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Implications from the Internet Standard:
A Potential Bridge Connecting
the Copyright Law and Human Rights Law

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Summary

An Internet Standard packaging a series of documents and computer programs is under the copyright protection. This protection covers the moral rights and material rights, as the authors of the Internet Standard have the right to sign their names on the documents, collect royalty from the distribution of the material, or modify the contents. However, it seems burdensome to check all the right owners one by one for Internet Standard is often a collective work. This situation becomes even worse on the Internet Standard that is using different licenses on the documents and computer programs. It would not be the problem of the writers for the computer programs achieving the interoperability are in the public domain. Neither it is reasonable to push this out. Thus there may be some solutions to the problem, for example, international human rights law.

Noticing that the international copyright protection on the computer programs is based on the literary work, it seems to be a rational starting point. After checking the Internet Standards that are of historical importance to the Internet, a literary work mode emerged from these standards and the proofs are obtained from their publications. Combining the characteristics of this mode, it can be named Open Mode or IETF/W3C Mode. A further exploration of this mode implies that it is a comprehensive modelization of the Internet Standard and for various reasons the Open Standards generated were used to represent Internet Standard to analyze the related issues in a direct way.

With a review of the established copyright protection on the computer programs and Internet contents, it is restated that traditional copyright law abstained from some issues behind them like the ideas and principles. Thus there is a limitation for protecting the Open Standard. Although patent or trademark protection is not examined specifically in this paper, from the intuition it is thought of a little similar to the copyright on this limit.

With this realization it comes to the human rights protection. The necessity of protecting the Open Standard is already recognized through an international draft treaty, however it was not passed. It is relatively complicated to clarify the human rights protection on the intellectual property rights issues. Other human rights opinions or related solutions that may offer the protection are analysed then, such as the right to the Internet. As a further effort, the basic concepts of the international human rights are reviewed and an immature analysis is offered to attempt to import a human right to protect the Open Standard.

Preface

It was a rough process of writing this thesis as there were not too many clues on this topic. The first thinking was on how to evaluate Open Standard in a human rights framework with the comparison of the intellectual property rights. After tracking the history of copyright protection on Internet contents with more attention on documents and computer programs, it seems to be too complex a question to explore for the Internet Standard is the combination of the both, or even more. Following the suggestion from the supervisor to focus more on the copyright issue, I was wondering if there were some possible ways to make an integration.

Considering the established case laws about copyright protection on process, and with the examination to the empirical materials of the Open Standard, it was reasonable to conclude a comprehensive model on the Internet Standard. Then everything becomes simple, until the trouble appears that protection of copyright on Internet Standard cannot be directed to human rights protection in an easy way.

It spent me several days to try to merge Internet Standard with Open Standard. The solution was provided in a manner not so strict, however, it would be aspirational to check the reasons. With this interpretation, an industrial problem would be reduced to a smaller one that may be easier to understand.

In order to import human rights protection on this problem, multiple routes were examined and it indicated that some steps were still under development. Thus I came to the basic properties of the human rights and tried to find a way. As a resonance of the concluded model, this premature observation may offer a train of thought that human rights is a useful tool in analysing legal problems.

Indeed, more problems were offered than being answered. It was expected that readers can get some understandings while checking this thesis and interpret the problems with alternative solutions. If this was the contribution of this thesis then it would be my best wish.

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Abbreviations

ANSI	American National Standards Institute
API	Application Programming Interface
ASCII	American Standard Code for Information Interchange
AT&T	American Telephone and Telegraph Company
ATM	Asynchronous Transfer Mode
BBS	Bulletin Board System
BSD	Berkeley Software Distribution
CONTU	Commission on New Technological Uses of Copyrighted Works
CSS	Cascading Style Sheets
DVD	Digital Videodisc
ECtHR	European Court of Human Rights
HTML	HyperText Markup Language
HTTP	Hypertext Transfer Protocol
IBM	International Business Machines Corporation
ICJ	International Court of Justice
IEEE	Institute of Electrical and Electronics Engineers
IETF	Internet Engineering Task Force
IGO	Intergovernmental Organization
ISP	Internet Service Provider
ITU	International Telecommunication Union
NGO	Non-governmental Organization
OSP	Online Service Provider
P2P	Peer-to-peer
POP	Post Office Protocol
PPP	Point-to-Point Protocol
RFC	Request for Comments
RSS	RDF Site Summary
SMIL	Synchronized Multimedia Integration Language
SSO	Standards Setting Organization
TCP	Transmission Control Protocol
TRIPS	Agreement on Trade Related Aspects of Intellectual Property Rights
URL	Uniform Resource Locator
XHTML	eXtensible HyperText Markup Language
XML	Extensible Markup Language
W3C	World Wide Web Consortium
WIPO	World Intellectual Property Organization

1 Introduction

1.1 Purpose

This thesis aims to provide a comprehensive description on the issues counted in the copyright protection of the Open Standard. The self-contained mechanism protecting the Open Standard needs multiple private licenses which make the protection indirect and complicated. Here it is attempting to import human rights protection to find an alternative approach.

Some scholars already recognized the importance of protecting the process under various human rights law contexts, and this thesis is trying to put the progress a little further.

