficulty to users when they claimed for the fair use defense.[58]

c) *321 Studios v. MGM Studios, Inc.*

This case is another example that focuses on the circumvention on digital technology and the concern of copyright piracy. The software developer, the 321 Studios, marketed and sold software products for copying DVDs thorough a specialized circumvention technology.[59] In the litigation, the 321 Studios particularly emphasized on the fair use function of its software, and claimed that it enabled the production of backup copies of legitimately purchased DVDs.[60]

The court rejected the fair use defense by 321 Studios and held that the DCMA

[57] *Id.*, at 1134-35.
[58] *See* Lipton *supra* note 42, at 131.
[59] *321 Studios v. MGM Studios, Inc.*, 307 F. Supp. 2d 1085 (N.D. Cal. 2004).
[60] *Id.*, at 1089-1090.

does not restricted the fair use, and prohibition on circumvention to digital protection does not adversely affect the ability to make fair use of a copyrighted work.[61]

The decision of the case indicates a similar tendency to *Elcom* case. Although 321 Studios' software is not designed for infringing use, the fair sue argument is similarly unsuccessful as in *Elcom* case. The court ruled that creating and marketing products that enable fair use of a digital copyrighted work still violated the DMCA if such product could be used to circumvent a DRM technology, even though the circumvention facilitated ordinary users' access.[62]

Brief Observation

To be sure, fair use as an exception in copyright law ensures the users' right to access copyrighted works in certain circumstances. Hence, fair use maintains the delicate balance between copyright holders and users. However, the fact courts in *Reimerdes*, *Elcom Ltd.* and *321 Studios* generally were reluctant to grant fair use exception indicates the tendency that the judicial interpretation is generally in favor of copyright holders when a violation of the DMCA is at issue. It is obvious that courts in the US pay more attention to the concern of online piracy rather than the consideration of balance.

From the perspective of judicial interpretation, the legislation on digital technology brings about certain side effects by raising up the difficulty in obtaining fair use, and adversely affect the balance between copyright holders and

[61] *Id.*, at 1101.
[62] *Id.*

ordinary users.

In summary, legislation on digital technology provides copyright holders with legal foundation to prohibit circumvention on technology. Despite the legislative intent, the legislation on digital technology tends to break the balance between copyright holders and users. Based on the judicial interpretation in the US, fair use exception is generally difficult to obtain and rarely granted when there is a violation of the DMCA. Under the circumstances, the delicate balance in copyright system in fact weighs in favor of copyright holders through the private system, placing ordinary users in unfavorable position.

2. Side Effect on Technological Aspect: the downside of user's experience

As one of the twofold protection, copyright holders embrace and employ digital technology to facilitate their copyright enforcement. The internet connection not only facilitates the distribution of digital contents, but offers better instruments to exercise widespread control. For instances, digital technology can restrict multiple use in a single licensing (e.g. prevent saving, printing, or annotating simultaneously), or limit the access to digital contents (e.g. restriction of installation on numbers of copies).[63]

To be sure, the basic control over digital works is normal function and should be acceptable to ordinary online users. The implementation of digital technology, however, does not cease to that stage. Since digital technology is powerful and the internet connection is unlimited, copyright holders are able to exercise post-

[63] Niva Elkin-Koren, *Making Room for Consumers under the DMCA*, 22 BERKELEY TECH. L.J. 1119, at 1124 (2007).

purchase control.

Compared to copyright law enforcement which is usually triggered after infringement occurs, such post-purchase control is not available to copyright holders in pre-digital age as a private strategy. A user who purchases a digital copy may be restricted to specific hardware devices.

For example, suppose you purchase a copy of digital book from Amazon Kindle store. You are only able to read the e-book in Kindle devices. The license agreement of Amazon Kindle generally prohibits you to the transfer the e-books to a different type of device.[64] Under the circumstance, you are not be able to transfer your favorite e-book, *The Adventure of Tom Sawyer*, from the Kindle device to your iPad simply because the screen size of iPad is bigger than Kindle which allows you to read the book more comfortable.

This hypothetical scenario is what exactly happen in reality when Apple Company strategically distribute their digital works through Apple iTunes store. In industrial practice, Apple Company relies on the FairPlay encryption technology to automatically encode the digital content purchased from iTunes store, and restricts consumers from using other portable devices to play the digital content.[65] Below is the detailed description of Apple's industrial experience.

Industrial Practice: Apple iTunes & FairPlay

Before the emergence of online music store, digital encryption technology have

---

[64] *Amazon Kindle: License Agreement and Terms of Use*, available at http://web.archive.org/web/20110109000847/http://www.amazon.com/gp/help/customer/display.html?ie=UTF8&nodeId=200144530 (last visited 1/23/2014).

[65] *FairPlay Restrictions*, WIKIPEDIA, available at http://en.wikipedia.org/wiki/FairPlay#Restrictions (last visited 1/23/2014).

already incorporated into musical works. Therefore, it is not surprisingly to witness major online music licensors employ digital technology in order to preclude unauthorized access to licensed music.

Among a variety online music stores, the most popular and successful example should be the Apple iTunes.

The Apple iTunes store is an online proprietary store owned by Apple Company which offer online music, video, podcast, eBooks, and apps for licensing. [66] Among the diversified digital contents, the digital music are the iTunes' primary product. When iTunes 1.0 was launched in January 2001, its major feature was as an "ultimate way to manage digital music and create customized CDs."[67]

Since iTunes allows users to customize personal playlists within one or more libraries, edit file information, record Compact Discs, copy files to a digital audio player, and purchase music built-in online store, it quickly become popular among online users. [68] Over one decade since its initial launch, Apple iTunes has acquired 63% digital music market share as of the fourth quarter in 2012 compared to 22% by Amazon MP3. [69]

To the very beginning, Apple employs an encryption technology called FairPlay to control the usage of digital contents purchased through iTunes store. [70]

---

[66] *ITunes Preview*, available at https://itunes.apple.com/us/genre/music/id34 (last visited 1/24/2014).

[67] *Apple Introduces iTunes—World's Best and Easiest to Use Jukebox Software*, APPLE PRESS INFO, available at http://www.apple.com/pr/library/2001/01/09Apple-Introduces-iTunes-Worlds-Best-and-Easiest-To-Use-Jukebox-Software.html (last visited 1/24/2014).

[68] *ITunes*, WIKIPEDIA, available at http://en.wikipedia.org/wiki/ITunes#Music (last visited 1/24/2014).

[69] *The NPD Group-After 10 Years Apple Continues Music Download Dominance in the US*, PRESS RELEASE, available at https://www.npd.com/wps/portal/npd/us/news/press-releases/the-npd-group-after10-years-apple-continues-music-download-dominance-in-the-u-s/ (last visited 1/24/2014).

[70] *See* FairPlay *supra* note 65.

Generally, the FairPlay encryption imposes restriction on a user who purchased music from iTunes in several aspects:

1) A music can be played up to five authorized devices simultaneously;[71]
2) The FairPlay-encrypted music can only be copied up to seven times to a CD;[72]
3) The mandatory copying of music to a standard CD may result in no DRM protection or ripped. Such CD does not contain first sale rights and cannot be legally leased, lent, sold or distributed.[73]

Obviously, the restrictions by FairPlay impose substantial inconvenience for users who purchase music through iTunes store and limit their normal usage. Being frustrated with the undesirable experiences, a couple of technicians attempted to circumvent the FairPlay encryption.

For example, the RealNetworks, a technician group, once launched a *Harmony Project* and designed a software program called *Harmony* which primarily aims to be compatible with Apple's FairPlay encryption program.[74] Apple threatened to file lawsuits against RealNetworks under the DCMA, and the RealNetworks eventually cease the decryption plan and compromise.[75]

To RealNetworks, the purpose is to compete with Apple iTunes through compatibility. Users may receive substantial benefits from the competition

---

[71] *Authorized your Computer*, iTUNES SUPPORT, available at http://www.apple.com/support/itunes/authorization/ (last visited 1/24/2014).
[72] *Can't burn a CD in iTunes for Windows*, available at http://support.apple.com/kb/ts1436 (last visited 1/24/2014).
[73] *Id.*
[74] John Borland, *Apple Fights RealNetworks works' "hacker tactics"*, CNET NEWS, Dec. 14th 2004, available at http://news.cnet.com/2100-1027_3-5490604.html (last visited 9/13/2013).
[75] *Id.*

because it drives the price of digital contents to reasonable level through competition. So long as the incompatibility precludes the competition to some extent, copyright holders have advantages in determining the price over their subscribers who are locked in a single licensing platform.

In addition to the *Harmony Project* promoted by RealNetworks, other technicians also designed their own software to battle against the FairPlay. For instances, Jon Johansen designed the QTFairUse which reverse engineered the encryption technology of FairPlay; a software package named PlayFair created by an anonymous developer which remove the encryption from files using the FairPlay DRM mechanism; The Requiem software allows a person to decrypt music that they are authorized to play in iTunes by reverse-engineering Apple's FairPlay algorithm. [76]

The fight back from technology community warns the Apple that digital technology is not as reliable as they expect with respect to exclusive control on digital works. The Apple, however, quickly responded to the challenge by continuously updating their software system to nullify the circumvention.

For instances, Apple introduced iTunes 6.0 and iTunes 7.0 in a short period during 2005 to 2006 which includes technical updates intended to cease programs like Hymn and JHymn, the successors of PlayFair.[77] Similarly, the release of Requiem forced Apple to update its iTunes version for several times so as to prevent the circumvention. The Requiem kept evolving as response to Apple's updating and

[76] *See* FairPlay *supra* note 65.
[77] *Id.*

the "digital armed race" between the two parties had lasted for almost two years since 2008.[78]

Realizing the endless, time-consuming and expensive "digital arms race", Apple moved to change its strategy. Apple announced the removal of FairPlay encryption on digital music in 2007.[79] In a public letter made by Apple entitled in *Thoughts on Music*, Steve Jobs publicly persuade other label records to sell their music without DRM encryption.[80] According to Jobs, the reason that Apple adopted encryption was largely due to the licensing agreements between Apple iTunes and four major label records.[81]

In addition to the public letter, the Apple began to release DRM-free EMI's music on iTunes in 2007.[82] Two years later, Apple reached an agreement with all major label records and sold music on iTunes without encryption.[83] There were totally eight million music free of FairPlay encryption on the first day of removal on iTunes store.[84]

Brief Observation

Needless to say, the user's experiences are adversely affected by the incompatibility of digital contents. As a consequence, ordinary users who obtain licenses from copyright holders and pay to access digital contents now face a new

---

78 *Id.*
79 *Thoughts on Music*, APPLE, available at http://www.apple.com/au/hotnews/thoughtsonmusic/ (last visited 1/24/2014).
80 *Id.*
81 *Id.*
82 Huge Hart, *EMI's Last-Ditch Effort: DRM-free Music*, WIRED, available at http://www.wired.com/entertainment/music/news/2007/04/emi_business0403 (last visited 1/24/2014).
83 *Apple to end music restrictions*, BBC NEWS, Jan. 7th 2009, available at http://news.bbc.co.uk/2/hi/technology/7813527.stm (last visited 1/24/2014).
84 *Id.*

problem: they are confined to specific licensing platform. In other words, the licensing platform determines the quality and diversity of available contents. Under the circumstances, ordinary users are either continue their subscription, or switch to other licensors at the expense of losing current access and bearing the sunk costs.

As a whole, the digital technology employed by copyright holders restricts users' experiences on the access to copyrighted works. As a consequence, users group either accepts this undesirable experience, or break the limitation to enhance their experiences at the risk of infringing copyright.

Consequently, copyright holders and ordinary users, who should have been mutual beneficial to the other side, eventually raise the tension through the implementation of digital technology.

C. Other Observations on Copyright Private implementation

1. Digital Technology Cannot Offer Reliable Protection Against Piracy

The private implementation system provides copyright holders with advanced technology to prevent unauthorized access to copyright works. In other words, the major function of digital technology under the system is to deter and prevent copyright piracy. The employment of digital technology, however, indicates the undesirable results.

Within the private system, the digital technology is of most importance because it serves as the foundation to reinforce copyright holders' control over their works. However, the weaknesses of digital technology gradually become the problem

through the operation of the system.

It is true that digital technology facilitates the control on digital works. Nevertheless, no guarantee can be made with respect to the protection against piracy. As a matter of fact, the harder copyright holders strive to protect their works through digital technology, the harder talented technicians work for circumvention.[85] Specifically, the major threat is the hackers group who are able to circumvent or "crack" encryption technology on a given work. The experience from computer games industry is a high-profile example.

Compared to other industries such as online music or e-books, the computer game industry generally received less attention by the public but suffer from more severe piracy and losses.[86] The severe piracy on computer games usually causes higher losses than other entertainment industry.[87] The actual losses to computer games industry due to online piracy is difficult to gauge because pirated users often claim they rarely purchased the games they actually pirate.[88]

The major concern to the computer games industry is the "Zero-day" piracy, which refers to the successful circumvention of digital protection on or before the official launch date of a given computer game.[89] Such kind of piracy is the most damaging because game fans are eager to gain access to the launched one and the

---

85 John Black, *the Impossibility of Technology-Based DRM and a Modest Suggestion*, 3 J. TELECOMM. & HIGH TECH. L. 387, at 388 (2005).

86 Andrew V. Moshirnia, *Giant Pink Scorpions: Fighting Piracy with Novel Digital Rights Management Technology*, 23 DEPAUL J. ART TECH. & INTELL. PROP. L. 1, at 3 (2012).

87 Julian Sanchez, *SOPA, Internet Regulation, and the Economics of Piracy*, ARTS TECHNICA, Jan.18th 2012, available at http://arstechnica.com/tech-policy/2012/01/internet-regulation-and-the-economics-of-piracy/ (last visited 9/17/2013).

88 *Id.*

89 Koroush Ghazi, *PC Games Piracy Examined*, TWEAKGUIDES, available at http://www.tweakguides.com/Piracy_1.html (last visited 9/17/2013).

piracy offer them the convenience. The pirated version of games may contain bugs or program flaws which still need modification and improvement.[90] Under the circumstances, the undesirable gaming experience may adversely affects the sales of that game.

In addition, piracy also affects legitimate gamers. Put differently, the piracy often consumes resources devoted to sustain the operation of games. For example, gamers who use pirated version of copies may download patches or other content for the game, such as game skins or modifications, increasing the costs of bandwidth to game server. [91] To computer games that contain multiplayer design, piracy may overload the main server of the game.[92]

Despite the threat, computer game companies still have strong confidence in digital technology with respect to the protection of their games. They argue that that circumventing digital technology required a huge amount of efforts, sufficient experiences and investment of time. Their argument further goes that the majority of people are either incapable of cracking or are unwilling to invest substantial costs on circumvention. Only a small group of people, usually the hacker group, who can break the technology and they do not account for the revenue to computer industry.

These optimistic arguments generate a positive effects on the adoption of digital technology as protection, while omitting an important consideration—the Internet

[90] *See* Moshirnia *supra* note 86, at 11.
[91] *Id*, at 19.
[92] *Id.*

transmission. A well-known principle among technicians community known as BORA: "break once run anywhere".[93] Specifically, a hacker who invests time and efforts to break the digital technology will choose to distribute the unprotected content with the cracking technology through the Internet. Under the circumstances, ordinary online users merely need internet connection and the knowledge of copying to access the unprotected content.[94]

Working under the general principle, the BORA, hackers design three main methods to circumvent the superficially powerful digital technology. Firstly, a hacker may locate the security weakness in DRM code which allows a hacker to break the technology without installing software onto the target computer. In other words, a hacker may take advantage of a known weakness in a given technology which originates from the basic design and the structure. For example, a hacker can edit a computer's registry or delete given files in order to prevent the technology from normal functioning.[95]

The second method relies on specialized software: Key Generator Software (KeyGens). This software is able to produce a serial counterfeit number which can be used to unlock the licensed contents.[96] Because a license is a necessary component that activates the use and distribution of computer software, right holder often issue a sequential code as the digital key to unlock protected contents as well as prevent access without authorization. Hence, the KeyGens actually

[93] *Id*., at 391.
[94] *Id.*
[95] *See* Moshirnia *supra* note 86, at 7.
[96] *Id.*

break the technology framework and legal mechanism, resulting in the distribution of unprotected works online.[97]

The third method is similar to the first type, which directly modify the code of software and prevent the detection and triggering of the digital protection. This method is widely used in the circumvention of the DRM installed in PC games. [98] Because of the sophisticated process and substantial difficulty, only the elite groups of hackers can successfully complete the circumventions.[99]

The weakness of digital protection and the challenge from hackers demonstrate that digital technology cannot provide reliable protection on copyrighted works. Although the hackers are minority compared to the majority of online users, the hackers' devotion on widespread distribution of unprotected contents impose great threat to copyright holders. Therefore, relying on digital technology to prevent and deter online piracy is unsound and ineffective.

2. Digital Restriction is not the Only Factor to the Success of Online licensing

Since the private system provides twofold protection, copyright holders usually assume that such system secure the stable inflow of revenues. Such assumption, however, overlooks other elements that contribute to the success of online business. As a matter of fact, a successful online licensing builds upon the combination of flexible business strategies.

---

[97] *Id.*

[98] Well-known groups includes "The Scene" and "The Warez Scene".

[99] *See* Moshirnia *supra* note 86, at 7.

The Amazon's dominance in e-books market creates a high-profile example. The Amazon exercises the limitation of compatibility on e-books as its business strategy and has a high level of control on the usage.

Specifically, Amazon kindle can only read e-books in its proprietary format or other formats approved by Amazon such as PDF.[100] Although other format like EPUB can be converted into Amazon's format, the entire process require third-party software to complete the conversion.[101] Considering the inconvenience, users may prefer to opt in the Amazon Kindle system rather than use a different device. Moreover, even a user successfully convert an e-book to compatible version, he may find the e-book does not display appropriately or just partially.[102] Despite the digital restriction on e-books, the Amazon establishes a substantial market share of e-books industry in English-speaking countries. In the US, Amazon takes up 60% of market share regarding e-books.[103] As to the market share of e-reader, the Amazon has about 50% share of the US market.[104] In the UK, Amazon is considered to have a market share of 90% regarding e-books industry.[105] In Australia, Amazon is estimated to take a share of over 60 percent.[106]

---

[100] *Id.*, at 12.

[101] Rob Lightner, *How to Read EPUB files on your Kindle*, CNET, available at http://howto.cnet.com/8301-11310_39-57319379-285/how-to-read-epub-files-on-your-kindle/ (last visited 1/24/2014).

[102] Angela Daly, *E-books monopolies and the law*, at 12, SSRN, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2377589 (last visited 1/24/2014).

[103] Robert Cookson, *Publishers Task to Unlock Ebook Market*, *Financial Times*, available at http://www.ft.com/cms/s/0/a8f285ee-2370-11e2-bb86-00144feabdc0.html (last visited 1/24/2014).

[104] *See* Daly *supra* note 84, at 11.

[105] *Id.*

[106] Jon Page, *Device Wars: the Battleground is not What you Read but What you Read on*, BITE THE BOOK, available at http://bitethebook.com/2013/02/05/device-wars/ (last visited 1/24/2014).

Because Amazon employ digital restriction in its e-books licensing, the market success is naturally attributed to the digital technology. However, there are other factors which contribute to the success rather than the technology itself.

In general, the Amazon employs a variety strategies to establish its dominant position in e-books market. Compared to other e-books competitor, Amazon is first mover to constitute the complete business circulation. Amazon introduced its kindle device in 2007 as specialized e-reader which allowed its users to shop for, download, browse, and read e-books, newspapers, magazines, and blogs via wireless networking.[107]

In addition to its first mover advantage, the Amazon constitutes its e-books value chain by various business strategies. For one, Amazon sells the kindle as e-reader device. For another, Amazon operates its online bookstore with kindle-formatted e-books. Amazon is also a publisher by introducing its "Kindle Direct Publishing" project and acting as a self-publishing platform for authors to sell their e-books directly from kindle store.[108] As a consequence, the combination of these business strategies with its first mover advantages lead to its leading market position in major English-speaking countries.

On the other hand, Amazon employs a flexible licensing agreement as to the price of its e-books, which is cheaper and affordable to online users. In late 2007, the new releases and "New York Times" best sellers were being sold for

---

[107] Brier Dudley, *Kindle hacking, iPod parallels and a chat with the Kindle director*, THE SEATTLE TIMES, available at http://blog.seattletimes.nwsource.com/brierdudley/2007/11/chatting_with_amazons_kindle_d.html (LAST VISITED 1/25/2014).

[108] *Welcome to Amazon's Kindle Direct Publishing*, available at https://kdp.amazon.com/ (last visited 1/25/2014).

approximately $11, while the first chapter of many books were free for download.[109] Moreover, magazines and newspapers provided by Amazon with a free trial period followed a monthly subscription fees.[110] Specifically, newspaper subscriptions costs ranged from $1.99 to $27.99 per month; magazines charge between $1.25 and $10.99 per month.[111]

With a variety of price choices, user are able to afford the accessing costs based on their capability. Under the circumstances, the Amazon in fact attracts more users to opt in their kindle system and the large number of users also triggers the increase of e-books collection contributed from authors. Therefore, the two-side interaction eventually establishes a positive circulation of e-books industry to Amazon.

To be sure, the flexible business strategies substantially contributes to the success and popularity of the Amazon kindle system. Assuming Amazon does not cater to users' demands and preferences, other competitors will quickly deprive the market share. However, someone may argue that the Amazon still integrates DRM into their kindle system and thus exercises strong control over the usage of Amazon e-books. Because users are not easily to switch to other devices, their arguments further goes, the DRM adopted by Amazon still contributes the success of its business. In other words, the Amazon case is more likely a circumstantial

[109] Amazon Kindle, Wikipedia, available at http://en.wikipedia.org/wiki/Amazon_Kindle#Kindle_applications (last visited 1/25/2014).
[110] *Id.*
[111] *See* Kindle Newspaper, available at http://www.amazon.com/Kindle-Newspapers/b?ie=UTF8&node=165389011 (last visited 1/25/2014); *also see* Magazine Subscription, available at http://www.amazon.com/magazines/b?ie=UTF8&node=599858 (last visited 1/25/2014).

evidence to demonstrate that digital technology is indispensable to a successful online business.

It is true that Amazon takes up substantial e-books market share with strong control through digital technology. However, examples in other industry indicates that lack of digital restriction still contributes to the success of online business. The most notable case is the online music after the removal of encryption.

The EMI is the first major record label which sold DRM-free music through Apple iTunes store. According to an interview between EMI senior VP Lauren Berkowitz with the Bloomberg in 2007, the sales of EMI music indicated DRM-free music is noticeably popular than encrypted music.[112] The album of Pink Floyd's *Dark Side of the Moon* increased 272 percent since going DRM-free.[113] Moreover, the digital sales of other albums increased as well. For instances, Smashing Pumpkins' *Siamese Dream* raised up by 17 percent; Norah Jones' *Come Away with Me* increased 24 percent, and Coldplay's *A Rush of Blood to the Head* doubles the sales to 115 percent.[114]

The EMI statistics seven years ago was more like a short-term feedback to the releasing DRM-free music. A recent academic paper by a researcher, Laurina Zhang, confirms the trend of increased music sales after encryption removal in music industry.

Zhang's research included 5,864 albums from 634 artists and compared the sales

---

[112] Jacqui Cheng, *EMI says DRM-free music is selling well*, ARS TECHNICA, available at http://arstechnica.com/uncategorized/2007/06/emi-says-drm-free-music-is-selling-well/ (last visited 1/25/2014).
[113] *Id.*
[114] *Id.*

figures before and after the removal of encryption in music.[115] According to her research, she concluded that the sales of music actually increased after the removal of encryption on music and the specific increased figure was 10%.[116] Specifically, approximately 30% sales boost of lower-selling albums because the DRM-free music made it easier for users to share and discover new music.[117]

The result of EMI's music sales and the research made by Laurina Zhang demonstrated that digital restriction on works does not contribute to the success of online licensing. To the contrary, the removal of restriction on music essentially push the increase of music sales. Even in the newly-developing e-books industry, the digital restriction at most partially contributes to the success of Amazon kindle system. In summary, digital technology on restriction is not as constructive as its design and is not an indispensable component to the establishment of a successful online licensing.

3. The Shifting Attitude & Strategy

Having been adopted for over a decade, the private implementation system does not works well to meet the expectation of copyright holders. On the one hand, digital technology does not provide reliable protection on copyrighted works and the circumvention occurs frequently. On the other hand, incompatibility adversely affect users' experiences. Under the circumstances, a significant tension emerges between copyright holders and ordinary users. As a consequence, the private

---

[115] Laurina Zhang, *Intellectual Property Strategy and the long Tail: Evidence from the Recorded Music Industry*, at 18, available at http://inside.rotman.utoronto.ca/laurinazhang/files/2013/11/laurina_zhang_jmp_nov4.pdf (last visited 1/25/2014).

[116] *Id*., at 22.

[117] *Id*., at 23.

implementation through digital technology gradually become an ineffective enforcement option to copyright holders.

Since the system is a working example under the right-holder-centric model, copyright holders are the dominant party in the interaction with ordinary users. To relieve the tension between the two parties, copyright holders begin to change their attitude and strategy towards the private implementation system. Generally, the industrial practice witness a shifting trend. Specifically, copyright holders gradually adopt a more flexible strategy to ordinary users and develop user-friendly digital restriction.

a) Voluntary Pricing Mechanism

One of the flexible strategies is the voluntary pricing mechanism, which is widely employed in music industry. The best known example is the Radiohead, a payment system that enables music fans to set the price they are willing to pay for a given album online.[118]

The Radiohead releases albums exclusively through its website, and fans have the option to pay as little as nothing for albums with only a small services fees.[119] The songs in the album are DRM-free. As a result, musician or artist who makes the album is able to sidestep the music industry as intermediary for marketing.[120] Moreover, this flexible strategy enables bands or musicians to gain publicity than they would otherwise receive, which is especially important to individual

[118] Jeff Leeds, *Radiohead to Let Fans Decide What to Pay for Its New Album*, N. Y. TIMES, Oct. 2nd 2007, at E1.
[119] *Id*.
[120] Leah Belsky & Byron Kahr, *Everything in Its Right Places: Social Cooperation and Artist Compensation*, 17 MICH. TELECOMM. TECH. L. REV.1, 7 (2010).

musician or small band who is less competitive to large record labels.[121]

In computer games industry, the voluntary pricing mechanism is also adopted by some companies. One case in point is a company release the "Humble Bundle" and license DRM-free games on a "pay what you want" basis for a limited period.[122] The gamers are able to divide their payments between the game developers and two charities association—the Electronic Frontier Foundation and Child's Play.[123] Owning to the flexible and optional mechanism, the bundle is purchased for 138,813 times with an average payment of $9.18 and leads to the gross sales of over $1 million. Almost 31 percent of funds were directed to the two charities.[124]

To be sure, the voluntary pricing mechanism is more an alternative option and prospective strategy than an ultimate solution to the tension and side effect out of the private implementation system. Although this strategy brings about flexible purchasing option that meet the demand from ordinary users, it does not guarantee stable revenues to copyright holders.

As in the Radiohead case, approximately two-thirds of fans pay around $5 to $15, while the rest choose to download for free.[125] In another case, a musician released two albums for online users to choose: $5 for a high quality DRM-free; and a low

---

121 *Id.*

122 Dennis Yang, *World of Goo (This Time With Friends)Tries the Pay What you Want Model Once Again*, TECHDIRT, available at http://www.techdirt.com/blog/entrepreneurs/articles/20100505/0124339304.shtml (last visited 9/12/2013).

123 *Id.*

124 *See* Moshirnia *supra* note 86, at 41.

125 Steven Levy, *How Much is Music Worth*?, NEWSWEEK, Oct. 29th 2007, available at http://www.thedailybeast.com/newsweek/2007/10/20/how-much-is-music-worth.html (last visited 9/17/2013).

quality album for free.[126] The result showed that only 18.3 percent of users pay the high quality album, whereas the majority still downloaded the free version.[127] Therefore, the voluntary pricing mechanism indicates that copyright holders are willing to make a change regarding the interaction with ordinary users. Instead of implementing strict and inflexible digital restriction, copyright holders attempt to offer convenient licensing mechanism to users. To some extent, users have no stance to make complaint when copyright holders relax their control and provide affordable choice. More importantly, the shifting attitude and strategy demonstrate that the private implementation is not a sustainable enforcement option.

b) User-Friendly Encryption: downgrading experience

The second strategy is an innovative solution to combat against copyright piracy. The computer games industry primarily employ this strategy. Generally, this strategy takes place of traditional digital encryption and develops endogenous mechanism into games.

Instead of restricting the access to games, the new mechanism deter piracy through in-games elements to degrade the experiences of players who run the unlicensed copies of Computer games.[128] The downgrading experience, however, does not negate the access to the digital works. It merely levels down the quality of a pirated copy and force the users to consider high quality copy through

[126] *See* Moshirnia *supra* note 86, at 40.
[127] *Id.*
[128] *Id.*, at 49.

legitimate licensing.

For example, developers may shift the game mechanism, add undesirable bugs, or introduce undefeatable enemies in the game. Since its operation often is triggered during the process of game playing, it raises the difficulty for hackers to circumvent or break the technology.

Such kind of inherent technology is more user-friendly to ordinary users because it does not exclude the access to the digital content in the first place, whereas frustrates and embarrasses game players who play the pirated copy.[129] The developers achieve that goal by introducing virtual rivals into the game which are often extremely powerful and impossible to defeat. Because games fans generally highly value the gaming experience and obtain self-esteem by defeat all rivals in the game, they are most likely to quit the pirated copy and move to legitimate copy. As a consequence, the developers defeat piracy not in reality, but in the virtual game environment.[130]

The case in point is regarding the popular first person shooter (FPS) game—Serious Sam 3. In the game, the player controls the role, Sam "Serious" Stone, with a variety of weapons to fight against different kinds of monsters.[131] If the game server detects an unlicensed copy, it immediately triggers "a giant, invincible, pink scorpion armed with two shotguns" that attack the player

[129] *Id.*
[130] *Id.*, at 51.
[131] John Papadopoulos, *Serious Sam 3: BEF – DRM Introduces Immortal Scorpion*, DARK SIDE OF GAMING, Dec. 7th 2011, available at http://www.dsogaming.com/news/serious-sam-3-bfe-drm-introduces-immortal-scorpion/ (last visited 9/17/2013).

relentlessly.[132] Moreover, the player only equips with the weakest pistol when confronting the scorpion. The scorpion moves very quickly and the attack impose heavy damages to the player.[133]

Under the circumstances, even a professional player will die due to the severe attack by the scorpion and the entire game process is greatly delayed. According to the design, the scorpion is triggered in the early stage of the game.[134] Therefore, it achieves the goal to frustrate and embarrass the pirated player.

The endogenous mechanism as a user-friendly digital restriction includes several advantages over traditional digital technology which deny the access to works.

First of all, the mechanism does not trigger substantial negative feelings to game players. In the community of game playing, the cheaters have always been belittled, humiliated and segregated by most players.[135] The design of endogenous mechanism is highly similar to identifying the cheater and imposes the humiliation. Under the circumstances, game players may view such mechanism as another punishment to cheaters. Hence, the operation of endogenous mechanism may not cause severely negative reaction from ordinary gamers.

Secondly, endogenous mechanism significantly lower the quality of pirated game. Players cannot experience the full version of games. As a matter of fact, the pirated game is turned into a demo to players for experience before purchasing.

---

[132] *Id.*
[133] *Id.*
[134] *Id.*
[135] *See* Moshirnia *supra* note 86, at 61.

Since game demo has been widely accepted by the majority of game players, the mechanism is highly possible to be accept by game players.

Finally, endogenous mechanism treat pirates as normal game players rather than infringers. Those pirates merely experience a high difficulty in the game than ordinary players. The group identity provides them with the opportunity to turn themselves into a legitimate licensee. In the long run, computer games piracy can be reduced because the increase of game players far outweighs the number of pirates.

D. Concluding Remark

The private implementation through digital technology, as an enforcement strategy under the right-holder-centric model, gives copyright holders the power to exercise high level of control over their copyrighted works. Compared to copyright law enforcement, copyright holders are able to control the distribution of works even after sales. As a consequence, copyright holders employ digital technology as an efficient solution to copyright piracy.

Moreover, the legislation on anti-circumvention provides copyright holders with legal foundation to implement the private system. As a consequence, copyright holders enjoy a twofold protection under the system.

Despite the twofold protection, the private system gradually show its weaknesses. For one, the legislation on circumvention generally tends to favor copyright holders in judicial practice. The judicial interpretations in the US indicates that the fair use exception is difficult to obtain when a dispute involves the violation

of the DMCA. The courts further admitted the difficulty in establishing a successful fair use defense under the DMCA.

For another, the users' experiences are adversely affected by digital encryption on licensed copies. Ordinary users have inadequate freedom on exploitation of a licensed copy even after sales. Industrial practice, especially in online music licensing, demonstrates the inefficiency of digital encryption as well as the issue of incompatibility.

To sum up, the twofold protection weighs in favor of copyright holders than ordinary users. Under the private system, the interest of ordinary users are readily omitted and prior consideration is granted to copyright holders. As a consequence, the tension between two parties become severe. Therefore, the private implementation system essentially break the balance of the copyright system.

In addition to the imbalance, digital technology under the system is not as effective as its design to preclude copyright piracy. Digital encryption is always vulnerable to talented hackers and Internet transmission enables widespread distribution of unencrypted digital contents.

Moreover, the digital restriction barely contributes to the success of online licensing. Industrial practice demonstrates that successful online licensing rely on the combination of multiply flexible business strategies rather than the digital restriction

Realizing the inefficiency, copyright holders begin to shift the attitude and strategy under the private system. They attempts to provide ordinary users with

flexible licensing mechanism and user-friendly digital restriction that does not trigger negative reaction. The voluntary pricing mechanism and endogenous mechanism are the cases in point.

The change in the side of copyright holders implies that private implementation lacks reliability and efficiency to copyright enforcement. A flexible and user-friendly private implementation should be the correct direction for copyright holders to update and modify the old system in order to establish a WIN-WIN landscape in copyright realm.

The private implementation system is the first type of the right-holder-centric model. The second type of the model, copyright law enforcement, is quite different in terms of its operation and effects. The copyright law enforcement, as one of the enforcement choice, has long been the reliable option for copyright holders to enforce their exclusive rights. For one, the law enforcement contains a backward function that compensate the losses due to infringement. For another, copyright law enforcement includes a forward function that cease and deter ongoing infringement in order to prevent losses in the future. More importantly, the law enforcement is decisive than the private implementation because it operates through the judicial system. Next chapter will discuss copyright law enforcement as the second right-holder-centric model.

Chapter III Right-holder-centric model: Copyright Law Enforcement

Copyrighted works generate substantial benefits, primarily the financial revenues, to copyright holders by means of production and distribution. However, copyright infringement frequently occurs and distorts the normal circulation of copyrighted works. As a consequence, copyright infringement adversely affects copyright holders.

Stepping into the digital age, copyright infringement and piracy display a different landscape. The past decades had witnessed how digital technology with the Internet Architecture changes the liability framework of online copyright infringement. Specifically, new technology such as the P2P software significantly facilitates the unauthorized downloading and distribution. Therefore, online piracy become rampant and severe in online environment.

To cure such undesirable situation, copyright holders choose to combat against copyright piracy via copyright law enforcement. As the second type of strategy under the right-holder-centric model, copyright law enforcement is fundamentally distinguished from the private implementation through digital technology. Because copyright law enforcement is operated through judicial system by means of remedy, it is decisive and influential than the private system. Due to the feature, copyright holders have long relied on copyright law enforcement as the major strategy to enforce their copyright throughout history.

In general, the copyright law enforcement functions by means of two types of remedy on infringement.

First of all, copyright holders are able to seek for injunctive relief through the judicial system. The injunctive relief works to cease ongoing infringement and the continuing injury. Copyright holders in common law jurisdictions employ the

remedy because injunction represents the tradition of equitable consideration.

On the other hand, copyright holders may choose to copyright damages as the second type of remedy. The first type of copyright damages is measured in the actual losses of copyright holders or the profits of infringers due to infringement. Basically, such type of damages is primarily designed to compensate the copyright holders as an *ex post* remedy. Moreover, this type of damages also function to punish and deter infringers by deprive the unjust enrichment.

Due to the feature of digital technology, actual losses and profits are often difficult to measure. Hence, copyright holders gradually prefer to the second type of copyright damages—the statutory damages. The statutory damages enable copyright holders to be granted damages under the discretion of courts without regard to the proof of actual losses. The ease of awarding ensures the final remedy to copyright holders.

Both injunctive relief and monetary damages constitute the general framework of copyright law enforcement. As a working example under the right-holder-centric model, this system relies on the judicial system to effectuate its impact on copyright infringement. Therefore, judicial practice are the best resources to analyze how this system works to copyright enforcement.

In terms of injunctive relief, the common law countries such as the US, the UK and Ireland have a line of cases that issuing injunctive order against major infringing P2P network and illegal websites. Courts in these jurisdictions tend to award the injunction in favor of copyright holders when they establish the merits of prevail and have a strong case at issue.

As a consequence, the injunction strategy successfully shut down certain amount of illegal P2P networks and ceases the ongoing infringement facilitated by the

network. In the European Union, the injunctive orders to ISPs block infringing websites and prevent unauthorized access to copyrighted works. From the stance of copyright holders, injunction is qualified as an effective enforcement towards online copyright piracy, especially targeting on existing illegal P2P network or infringing website.

On the other hand, statutory damages are widely employed by copyright holders to online copyright infringement, yet the adoption give rise to unexpectedly problematic results.

In addition to targeting on infringing technology or network, copyright holders cover individual online users as another type of major targets. The judicial cases in the US, however, demonstrates the inflexibility of statutory damages to individual infringers with respect to the issue of proportional punishment.

Moreover, the disproportional damages awarding trigger negative reaction from the public. To make matter worse, the misunderstanding from the public toward copyright holders essentially create the tension between two groups and raise the difficult in sustaining copyright enforcement.

Being a working example under right-holder-centric model, copyright law enforcement primarily focuses on the interest of copyright holders. By placing copyright holders in a favorable position, this system inherently neglects the demands and interest of ordinary users.

The different results of judicial practice regarding injunction and statutory damages indicate that copyright holders should reconsider their strategies under copyright law enforcement. Infringement are culpable regardless whether the infringement is committed by technology-based entity or individual online users. However, by targeting on inappropriate infringers with disproportional

punishment, the copyright law enforcement has the tendency to fail the effect of copyright protection. Therefore, copyright holders should ensure the effect of copyright law enforcement by distinguishing culpable party with proportional enforcement strategy.

A. The Background to Copyright Law Enforcement

In general, two prerequisites need to be clarified prior to the discussion of copyright law enforcement. The first and foremost is the widespread copyright piracy which threats the interests of copyright holders. Secondly, the advanced digital technology brings about new type of copyright infringement. Therefore, this section looks into online piracy and copyright infringement to establish the background of copyright law enforcement.

1. Copyright Piracy

a) Defining Piracy

Although online copyright piracy just emerged within a decade due to the technology breakthrough, the term "piracy" itself has a long history in copyright realm. Prior to the enactment of the Statute of Anne, the Stationers' Company of London had exclusive rights on publication because the Royal Charter granted the company with monopoly.[1] Anyone who violated the Royal Charter was labeled as "pirates".[2] Hence, the term "piracy" usually refers to unauthorized reproducing or distributing copyrighted works, which becomes a close synonym to copyright infringement and widely accepted by copyright holders to justify their enforcement actions.

To establish the consensus on copyright protection, multiple international

[1] Copyright infringement, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Copyright_infringement#cite_note-2 (last visited 10/8/2013).
[2] *Id.*

copyright treaties define and highlight piracy in the official statutory texts. For example, Article 12 (1) of the 1886 Berne Convention for the Protection of Literary and Artistic Works clearly uses the term "piracy" in relation to copyright infringement, stating that "…pirated works may be seized on importation into those countries of the Union where the original work enjoys legal protection…"[3] Moreover, the 1994 Trade-Related Aspects of Intellectual Property Rights (TRIPS) define "pirated copyright goods" in Article 51.[4] Article 61 provides criminal procedures and penalties in cases of "willful trademark counterfeiting or copyright piracy on a commercial scale."[5]

b) Piracy in digital age

Despite the statutory regulation on copyright piracy in international level, the copyright industry frequently report that they have severely suffer substantial losses from the rampant piracy. As early as 2011, it is estimated that 23.76% of traffic was infringing in nature across all areas of the global internet.[6] Among various infringing traffic, the most notable were BitTorrent traffic and Cyberlocker traffic, which respectively accounted for 17.9% of and 7% of all internet usage.[7] As of 2013, a report commissioned by NBC Universal confirms the increasing and persistent online piracy in major regions globally—North American, Europe, and Asia-Pacific.[8]

---

[3] Darrel Panethiere, *The Persistence of Piracy: the Consequences for Creativity, for Culture, and for Sustainable Development*, E-COPYRIGHT BULLETIN 14, available at http://portal.unesco.org/culture/en/files/28696/11513329261panethiere_en.pdf/panethiere_en.pdf (last visited 10/8/2013).

[4] TRIPS: Text of the Agreement, WORLD TRADE ORGANIZATION, available at http://www.wto.org/english/tratop_e/trips_e/t_agm4_e.htm (last visited 10/8/2013).

[5] *Id.*

[6] *Technical Report: An Estimate of Infringing Use of the Internet*, at 2, TORRENTFREAK, available at http://zh.scribd.com/doc/48336443/Envisional-Internet-Usage-Jan2011 (last visited 1/29/2014).

[7] *Id.*

[8] *New report claims online piracy accounts for 23.8% of all bandwidth*, MOVIESCOPE, available at http://www.moviescopemag.com/featured-editorial/new-report-claims-online-piracy-accounts-for-23-8-of-all-bandwidth/ (last visited 1/29/2014).

The report found that 82.6% of all internet users and 95.1% of all bandwidth usage in the major three regions accounted for the increase of 159% from 2010 to 2012, which represents 23.8% of the global total bandwidth usage.[9]

In addition to the general estimation of online piracy, different copyright industry reported suffering in recent years. In music industry, the International Federation of the Phonographic Industry (IFPI) claimed "Widespread piracy is the biggest factor undermining the growth of the digital music business."[10] According to IFPI report, 28% of internet users accessed unauthorized music on a monthly basis and approximately half of the usage relied on peer-to-peer networks.[11] The other half of online users employed non-P2P channels to access unauthorized music such as blogs, cyberlockers, forums, websites, and streaming sites.[12] Moreover, the IFPI found that only 35% P2P users spend $42 annually, compared with $76 per year by those who pay to download and $126 per year by those who subscribe for the service.[13] Regardless the reliability of statistics, such kind of figure is often used to describe the losses of online music business and justify the necessity to strengthen online copyright enforcement.

Other industries also report the undesirable situation due to online piracy. According to the Business Software Association (BSA), global software piracy increased to 42% in 2011 and the losses to the industry are estimated to $63.4 billion.[14] Over half of the world's computer users admit that they conduct software piracy.[15] In e-books industry, it is reported that the unauthorized copies

---

[9] *Id.*
[10] *Digital Music Report 2012*, at 16, MUSIC MARKET STATISTICS, available at http://www.ifpi.org/content/library/dmr2012.pdf (last visited 1/29/2014).
[11] *Id.*
[12] *Id.*
[13] *Id.*
[14] *Ninth Annual BSA Global Software Piracy Study*, THE SOFTWARE ALLIANCE, available at http://globalstudy.bsa.org/2011/ (last visited 10/8/2013).
[15] *Id.*

of digital books have already cost American publishers $2.8 billion in lost sales in 2010.[16]

Needless to say, copyright piracy poses great threat to copyright holders, especially to the content industry. Because of the digital technology, online piracy become the major concern to copyright holders. As a consequence, copyright holders generally rely on copyright law enforcement as the best available strategy to deter piracy and protect their copyrighted works. Under the circumstances, the first prerequisite of copyright law enforcement is established.

2. Online copyright infringement

Due to the evolving features of both digital technology and the internet architecture, online copyright infringement display distinctive and complicated circumstances. Although digital technology brings about some confusion to the very beginning, a line of cases quickly provides reliable resources to establish the framework of liability. This section briefly describes the liability framework by reviewing a line of cases regarding online infringement.

a) Direct infringement

Direct infringement constitutes the first type of liability framework. In general, an ISP or an online user triggers the liability by using the copyright work without authorization from copyright holders. As a matter of fact, the finding is basically identical to traditional copyright infringement in spite of the digital technology. Based on the type of infringer, direct infringement can be divided into two categories: 1) infringement by ISP, or 2) infringement by online user.

1) Direct Infringement by ISP

[16] Paul Boutin, *E-books piracy costs US publishers $3 billion*, VENTUREBEAT, available at http://venturebeat.com/2010/03/02/book-piracy-costs-u-s-publishers-3b-says-study/ (last visited 1/29/2014).

Internet Service Providers, known as ISPs, offer a variety of services to online users such as e-commerce services; online entertainment (music, movie, etc.), online communication (e-mail, live-chat, etc.), or information search (Google, Wikipedia, Baidu, etc.). Because ISPs store and transmit information or digital contents through network, ISPs can easily infringe copyright. A case in point is *UMG Recording, Inc. v. MP3.com, Inc.*[17]

MP3.com was a website which stored and distributed music and allowed its subscribers to convert the songs from their CDs to the website.[18] The MP3.com quickly owned "tens of thousands of popular CDs" into the MP3 format and stored them on its servers.[19] As a result, several record companies sued MP3.com for infringement of their sound recording copyright.[20]

The court held in favor of plaintiffs and noted that the defendant actually copied the converted version of songs from plaintiffs' CDs, and replayed them to its users without permission from copyright holders.[21] This action violated the exclusive rights recognized in §106 of US Copyright Act.[22] Although MP3.com argued for the fair use defense, the court rejected the argument and confirm its infringement liability.[23]

Direct infringement by ISPs mostly occurred in early digital age. Most ISPs focus on users' experiences so that many online users were attracted for subscription,

[17] 92 F. Supp.2d 349 (S.D.N.Y.2000).
[18] *Id.*, at 350.
[19] *Id.*
[20] *Id.*
[21] *Id.* at 353.
[22] *Id.*
[23] *Id.* at 351-52.

which often increases the possibility of infringement. The infringement by ISPs falls within the traditional framework of direct infringement. The transformation of physical works into digital copy, usually the binary code in nature, does not change the liability standard.

2) Direct Infringement by online users

Direct infringement by online users is highly straightforward. Simply put, a personal computer with valid network connection makes the access to works inexpensive and convenient. With the emergence and development of P2P technology, more and more online users are able to infringe copyright online.

For instance, imagine you are keen on popular music and are not satisfied with CDs or albums due to the delay of release and also the expensive price. One day, you surf the Internet and happen to find a software named "Latest Free Music". So long as you install the software in your laptop, you are able to download dozens of popular music for free.

Being attractive to the prospective benefits, you install the software and begin your downloading. After a few days, you receive a letter from local record label and accuse you of copyright infringement. As a result, you either have to answer the complaint or pay for a settlement. As a matter of fact, the software is an illegal P2P file-sharing software and you conducted copyright infringement the moment you install the software and begin downloading.

In general, the liability framework is not substantially distinguished from that of ISPs. Because of the large quantities of online users, copyright holders highly

concern the scale of their infringement and sometimes take massive actions against them. For example, the RIAA began a legal campaign against individual end-users in 2003.[24] At the end of 2008, RIAA had filed lawsuits against approximately 35,000 individual end-users.[25]

3) Indirect infringement

On the other hand, the traditional framework of indirect infringement, mainly contributory infringement and vicarious liability, is applicable to online infringement through a line of cases.

One early case that confirmed the application was the *Religious Technology Center v. Netcom*.[26]

The Netcom was an ISP that allowed internet news group to make copy of the plaintiff's copyrighted work through bulletin board service (BBS) without authorization.[27] Although the court denied Netcom's vicarious liability due to the lack of revenue to defendant[28], the court confirmed the finding of contributory infringement because Netcom had actual knowledge of the direct infringement.[29]

The *Netcom* case is a high-profile example. In addition to the *Netcom*, a line of cases echoed the application. Among all cases, the *A&M Records, Inc. v. Napster, Inc.*[30] was the most famous and influential one.

Napster was a P2P file-sharing platform and distributed free software through its

---

[24] Will Moseley, *A New (Old) Solution for Online Copyright Enforcement After* Thomas *and* Tenenbaum, 25 BERKELEY TECH L.J. 311 (2010).
[25] *Id*. at 316.
[26] 923 F. Supp. 1231 (N. D. Cal. 1995).
[27] *Id*. at 1238-41.
[28] *Id*., at 1244-45.
[29] *Id.*, at 1373-76.
[30] 239 F.3d 1004, (9th Cir. 2001).

network.[31] The major feature of Napster was that it kept digital files on its centralized indexing system, but merely facilitated the distribution and enabled files sharing.[32] The court ruled that Napster conducted both contributory infringement and vicarious liability because Napster had actual knowledge of direct infringement by its subscribers[33] and it recouped the revenue from advertisement by attracting users to view its webpage.[34]

Although the successor of Napster, the P2P software Grokster, designed the decentralized indexing system and seek to sidestep the liability framework, the US Supreme Court created a new theory called "inducement liability" that borrowed from patent law to confirm the liability of Grokster.[35]

Since the decentralized indexing system employed by Grokster did not control its users' conduct after they installed the software,[36] the inability of control in fact circumvented the finding of vicarious liability. Therefore, the Ninth Circuit rejected the finding that Grokster had actual or constructive knowledge of its users' infringement.[37] The Supreme Court, however, held the Ninth Circuit misapplied *Sony* doctrine by omitting the business mode of Grokster:

"One who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third party."[38]

---

31 239 F.3d, at 1011.
32 *Id.*
33 *Id.*
34 *Id.*, at 1023.
35 *MGM Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, at 937-38 (2005).
36 *Id.*
37 380 F.3d 1154 (9th Cir. 2004).
38 545 U.S. at 919.

In summary, traditional framework of liability appropriately fits into to online environment. Although online copyright infringement relies on digital technology and the internet architecture, the finding of liability still falls into the traditional framework. In other words, online copyright infringement is equivalent to traditional copyright infringement in terms of liability. Under the circumstances, copyright holders have solid ground to adopt the law enforcement and impose penalty on online infringement.

B. Copyright Law Enforcement: the general framework

Copyright law enforcement primarily aims at eliminating infringements in two aspects. On the one hand, copyright infringement distorts the copyright licensing process because unauthorized copies are more likely to substitute the ones licensed by copyright holders. From economic perspective, the public tend to become free riders and copyright holders are deprived of the revenue. As a consequence, copyright holders will have insufficient incentives to continue their creation, which depart from the copyright policy. Therefore, copyright law enforcement is indispensable to maintain the operation of copyright system.

On the other hand, copyright law enforcement functions to cease the injury upon copyright holders, make *ex post* compensation, and to deter infringement. Specifically, the law enforcement serves as deterrence to illegal actions that may happen in the future. By imposing harsh penalty on specific infringement action, copyright law force infringers to think twice before they commit infringement. In theory, the law enforcement comes into force when infringers weigh between the

benefits and the cost of infringement. So long as the costs of infringement outweigh the benefits, infringers will cease their actions.

Copyright law enforcement is basically initiated by copyright holders under copyright law through the judicial system. In other words, copyright holders must bring an action to court in order to protect their copyrighted works. Stepping into the digital age, the strategy remains the same. The decision handed down by courts are decisive and influential to the infringers, especially in common law countries where case law are generally binding.

Under the right-holder-centric model, copyright holders employ two type of strategies to fulfill copyright law enforcement. In general, the two strategies depend on the remedy in copyright law through judicial system. Specifically, copyright holders must bring actions to make both strategies come into force.

The first strategy is seeking for injunctive relief against infringers, including P2P platforms and online users. With the final awarding relief, copyright holders expects to cease ongoing infringement and protect their copyrighted works

The second type of strategy, on the other hand, is seeking for copyright damages against infringers. Due to the nature of digital technology, copyright holders prefer to the statutory damages as the best available monetary damage to compensate their losses and also deter online infringement. In addition to illegal P2P platform, copyright holders target on individual online users who are detected by specialized software due to unauthorized use of copyrighted work.

The two strategies constitute the general framework of copyright law enforcement.

Being a working example under the right-holder-centric model, copyright holders have the general control of each strategy. Therefore, the purpose and objective of each strategy essentially affect the ultimate effect of copyright law enforcement. The remaining part of this chapter discuss these strategies in detail.

1. Copyright law enforcement: Injunctive Relief

The first type of strategy is the injunctive relief, also known as injunction, as available remedy in copyright law through copyright litigation. In general, an injunction is an equitable remedy that ordered by a court to a given party so as to prohibit that party from doing certain actions.[39] Because injunction primarily takes equitable factors into consideration when applied by courts, this kind of relief is mainly adopted in common law jurisdictions such as the US, the UK, Australia and Ireland. The consideration on balance of interests determines whether an injunction is appropriately issued to cease the injury and protect the copyright holder.

The injunction as remedy was incorporated into copyright codification in early copyright history. The first English copyright statute, the Statute of Anne, provided injunctive relief as a remedy to copyright infringement.[40] The statute provides that "…infringers shall forfeit any misappropriated works to the Proprietor or Proprietors of the Copy thereof, who shall forthwith Damask and make Waste-Paper of them…"[41] Moreover, historical records showed that actual

[39] Injunction, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Injunction (last visited 10/11/2013).
[40] Statute of Anne, 1710, 8 Ann., c. 19.available at http://avalon.law.yale.edu/18th_century/anne_1710.asp (last visited 10/11/2013).
[41] *Id.*

monetary damages were not available as penalties to copyright infringement under most British copyright statutes until 1801.[42] Although monetary damages are widely awarded by courts to copyright infringement today, history suggests that the monetary awards were considered "categorically inadequate".[43] Injunctions, to the contrary, were regularly issued as a matter of course upon the finding of copyright infringement in history.[44]

Because injunctive relief is able to immediately cease illegal infringement and prevent continuing injury, such kind of remedy is a preferable option to copyright holders, especially on infringement facilitated by Peer-to-peer technology.

Therefore, copyright holders in the US and the EU countries generally rely on injunctive relief to fight against online piracy and fulfill copyright law enforcement in the digital age.

Injunctive relief in United States

As one of the common law countries, the US naturally incorporated the injunctive relief as remedy in the copyright law. Section 502 of US Copyright Act expressly provides that:

(a) Any court having jurisdictions Any court having jurisdiction of a civil action arising under this title may, subject to the provisions of section 1498 of title 28, grant temporary and final injunctions on such terms as it may deem reasonable to prevent or restrain infringement of a copyright.

---

[42] Thomas H. Gomez-Arostegui, *What History Teaches us about Copyright Injunctions and the Inadequate-Remedy-at-law Requirement*, 81 S. CALIF. L. REV. 1197, 1201 (2008).

[43] *Id.*

[44] *Id.*

(b) Any such injunction may be served anywhere in the United States on the person enjoined; it shall be operative throughout the United States and shall be enforceable, by proceedings in contempt or otherwise, by any United States court having jurisdiction of that person. The clerk of the court granting the injunction shall, when requested by any other court in which enforcement of the injunction is sought, transmit promptly to the other court a certified copy of all the papers in the case on file in such clerk's office.[45]

Despite the statutory texts, the legislative guidance to ordering injunction is usually insufficient for courts to make direct reference. As a matter of fact, most courts in common law jurisdictions, including the US courts, rely on case-by-case analysis to determine whether to issue an injunction. Such practice is more apparent and common in the US courts. For a majority of modern copyright cases, the US circuit courts routinely presume the adequacy of legal remedies to copyright holders and automatically award injunctions upon the finding of infringement.[46]

The US Supreme Court, however, did not support the judicial practices on injunctions by the circuit courts. The Court repeatedly issued opinions stating that injunction as copyright remedy should not be automatically granted.[47] In *Campbell v. Acuff-Rose Music, Inc*., the Court reasoned that "the goals of copyright law are not always best served by automatically grant injunctive

[45] 17 U.S.C. § 502.

[46] *See* e.g., *Nat'l Football League v. McBee & Bruno's, Inc*., 792 F.2d 726 (8th Cir. 1986); Pac & S. Co., Inc. v. Duncan, 744 F.2d 1490 (11th Cir. 1984).

[47] *See* e.g. *N.Y. Times Co. v. Tanisi*, 533 U.S. 483 (2001); *Campbell v. Acuff-Rose Music, Inc*., 510 U.S. 569 (1994).

relief."[48] In *N.Y. Times Co. v. Tanisi*, the Court in the majority's opinion stated that "it hardly follows from today's decisions that an injunction…must issue."[49] The different holdings of injunctive relief between the US circuit courts and the US Supreme Court indicate the art of balancing in copyright policy. In other words, the difference lies in the perception of utilitarian rationale in copyright.

Copyright protection in the US builds upon the utilitarian rationale that maximizes the societal welfare by promoting cultural progress and enhancing available works to the public. To maintain cultural progress, the copyright law grants limited monopoly power to copyright holders to preserve sufficient incentive. Lack of incentive discourages copyright holders to continue their cultural creation. Under the circumstances, awarding injunction is justified from the perspective of incentive preservation.

Judicial Practice in United States: Cases Review

Due to the feature of digital technology and the Internet architecture, online copyright infringement become more destructive and often lead to irreparable harm to copyright holders. Under the circumstances, copyright injunction is usually an appropriate remedy to cease on-going injury and meanwhile prevent the source of infringement. In judicial practice, copyright injunction has been frequently awarded by the US courts with respect to infringement facilitated by peer-to-peer platforms. A look into a line of the US cases involving P2P infringement and injunctive relief will reveal how copyright holders employ

[48] *Campbell,* 510 U.S. at 578.
[49] *Tanisi*, 533 U.S. at 505.

injunctive relief to protect their copyrighted works and simultaneously deter online piracy.

A&M Records, Inc. v. Napster, Inc.

The *Napster* case has been frequently mentioned with respect to its influence on copyright infringement facilitated by P2P software. However, another focal point in case was the discussion and ruling on the awarding of preliminary injunction on Napster, which concentrates on the issue of the cease to ongoing irreparable injury on copyright holders.

In the case, the Ninth Circuit agreed with the district court correctly recognized the necessity of a preliminary injunction against Napster P2P software. [50] However, the Ninth Circuit held that the scope of preliminary injunction by district court was inappropriate and need to be modified. [51] The Circuit Court further reasoned that the injunction was overbroad because:

It places on Napster the entire burden of ensuring that no 'copying, downloading, uploading, transmitting, or distributing' of plaintiffs' works occur on the system. As stated, we place the burden on plaintiffs to provide notice to Napster of copyrighted works and files containing such works available on the Napster system before Napster has the duty to disable access to the offending content. [52]

Based on the reasoning, the Ninth Circuit reversed the district court's holding in preliminary injunction and remand for modification. As to the Napster's

[50] *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, at 1028 (9th Cir. 2001).
[51] 239 F.3d, at 1028.
[52] *Id.*

contention that using a monetary penalty in place of an permanent injunction, the Ninth Circuit clearly rejected and reasoned that a monetary penalty such as a compulsory royalty "would give Napster an 'easy out' of this case"[53], and Napster could sidestep the liability by paying royalty fees in the future.[54]

Although the Ninth Circuit directed the district court to modify the scope of preliminary injunction to Napster, it still upheld the awarding of permanent injunction in case. For one, the Ninth Circuit were cautious on the awarding copyright injunction. For another, the irreparable harm made by Napster hardly denied the justice of imposing preliminary injunction in order to protect the copyright holders.

In re Aimster Copyright Litigation

Unlike the *Napster* case, the *Aimster* case expressly upheld the awarding of preliminary injunction because the plaintiff had a stronger case on the merits than *Napster*. In this case, the Aimster system consisted of several components which facilitated its users to infringe online music: a propriety software that can be downloaded from Aimster website for free, Aimster's server which establish users' communication network, a computerized tutorial that taught its users how to "share" music through the network, and the "Club Aimster" which provided better experience for music downloading and sharing by charging subscription. [55] The plaintiffs thus sued Aimster for both contributory infringement and vicarious

[53] *Id.*, at 1029.
[54] *Id.*, at 1030.
[55] *In re Aimster Copyright Litigation*, 334 F.3d 643, at 647 (7th Cir. 2003).

liability, and the district court awarded a broad preliminary injunction against the Aimster.[56]

The Seventh Circuit upheld the holding by district court from two aspects. Firstly, the Seventh Circuit held that the evidence were sufficient to support that the plaintiffs were likely to prevail on claim that the Aimster substantially facilitated its users' infringement due to the structure of its system.[57] Particularly, the tutorial served as invitation to its users' infringement and also explained how to "share" music.[58] Moreover, because Aimster did not provide evidence to prove its use of any non-infringing purpose, the imposition of preliminary injunction was based on sufficient evidence.[59]

As to the consideration of balance of harms, the Seven Circuit reasoned that the harm to Aimster due to the awarding of injunction must be compared with the harm that plaintiff would suffer if the injunction was denied.[60] Specifically, the Seventh Circuit held that the plaintiff's harm were undoubtedly irreparable because Aimster would be unlikely to pay for plaintiff's financial losses in any event considering Aimster's capability.[61] In other words, the plaintiff was unlikely to compensate their losses. On the other hand, Aimster's irreparable harm was less than that of plaintiff because Aimster did not content that the required injunction bond of $ 500,000 was inadequate.[62] Therefore, the Seventh Circuit

---

56 334 F.3d, at 646.
57 *Id.*, at 652.
58 *Id.*
59 *Id.*, at 653.
60 *Id.*, at 656.
61 *Id.*
62 *Id.*

affirmed the awarding of preliminary injunction by district court.

University City Studios Productions LLLP v. Bigwood

This case regarding a personal computer user who downloaded copyright movie through P2P network without authorization. Hence, this case is relatively different from the *Napster* and *Aimster* cases because copyright holders targeted o online users and seek for injunctive relief. In this case, the defendant was as individual user of KaZaA—a popular P2P file-sharing network.[63] The defendant downloaded copyright movies through KaZaA and stored the contents in his computer for other KaZaA users to access.[64] Under the circumstances, the plaintiff sued the defendant for infringement and claimed for permanent injunction on defendants in the motion of summary judgment.[65]

The district court affirmed that the defendant infringed copyright through P2P system and constituted the liability by willful infringement.[66] Moreover, the court ruled that the plaintiff was entitled to an order of permanent injunction on defendants in order to prevent further infringement.[67] However, the court reasoned that the permanent injunction on motion was too broad so that it covered copyrighted works not included in the lawsuit, which inappropriately expand the scope of permanent injunction.[68] The district court further reasoned that:

"Plaintiffs have not produced evidence of any threat of continuing infringement

[63] *University City Studios Productions LLLP v. Bigwood*, 441 F. Supp. 2d 185, at 189 (U.S.D. Me. 2006).
[64] 441 F. Supp. 2d, at 189.
[65] *Id.*, at 185.
[66] *Id.*, at 192.
[67] *Id.*, at 193.
[68] *Id.*

or a substantial likelihood of threat of future infringement in Plaintiffs' other copyrighted works, let alone works that have not yet been created or copyrighted, and an injunction of sufficient scope to reach those materials is denied."[69]

Based on the reasoning, the court merely enjoined the defendant from infringing the two copyrighted movies owned by plaintiff and rejected the extension of injunction to other copyrighted works.

Injunctive Relief in European Union: the Website Blocking

Similar to the experience in the US jurisdiction, a key strategy to fight against online piracy in the European Union countries, including the United Kingdom and Ireland, is an order of injunction from courts that direct an ISP to block the access to websites that containing infringing or illegal contents. The injunctive order specifically addresses the power that a third party may apply for an injunctive order to an extraterritorial website that conduct copyright infringement.[70]

The EU legislation functions as the primary authority to provide direction on this issue. Under Article 8(3) of the Directive on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society[71], member states of European Union "shall ensure the rightholder are in a position to apply for an injunction against intermediaries whose services are used by a third party to infringe a copyright or related right." In March 2014, the European Court of

---

[69] *Id.*

[70] *Online Copyright Infringement,* DISCUSSION PAPER, Australia Government, July 2014, at 7, available at http://www.ag.gov.au/Consultations/Documents/Onlinecopyrightinfringement/FINAL%20-%20Online%20copyright%20infringement%20discussion%20paper%20-%20PDF.PDF (last visited 6/20/2014)

[71] See Art. 8(3) of Directive 2001/29/EC, Europa, available at http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1407260972248&uri=CELEX:02001L0029-20010622 (last visited 6/20/2014).

Justice confirmed that the Directive authorize the third party injunction to be granted against ISPs.[72] Under the circumstances, the Directive leave it to individual member state to incorporate the obligation into domestic law as fit.

Application in United Kingdom & Ireland

In the United Kingdom, Section 97A of the Copyright, Design and Patent Act 1988 implement the obligation under the EU Directive. Section 97A provides that:

(1) The High Court (in Scotland, the Court of Session) shall have power to grant an injunction against a service provider, where the service provider have actual knowledge of another person using their service to infringe copyright.

(2) In determining whether a service provider has actual knowledge for the purpose of this section, a court shall take into account all matters which appear to it in the particular circumstances to be relevant.[73]

The essential issue of this section is to determine whether an ISP has "actual knowledge" of another person's infringement via its Internet service. Specifically, the Court must take into account whether the ISP received notice of infringing activity as well as the quality of notice itself.[74]

On the other hand, the Ireland legislation on injunction implements the Directive obligation by statutory instrument in 2012.[75] Section 5(A)(a) of Copyright and Related Rights Act 2000 provides that,

---

[72] *See* UPC Telekabel Wien GmbH v Constantin Film Verleih GmbH and Ors (C-314/12), Curia, available at http://curia.europa.eu/juris/liste.jsf?num=C-314/12 (last visited 6/20/2014).

[73] § 97 of Copyright, Design and Patent Act 1988, available at http://www.legislation.gov.uk/ukpga/1988/48/section/97A (last visited 6/20/2014)

[74] *See* Discussion Paper *supra note* 70, at 7.

[75] European Union (Copyright and Related Rights) Regulations 2012 (Statutory Instrument no. 59 of 2012).

The owner of the copyright in a work may, in respect of work, apply to the High Court for an injunction against an intermediary to whom paragraph 3 of Article 8 of Directive 2001/29/EC of the European Parliament and of the Council of 22 May 20011 on the harmonization of certain aspects of copyright and related rights in the information society applies.[76]

When it comes to the direction on issuing injunction, the court "shall have due regard to the rights of any person likely to be affected by virtue of the grant of any such injunction and the court shall give such directions (including, where appropriate, a direction requiring a person be notified of the application) as the court considers appropriate in all of the circumstances."[77]

Judicial Practice in the UK and Ireland: Case Review

Twentieth Century Fox Film Corporation & Ors v. British Telecommunications plc[78]

This 2011 UK case was about the availability of legal remedies against online copyright infringement, especially on the application of injunctive order to infringing ISPs. The copyright holders, the Studios, were six well-known film production companies or studios that distribute and produce films.[79] In 2010, the Studios found that the British Telecom, the largest ISP in the United Kingdom, provided their subscribers with link to Newzbin.com which is an infringing

[76] § 5(A)(a) of Copyright and Related Rights Act 2000, IRISH STATUTE BOOK, available at http://www.irishstatutebook.ie/2012/en/si/0059.html (last visited 6/20/2014).
[77] *Id*., at 2(b).
[78] [2011] EWHC 1981, BAILII, available at http://www.bailii.org/cgi-bin/markup.cgi?doc=/ew/cases/EWHC/Ch/2011/1981.html&query="injunction+against+service+provider"&method=boolean (last visited 6/21/2014).
[79] *Id*., at 1.

website. The Newzbin.com was found to have infringed the Studios' copyright on a large scale. [80] Under the circumstances, the Studios seek an injunctive order against the BT pursuant to Section 97A of Copyright, Design, and Patent Act 1988.[81]

In considering relevant facts and applicable law, the High Court of United Kingdom ruled for the Studios and ordered the BT to block access to Newzbin.com.[82] The High Court reasoned that the BT had actual knowledge of subscribers and the operation of Newzbin.com with respect to copyright infringement.[83] Specifically, the judge noted that,

[BT] it knows that the users and operators of Newzbin infringe copyright on a large scale, and in particular infringe the copyrights of the Studios in large numbers of their films…it knows that the users of Newzbin include BT subscribers, and it knows that those users use its service to receive infringing copies of copyright works made available to them by Newzbin…[84]

By confirming the knowledge test on British Telecom, the court issued injunctive order for the Studios. As to the analysis of "actual knowledge" under section 97A (1), the ruling in this case essentially indicates that the knowledge of specific infringement is not required, the knowledge of general infringement by using ISP will suffice. According to governmental report, the UK courts follow the decision

[80] *Id*., at 2.
[81] *Id*.
[82] *Id*., at 158.
[83] *Id*., at 157.
[84] *Id*.

to continue issue injunctive order to block infringing websites.[85]

EMI Records Ireland Ltd & Ors v UPC Communications Ireland Ltd & Ors[86]

Similar to the UK case, this Irish case concerns an injunction to require the ISP to block or disable access of their subscribers to an infringing website. The plaintiff in this case, EMI Records, was recording company who recorded and distributed music and video.[87] On the other hand, subscribers of UPC were able to access to "The Pirate Bay" through the UPC network, which infringed EMI's copyrighted works.[88] To cease the infringement and protect copyright, EMI seek for injunctive order against the UPC.

One interesting observation on this case is that the EMI as copyright holders brought action against the UPC under the same set of facts and also seek for injunction back on 2010. However, the judge concluded that a blocking injunction was not available in Irish law despite other such injunction exists in other European jurisdictions. Notwithstanding the ruling, the judge noted that "Were it available, I would grant it".[89]

Since the European Union Regulations 2012 comes into force, the blocking injunction become available legal remedy to Irish copyright holders. This is exactly echoed by the 2013 *EMI v. UPC* case. The court gave full credit to the 2010 opinion because of the identical matter and further ruled that an injunctive

---

85 *See* Discussion Paper *supra note* 70, at 7.
86 [2013] IEHC 274 (12 June 2013)
87 *Id*. at 2.
88 *Id*.
89 *Id*.

order to UPC is appropriate in order to block the access the "The Pirate Bay".[90] Moreover, because the Irish law does not establish a similar knowledge test as in UK law, Irish courts does not need to consider the knowledge of ISP on infringement. To some extent, the removal of knowledge test in Irish law facilitates the issuing of injunctive relief. Since the implementation of 2012 Regulation, several infringing websites had been blocked under injunctive order, including "The Pirate Bay" and "Kickass Torrents".

To be sure, the above judicial cases in the US and the EU community are inadequate to cover the application of injunctive relief. However, three cases are high profile examples with respect to the injunctive remedy on infringement via P2P software or websites. Since infringement by P2P network or websites place substantial threat to copyright holders and become the major component of online piracy, the judicial experiences on this aspect can be quality precedents.

Due to the nature of digital technology and the substantial injury it may cause, the courts in different jurisdictions generally rule a permanent injunction for the copyright holders. When a copyright holder have a strong case, he may further be granted preliminary injunction against a given P2P platform. However, the courts were prudentially issued injunction against individual infringer and were cautious in terms of the scope of injunctive relief. This is especially the case in US jurisdiction.

The focal point lies in the target of an injunctive relief. In other words, the courts

[90] *Id*. at 2, 6.

were basically willing to uphold the awarding of injunction to infringement facilitated by P2P platforms or websites, but cautiously determined the scope and degree of injunction based on the evidences and the balance of harm.

Although these cases ended with different holdings with respect to the awarding of injunction, the courts' opinion acknowledged the substantial harm to copyright holders due to the operation of P2P platforms or websites because monetary damages were generally inadequate to compensate the losses under the set of facts. In summary, the judicial experiences demonstrates injunctive relief is a reliable remedy option to a shutdown of existing illegal P2P platform or blocking illegal websites as long as the copyright holders can establish a strong case on merits with sufficient evidences.

2. Copyright Law Enforcement: damages

Unlike copyright injunction, the damages as remedy operate under clear statutory instruction. Although courts still have discretion over the final awarding, the discretion is still within the statutory limit. More importantly, copyright damages are the only remedy which compensates copyright holders after infringement occurs. In other words, such remedy functions as *ex post* solution by compensating the financial losses to copyright holders. In theory, the damages should be equivalent to the losses of copyright holders. Following the compensation, the next step should be the deprivation of unjust enrichment: the illegal profits of infringers. The underlying purpose is to deter infringement and make infringers unprofitable. Basically, copyright damages design to function of both

compensation and deterrence.

a) Actual damages or/and profits

Generally, Awarding damages upon actual damages or/and illegal profits is the common type in most jurisdictions. The purpose of this type is to compensate copyright holders. The degree of compensation determines whether such kind of remedy preserves sufficient incentive to copyright holders.

Sufficient compensation can eliminate financial losses due to infringement as if no infringement occurs. As a consequence, copyright holders will continue their creation to maintain sustainable cultural production.

Moreover, damages on profits due to infringement primarily deters and punishes unjust enrichment. Disgorgement of illegal profits makes infringement meaningless because infringers are not better off financially.

In theory, a plaintiff in a copyright dispute can recover both his actual damages or illegal profits of infringers, or the combination of the two. For example, §504(b) of US Copyright Act provides that "the copyright owner is entitled to recover the actual damages suffered by him or her as a result of the infringement, and any profits of the infringer that are attributable to the infringement and are not taken into account in computing the actual damages."[91] In practice, plaintiff often choose either actual damages or illegal profits provides that most plaintiff can prove financial harm and meet the standard of proof, while the possibility of gaining the two exists.[92]

---

[91] 17 U.S.C. §504(b).

[92] MARSHALL A. LEAFFER, UNDERSTANDING COPYRIGHT LAW, LexisNexis 459 (5th ed. 2010); *see* also *Abeshouse*

Both actual damages and profits require proof without speculation.[93] The US courts in copyright dispute are entitled to reject plaintiff's claim for damages if the proof is speculative.[94] In some situations, courts might ease the burden of proof. The court in *Deltak Inc. v. Advanced Sys., Inc.*[95] held that once the fact of actual damages was proved, the degree of harm did not need to be proved to exact certainty.[96]

Despite the holding, actual damages are still difficult to prove. Generally, actual damages are based on the consideration that whether infringements lead to diminution of market value of works, and the degree has a final voice on the amount of awarded damages.[97] When infringements occur, the depreciated market value is often measured as actual damages to copyright holders.

Because of the difficulty, plaintiffs are inclined to choose illegal profits instead of actual damages. §504 (b) provides that: "in establishing the infringer's profits, the copyright owner is required to present proof only of infringer's gross revenue."[98] After proving the gross revenue, the burden of proof is shifted to defendant by proving deductible costs due to factors other than infringement.[99] The primary purpose of profits recovery is to deprive defendants of unjust enrichment.

The 1976 US Copyright Act, however, does not specify how to calculate

v. Ultragraohics, Inc., 754 F.2d 467 (2d Cir 1985)(held that §504(b) was designed to compensate the copyright owner's actual damages, yet recognizing the possibility of cumulative damages in addition to profits).

93 *Id.*

94 *Stevens Linen Assocs., Inc. v. Mastercraft Crop.*, 656 F.2d 11, 14 (2d Cir. 1981).

95 547 F.Supp.400, (N.D. Ill.1983).

96 *Id.* at 411.

97 *See* Leaffer *supra* note 92.

98 17 U.S.C. §504 (b).

99 H.R. REP. No. 94-1476, at 161 (1976).

deductible costs. Several cases indicated that costs correlate to infringing activities with reasonable and certainty proof can be deductible, such as taxes, royalties to authors, overhead and production costs.[100] On the other hand, courts would favor plaintiff and grant gross revenue as damages when defendant cannot meet the standard of proof.

b) Statutory damages

Statutory damages are another branch under copyright damages. Although generally adopted in common law countries, such damages gradually become the indispensable remedy to online infringement. The popularity of statutory damages is largely due to the fact that the measurement of actual damages or/and profits is speculative and difficult in online infringement case.

The history of statutory damages, however, can dates back to eighteen century England when copyright disputes were brought in the courts of equity with discretion upon awarding.[101] Therefore, statutory damages share some equitable features under common law jurisprudence—"high degree of flexibility; regardless of actual proof; functions due to the failure of other damage."[102]

On the other hand, the framework of statutory damages is simple. Simply put, the awarding of statutory damages substitutes actual damages or/and profits at the discretion of courts within a statutory range. The range is determined by

---

[100] *See* e.g., *Cream Records, Inc. v. Jos. Schlitz Brewing Co.*, 754 F.2d 826 (9th Cir 1985) (stating that advertising cost should be deductible from gross revenue claimed by plaintiff); *Kamar Int'l v. Russ Berrie & Co.*, 752 F.2d 1327 (9th Cir. 1984) (stating overhead expenses by infringer that contributed to infringement cannot be accounted into profits).

[101] Kate Cross, David v. Goliath: *How the Record Industry is Winning Substantial Judgments against Individual for Illegally Downloading Music*, 42 TEX. TECH L. REV. 1031, at 1039 (2009-2010).

[102] *F. W. Woolworth Co. v. Contemporary Arts, Inc.*, 344 U.S. 228, 233 (1952).

legislation and courts award specific amount according to the culpability of infringement and justice.

For instance, The 1976 US Copyright Act generally provides that:

the copyright owner may elect…instead of actual damages and profits, an award of statutory damages for all infringements involved in the action…for which any one infringer is liable individually, or for which any two or more infringers are liable jointly and severally, in a sum of not less than $750 or more than $30,000 as the court considers just.[103]

Specifically, a plaintiff is able to elect statutory damages in lieu of actual damages or/and profits at any time prior to the final judgment.[104] It was an absolute right regardless of the sufficiency of evidence of actual damages or profits, subject to registration procedure[105] The US House Report further indicated that a plaintiff might intentionally elect statutory damages even though adequate proof existed.[106]

Moreover, §504 (c) entitled a plaintiff to recover only a single statutory damages regardless of how many times a defendant infringed the work or whether the infringing acts are separated, simultaneous, or occurred sequentially.[107] The amount of single award depended on the number of infringements; market value of the work; revenue losses by infringement; the culpability of infringement; and

[103] 17 U.S.C. §504(c)(1).
[104] *See* Leaffer *supra* note 92, at 467.
[105] Priscilla Ferch, *Statutory damages Under the Copyright Act of 1976*, 15 LOY. U. CHI. L.J. 485, 504 (1984).
[106] *See* H.R. REP *supra* note 115, at 162.
[107] *Id*.

the defendant's fault.[108]

One noteworthy feature of the US statutory damages is the flexible statutory range. The provision set out that the statutory range from $750 to $30,000 to ordinary infringements.[109] In case that an infringer commits infringement willfully and the copyright owner meets the burden of proof, a court may increase the award of statutory damage up to $150,000 in sum.[110] To the contrary, if "the infringer was not aware and had no reason to believe that his or her acts constituted an infringement of copyright, the court in its discretion may reduce the award of statutory damages to a sum of not less than $200."[111]

Copyright damages in the digital age

Because of the digital technology, damages upon actual damages or/and profits are rarely used as the major monetary remedy by copyright holders. Instead, statutory damages become a more attractive choice to copyright holders.

As Professor Paul Goldstein explains, statutory damages exist

"[B]ecause actual damages are so often difficult to prove, only the promise of a statutory award will induce copyright holders to invest in and enforce their copyrights and only the threat of a statutory award will deter infringers by preventing their unjust enrichment."[112]

The advantages of statutory damages are obvious to online copyright infringement: the flexibility accelerates judicial procedure, the statutory range leaves enough

---

108 *N.A.S. Imp. Corp. v. Chenson Enters., Inc.*, 968 F.2d 250, 252 (2d Cir. 1992).
109 17 U.S.C. §504(c)(1).
110 §504(c)(2).
111 *Id.*
112 PAUL GOLDSTEIN, GOLDSTEIN ON COPYRIGHT, Vol.II §14.2, at 14:41 (3rd ed. 2005).

space for judgment to specific cases, disregarding the proof on actual damages or/and profits alleviate the burden on both parties, etc. This section looks into the effects of statutory damages in a line of the US judicial cases.

1) The early adoption

The early adoption of statutory damages was relatively straight forward. The line of cases in this aspect primarily indicated the enforceability of statutory damages to online copyright infringement.

BMG Music v. Gonzales

The plaintiff in this case was a copyright holder in musical recordings and brought actions against the defendant who unauthorized downloaded the recordings through a P2P network.[113] The defendant was an individual user who downloaded more than 1,370 copyrighted songs through the KaZaA file-sharing network during a few weeks, and kept these songs in her computer until she was caught.[114] The plaintiff claimed copyright on 30 of the total 1,370 songs and elected to seek statutory damages instead of proving actual injury.[115] The district held the defendant infringed copyright and ruled for the plaintiff by awarding statutory damages of $22,000 ($750 per infringed song).[116]

Although the plaintiff claimed for "fair use" and "innocent infringer" in appeal to seek for the deduction of statutory damages, the Seventh Circuit rejected the claim by reasoning that downloading full copies of copyrighted material without

[113] *BMG Music v. Gonzales*, 430 F.3d 888 (7th Cir. 2005).
[114] 430 F.3d, at 890.
[115] *Id.*, at 892.
[116] *Id.*

compensation to authors cannot be deemed as "fair use"[117] and downloading copyrighted music through P2P file-sharing network was not entitled to "innocent infringer" reduction in statutory damages.[118] As a consequence, the Appellate Court affirmed the holding by district court.

Disney Enterprise v. Farmer

Unlike *BMG Music*, this case emphasized how courts award statutory damages in practice and provides a working example on court's discretion. The plaintiff, Disney Enterprise, filed suit and brought action to stop Farmer, the defendant, from copying and distributing five unauthorized motion pictures on the internet.[119] The plaintiff elected statutory damages as remedy in the amount of $6,000 for the total five motion pictures (1,200 per item).[120]

The district court held the defendant was liable for the infringement of five motion pictures and ruled for plaintiff by awarding $6,000 statutory damages to plaintiff. [121] As to the issue of statutory damages, the court reasoned that:

Courts have wide discretion in setting damages within the statutory range set forth in § 504(c)(1)…may consider several factors in determining statutory damages "including: the expenses saved and profits reaped by the defendants in connection with the infringements, the revenues lost by the plaintiffs as a result of the defendants' conduct, and the infringers' state of mind whether willful, knowing, or merely innocent…The option of electing statutory damages is especially

[117] *Id*.
[118] *Id*., at 893.
[119] *Disney Enterprise v. Farmer*, 427 F. Supp. 2d 807, at 811 (U.S.D.Ma 2006).
[120] *Id*., at 812.
[121] *Id*., at 820.

appropriate where "the information needed to establish an exact measure of actual damages is within the infringers' control and often is not fully disclosed…[122]

Based on the general instruction, the court held that the awarding of $1,200 statutory damages per motion pictures against defendant was warranted and reasonable both to compensate the copyright holders and deter future infringement by defendant.[123]

2) The problematic development: two notable cases

The *BMG Music* and *Disney Enterprise* were the early cases which indicate the application of statutory damages to online copyright infringement, especially infringement through P2P network. The holdings in both cases provided instructions on how courts should award the specific amount upon specific circumstances.