1.2 Method and Material

Empirical, historical and legal analysis methods are used in this thesis. They are implemented in the collection and comparison of the Internet Standard, the review of the copyright protection on documents and software, and the analysis on the human rights protection.

A lot of online resources are used for the topic is about the Internet Standard. Cases and legislations related to the copyright protection are collected as well. The discussions from the scholars are offered and different opinions are imported as much as possible.

1.3 Disposition

With above contents, the thesis will be formed by four parts other than the introduction part. *First part* will analyze the Internet Standards with the concluded Open Mode and try to elucidate a part of the interactions between the two concepts. *Second part* will review the traditional copyright protection on the computer programs, Internet contents and locate some questions. *Third part* will try to imply the human rights law solutions, and a summary of the discussion will be offered in the *last part*.

2 The Open Mode of the Internet Standard

In order to analyze the protection on Internet Standard from the copyright law and the human rights law perspective, it would be necessary to offer a detailed, clear description of the protected subject matter first. After collecting the various Internet Standards and making a close examination, it may be concluded from their contents, forms and related processes that an Open Mode can be established. This mode may contribute to solving some practical problems and forming a comprehensive understanding of the Internet Standard.

Further more, Open Standard as generating form the Open Mode is the focus when interpreting Internet Standard and it may be divided into functions and properties that functions are substantial contents whilst properties describe its processes. This division is the basis for a further discussion of the copyright and human rights protection on the Internet Standard.

2.1 The Elements of the Internet Standard

In this paper Internet Standard will be defined as the collection of the standards about Internet technology, including but not limited to the Protocols, Programming Language Standard and Application Programming Interfaces that are used on the Internet. W3C is a typical Internet Standard developing organization that this part is primarily based on its standards which were published covering the major areas of the Internet.¹ It played an important role in the development of the Internet by making standards to draw attention from the programmers, promote the widespread deployment of the Internet Standards, and support the operation of the Internet on its interoperability. However, the significance of the Internet Standard lies not only on its deployment, but also on its formation that a mode can be concluded.

This observation originates from the reading of the W3C recommendations. Normally a W3C recommendation is written for the artists of this area and fulfilled with a lot of terms or abbreviations that are hard to understand for a member of the public. For example, DOM means “Document Object Model”, and SMIL means “Synchronized Multimedia Integration Language”. Related program codes, test cases and examples are integrated into the documents which may seem to be the meaningless parts to a non-programmer. There would be many versions of the documents on the same recommendation, and each version has some rectifications. It seems hard to understand the meaning of these documents as a whole, and the protection would become a problem that the

¹ The formal name of the W3C standards is recommendations. See "What does 'Web standard' mean? What is a 'Recommendation'?" Accessed on May 19, 2012. <http://www.w3.org/standards/faq#std>

concepts of “document” and “software” in copyright law are separated and none of which can fit all parts of the recommendation, as can be found the document license and software license in the same document.²

With this question the exploration comes to the formation of the Internet Standard to find some unified features. No surprise that the documents from W3C can be found a template from their structures and contents. Nearly all the published recommendations followed a similar style and organized in a strict manner.

Taking Mathematical Markup Language (MathML) Version 3.0 for example, it is a recommendation published in 21 October 2010 after 12 years of development, with a length of 385 pages in PDF format.³ In addition to the PDF edition, this document is also available in these non-normative formats: HTML edition, diff marked HTML edition and XHTML + MathML edition. It starts with the abstract and the status of the recommendation that contain a short summary of the overall standard, the links to the contributed parties and related resources. The mainbody is divided into seven parts detailing the technique of using MathML on the Internet. In the appendices, several miscellaneous items are included, like the Operator Dictionary, Glossary, References, Change History and Index. Somehow this structure may be adjusted according to the need of the topic and the working group, however, the structural separation is maintained in most of the W3C recommendations.

Another aspect of the template lies in its classification of the contents. The contents of the document can be divided into normative and informative parts, each part is labeled in the section heading or notified in some other ways to inform the readers about its status. Normative content is the prescriptive part of the specification, whereas informative content is for informational purposes and assists in the understanding and use of the specification.⁴ The references are separated into normative and non-normative parts that the former defines the core technologies of the developed technology relying on, whilst the latter would provide additional instructions.⁵ The normative parts of the recommendation offer a binding basis of the document for the implementers and users to conform.

2 See "Policies and Legal Information." Accessed on May 19, 2012. <http://www.w3.org/Consortium/Legal/2002/ipr-notice-20021231>

3 See "Mathematical Markup Language (MathML) Version 3.0." Accessed on May 19, 2012. <http://www.w3.org/TR/2010/REC-MathML3-20101021/mathml.pdf>

4 See "QA Framework: Specification Guidelines." part 7 Glossary. Accessed on May 19, 2012. <http://www.w3.org/TR/qaframe-spec>

5 *supra* note 4, "2.2.3 Normative (and Non-Normative) References." Accessed on May 19, 2012

Additionally, the binding effect of this document produces from its conformance clauses that are the compulsory content of a published recommendation.⁶ They are the basis for assessing conformance claims which are closely related to issues of logos and branding.⁷ The conformance clause provides the answers to the important question: what may conform and how? It may partition the technology into functional subsets, such as profiles, modules or other structures and specify minimal requirements for certain functions, as well as extensibility, optional features and alternative approaches and how they are to be handled.⁸ The implementations of which are defined by and measured against normative content.⁹

A typical normative part that the reader “shall” conform is the Terminology. As defined in RFC2119 and followed by most of the recommendations, the use of the key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” is under specific interpretation.¹⁰ Some recommendations cite this file in the Terminology part, and some others integrate it in the normative references.¹¹ These citations make the writing of recommendation a strict process of organizing the words following the guidelines made by the W3C.