Instead of targeting on the P2P software, copyright holders target on the defendants who were both individual online users. Compared to the infringement in commercial scale via P2P network or websites, the infringement by one online user who merely download copyrighted works for personal enjoyment imposes less losses than that in P2P cases. Hence, one concern to statutory damages is the proportionality of punishment as well as the ultimate deterring effect on individual infringers.

Despite the concern, copyright holders believe that individual online users are less capable of affording the statutory damages. Based on the assumption, copyright

[122] *Id.*, at 817-18.
[123] *Id.*, at 818

holders are optimistic on the assumption that the deterring effect should be more effective to individual infringers because the cost of infringement substantially outweigh the benefits of infringement.

With solid confidence, statutory damages continue to be the optimal choice to copyright holders. Two recent cases, however, raise the consideration of proportional punishment and cause certain negative comment from the public.

Capitol Records, Inc. v. Thomas-Rasset

The plaintiff, Capitol Records, filed lawsuit against Jammie Thomas and claimed that she illegally downloaded and distributed twenty-four songs without authorization through a P2P platform: KaZaA.[124] The jury found defendant willfully infringed all twenty-four songs at issue, and awarded the plaintiff $9,250 per infringed song, which amounts to $220,000 in total.[125]

Following the judgment, Thomas moved to a new trial based upon the unconstitutionality of the excessive awarding.[126] In the retrial, although the plaintiff provided the substantially same evidence to prove defendant's liability and Thomas argued that the infringing actions might be committed by her son and boyfriend,[127] the jury still found Thomas liable for willful infringement and awarded the plaintiff statutory damages in the amount of $1,920,000 in total, with $80,000 per work.[128]

Thomas still rejected the amount in the second trial and files a post-trial motion

---

[124] *Capitol Records, Inc. v. Thomas-Rasset*, 692 F.3d 899, at 903(8th Cir. 2012).
[125] 692 F.3d, at 904.
[126] *Id*.
[127] *Id*., at 905.
[128] *Id*.

argued that the court should reduce statutory damages based on Due Progress Clause.[129] The district court granted the motion and reduced the awards to $2,250 per work, for a total $54,000 because the court reasoned that the amount of jury's award was "shocking".[130]

However, the plaintiff rejected the reduced version of statutory damages after Thomas declined a $25,000 settlement in a negotiation, and the plaintiff moved to a third trial to determine the amount of statutory damages in 2010.[131] This time, the jury awarded the amount of $62,500 per work to the plaintiff, for a total of $1,500,000.[132] However, the court held that the award of $1.5 million was "severe and oppressive as to be wholly disproportioned to the offense and obviously unreasonable" and insist that the amount of 2,250 per work was the maximum award permitted under the Due Process Clause.[133]

Being not satisfied with the judgment by district court, the plaintiff appealed for oral argument and asked to reconsider the amount of statutory damage on the constitutional and Due Process Clause ground.[134] The Eighth Circuit ruled that the award of statutory damages $9,250 per work for a total of $222,000 was constitutional and should not be reduced on Due Process Clause Ground.[135]

The war did not end in the stage of oral argument and Thomas's counsel asked the

---

[129] *Id.*
[130] *Id.*
[131] *Id.*
[132] *Id.*
[133] *Id.*, 905-06.
[134] Opening Brief of Appellants/Cross-Appellee, Dec. 13th 2011, available at http://beckermanlegal.com/Lawyer_Copyright_Internet_Law/virgin_thomas_111207RIAAAppellantsBrief.pdf (last visited 1/31/2014).
[135] *Thomas-Rasset*, 692 F.3d at 908.

Supreme Court for certiorari and argued case law governing punitive damages should apply.[136] However, the petition for certiorari was rejected on March 18, 2013.[137]

Sony BMG Music Entertainment v. Tenenbaum

Similar to the *Thomas-Rasset* case, the *Tenenbaum* is an enduring war between the copyright holders and the individual online users with respect to the awarding of statutory damages. The plaintiff, Sony BMG, brought action against Joel Tenenbaum and claimed the defendant willfully infringed thirty copyrighted songs by using peer-to-peer network to download and distribute the songs without authorization from copyright holders.[138] The district quickly ruled against the defendant with the liability and the jury award the plaintiff statutory damages of $22,500 per infringed songs, for a total $675,000, which was within the statutory range of $750 to $ 150,000 per infringement.[139]

The Tenenbaum moved to reduction of the damages and the district court affirm the motion by reducing the total amount of damages to $67,500 with the reasoning that the original award was excessive in violation of Tenenbaum's Due Process Clause.[140]

Both parties were not satisfied with the result and had cross-appealed.[141] In

---

[136] *Petition for a writ of certiorari*, available at http://beckermanlegal.com/Lawyer_Copyright_Internet_Law/capitol_thomas_121210PetitionCert.pdf (last visited 1/31/2014).

[137] Certiorari—Summary Disposition, available at http://www.supremecourt.gov/orders/courtorders/031813zor_164n.pdf (last visited 1/31/2014).

[138] *Sony BMG Music Entertainment v. Tenenbaum*, 660 F.3d 487, at 490 (1st Cir. 2011).

[139] *Id.*

[140] *Id*

[141] *Id.*

appeal, the Frist Circuit rejected all Tenenbaum's argument and held that district court had erred by ruling on the constitutionality of the jury award before considering whether the award should be reduced by common law remittitur, and reinstated the original $657,000 award.[142]

Following the appeal, the Tenenbaum's attorney filed a couple petitions to rehearing the case by Appellate Court or the Supreme Court, seeking to reduce the amount of statutory damages.[143] However, none of his attempts succeed and the district court affirmed the $675,000 award of statutory damages to plaintiff.[144]

Both cases display an interesting phenomenon. The defendants in both cases were individual online users and they basically acknowledged their infringement actions in the first trial. Therefore, the judicial process should end in this stage. In reality, however, both defendants continuously petition to retrial or rehearing because of the amount of statutory damages in trial. In other words, the awarding of statutory damages made the entire judicial process enduring and complicated.

To be sure, both defendants in trial were found willful infringed copyright and imposed substantial financial penalty as the deterrent to their infringement. Nevertheless, the high amount of statutory damages did not convince both infringers of their culpable actions, but triggered them to "fight" against the copyright holders as well as the judicial system. Under the circumstances, it is

---

142 *Id.*, at 490-491.

143 *Sony BMG v. Tenenbaum*, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Sony_BMG_v._Tenenbaum (last visited 1/31/2014).

144 *Sony BMG Music Entertainment, et al. v. Joel Tenenbaum – Order*, available at http://beckermanlegal.com/Lawyer_Copyright_Internet_Law/sony_tenenbaum_120823Decision.pdf (last visited 1/31/2014).

questionable that the deterring effect is working in *Thomas* and *Tenenbaum*.

On the other hand, the total amount of statutory damages to both defendants are significantly huge figures considering their identity: a single-mother and a college student. Regardless the convincing explanation of Constitution and Due Process Clause by courts with respect to the awarding of statutory damages, the public who lack of legal background may simply find the two "poor" defendants were suppressed by the alliance of "giant" content industry and "indifferent" courts system. As a consequence, the misunderstanding from the public may weaken their perception of online copyright protection.

C. General Observation:

1. Injunction Works to Infringement through Illegal P2P networks and Websites

One of the major objectives of copyright law enforcement is to deter infringement and control copyright piracy. Because digital technology reshapes the landscape of copyright infringement in online environment, online piracy poses significant threat to copyright holders in terms of their online distribution and licensing. Under the circumstances, copyright holders rely on copyright law enforcement to fight against online piracy. Among all strategies, the injunctive relief on illegal P2P networks or websites generate substantial positive effects with respect to prevent ongoing infringement and continuous injury.

A case in point should be the post-trial development of some peer-to-peer file-sharing platforms.

The notable Napster, was awarded injunction and enjoined from operation. As a result, copyright holders should be satisfied with the result because all infringing activities on Napster were ceased because of the shutdown of the P2P platform.[145] In the case, the court imposed an injunction on Napster system and thus successfully ceased mass scope of piracy through that system because nearly 99% of uploading materials were infringing.[146] When it comes to Grokster, the shutdown made nearly 70-90% infringing materials unavailable online.[147]

From the perspective of controlling online piracy, the injunction remedy achieves its objective to some extent. The deterring effect on P2P network by law enforcement is usually significant and efficient regarding the decrease traffic of infringement.

For example, the popular P2P network, LimeWire, was ordered to shut down by court order. It was reported the shutdown lead to a notable drop of the usage of Lime network.[148] In the wake of LimeWire shutdown, the percentage of U.S. Internet users who access the P2P network dropped approximately 7% in 2007.[149] Similarly, other once popular P2P file-sharing platforms basically faced with the similar result of shutdown by the force of copyright law enforcement including Grokster, Madster, and the original eDonkey network.[150] Therefore, the strategy of shut down proved to be effective because online users heavily rely on these P2P

---

145 *Napster*, F.3d at 1004.
146 *Id.* at 1021.
147 *Grokster*, 545 U.S. at 1158.
148 Chloe Albanesius, *Indie Labels Sue LimeWire over Failed Copyright Deal*, available at http://www.pcmag.com/article2/0,2817,2388627,00.asp (last visited 2/1/2014).
149 *Id.*
150 *Napster*, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Napster (last visited 2/1/2014).

network for downloading and distribution.

In the United Kingdom, the injunctive order of website blocking are widely implemented by the "Big Five" ISPs resided in the UK.[151] In the wave of implementation, notorious infringing website such as Newzbin2, The Pirate bay, TorrentFreak were entirely blocked by the major ISPs in the UK. Because each of the "Big Five" ISP has at least 400,000 subscribers, the blocking access to infringing website substantially reduce the possibility of piracy through the specialized ISPs.

In addition to eliminate illegitimate platform, the resurrection to legitimate licensing is another positive result of injunctive relief. For example, the Napster became a legitimate online music store when it was acquired by Rhapsody from Best Buy in December 2011.[152] The switch from an infringing platform to a legal online business demonstrates that copyright law enforcement has at least circumstantial effects on forging online business. It is true that the establishment of online business is largely under the control of an enterprise or company, but the force from law enforcement often is an important element to the decision-making process.

2. Copyright Law Enforcement: Inappropriate Strategy & Practice

To be sure, the positive effects by copyright injunction under no circumstances indicates that copyright law enforcement is perfect and flawless. To the contrary,

---

151 *Big 5 ISPs*, OPEN RIGHTS GROUP, available at https://wiki.openrightsgroup.org/wiki/Big_5_ISPs (last visited 6/21/2014).

152 Ben Sisario, *Rhapsody to Acquire Napster in Deal with Best Buy*, N.Y. TIMES, Oct. 3rd 2011, available at http://mediadecoder.blogs.nytimes.com/2011/10/03/rhapsody-to-acquire-napster-in-deal-with-best-buy/?_php=true&_type=blogs&_r=0 (last visited 2/1/2014).

copyright law enforcement to individual online users is highly debatable.

a) Individual Users as Appropriate Target?

Began in 2003, the RIAA initiated to file lawsuits against individual online users who illegally distributed copyrighted music through P2P file-sharing platform.[153] As a consequence, the RIAA filed lawsuits against individual end-users in the amount of approximately 35,000 during the five-year period.[154] Generally, the legal campaign between wealthy plaintiffs and poor, non-commercial defendants proved to be unreasonable and ineffective.

As aforementioned, the *Thomas-Rasset* and *Tenenbaum* cases represents how the awarding of statutory damages leads to the enduring and complicated litigation process. Since the courts in both cases basically confirmed the huge amount of statutory damages to the plaintiff, the two cases are more likely to have precedential influence to the future awarding of statutory damages. In other words, an individual infringer is highly possible bear significant amount of damages when he was found of willfully infringe copyright.

Although the RIAA claimed success of this strategy on increasing public awareness of illegality to file-sharing and forcing users back to legal markets, some surveys indicated the opposite results by such kind of strategy.[155] For instance, a study indicated that the number of people sharing music on P2P platform increased between 2006 and 2007, which was the climax when RIAA

[153] *See* Moseley *supra* note 24, at 315.
[154] Sarah McBride & Ethan Smith, *Music Industry to Abandon Mass Suits*, WALL ST. J., Dec.19th 2008, at B1, available at http://online.wsj.com/news/articles/SB122966038836021137 (last visited 6/25/2014).
[155] *See* Moseley *supra* note 24, at 332.

actively pursued individual online users.[156]

The International Federation of the Phonographic Industry (IFPI) Digital Music Report 2009 also found that "around 95 percent of music tracks are downloaded without payment to the artist or the music company that produced them."[157] Furthermore, the lawsuits against individual end-users by the RIAA raised general resistance from the public, especially among college students.[158]

b) Overcompensating copyright holders & Disproportional damages

Awarding statutory damages is under the discretion of courts when the actual losses to copyright holders are difficult to measure. However, the determination of actual amount gives rise to undesirable results: unprincipled, inconsistent and arbitrary awarding.[159] A line of cases indicates the problematic situation.

Our first example is the *UMG Recording, Inc. v. MP3.com, Inc.*[160], which can be deemed as predecessor of *Thomas-Rasset* in the context of disproportional statutory damages. The trial court held that the defendant had willfully infringed copyrights and awarded statutory damages of $25,000 per infringed CD.[161] Given the fact that there were less than 47,000 CDs at issue, the total amount was approximately $118,000,000.[162]

This amount was disproportional given the fact that no actual damages caused by

---

156 *Id.*

157 *Digital Music Report 2009: New Business Models for A Changing Environment,* IFPI, http://www.ifpi.org/content/section_resources/dmr2009.html (last visited 10/13/2013).

158 Kim F. Natividad, *Stepping It Up and Taking It to the Streets: Changing Civil & Criminal Copyright Enforcement Tactics*, 23 BERKELEY TECH. L. J. 469, 477 (2008).

159 Pamela Samuelson & Tara Wheatland, *Statutory damages in Copyright Law: A Remedy In Need of Reform*, 51 WM. & MARY L. REV. 439, (Nov. 2009).

160 92 F. Supp.2d 349 (S.D.N.Y. 2000).

161 *See* 2000 U.S. DIST. LEXIS 13293, at *18.

162 *Id.*

infringement because MP3.com actually did not operate its service prior to trial and had not charged fees to its subscribers.[163] Moreover, MP3.com merely streamed CDs owned by subscribers, which means copyright holders had already obtained some remuneration.[164]

William Party commented the awarding in *MP3.com* was "hardly necessary as a detergent for a defendant who had not made a penny in profits off its use, and where plaintiff had conceded that it could not prove any actual damages…"[165]

Despite copyright law does not strictly bind statutory damages to actual damages, it seems the amount of $25,000 in *MP3.com* case was still a modest figure because it falls within the range from $750 to $30,000.

One recent case, however, has directly linked to the maximum end. In *Macklin v. Mueck*, the defendant operated a poetry website and posted plaintiff's two poems online without authorization.[166] The plaintiff subsequently filed lawsuit against the defendant and moved for award of maximum statutory damages due to willful infringements after the defendants defaulted by not answering the complaint.[167] The trial court ruled for the plaintiff and awarded $30,000 per infringed poem.[168] Obviously, such awarding was plainly punitive and highly excessive compared to the need of compensating copyright holders and deterring future infringement, because the defendants was unlikely to recoup profits from the infringement and

163 92 F. Supp. at 351.
164 *Id*. at 352.
165 *See* 6 Party on Copyright §22:181, at 22-434 (2009).
166 24 F. 3d 1307, 1308-09 (11th Cir. 1994).
167 *Macklin*, 2005 U.S. Dist. LEXIS 18026, at *3. (S.D. Fla. Jan. 28,2005).
168 *Id.*

the actual damages tends to be modest under the circumstances.[169]

Similar disproportional awarding also imposed to the defendant in *Los Angeles Times, Inc. v. Free Republic*.[170] The defendant, Free Republic, was a "bulletin board" website which enabled their members to comment the news articles posted on its webpage.[171] The plaintiff, Los Angeles Times, contented the defendant facilitated copyright infringement by routinely posting entire copyrighted news articles, and charged for "archive fees" to members for accessing these works.[172] After addressing fair use argument proposed by Free Republic, the court rejected and ruled $1 million amount of statutory damages to the defendant.[173] However, the lawsuit was finally settled between LOS Angeles Times and Free Republic. The amount of their settlement was $10,000, which constitutes the ration of 1:100 to the statutory damages.[174]

D. Concluding Remark

The right-holder-centric model by means of copyright law enforcement is decisive and influential to online copyright infringement compared to private implementation through digital technology. Unlike the private system which serves as *ex ante* precaution, copyright law enforcement functions as *ex post* remedy to copyright holders and function to deter copyright piracy.

On the one hand, copyright injunction design to cease infringement so that

---

169 *Id*. at *5-6.
170 2000 U.S. Dist. LEXIS 5669 (C.D. Cal. Apr. 2000).
171 *Id*. at*1.
172 *Id*. at* 1-2.
173 2000 U.S. Dist. LEXIS 20484, at *6 (C.D. Cal. Nov. 2000).
174 Pamela Samuelson & Tara Wheatland, *Statutory damages in Copyright Law: A Remedy In Need of Reform*, 51 WM. & MARY L. REV. 439, (Nov. 2009).

ongoing injury to copyright holders cannot be maintained. On the other hand, copyright damages, especially the statutory damages, provide copyright holders with compensatory option and meanwhile serve to deter infringement. Under the circumstance, the copyright law enforcement strongly favors of copyright holders and take them as prior consideration. Therefore, copyright law enforcement become the best available option to copyright holders in the course of copyright enforcement.

The judicial practice of copyright law enforcement, however, leads to mixed results. On the one hand, copyright law enforcement, primarily the injunctive relief, forces existing illegal P2P platforms to shut down and successfully block the access to infringing websites. The deterring effect indicates that copyright law enforcement works to control online piracy, especially to large technology-based online entity.

On the other hand, copyright law enforcement encounters undesirable situation when applied to individual online infringers with the disproportional punishment. The inappropriate application give rise to the negative comments and reaction from the public, and creates misunderstanding between copyright holders and online users. As a consequence, the deterring effects through injunction may substantially be outweighed by the side effects through inappropriate application of statutory damages.

Copyright policy emphasizes the balance between copyright holders and the public. However, the right-holder-centric model by copyright law enforcement

focuses on the interests of copyright holders and gradually expand the boundary of rights in the digital age. Under the circumstances, this model triggers the severe tension between copyright holders and online users.

To ease the tension and enhance the efficiency of online copyright enforcement, copyright holders begin to explore other options. Instead of concentrating on the right-holder-centric model, copyright holders begin to reconsider their interaction with other copyright participants such as the ISPs and ordinary users. The graduated response system, as a working example under the cooperative model, opens a new horizon to copyright holders.

Distinguished from copyright law enforcement, the graduated response system requires internet service providers (ISPs) to work with copyright holders by actively monitoring the activities of online users. Once infringement actions are detected, they will send warning letters to accused users and take actions to facilitate the copyright enforcement.

On the other hand, copyright holders are willing to join the graduated response system for cooperation because such system transfers partial enforcement costs to the ISPs. The entire system is less expensive than copyright law enforcement. Moreover, ISPs are in better position to control online infringement due to their technological capability. To sum up the graduated response system establishes the cooperation between copyright holders and the ISPs, and enables a joint enforcement to online copyright infringement. Next chapter will discuss and analyze this new system in details

Chapter IV Cooperation between Copyright Holders and ISPs: the Graduated Response System

Although copyright holders produce and distribute creative works, they usually are not in the best position to distribute their works to the public inexpensively and efficiently. Throughout history, copyright holders rely on the intermediary for efficient distribution of creative works in order to meet the demand from the public. Without the aid from the intermediary, copyright holders are most likely to be overwhelmed by massive amount of negotiations and licensing. By cooperating with copyright holders, the intermediary in fact facilitate the distribution of copyrighted works and meanwhile obtain revenues through the cooperative process. Although this kind of cooperation is simple, it highlights the possibility of cooperation between the two parties.

Enlightened by this strategy, the cooperative model is established as a prospective and alternative option compared to the right-holder-centric model. While the right-holder-centric model focuses on the interests of copyright holders, the cooperative model requires the balance between copyright holders and ISPs so that cooperation can be established.

On the other hand, the emergence of cooperative model also builds upon the digital technology and Internet architecture. The new online intermediary, internet service provider (ISP), becomes a major competitor to the old intermediary such as book publishers, television network, and broadcasting system. With the aid of digital technology, the ISPs provide their subscribers with widespread accessibility and diversified contents. The ISPs gradually draw a huge share of consumers in online copyright markets.

Just as a mirror has two faces, ISPs facilitate the distribution of copyrighted works, while opening a channel for illegal copying and dissemination. ISPs can be used as the platform

for either direct infringement or indirect infringement due to its feature of storage and transmission. The *MP3.com, Inc.* and *Netcom* cases respectively display how ISPs facilitates the online copyright infringement in the early digital age.[1]

To avoid the downside of ISPs, copyright holders seek for other strategy to control the online infringement. They rely on copyright legislation as solution. For instance, the US and EU Community respectively enacted the Digital Millennium Copyright Act (DMCA) and E-Commerce Directive which immunes ISP's liability to online copyright infringement so long as ISP complies with the requirement under the provisions.[2]

The legislation in "safe harbor" provisions in fact establishes a prototype of cooperation between copyright holders and ISPs. For example, ISPs are able to participate in the copyright enforcement by complying with the Notice-and-Takedown procedure under the DMCA. However, the procedure has some controversial issues in practice and ISP merely passively react to the requirement from copyright holders.

In other words, the primitive cooperation of ISP legislation does not provide reliable mechanism to meet the demand of copyright holders with respect to copyright enforcement. Under the circumstances, copyright holders determine to update the cooperative partnership and introduce a new system to establish the sustainable cooperation.

The graduated response system echoes their decision. The "graduated responses" is a term used to describe an alternative enforcement strategy to solve online piracy by establishing the cooperation between copyright holders and the ISPs. The worldwide movement of graduated responses system was first appeared in France in 2009 then rapidly spread to other

[1] *See generally UMG Recording, Inc. v. MP3.com, Inc.* 92 F. Supp.2d 349 (S.D.N.Y.2000); also see *Religious Technology Center v. Netcom* 923 F. Supp. 1231 (N. D. Cal. 1995).
[2] *See generally* §512 of DMCA, Pub. L. 105-304; *also see* Art. 12-14 of E-Commerce Directive.

countries such as New Zealand, South Korea, and the United States.[3]

Simply put, the graduated response system requires an ISP to issue a notice to the subscriber when the subscriber is found to engage in online piracy. If the subscriber ignores the first notice, the subsequent notices will be sent and further actions may be imposed on the subscriber based on the response of subscribers.[4] The focal point lies in that ISP should actively monitor the activities of their subscribers.

According to the architecture design, ISPs under the graduated responses system bear partial duty and costs to online copyright enforcement. Generally, there are three types of graduated responses system among different jurisdictions. First of all, France creates an independent administrative authority to regulate operation of the system. Such independent authority operates under a general legislative guidance and provides specific regulation within its discretion.

On the other hand, countries like New Zealand and South Korea employ the graduated response system through copyright legislation. Put another way, the graduated responses system is incorporated into domestic copyright law.

Finally, countries like the US implement the graduated response through private contractual agreement. Copyright holders in these jurisdictions sign agreements with major ISPs to establish cooperative partnership for regulating online copyright infringement.

Being a new enforcement strategy, most countries employ the graduated responses system with prudence. As a consequence, practical experiences are still insufficient compared to enforcement strategies under the right-holder-centric model. So far, France and New Zealand

[3] Daniel Lieberman, *A Homerun for Three Strikes Law: Graduated Responses and its Bid to Save Copyright*, Journal of the Copyright Society of the USA, Vol.59, No.2 (Winter 2012).
[4] Peter K. Yu, *the Graduated Response*, 62 Fla. L. Rev. 1373 (2010).

has provided some reliable resources for assessment, while the US has begun the application with a short period.

Although the graduated responses system is viewed as a prospective enforcement strategy. It is still too early to reach a final conclusion on its success or failure. The application of graduated response system in France and New Zealand leads to mixed results. For example, the usage of illegal P2P file-sharing decreased due to the application, while the general online piracy still remain unchanged. Meanwhile, the penalty of account disconnection is under criticism and rarely used in both France and New Zealand. Therefore, the cooperative model by means of graduated response system still need more time and examination before it essentially become reliable a with respect to copyright enforcement.

A. Defining ISPs

Internet service providers, known as online intermediaries, facilitate copyright holders to distribute their works online and offer a variety of services to online users such as e-commerce service, online entertainment (music, movie, etc.), online communication (e-mail, live-chat, etc.), search engine (Google, Wikipedia, Baidu, etc.). Due to large volume of creative contents, ISPs are difficult to locate every unauthorized works in their websites. Therefore, ISPs can easily infringe copyright by intent or negligent.

In offline world, an individual entity can become the source for distribution of pirated copies, such as a CD shopping site along the street, the flea market, etc. As to online environment, the situation remains the same. A single website can store thousands of pirated works and serve as source for further distribution.

B. Legislation on Regulating ISPs

1. US: the DMCA

The Digital Millennium Copyright Act, known as DMCA, was enacted primarily to protect copyright holders regarding their copyrighted works for reproduction and distribution: "…Copyright owners will hesitate to make their works readily available on the internet without reasonable assurance that they will be protected against massive piracy…"[5] On the other hand, the DMCA takes into consideration on the development of Internet architecture and relevant services so as to immune the Internet from overwhelming copyright protection. According to the Congress report,

Without clarification of their liability, service providers may hesitate to make the necessary investment in the expansion of the speed and capacity of the internet…Many service providers engage in directing users to sites…some of them may contain infringing materials…the DMCA insure that the efficiency of the internet will continue to improve and that the variety and quality of services on the internet will continue to expand…[6]

Pursuant to above legislative history, the DMCA contains "Online Copyright Infringement Liability limitation Act" as its second title, known as Section 512 or "Safe Harbor" provision.[7] Section 512 of DMCA provides immunity to four distinctive types of ISPs. §512(a) protects ISPs who are passive conduits from liability for copyright infringement, provided that the infringing material is being transmitted at the request of a third party to a designated recipient.[8] §512(b) governs ISPs who merely functions as system caching.[9] §512(c) applies to ISPs that store infringing material, provides that the ISPs comply with "notice and takedown" regime.[10] §512(d) eliminates liability for an ISP who links users,

[5] S. REP. No. 105-190, at 8 (2d Sess. 1998).
[6] *See Id.*
[7] Act of Oct. 28, 1998, Pub. L. 105-304, § 201, 112 Stat. 2860.
[8] 17 U.S.C. §512(a).
[9] 17 U.S.C. §512(b).
[10] 17 U.S.C. §512(c).

through a tool such as a web search engine, to an online location that contains infringing material, provided that the ISP does not know the material is infringing.[11]

In summary, the purpose of enacting this Act is,

"…preserve strong incentives for service providers and copyright owners to cooperative to detect and deal with copyright infringement that take place in the digital networked environment. At the same time, it provides greater certainty to service providers concerning their legal exposure for infringements that may occur in the course of their activities…"[12]

Obviously, legislative designed a distinctive option for both copyright holders and ISPs to deal with their online activities: from adversarial conflict to cooperative regulation.

2. EU: E-Commerce Directive

Distinguished from DMCA in US, the EU does not enact independent statutes on the regulations over ISPs. The E-Commerce Directive primarily focuses on setting up an internal market for free trade within European area, which contains specific liabilities on online intermediaries under the topic of information society services.[13] The E-Commerce Directive regulates ISPs on their online activities by charactering their actions into three types: "Mere Conduits", "Caching", and "Hosting". [14] Article 12, the "Mere Conduits", exempts an ISP from liability when it (a) does not initiate the transmission, (b) does not select the receiver of the transmission, and (c) does not select or modify the information contained in the transmission.[15]

Article 13, "Caching", requires member states should not impose liability when an ISP (a)

---

[11] 17 U.S.C. §512(d).

[12] *See* H.R. REP. No. 105-551, Part 2, (2d Sess. 1.998). at 49-59; *also see* S. REP. at 20, 40.

[13] *See E-Commerce Directive*, EUROPA, http://ec.europa.eu/internal_market/e-commerce/directive/index_en.htm (last visited 8/3/2014).

[14] E-Commerce Directive, Art.12-14.

[15] *See* Art.12.

does not modify the information, (b) comply with the conditions on access to the information, (c) comply with rules regarding the updating of the information, specified in a manner widely recognized and used in industry, (d) does not interfere with the lawful use of technology, widely recognized and used by industry, to obtain data on the use of the information, and (e) acts expeditiously to remove or to disable access to the information upon actual knowledge of infringing actions.[16]

Article 14, the "Hosting", exempts an ISP from liability when it (a) does not have actual knowledge of illegal activity or information and, as regards claims for damages, is not aware of facts or circumstances from which the illegal activity or information is apparent; or (b) upon obtaining such knowledge or awareness, acts expeditiously to remove or to disable access to the information.[17]

According to the EU Commission Report, E-Commerce Directive aims at,

Eliminating existing legal uncertainties and to avoid divergent approaches between member states. The Directive establishes an exemption from liability for intermediaries where they play a passive role as a 'mere conduit' of information from third parties and limits service providers' liability for other 'intermediary' activities such as the storage of information. The Directive strikes a careful balance between the different interests involved in order to stimulate co-operation between different parties and so reduce the risk of illegal activity on-line…[18]

Based on the report, the EU's emphasis contains two aspects: eliminate potential trade barriers among member states, and strike the balance between copyright holders and ISPs to

[16] *See* Art.13.
[17] *See* Art. 14.
[18] *Final Adoption of Legal Framework Directive,* EUROPA, http://europa.eu/rapid/press-release_IP-00-442_en.htm?locale=en (last visited 8/3/2014).

ensure their join interests. Under the circumstances, both the US and EU accept the idea that cooperation between copyright holders and ISPs is an appropriate option to address online piracy and enforce online copyright. Given that both statutes were enacted more than one decade ago, the idea of cooperation is upheld by legislation and is more convincing based on the analysis of legislative history.

3. Summary of ISP Legislation

The DMCA and E-Commerce Directive contain specific provisions in terms of the regulation on ISPs in online environment. Although not entirely similar in original texts, both statutes actually create legal certainty to ISPs because clear legislation ensure them of their exemption against online liability. According to a survey report on the title of "Economic Impact of the E-Commerce Directive" conducted by Colophon in 2007, 17 member states in the EU Community admitted that there was not a specific legislation concerning liability for online intermediary prior to the enactment of E-Commerce Directive.[19] Therefore, the ISP legislation serves to clarify the legal standard and establish certainty to ISPs with respect to copyright enforcement.

With clarified legislation, ISPs can ensure and avoid the liability in the light of their specific services. For example, both the DMCA and E-Commerce Directive provide that an ISP serves as a conduit of information is not liable even if the information is illegal, as long as this ISP does not know the illegality.[20]

As aforementioned, the limitation ISPs' liability in fact creates an opportunity for copyright holders and ISPs to work for their joint interests. Under the circumstances, copyright holders

[19] Colophon, *Study on the Economic Impact of the Electronic Commerce Directive*, EUROPA, http://ec.europa.eu/internal_market/e-commerce/docs/study/ecd/%20final%20report_070907.pdf (last visited 8/3/2014).
[20] *See* §512 (a) of DMCA; *also See* Art. 12 of E-Directive.

can better protect their online works. ISPs bear fundamental duty to monitor their subscribers in exchange for the exemption of liability.

The clarified legislation and legal certainty, however, are more theoretically ideal than practically efficient. Being in practice for nearly one decade after enactment, the DMCA and E-Commerce Directive generates certain ambiguity and confusion. As a result, ISPs gradually find it difficult to comply with specific provisions in order to immune from liability. Some provisions lack of further policy guidance and clear interpretation by courts, leading ISPs exposed to significant but unintended legal risks. For example, the standard of actual knowledge is highly controversial, the procedures of "Notice and Takedown" are complicated to enforce, and the difficulty to distinguish "repeated infringers", etc. Under the circumstances, copyright holders realize that providing liability limitations to ISPs through legislation is not as effective as its initial design. Moreover, the ISPs do not always actively participate in cooperation with copyright holders by scanning or monitoring their subscribers so long as they successfully meet the requirement of liability exemption. Obviously, the motivation by such legislation cannot fully stimulate ISPs to cooperate with copyright holders.

C. The Turn to Graduated Responses System

1. Status Quo of Copyright Law Enforcement

The emergence of graduated response system is largely due to the inefficiency of current copyright enforcement. Specifically, the copyright law enforcement on copyright piracy does not satisfy the demands of copyright holders in the course of their enforcement.

On the other hand, advanced digital technology enables ISPs to monitor their subscribers thoroughly so as to better cooperate with copyright holders in terms of online copyright

enforcement. Under the circumstances, copyright holders have compelling need to embrace the prospective graduated responses system as an alternative enforcement option.

a) Copyright Law Enforcement & Inappropriate Target

At the very beginning, copyright holders primarily targets on ISPs which infringe their copyrights. Those ISPs either directly store copyrighted works on their websites or functions as channels for online users to access these works.[21] By pursuing infringing ISPs, copyright holders are able to prevent these ISPs from distributing copyrighted works without authorization.

This traditional strategy, however, does not last long in online environment. On one hand, the introduction of ISP legislation, namely the DMCA and the E-Commerce Directive, provides flexible and broad protection on ISPs of their online activities. ISPs are generally qualified for the exemptions as long as they satisfy specific provisions under the statutes.

On the other hand, judicial interpretation are in favor of ISPs with respect to the qualification of "service providers" under ISP legislation. The statutory definition of "service providers" is broadly explained by the US courts. Most courts tend to impose general analysis on the qualification of "service providers" and are easily offered the qualification to an online entity. For instance, in the case of *Wolf v. Kodak Imaging Network, Inc.,* the court found that Photobucket was a "service provider" under §512 because its websites hosts photos and videos for sharing at the discretion by users.[22] As a consequence, ISPs enjoy a strong legal protection and copyright holders must target on other copyright infringers.

---

[21] *See UMG Recordings, Inc. v. MP3.com, Inc.*, 92 F. Supp. 2d 349 (S.D.N.Y. 2000); *also See Napster, Inc.,* 239 F.3d 1004 (2001); and *MGM Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005). (The ISPs in these cases contains "Hosting" websites, centralized or decentralized P2P network.)

[22] 2011 WL 940056, at *2 (S.D.N.Y. Mar. 17, 2011); a bunch of similar cases also indicate the trends, *See* generally *Corbis Corporation v. Amazon.com* , Inc., 351 F. Supp. 2d 1090 (W.D. Wash. 2004); *Viacom International, Inc. v. YouTube, Inc.*, 676 F.3d 19 (2d Cir. 2012); *Perfect 10, Inc. v. CCBill LLC*, 448 F. 3d 1102 (9th Cir. 2007).

Because of the popularity of P2P network among the young generation, file-sharing is gradually labeled as the notorious synonym to online piracy by copyright holders. According to a survey by International Federation of the Phonographic Industry (IFPI) estimated that nearly 95% of music downloading was unauthorized. [23] The Nielson Company projected that 25% of internet users in Europe visit online music website monthly, compared to 45% Brazilian and Spanish users.[24]

From economic perspective, the cumulative impact by illegal file-sharing is fatally destructive. Economists Stephen E. Siwek concluded that online piracy accounts for the costs of US economy $58 billion in total output, $16 billion total input, and $2.6 billion lost tax revenues in federal, state, and local government.[25] The US Department of Labor reported that the quantity of professional musicians decreased by nearly 15,000 due to the operation of Napster from 1999 to 2009.[26]

Under no circumstances would copyright holders accept such significant losses by rampant online piracy. Their option is certainly to fight against illegal file-sharing. As a response to the legal protection on ISPs, copyright holders begin to bring actions against copyright piracy facilitated by P2P network. In addition to pursuing given P2P networks, they also targets on individual online users.

Among those courageous copyright guardians, the Record Industry Association of America (RIAA) becomes the most aggressive vanguard in the course of pursuing individual online users.

---

[23] Eric Pfanner, *Music Industry Courts the Cost of Piracy,* N.Y. TIMES, Jan. 21st 2011, available at www.nytimes.com/2010/01/22/business/global/22music.html?_r=1

[24] *See* IFPI 2011 REPORT, at 8, available at www.ifpi.org/content_section_resources/dmr2011.html

[25] Stephen E. Siwek, the True of Copyright Industry Piracy to the US Economy 189 (2007).

[26] Joshua P. Friedander & Jonathan Lamy, *Googling Adele MP3*, Music Notes Blog, RIAA, available at http://www.riaa.com/blog.php?content_selector=illegal%20Downloading_Fewer%20Musicians (Mar.19, 2012).

Began in 2003, the RIAA initiated to file lawsuits against individual online users who illegally distributed copyrighted music through P2P file-sharing platform.[27] According to the RIAA, the legal campaign was to both raise public awareness of illegality of unauthorized downloading and distribution, and force online users to legally purchase music.[28] Eventually, the RIAA filed lawsuits against individual end-users in the amount of approximately 35,000 during the five-year period.[29]

The RIAA's aggressive campaign eventually ends up with two results. To most accused individual users, the costs to join civil lawsuits are formidable. The unbalancing power between wealthy plaintiffs and poor, non-commercial defendants in judicial procedure is self-evident. Under the circumstances, most individual users eventually choose to settle with the RIAA.[30]

Even if individual end-users are willing to fight against the wealthy RIAA, they need to face unpredictable monetary penalty. Two recent well-known case, *Capital Records, Inc. v. Thomas-Rasset* and *Sony BMG Music Entertainment v. Tenenbaum*,[31] indicated how unreasonable the statutory damages under copyright law could be when RIAA targeted on individual online users.[32]

Although the RIAA claimed success of the strategy on increasing public awareness of illegality of file-sharing and forcing online users back to legal markets, some surveys

---

[27] Will Moseley, *A New (Old) Solution for Online Copyright Enforcement after* Thomas *and* Tenenbaum, 25 BERKELEY TECH L.J. 311, at 332 (2010).
[28] *Id*.
[29] Sarah McBride & Ethan Smith, *Music Industry to Abandon Mass Suits*, WALL ST. J., Dec.19, 2008, at B1.
[30] Ray Beckerman, *How the RIAA Litigation Process Works*, BLOGGER, http://recordingindustryvspeople.blogspot.com/2007/01/how-riaa-litigation-process-works.html(last updated Jan.11, 2008)(stating that twelve defendants in the lawsuits have filed motions to dismiss, for summary judgment, or made challenges to pretrial discovery).
[31] *See* 692 F.3d 899, (8th Cir. 2012); *also see* 660 F.3d 487 (1st Cir. 2011).
[32] 680 F. Supp.2d 1045 (2010) (the jury impose 22,000 damages on Thomas who download and distribute 24 songs thorough a P2P platform.)

indicated the opposite results by such kind of litigation.[33] For example, a study indicated that the number of people sharing music on P2P platform increased between 2006 and 2007.[34] The International Federation of the Phonographic Industry (IFPI) Digital Music Report 2009 also found that "around 95 percent of music tracks are downloaded without payment to the artist or the music company that produced them."[35] Furthermore, the lawsuits against individual online users by the RIAA raised general resistance from the public, especially among college students.[36] In summary, inappropriate targeting on individual online users demonstrate the side effects by copyright law enforcement.

b) New technology enables ISPs to better cooperate with copyright holders

Internet service providers not only have the social obligations to participate in online copyright protection, but equipped with advanced and updating digital technology to facilitate the enforcement. Deep Packet Inspection (DPI), also called complete packet inspection, is a state of the art technology which echoes the emergence of graduated responses system.

The DPI is a form of computer network packet filtering that examines data in a packet when it passes through the inspection port on the internet for the purpose of searching or collecting information.[37] The DPI enables ISPs to gather statistical information about use patterns by users group. DPI can identify and classify specific contents or information based on the ISP's database in a given packet, allowing finer control over information flow on the network.[38]

---

[33] *See* Moseley, *supra* note 27, at 315.
[34] *Id.*
[35] *Digital Music Report 2009: New Business Models for A Changing Environment,* IFPI, http://www.ifpi.org/content/section_resources/dmr2009.html (last updated Jan.16,2009).
[36] Kim F. Natividad, *Stepping It Up and Taking It to the Streets: Changing Civil & Criminal Copyright Enforcement Tactics*, 23 BERKELEY TECH. L. J. 469, 477 (2008).
[37] Thomas Porter, *The Perils of Deep Packet Inspection* , SYMANTEC, http://www.symantec.com/connect/articles/perils-deep-packet-inspection (last visited 5/5/2013).
[38] *Id.*

Accordingly, an identified and classified packet can be redirected, marked, blocked, rate limited, and even reported to an agent in the network. [39]

Such powerful position of ISPs is not only recognized by copyright holders, but have been employed in practice by courts and IP rights groups with respect to facilitate copyright enforcement.

In 2006, one of Denmark's largest ISPs, the Tele2, was issued an injunction and the court held that it must block its subscribers from accessing The Pirate Bay, a BitTorrent file-sharing websites.[40] Meanwhile, the International Federation of the Phonographic Industry (IFPI) and the big four record labels EMI, Sony BMG, Universal Music, and Warner Music have begun suing ISPs such as Eircom for not doing enough about protecting their copyrights instead of prosecuting individual users. The IFPI and label companies want ISPs to filter traffic to remove illicitly uploaded and downloaded copyrighted material from their network. [41]

2. The Graduated Response System

The graduated response system is an enforcement strategy employed by copyright holders with the aid from ISPs in online environment. As aforementioned, the ISPs are equipped with the powerful digital technology which can readily search and collect information of their subscribers. Copyright holders thus propose that ISPs should block the access or connection of their subscribers if accused infringements are detected for multiple times.

Distinguished from the "Three Strikes" approach, the graduated response system aims at providing sufficient warnings to accused users and meanwhile protects copyright holders' interests through the Internet. Generally, the accused subscribers will receive multiple

[39] *Id.*
[40] Jeremy Kirk, *Danish ISP prepares to fight Pirate Bay injunction*, INFOWORLD, http://www.infoworld.com/t/platforms/danish-isp-prepares-fight-pirate-bay-injunction-363 (last visited 5/5/2013).
[41] Eric Bangeman, *"Years of filters" turning into years of lawsuits against ISPs*, ARSTECHNICA, http://arstechnica.com/tech-policy/2008/03/year-of-filters-turning-into-year-of-lawsuits-against-isps/

warnings from the ISPs before they are imposed with any substantial sanctions. The flexibility of this system is the most salient character different from the old "Three Strikes" approach in copyright law.

The operation of graduated response system can be reduced to simple steps:

1) the ISP firstly use their centralized process device to scan all the contents or information in order to detect if any available works are distribute within the network without authorization;

2) if such kind of work is detected, the ISPs will locate the IP address which upload or distribute the accused work;

3) the ISP then issues several warnings to the subscriber within a prescribed period, and further to impose sanctions on the subscriber if needed.[42]

Generally, the sanctions contain the substantial affection on a given subscriber such as degrading internet speed, temporary suspension of a given account, or finally terminate account subscription. Theoretically, the adverse impact would force the accused users to cease infringement.[43]

Anticipating the prospective effect, several jurisdictions accept the graduated response system and adapt it to various schemes. France, New Zealand, South Korea, and the United States respectively design their own graduated response system to address the online infringement: independent institution for regulation (France), direct regulation under legislation (New Zealand & South Korea), or private contractual regulation (United States). Despite the popularity of graduated response system, most countries introduce this system for a relatively short period. This section looks into the three types of graduated responses

[42] Graduates Response, WIKIPEDIA, http://en.wikipedia.org/wiki/Graduated_response
[43] *Id.*

system in detail.

3. The Operating Models under Graduated Response System

a) Independent Institute for Regulation: French Experience

France is one of the earliest countries which introduces the graduated response system and customizes the system for the implementation. The HADOPI-1, "High Authority for the dissemination of Works and the Protection of Rights on the Internet", was introduced by Law of 12 in 2009 as an independent administrative institution which primarily dedicated to the protection of online copyright.[44] However, the French Constitutional Council declared certain provisions under HADOPI-1 restrict the internet access and therefore was unconstitutional.[45] Due to this unexpected problem, the HADOPI-2 was passed to rectify certain defects so as to be constitutional.[46] As a consequence, the legislation establish statutory scheme of graduated response in France.

Article 336-3 of the Intellectual Property Code provides that an internet service provider should ensure that the connection is not used for the purpose of infringement.[47] When a right holder informs HADOPI an accused infringement, the Rights Protection Commission reviews the case within a period of two months.[48] If the result ends with confirmation of infringement, the Commission sends an email (also called "Recommendation") to the accused user notifying the infringing facts, informing him of the availability of legal content, and advising him how to avoid infringement in the future.[49]

If a further infringement is detected within six months, the Commission sends a second email

[44] *Hadopi Annual Report*, HADOPI, http://www.hadopi.fr/sites/default/files/page/pdf/rapport-d-activite-hadopi.pdf at 14-5, (last visited 5/7/2013).
[45] *Id.*
[46] *Id.*
[47] Art.336-3, Intellectual Property Code of 1992.
[48] *See* Annual Report, *Supra* note 44, at 34-6.
[49] *Id.*

to the user with the same requirement. [50] Within the period of one year, the commission would send the user a third email with the warning of prosecution if he continues his illegal actions. According to the reactions by accused user, the Commission may forward the case to the Public Prosecutor.[51]

The sanction under HADOPI system can be severe compared to other copyright infringement. An accused user may face with a copyright offense by the Public Prosecutor pursuant to current law. In addition to ordinary legal penalty (such as a fine or imprisonment), the court may issue an order that suspend the internet access of the accused user up to twelve months. [52] Moreover, subscribers who are suspended of the internet access are required to keep paying the subscription fees during the term of suspension and may not be permitted to switch to other ISPs to avoid the penalty.[53]

b) Direct regulation by legislation

Distinguished from the experience in France, several jurisdictions directly demands copyright holders and ISPs to cooperate for online copyright enforcement. These jurisdictions integrate the graduated response into their copyright statutes such as New Zealand and South Korean

1) New Zealand

Similar to France, New Zealand was one of the earliest adopters of graduated response system. The first statutory regime was introduced as "Section 92A of Copyright Amendment Act 2008" which imposed an obligation on ISPs to "adopt and reasonably implement" policies

[50] *Id.*, at 37-8.
[51] *Id.*
[52] *Id.*
[53] Alain Strowel, *The "Graduated Response" in France: Is It the Good Reply to Online Copyright Infringements?* COPYRIGHT ENFORCEMENT AND THE INTERNET, 155 (Irene A. Stamatoudi ed. 2010).

for the termination of access to repeater infringers.[54] Because of the lack of due process and the inappropriate breadth of ISPs (which covers organizations such as libraries and schools), the New Zealand government redesigned a new statutory framework and repeal section 92A. [55]

The revised law mainly applies to Internet Protocol Address Providers (IPAPs).[56] This scope contains ISPs which offer transmission, routing and providing of connections through online environment; allocate IP addresses to subscribers; charge subscribers for services. [57] Therefore, the graduated response in New Zealand primarily intends to concentrates on traditional ISPs involved in commercial activities, while leaving libraries and schools unattended.

The law sets up a three-notice framework. A copyright holder is entitled to contact an ISP for infringement allegation after the right holders identify a subscriber via the IP address. The ISP should issue a notice to the accused subscriber within seven days. [58] Because the IP address may be allocated to multiple subscribers, the ISP has the responsibility to carefully identify the exact subscriber who may conduct the illegal actions.

Generally, the first notice refers as "detection notice", the second one as "warning notices and the third as "enforcement notices". Each notice should include the name of copyright holders, details of infringement actions, an explanation of consequences, and an instruction for challenging the notices.[59]

A copyright holder is able to seek for remedy after the third "enforcement notice" has finally

---

[54] Rebecca Giblin, *on the (new) New Zealand gradated response law (and why it's unlikely to achieve its aim)*, 62(4) TELECOMMUNICATION JOURNAL OF AUSTRALIA, 54.1 2011.
[55] *Government to amend Section 92A: Press Release, New Zealand Government* (2009), SCOOP INDEPENDENT NEWS (Mar. 23, 2009), http://www.scoop.co.nz./stories/PA0903/S00300.htm
[56] s122A (1) of Copyright Act 1994.
[57] *Id.*
[58] *Id.*, s122C (1).
[59] *Id.*, s122D(2), E(2), F(2).

been issued to the accused subscriber. The law provides that repeat infringers are subjected to the disconnection of internet access, which is only in force by an Order from the Council.[60] Additionally, a copyright holders can bring the allegation to the Copyright Tribunal for financial remedy. The Tribunal measures the total payment to copyright holders by adding together the value of each infringed work, the amount paid by the right holders to enforce the rights under the process, and any amount the Tribunal considers "appropriate as a deterrent against future infringement".[61] Despite the general discretion of Copyright Tribunal on calculation, the total amount should not exceed NZ $ 15,000 as the ceiling.[62]

2) South Korea

South Korea Copyright Law provides that ISP has the duty to prevent online copyright infringement when it receives an evidenced complaint from copyright holders.[63] Upon the receiving of complaint, an ISP should immediately block the infringing transmission and inform both copyright holders and accused infringer of the blocking action.[64]

On the other hand, the subscriber has the right to request of resumption of its account. An ISP should notify copyright holders and may resume the internet access of the subscriber's account without incurring liability.[65]

Under Article 133-2 of the Copyright Act, the Minister of Culture, Sports and Tourism may order an ISP to suspend the accused subscriber's internet access for up to 6 months after 3 warnings where infringing copies have been transmitted through "information and

---

[60] *Id.*, s122R(2).
[61] Copyright Regulations 2011, r 12(2).
[62] *Id.*, r 12(1).
[63] Art.103(1)-(3), Chap. 5-2 of Copyright Law of 1995, WIPO RESOURCE, available at http://www.wipo.int/wipolex/en/text.jsp?file_id=128445
[64] *Id.*
[65] *Id.*

telecommunications network". [66] An associated Presidential Decree provides that a subscriber's first suspension must be for less one month, the second for at least one but less than three months, and the third for at least three but not more than six months.[67] Despite the disconnection, the subscriber is not prevented from switch to other ISPs so as to resume internet connection.[68]

Moreover, the Copyright Act empowers the Korean Copyright Commission to issue recommendations to ISPs to issue warnings to subscribers or suspend or delete subscriber's account.[69] Distinguished from Article 133-2, the recommendation of disconnection does not require prior warnings as premise. So long as the "repeated" infringement is determined, the ISP is able to suspend the subscriber's account based on the recommendation from the Commission.

The detailed implement procedures are listed in the Presidential Decree. Article 40-43 clearly provides that a claimant who wants to request a suspension on accused infringer should submit written request with the copy of registered copyright certificate. Upon receiving the request, the ISP should deliver the written request to the accused infringer within three days from the date of suspension. [70]

On the other hand, the accused infringer should be entitled to request of access resumption to the ISP. The format and requirement is identical to the request of suspension. The ISP should make decision of whether the accused action is legal within three days upon receiving the written request. Normally, the expected date of resumption shall be between the 7th and

---

[66] *See* Art.133-2 of Copyright Act 1959.
[67] Enforcement Decree of the Copyright Act, Art. 72-3(3).
[68] Sun-Young Moon & Daeup Kim, *The "Three Strikes" Policy in Korean Copyright Act 2009: Safe or Out*?, 6 WASHINGTON JOURNAL OF LAW, TECHNOLOGY & ARTS. 171, 175-176 (2011).
[69] *Id*.
[70] Art. 40-43 of Enforcement Decree of Copyright Act 22003, WIPO RESOURCE, available at http://www.wipo.int/wipolex/en/text.jsp?file_id=200937

14th day of the receipt of written request of resumption.[71]

c) Private voluntary agreement for regulation: United States

In addition to regulation by independent institution or by legislation, the third type of graduated response system is implemented by means of private contractual agreement. Generally, this private regulation occurs outside the judicial or governmental process and primarily focus on the interaction between copyright holders and ISPs. The voluntary agreements between copyright holders and ISPs in United States is the example.

In July 2011, a voluntary private agreement was adopted by the Center for Copyright Information (CCI), an organization formed by several major record companies, film factories, and broadband ISPs, to create a uniform graduated response system in United States.[72] Before the final agreement was reached, major ISPs and copyright holders spent almost three years for the long and complicated negotiations.[73]

The agreement was also Memorandum of Understanding (MOU) which all members collectively agree to implement a private voluntary agreement functions as the "graduated response" to deal with online copyright piracy. According to the MOU, the goal of this enforcement system contains "providing education, privacy protection, fair warning, and an opportunity for review that protects the lawful interests of consumers."[74]

The CCI is a consortium which aims at constructing collaboration between content industries and internet service providers in order to educate online users about the importance of

---

[71] *See* Art. 40-44.
[72] Mary LaFrance, *Graduated Response by Industry Compact: Piercing the Black Box*, 30 CARDOZO ARTS & ENT. L. J. 165, at 166 (2012).
[73] Matthew Lasar, *Big Content, ISPs nearing agreement on piracy crackdown system*, ARS TECHNICA, available at http://arstechnica.com/tech-policy/2011/06/big-content-isps-nearing-agreement-on-piracy-crackdown-system/(last visited 1/6/2014).
[74] *Memorandum of Understanding*, CENTER FOR COPYRIGHT INFORMATION, available at http://www.copyrightinformation.org/wp-content/uploads/2013/02/Memorandum-of-Understanding.pdf

copyright protection and help to find better ways to enjoy digital content. The CCI announce that their members includes，

"artists and content creators like members from Recording Industry Association of America (RIAA) and Motion Picture Association of America (MPAA)…and five major broadband service providers like AT&T, Cablevision, Comcast, Time Warner Cable, and Verizon…our leadership also includes an Advisory Board made up of consumer advocates, privacy specialists and technology policy experts."[75]

Based on the announcement, the CCI's policies cover all parties involved in online copyright activity and consider all their interests, especially the demand of consumers.

In addition to the general announcement, the CCI also design a specific implement system to facilitate its regulation on online piracy. The Copyright Alert System (CAS) is a program created by major parties that prefer to cooperation in online environment. [76] The CAS requires an ISP to issue a serious of warnings to its subscriber who is suspected on P2P illegal file-sharing.[77] Under the CAS system, the subscriber is responsible for ensuring his account is not used for copyright infringement. Several assists are provided to subscribers with respect to this issue:

1) making subscribers aware of unlawful contents;

2) educate them how to prevent copyright infringement;

3) provide them with access to legal contents.[78]

If the accused subscriber ignore the warnings and continue his actions, the ISP should impose

[75] *About the CCI*, CENTER FOR COPYRIGHT INFORMATION, http://www.copyrightinformation.org/about-cci/
[76] *See* MOU *supra* note 74, at 2.
[77] *Id.*
[78] *What is Copyright Alert?* CENTER FOR COPYRIGHT INFORMATION, http://www.copyrightinformation.org/the-copyright-alert-system/what-is-a-copyright-alert/

"mitigation measures" on the subscriber. The "mitigation measures" includes:

1) a temporary reduction of internet speed;
2) a temporary downgrade in internet service tier; or
3) redirection to a landing page for a period of time, until a subscriber contact the ISP or until the subscriber completes an online copyright education program.[79]

These measures are all under the discretion of ISPs depends on various situations. However, the ISP should cautiously locate illegal content and the subscriber's account to ensure the content is protected by copyright and the warning is issued to the correct subscriber.[80]

On the other hand, the CCI also provides an opportunity to subscriber who feels one or more warning is in error. The Independent Review Process enable subscribers to file a request before any "mitigation measures" are actually taken.[81] The subscriber who believes he wrongly receives one or more warnings from the ISPs should request an Independent Review to the American Arbitration Association (AAA) through its ISP's online system. When a subscriber is presented with the review opportunity, your ISP will provide a link to the AAA's system where a subscriber will be able to register and view those warnings eligible for review.[82]

Normally, a subscriber can challenge the validity of one or more warnings on the grounds that 1) misidentification of accounts; 2) unauthorized use of account; 3) authorization by copyright holders; 4) Fair use; 5) misidentification of files; 6) works in public domain.[83]

Once the request is filed with the payment of $35 application fees, the "mitigation measures"

---

[79] *Id.*
[80] *Id.*
[81] *What do I do if I think the Alert was wrongly sent?*, CENTER FOR COPYRIGHT INFORMATION, http://www.copyrightinformation.org/the-copyright-alert-system/what-do-i-do-if-i-think-the-alert-was-wrongly-sent/
[82] *Id.*
[83] *Id.*

implemented by ISPs will be suspended during the process of reviewing. If the subscriber prevails at the end of reviewing, all warnings and "mitigation measures" will be removed and the application fees will be refund.[84]

D. The Road So Far: Implementation of Graduated Response

Although the graduated responses system provides opportunity for the cooperation between ISPs and copyright holders, it does not follow that this system immediately works as expected. After all, the willingness for cooperation under graduated responses system is one consideration, the practical effects is quite another.

Countries like France and New Zealand have been implementing the graduated responses system for quite a period, while other countries such as the US just launches its customized system shortly. In recognition of the fact, the investigation of practical effects would not cover all countries that adopt the system, but focus on France and New Zealand with actual results and evidences.

On the other hand, the graduated responses system is designed as an alternative enforcement strategy to copyright enforcement and meanwhile educate the public how to access legitimate licensing in online environment. Being the major purposes and objects under the system, the analysis in this section primarily focus on the two interdepend aspects.

Although several jurisdictions have employed the system, empirical data and evidences are still insufficient to depict a full landscape on its ultimate effect on copyright enforcement. However, the available empirical data and evidences still indicates how the system affect online piracy and how online users react to its implementation. Moreover, the implementation especially of the sanction mechanism is another noticeable point for observation.

[84] *Id.*

1. France

a) Judicial Practice

As aforementioned, online users who receive the third warning notices (the final stage) may be referred to a prosecutor for further actions including litigation under HADOPI system. As of September 2013, HADOPI had referred only 14 cases to prosecutors for possible actions and four of them had gone to litigation stage.[85] In the first case, the Belfort court fined a 40 year old Frenchman 150 € after his IP a copyrighted song.[86] The fine was imposed even though the Frenchman reported disconnection after the second warning notices.[87]

The second case involved a subscriber whose IP address associated with a copyrighted film.[88] The St Gaudens Court found him guilty of "failing to secure his internet connection" and did not impose any penalty because the court reasoned that the subscriber "did not understand the nature of technology and the infringements alleged against him".[89]

In the third case, the subscriber was acquitted by court because the notice had been dispatched too long after the infringement occurred.[90] In the fourth case, the subscriber was accused infringed two copyrighted songs, but did not appear in court.[91] The District Court of Montreuil issued a default judgment with a fine of 600 € and the discon access for 15 days.[92]

---

[85] Megan Geuss, *French anti-piracy agency Hadopi only sued 14 people in 20 months*, ARS TECHNICA, available at http://arstechnica.com/tech-policy/2012/09/french-anti-piracy-agency-hadopi-only-sued-14-people-in-20-months/ (last visited 1/7/2014).

[86] Cyrus Farivar, *France convicts first person under anti-piracy law (even though he didn't do it)*, ARS TECHNICA, available at http://arstechnica.com/tech-policy/2012/09/france-convicts-first-person-under-anti-piracy-law-even-though-he-didnt-do-it/ (last visited 1/7/2014).

[87] *Id.*

[88] *See* Giblin *supra* note 54, at 11.

[89] *Id.*

[90] *Id.*

[91] *Id.*

[92] *Id.*, at 12.

The French experiences indicated that the final actions and penalty under HADOPI system were used in a highly low frequency. Among the 14 subscribers referred to prosecutors, only four subscribers finally reach the litigation stage. Two out of the four cases end up with no penalty, while the first case merely involved with small amount of fine compared to the maximum 1,500 €. Although the subscriber in last case was of internet, this was largely due to the fact of default judgment. Therefore, the French judicial system is cautious on imposing disconnection as penalty when involved in non-commercial infringement.

b) The Positive Side

France has been adopting the graduated responses system known as the HADOPI for three years since late 2010. The proponents of HADOPI speak highly of the system and anticipate its overwhelming effects to online piracy. For example, the general secretary of HADOPI made a statement that HADOPI is "a well-accepted system that works and can evolve". [93] He emphasized that the French graduated response system is "most protective as regards internet users' rights as it creates complete imperviousness between subscribers' personal data and records of offences perpetrated by the right holders."[94]

To be sure, the positive comments and confidence from the general secretary do not convince the public that the HADOPI works well. As a matter of fact, such viewpoints based on actual results and evidences. The HADOPI published a report in March 2012 which investigate the status of HADOPI after 17months of the system launched. Pursuant to HADOPI's methodology, this survey primarily focus on users' activities and statements made by internet

[93] *See* Annual Report, *Supra note* 44, at 8.
[94] *Id.*

users.[95]

The report first points out that illegal downloading in France show clear decline over the period from October 2010 to December 2011 based on the data collected from the French Rights Protection Commission' information system.[96] In a total 755,015 records of subscribers who received as least one warning notices:

1) 95% who received the first notice did not conduct further actions and receive the second one;
2) 92% who received the second one showed the same trend(no further actions detected);
3) 98% who received the final notices were in the same situation.[97]

As to the major targets of HADOPI—the P2P file-sharing network, notable results showed that HADOPI effectively reduce the usage and traffic in P2P network in 2011:

1) 17% decline in audience level(Nielson Report);
2) 29% decline in audience level(NetRating);
3) 43% decline of illegal data sharing(Peer Media Technologies);
4) 66% decline of illegal data sharing (ALPA).[98]

On the other hand, the report also emphasized the educative function of HADOPI. In a dialogue with 65,848 people who had receives notices from HADOPI regarding their behavior:

1) 6% who received the first notices contacted HADOPI and stated they would cease illegal sharing on P2P network and seek for legal resources;
2) 25% who received the second notices did the same actions;

[95] Hadopi, *One and a Half Year after the Launch*, RESOURCES, available at http://www.hadopi.fr/en/resources (last visited 1/7/2014).
[96] *Id.*, at 3.
[97] *Id.*
[98] *Id.*

3) 71% who received the final notices show the same trend.[99]

Moreover, the report releases an online survey about online users' opinion to HADOPI. The survey cover 1,500 online users in France. The result showed that more than 1 out of 3 surveyed stated that "HADOPI give them reason to more regularly consume cultural works via websites that comply with copyright law" and 71% of P2P users said they would "stop downloading illegal content if they received a recommendation from HADOPI".[100]

At least from the standpoint of proponents, this general report demonstrates that the French graduated responses system—the HADOPI effectively achieve the aims by decreasing illegal downloading and force online users to change their behaviors by the educative function.

In addition to the direct evidence in the report, other indirect evidence also strengthen the stances of proponents. According to IFPI 2012 Digital Music Report, France experienced an increase in music subscription revenues of over 90% in the first 11 months in 2011.[101] As the end of July 2013, the HADOPI had issued 2,004,847 first warning notices and 201,288 second notices.[102] A total 710 investigation were conducted to see whether the subscribers who received the third noticed should be referred to prosecutors.[103] These figures demonstrate that the HADOPI system in France is an effective enforcement strategy to online protection.

c) The Challenge

Despite the notable evidence, the support to HADOPI in online enforcement does not affect the challenge and query to its application. The First challenge to HADOPI is from the French

[99] *Id.*
[100] *Id.*, at 6.
[101] *Digital Music Report 2012*, STATISTICS IFPI, available at http://www.ifpi.org/content/library/dmr2012.pdf (last visited 1/7/2014).
[102] Rebecca Giblin, *Evaluating Graduated Responses, Forthcoming*, COLUM. J.L. & ARTS, at 36 (2013).
[103] *Id.*

government. The newly elected French government commissioned Pierre Lescure, former CEO of the Canal cable television network, to investigate the HADOPI policy on cultural development.[104] The report was published in May 2013 and concluded that HADOPI did not achieve the purposes. His statement indicated "while it had perhaps brought about some reduction in P2P infringement, that traffic had been diverted to other infringing sources rather than to the legitimate market."[105]

The report by Pierre Lescure directly challenges the argument that HADOPI effectively educate the users and direct them to the legal resources. Moreover, the action took by French government enhance the credibility of this report. In August 2013, the government passed a decree that abolished the suspension as a possible penalty for a subscriber who negligently infringe copyright.[106] The Cultural Minister in a subsequent press release announced that the HADOPI agency would be abolished and its "remaining responsibilities allocated elsewhere."[107] Although the suspension as a penalty still works to proven infringement[108], these actions by French government indicated that the HADOPI is not as effective as design and do not meet the requirement of government.

The French government is not the only party that launch the challenge to HADOPI. Scholar like Professor Rebecca Giblin also sets out questions to the report by HADOPI. In general, her questions target on the statistics listed in the report. The first questioning figure is the 17% reduction of P2P illegal downloading attributed by Nielson/IFPI in the "Digital Music Report 2012". She claims that the 2012 report did actually lack such figure in official texts, while

[104] *Id.*, at 9. French version available at: www.culturecommunication.gouv.fr/var/culture/storage/culture_mag/rapport_lescure/index.htm#/1, 371.
[105] *Id.*
[106] Bertrand Sautier, *HADOPI to disappear and the French graduated response system to be partially dropped*, IPCAT, available at http://ipkitten.blogspot.com/2013/07/hadopi-to-disappear-and-french.html (last visited 1/7/2014).
[107] *Id.*
[108] *Id.*

only mentioned the number of P2P file-sharing in France dropped 26%.[109] However, the 17% figure was mentioned in the 2013 report, which was published a full year later than the HADOPI report.[110] Furthermore, she claimed that the authority and methodology of the report by IFPI were unclear and unavailable. Based on her finding, she stated that "the provenance cannot be determined".[111]

The second questioning figure is the 29% reduction in P2P audience level, which is attributed by NetRatings. Giblin claimed that the NetRatings was a French audience measurement company and an affiliate with Nielsen.[112] Under the circumstances, her concern was that the figure might be calculated in conjunction with the first one, which may eventually lack credibility.[113]

2. New Zealand

a) Judicial Practice

Although the penalty of graduated responses under New Zealand law includes the suspension of internet connection to repeat infringers, this provision is currently in dormant and must be enforced by an Order in Council.[114] Under the circumstances, the only available penalty to an accused subscriber is the fines pay to the right holder under the discretion of the Copyright tribunal.[115]

As of October 2013, the Copyright Tribunal had decided seventeen cases. In each cases the applicant was the Rianz on behalf of different record labels.[116] For the total thirteen cases,

---

[109] *See* IFPI *supra* note 101, at 17.
[110] *Digital Music Report 2013*, STATISTICS IFPI, available at http://www.ifpi.org/content/library/DMR2013.pdf(lst visited 1/7/2014).
[111] *See* Giblin *supra note* 102, at 35.
[112] *Id.*
[113] *Id.*
[114] Copyright Act 1994, s122R (2).
[115] *Id.*, s122O.
[116] The decisions are available at http://www.nzlii.org/nz/cases/NZCopyT/2013/ (last visited 1/8/2014).

the Tribunal reasoned that the applicant should not be reimbursed for their full costs and the reasonable costs of the copyrighted works should be determined by references to the market price when purchased.[117] Moreover, the Tribunal considers deterrent as an important element when measures the sum of fines.

For the total seventeen cases, an order of payment by the infringer usually is made of four components: the costs of purchasing legal works; the fees pay to IPAP for representation; the application fees pay to the Tribunal; the deterrent fees determined by the Tribunal.[118] In general, the first three payment items are relatively stable, while the deterrent fees are variable ranges from $0 to $600 according to the condition of infringements.[119]

b) The General Effect

In the "Digital Music Report" 2013, the IFPI claimed that "P2P use in New Zealand fell by 16%."[120] The Recording Industry Association of New Zealand (Rianz) stated that an 18% reduction in the use of P2P network after seven months of the law was introduced.[121] Moreover, the New Zealand Federation Against Copyright Theft (NZFACT) claimed that the number of major US films shared in New Zealand effectively halved monthly when the graduated response came into force.[122]

One independent research conducted by Waikato University suggested that P2P traffic and the number of users engaged in P2P file sharing in New Zealand decreased by half after the law came into operation.[123] The research group continued to conduct the research in

[117] *Id.*
[118] *Id.*
[119] *Id.*
[120] *See* IFPI *supra note* 101, at 30.
[121] *Copyright (Infringing File Sharing) Regulations—Fee Review*, RIANZ, available at http://www.med.govt.nz/business/intellectual-property/pdf-docs-library/copyright/notice-process/cabinet-paper.pdf (last visited 1/7/2014).
[122] *Id.*
[123] Shane Alcock & Richard Nielson, *Measuring the Impact of the Copyright Amendment Act on New Zealand Residential DSL Users*, WAND NETWORK RESEARCH GROUP, available at

September 2012 and found that the usage of P2P was still below the levels of the year before even though the P2P traffic recovered slightly.[124]

Despite the notable effects by graduated responses system in New Zealand, questions still exist with respect to the reduction of P2P usage. Although P2P traffic has greatly been decreased after the law came into force, the HTTPS type of online infringement massively increased and found by researchers.[125] The downloaded HTTPS bytes have increased five times in the last 20 months.[126] The HTTPS is a form of encryption which prevents traffic from being easily analyzed.[127] The subscriber can obtain online content by using a foreign web-server with the HTTPS for safely transmission without being detected.[128]

The HTTPS contains several features that greatly distinguishes from the P2P architecture, which is more appropriate for illegal sharing:

1. The transfer of content is encrypted so that it is difficult to use DPI technology to filter and determine whether the content is copyright protectable or not;
2. The content in web-server can be downloaded via usual web browser rather than specialized software;
3. HTTPS has substantial amount of legitimate users so that it is difficult to be shut down or blocked.[129]

Although the increase of HTTPS infringement may not account for the decrease of P2P usage, it can be reasonably assume that the existence of HTTPS provides users with an alternative platform to continue illegal actions. Because the graduated response in New Zealand

http://wand.net.nz/sites/default/files/caa.pdf (last visited 1/7/2014).

[124] Shane Alcock, *The Impact of the Copyright Amendment Act: Update for September 2012*, WAND NETWORK RESEARCH GROUP, available at http://wand.net.nz/content/impact-copyright-amendment-act-update-september-2012 (last visited 1/7/2014).

[125] *Id.*

[126] *Id.*

[127] *See* Giblin *supra* note 102, at 42.

[128] *Id.*

[129] *See* Alcock *supra note* 124.

concentrate on P2P network, users who opt out the P2P network are able to switch to non-P12P resources for infringement. Under the circumstances, the effects of graduated responses are greatly weakened.

3. South Korea

Similarly, the graduated responses system in South Korea has been working since 2009. According to the 2012 Annual Report on Copyright in Korea, the Korea Copyright Commission has kept on issuing the correction recommendations to ISPs to suspend infringing individual online users or illegal websites.[130] In 2009, the Commission issued 35,345 recommendations and the figure increased to 85,085 in 2010, followed by 107,724 and 250,039 in 2011 and 2012 respectively.[131]

With the general increasing trend of issuing recommendations, the account suspension in South Korea also surged during the four years period. According to the Annual Report, there were 39 suspension of account in 2009, and the figure raised up to 91 in 2010.[132] Within one year, the suspension of account doubles under the operation of graduated response system in South Korea. In the following years of 2011 and 2012, the account suspension amounted to 114 and 175 respectively.[133]

The report indicated that the graduated responses system in South Korea is strictly implemented and is generally upheld by administrative agency. As to its practical effect on copyright enforcement, the copyright stakeholders in Korea strongly favors of this system and noted it as "an example of the success of stricter enforcement."[134] Moreover, the IFPI

---

[130] *2012 Annual Report on Copyright in Korea*, KOREA COPYRIGHT COMMISSION, at 50, available at http://www.copyright.or.kr/english/new_english/file/2012AR.pdf (last visited 6/26/2014).
[131] *Id.*
[132] *Id.*
[133] *Id.*
[134] Ian Hargreaves, *Digital Opportunity: A Review of Intellectual Property and Growth*, at 78 (2011), available at http://www.ipo.gov.uk/ipreview-finalreport.pdf (last visited 6/26/2014).

also claimed in the Digital Music Report 2012 that "similar positive indications come from South Korea."[135]

Despite the positive arguments, one notable feature from the Korean experience is the gradually stricter and expanded enforcement compared to those in France and New Zealand. The original Korean system primarily targeted on infringing online users. In 2011, cyberlockers and P2P services are required to register with the government and implement filtering measures against online infringement.[136] Currently, nearly 150 local ISPs has participated in the program and authority reports that over 90 percent of ISPs voluntarily cooperated under the program with copyright holders and the KCC.[137]

Furthermore, the Korea Copyright Commission launched a "Citizen's Open Monitoring System" which allowed online users to illegal website that distributed unauthorized copyrighted works through the Internet, which has been fully operated since 2012.[138] By aligning with the ISPs and online users, the Korean graduated responses system essentially expand the groups of stakeholders and the scope of cooperation.

4. United States

Compared to the France, New Zealand, and South Korea, the United States is merely a new entrant with respect to the implementation of customized graduated responses system. Because the US graduated responses system operates under private contractual agreement between copyright holders and ISPs, the only available empirical data for analysis comes from the industrial report.

---

[135] *See* IFPI *supra note* 135, at 9.
[136] *See* Annual Report *supra* note 130, at 50.
[137] *South Korea Illustrate How Good Legal Services, Combined with Strong Repertoire and a Healthy Legal Environment can Lead to Significant Market Growth Over Time*, IFPI, available at http://www.ifpi.org/south-korea.php (last visited 6/26/2014).
[138] *About the Copy 112*, KOREA COPYRIGHT COMMISSION, available at http://www.copy112.or.kr/eng/copy112/about_copy112/introduction.do (last visited 6/26/2014).

In May 2014, the Center for Copyright Information (CCI) published its first report on how the copyright alert system operated in the US since its initial introduction in February 2013. During the first ten months of operation, the CAS claims its "ramp up" operation has been smooth and successful in terms of addressing digital copyright infringement "in a fair and consumer-friendly" manner.[139] According to the report, the CAS sent more than 1.3 million Copyright Alerts to online subscribers within the US and predicted that the program will double the number of notices in next year.[140]

Moreover, the CAS reported that the majority of alerts sent to online subscribers occurred at the first warning stage—the initial educational stages, which account for more than 70% of total alerts. As a comparison, less than 3% alerts reached the final mitigation stage.[141]

With respect to deterring online piracy, the report focus on the attitude of online users during the operation of Copyright Alert System. 57% of online users surveyed stated they would cease infringement immediately upon the receiving a copyright alert, only 9% reported they would ignore such alert.[142]

Furthermore, only a few online users challenged the copyright alerts delivered to them through the independent review process by the American Arbitration Association. Among the 1.3 million copyright alerts sent, only 256 requests for review were filed to AAA, which account for 0.02% of all alerts during the 10 months period.[143] Based upon the report, only 47 out of 256 request successfully challenged the copyright alerts and were primarily based on "unauthorized use of account by unknown third party."[144]

---

[139] The Copyright Alert System, Phase One and Beyond, CCI Press Release, available at http://www.copyrightinformation.org/press-release/cci-provides-first-copyright-alert-system-progress-report-highlighting-initial-accomplishments/ (last visited 6/26/2014).
[140] *Id.*
[141] *Id.*, at 2.
[142] *Id.*, at 3.
[143] *Id.*, at 2.
[144] *Id.*

Being a newly implemented system, the CAS in the US is still in the early stage. The survey report provides limited information about how this system works to its educational and enforcement purposes. Therefore, the graduated responses system in the US still need more practice to examine its practical effects.

E. General Observation

The graduated responses system has been working in different countries for quite a period. The empirical data from these countries demonstrate that the operation of this system acquire mixed results with respect to its purpose and objective. These results are not enough to reach a clear conclusion, which lead to uncertainty of this system. To clarify the uncertainty, this section analyzes the graduated response system based on available resources and figure out some clear general observations.

1. Graduated Responses system decrease illegal usage through P2P network

The first focal observation is whether the graduated response system actually decrease the illegal file-sharing vie P2P network. Based on available data, the graduated response system works well to decrease illegal usage and traffic through P2P network. This is especially notable under the French HADOPI system.

According to HADOPI surveys and reports after the launched of system, 72% online users declared they reduced or completely stopped their illegal usage after receiving the warning notices.[145] Furthermore, four statistical agencies publish their figures that demonstrate the decrease of usage in P2P network.[146] In New Zealand, similar reports showed that the nationwide usage of P2P network decreased ranging from 16% to 18%.[147]

---

[145] *Hadopi, Cultural property and Internet usage: French internet users' habits and points of view*, RESOURCES, available at http://www.hadopi.fr/sites/default/files/page/pdf/t1_etude_en.pdf (last visited 1/8/2014).

[146] *See e.g.* 17% decline in audience level(Nielson Report); 29% decline in audience level(NetRatings); 43% decline of illegal data sharing(Peer Media technologies); 66% decline of illegal data sharing (ALPA).

[147] *See* Rianz *supra note* 121.

Although one cannot simply based on these figures and statistics to reach a credible conclusion, the decreasing tendency in P2P usage is basically assured. Despite the opponents to the system are usually suspicious on specific figures regarding its credibility, they are hardly able to deny the general trend of decreasing illegal usage.[148] Under the circumstances, the graduated responses system indeed decrease the usage of illegal file-sharing via P2P network.

However, the success of graduated response system on P2P platform does not mean it eventually deter and control online piracy. In other words, the decrease in P2P usage does not equal to the decrease of online piracy. As the research by Shane Alcock, online users are able to switch from P2P network to other available platforms to continue illegal sharing.[149] The new platforms usually are equipped with safety measures which are difficult to filter and detect. Without the need of installing specialized software, users are easily evaded from detection and monitoring. Moreover, these new platforms often mix legitimate and illegal usage together, which increase the difficulty for enforcement.

Furthermore, current framework of graduated response may deteriorate the situation. Because graduated responses system in various countries primarily targets on P2P architecture, users who stop using their P2P network are able to switch to other online platforms in order to sidestep the enforcement. As a consequence, the online piracy may still remain the same ratio.

2. The penalty of suspension is at stake

The suspension of account access is one of the major sanctions under graduated responses system. Generally, the suspension of subscriber's account is widely accepted as an effective

[148] *See i.e.* the query by Professor Rebecca Giblin.
[149] *See* Alcock *supra note* 124.

strategy to preserve the deterring effect. Nevertheless, the implementation of graduated responses indicates the opposite result.

Both France and New Zealand rarely order account suspension to accused subscribers after their graduated responses system came into force. As of October 2013, the French HADOPI only referred 14 cases to the prosecutors for further actions, and four out of the total finally reached litigation stage.[150] Only one defendant out of the four cases were imposed suspension of account as penalty, and the suspension merely lasted for 15 days.[151]

The French government even moved to pass a decree that substantially restrict the availability of suspension as a possible sanction, while retain the financial penalty as the regular penalty.[152] In New Zealand, the total seventeen cases to date were referred to the Copyright Tribunal for judgment, and the only available penalty was fines under the framework.[153]

On the other hand, the US Copyright Alert System (CAS) provides a weaker actions toward online users who continue infringement after they receive the sixth alert notices.[154] Depending on the ISP, the mitigated actions includes:

1) A temporary reduction in Internet speed;
2) A temporary downgrade in internet services; or
3) Redirection to a landing page for a set period of time, until a subscriber contacts the ISP or until the subscriber completes an online copyright education program.[155]

Compared to the direct suspension of subscriber's account, these mitigated actions still contain deterring effects like financial penalty, but may cause less criticism from the public

[150] *See* Giblin *supra note* 102, at 11
[151] *Id.*
[152] *See* Sautier *supra* note 106.
[153] *See* decisions *supra* note 116.
[154] What is Copyright Alert? CCI, available at http://www.copyrightinformation.org/the-copyright-alert-system/what-is-a-copyright-alert/ (last visited 1/8/2014).
[155] *Id.*

with respect to human rights issues.

3. Graduated response system is a better enforcement option to copyright holders

Compared to traditional enforcement strategy, the graduated responses system is a better enforcement option with respect to the enforcement costs. As to private implementation by digital technology, the costs to develop effective technology mainly burden on copyright holders and developers. The decryption of a given digital technology usually means the loss of all investment. Likewise, filing a copyright lawsuit costs the copyright holders a lot with no guarantee of the prevailing judgment.

Similar to traditional enforcement strategy, the graduated responses system is unlikely to entirely terminate online piracy. However, the enforcement costs to copyright holders under the graduated response system are greatly less than the traditional strategies under the right-holder-centric model.

The graduated responses system relies on the cooperation between copyright holders and ISPs. In other words, both parties need to burden the enforcement costs. As a matter of fact, copyright holders are not the major group to bear the costs to enforce their rights under the framework.

For example, almost the entire costs of enforcing the system in France have been borne by ISPs and French government.[156] For a single year of 2011, the French government contributed €11.4 million €10.3 million for 2012 and €8 million for 2013.[157] Copyright holders have no obligation to contribute the costs of issuing notices or operating the system, but only need to bear the costs

[156] *See* Giblin *supra note* 102, at 9.
[157] Cyrus Farivar, *French anti-P2P agency's funding to fall by 23 percent in 2013*, ARS TECHNICA, available at http://arstechnica.com/tech-policy/2012/10/french-anti-p2p-agencys-funding-to-fall-by-23-percent-in-2013/ (Last visited 1/8/2014).

of identifying and investing infringement.[158] On the other hand, although the exact amount of implementation costs to ISPs are unclear, their demand for reimbursement implies that the figure cannot be trivial.[159]

As to the US Copyright Alert System, the Memorandum of Understanding (MOU) provides that the funding to operate the system will be provided fifty percent (50%) by the participating Content Holders Group and fifty percent (50%) by the participating ISPs.[160]

According to the French and US schemes, copyright holders basically would not bear the total costs for the operation of graduated responses system. Depending on the nature of this system in various countries, substantial costs are borne by the ISPs and governments. Under the circumstances, copyright holders essentially invite the ISPs and even local governments as stakeholders in the course of copyright enforcement.

F. Concluding remark

The graduated response system establishes the cooperation between copyright holders and ISPs. By transferring partial burden of enforcement to ISPs, copyright holders save substantial enforcement costs and transfer a neutral party into a stakeholder in the course of copyright enforcement. As a prospective enforcement strategy, various jurisdictions have implemented the system as an enforcement option.

Despite the different design, every jurisdiction aims at decreasing online piracy. However, the practical experiences in France and New Zealand indicates that the adoption of graduated response system achieve mixed results. The system indeed decreases the illegal usage through P2P network, but still have limited impact over the entire online piracy because there

---

[158] *Id.*

[159] *French ISPs demand compensation for Hadopi cooperation*, TELECOMPAPER, available at http://www.telecompaper.com/news/french-isps-demand-compensation-for-hadopi-cooperation--750964(last visited 1/8/2014).

[160] *Memorandum of Understanding*, CCI, available at http://www.copyrightinformation.org/wp-content/uploads/2013/02/Memorandum-of-Understanding.pdf (last visited 1/8/2014).

are other available platforms for infringement.

Moreover, the suspension of subscriber's account as major penalty receives widespread criticism and are rarely used in actual implementation. Since the deterrent effect of graduated response system lies in suspension to a large extent, the negative treatments to this penalty and the low implementing ratio adversely affect the effectiveness of this system.

On the other hand, the graduated response system become a better enforcement choice to copyright holders regarding the costs of enforcement. Based on the practical experiences and scheme in various countries, the costs of implementing the graduated responses system are usually split among ISPs, copyright holders, and sometimes the government. Under the circumstances, copyright holders bear less enforcement costs than the enforcement under right-holder-centric model.

Moreover, the enforcement duty force ISPs and government become the stakeholders to copyright holders. The infringers would suffer monitoring and punishment from three parties rather than merely the copyright holders. Compared to enforcement under the right-holder-centric model, the graduated response under cooperative model is far more effective to copyright infringers in terms of multiple pursuing. In summary, the cooperative model by means of graduated response system is a prospective strategy to copyright enforcement.

Chapter V Cooperation between Copyright holders and online users: the Open Access Program

The cooperative model by means of the graduated response system enables the cooperation between copyright holders and the ISPs with respect to online copyright enforcement. However, this is merely the first type of the cooperative model which concentrates on online piracy. The second type of cooperative model, the open access program, focuses on the possibility of cooperation between copyright holders and ordinary users. This kind of cooperation significantly distinguishes from the graduated response system because it is directly related to copyright creation and licensing, rather than copyright enforcement.

Copyright holders produce and distribute creative works in exchange for financial benefits. Meanwhile, ordinary users pay for the access to copyrighted works, which provides the incentive to copyright holders for future copyright creation. In theory, this is an ideal circulation of copyright production and distribution.

However, copyright holders always want to maximize financial benefits through the copyright circulation. The ordinary users, on the other hand, prefer to access diversified creative works inexpensively.

In the digital age, the opposing objectives between the two parties lead to tension. Copyright holders struggle to control online piracy, while online users are frustrated by the inflexible licensing mechanism provided by copyright holders.

Based on the undesirable situation, the Open Access Program (OAP) aims at providing n new licensing framework and provides an alternative route to lower down the threshold of copyright creation and licensing.

The primary feature of the open access program is to license creative works with less

restrictions from copyright holders to online users.[1] Online users are able to access copyrighted works without payment so long as they complies with the licensing agreement. Under the circumstances, the accessing costs by online users are significantly less than those under traditional copyright licensing.

On the other hand, online users who access copyrighted works under the Open Access Program have greater freedom to employ the works. They are able to create and license their own works with a flexible mechanism. Under the circumstances, ordinary users who have talent in copyright creation obtain the opportunity to develop a professional career. As a consequence, the OPA opens an alternative channel to copyright creation and licensing, increasing the quantity of creative works.

Currently two major projects under open access programs are available through the Internet: the open-source software and the creative commons licenses. The emergence and popularity of open-source software demonstrate that copyright holders do not solely rely on financial benefits as incentives to continue software. Rather, the open-source software primarily emphasizes the free release, modify, and improvement on software.[2]

Because the open-source software operates outside copyright regulation, its operation depends on the Open Source License. In general, the licenses allow source code to be freely shared, modified, and reused by other software developers as long as they complies with the specific terms and conditions. The most popular licenses currently includes GNU General Public License, GNU Library or "Lesser" General Public License, MIT license, Apache License, etc.[3]

---

[1] *Open Access*, PLOS: OPEN FOR DISCOVERY, http://www.plos.org/about/open-access/ (last visited 1/14/2014).
[2] Mark A. Lemley & Ziv Shafir, *Who choose Open-source software?* 78 U CHI. L. REV. 139 (2011).
[3] *Open Source License*, OPEN SOURCE INITIATIVE, http://opensource.org/licenses (last visited 1/14/2014).

The second project, the Creative Commons License, applies to a broader category of copyrighted works than the open-source software. For example, the CC licenses apply to online works like music, videos, academic journals, etc.[4] In general, there are six types of CC licenses available for adoption.[5]

Both projects provide benefits to online users and copyright holders. To online users, the benefit is direct and influential because the works licensed under the program are usually free for use. In other words, online users do not bear accessing costs, usually licensing fees, to copyrighted works. Hence, the incentive for online users to join the program is strong and apparent.

To copyright holders, the benefits are multiple with respect to specific projects. As to the open-source software, the free source code greatly lowers the investment and simplifies the process of software design. Moreover, the backward improvement from downstream software to the original version is instrumental to the development of entire software industry. On the other hand, the CC licenses are widely used by copyright holders who sustain professional career without relying on content industry. By licensing works under the Creative Commons, these copyright holders establish an alternative channel to the creation and licensing of copyrighted works.

Although open access program operates outside the copyright system, the validity and enforceability of open-source software and CC licenses have been upheld and confirmed by courts in various jurisdictions. Moreover, the Successful examples in both projects such as the Android operating system, the music band Nine Inch Nails, and single musician Jonathan Coulton all demonstrate the reliability of open access program in terms of copyright licensing

[4] *Id.*
[5] *About the Licenses*, CREATIVE COMMONS, available at http://creativecommons.org/licenses/ (last visited 1/14/2014).

and creation.

Despite the successful example, the open access program is far from a substitute system to the traditional copyright creation and licensing scheme. The majority of copyright holders still prefer to license their copyrighted works within the copyright system. Moreover, the successful examples of cooperation under open access program are limited in quantity and are more like the exception to the mainstream of copyright creation and licensing.

A. Open-source software license

1. Computer software is copyrightable

Computer software is a relatively new category of works entitled for copyright protection. With the development of digital technology, whether software should be granted copyright is highly controversial in history. Most software companies treat their products as valuable property and try to prevent unauthorized reproduction and distribution. In its early stage, however, computer software was not effective protected because they were not qualified as "fixed, tangible object".[6] Because computer software contains source code and object code which primarily shows utility rather than creativity, software was generally not entitled protection under copyright law.

Despite the reluctance of granting copyright on computer software, stakeholders in software industries successfully push the Congress to added an definition of "computer program" in §101 of US Copyright Act 1976 and meanwhile amended §177 to grant software owners reproduction and adaptation rights on software.[7]

Moreover, the court decision in *Apple Computer, Inc. v. Franklin Computer Corp.* echoed the

[6] 17 U.S.C. §102(a).
[7] 17 U.S.C. §101, §117.

legislation and ensured that computer software was under copyright protection.[8] In the case, the *Franklin's* most persuasive argument was that *Apple's* software was merely machine-readable language embedded in ROM and did not fix on a physical form.

However, the appeal court ruled that the 1) object code in computer program is copyrightable; 2) computer embedded in ROM is copyrightable; 3) operating system in computer program is copyrightable.[9]

Based on this decision, computer software is under copyright protection equivalent to literary works in copyright law. Under the circumstances, copyright protection on computer software is widely accepted and implement as other types of works.

2. The rise of open-source software license

Open-source software license is computer software licensing scheme that licenses the source code (human-readable) to ordinary users who are able to modify, distribute, and reuse pursuant to the terms and conditions under licensing framework.[10] Because this type of software is often developed in a public and collaborative form, it rapidly obtains popularity among users groups, especially the software developers' community.

During its development, software developers are the major groups that stimulate the prosperity of the OSS program. In general, the shift from proprietary protection under copyright to the free licensing scheme comes from the demand of software developers' community. They prefer to license the software under the OSS program because developers are able to access the software and figure out its design and internal function. This process allows them to make modification, integrate it into new system or architecture, and contribute

[8] 714 F. 2d 1240, (3d Cir. 1983).
[9] *Id.* at 1246-1251.
[10] *Open-source software*, WIKIPEDIA, http://en.wikipedia.org/wiki/Open-source_software#cite_note-1 (last visited 7/23/2014).

to new improvement which eventually enables the software for marketing.[11] Under the circumstances, software companies can save additional R&D investment by incorporating the improvement into their software products.

The earliest pioneer who proposes the idea of free software, Richard Stallman, contributed to create a new path for software distribution.[12] He founded the Free Software Foundation (FSF) to promote his "free software" project and design the well-known General Public License (GPL).[13]

According to Stallman, the free software does not mean free of charge but relevant to freedom.[14] The freedom contains four fundamental elements: 1) the freedom to run the software, for any purpose; 2) the freedom to study how the software works, and adapt it to your needs; 3) the freedom to redistribute copies so that you can help others; 4) the freedom to improve the software so that benefit the community.[15]

Despite the establishment of FSF and the popularity of GPL, not every developer in the community accepts Stallman's approach regarding the free software project. In 1998, Eric Raymond and other developers created the Open Source Initiative (OSI). The OSI was not equivalent to the FSF regarding free software. The primary distinction lies in that OSI deliberatively avoids moral and ethical issues, and OSI is more concerned with obtaining the practical benefits by free software licensing than moral inquiry.[16] Its announcement defines open source software as "a development method that seeks better quality, higher reliability,

[11] *Id.*
[12] David Freeance, *Economic Interests and* Jacobsen v. Katzer*: Why Open Source Software Deserves Protection under Copyright Law*, 39 N.M.L. REV. 549, 552 (2009).
[13] *Id.*
[14] *Id.*
[15] Richard Stallman, Free Software Definition, WIKIPEDIA, available at http://en.wikipedia.org/wiki/The_Free_Software_Definition (last visited 7/21/2014).
[16] *Basics of Open Source*, OPEN SOURCE INITIATIVE, http://opensource.org/faq#free-software (last visited 7/23/2014).

more flexibility, lower cost, and an end to predatory vendor lock-in."[17] Therefore, the OSI emphasized on utilitarian aspect and echoed the rationale in copyright law.

Obviously, the proprietary protection under copyright cannot provides software developers and their companies with flexible mechanism. For one, granting copyright over software means the copyright holders are entitled to charge licensing fees. The process of obtaining authorization or a valid license may be time-consuming and costly if both copyright holders and ordinary users do not reach satisfactory agreement. As a result, the failure of software licensing becomes blocks the access to software products.

For another, the source code in software may not be readily accessible by other developers under copyright licensing framework. This substantially deprives developers of the opportunity to improve the quality, compatibility and security on software. Consequently, the software product may lose the competence in markets.

3. Categories of open-source software license

The open-source license is the core mechanism under the open-source software program. The license generally allows the source code to be freely distributed, modified, shared, and reused under specialized terms and conditions. Developers thus are able to customize their own software products based on the widespread use of source code.

The open-source licenses essentially open a new channel to software design. Traditional model software design usually requires a fixed group of developers to design the architecture to manage the project and test the operation.[18] Unlike traditional model, open-source license displays distinguished features.

---

[17] *Id.*

[18] Eric S. Raymond, *the Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary*, CAMBRIDGE, REV. ED. (2001).

Among all features, one of the most salient is that the software users are actively treated as co-developers rather than passive users of the software.[19] Because users can access source code freely, they are encouraged to experience and test the entire software on its function and operation. They can report bug-project, add refined code to the original, and give additional suggestions. [20]

Moreover, each user is able to test the operation of given software in different hardware environment.[21] Under the circumstances, the users function as early consumers to test the basic operation of software, which is lucrative to software industries which want to have start-up advantages over other competitors.

Owing to the strengths of open-source license, such licensing scheme is popular and undergone significant development among software community. Currently more than 180,000 open source projects are available with over 1400 unique open-source licenses.[22] Despite the diversity and prosperity, these open-source licenses can be reduced into two general types based on the specific terms and conditions.

a) Restrictive license

The restrictive license refers to license that the derivative software users should abide by the terms and conditions under the original open-source license.[23] The user essentially cannot license the downstream products with additional restrictions.[24] One high-profile example is the GNU General Public License (GPL). A software user who modifies a software under the GPL is able to distribute his modified version only when he obtains the equivalent terms and

[19] *Id.*
[20] *See* Stallman *supra* note 15.
[21] *Id.*
[22] *See* INITIATIVE *supra* note 3.
[23] The term "restrictive" refer to the right to distribute and modify works with the right preserved to derivative works, more details see *Restrictive,* WIKIPEDIA, available at http://en.wikipedia.org/wiki/Restrictive (last visited 7/23/2014).
[24] *Id.*

conditions under GPL even if he creates new or distinctive code.[25] The GPL currently includes two major forms adopted by the community: the GPLv2 and GPLv3.[26] Both major forms apparently embody the restrictive characteristics with specific terms and conditions.

First of all, the restrictive requirement is strictly clarified in the texts of a given license. Under GPLv2, the source code for distribution should "in whole or in part contains or is derived from the original or any part therefore."[27] In GPLv3, a derivative work out of the original must be licensed in its entirety "regardless of how the work is packaged".[28]

Moreover, the GPL prohibits users to impose higher level of restrictions than the original in the process of distribution.[29] A case in point is the "liberty-or-death" clause in GPL. The clause provides that additional obligations that are exceeded to the requirement of distributing GPL software cannot exempt the distributors from potential liability.[30] Furthermore, the users who distribute object code of software subjected to GPL must make the entire source code available to the public according to specific terms under GPL.

Under GPLv2, a distributor must provide "all the source code for all modules, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable."[31] Similarly, the GPLv3 requires "all the source code needed to generate, install, and run the object code and to modify the work, including scripts to control those activities."[32]

---

[25] Richard E. Fontana, *Open Source License Enforcement and Compliance*, THE COMPUTER & INTERNET LAWYER, Vol. 27, No. 4 (Apr. 2010).
[26] *Id.*
[27] *See generally* GPLv2 §2b, OPEN SOURCE INITIATIVE, available at http://opensource.org/licenses/GPL-2.0 (last visited 7/23/2014).
[28] *See generally* GPLv2 §5c, OPEN SOURCE INITIATIVE, available at http://opensource.org/licenses/GPL-3.0 (last visited 7/23/2014).
[29] GPLv2§7; GPLv3§12.
[30] *Id.*
[31] GPLv2§3.
[32] GPLv3§1.

The restrictive license primarily aims at limiting the capability of software users to distribute free software products so as to preserve the availability of free software to the public. Put differently, the restriction by restrictive license is to ensure the access to software. Without unambiguous restriction on distributers under restrictive license, users may encounter substantial transaction costs when seek to obtain licensing.

b) Permissive (non-restrictive) license

Distinguished from the restrictive license, the permissive license is the second type of open-source licenses that provides minimal restrictions on the distribution and adaptation of software.[33] In general, the criteria of permissive licenses are contrary to the restrictive license. The major difference lies in the distribution of modified version software, while the terms with respect to adaptation of software are closely similar.[34]

Permissive license traditionally allows users to distribute modified software under different licensing agreement, which is contrary to restrictive license. Usually a distributor is able to combine the licensed material with other license terms.[35] This may enable a user to add additional restrictions on derivative software.

For example, the source code of MIT license is usually incorporated into FOSS code under GPL license with high level of restriction.[36] Most permissive licenses, such as well-known MIT and BSD licenses are simple and short to implement. The terms under these licenses often consists of a broad copyright license with notice preservation requirement and liability disclaimer.[37]

---

[33] *Permissive free software license*, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Permissive_free_software_licence (last visited 7/23/2014).
[34] *Id.*
[35] *Id.*
[36] *See* Fontana, *supra* note 25, at 5.
[37] *Id.*

In a word, the permissive license places less restrictions to the distribution of modified software. Meanwhile, the permissive license is not equivalent to works under public domain which can be shared and distributed without any regulation. Permissive license contains minimal level of requirement that the original author should be credited (attributed).[38]

B. Creative commons licenses

The creative commons licenses refer to free sharing and use of creative contents or knowledge through licensing agreement between copyright holders and ordinary users. Unlike the open-source software, the creative commons licenses cover a wide range of creative contents such as literary works, music, videos, scientific materials, etc. [39] In general, the creative commons license provides a variety of standardized licensing agreements, which enables copyright holders to flexibly modify the terms of protection over their works.[40] According to the founders of creative commons organization, such type of licenses provides

…a set of license and relevant tools that enable copyright holders to change their works form the framework of 'all rights reserved' to 'some rights reserved' in order to restrike the balance between copyright holders and users…which makes creative contents more compatible to the full potential of the internet…[41]

To a large extent, the emergence of Internet and advanced digital technology make the idea of CC licenses feasible. Widespread and convenient access to creative works through online network demands a customized and flexible licensing mechanism.

Generally, access or use of a copyrighted work should obtain permission from copyright

[38] *See* Permissive *supra* note 33.
[39] *What is creative commons license*, CREATIVE COMMONS, http://creativecommons.org/about (last visited 7/23/2014).
[40] *Id.*
[41] *What we provide*, CREATIVE COMMONS, http://creativecommons.org/about (last visited 7/23/2014).

holders. However, the process of obtaining a valid licensing is usually time-consuming and costly. Both sides may not reach a satisfactory agreement in the end, which slow down the effective distribution of valuable works.

Under the circumstances, ordinary users should be able to access creative works under a flexible licensing mechanism to facilitate the distribution of copyrighted works.

1. The Background of Creative Commons

The establishment of CC licenses were largely due to the concern on copyright creation. A common perception in terms of copyright creation is that copyright creativity lies in the sufficient access to preexisting works, which means derivative creation should build upon preexisting works.[42]

As aforementioned, the advanced digital technology reshapes the framework of online creation: the use of online works always require a copy of original work on the Internet. Because of the large quantities of online users and the anonymity, copyright holders find it difficult to control the distribution on unauthorized derivative works.

Copyright holders wish to negotiate with users to obtain valid licensing. However, the reality of acquiring valid licenses from copyright holders may not be an easy and inexpensive process. First of all, a user needs to secure the valid authorship on a work to obtain a valid license, which is easier said than done because many copyrighted works online do not cover explicit authorship acknowledgment. This makes it difficult for users to trace and arrange negotiation process. Obviously, the costs with respect to secure a valid license are substantial to online users due to the architecture of Internet.

[42] Susan Corbett, *Creative Commons Licenses, the Copyright Regime and the Online Community: is there a Fatal Disconnect?*, MODERN L. REV., No.4 Vol.74 503, at 507 (2011).

Furthermore, copyright covers a bundle of exclusive rights over creative contents.[43] Each exclusive right may belong to separate copyright holder so that users have to contact each one to approach a valid license if they need more than one exclusive licensing.

For example, a film can be divided into the script, the background music, graphic works, and the performances of actors. In offline environment, a user who would like to exploit partial or the entire film must arrange several negotiations with no final success guaranteed. This scenario does not change on the Internet. To obtain a license, an online user must figure out complicated exclusive rights before he proceed a negotiation.

To make matter worse, the US Copyright Act of 1976 remove the formalities to copyright protection such as registration and copyright notice. A copyright owner does not have strict obligation to register his work for protection and makes the public aware by attaching the notice. As a result, the ambiguous ownership of online work plus expensive searching costs may force a user to access works without authorization.

Copyright overprotection is another push to the establishment of CC licenses. Copyright protection grant limited monopoly to copyright holder to exercise their property-like exclusion. Such design originates from the fear of "Tragedy of Commons". The tragedy of commons refers to deregulation of certain property because each individual maximize their own benefits without considering the property itself. [44] As a consequence, the property would be overused and depleted.[45] To avoid similar tragedy on intellectual products, copyright protection functions as private ownership to provide individuals with incentives for creation.

---

[43] *See generally* 17 U.S.C. §106.
[44] Carrett Hardin, *The Tragedy of Commons*, PERSPECTIVES ON PROPERTY LAW 119, 120 (Richard C. Ellickson et. Al. eds., 3d ed. 2002).
[45] *Id.*

However, copyright protection becomes overly excessive with the modification of copyright law. A high profile example is the extension of copyright term in US copyright law. The 1998 amendment to the Copyright Act of 1976, the Sonny Bono Copyright Term Extension Act (CTEA), extend the copyright protection to life plus 70 years or 95 years for corporate works.[46]

This extension largely prevents the public from freely using works that are of little or no commercial value. According to a report by the Congressional Research Service, only two percent of works between fifty-five and seventy-five years old retain commercial value.[47] Justice Breyer estimated that "…by the year of 2018, the number of protected works with little or no commercial value will number in million…"[48]

From the utilitarian perspective, works without commercial value do not generates sufficient incentives to trigger creation. Therefore, copyright holders do not have a solid ground to argue absolute control over such type of works. Because intellectual products heavily rely on preexisting works, the creators (users) either obtain works from public domain or seek for license.

The extension of copyright term no doubt restricts the expansion of public domain for a long period. Creators (users) have to negotiate with copyright holders to obtain licenses of protected works that may be of little or no commercial value. The substantial transaction costs of searching and negotiating process eventually prevent users from effectively using original works. Consequently, the quantity of cultural production decrease and users are forced to access works without licenses.

[46] Sonny Bono Copyright Extension Act of 1998, Pub. L. No. 105-298, §102, 112 Stat. 2827 (1998).
[47] *Eldred v. Ashcroft*, 537 U.S. 186, 248 (2003).
[48] *Id*., at 249-50.

One case in point is the *Eldred v. Ashcroft*, which pose doubt over the extension of copyright protection term. In *Eldred*, petitioners argued that the CTEA that extend the copyright term 1) was unconstitutional under the First Amendment, and 2) the extension violated the Progress Clause because Congress grants exclusive rights to authors and inventors for only a limited time.[49]

Among the group of petitioners, Mr. Eldred's experience was the high profile example. He built a digital library which contained literary works from public domain. One of the works was Robert Frost's New Hampshire poetry collection, which would fall into public domain in 1998. With the pass of CTEA, this work was under copyright protection until 2019.[50] The Court eventually rejected both arguments and held the CETA was constitutional.[51]

Under the circumstances, Mr. Eldred could not publish his derivative works based on the poetry collection before he obtained authorization from copyright owner. His digital library, which was scheduled to contribute to the progress of literary community, had to cease in case that he got involved in any liability.

2. Establishment of creative commons

The holdings in *Eldred* case forced legal community to reconsider the existing copyright law. As a response, a group of legal scholars hence proposed to establish a private solution to the problems of online copyright regulation by designing "a layer of reasonable copyright" alongside with current copyright law.[52] The project primarily designed to allow online users to obtain license on copyrighted works, and meanwhile facilitate copyright holders to relinquish partial or entire exclusive rights over their works in order for free licensing.[53] To

[49] U.S. Const. art. I, §8, cl.8.
[50] 537 U.S. at 214-16.
[51] *Id.* at 218-19; at 213.
[52] LAWRENCE LESSIG, FREE CULTURE, Penguin Press, 264-65 (2004).
[53] *See* License *supra* note 5.

achieve the general goal, the Creative Commons was established in San Francisco as a nonprofit organization in 2001.[54] The participants in the Inaugural Meeting announced that, Creative Commons is an organization that values innovation and protection equally, and is working to offer creators a best-of-both-worlds way to protect their works while encouraging certain use of them—to declare "some rights reserved"…[55]

According to the announcement, the organization released its first set of copyright licenses for free to the public in December 2002.[56] The license was inspired in part by the Free Software Foundation's GNU General Public License with a web application platform to license works freely for certain uses; or dedicate copyrighted works to the public domain.[57]

In the years following the initial release, Creative Commons designs a variety of versions of licensing agreement beyond the border of the US into several jurisdictions with an exponential increasing rate, and work with the Microsoft to create a licensing tool for use in the Office applications.[58]

Beginning from 2005, Creative Commons launched the commons-based infrastructure project, also known as "Science Commons", for science purpose by lowering unnecessary obstacles for academic research, and develop technology to facilitate the access of academic data or scientific materials.[59] The initial motivation of this project was largely due to the success of CC license in arts and cultural fields.

---

[54] *History*, CREATIVE COMMONS, http://creativecommons.org/about/history (last visited 7/23/2014).
[55] *See* Berkman Center for Internet & Society at Harvard University, *Executive Summary of Issues Facing Creative Commons*, http://cyber.law.harvard.edu/creativecommons/exec.html (last visited 7/23/2014).
[56] *See* History *supra* note 54.
[57] *Id.*
[58] *Microsoft and Creative Commons Release Tool for Copyright Licensing*, NEWS CENTER, http://www.microsoft.com/en-us/news/press/2006/jun06/06-20mscreativecommonspr.aspx (last visited 7/23/2014).
[59] *Science*, CC WIKI HOME, http://wiki.creativecommons.org/Science (last visited 7/23/2014).

According to the Creative Commons organization, the Science Commons cover several key projects: 1) making scientific research re-useful via the Scholar's Copyright Project; 2) enabling "one-click" access to research tools via the Material Transfer Project; 3) integrating fragmented information sources via the Neuro-commons Project.[60]

Today the Creative Commons contributes to promote the licensing framework within global network. The CC Affiliate Network consists of over 100 affiliates in more than 70 jurisdictions to support and promote CC licenses and activities around the world. This global affiliate primarily take charge of various responsibilities such as public outreach, community building, translating information and tools, fielding inquiries, conducting research, communicating with the public, and maintaining resources for CC users.[61]

3. Framework of CC licenses

As aforementioned, the creative commons licenses aims at facilitating the licensing process of creative contents between the copyright holders and online users. The CC licenses are forged in a simple and standardized formats for either individual creator or large corporation to seek for license. Because the CC licenses system is designed as an alternative to copyright licensing, the licenses apply to all copyrighted works including books, films, videos, music, etc.

Although CC licenses are usually marked as "Some Rights Reserved", a licensee (user) still enjoys exceptions or limitations under copyright law such as fair use. When a licensee obtains a valid license, he should make attribution to the licensor and keep integrity of the copies. In a word, the CC licenses do not negate copyright protection on creative contents and merely create an alternative mechanism to the online licensing process.

---

[60] *Id.*

[61] *CC Affiliate Network*, CC WIKI HOME, http://wiki.creativecommons.org/CC_Affiliate_Network (last visited 7/23/2014).

The CC licenses are built on a three-layer design. Each license is consisted of three basic components. [62] The first layer is the Legal Code layer which is a traditional legal tool written in language or text format readable to lawyers. [63] The second layer is the Common Deed layer that the language and texts formats are readable to ordinary licensors. Licensors do not need legal training to understand the license by reading the human-readable version. [64] Therefore, the Commons Deed is a readily guidance to both licensors and licensees, directly pointing out the most important terms and conditions.

The final layer is the machine-readable version of license, which summarizes the key freedoms and obligations written into a format that software systems, search engines, and other kinds of technology can understand. [65] This layer primarily designs to locate the availability of a work under the CC license through software mechanism on the internet. In other words, this three-layer design ensures that the CC licenses can be readily understand and operable to licensors and licensees.

Despite each CC license share the same three-layer design, the specific categories of CC license varies according to their terms and conditions. Currently, there are six types of CC licenses available on the Creative Commons website. Each license emphasize on different licensing aspects.

The first type, called Attribution license, enables licensees to distribute, remix, tweak, and build upon original work, even commercially, as long as the attribution for the original work are made. [66] Under this license, a licensee can freely copy, distribute, transmit and adapt the work in commercial or noncommercial method. To avail the privilege, a licensee should

---

[62] *Three Layers of License*, CREATIVE COMMONS, http://creativecommons.org/licenses/ (last visited 7/23/2014).
[63] *Id.*
[64] *Id.*
[65] *Id.*
[66] *Attribution 3.0 Unported*, CREATIVE COMMONS, http://creativecommons.org/licenses/by/3.0/ (last visited 7/23/2014).

make attribution to the author or licensor in explicit manner.[67] This license is the most accommodating and widely adopted one because its simplest requirement encourages the maximum use and distribution.

The second type is the Attribution-ShareAlike license. This license allows licensees to remix, tweak, and build upon original work even for commercial purposes, as long as licensee credit author or licensor, and license their new creations under the identical terms and conditions.[68] Specifically, a licensee enjoy the same privilege as the Attribution license with the obligation to make contribution to author or licensor, and more importantly, distribute the modified work only after the same or similar license format.[69] This license is often compared to the "restrictive" license under open-source software. All derivative works based on the original must abide to the same terms and conditions. One notable example is the Wikipedia. The Wikipedia adopts this type of license to incorporate materials and contents in order to achieve aggregating effects.

The third type license provides less freedom on the use of works compared to the first two licenses. This license, also known as Attribution-NoDerivs license, allows for redistribution in commercial and non-commercial manner with appropriate attribution to the author or licensor. However, a licensee cannot alter, transform, or build on original work.[70]

The fourth CC license is the Attribution-Noncommercial license. Obviously, this license contains requirements like the Attribution license that allows a licensee to copy, distribute,

---

[67] *Id.*
[68] *Attribution-ShareAlike 3.0 Unported*, CREATIVE COMMONS, http://creativecommons.org/licenses/by-sa/3.0/ (last visited 7/23/2014).
[69] *Id.*
[70] *Attribution-NoDerivs 3.0 Unported*, CREATIVE COMMONS, http://creativecommons.org/licenses/by-nd/3.0/ (last visited 7/23/2014).

transmit, and adapt the original work. The difference lies in the prohibition on use of a work for commercial purpose.[71]

The fifth one is the Attribution-Noncommercial-ShareAlike license. The final type is Attribution-Noncommercial-Nonderivs license. Both licenses allow a licensee to copy, distribute, and transmit the original work with same requirements for granting a valid license: 1) make attribution to the author or licensor; 2) do not use work for commercial purpose. The AN-SA license requires any modified work should be distributed under same terms and conditions, while the AN-ND license denies the adaptation of work.[72]

Despite the distinctions among six types of licenses, all terms and conditions of a license can be waived in case that a copyright holder authorizes a licensee. Meanwhile, works fall into public domain are not affected by the CC license. Furthermore, all exceptions and limitations under copyright law, including fair use, are not restricted by the terms and conditions of license.

C. Open Access Program: the Judicial Practice

Both the open-source software and CC licenses under the open access program are operating by means of licensing agreement. Operating outside the boundary of copyright law, the open access program has not undergone thorough sufficient judicial examination. To individuals and organizations, the major concern is whether such licensing agreement is enforceable. To answer this question, one should looks into judicial cases to figure out the enforceability of Open-source software and CC licenses.

1. Open-source software: Case Review

[71] *Attribution-Noncommercial 3.0 Unported*, CREATIVE COMMONS, http://creativecommons.org/licenses/by-nc/3.0/ (last visited 7/23/2014).
[72] *See* License *supra* note 5.

Although open-source software has been launched for over a decade, cases reach the litigation stage are far less in quantity compared to the high adoption ratio of the OSS. This section looks into cases regarding OSS with copyright allegations.

Jacobsen v. Katzer

In general, the major question in the case is whether a copyright holder who contribute certain works to free public use can enforce an "open source" copyright license to control the future distribution and modification of that work.[73] The plaintiff held a copyright to computer programming code and released the code for public download from a website without a financial fees based on the Artistic License, an "open source" or public license.[74] The defendant developed commercial software products by downloading and incorporating the code into one of software package without following the terms and conditions of the Artistic License.[75] The plaintiff therefore claimed that by modifying the software the defendant had exceeded the scope of licensing agreement and infringed the copyright.[76]

The District Court held that the open source Artistic License created an "intentionally broad" nonexclusive license which was unlimited in scope and thus did not create liability for copyright infringement.[77] However, the Appellate Court denied the holding and reasoned that:

Attribution and modification transparency requirements in open source computer software license created conditions to protect economic rights in granting of public license, and thus were enforceable under Copyright Act, since conditions governed rights to modify and distribute computer programs and files included in downloadable software package and

[73] *Robert Jacobsen v. Matthew KATZER and Kamind Associates, Inc.*, 535 F. 3d 1373, 1375 (Fed. Cir. 2008).
[74] 535 F.3d, at 1375-76.
[75] *Id.*, at 1376.
[76] *Id.*
[77] *Id.*

directly served to drive traffic to open source incubation page and to inform downstream users of open source licensing collaboration project, which was significant economic goal of copyright holder.[78]

The court further reasoned that:

Copyright holder stated prima facie case of copyright infringement on allegations… for certain materials distributed through his Internet website pursuant to open source computer software license…competitor copied, modified, and distributed portions of software as part of other software in violation of open source license.[79]

Finally, the court concluded that a copyright owner who release his copyrighted works under nonexclusive licenses waive his right to sue the licenses under copyright law and can sue only for breach of contract.[80] Only when the license is limited in scope and the licensee acts outside the scope, a licensor can sue for copyright infringement.[81]

The holding in this case clearly demonstrates that the open-source license is enforceable and can be sued for violation under either contract law or copyright law. The reasoning points out that the economic benefits to the right holder enable his control over the future exploitation of works and ensure his enforceability to the licensing agreement.

BusyBox Litigation

During 2007 and 2008, the Software Freedom Law Center (SFLC) launched a series of lawsuits against various defendants with respect to copyright infringement on behalf of

[78] *Id.*, at 1379.
[79] *Id.*, at 1379-80.
[80] *Id.*, at 1381.
[81] *Id.*

BusyBox, a software company.[82] These lawsuits mainly claimed the violations of version 2 of GNU General Public License (GPLv2).[83]

In September 2007, SFLC filed the first lawsuits against Monsoon Multimedia and claimed that Monsoon had violated the GPLv2 by incorporating the BusyBox source code in a line of Monsoon's products without releasing BusyBox source code.[84] This case became the first open source case to the litigation in US.[85] However, this case did not complete the entire procedure because the two parties settled, and Monsoon agreed to comply with the GPL and paid a sum of money to the plaintiff.[86]

The second round cases filed by SFLC was against two defendants, Xterasys Corporation and High-Gain Antennas, LLC for the same cause of action.[87] However, both cases settled and the two defendants agreed to comply the GPL and paid a sum of fees to the plaintiff.[88]

Although the line of cases filed by SFLC did not reach the final stage and settled before judgment, all defendants at issue finally agreed to modify their products to comply with the GPL by BusyBox. Moreover, all defendants paid a sum of money to BusyBox which functions like the damages. Under the circumstances, the defendants in the series of cases in fact accept that idea that the source code released under GPL by BusyBox was enforceable, and continuing the lawsuit may cause negative results to the defendants.

---

[82] *Software Freedom Law Center*, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Software_Freedom_Law_Center#BusyBox_Litigation (last visited 1/15/2014).
[83] *Id.*
[84] *The device behind the GPL's first US legal test,* LINUX TODAY, available at http://www.linuxtoday.com/infrastructure/2007092102126RVEMLL (last visited 1/15/2014).
[85] *On Behalf of BusyBox Developers, SFLC Files First Ever U.S. GPL Violation Lawsuit,* SFLC, available at http://www.softwarefreedom.org/news/2007/sep/20/busybox/ (last visited 1/15/2014).
[86] *BusyBox developers and Monsoon Multimedia agreed to dismiss GPL lawsuit,* SFLC, available at http://www.softwarefreedom.org/news/2007/oct/30/busybox-monsoon-settlement/ (last visited 1/15/2014).
[87] *Second Round of GPL Infringement Lawsuit filed on behalf of BusyBox Developers,* SFLC, available at http://www.softwarefreedom.org/news/2007/nov/20/busybox/ (last visited 1/15/2014).
[88] *BusyBox Developers and Xterasys Corporations Agree to Settle GPL Lawsuit,* SFLC available at http://www.softwarefreedom.org/news/2007/dec/17/busybox-xterasys-settlement/ (last visited 1/15/2014); *also see BusyBox Developers and High-Gain Antennas Agree to Dismiss GPL lawsuit,* SFLC, available at https://www.softwarefreedom.org/news/2008/mar/06/busybox-hga/ (last visited 1/15/2014).

2. Creative Commons License: Case Review

Similar to the open-source software, the judicial cases regarding the validity of CC licenses are limited in quantity. Although the CC licenses apply to a broader range of works than open-source software, decisive cases are limited in various jurisdictions.

Lichôdmapwa v. L'asbl Festival de Theatre de Spa

This was a Belgian case regarding a theater company liable for violating the CC BY-NC-ND license on a musical work. The plaintiff, Belgian band Lichôdmapwa, released the song "Abatchouck" under CC BY-NC-ND 2.0 Belgium license in 2004.[89] The defendant, a theater company incorporated 20 seconds of the entire song into an advertisement of this company.[90] The plaintiff contacted the theater company for negotiation but failed to reach a deal.[91] Therefore, the plaintiff sued the company for modifying the song for commercial advisement without making attribution to the band.

Although the theater company defended that the band was not a member of Belgian Collecting Society and has no rights to collect for payments, the Belgian court disagreed the defense.[92] The court clearly recognized the validity of CC license at issue and further confirmed that the band release music without joining the collecting society did not affect the enforceability of the license. Based on the holding, the court awarded 4500 Euros as damages to the plaintiff.[93]

Gerlach vs. DVU

[89] *09-1684-A (Lichôdmapwa v. L'asbl Festival de Theatre de Spa)*, CASE LAW, available at http://wiki.creativecommons.org/09-1684-A_(Lich%C3%B4dmapwa_v._L%27asbl_Festival_de_Theatre_de_Spa), Court opinion in French http://wiki.creativecommons.org/images/f/f6/2010-10-26_A%27cision-trib.-Nivelles-Lichodmapwa.pdf (last visited 1/16/2014).
[90] *Id.*
[91] *Id.*
[92] *Id.*
[93] *Id.*

This was a German case with respect to the enforceability of CC BY-SA 3.0 license in picture. The plaintiff took a picture of a German politician and published it online under the CC BY-SA license. [94] The DVU, a German political party, used the picture on their website without the plaintiff's name, the license notice or any other requirement of the license.[95]

Although the plaintiff sent a notice and takedown letter to the defendant, the DVU did not react.[96] In the subsequent lawsuit, the District Court of Berlin granted the injunction because the applicant had successfully established prima-facie evidence of authorship, the licensing and the breach of the license.[97]

Curry v. Audax

This was a Dutch case on the violation of CC BY-NC-SA 2.0 license of Flickr photos and was the first lawsuit that test the enforceability of CC licenses.[98] The plaintiff, Adam Curry, posted photos onto his Flickr account under CC BY-NC-SA 2.0 license.[99] The defendant, a Dutch tabloid, reprinted four of the photos in a commercial magazine and did not include the attribution to the plaintiff.[100] Therefore, the plaintiff sued the defendant for commercial exploitation of photos and lack of attribution, which violates the terms and conditions of the BY-NC-SA license.[101]

Although the defendant argued that the photos could be taken and used because they were marked as "public" on Flickr, the Dutch court upheld the validity of the license at issue.[102]

---

[94] *Gerlach vs. DVU*, CASE LAW, available at http://wiki.creativecommons.org/Gerlach_vs._DVU; Decision I German http://www.ifross.org/Fremdartikel/LG%20Berlin%20CC-Lizenz.pdf (last visited (1/16/2014),
[95] *Id.*
[96] *Id.*
[97] *Id.*
[98] *Curry v. Audax*, CASE LAW, available at http://wiki.creativecommons.org/Curry_v._Audax (last visited 1/16/2014).
[99] *Curry v. Audax*, District Court of Amsterdam, available at http://wiki.creativecommons.org/images/3/38/Curry-Audax-English.pdf (last visited 1/16/2014).
[100] *Id.*
[101] *Id.*
[102] *Id.*

The court held the defendant could not use any of the photos from Flickr in the future unless under the terms of the photos' CC license or with permission from Curry.[103]

3. Brief Observation

Both the open-source software and CC licenses are enforceable based on judicial practice. According to the decisions in a line of cases, the courts in various jurisdictions generally upheld the validity of these licenses and impose penalty over defendants who violate the terms and conditions under open-source software or CC licenses. Defendants were either ordered to pay the damages or cease the violation to comply with the requirement in licenses. Under the circumstances, people are able to license their works under the framework of open source or CC license without fearing the uncertainty of the legal status.

Since the launch of open access program, the proponents view it as a prospective model to replace traditional copyright system. However, such assumption should be carefully examined and supported by sufficient and reliable empirical data. In other words, the analysis must looks into the application of open-source software and CC licenses in practice. Next section looks into the practical application of the open access program.

D. The Road so far: Implementation of Open Access Program

1. Open-source Software

The adoption of open-source software has been more than one decade since its initial introduction in 1998. Generally, the licensing framework under open-source software has been widely accepted by developers in software industry. To figure out the practical effects of open-source software, this section analyze this issue from two aspects: the general usage and adoption; the Android Operating System as specific working example.

---

[103] *Id.*

a) General usage and adoption

The widely adoption and usage of open-source software have become a major trend and a notable phenomenon after the launch of this program. As early as 2008, the Gartner—world's leading information technology research and advisory company—made a survey in the topic of "User Survey Analysis: Open-Source Software, Worldwide, 2008" to determine the usage and adoption of open-source software (OSS).[104]

The survey included 274 end-user organizations across various countries and markets in Asia, Pacific area, Europe and North America. [105] According to the survey, 85% of surveyed companies had used OSS in their business before May 2008 and the remaining 15% to incorporate OSS into their enterprises in the following twelve months.[106]

Open-source software is used as foundation to develop propriety software for commercial distribution, which were often protected by copyright law. The "building-block" feature is one of the major elements that drives the popularity of OSS program. For example, the Gartner stated that the major adoption of open-source software was to develop and enhance the existing infrastructure components in area where the usage of OSS were most mature, especially for software design.[107]

On the other hand, open-source software as mature product lowers down the accessing costs and offer alternative resources to meet users' demand. According to the Gartner report, the surveyed companies often use open-source software to replace commercially available software when these copyrighted software were expensive and difficult to use.[108]

---

[104] *Gartner Says as Number of Business Processes Using Open-Source Software Increases, Companies Must Adopt and Enforce an OSS Policy*, PRESS RELEASE, available at http://www.gartner.com/newsroom/id/801412 (last visited 1/13/2014).
[105] *Id.*
[106] *Id.*
[107] *Id.*
[108] *Id.*

The Gartner survey of 2008 was more like a short introduction to indicate the popularity of open-source software program. Two years later, the Gartner published another survey indicated that open-source software gradually receive more positive comments from the majority users. The survey included 547 IT leaders in organizations among 11 countries and the goal was to determine current and future OSS adoption and usage habits.[109]

According to the survey, the Gartner found that more than half of the surveyed companies have already incorporated the OSS program into their IT strategy for companies business rather than merely adoption of the software.[110]

The adoption of open-source software does not confined to IT companies, but extend to various industries. The Open Source Business Conference (OSBC) publishes its 2013 annual report on the status of open-source software.[111] The 2013 report indicates that the government takes up the largest usage of 35.1% among all industries which adopt the open-source software.[112] The remaining industries includes medical (15.2%), media (13%), financial (8.9%), automobile (7.5%), retail (5.9), energy (4.2%), aerospace (2.2%), and other (8.0%).[113] Needless to say, the widespread adoption among different industries demonstrates the reliability of open-source software.

b) The Android system as an example

Open-source software has been widely adopted for distinctive purposes such as operating system, development tools, cloud services, mobile devices, etc. Among all the applications, the combination of operating system and mobile devices—the Android system—become the

[109] *Gartner Survey Reveals More than Half of Respondents Have Adopted Open-Source Software Solutions as Part of IT Strategy*, PRESS RELEASE, available at http://www.gartner.com/newsroom/id/1541414 (last visited 1/13/2014).
[110] *Id.*
[111] 2013 Future of Open Source, NORTH BRIDGE, available at http://www.nbvp.com/2013-open-source-survey (last visited 1/13/2014).
[112] *Id.*, at 11.
[113] *Id.*, at 12.

most outstanding application based on the OSS framework. The development and popularity of Android system demonstrate the feasibility of open-source software in the context of market competition.

To begin with, the Android system is primarily an operating system based on the Linux kernel.[114] Although the entire system also consists of relevant mobile devices as supplementary hardware, the key component is the operating system which offer the basic functions and features.[115] The Android system was first launched in 2007 and dedicated to promoting the open standards for mobile devices.[116]

The Android system, as its initial design, was to enable developers to create compelling mobile devices that takes the advantages of the open standards without additional restrictions.[117] Due to this feature, Android attracts a number of mobile devices manufacturers worldwide and triggers the development of smartphones and tablet computers. Shortly after the launch of Android system, the first publicly available smartphone running Android was released by HTC in 2008.[118] As of October 2012, there were approximately 700,000 Android apps in smartphones or tablets, which matches up with the proprietary IOS system owned by Apple.[119] Furthermore, the global market share of Android system in smartphone has reached 81% in the third quarter of 2013, which is the first time that Android exceed the 80% market share.[120]

---

[114] *Android Overview*, OPEN HARDSET ALLIANCE, available at http://www.openhandsetalliance.com/android_overview.html (last visited 1/14/2014).
[115] *Id.*
[116] *Industry Leaders Announce Open Platform for Mobile Devices*, OPEN HARDSET ALLIANCE, available at http://www.openhandsetalliance.com/press_110507.html (last visited 1/14/2014).
[117] *See* Overview *supra* note 114.
[118] Mark Wilson, *T-Mobile G1: Full Details of the HTC Dream Android Phone*, GIZMODO, available at http://gizmodo.com/5053264/t+mobile-g1-full-details-of-the-htc-dream-android-phone (last visited 1/14/2014).
[119] Zak Islam, *Google Play Matches Apple's IOS with 700,000 Apps*, Tom's Guide, available at http://www.tomsguide.com/us/Google-Play-Android-Apple-iOS,news-16235.html (last visited 1/14/2014).
[120] Android Tops 80% market share, WP grows 156% in Q3: IDC, THE TIMES OF INDIA, available at http://articles.timesofindia.indiatimes.com/2013-11-13/software-services/44028127_1_market-share-android-windows-phone (last visited 1/14/2014).

1) The Android system promote the diversity and wealth of products

As aforementioned, the Android system is operating system under the OSS framework. Specifically, the source code for Android is available under free and OSS licensing framework. Although Android is developed in private setting and owned by the Google, it is distributed with most of the source code under Apache Software License (ASL) version 2.0.[121] According to Google, the source code licensed under ASL can be integrated into closed-source proprietary products and redistributed under a broad variety of other terms, significantly distinguishes from the General Public License which impose restrictions on redistribution of code.[122]

Therefore, all companies and manufacturers that adopt the Android system are able to create customized applications equally because Android does not differentiate between the phone's core applications and third-party application developers.[123]

Since the threshold of entering Android system is so low that most of the developers are capable of joining the process of designing new applications without fearing of any restrictions. Under the circumstances, the total quantity of available applications based on Android system naturally increase and the categories of applications become diversified. As of July 2013, there were more than one million applications available for Android in the Google Play Store.[124]

Moreover, the hardware manufactures also benefit from the openness and flexibility of Android system. Due to the open-source nature, companies like Amazon (Kindle Fire),

---

[121] Dave Bort, *Why Google chose the Apache Software License over GPLv2 for Android,* Ars Technica, available at http://arstechnica.com/uncategorized/2007/11/why-google-chose-the-apache-software-license-over-gplv2/ (last visited 1/14/2014).

[122] *Id.*

[123] *See* Overview *supra* note 114.

[124] Dan Rowinski, *Google play hits 1 million Apps*, READWRITE, available at http://readwrite.com/2013/07/24/google-play-hits-one-million-android-apps#awesm=~osW8d4DY5RxwRp (last visited 1/14/2014).

Barnes & Nobile (Nook), Ouya, and Baidu create and release mobile devices running their own customized version of Android.[125] As a consequence, the Android system become the "default operating system for launching new hardware."[126] According to data from OpenSignal in July 2013, there were 11,868 models of Android device, numerous different screen sizes and eight Android OS versions simultaneously in use.[127]

The adoption of Android system gives rise to the diversity and wealth of available apps and devices, while this result leads to another phenomenon in the entire Android ecosystem—the fragmentation. Based on a report in the title of "Android Fragmentation Visualized (July 2013)", There are 11,868 distinct Android devices and 8 Android versions in use in 2013.[128] Opponents to the Open-source software frequently refer to fragmentation as the major problem to criticize the reliability of OSS. As to the Android system, the criticism remain the same. Generally, the problem to fragmentation is that the different version of Android system and devices significantly increase the difficulty in developing appropriate application that can be used to be compatible with all existing Android products. The entire process of design and modification could be extremely challenge and time-consuming.[129]

This argument indeed points out the problem, but overlooks the other side of fragmentation to both developers and users. The availability of different Android products with the wide range of prices enable a global penetration of Android system. Under the circumstances, developers are able to design and improve application based on a wealth of users' experiences.

---

[125] Android, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Android_(operating_system)#Reception (last visited 1/14/2014).
[126] Jon Brodkin, *On its 5th Birthday, 5 things we love about Android*, ARS TECHNICA, available at http://arstechnica.com/gadgets/2012/11/on-androids-5th-birthday-5-things-we-love-about-android/ (last visited 1/14/2014).
[127] Charles Authur, *Android fragmentation "worse than ever"—but OpenSingal says that's good*, The Guardian, available at http://www.theguardian.com/technology/2013/jul/30/android-fragmentation-visualised-opensignal (last visited 1/14/2014).
[128] *Android Fragmentation Visualized*, OpenSignal, available at http://opensignal.com/reports/fragmentation-2013/ (last visited 1/14/2014).
[129] *Id.*

On the other hand, users are able to obtain customized products which meet their demands—cheap or expensive, big or small, distinctive apps and functions.[130]

2) Google does not receive all financial benefits

The popularity of Android system is an undeniable fact based on its usage and statistics. Despite its adoption promotes the diversity and quantity of available products, skeptics and opponents still argue that the Android system under the OSS framework is unsuccessful because the owner of Android—Google—does not recoup all financial benefits from the exploitation.

Such argument is not without solid ground. According to Gartner analyst Michael Gartenberg, "Ironically, in some cases Microsoft may be making more money off Android than Google because of patent payments."[131] Moreover, Google former SVP Andy Rubin has been blamed for failing to establish a lucrative partnership with smartphone makers. The Manufacturers of Android-based smartphones includes a number of companies such as LG, HTC, Samsung, etc.

While the major beneficiary of Android-based smartphone is Samsung whose Galaxy brand has surpassed that of Android in terms of brand recognition since 2011, Google does not directly earn revenues from the sales of Samsung smartphones.[132]

Due to the customization and improvement of Android system, non-Google applications and services emerges and becomes popular to compete with the Google proprietary products and services.

---

[130] *Id.*

[131] Adrianne Jeffries, Disconnect: Why Andy Rubin and Android called it quits, The Verge, available at http://www.theverge.com/2013/3/19/4120208/why-andy-rubin-android-called-it-quits (last visited 1/14/2014).

[132] Daniel Eran, *Samsung's Galaxy S4 distracts attention away from Android*, APPLE INSIDER, available at http://appleinsider.com/articles/13/03/15/samsungs-galaxy-s4-distracts-attention-away-from-android (last visited 1/14/2014).

For example, the Amazon Fire Operating system is a folk of Android operating system designed and owned exclusively by Amazon for its tablet Kindle Fire.[133] The Amazon Fire OS designs a customized user interface aims at promoting content available through Amazon services, such as Amazon Appstore, Amazon Instant Video, Amazon MP3, and Kindle Store.[134] Since the Fire OS is binding to applications and contents provided by Amazon, it is not compatible with Google owned applications or products.[135] Under the circumstances, the Amazon become a competitor to Google with respect to Android products and services.

It is true that Google does not leverage all revenues via the development of Android system. However, the situation is largely due to its open-source nature. Since the Android system operates under the open-source software framework, the owner of Android must give up certain control over the system in exchange for the operation of OSS. Compared to proprietary (closed-source) software, the ability to sidestep vender's lock-in is one of the major incentives to the adoption of open-source software.

Moreover, the Google employs the ASL licensing framework which further reduce its control over Android and broaden the freedom of adopting the system. Therefore, the inability to leverage revenues is the expenses for the diversity of products and services.

Due to the weak control of Google, the Android system takes up substantial amount of market share and breeds a number of brands in markets of mobile devices, apps and Oss. As a result, consumers have sufficient options and benefits from the competence among different companies. This approach has lowered down the average selling prices of a smartphone to

[133] Fire OS, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Fire_OS (last visited 1/14/2014).
[134] *Id.*
[135] *Id.*

$377 worldwide in 2013, which decrease 13% from 2012.[136] It is estimated that the average prices should drop to $265 globally by 2017.[137]

As a matter of fact, Google began to sell its Nexus devices—smartphone and tablet—since 2010.[138] Although the sales of Google mobile devices did not have substantial impact over the smartphone market for the past four years, Google emphasizes that the purpose is to:

Show what an all-Google user experience would like and to inspire Android makers and developers to make better phones, tablets and Android apps…The Nexus line is a hedge against indifference, it sends a message to manufacturers that if they can't develop competitive Android products, we will on our own.[139]

Obviously, Google does not rely on their smartphone and tablet as the major products for revenue, but to push Android adopters to enhance and refine the system.

2. Creative Commons Licenses: the Case Study

a) Scope of research

Unlike the open-source software program, the creative commons licenses cover a wide range of works for licensing. Due to the variety of licensed works, the adoption of CC licenses includes various areas such as education, photography, software design, and scientific research. Before the analysis of specific cases, the standard of sample should be clarified to ensure the final quality of analysis.

According to the statistics from the Creative Commons database, there are currently 402 cases with respect to works licensed under the CC licenses.[140] Despite the wealth of specific

[136] Matt Hamblen, *Google's Nexus Lineup may not sell well, but still challenges Android makers*, COMPUERTWORLD, available at: http://www.computerworld.com/s/article/9244477/Google_s_Nexus_lineup_may_not_sell_well_but_still_challenges_Android_makers_ (last visited 1/14/2014).
[137] *Id.*
[138] *Id.*
[139] Id.
[140] *Case Studies*, CREATIVE COMMONS, available at http://wiki.creativecommons.org/Case_Studies (last visited 1/17/2014).

cases in the database, the Creative Commons organization admits that the cases in database are from different domains and the quality of these cases still need to be evaluated.[141]

The cases in databases are divided into five categories based on the quality of each cases such as A-Class; B-Class; C-Class; Start; and Stub. [142] On the basis of the description, cases under A-Class are:

1) Contains a concise and complete description of the use in well-written prose;
2) Explains the novelty or importance of the use-case;
3) Has complete information;
4) Would be worthy of being featured elsewhere on the web.[143]

So far, only 21 of the total 38 A-Class cases are of high importance. The description of high importance cases shows:

1) The Case Study represents a highly successful and novel use case which illustrates the power of CC licensing;
2) Is a Case Study of a very recognizable brand;
3) The site or platform using CC licensing is highly trafficked;
4) For platforms or sites, the Case Study reports a very large volume of work or a community of users.[144]

Therefore, this section concentrates on specific cases under this category (A-Class & High importance) in order to ensure the quality of analysis. Due to the diversity of sample cases, the study focuses on cases which are mostly related to copyright creation. In other words, the

[141] *Case Studies—Evaluation*, CREATIVE COMMONS, available at http://wiki.creativecommons.org/Case_Studies (last visited 1/14/2014).
[142] *Id.*
[143] *Id.*
[144] *Id.*

adoption of CC licenses in these cases displays an alternative option to traditional copyright production and distribution mechanism.

b) Case Study: CC licenses in music industry

The Beatpick

The Beatpick is a "fairplay" music that feature a wide range of music worldwide and release these music under a CC BY-NC-SA license (Attribution-Noncommercial-ShareAlike).[145] As of October 2007, Beatpick represents around 120 artists with over 3,000 music tracks.[146] The Beatpick labels itself as "fairplay" music in three aspects. First of all, the public are able to try the music before purchase and can download high quality music in low prices.[147] Secondly, the Beatpick provides quick and easy access to licensing contract and a flexible licensing mechanism to specific requirement.[148] Lastly, the Beatpick offers nonexclusive agreement to musicians that can be terminated anytime and split the revenues in 50/50 with signed musicians.[149]

According to the founder of Beatpick, the reason to choose CC license is:

It balances the need to make a living with the need for advertisement. It helps to get your music noticed via sharing, remixing, and use in non-commercial projects without losing the possibility to earn money from people that are willing to pay for your music.[150]

Nine Inch Nails

In addition to the online music platform, individual band also employ CC licenses as a strategy to promote their music to the public. The American band Nine Inch Nails (NIN)

[145] *Beatpick Study*, CREATIVE COMMONS, available at http://wiki.creativecommons.org/Case_Studies/Beatpick_study (last visited 1/15/2014).
[146] *Id.*
[147] *Id.*
[148] *Id.*
[149] *Id.*
[150] *Id.*

released "The Slip", a ten-track album, to its fans for free under a CC BY-NC-SA license.[151] NIN actively encourages its fans redistribute and remix the ten soundtrack with DRM-free files in the album.[152]

The releasing of "The Slip" under the CC license gives rise active feedback from the public, or at least the fans group. It is reported that the "Ghosts I-IV", another album made by Nine Inch Nail, was sold out in just two days for the $300 deluxe version.[153] The majority of buyers were the fans and the band actually earned $750,000 in a couple of days with the total 2,500 copies.[154]

Jonathan Coulton

Jonathan Coulton is an unsigned single musician who employ the CC licenses as instrument to release his music in order to figure out whether he could make a living as an independent musician.[155] He adopt the CC BY-NC license (Attribution-Noncommercial) to release all his music for free downloading as well as for streaming.[156] Because of the nature of this license, his fans are able to remix and add content to music on the website.[157]

Although most songs on the website are free to download and stream, people are still able to purchase a single sound track in either MP3 version or FLAC format for $1 or an entire album from $3-$10.[158] In addition to MP3 version or full quality FLAC format, consumers are also able to choose the open OGG format, CDs, Ringtones, and Karate version when they

---

[151] *Nine Inch Nails The Slip*, CREATIVE COMMONS, available at http://wiki.creativecommons.org/Case_Studies/Nine_Inch_Nails_The_Slip (last visited 1/15/2014).
[152] *Id.*
[153] *Nine Inch Nails sells out of $300 deluxe edition in under two days*, TECHDIRT, available at http://www.techdirt.com/articles/20080304/162842435.shtml (last visited 1/15/2014).
[154] *Id.*
[155] *Who is this Jonathan Coulton fellow?* FAQ, available at http://www.jonathancoulton.com/faq/#CC (last visited 1/15/2014).
[156] *Case Studies*, Creative Commons, available at http://wiki.creativecommons.org/Case_Studies/Jonathan_Coulton (last visited 1/15/2014).
[157] *Can I use a song in my student film/podcast/awesome dance remix?* FAQ, available at http://www.jonathancoulton.com/faq/#Use (last visited 1/15/2014).
[158] *The MP3 store*, Jonathan Coulton, available at http://www.jonathancoulton.com/store/downloads/ (last visited 1/15/2014).

purchase music from the website.[159] To broaden the revenue channel, Jonathan also sell T-shirts, visual books, and card games along with music.[160]

The driving force underlying Jonathan's strategy, based on his own words, are "I give away music because I want to make music, and I can't make music unless I make money, and I won't make any money unless I get heard, and I won't get heard unless I give away music."[161] In other words, the revenue of music is as important as the creation of music to Jonathan Coulton. Therefore, his business model fails if he are unable to sustain his music creation with sufficient revenues.

According to an interview in 2008 via email, Jonathan stated that 45% of his income in 2007 came from the paid digital downloads.[162] If his statement is reliable, the result indicated that his approach of managing personal music online is accepted by consumers and music creation by CC licenses is sustainable. Furthermore, the Planet Money team at NPR reported that he made half a million dollars in 2010.[163] Considering he manages his music without relying on record labels, the revenues he earned have substantial impact on the traditional music production and distribution.

c) The Observation

The three notable cases for the adoption of CC licenses are all in the area of music creation and licensing. Hence, the study of these cases is inspiring in terms of online music management.

---

[159] *Store*, Jonathan Coulton, available at http://www.jonathancoulton.com/store/ (last visited 1/15/2014).
[160] *Merchandise*, Jonathan Coulton, available at http://www.jonathancoulton.com/store/merchandise/ (last visited 1/15/2014).
[161] *See* Case Studies *supra* note 156.
[162] *Id.*
[163] Another "exception"? Jonathan Coulton making half a million a year with No Record Label, TechDirt, available at http://www.techdirt.com/blog/casestudies/articles/20110515/23234814274/another-exception-jonathan-coulton-making-half-million-year-with-no-record-label.shtml (last visited 1/15/2014).

In general, the music production and distribution largely rely on big record labels. The majority of music online are proprietary works to the record labels and under the protection of copyright law. Under the circumstances, the adoption of CC licenses in fact establishes an alternative route for musicians to manage their online music licensing under a flexible mechanism.

A flexible licensing mechanism is the critical component to a successful online licensing. The flexibility not only requires a convenient accessing system, but also sufficient works with flexible pricing mechanism. Basically, copyright holders who license their works under copyright system are generally unable to establish the flexibility because of the exclusive rights on specific works.

The open access program, to the contrary, is more appropriate to individual creators who does not work closely with the music industry. Specifically, the adoption of CC licenses in music indeed create several successful examples regarding the independent management of music.

Both the Nine Inch Nails and Jonathan Coulton employ the CC licenses to license their music and meanwhile still make a living through the process. By releasing music for free, they successfully attract the public attention because of the unique strategy in area of music licensing. For one, giving away proprietary musical work by famous band like Nine Inch Nails receive positive feedback from fans. As the payoff, their fans contribute the sales of paid music made by the band.

For another, independent musician like Jonathan Coulton become well-known to music fans on the internet and establish his own fans group by increasingly offering free music. As a

result, his fans forge the stable revenue channel and are willing to pay for the music and other peripherals.

Despite the prospective landscape, CC licenses in music area does not amount to ultimate success. Compared to the mainstream music industry, the two successful examples are more like the exception. Major record labels usually invest a lot in production, distribution, marketing, and advertisement of music. Therefore, the management of music under CC licenses is far from a substitution to the mainstream music industry, but simply provides an alternative route to supplement the creation and licensing of online music.

E. Concluding remark

The cooperative model via open access program enables the cooperation between copyright holders and online users. Unlike the righter-holder-centric model which creates tension between the two parties, the open access program explores an alternative path for flexible licensing mechanism and copyright creation.

The open access program provides substantial benefits to online users by free access to works under less restricted licensing agreements. Because of the feature, online users are willing to embrace the program and support the cooperative model.

On the other hand, copyright holders still enjoy benefits even though they release works for free and employ weak control with respect to the distribution. The licensing framework outside copyright regulation enables them to create, distribute, and improve creative works with less difficulty in negotiation and accessing to proprietary works. The "building block" for copyright creation are much easier to acquire and the costs of creation are significantly reduced.

Moreover, individual creators are able to explore a new route to promote their professional career with more freedom by sidestepping the content industry. In other words, the program establishes a supplementary mechanism to copyright creation and distribution without relying on copyright industry. Under the circumstances, copyright holders are able to employ flexible business models to attract consumers and increase the diversity and quantity of creative works.

The open access program indeed establishes an alternative option to copyright creation and licensing in online environment. The strengths of this program are self-evident and the proponents view it as a prospective model to eventually replace traditional licensing mechanism under righter-holder-centric model.

However, the limited quantity of successful examples under open access program are more like the exception compared to the mainstream of copyright creation and licensing. The lack of sufficient empirical data weakens the reliability of this program. Compared to mainstream copyright creation and licensing, the open access program is a supplementary strategy to copyright holders. Therefore, the open access program cannot replace the right-holder-centric model.

Chapter VI Analysis of Two Models

The advance of digital technology brings about both benefits and challenges to the development of copyright system. On the one hand, digital technology facilitates the production and distribution of copyrighted works. On the other hand, online piracy has become the major threat to copyright enforcement in the digital age.

By the same token, the revolutionary online environment breeds two models of copyright enforcement and management: the right-holder-centric model and the cooperative model. Simply put, each model includes two working examples which reflects the interaction between copyright holders and other copyright participants such as the ISPs and online users. On the other hand, both models are the products largely due to the digital technology and display the general features of current online copyright enforcement and management.

To begin with, the right-holder-centric model is generally the mainstream model under the copyright system. The term "right-holder-centric" points out the fact that this model concentrates on the copyright holders and takes their interests as priority considerations.

Because of the strong preference to the copyright holders, this model also builds upon solid grounds under the copyright system. Both natural rights theory and utilitarian rationales confirm the importance of copyright holders in copyright realm. [1] Furthermore, the copyright legislative history demonstrates that

[1] *See* generally Part One Section A, 1.

copyright holders have been the major consideration under the copyright system for a long period.[2] Under the circumstances, the right-holder-centric model essentially echoes the fundamental elements of copyright system and should be the most appropriate enforcement option to copyright holders.

The reality, to the contrary, is opposing to the expectation of copyright holders. The implementation of right-holder-centric model, however, indicates the model contains certain side effects with respect to copyright enforcement and management. In other words, although this model seems to perfectly comply with the mainstream copyright system, it is not flawless with respect to its online practice.

For example, suppose you are a musician who has made several popular songs. To increase your fame and popularity, you determine to license your works through the Internet so as to make yourself widely known. Shortly after your decision, music fans are able to access your musical works through online licensing and your reputation successfully raise up due to the widespread access. On the other hand, unauthorized distribution of your musical works substantially bother you and become the major threat to your legitimate licensing. To cure the undesirable result, you have basically two options. For one, you employ digital technology to prevent unauthorized access to your music by means of encryption. For another, you rely on copyright law enforcement to pursue illegal websites that distribute your music as well as individual online infringers. Unfortunately,

[2] *See* generally Part One Section A, 2: the US copyright legislative history.

neither the digital encryption nor the law enforcement fully satisfy your objective regarding copyright enforcement and protection against piracy.

As a matter of fact, practical experiences indicate side effects in the course of implementation of the right-holder-centric model. The private implementation through digital technology does not entirely prevent copyright infringement and piracy because of the technology weakness. Furthermore, users' experience are adversely affected by the digital encryption.

To make matter worse, copyright law enforcement has the tendency to be employed by copyright holders on inappropriate targets with disproportional punishment. This is especially obvious when copyright holders bring massive actions against individual infringers with statutory damages as remedy. As a consequence, the undesirable experiences of the right-holder-centric model becomes the first driving force to the emergence of the cooperative model.

Accordingly, copyright holders seek to alternative option for copyright enforcement that better adapt to the online environment. By working closely with Internet service providers, copyright holders establish the graduated responses system which requires the cooperation between copyright holders and ISPs for copyright enforcement.

The second driving force, on the other hand, comes from the opposition to the property-like control on copyrighted works. One representative scholar, Lawrence Lessig, argues the importance of free culture and commons in the copyright world and criticizes the inappropriate expansion of property rational in copyright

system.[3] The unconventional argument by Lessig directly supports the open-source software program and promotes the foundation of creative commons license project, which consists of the open access program as the second type of cooperative model.

Since the cooperative model operates in two different tracks, this model in fact contributes to two directions. The first direction concentrates on copyright enforcement through the cooperation between copyright holders and the ISPs under the graduated responses system. This is aiming at a more efficient enforcement strategy than those under the right-holder-centric model. By implementing a flexible and user-friendly strategy, and meanwhile broaden the stakeholders group, the cooperative model designs to avoid the side effects from right-holder-centric model.

The second direction, by contrast, focuses on an alternative licensing scheme compared to traditional copyright licensing. Specifically, the open access program as a cooperative model requires copyright holders to license their copyrighted works outside copyright system with less restriction, and enable ordinary users to access the works at low costs. Because the alternative licensing scheme provides flexible mechanism to both copyright holders and ordinary users, it serves as supplementary choice in terms of the creation and licensing of copyright works.

In a word, the cooperative model establishes a cooperative partnership between copyright holders and other participants such as ISPs or ordinary users. Under the

[3] LAWRENCE LESSIG, FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY, 268-271, Penguin Press (2004).

circumstance, the decentralized feature is greatly distinguished from the centralized right-holder-centric model. Rather than concentrating on only copyright holders, the cooperative model essentially indicates a general trend of copyright enforcement and management: establishing cooperation to benefit multiple participants in order to increase the efficiency of copyright enforcement and management.

Despite the two models share different features and build upon different grounds, the focal point lies in the effects of each models in online environment.

Specifically, three questions are critical as to the operation of each model:

1) whether this model improves the copyright enforcement, especially curtailing online piracy
2) whether this model is appropriate to manage copyrighted works, especially on the licensing of copyrighted works and the sustainability of copyright creation;
3) The third question bases on the first two: whether there is one optimal model that can substitute the other, or how should one model interacts with the other.

The above questions constitute a deep level of analysis and the answers to the questions generally determines the conclusion of two models. By referring to empirical data and evidence from practical experiences, this chapter seeks to conclude general features of each model and rejects the temptation of a simple and straightforward conclusion.

In summary, both the right-holder-centric model and the cooperative model are existing models to copyright enforcement and management. At present, two

models represents two sets of perceptions and strategies. Therefore, the coexistence of both models currently should be an appropriate choice to all copyright participants as well as the entire copyright system.

Part One General Observation of two Models

A. Right-holder-centric Model Accords with Mainstream Copyright Theory and Legislative History

Generally, the right-holder-centric model complies with the mainstream aspects of copyright system and is the major enforcement choice to copyright holders. Simply put, the reason of its popularity lies in its strong correlation to both copyright theory as well as the copyright legislative history, which primarily serves the interest of copyright holders and give them prior consideration. In other words, the two aspects constitute the solid background underlying the right-holder-centric model. This section briefly describes the two aspects.

1. Right-holder-centric Model Accords With Major Copyright Conceptions: A Brief Revisit

John Locke's Labor Theory: Copyright holder is entitled to Reward

As far as copyright theories are concerned, the theory under natural rights perspective is highly influential to the development of the copyright system. Among different theories, the labor theory by John Locke are mostly relevant to the construction of modern copyright system. By emphasizing the necessity to reward an author who create intellectual work, the labor theory essentially justifies the existence of right-holder-centric model.

Although Locke's labor theory primarily focuses on physical property such as the land, it does not follow that intangible intellectual products like copyrighted works fail to fit into the doctrinal structure. The discrepancy between tangible assets and intangible intellectual products does not deny an author's right to "reap the fruits of their creations" and "to obtain rewards for their contributions to society".[4] Locke reasoned that a person has natural right to his body and owning of body extents to the labor of one's body, which eventually cover the fruits of his labor.[5] For instance, imagine Steve plans to cultivate corns in his backyard and uses a hoe to cover the seeds with soil. Based on the Labor Theory, Steve has natural right in the hoe because the hoe is his body extension. When Steve successfully cultivate the corns in his backyard, he is entitled to receive the corns because these are the fruits of his labor. Under the circumstances, Steve is able to determine the use of the corns at his will without intervention from their parties.

By the same token, an author is able to control his copyrighted works as long as the work is his fruit of intellectual labor. Incorporating the Locke's argument into copyright, a copyright holder who create a given work should have the right to control the use of that work. Moreover, since the copyright holder makes contribution to society by creation, he should be entitled to obtain a reward equivalent to the value of his contribution.[6]

The labor theory under natural rights conception emphasizes the rewards and

[4] CRAIG JOYCE ET AL., COPYRIGHT LAW, §1.06 (9th ed. 2013).
[5] *See* J. LOCKE, SECOND TREATISE OF GOVERNMENT, Ch.5 (1690).
[6] *See* Joyce *supra note* 4, at 58.

compensation to labor by an individual. In the context of copyright creation, Locke's argument in tangible assets implies the importance of compensation to the contribution made by authors.

In other words, so long as an author has the valid copyright and his work is under distribution, he is entitled to obtain the reward through the use of copyrighted works. In reality, such assumption is generally accepted and upheld by almost every copyright holders. ,

Because copyright holders are willing to employ enforcement strategy that best satisfy their demands of sufficient rewards, the right-holder-centric model become their prior option with respect to copyright enforcement. Concentrating on the interests of copyright holders and requiring compensation to them, this model accords with the basic principle of labor theory. Under the circumstances, the right-holder-centric model is supported by solid theory.

To be sure, the Locke's labor theory does not end on this argument and actually includes the discussion of the boundaries of labor and entitlement which limits the extension of individual's rights. For example, the Locke's three provisos respectively explains the restriction on the personal property claims to the public commons.[7] However, this does not contradict the correlation between the right-holder-centric model and the labor theory. To copyright holders, the labor theory justifies the operation of this model and enable them to maximize their interests in the course of copyright enforcement.

[7] For a detailed analysis of Locke's provisos, *see* ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY, 49-67, Harvard University Press (2011).

As a matter of fact, the labor theory merely establishes partial foundation to the right-holder-centric model in theoretical aspect. The second important conceptual foundation, the utilitarian conception, reinforces the justification of the right-holder-centric model.

Utilitarian Rationale: the incentive analysis

Unlike the labor theory from natural rights perspective, the utilitarian rationale premises on economic analysis, especially the incentive analysis. This kind of conception is extraordinarily popular and dominant in the US jurisdiction where the judicial opinion by US Supreme Court held that:

"The immediate effect of our copyright law is to secure a fair return for an author's creative labor. But the ultimate aim is, by this incentive, to stimulate artistic creativity for the public good."[8]

The incentive analysis lies in the recognition of intellectual property as "public goods" and the fear of incapability that a copyright holder cannot recoup the reward through transaction.[9] Specially, a copyrighted work cannot be used up and can be equally used by a large number of people.[10] Lacking of appropriate incentive mechanism, there is a risk that copyrighted works would be produced and distributed below optimal level.[11]

To solve the problem, one solution is to grant market power to copyright holders so than they can sidestep the undesirable result of public goods. The U.S.

[8] *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975).
[9] *See generally* RAJSHREE CHANDRA, KNOWLEDGE AS PROPERTY, Oxford University Press 93-95 (2010).
[10] *See* Joyce *supra note* 4, at 55.
[11] *Id.*

copyright law thus employ this solution by granting a limited monopoly power to copyright holders in order to ensure they have sufficient incentives for creation. [12] The power of monopoly and the granting of exclusionary rights enable copyright holders to control their works more effectively and enhance their capability to obtain revenues from their copyrighted works. Under the monopoly setting, a copyright holder is the only person who hold the right to a given work. All the exploitation of that work by other persons should be permitted by the copyright holder. Therefore, the utilitarian conception accords with the right-holder-centric model by underlying the interests of copyright holders.

Although the utilitarian rationale also focuses on other considerations such as the public welfare, the consideration of incentives alone is sufficient to justify the establishment of the right-holder-centric model. Specifically, the incentive analysis functions as the premise to other specific objectives such as deterring online piracy, compensating copyright holders, and promoting the distribution of copyrighted works. All these objectives under the right-holder-centric model ultimately converge into one focal point—ensuring sufficient incentives to copyright holders.

By complying with the arguments for copyright holders in both conceptions, the right-holder-centric model further strengthens the stance of copyright holder under its framework. As a consequence, the right-holder-centric model is widely accepted and upheld by copyright holders.

[12] This idea is generally expressed and upheld by Art. 1, §8 of US Constitution, available at http://copyright.gov/title17/92preface.pdf (last visited 7/2/2014).

To be sure, both the labor theory and utilitarian rational include a wealth of theoretical discussions and development. The right-holder-centric model merely echoes the narrow perception of the rewards and the incentive analysis. Despite the limited theoretical support, the right-holder-centric model is operating with solid theoretical foundation and justified under the mainstream copyright perceptions.

2. Right-Holder-Centric Model accords with copyright legislative history

In addition to theoretical foundation, the right-holder-centric model is supported by copyright legislative history. Specifically, the legislative history of the U.S. copyright law implies that the right-holder-centric model echoes the development of the US copyright legislation.

Copyright law primarily serves to achieve the copyright policy by striking the balance between copyright holders and the public. The legislative history of the US copyright law, however, indicates that copyright law gradually favors of copyright holders than the public by expanding the exclusive rights. One high-profile example is the extension of copyright duration and the change of notice formality through multiple copyright enactment and modification in the US legislative history.

The first U.S. copyright law, the 1790 Act, provided that federal copyright law only last for fourteen years with an optional renewal for another fourteen years.[13] Based on the provision, a copyright holder waives the exclusive control on his

[13] *See* Joyce *supra note* 4, at 323.

works after 14 years if he does not renew the copyright, resulting in his work falls into the public domain. In other words, the public at most need to wait for twenty-eight years to freely access to a given work. Under the circumstances, the public was generally easy to access copyrighted works under the statute.

Following the 1790 Act, the 1831 Copyright Act extended the initial copyright duration to twenty-eight years and retained the fourteen years renewal.[14] Under the 1909 Act, the U.S. Congress extended the renewal duration to twenty-eight years with a total fifty-six years of copyright duration.[15]

For over a hundred years from 1790 to 1909, the US copyright law did not display a significant trend of favoring copyright holders by the expansion of copyright duration. After all, the copyright duration merely doubled during one century. However, the U.S. Congress had accelerated the trend of favoring copyright holders through copyright duration extension for the past decades.

In 1976, the Congress extended all existing copyright by nineteen years.[16] Twenty-two years later in 1998, the Sonny Bono Copyright Term Extension Act provided that the existing and future copyright duration both extended by another twenty years.[17] As to the current copyright law, the statute provides a basic copyright duration of author's life time plus 70 years to individual author or authors of joint work.[18] To anonymous and pseudonymous works, the duration is 120 years from the year of creation or 95 years after its first publication.

---

[14] *Id.*
[15] *Id.*
[16] *See* Lawrence Lessig *supra note* 3, at 134.
[17] *Id.*
[18] 17 U.S.C.A §302.

In addition to the extension of copyright duration, the change of notice formality essentially facilitates the expansion of copyright as well. For works published before March 1. 1989, the lack of notice may leads to the works falls into the public domain.[19]

As to works published on or after March 1. 1989, the lack of notice may allow the reduction in amount of statutory damages for innocent infringer defense.[20] In other words, copyright to most contemporary copyright holders is generally secured and certain, especially those who create and distribute their works through the Internet. Because copyrighted works now are not easily fall into the public domain, online users must seek for legitimate licensing from copyright holders. Accordingly, copyright law essentially favors copyright holders through the legislative process.

In a word, the right-holder-centric model is a working example to copyright enforcement which is related to the mainstream copyright system. For one, the right-holder-centric model focuses on the interests of copyright holders and tends to omit the demands of other parties under copyright system.

For another, the copyright conceptions and legislative history reinforce the stance of copyright holder respectively. By according with the mainstream perspectives of copyright system, the right-holder-centric model is widely accepted by most copyright holders as the optimal enforcement option.

To be sure, copyright policies do not focus on copyright holders' benefits at the

[19] *See*§§10 19 of 1909 Act; *see also*§§104A 405(a) of 1976 Act.
[20] *See*§§401(d) 402(d) of 1976 Act.

expense of that of the public. Rather, the necessary balance between copyright holders and the public is the focal point of the copyright theories as well as copyright law. Accordingly, the right-holder-centric model has an inherent defect which omits the demands of other copyright participants such as ISPs or online users. As a consequence, the implementation of this model in practice is highly possible to the extreme due to the imbalance of structure design.

B. Cooperative Model has Two Tracks

Distinguished from the single-track right-holder-centric model which mainly designs for copyright enforcement, the cooperative model in fact operates in a two-track frameworks. In other words, the cooperative model operates under two distinctive directions.

First and foremost, the first track under the cooperative model accords with right-holder-centric model, which still concentrates on copyright enforcement. The difference lies in that the cooperative model promote online copyright enforcement by establishing a cooperative partnership between copyright holders and the ISPs. Currently, the graduated responses system is the major enforcement strategy under the cooperative model.

The second track, by contrast, departs from the copyright enforcement but focuses on copyright management, primarily on the copyright licensing and creation of works in an unconventional setting. The example under cooperative model is the open access program, which establishes the cooperation between copyright holders and ordinary users.

Distinguished from traditional perception and regulation, the open access program requires the copyright holders to license copyrighted works with fewer restrictions to ordinary users outside copyright system. Put another way, the new licensing mechanism gives away exclusive rights to some extent and weaken the exclusive control on copyrighted works.

On the other hand, ordinary users are able to access copyrighted works under a more flexible licensing mechanism, which in turn creates the opportunity for them to make customized works without regard to copyright industry. So long as they comply with the licensing agreement, they are able to employ the works as "building block" of their creation.

1. Cooperative Model on Copyright Enforcement: the feasible cooperation

As aforementioned, the graduated responses system is the example of first track cooperative model and primarily designs for copyright enforcement. Accordingly, the focal point of the first cooperative model lies in the cooperation between copyright holders and ISPs.

To begin with, the cooperative partnership is the premise and indispensable component to the cooperative model. To both parties, the cooperation is feasible and provides substantial benefits. The graduated responses system, as the exemplary enforcement option, demonstrates the feasibility of cooperation.

a) The Query

To the very beginning, the cooperation through the graduated responses system is not widely accepted by all parties. To the contrary, civil liberties groups, academic

commentators and ordinary users' advocates rejected and cast doubt on the cooperation under copyright holders and ISPs in online environment.[21]

Specifically, the major concern turns to whether ISPs have sufficient incentives to actively monitor their subscribers and filter illegal contents. The opponents may argue that ISPs merely provides online services to subscribers and do not enjoy the monopoly granted by copyright law. Even though an ISP are willing to participate in the process, the ISP may be overwhelmed by the side effects and substantial administrative costs.[22]

Therefore, it is unwisely to assume that ISPs would invest to the same level as copyright holders in the course of enforcement.

Moreover, the opponents may argue that such enforcement strategy would not achieve its objective because the two parties share different incentives which often are difficult to compromise and converge into a whole. Under the circumstances, the distinction of their incentives implies that the establishment of a cooperative system is infeasible.

In addition, ISPs rely on revenues to sustain their online business. To operate their online services, they must take financial channels into consideration. In general, revenues to ISPs comes from two channels. The first channel is consisted of the payment from subscribers. Simply put, the subscription fees provides ISPs with financial support. Secondly, the revenues from advertising constitute the other major channel to uphold the management of ISPs. For both perspectives,

[21] Peter K Yu, *the Graduated Responses*, 62 FLA. L. REV. 1373, at 1374 (2010).
[22] *Id*., at 1391.

opponents cast doubt on the feasibility of ISPs' cooperation.

As aforementioned, ISPs are a group of network intermediaries which provide their subscribers or online users with a variety of services. For our analysis, the ISPs can be divided into two major categories: the network establishing providers such as *AT&T*, *Comcast*, and *Verizon* which builds the infrastructure of network framework; the other is the application providers such as *Google*, *YouTube*, and *Facebook* which provides services on the Internet.[23] The first category usually pay highly attention to the contents on their network because accessing to creative contents draw a large quantity of users to subscribe their services which basically equals to revenues.[24] As a matter of fact, the diversity of live streaming movies, TV series and music attract subscribers to pay for high-speed broadband services. On the other hand, the application ISPs receive revenues through advertisement posted on their web space. To achieve such purpose they need high volume of creative contents on their websites in order to attract a great number of viewing by online users. Therefore, both types of ISPs share the same feature which demands large volume of contents accessible on their websites.

Under the circumstances, opponents may argue that both types of ISPs would not automatically take copyright issues into consideration. Because ISPs rely on subscription and the advertising to obtain revenues, employing enforcement system that requires actively monitors the subscribers may adversely their online

[23] Int'l Fed'n Phonographic Indus, Digital Music Report 2009: New Business Models for a Changing Environment 4, at 19-24 (2009).

[24] *Id.*

business.[25] Due to the unfriendly experiences, online users may reject the subscription or use on a given ISP, which eventually affects the revenue channels. To make matter worse, the inherent technology under graduated responses system may raise the concern to privacy of ordinary users. For example, the deep packet inspection (DPI) allows ISPs to monitor and even control the information flow through their networks with greater precision.[26] Concerning the danger of personal privacy, subscribers have to unsubscribe from ISPs and switch to other platforms. Under the circumstances, ISPs burden the losses of losing subscribers. To be sure, the query and arguments to the cooperation under graduated responses system are not groundless. Unlike copyright holders who are usually aggressive on copyright enforcement, ISPs are more concern on their online business. It is unreasonable to assume that the ISPs weigh the copyright protection heavily over the revenues. ISPs may choose to opt out the graduated responses system in order to maintain their subscribers. Therefore, the distinction on priority between ISPs and copyright holders become the most persuasive counterargument to the cooperative partnership.

b) Feasibility of Cooperation

Despite the counterarguments from opponents, the graduated responses system works to establish the cooperation. In general, the joint economic benefits and the enforcement costs are two primary driving forces to uphold the feasibility of

[25] *See* Peter *supra note* 21, at 1392.

[26] Ralf Brendrath, *the End of the Net as we know it? Deep Packet Inspection and Internet Governance*, SSRN, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1653259 (last visited 7/13/2014).

cooperation.

1) Joint economic benefits

The joint economic benefits comes from the evolving online environment and the demand for alternative online business. Online business was undergone development at the early stage of Internet development. Copyright holders did not realize the lucrative opportunity to license copyrighted works. In other words, the strengths of online market were not fully realized by copyright holders.

With the emergence of high-speed broadband and wireless access, online business evolves to new stage. Ordinary users are able to consume digital products cheaper and more convenient than before. ISPs provide diversified online service and gradually become indispensable in distributing creative contents.[27] Many ISPs recognize this lucrative opportunity and seek for licensing from copyright holders. This approach gradually tie the interests of two parties together.

For example, the *Comcast* purchased *NBC Universal* and acquired substantial copyrighted works to enhance the value of its service.[28] The *Google*, as famous search engine, announced to open up its creative programming on *YouTube* in 2011.[29] By collaborating with copyright holders, ISPs obtain authorization without the risk of liability.

Meanwhile, the wealth of creative contents and convenient access make ISPs

---

[27] *Preserving the Open Internet, Broadband Industry Practices*, FEDERAL COMMUNICATION COMMISSION, available at http://www.fcc.gov/document/preserving-open-internet-broadband-industry-practices-1 (last visited 7/8/2013).

[28] Amy Chozick & Brian Stelter, *Comcast Buys Rest of NBC in Early Sale*, N. Y. TIMES, Feb. 12th 2013.

[29] Don Reisinger, *Google Gearing Up Original YouTube Programming*, CNET, available at http://news.cnet.com/8301-13506_3-20126342-17/google-gearing-up-original-youtube-programming/ (last visited 7/8/2013).

more attractive for ordinary users to the subscription. For instances, the *Apple iTunes* sold more than 70 million songs during its first year of online music service.[30] The successful was largely due to its highly flexible and competitive "pay-per-use" business model.

With the development of online business, both parties bridge the gap of their competing incentives by discovering aligning ones—the joint economic benefits. Generally, copyright holders seek to maximize their revenues through distribution of copyrighted works, while ISPs strive to attract more users for subscription. Simply put, distinctive paths of pursuing generate different economic returns. Based on the assumption, it is true that both parties are less likely to constitute the cooperation.

Online business, however, combines their incentives into a unified entity. Under the circumstances, ISPs not only provide access of creative contents to their subscribers, but become the stakeholders to copyright holders.

To maximize the revenues and minimize the costs, the ISPs must prevent undesirable free-riding and encourage subscription to their services. ISPs have to actively monitor their websites to ensure all the works are accessed under subscription. Therefore, the argument that the cooperation between ISPs and copyright holders lacks of reliable economic support is neither convincing nor persuasive.

On the other hand, copyright holders are encouraged to license their works to

[30] John Markoff, *Apple Sells 70 Million Songs in First Year of iTunes Service*, N.Y. TIMES, Apr. 29th 2004, at C10, available at http://www.nytimes.com/2004/04/29/technology/29apple.html (last visited 7/8/2013).

different ISPs. To defeat other ISPs in online market, ISPs need to obtain licensing from copyright holders as many as possible. Such situation gives copyright holders a relatively advantageous market position in the process of licensing negotiation. Copyright holders, especially the content industry, can expect a better deal from the licensing agreement.

2) enforcement costs

The joint economic benefits are able to account for the cooperation from one perspective. Given that some copyright holders still insist on traditional licensing mechanism, joint economic benefits do not offer them sufficient incentives.

Accordingly, the graduated responses system provides incentives from the second aspect—the enforcement costs.

Under the copyright system, the costs to copyright holders normally include the costs of creation and enforcement costs. The costs of creation are *ex ante* costs which can be calculated and controlled. With advanced digital technology, copyright holders are able to lower down the costs of creation in exchange for revenues through digitization.[31]

The enforcement costs, on the other hand, are more complicated to internalize. Basically, the enforcement costs refer to the costs to discourage and exclude free-riding through identification of infringers and the deterrence to infringement. To deter piracy, copyright holders have to balance two aspects in their enforcement: the identification of infringers, and the efficient deterrence.

[31] Olivier Bomsel & Heritiana Ravaivoson, *Decreasing Copyright Enforcement Costs: The Scope of a Graduated Response*, 6 REV. OF ECON. RES. ON COPYRIGHT Issues 13, 13-6 (2009).

The sanctions by copyright litigations generate sufficient deterrence to infringers. The rationale lies in that the penalty of litigation is severe enough to infringers so as to discourage piracy. Such rationale is especially to infringements occurs in the pre-digital age.

Over the last decade, this option generated heavy burdens to copyright holders. Every online user is a potential infringer and the costs to identify infringers are formidably expensive. For example, the French law sets up the costs to identify a single internet subscriber at €8.5.[32] The TMG, a French mandated technology company for detection, reports to daily detect over 50,000 infringements in France, which means copyright owners need to pay €425,000 to obtain the identity.[33]

Even though copyright holders are able to afford the costs of detection, the costs of litigation prevent them from massive lawsuits. The litigation costs to copyright lawsuits in the US federal courts are expensive for copyright holders to internalize. According to a 2003 American Intellectual Property Law Association's economic survey, a low-stake case costs $101,000 through discovery and $249,000 on trial and appeal. To a high-stake case, the figure amounts to $501,000 on discovery and $950,000 through trial and appeal.[34]

Obviously, the costs to search and identify online infringement become the first barriers to copyright holders. However, copyright holders gradually equip with state of the art technology on identification. The filtering technology incorporates

---

[32] Thierry Rayna & Laura Barbier, *Fighting Consumer Piracy with Graduated Response: an Evaluation of the French and British Implementations*, INT. J. FORESIGHT AND INNOVATION POLICY, Vol.6, No.4 294, at 308 (2010).
[33] *Id.*
[34] *2003 Report of Economic Survey*, AM. INTELL. PROP. ASS'N, 96-7 tbl.22.

digital tags or watermarks into digitized contents. Copyright holders are able to locate these contents and analyze whether they are being distributed without authorization.[35] For instances, the *Comcast* implement automated filtering in their network to identify infringing works.[36]

Filtering technology enables copyright holders to save substantial costs to locate infringement. The graduated response system, by the same token, shares the identical technological feature. Such system imposes certain duty on ISPs which require them to actively monitor the actions of their subscribers, identifying and filtering illegal file-sharing contents, and sending notice to infringing users. Therefore, ISPs become stakeholders in the course of copyright enforcement.

ISPs are generally in a better position to supervise their networks because of the advanced technology. The filtering technology have evolved to a sophisticated level and provides the ISPs with the capability to monitor and control personal data of the subscribers.[37] For example, the Apple iPhone limits a user to install software or programs purchased from Apple's online store. These software or programs are subject to the centralized control and Apple has the capability to access information of their users through their online network.[38]

Under the graduated responses system, copyright holders shift the burden to ISPs on monitoring infringing actions of their subscribers. By sharing the duty with

---

[35] Michael Sawyer, *Filters, Fair use, and Feedback: Generated Content Principles and the DMCA*, 24 Berkeley Tech. L.J. 363, 383 (2009).

[36] Annemarie Bridy, *Graduated Response and the Turn to Private Ordering in Online Copyright Enforcement*, 89 OR. L. REV. 81, 112 (2010).

[37] Paul Ohm, *the Rise and Fall of Invasive ISP Surveillance*, 2009 U. ILL. L. REV. 1417, 1432 (2009).

[38] Timothy B. Lee, *How I learned to Stop Worrying and Love the App Store*, ARS TECHNICA, available at http://arstechnica.com/tech-policy/2011/10/the-iconstitution-how-to-protect-user-freedom-in-an-app-store-world/

ISPs, copyright holders bear fewer costs in the course of copyright enforcement. Therefore, copyright holders are willing to embrace the cooperation under the graduated response system.

2. Cooperative Model on Copyright Management: the underlying incentive

Unlike the cooperative model which focuses on copyright enforcement, the second track of cooperative model turns to copyright management. Simply put, the second track designs an alternative licensing mechanism that enable copyright holders license their works outside the regulation of copyright law. With flexible licensing schemes, the open access program opens a new method for licensing of copyrighted works and provides a different perspective to the tradeoff design under copyright system.

Copyright policy generally strikes the balance between the incentives to copyright holders for creation and the necessity of users' access to copyrighted works.[39] The tradeoff design under copyright system usually appears in the form of limitation or exception to exclusive rights in order to preserve the public with the adequate access to copyrighted works.

Due to the inherent imbalance between the broad "rights" and the narrow "exceptions" in copyright law, copyright holders are in a better position under the copyright system. Under the circumstances, copyright holders are active content providers and ordinary users are passive content receivers.

The popularity and widespread implementation of open access program, however,

[39] Neil W. Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-peer File Sharing*, 17 HARV. J.L. & TECH. 1, at 24 (2003).

indicate that neither copyright holders nor ordinary users should confine themselves into traditional licensing framework. Rather, the inherent incentives under open access program demonstrate that the cooperative model is able to offer alternative channel for licensing and creation of copyrighted works. In short, the cooperative model by means of open access program affects copyright holders and ordinary users with underlying incentives simultaneously.

a) Copyright Holders & Open Access

Under the open access program, copyright holders license their copyrighted works without charging the licensing fees. At first glance, lacking of financial returns will lead to insufficient incentives to copyright holders. Such assumption, however, has been challenged by both theory and practical experiences. In theoretical perspective, behavioral economists have demonstrated that economic benefits are not the only motivation to spur copyright creation. Noneconomic incentives are of equivalently importance.

Scholars in this branch propose that people are drove to engage in activity because they perceive it is interesting and necessary even if the participation in activity does generate monetary benefits.[40] Swiss economist Bruno S. Frey further explains that:

Individuals derive utility not only from income (as is implied in much of received theory) but also from highly valued social relations and from a sense of self-

[40] *Id.*

determination, as well as from capitalizing upon their own competence. Moreover, individuals derive utility from processes, not just from outcomes.[41]

The argument from behavioral economists denotes the existence of noneconomic motivations in the process of creation. To be sure, the monetary motivation provides efficient incentives to the decision making process. In the context of copyright creation and licensing, content industry is driven by financial profits to improve the efficiency of production, explore new markets, and create competitive business model.

However, copyright creation is not solely motivated by financial benefits. In addition to the economic returns, people are naturally driven to write, paint, invent, and compose works by noneconomic incentives.[42]

In practical field, the open access program gives copyright holders reliable and flexible channel to license their works and provides them with extra incentives to spur copyright creation. A case in point is the popularity of the open-source software program.

The open-source software is generally free to be improved, reconfigured, and redistributed without charging of licensing fees.[43] Because of its flexible and diversified licensing mechanism, the open-source software is widespread implemented among software developers community.

---

41 BRUNO S. FREY, HAPPINESS: A REVOLUTION IN ECONOMICS, MIT Press Books, at x (2008).
42 *Id.*
43 *Open-source software*, WIKIPEDIA, http://en.wikipedia.org/wiki/Open-source_software#cite_note-1 (last visited 7/23/2014).

Generally, the most available computer software to the majority software developers and ordinary users is propriety-owned by either Microsoft or Apple. However, this conclusion overlooks the open-source software in computer community. According to a Microsoft's survey, about 60% of internet servers use the Linux open-source operating system.[44] In other words, nearly two thirds of ordinary users have the experience of using open-source software.

Meanwhile, the Granter, world's leading information technology research and advisory company, published a survey in 2008 and claimed that 85% of surveyed companies had used OSS in their business before May 2008 and the remaining 15% to incorporate OSS into their enterprises in the following twelve months.[45] According to the Granter, major adoption of open-source software was to develop and enhance the existing infrastructure components in area where the usage of OSS were most mature, especially for software design.[46]

Moreover, the popular Android operating system also benefits from its own open-source software project.[47] Simply put, the Android system promote the diversity and wealth of available software products and accompanied hardware. For instances, As of July 2013, there were more than one million applications available for Android in the Google Play Store.[48]

---

[44] James Niccolai, *Ballmer Still Searching for an Answer to Google*, PC WORLD, available at http://www.pcworld.com/article/151568/article.html (last visited 7/25/2013).
[45] *Id.*
[46] *Id.*
[47] *Android Open Source Project*, available at http://source.android.com/ (last visited 7/25/2013).
[48] Dan Rowinski, *Google play hits 1 million Apps*, READWRITE, available at http://readwrite.com/2013/07/24/google-play-hits-one-million-android-apps#awesm=~osW8d4DY5RxwRp (last visited 1/14/2014).

Due to the open-source nature, companies like Amazon (Kindle Fire), Barnes & Nobile (Nook), Ouya, and Baidu create and release mobile devices running their own customized version of Android.[49] As a consequence, the Android system become the "default operating system for launching new hardware."[50]

Furthermore, Linux system occupies the high-end searching computing field and nearly 90% of world's supercomputers use Linux.[51] Although the total economic value of open-source software is difficult to estimate, one assumes that it can be $30.6 billion per year.[52]

The popularity of open-source software is largely due to the noneconomic incentives that motivates software developers. Because the open-source software program does not charge for licensing fees under its licensing framework, incentives in economic perspective hardly account for the widespread adoption and popularity.

A survey from a Boston Consulting Group indicates that 684 open-source software programmers acknowledged their participation in the projects was largely because "enjoyment-based intrinsic motivations—namely how creative a person feels when working on the projects—is the strongest and most pervasive driver."[53]

---

[49] Android, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Android_(operating_system)#Reception (last visited 1/14/2014).

[50] Jon Brodkin, *On its 5th Birthday, 5 things we love about Android*, ARS TECHNICA, available at http://arstechnica.com/gadgets/2012/11/on-androids-5th-birthday-5-things-we-love-about-android/ (last visited 1/14/2014).

[51] Steven J. Vaughn-Nichols, *Linux: It Doesn't Get Any Faster*, COMPUTERWORLD BLOGS, available at http://blogs.computerworld.com/linux_it_doesnt_get_any_faster (7/25/2013).

[52] Palle Pedersen, *The Open Source Community as a Top 100 Country*, INSIDE OPEN SOURCE, available at http://www.inside-open-source.com/2007/11/open-source-community-as-top-100.html (last visited 7/25/2013).

[53] Karim R. Lakhani & Robert G. Wolf, *Why Hackers do What They do: Understanding Motivation and Effort in Free/Open Source Software Projects*, PERSPECTIVES ON FREE AND OPEN SOFTWARE 1, at 3 (2005).

Another report on open-source software pinpoints that the project is resulted from "the fun…of mastering the challenge of a given software problem and the design to give a gift to the programmer community…it depends on intrinsic motivations the same as old business model rely on extrinsic motivations."[54]

The open access program not only establishes an alternative licensing scheme that take noneconomic incentives into consideration, but provides individual authors with opportunity to promote their professional career. In music creation field, the strengths of creative commons license are gradually realized and accepted by individual musician.

For example, Jonathan Coulton, a singer-songwriter and musician, licenses his musical works through the Internet under CC licensing.[55] All of his musical works available for streaming or downloading on his website are free so long as users comply with the terms and conditions of the Attribution-Noncommercial License.[56]

On the other hand, music fans can purchase his songs in either digital format for $1 or albums for around $5-$10.[57] Moreover, they have the option to make donations, buy physical CDs or buy exclusive t-shirts on the website. By flexible licensing strategy, Coulton made half a million dollars from his music creation in 2010.[58]

---

[54] DANIEL H. PINK, DRIVE: THE SURPRISING TRUTH ABOUT WHAT MOTIVATE US, Soundview Executive Book Summaries, at 23 (2010)

[55] *Another 'Exception'? Jonathan Coulton Making Half A Million A Year With No Record Label*, TECHDIRT, available at http://www.techdirt.com/blog/casestudies/articles/20110515/23234814274/another-exception-jonathan-coulton-making-half-million-year-with-no-record-label.shtml (last visited 7/25/2013).

[56] *Id.*

[57] *Id.*

[58] *Id.*

Musicians like Jonathan Coulton are usually unknown to the public and not attractive to the record labels. They do not have sufficient audiences and fans who are willing to pay for their musical creation before they become renowned. The CC license provides them with the platform to share their creation inexpensively among the public. As Coulton responded in an interview,

The project brings more exposure, more fans, and more chances for people to pay me—something that wouldn't have happened as easily if the music was all locked up with DRM and the full battery of copyright restrictions…[59]

Under the circumstances, the CC licenses explore an alternative channel for music creation and licensing. Individual musicians or small music groups are able to obtain attention through the CC licensing. They are able to establish their own audiences' group and promote their career inexpensively in the early stage. This prospective result, on the other hand, will inspire more musicians to participate into the program and eventually contribute the wealth of music works.

The experiences from open-source software and the CC license demonstrate that copyright creation and licensing does not entirely rely on economic incentives and the traditional copyright licensing as prerequisite. Rather, the cooperative model enables copyright holders to manage the creation and licensing of copyrighted works through an alternative and prospective method.

Under the circumstances, copyright holders have two options with regard to copyright creation and licensing. Despite traditional copyright licensing are

[59] Case Studies, CREATIVE COMMONS, available at http://wiki.creativecommons.org/Case_Studies/Jonathan_Coulton (last visited 7/25/2013).

mature and primarily implemented by copyright holders, especially the content industry, to manage the creation and licensing of copyrighted works, the open access program provides a second choice of management to copyright holders.

b) Ordinary Users & Open Access

The strengths of open access program not only attract copyright owners, but receive active feedbacks from ordinary users. In other words, the effective operation of the open access program relies on the users' participation. Because ordinary users are consisted of distinctive groups, each group is driven to participate the program by different incentives.

The first group contains ordinary online users who seek to enjoy creative contents with low costs and fewer restrictions. Because online business and licensing is under development and not as mature as offline one, the content industry still insist on traditional licensing framework which hardly keep up with the growing demand from ordinary users.

The content industry usually dominates the traditional market and incorporate the old business model into online environment. The result of their strategy, however, frustrates the online users who constitute the main body of consumers' group. As a result, users are either refuse to legitimate licensing and switch to user-friendly service, or give up legitimate licensing and turn to illegal accessing.

The open access program offers a solution to the problem by providing online users with optional licensing agreements to creative contents. The licensing agreements are usually not confined to a single and rigid framework. Instead,

online users are able to choose the licensing agreement that best fulfills their specific demands.

For example, the Creative Commons licenses cover six different categories of licensing agreements.[60] Each kind of agreement includes distinctive restrictions upon the use of certain work. A user is able to choose an agreement where the terms and conditions are mostly acceptable.

Moreover, the Creative Commons website provides specialized search link for users to locate available contents which are subject to CC licensing agreement.[61] The search link includes several websites and covers different categories of contents such as media, image, music, and video.[62] Although the search link does not guarantee whether a specific work is under CC license or whether it is subject to other restrictions, such convenient tool save users' time in searching potential licensed works.[63]

To be sure, ordinary online users prefer to personal enjoyment on creative contents rather than commercially exploitation. Put another way, ordinary users rarely consider the use of licensed works for commercial purpose. To the contrary, their primary concern is the costs to access creative contents. Because works under CC license are usually free to use, ordinary users bear marginal costs of access. More importantly, the restrictions of CC licenses agreement will not

---

[60] *About the License*, CREATIVE COMMONS, available at http://creativecommons.org/licenses/ (last visited 6/17/2014).
[61] *See* http://search.creativecommons.org/ (last visited 7/25/2013).
[62] *Id.*
[63] *Id.*

discourage ordinary users because they are usually not the target group of the restriction.[64]

The second group of users consists of copyright holders who are individual authors. Because copyright creation relies on preexisting works as "building blocks" to create derivative works, individual authors need sufficient access to all available creative contents. Contrary to ordinary online users, individual authors concentrate on learning, improving, and recreating new works rather than personal enjoyment.

Moreover, their creations always add original contents to existing works and thus increase the value and wealth of works. However, copyright holders exercise strong control over their works and the accessing costs to the works are often expensive. Under the circumstances, individual authors find it difficult to continue their creation under the restrictions.

Generally, copyright holders are entitled to derivative works so long as the work is built upon the preexisting works. The right of derivative work is often referred to adaptation right.[65] Therefore, the derivative author who would like to exploit the works needs negotiation with the copyright holder.[66] Therefore, the transaction costs may impose substantial burden upon both parties. Because creative works will be eventually distributed in exchange for financial benefits,

---

[64] *See* i.e. *Attribution-Noncommercial 3.0 Unported*, CREATIVE COMMONS, http://creativecommons.org/licenses/by-nc/3.0/ (last visited 7/21/2014).

[65] *Copyright in Derivative Works and Compilations*, US COPYRIGHT OFFICE, available at http://www.copyright.gov/circs/circ14.pdf (last visited 7/23/2014).

[66] *Id.*

both parties will not readily reach appropriate licensing agreement before they are able to secure their benefits.

The open access program, to the contrary, provides alternative licensing mechanism to solve the negotiation problem. The licensing agreement clearly designates the restrictions upon using, distribution, and adaption on copyrighted works. Because of the diversified licensing agreements, individual authors are able to choose agreements based on individual demand.

For example, the least restrictive licensing agreement is the Attribution CC License that allows a user to distribute, remix, tweak, and build upon licensed work, even commercially, as long as they credit to the original creation.[67] Individual authors who accept the terms and conditions under such licensing agreement have a broad freedom over the exploitation of works than those under traditional copyright licensing.

Moreover, the licensing process has been greatly simplified and the costs of negotiation are significantly reduced. For one, the licensing process does not require person-in-person meeting and both parties can complete the process online. For another, specific terms and conditions have drafted and both parties can save the costs of negotiation on drafting. As a consequence, individual authors are able to license their works in an efficient method without substantial transaction costs. Both ordinary online users and individual authors benefit from the licensing mechanism under open access program. Compared to traditional copyright

[67] *See* Attribution *supra* note 64.

licensing, the open access program provides them with flexible accessing scheme and fewer restrictions on the exploitation of licensed works.

Furthermore, individual authors who lack of the support from the content industry obtain the opportunity to promote their professional career and customized the licensing of copyrighted works. They are able to establish fans group, gather feedbacks, and commercialize their creative contents without relying on the intermediary. By joining the open access program, individual authors explore an alternative channel for copyright licensing and creation.

***Part Two* the Three Questions**

The unique feature of each model implies the general distinction between the right-holder-centric model and the cooperative model. However, the differences do not explain validity and efficiency of the two models with respect to copyright enforcement and copyright management.

Specifically, two fundamental questions need to be answered:

1) Whether the model works to copyright enforcement, especially on copyright piracy, and

2) Whether the model is reliable to sustain the creation and licensing of copyrighted works.

Based on the answers of the first two questions, the third question further goes that,

3) Which model is the more optimal than the other, or which model should be the ultimate one to replace the other with respect to copyright enforcement and

management.

To answer these questions, a reliable approach is to look into how the right-holder-centric model and the cooperative model operate in practice. Therefore, this section will look into practical experiences of both models and examines the effects respectively.

A. Whether the model works to copyright enforcement

Deterring copyright piracy have long been the major objective to copyright holders in terms of copyright enforcement. Because copyright piracy distorts normal copyright distribution by free riding and deprive copyright holders of revenues, copyright holders take copyright piracy as the prior concern. Accordingly, whether an enforcement strategy is useful and efficient to copyright piracy become the determinative standard.

By the same token, the right-holder-centric model and the cooperative model fall into the identical rationale.

1. *Right-holder-centric model*

The right-holder-centric model includes two major working examples: the private implementation through digital technology and the copyright law enforcement. In general, the copyright law enforcement is more reliable than the private system regarding the control of online piracy, while both cannot say for sure to entirely deter online piracy. In practice, both strategies give rise to undesirable side effects in the course of copyright enforcement.

a) Private Implementation

To begin with, the private implementation through digital technology once was highly accepted and upheld by copyright holders because of its technological advance.

There is no doubt that copyright holders are able to exercise more powerful control to copyrighted works in online environment via the digital technology.

For instances, digital technology enables copyright holders to limit the users' access to digital copies, including the restriction on reproduction, adaption, and distribution.[68] Such attractive feature convince copyright holders that they are able to prevent the unauthorized access to their works.

Moreover, the legislation which primarily prohibits the circumvention of digital technology adds a second layer of protection to copyright holders. Under the circumstances, the private system seems to be the optimal choice to curtailing online piracy and meanwhile provides them with twofold protection on copyrighted works. The reality, however, indicates the quite opposing results.

On the one hand, digital technology fails the expectation from copyright holders to preclude unauthorized access and deter the copyright piracy. Rather, the technology become vulnerable to technical attack by hackers group who are good at breaking down the digital encryption.

For example, the hacker group can employ specialized software to produce a serial counterfeit number which can be used to unlock the licensed contents.[69] Under

---

[68] Hiram Melendez-Juarbe, *DRM Interoperability*, 15 B.U. J. SCI. & TECH. L. 181, 195 (2009).

[69] Ian Kerr, Alana Maurushat & Christian Tacit, *Technological Protection Measures: Tilting at Copyright's Windmill*, 34 OTTAWA L. REV. 7, at 25 (2002-03).

the circumstances, the specialized software actually breaks the technology framework and legal mechanism, resulting in the distribution of unprotected works online.[70]

To make matter worse, the "cracked" version of digital works usually are freely distributed through the Internet and hardly can be retrieved. For example, the well-known principle in IT community is BORA—"break once run anywhere".[71] Specifically, a hacker who invests time and efforts to break the digital technology will choose to distribute the unprotected content with the cracking technology through the Internet. Under the circumstances, ordinary online users merely need internet connection and the knowledge of copying to access the unprotected content.[72]

In the industry of computer games, the disastrous "Zero-day" piracy is the high-profile example of how the circumvention of digital encryption significantly threat the entire industry. As mentioned in Chapter II, the hackers often break down the digital protection on a given computer game on or before its official launch day.[73] As a result, the protection provided by digital technology does not last long as expectation.

One successful case regarding the "Zero-day" piracy was the 2K Australia designed a software to prevent the circumvention to the official launch of its

---

[70] *Id.*

[71] John Black, *the Impossibility of Technology-Based DRM and a Modest Suggestion,* 3 J. TELECOMM. & HIGH TECH. L. 387, at 391 (2005).

[72] *Id.*

[73] Koroush Ghazi, *PC Games Piracy Examined*, TWEAKGUIDES, available at http://www.tweakguides.com/Piracy_1.html (last visited 9/17/2013); for a detailed discussion of "Zero-day" piracy, *also See* Chapter II§C 1.

computer game "Bioshock".[74] However, the so-called success merely lasted for thirteen days.[75] Even the 2K Australia officially admitted the failure of their digital protection on the anti-piracy,

"I don't think we'll do exactly the same thing again, but we'll do something close. You can't afford to be cracked. As soon as you're gone, you're gone, and your sales drop astronomically if you've got a day-one crack."[76]

The weakness of digital protection and the challenge from hackers group demonstrate that digital technology cannot provide secure and absolute protection on copyrighted works. In other words, the private system is uncertain and insecure with respect to its anti-piracy effect.

b) Copyright law enforcement

Compared to the private system, the copyright law enforcement is far more reliable with respect to copyright enforcement, especially on deterring online piracy. Without the aid from digital technology, the copyright law enforcement operates under judicial system.

Because the decisions from courts are generally decisive and influential to copyright infringement, copyright law enforcement is essentially the last resort for copyright holders to guard their exclusive rights.

In general, copyright law enforcement provides injunctive relief and damages as

---

[74] Alec Meer, *Bioshock: The Future of Copy Protection?* Nov. 22nd 2007, available at http://www.rockpapershotgun.com/2007/11/22/bioshock-the-future-of-copy-protection/ (last visited 7/25/2014).
[75] *Id.*
[76] *Strict PC Piracy Measures Here to Say: 2K Australia*, GAMESPOT, available at http://www.gamespot.com/articles/strict-pc-piracy-measures-here-to-stay-2k-australia/1100-6183311/ last visited 7/26/2014).

ultimate measure to deter and control copyright piracy. Put another way, copyright holders rely on injunction and damages to protect their works after infringement occurs. Under the circumstances, the judicial practices on injunction and damages are determinative to the ultimate effects of copyright law enforcement on anti-piracy.

According to judicial practices, the copyright law enforcement is effective on deterring online piracy when targeting on illegal P2P file-sharing network or unauthorized websites.[77] Because injunctive relief force the shutdown of P2P platforms or block the access to illegal websites, such kind of remedy in copyright proves to be effective on ceasing continuous injury.

Due to the powerful injunction, most of the illegal P2P platforms such as Napster, Grokster, LimeWire, and eDonkey were either forced to shut down or switched to legitimate online platform for copyrighted works.[78] The result brings about two substantial benefits.

For one, the shutdown of P2P platforms closes the channel for infringement and reduces the losses to copyright holders to some extent. For instance, In the case of *Napster*, the injunction issued by court successfully ceased mass scope of piracy because nearly 99% of uploading materials were infringing.[79] When it comes to *Grokster*, the shutdown made nearly 70-90% infringing materials unavailable online.[80]

---

[77] For a line of judicial cases, *see* Chapter III § B1.

[78] *See* Chapter III§D 1.

[79] *A&M Records, Inc. v. Napster, Inc*., 239 F.3d 1004, at 1021 (2001).

[80] *MGM Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, at 1158 (2005).

As a result, the shutdown of these P2P platforms successfully ceased the ongoing injury to copyright holders.

For another, the judicial cases in this aspect have deterring effect to other P2P platforms and force them to legitimate licensing. For example, the Napster became a legitimate online music store when it was acquired by Rhapsody from Best Buy in December 2011.[81] The switch from an infringing platform to a legal online business demonstrates that the force from copyright law enforcement often is an important consideration in the decision-making process of online business.

However, the copyright law enforcement is not flawless. Recall the inherent defect of the right-holder-centric model, its imbalance design between copyright holders and other parties often leads to undesirable result. Consequently, copyright holders sometimes employ inappropriate strategy in practice, which leads to counterproductive effects.

One case in point is the awarding of statutory damages to individual online users. As mentioned in chapter III, the *Thomas-Rasset* and *Tenenbaum* case indicate copyright law enforcement may be imposed on inappropriate target and cause disproportional punishment.[82]

The debate of the two cases does not end up with the infringement itself. Both infringers did not dispute their culpable actions.[83] Rather, the focal point concentrates on the identity of two infringers and the disproportional amount of

[81] Ben Sisario, *Rhapsody to Acquire Napster in Deal with Best Buy*, N.Y. TIMES, Oct 3rd 2011,available at http://mediadecoder.blogs.nytimes.com/2011/10/03/rhapsody-to-acquire-napster-in-deal-with-best-buy/?_php=true&_type=blogs&_r=0 (last visited 2/1/2014).

[82] For cases analysis, *See* Chapter III§C 2(a)&(b).

[83] *Id.*

statutory damages. Both defendants in cases kept arguing against the inappropriate amount of statutory damages and petitioned for retrial or appeal.[84] As a matter of fact, the strategy implemented by copyright holders, mainly the content industry, on targeting individual online users in file-sharing cases receives negative comments from the US judicial system. Judge Gertner expressly stated that:

There is a huge imbalance in these cases. The record companies are represented by large law firms with substantial resources. The law is also overwhelmingly on their side…They bring cases against individuals, individuals who don't have lawyers and don't have access to lawyers and who don't understand their legal rights…I can't say this is a situation that is a good situation or a fair situation… The best that I can do given the state of the law and the unequal resources is to try to level the playing field…[85]

Consequently, the central issue switched from blaming and punishing culpable infringers to the sympathy on defendants as well as the query to copyright legislation. The imbalance under the right-holder-centric model demonstrates that such model sometimes add too much weight on copyright holders, while omit or even harm the interests of ordinary users.

The danger lies in that copyright holders may abuse their advantageous position under the right-holder-centric model, breaking down the balance emphasized by

---

[84] *Id.*

[85] Robert J. Ambrogi, *Judge: 'Huge Imbalance' in RIAA Cases*, LAW.COM, available at http://legalblogwatch.typepad.com/legal_blog_watch/2008/10/judge-huge-imba.html (last visited 2/10/2014).

copyright policy. This kind of danger comes from the inherent design of the model and lead to undesirable results in judicial practice, such as the *Thomas-Rasset* and *Tenenbaum* case.

Based on all the above analysis, the right-holder-centric model is a reliable option to copyright enforcement when it focuses on appropriate targets such as commercially scale infringing entity. Targeting on illegal P2P platforms and illegal websites under copyright law enforcement are the right examples.

On the other hand, the right-holder-centric model has a tendency to overly favor of copyright holders and omit the necessary interests of other parties. Copyright holders are easily to implement overwhelming measures and pursue absolute copyright enforcement. As a result, side effects and undesirable results emerge as the byproducts to the inappropriate operation of right-holder-centric model. Therefore, the adoption of this model should be cautious and avoid inappropriate use which break the balance emphasized by copyright policy.

2. *Cooperative model*

Although the cooperative model consists of two tracks, the analysis of its anti-piracy effects primarily focuses on the graduated response system. The second track of cooperative model, namely the open access program, operates outside the copyright system and departs from the mainstream copyright system. In fact, the open access program is inclined to build an alternative route for the creation and licensing of copyrighted works. It barely has direct correlation to the anti-piracy issue.

The graduated responses system has been recently introduced within a short period and only a few jurisdictions have practical experiences regarding its anti-piracy effect. The France is one of the earliest country that introduced the graduated response system. Despite the early adoption, the practical effects of HADOPI system are complicated during the three-year period.

The HADOPI claims the efficiency of its system on a variety of objectives, including the users' reaction upon receiving notices, the P2P usage during the implementation of HADOI system, and the subscription rate to legitimate online business.[86] Based on these statistics, HADOPI announced that this system is effective to deter and control online piracy and educate online users the importance of copyright protection.[87]

According to the HADOPI surveys and reports after the launched of the system, 72% online users declared they reduced or completely stopped their illegal usage after receiving the warning notices.[88] Furthermore, four statistical agencies publish their figures that demonstrate the decrease of usage in P2P network.[89]

However, the HADOPI system also receives challenge and query which makes the system in a pending status. On the one hand, the questions from scholarly community primarily oppugn the credibility of statistic.[90]

---

[86] For a detailed analysis, See Chapter IV§E 1(a).

[87] *Hadopi Annual Report*, HADOPI, available at http://www.hadopi.fr/sites/default/files/page/pdf/rapport-d-activite-hadopi.pdf (last visited 7/26/2014).
at 14-5, (last visited 5/7/2013).

[88] *Hadopi, Cultural property and Internet usage: French internet users' habits and points of view*, RESOURCES, available at http://www.hadopi.fr/sites/default/files/page/pdf/t1_etude_en.pdf (last visited 1/8/2014).

[89] *See e.g.* 17% decline in audience level(Nielson Report); 29% decline in audience level(NetRatings); 43% decline of illegal data sharing(Peer Media technologies); 66% decline of illegal data sharing (ALPA).

[90] *See generally* Rebecca Giblin, *Evaluating Graduated Responses, Forthcoming*, COLUM. J.L. & ARTS, at 36 (2013).

On the other hand, a report on HADOPI system indicated that the system diverted online infringement from P2P network to other infringing platforms rather than legitimate market.[91] More importantly, the report was commissioned by the French government and the government quickly passed a decree that abolished the suspension as a possible penalty for a subscriber who negligently infringe copyright.[92]

To make matter worse, the French Cultural Minister in a subsequent press release announced that the HADOPI agency would be abolished and its "remaining responsibilities allocated elsewhere."[93] All these greatly reduce the credibility of the HADOPI system in terms of its anti-piracy effect.

To be sure, it is still too early to determine the ultimate effect of the graduated responses system. The practical experiences in France can hardly reach a conclusion on the cooperative model with respect to copyright enforcement. The available statistics and evidences are far from sufficient and determinative. After all, countries like France has not more than three-year practical experiences, not to mention the newly entrant such as the U.S. which launches its system for less than one year. Under the circumstances, the cooperative model is a prospective enforcement option, but far from an ultimate solution to online piracy.

Through the analysis, the answer to the first question is relatively clear and certain. The right-holder-centric model, especially the copyright law enforcement, is a

---

[91] *Id.*, at 124.

[92] Bertrand Sautier, *HADOPI to disappear and the French graduated response system to be partially dropped*, IPCAT, available at http://ipkitten.blogspot.com/2013/07/hadopi-to-disappear-and-french.html (last visited 1/7/2014).

[93] *Id.*

more reliable option to copyright holders in terms of copyright enforcement. Because this model emphasizes on the interests of copyright holders and give them prior consideration, it better adapts to protect the interests of copyright holders. The problem lies in its inappropriate implementation which tends to break the balance under the copyright policy and impair other parties' benefits.

The cooperative model, on the other hand, lacks of sufficient empirical data to support its reliability and credibility on copyright enforcement. Rather, it provides with copyright holders and other parties with a prospective landscape: the cooperative partnership to jointly enforce copyright. By establishing cooperation and transferring non-stakeholders into stakeholders, the cooperative model can avoid the side effects under right-holder-centric model.

B. Whether the model is reliable to the management of copyrighted works

A complete circulation of copyright system not only includes the copyright enforcement, but the management of copyrighted works. In other words, an appropriate model should take copyright creation and licensing into consideration and facilitates copyright management.

As aforementioned, the graduated responses system under the cooperative model focuses on the copyright enforcement. Distinguished from the graduated responses system, the open access program contributes to the copyright management. As the second track of the cooperative model, the open access program designs an alternative licensing mechanism to copyrighted works and enable copyright creation outside copyright industry.

On the other hand, the right-holder-centric model accords with mainstream copyright system. Hence, this model enables copyright holders to manage the licensing and creation of copyrighted works under a traditional framework.

Accordingly, this section looks into both the right-holder-centric model and the second track of cooperative model, the open access program, to figure out which models better adapts to the copyright management.

1. Mainstream perception v. Conceptual shifting

Pursuant to basic copyright perception, copyright law protects copyright holder's exclusive rights in order to preserve sufficient incentives to encourage the creation of copyrighted works. It follows that inadequate protection eventually lead to insufficient incentives, which results in insufficient works available to the public.[94] Under the circumstances, mainstream copyright perception recognizes the importance of protection to copyright holders so as to sustain the creation of copyrighted works.

In so far as the mainstream perception, the right-holder-centric model appropriately echoes the requirement by concentrating on the interests of copyright holders. The private implementation through digital technology enhances copyright holders' control on copyrighted works and is upheld by legislation to punish the circumvention of digital technology. As a consequence, the twofold protection ensures strong incentives to copyright holders.

Similarly, the copyright law enforcement follows the traditional approach to

[94] *See* Joyce *supra* note 4, at 67.

protect copyright through the judicial system. The judicial practice demonstrates this enforcement strategy is more efficient than the private system regarding the control of online piracy, especially on infringing entity of commercial scale. According to the rationale, the copyright law enforcement establishes a stable channel to provide copyright holders with sufficient incentives.

To be sure, the reason that the right-holder-centric model accords with mainstream copyright perception is largely due to its design and objective—serving the interests of copyright holders. To the contrary, the open access program goes to a different direction by switching the focal point from the emphasis on copyright holders to the interaction between copyright holders and the users.

One notable argument against the mainstream copyright perception is that collective creation substantially contributes to the creation of copyrighted works and is prospective feature may eventually become the major approach for copyright creation in digital age.[95] Such argument builds upon the reasoning that the difference in quality between the original version and copying version is trivial and thus enables anyone to add, modify, or adapt to the original work with ease.[96] In other words, the advanced digital technology with efficient Internet connection enables each individual online users to contribute creative efforts toward a final, large project.

The entire process follows that disparate individuals with distinctive knowledge

[95] ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY, Part III, 243 (Harvard Univ. Press, 2011).
[96] Gordon Hull, *Digital Copyright and the Possibility of Pure Law*, 14 QUIPARLE 21, 25 (2003); *also See* N.D. BARTRA, DIGITAL FREEDOM: HOW MUCH CAN YOU HANDLE? 4 Lanham, MD: Rowman & Littlefield, 2007).

or capability pool their contributions into a single work and maintain the dynamic creation by editing, reefing, and updating. The open-source software program and the creative commons license project are the high-profile examples.

Moreover, the proponents of collective creation argue that collective contributions to creation of copyright works had long been a tradition under copyright system. For example, they argue that many amateur lexicographers who works on the first edition of *Oxford English Dictionary* contributed substantial amount of individual word usage.[97]

Their argument further goes that technological progress makes collective creation popular and common in online environment. For example, ordinary online users are able to contribute and share stories, commentary, graphic art, and other kinds of content related to a general type pf copyrighted works through the so-called "Fansite".[98]

Based on the argument, the open access program as the second track of cooperative model is established in a shifting concept and distinguished from the mainstream copyright perception.

2. Copyright Management & two Models

The debate in theoretical perspective is inadequate to figure out which model is more appropriate to copyright creation and licensing. Rather, the practical experiences are better to serve as illustration.

---

[97] SIMON WINCHESTER, THE MEANING OF EVERYTHING: THE STORY OF THE OXFORD ENGLISH DICTIONARY (New York: Oxford Univ. Press, 2003).

[98] *Fansite*, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Fansite (last visited 7/27/2014).

To begin with, the open access program under cooperative model indicates its usefulness to copyright management, especially the open-source software program. The success of Android system demonstrate that the cooperative model is sustainable to the creation and licensing of copyrighted works. Because the source code for Android is freely available under Apache Software License (ASL) version 2.0, other copyright holders in software industry can create new proprietary software by integrating the source code into their products, and licenses their products in exchange for revenues.

Since the threshold of entering Android system is so low that most of the software developers are capable to participate in the process. Under the circumstances, the quantity and categories of available software increase based on Android system. Copyright holders are able to license diversified software to meet the demand of their customers. As of July 2013, there were more than one million applications available for Android in the Google Play Store.[99]

Since computer software is under copyright law protection, the copyright holders usually design closed-source proprietary software in order to protect the source code of software. The free release of source code, by contrast, is not the mainstream strategy adopted by most copyright holders. However, Google's practice implies that open-source strategy constitutes an alternative route to create and license software for commercial success.

On the one hand, the adoption of Android system give rise to the diversity and

[99] *See* Rowinski *supra* note 48.

wealth of available apps and devices. Based on a report in the title of "Android Fragmentation Visualized (July 2013)", There are 11,868 distinct Android devices and eight Android versions in use in 2013.[100]

On the other hand, the hardware manufactures also benefit from the openness and flexibility of Android system. Due to the open-source nature, companies like Amazon (Kindle Fire), Barnes & Nobile (Nook), Ouya, and Baidu create and release mobile devices running their own customized version of Android.[101] As a consequence, the Android system become the "default operating system for launching new hardware."[102] According to data from OpenSignal in July 2013, there were 11,868 models of Android device, numerous different screen sizes and eight Android OS versions simultaneously in use.[103]

Despite the success of Android system, it does not follow that open access program will replace traditional creation and licensing of copyrighted works. Still, other big software companies like the Microsoft and the Apple employ closed-source approach to develop their software and rely on the right-holder-centric model to the licensing process.

The dominant position of Microsoft OS in desktop market and the popularity of Apple IOS in mobile devices implies that Google's mode is not the only option to

---

100 Charles Authur, *Android fragmentation "worse than ever"—but OpenSingal says that's good*, The Guardian, Jul. 31st 2013, available at http://www.theguardian.com/technology/2013/jul/30/android-fragmentation-visualised-opensignal (last visited 1/14/2014).

101 Android, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Android_(operating_system)#Reception (last visited 1/14/2014).

102 Jon Brodkin, *On its 5th Birthday, 5 things we love about Android*, ARS TECHNICA, available at http://arstechnica.com/gadgets/2012/11/on-androids-5th-birthday-5-things-we-love-about-android/ (last visited 1/14/2014).

103 *See* Authur *supra* note 100..

developing software products. Rather, both the right-holder-centric model and cooperative model by open access program promotes the development of software industry.

The coexistence of closed-source software and open-source software in fact broaden the market and increase the diversity of available software products to the public. To sum up in a word, both models become indispensable components to sustain the software creation and licensing.

Unfortunately, the software case is a highly limited insofar as the copyright management. Currently most content industries prefer to the right-holder-centric model rather than the cooperative model in order to ensure the financial returns to their huge investment and protect their commercial products from uncompensated use. A case in point is the music industry with respect to the investment in music creation and licensing.

According to the IFPI statistics, in 2011 the major record companies are estimated to have invested $4.5 billion US dollars worldwide in artists and repertoire (A&R) with marketing.[104] The investment in this aspect accounts for approximately 26% of the industry revenues.[105] Compared to other industries, the music industry invest substantially in the A&R aspect. Based on the statistics by UK Department of Business Innovation & Skills, the global 16% A&R investment in music industry ranks at top compared to Pharmaceutical & Biology (15.3%), software

[104] *Investing in Music 2012*, IFPI, available at http://www.ifpi.org/content/library/investing_in_music.pdf (last visited 2/11/2014).
[105] *Id.*

& computer service (9.6%), Technology & hardware (7.8%), etc.[106]

In addition to the huge investment to discover talented musician, the music industry need to support emerging artists with a variety of investment in order to promote their professional career. Although the investment by a major record company in a newly-signed artist varies from countries to countries, the typical components are generally the same. These are payment of advances, financing of record costs, production of videos, tour support, marketing and promotion.[107] An average investment usually amounts to $750,000 to 1.4 million, including $200,000 of advance, $200,000 to $300,000 of recording, $50,000 to $300,000 for two or three videos, $100,000 for tour support, and $200,000 to $500,000 for marketing and promotion.[108]

Based on the figures and statistics, it is fairly understandable why copyright holders in music industry regard online music piracy as the major threat to their copyright management. The substantial amount of investment on discovering and nurturing musicians demand sufficient financial returns as the funding to next round of investment.

Online piracy, however, break the channel of revenues and disrupt the circulation of investment. Therefore, copyright holders, especially the music industry, need a reliable enforcement strategy to sustain the circulation of their creation and licensing. Under the circumstances, the right-holder-centric model is more

106 *Id.*
107 *Id.*
108 *Id.*

appropriate and reliable option than the open access program under cooperative model.

Someone may argue that the creative commons license also includes successful example such as individual musician, Jonathan Coulton, who promote his professional career. Moreover, the band Nine Inch Nails successfully employ the CC license to release one of their albums for free and eventually receive sales success of another album. Hence, proponents to the CC license argue that this licensing framework works to substitute traditional licensing mechanism under copyright system.

There is no doubt Jonathan Coulton and the Nine Inch Nails obtain their success through the adoption of CC licenses. However, their success does not mean the failure of traditional copyright licensing mechanism.

Rather, the successful examples in CC licenses constitutes a supplementary option to the music industry. The Jonathan Coulton is an unsigned musician who cannot obtain an agreement with the major record companies. To make himself known to audiences and establish his own fans base, he release his music under the CC licenses. In other words, the CC licenses provides him with an alternative route to continue his music profession. Had he accepted by a record company, he would not refer to the CC licenses to promote his career and to make a living.

As aforementioned, the investment by music companies are exceptional high in figure and a newly signed artist usually receive substantial benefits through the investment.

Under the circumstances, the Jonathan Coulton case merely indicates an alternative route of creation and licensing copyrighted music. To artists who are not competitive and cannot obtain support from the content industry, the open access program open a new gate for them to promote professional career.

In summary, both the right-holder-centric model and the cooperative model provide benefits to copyright holders in the course of copyright management. Each model contributes to copyright management from different perspectives. The right-holder-centric model accords with mainstream copyright system and provide copyright holders with a reliable and certain approach to ensure the rewards to their intellectual contribution as well as financial investment.

On the other hand, the cooperative model establishes an alternative route which enable copyright holders to manage their creation and licensing with flexibility. The flexible mechanism better adapt to the evolving online environment and distinctive demand of online users. As a result, the cooperative model supplements the incapability of right-holder-centric model in terms of copyright licensing and creation.

3. Which model is more appropriate and better

Based on the analysis of first two questions, the third question does not lead to a simple and clear answer. The right-holder-centric model displays more efficiency on deterring copyright piracy than the cooperative model, while the inherent imbalance in the right-holder-centric model risks the danger of disproportional enforcement and side effects. The imbalance by right-holder-centric is highly

possible to cause undesirable results in the course of copyright enforcement.

On the other hand, the cooperative model between copyright holders and ISPs open a new landscape to online copyright enforcement. The flexible enforcement measures and joint enforcement strategy are more efficient than enforcement by single party. Since such enforcement system is relatively new and under development, its ultimate effects still need more time and practices.

With respect to copyright management, two models operates under different circumstances. For creation and licensing under copyright system, the right-holder-centric provides copyright holders with reliable approach to sustain their investment with certainty.

The cooperative model, to the contrary, primarily serves as alternative route for copyright holders to manage the creation and licensing of copyrighted works. The low threshold for creation and the flexible licensing mechanism provided by open access program preserve a second option for copyright holders to customize their creation and licensing.

To sum up, the existence of two models is the result of copyright development and the interaction between different parties in the digital age. Both models should work together to online copyright enforcement and management. The supplementary feature of the two models to each other serves to maintain the integrity and the balance of copyright system.

***Part Three* Lessons from Two Models**

1. Developing Alternatives to Copyright Enforcement and Management is a

Reasonable Strategy

The existing two models constitute the full landscape of copyright enforcement and management in the digital age. At first glance, the two models goes to two contrary directions. The right-holder-centric model builds upon mainstream copyright perceptions. Its major concentration lies in the interests of copyright holders. In terms of specific enforcement strategies, the right-holder-centric usually enhances copyright holders' control on their works and omit the interest of other parties. As a result, the right-holder-centric sometimes leads to side effects and undesirable results in practice by breaking the balance under the copyright system.

On the other hand, the cooperative model requires cooperation between copyright holders and other copyright participants such as ISPs or online users. Although copyright holders still focuses on their interests, the design of cooperative model forces them to take other parties' interests into consideration.

In general, copyright holders must share benefits with ISPs or online users in order to establish the cooperative partnership and recoup benefits of the cooperation. Under the circumstances, the cooperative model supplements the weakness of the right-holder-centric model by removing the inherent imbalance between copyright holders and other parties.

The distinction between two models does not lead to the competing tension and makes one to replace the other. To the contrary, copyright holders adopt different models to enforce and manage their copyright. As a matter of fact, the coexistence

of two models implies that not a single one can take charge of the evolving copyright system in the digital age.

The cooperative model by means of the graduated responses system builds upon digital technology and makes the online enforcement more convenient to copyright holders. The costs of enforcement under this system is basically fewer than those under right-holder-centric model because the ISPs will bear partial costs in the process. Under the circumstances, the cooperative model functions as alternative option to the right-holder-centric model in terms of copyright enforcement. Therefore, the cooperative model is more like a supplementary system rather than a substitution.

Moreover, the creation and licensing of copyrighted works is also promoted by the coexistence of two models. The prosperity of software industry is founded on the two-track development of software design. For one, closed-source software are dominant to the major software companies and the copyright holders of these software usually prefer to the right-holder-centric model.

For another, open-source software open a new route for software design by releasing the source code with less restrictions. As a consequence, the difference does note lead to conflict but increase the wealth and diversity of available software which better meets the demands from the users' group.

2. Transforming Non-stakeholders to Stakeholders is a Prospective Strategy

As aforementioned, the right-holder-centric model accords with the mainstream copyright perceptions because it serves the interests of copyright holders. Such

feature follows that only the copyright holders' group under copyright system can obtain benefits and there are strong incentives to support the operation of the right-holder-centric model.

As to non-stakeholders like online users or ISPs, however, this model is inefficient to convince them the importance of online copyright protection because they are generally indifferent to the beneficial aspect of the model. To make matter worse, they sometimes have to bear the side effects and undesirable results of the right-holder-centric model, which makes counterproductive effects to the interaction between copyright holders and other parties in the course of copyright enforcement and management.

The cooperative model, by contrast, attempts to transform non-stakeholders to stakeholders by providing viable benefits to other participants such as ISPs and online users. Being the stakeholders to copyright holders under the cooperative model, both ISPs and online users will have solid incentives to join the cooperation and promote the development of cooperative model. The ultimate objective of the transforming is to establish a harmony environment to copyright protection.

Although the cooperation is operating within a short period without certainty of success, ISPs would actively embrace the cooperative model once the benefits are secured and exceeds their expectation. By cooperating with copyright holders, ISPs will switch their stance from indifferent intermediary to active proponents of copyright protection. By the same token, online users can follow the same route

to become the stakeholders to copyright holders through the participation of the open access program.

Therefore, transforming non-stakeholders to stakeholders can facilitate the process of copyright enforcement and management to a large extent. The stakeholders can become the partner in the process, or at least learn the importance of copyright protection during the process. To sum up, such strategy is good to gradually change their stance and perception: once become the stakeholders, it is less likely for them to act against own benefits.

Chapter VII Conclusion

Copyright enforcement and copyright management are indispensable components in the copyright system. Copyright enforcement ensures the protection of copyrighted works. Meanwhile, copyright management relies on copyright enforcement to secure the benefits in the course of creation and licensing of copyrighted works. Stepping into the digital age, copyright enforcement and management still are of paramount importance.

Under the circumstances, this dissertation conceptualizes copyright enforcement and copyright management into two models: the right-holder-centric model and the cooperative model. Each model includes the specific strategies adopted by copyright holders as well as other parties in the course of copyright enforcement and management.

To begin with, copyright holders rely on the right-holder-centric model as the major option. This model emphasizes the interests of copyright holders and takes their benefits as prior consideration.

More importantly, the right-holder-centric model accords with the mainstream copyright perception as well as legislative history under the copyright system. Simply put, both the labor theory and the utilitarian rationale emphasize the importance of rewarding creators who contributes to intellectual creation. Copyright holders thus become the major consideration in both theories. By echoing this aspect, the right-holder-centric model accords with the mainstream copyright theory and the accordance also justifies its adoption in online

environment.

By the same token, the legislative history of copyright statutes justifies the right-holder-centric model. The legislative history of U.S. copyright law is just the case in point. The copyright statutes in U.S. gradually extended the copyright term on copyrighted works, and further removed the notice requirement of copyrighted works.[752] As a consequence, copyright holders enjoy more protection and copyrighted works become more difficult to fall into the public domain, resulting in the imbalance between copyright holders and the public.

In addition to the accordance with copyright system, the right-holder-centric model also provides specific benefits to copyright holders in terms of copyright enforcement. Basically, copyright holders have two optional strategies under this model. One is to rely on private implementation through digital technology to protect copyrighted works.

The private system employs digital technology to grant copyright holders an enhanced level of control over their copyrighted works. Moreover, the system is upheld by the copyright legislation on the issue of circumvention against digital technology. Under the circumstances, the private system as optional strategy provides copyright holders with a twofold protection.

In addition, copyright holders employ the copyright law enforcement as the second optional strategy. Copyright law enforcement builds upon copyright law and primarily targets copyright infringement through judicial system. Therefore,

[752] *See* generally Chapter VI Part One A§2.

such strategy is usually decisive and overwhelming in the course of copyright enforcement. In practice, copyright holders often depend on copyright law enforcement as the most effective strategy to deter infringement and compensate their losses.

The right-holder-centric model primarily concentrates on copyright enforcement. In other words, this model functions to protect copyrighted works and deter piracy. Ideally speaking, the creation and licensing of copyrighted works would not be adversely affected if the right-holder-centric model works to achieve its objective. The reality, however, indicates that the right-holder-centric model is not flawless. In practice, the right-holder-centric model leads to side effects and undesirable results.

On the one hand, the private implementation system through digital technology fails to protect copyrighted works and prevent unauthorized access due to technological weaknesses. Rather, the enhanced control provided by digital technology has gradually been changed to a more user-friendly strategy in the area of online licensing.

On the other hand, although copyright law enforcement experiences success in the enforcement against P2P platforms, its inappropriate implementation by copyright holders leads to undesirable practical results. Simply put, the danger of disproportional enforcement on inappropriate targets makes copyright law enforcement a less reliable strategy than expected. Specifically, the awarding of statutory damages to individual end-users in recent judicial cases demonstrates

the undesirable practice.[753]

The downside of right-holder-centric model calls for new consideration. Building upon digital technology, the cooperative model emerges as the second model to copyright enforcement and management in the digital age. Since digital technology has been changing the landscape of copyrighted system, it establishes a solid foundation to develop the cooperative model with respect to copyright enforcement and management.

According to its literal meaning, the cooperative model establish cooperation between copyright holders and other parties. Unlike the right-holder-centric model, the cooperative model includes two tracks by focusing on copyright enforcement and management respectively.

The first track concentrates on copyright enforcement by means of the graduated responses system. The system establishes the cooperative partnership between copyright holders and ISPs in the course of online copyright enforcement. Under the system, ISPs need to monitor activities of their subscribers and cooperate with copyright holders to take actions against infringement.

On the other hand, the second track focuses on copyright management, especially on the creation and licensing of copyrighted works. The working example in this aspect is the open access program, which allows copyright holders to distribute their works to the public under an alternative licensing mechanism with fewer restrictions and control, such as open-source software project or creative

[753] *See* generally Chapter III §C 2.

commons license.

The cooperation takes advantage of the online platform and technology to enable widespread participation in the creation and flexible licensing of copyrighted works. This not only enhances the quality of copyrighted works, but increase the diversity and wealth of available works. A successful example is the popular Android system licensed under the open-source software project.[754]

In summary, the two-track design cooperative model establishes cooperative partnership with respect to copyright enforcement and management. Compared to the right-holder-centric model, ISPs and ordinary users obtain substantial benefits under the cooperative model. Because of the available benefits, the cooperative model is able to discover new stakeholders and sustain its operation by means of cooperation.

To be sure, the cooperative model includes weakness as well. For one, the graduated response system has existed for a short period with inadequate empirical data to reach a certain conclusion on its efficiency in terms of online copyright enforcement.

As a matter of fact, proponents of the graduated responses system argue its usefulness for controlling online piracy, whereas opponents points out its ineffectiveness. Therefore, the cooperative model still need more practice and convincing data to establish its credibility.

Moreover, the open access program constitutes an alternative route in terms of the

[754] *See* generally Chapter IV D § 1 (b).

creation and licensing of copyrighted works. It is true that such alternative approach encourage widespread participation and enable flexible licensing process. However, the open access program barely account for the copyright management at commercial level.

For example, most successful cases and examples in creative commons license are in the area of music industry in limited quantity and as an exception.[755] In other words, copyrighted works created and licensed through content industry is indispensable to sustain the entire circle of copyright system.

Copyright creation and licensing at commercial level demand investment, distribution, and marketing. To create high quality of works, maintain the commercial circulation, and to ensure substantial revenues, copyright holders generally rely on right-holder-centric model to sustain the management of their copyrighted works. Therefore, the cooperative model cannot replace the right-holder-centric model with respect to copyright management

To sum up, both right-holder-centric model and the cooperative model support copyright enforcement and management. Neither one can replace the other. Rather, both models mutually supplement the incapability of each one in the course of copyright enforcement and management.

The coexistence of two models actually provides multiple options to copyright holders and other parties. Under the circumstances, they are able to weigh the costs and benefits of two models and choose the most appropriate one based on

[755] *See* generally Chapter IV D § 2 (b).

specific circumstances.

Furthermore, the operation of two models generate enlightenment to general development of copyright system. On the one hand, developing alternative mechanism is better than relying on a single mechanism. On the other hand, transforming non-stakeholders to stakeholders constitutes the joint benefits. By expanding the group of stakeholders, copyright holders are able to convince other parties the importance of copyright protection, and meanwhile increase the efficiency of copyright enforcement and management. By working with copyright holders, ISPs and online users respectively enjoy the benefits that cannot be expected without the cooperation.

BIBLIOGRAPHY

Statutes & Cases

Art. I §8 of US Constitution.

Art. 11-2 of WCT.

Art. 18-9 of WPPT.

§1201-02 of US DMCA.

Art. 6-7 of EU Directive 2001/29/EC.

Art. 4-5 of Regulation on Protection of the Right to Network Dissemination of Information (RPRNDI).

17 U.S.C. §1201(a).

17 U.S.C. §1201(b).

17 U.S.C. §1201(c).

Universal City Studios v. Reimerdes, 111 F. Supp. 2d 294 (S.D.N.Y. 2000).

Universal City Studios v. Corley, 273 F.3d 429,455(2d Cir. 2001).

United States v. Elcom Ltd., 203 F.Supp.2d 1111, 1117-1118 (N.D. Cal. 2002).

321 Studios v. MGM Studios, Inc., 307 F. Supp. 2d 1085 (N.D. Cal. 2004).

TRIPS: Text of the Agreement, WORLD TRADE ORGANIZATION.

UMG Recording, Inc. v. MP3.com, Inc., 92 F. Supp.2d 349 (S.D.N.Y.2000).

Religious Technology Center v. Netcom, 923 F. Supp. 1231 (N. D. Cal. 1995).

A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004, (9th Cir. 2001).

MGM Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, at 937-38 (2005).

Statute of Anne, 1710, 8 Ann., c. 19.

17 U.S.C. §502.

Nat'l Football League v. McBee & Bruno's, Inc., 792 F.2d 726 (8th Cir. 1986).

Pac & S. Co., Inc. v. Duncan, 744 F.2d 1490 (11th Cir. 1984).

N.Y. Times Co. v. Tanisi, 533 U.S. 483 (2001).

Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569 (1994).

In re Aimster Copyright Litigation, 334 F.3d 643, at 647 (7th Cir. 2003).

University City Studios Productions LLLP v. Bigwood, 441 F. Supp. 2d 185, at 189 (U.S.D. Me. 2006).

UPC Telekabel Wien GmbH v Constantin Film Verleih GmbH and Ors (C-314/12).

§97 of Copyright, Design and Patent Act 1988.

European Union (Copyright and Related Rights) Regulations 2012.

§5(A)(a) of Copyright and Related Rights Act 2000.

EMI Records Ireland Ltd & Ors v UPC Communications Ireland Ltd & Ors, [2013] IEHC 274 (12 June 2013).

17 U.S.C. §504(b).

Abeshouse v. Ultragraohics, Inc., 754 F.2d 467 (2d Cir 1985).

Stevens Linen Assocs. Inc. v. Mastercraft Crop., 656 F.2d 11, 14 (2d Cir. 1981).

H.R. REP. No. 94-1476.

Deltak Inc. v. Advanced Sys. Inc., 547 F.Supp.400, (N.D. Ill.1983).

Cream Records, Inc. v. Jos. Schlitz Brewing Co., 754 F.2d 826 (9th Cir 1985).

Kamar Int'l v. Russ Berrie & Co., 752 F.2d 1327 (9th Cir. 1984).
F. W. Woolworth Co. v. Contemporary Arts, Inc., 344 U.S. 228, 233 (1952).
17 U.S.C. §504(c)(1).
N.A.S. Imp. Corp. v. Chenson Enters., Inc., 968 F.2d 250, 252 (2d Cir. 1992).
BMG Music v. Gonzales, 430 F.3d 888 (7th Cir. 2005).
Disney Enterprise v. Farmer, 427 F. Supp. 2d 807, at 811 (U.S.D.Ma 2006).
Capitol Records, Inc. v. Thomas-Rasset, 692 F.3d 899, at 903(8th Cir. 2012).
Sony BMG Music Entertainment v. Tenenbaum, 660 F.3d 487, at 490 (1st Cir. 2011).
Los Angeles Times, Inc. v. Free Republic, 2000 U.S. Dist. LEXIS 5669 (C.D. Cal. Apr. 2000).
Act of Oct. 28, 1998, Pub. L. 105-304, § 201, 112 Stat. 2860.
S. REP. No. 105-190, at 8 (2d Sess. 1998).
H.R. REP. No. 105-551, Part 2, (2d Sess. 1.998).
Corbis Corporation v. Amazon.com, Inc., 351 F. Supp. 2d 1090 (W.D. Wash. 2004).
Viacom International, Inc. v. YouTube, Inc., 676 F.3d 19 (2d Cir. 2012).
Perfect 10, Inc. v. CCBill LLC, 448 F. 3d 1102 (9th Cir. 2007).
Art.336-3, Intellectual Property Code of 1992.
Art. 40-43 of Enforcement Decree of Copyright Act 22003.
Sonny Bono Copyright Extension Act of 1998, Pub. L. No. 105-298, §102, 112 Stat. 2827 (1998).
Eldred v. Ashcroft, 537 U.S. 186, 248 (2003).
Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975).

Books & Articles

CRAIG JOYCE ET AL., COPYRIGHT LAW, §1.06 (9th ed. 2013).
Ian Kerr, Alana Maurushat & Christian Tacit, *Technological Protection Measures: Tilting at Copyright's Windmill*, 34 OTTAWA L. REV. 7, 25 (2002-03).
JOAN VAN TASSEL, DIGITAL RIGHTS MANAGEMENT: PROTECTING AND MONETIZING CONTENT, Elsevier, 77 (2006); *also see* Kerr et al. *supra* note 24, at 25.
Hiram Melendez-Juarbe, *DRM Interoperability*, 15 B.U. J. SCI. & TECH. L. 181, 195 (2009).
Priti Trivedi, *Writing the Wrong: What the E-Book Industry can Learn from Digital Music's Mistakes with DRM*, 18 J.L. & POL'Y 925, 943 (2009-10).
Nicola F. Sharpe & Olufunmilayo B. Arewa, *Is Apple Playing Fair? Navigating the iPod FairPlay DRM Controversy*, 6 NW. J. TECH. & INTELL. PROP. 332, 335 (2007).
Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U.L. REV. 354 (1999).
Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U.L. REV. 1, at 18 (2004).
Stacy F. McDonald, *Copyright for Sale: How the Communication of Intellectual Property Distorts the Social Bargain Implicit in the Copyright Clause*, 50 HOW.

L.J. 541, at 561 (2007).
Jacqueline D. Lipton, *Solving the Digital Piracy Puzzle: Disaggregating Fair Use from the DMCA's Anti-device Provisions*, 19 HARV. J.L. & TECH. 111, at 126 (2005-2006).
Niva Elkin-Koren, *Making Room for Consumers under the DMCA*, 22 BERKELEY TECH. L.J. 1119, at 1124 (2007).
John Black, *the Impossibility of Technology-Based DRM and a Modest Suggestion*, 3 J. TELECOMM. & HIGH TECH. L. 387, at 388 (2005).
Andrew V. Moshirnia, *Giant Pink Scorpions: Fighting Piracy with Novel Digital Rights Management Technology*, 23 DEPAUL J. ART TECH. & INTELL. PROP. L. 1, at 3 (2012).
Leah Belsky & Byron Kahr, *Everything in Its Right Places: Social Cooperation and Artist Compensation*, 17 MICH. TELECOMM. TECH. L. REV.1, 7 (2010).
Will Moseley, *A New (Old) Solution for Online Copyright Enforcement After* Thomas *and* Tenenbaum, 25 BERKELEY TECH L.J. 311 (2010).
Thomas H. Gomez-Arostegui, *What History Teaches us about Copyright Injunctions and the Inadequate-Remedy-at-law Requirement*, 81 S. CALIF. L. REV. 1197, 1201 (2008).
Kate Cross, David v. Goliath: *How the Record Industry is Winning Substantial Judgments against Individual for Illegally Downloading Music*, 42 TEX. TECH L. REV. 1031, at 1039 (2009-2010).
Priscilla Ferch, *Statutory damages Under the Copyright Act of 1976*, 15 LOY. U. CHI. L.J. 485, 504 (1984).
MARSHALL A. LEAFFER, UNDERSTANDING COPYRIGHT LAW, LexisNexis 459 (5th ed. 2010).
PAUL GOLDSTEIN, GOLDSTEIN ON COPYRIGHT, Vol.II §14.2, at 14:41 (3rd ed. 2005).
Kim F. Natividad, *Stepping It Up and Taking It to the Streets: Changing Civil & Criminal Copyright Enforcement Tactics*, 23 BERKELEY TECH. L. J. 469, 477 (2008).
Pamela Samuelson & Tara Wheatland, *Statutory damages in Copyright Law: A Remedy In Need of Reform*, 51 WM. & MARY L. REV. 439, (Nov. 2009).
Daniel Lieberman, *A Homerun for Three Strikes Law: Graduated Responses and its Bid to Save Copyright*, Journal of the Copyright Society of the USA, Vol.59, No.2 (Winter 2012).
Peter K. Yu, *the Graduated Response*, 62 Fla. L. Rev. 1373 (2010).
Will Moseley, *A New (Old) Solution for Online Copyright Enforcement after* Thomas *and* Tenenbaum, 25 BERKELEY TECH L.J. 311, at 332 (2010).
Kim F. Natividad, *Stepping It Up and Taking It to the Streets: Changing Civil & Criminal Copyright Enforcement Tactics*, 23 BERKELEY TECH. L. J. 469, 477 (2008).
Alain Strowel, *The "Graduated Response" in France: Is It the Good Reply to Online Copyright Infringements?* COPYRIGHT ENFORCEMENT AND THE INTERNET, 155 (Irene A. Stamatoudi ed. 2010).
Rebecca Giblin, *on the (new) New Zealand gradated response law (and why it's*

unlikely to achieve its aim), 62(4) TELECOMMUNICATION JOURNAL OF AUSTRALIA, 54.1 2011.

Mary LaFrance, *Graduated Response by Industry Compact: Piercing the Black Box*, 30 CARDOZO ARTS & ENT. L. J. 165, at 166 (2012).

Sun-Young Moon & Daeup Kim, *the "Three Strikes" Policy in Korean Copyright Act 2009: Safe or Out*? 6 WASHINGTON JOURNAL OF LAW, TECHNOLOGY & ARTS. 171, 175-176 (2011).

Rebecca Giblin, *Evaluating Graduated Responses, Forthcoming*, COLUM. J.L. & ARTS, at 36 (2013).

Mark A. Lemley & Ziv Shafir, *Who choose Open-source software?* 78 U CHI. L. REV. 139 (2011).

David Freeance, *Economic Interests and* Jacobsen v. Katzer*: Why Open Source Software Deserves Protection under Copyright Law*, 39 N.M.L. REV. 549, 552 (2009).

David Freeance, *Economic Interests and* Jacobsen v. Katzer*: Why Open Source Software Deserves Protection under Copyright Law*, 39 N.M.L. REV. 549, 552 (2009).

LAWRENCE LESSIG, FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY, 268-271, Penguin Press (2004).

J. LOCKE, SECOND TREATISE OF GOVERNMENT, Ch.5 (1690).

ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY, 49-67, Harvard University Press (2011).

RAJSHREE CHANDRA, KNOWLEDGE AS PROPERTY, Oxford University Press 93-95 (2010).

Olivier Bomsel & Heritiana Ravaivoson, *Decreasing Copyright Enforcement Costs: The Scope of a Graduated Response*, 6 REV. OF ECON. RES. ON COPYRIGHT Issues 13, 13-6 (2009).

Thierry Rayna & Laura Barbier, *Fighting Consumer Piracy with Graduated Response: an Evaluation of the French and British Implementations*, INT. J. FORESIGHT AND INNOVATION POLICY, Vol.6, No.4 294, at 308 (2010).

Michael Sawyer, *Filters, Fair use, and Feedback: Generated Content Principles and the DMCA*, 24 Berkeley Tech. L.J. 363, 383 (2009).

Annemarie Bridy, *Graduated Response and the Turn to Private Ordering in Online Copyright Enforcement*, 89 OR. L. REV. 81, 112 (2010).

Paul Ohm, *the Rise and Fall of Invasive ISP Surveillance*, 2009 U. ILL. L. REV. 1417, 1432 (2009).

Neil W. Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-peer File Sharing*, 17 HARV. J.L. & TECH. 1, at 24 (2003).

BRUNO S. FREY, HAPPINESS: A REVOLUTION IN ECONOMICS, MIT Press Books, at x (2008).

Hiram Melendez-Juarbe, *DRM Interoperability*, 15 B.U. J. SCI. & TECH. L. 181, 195 (2009).

Ian Kerr, Alana Maurushat & Christian Tacit, *Technological Protection Measures: Tilting at Copyright's Windmill*, 34 OTTAWA L. REV. 7, at 25 (2002-03).

Other Resources

Open Access, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Open_access

CGMS-A, WIKIPEDIA, available at http://en.wikipedia.org/wiki/CGMS-A

Digital Rights Management, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Digital_rights_management

About WIPO, WIPO, available at http://www.wipo.int/about-wipo/en/

Daniel Eran, *How FairPlay Works: Apple's iTunes DRM Dilemma*, ROUGHLYDRAFTED, available at: http://www.roughlydrafted.com/RD/RDM.Tech.Q1.07/2A351C60-A4E5-4764-A083-FF8610E66A46.html

Para-copyright, Wikipedia, available at http://en.wikipedia.org/wiki/Para-copyright

US v. ElcomSoft Sklyacov, ELECTRONIC FRONTIER FOUNDATION, available at https://www.eff.org/cases/us-v-elcomsoft-sklyarov

Amazon Kindle: License Agreement and Terms of Use, available at http://web.archive.org/web/20110109000847/http://www.amazon.com/gp/help/customer/display.html?ie=UTF8&nodeId=200144530

FairPlay Restrictions, WIKIPEDIA, available at http://en.wikipedia.org/wiki/FairPlay#Restrictions

ITunes Preview, available at https://itunes.apple.com/us/genre/music/id34

Apple Introduces iTunes—World's Best and Easiest to Use Jukebox Software, APPLE PRESS INFO, available at http://www.apple.com/pr/library/2001/01/09Apple-Introduces-iTunes-Worlds-Best-and-Easiest-To-Use-Jukebox-Software.html

ITunes, WIKIPEDIA, available at http://en.wikipedia.org/wiki/ITunes#Music

The NPD Group-After 10 Years Apple Continues Music Download Dominance in the US, PRESS RELEASE, available at https://www.npd.com/wps/portal/npd/us/news/press-releases/the-npd-group-after10-years-apple-continues-music-download-dominance-in-the-u-s/

Authorized your Computer, ITUNES SUPPORT, available at http://www.apple.com/support/itunes/authorization/

Can't burn a CD in iTunes for Windows, available at http://support.apple.com/kb/ts1436

John Borland, *Apple Fights RealNetworks works' "hacker tactics"*, CNET NEWS, Dec. 14th 2004, available at http://news.cnet.com/2100-1027_3-5490604.html

Thoughts on Music, APPLE, available at http://www.apple.com/au/hotnews/thoughtsonmusic/

Huge Hart, *EMI's Last-Ditch Effort: DRM-free Music*, WIRED, available at http://www.wired.com/entertainment/music/news/2007/04/emi_business0403

Apple to end music restrictions, BBC NEWS, Jan. 7th 2009, available at http://news.bbc.co.uk/2/hi/technology/7813527.stm

Julian Sanchez, *SOPA, Internet Regulation, and the Economics of Piracy*, ARTS TECHNICA, Jan.18th 2012, available at http://arstechnica.com/tech-policy/2012/01/internet-regulation-and-the-

economics-of-piracy/
Koroush Ghazi, *PC Games Piracy Examined*, TWEAKGUIDES, available at http://www.tweakguides.com/Piracy_1.html
Rob Lightner, *How to Read EPUB files on your Kindle*, CNET, available at http://howto.cnet.com/8301-11310_39-57319379-285/how-to-read-epub-files-on-your-kindle/
Angela Daly, *E-books monopolies and the law*, at 12, SSRN, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2377589
Robert Cookson, *Publishers Task to Unlock Ebook Market*, *Financial Times*, available at http://www.ft.com/cms/s/0/a8f285ee-2370-11e2-bb86-00144feabdc0.html
Jon Page, *Device Wars: the Battleground is not What you Read but What you Read on*, BITE THE BOOK, available at http://bitethebook.com/2013/02/05/device-wars/
Brier Dudley, *Kindle hacking, iPod parallels and a chat with the Kindle director*, THE SEATTLE TIMES, available at http://blog.seattletimes.nwsource.com/brierdudley/2007/11/chatting_with_amazons_kindle_d.html
Welcome to Amazon's Kindle Direct Publishing, available at https://kdp.amazon.com/
Amazon Kindle, Wikipedia, available at http://en.wikipedia.org/wiki/Amazon_Kindle#Kindle_applications
Jacqui Cheng, *EMI says DRM-free music is selling well*, ARS TECHNICA, available at http://arstechnica.com/uncategorized/2007/06/emi-says-drm-free-music-is-selling-well/
Laurina Zhang, *Intellectual Property Strategy and the long Tail: Evidence from the Recorded Music Industry*, at 18, available at http://inside.rotman.utoronto.ca/laurinazhang/files/2013/11/laurina_zhang_jmp_nov4._pdf
Jeff Leeds, *Radiohead to Let Fans Decide What to Pay for Its New Album*, N.Y. TIMES, Oct. 2nd 2007, at E1.
Dennis Yang, *World of Goo (This Time with Friends) Tries the Pay What you Want Model Once Again*, TECHDIRT, available at http://www.techdirt.com/blog/entrepreneurs/articles/20100505/0124339304.shtml
Steven Levy, *How Much is Music Worth*? NEWSWEEK, Oct. 29th 2007, available at http://www.thedailybeast.com/newsweek/2007/10/20/how-much-is-music-worth.html
John Papadopoulos, *Serious Sam 3: BEF – DRM Introduces Immortal Scorpion*, DARK SIDE OF GAMING, Dec. 7th 2011, available at http://www.dsogaming.com/news/serious-sam-3-bfe-drm-introduces-immortal-scorpion/
Copyright infringement, WIKIPEDIA, available at

http://en.wikipedia.org/wiki/Copyright_infringement#cite_note-2
Darrel Panethiere, *The Persistence of Piracy: the Consequences for Creativity, for Culture, and for Sustainable Development*, E-COPYRIGHT BULLETIN 14, available at http://portal.unesco.org/culture/en/files/28696/11513329261panethiere_en.pdf/panethiere_en.pdf
Technical Report: An Estimate of Infringing Use of the Internet, at 2, TORRENTFREAK, available at http://zh.scribd.com/doc/48336443/Envisional-Internet-Usage-Jan2011
New report claims online piracy accounts for 23.8% of all bandwidth, MOVIESCOPE, available at http://www.moviescopemag.com/featured-editorial/new-report-claims-online-piracy-accounts-for-23-8-of-all-bandwidth/
Digital Music Report 2012, at 16, MUSIC MARKET STATISTICS, available at http://www.ifpi.org/content/library/dmr2012.pdf
Ninth Annual BSA Global Software Piracy Study, THE SOFTWARE ALLIANCE, available at http://globalstudy.bsa.org/2011/
Paul Boutin, *E-books piracy costs US publishers $3 billion*, VENTUREBEAT, available at http://venturebeat.com/2010/03/02/book-piracy-costs-u-s-publishers-3b-says-study/
Injunction, WIKIPEDIA, available at http://en.wikipedia.org/wiki/Injunction
Online Copyright Infringement, DISCUSSION PAPER, Australia Government, July 2014, at 7, available at http://www.ag.gov.au/Consultations/Documents/Onlinecopyrightinfringement/FINAL%20-%20Online%20copyright%20infringement%20discussion%20paper%20-%20PDF.PDF
Opening Brief of Appellants/Cross-Appellee, Dec. 13th 2011, available at http://beckermanlegal.com/Lawyer_Copyright_Internet_Law/virgin_thomas_111207RIAAAppellantsBrief.pdf
Petition for a writ of certiorari, available at http://beckermanlegal.com/Lawyer_Copyright_Internet_Law/capitol_thomas_121210PetitionCert.pdf
Certiorari—Summary Disposition, available at http://www.supremecourt.gov/orders/courtorders/031813zor_164n.pdf
Sony BMG Music Entertainment, et al. v. Joel Tenenbaum – Order, available at http://beckermanlegal.com/Lawyer_Copyright_Internet_Law/sony_tenenbaum_120823Decision.pdf
Chloe Albanesius, *Indie Labels Sue LimeWire over Failed Copyright Deal*, available at http://www.pcmag.com/article2/0,2817,2388627,00.asp
Ben Sisario, *Rhapsody to Acquire Napster in Deal with Best Buy*, N.Y. TIMES, Oct. 3rd 2011, available at http://mediadecoder.blogs.nytimes.com/2011/10/03/rhapsody-to-acquire-napster-in-deal-with-best-buy/?_php=true&_type=blogs&_r=0
Sarah McBride & Ethan Smith, *Music Industry to Abandon Mass Suits*, WALL ST. J., Dec.19th 2008, at B1.
Digital Music Report 2009: New Business Models for A Changing Environment,

IFPI,
http://www.ifpi.org/content/section_resources/dmr2009.html
Final Adoption of Legal Framework Directive, EUROPA,
http://europa.eu/rapid/press-release_IP-00-442_en.htm?locale=en
Colophon, *Study on the Economic Impact of the Electronic Commerce Directive*, EUROPA,
http://ec.europa.eu/internal_market/e-commerce/docs/study/ecd/%20final%20report_070907.pdf
Eric Pfanner, *Music Industry Courts the Cost of Piracy,* N.Y. TIMES, Jan. 21st 2011.
Stephen E. Siwek, the True of Copyright Industry Piracy to the US Economy 189 (2007).
Joshua P. Friedander & Jonathan Lamy, *Googling Adele MP3,* Music Notes Blog, RIAA, available at
http://www.riaa.com/blog.php?content_selector=illegal%20Downloading_Fewer%20Musicians
Sarah McBride & Ethan Smith, *Music Industry to Abandon Mass Suits*, WALL ST. J., Dec.19, 2008, at B1.
Ray Beckerman, *How the RIAA Litigation Process Works*, BLOGGER,
http://recordingindustryvspeople.blogspot.com/2007/01/how-riaa-litigation-process-works.html
Digital Music Report 2009: New Business Models for A Changing Environment, IFPI,
http://www.ifpi.org/content/section_resources/dmr2009.html
Thomas Porter, *the Perils of Deep Packet Inspection*, SYMANTEC,
http://www.symantec.com/connect/articles/perils-deep-packet-inspection
Hadopi Annual Report, HADOPI,
http://www.hadopi.fr/sites/default/files/page/pdf/rapport-d-activite-hadopi.pdf
at 14-5.
Open-source software, WIKIPEDIA, http://en.wikipedia.org/wiki/Open-source_software#cite_note-1
Richard Stallman, Free Software Definition, WIKIPEDIA, available at
http://en.wikipedia.org/wiki/The_Free_Software_Definition

CURRICULUM VITAE

Yang Sun was a graduate student from China and obtained the admission into Maurer School of Law right after the graduation of his bachelor level study. He earned his Bachelor degree in law from School of Law, Xiamen University in 2010. Subsequently, he began his LLM study in Maurer School of Law and transferred into the LLM-Thesis program to further his research project in 2011. By successfully completing the LLM thesis in 2012, Yang Sun entered into the SJD program and was able to continue his research until now.