It is clear that freely published recommendations are written with the intention of being well-organized and affective in the formation. One reason is that as the technical handbooks or instructions to the Internet the recommendations have to be of high quality to be adopted by the programmers. Another reason lies on the need of finding a balance in spreading the recommendations and preventing the misuses that they shall have binding effect or at least influence on the readers. Lastly, the commercial usage of these recommendations needs to conform to the implementing companies' internal requirements that a loose expression in the documents may not be sufficient to meet.¹²

As a preliminary observation, a mode can be found including all these recommendations and something in these recommendations are in common in addition to the formation. For example,

6 *supra* note 4, 1.1 Scope, "The term specification is used as defined in *ISO Guide 2-4* [[ISO-GUIDE](#)] as meaning a document that prescribes requirements to be fulfilled by a product, process or service." Thus a document must have at least a requirement.

7 *supra* note 4, 2.1.2 Specify how to make conformance claims.

8 *supra* note 4, 2.1.1 A conformance clause is essential.

9 *supra* note 4, 2.1.1 A conformance clause is essential. Good Practice 2.

10 *supra* note 4, 2.3.2 What is mandatory. Requirement 7. Not all recommendations use RFC2119.

11 For example, HTML 4.01 put the terminology reference in the normative reference part, whilst the XHTML-Print - Second Edition put it in the terminology part. See "Normative references." <http://www.w3.org/TR/1999/REC-html401-19991224/references.html#h-1.1> and "XHTML-Print - Second Edition." <http://www.w3.org/TR/2010/REC-xhtml-print-20101123/>. Accessed on May 19, 2012.

12 It may produce effect through its inclusive(self-contained) mechanism. See *supra* note 4, 1.5 About This Document

these documents have the same structure, reach the same relationship similar to the contractual relationship. They may be offered by the same organization, written by the same author, or citing the same clause. These repeated parts can have a general description in a mode. Additionally, a similar process may be executed for drafting or publishing these documents.

W3C's recommendations can be integrated in a mode from their templates and structures. However, that is not the end of this mode as there may be other properties can be found inside. Documents can be classified according to their contents by certain classifying computer programs. Before the computer was invented some library systems were developed to find a way to classify the books. The making process of the documents is also another important source of the mode, like the establishment of the legal instruments, and that would be found a more basic property of its mode for the binding effects of the instruments may generate from their working processes.

2.2 How Internet Standard is Developed

This part would specify how the W3C recommendations are developed and find that an open property is a part of its mode. This property may be thought of appropriate when other Internet Standards are merged into this mode as well. However, a collection of Internet Standards may have different modes and even a mode can be divided into smaller ones. It is dependent on the requirements.

W3C started in 1994, with some fundamental inventions for the Internet invented five years ago by its creator Tim Berners-Lee.¹³ These years it provided a lot of interfaces, tools and applications for the Internet like the HTML, CSS. This achievement was reached through the work of members and volunteers, regulated working processes and its policies.

Membership in W3C is open to all types of organizations that include commercial, educational, governmental entities and individuals. Public participation in W3C is possible in a number of ways other than as an individual Member like the invited expert.¹⁴ The recommendations are mainly produced by working groups that are formed by member representatives, invited experts and team representatives. However, other works like implementing specifications, developing test suites, making translations and promotions are contributed by a lot of volunteers.¹⁵ This arrangement

13 See "History." Accessed on May 19, 2012. <http://www.w3.org/Consortium/facts#history>

14 "Membership FAQ." Accessed on May 19, 2012. <http://www.w3.org/Consortium/membership-faq>

15 For example, in the html 5 process volunteer work is mentioned a lot of times covering the issues of tracing and solving bugs, solicit proposals. Translation works are required frequently which can be identified through the search of the keyword volunteer in the W3C site. There are 17000 results on May 19, 2012

protects the interest of the members to ensure the controlled operation of the organization and at the same time gathers the ideas and efforts from other participants as well. The door of participation during the writing of these documents is open to the public.

The work of so many persons involved in needs the energy to put forward that a mechanism of regular reporting driving the members of the working group is described using the term “Heartbeat”. When a working group is established, a heartbeat happens every three months and at that time a new draft of each active technical report must be published to the W3C technical reports index, even if there is little change to the previous one.¹⁶ It is a notification for the public to keep an eye on and track the progress.

The life cycle of a document named technical report in W3C starts from the publication of the first public working draft to open for review. When the working group believes that it has satisfied its relevant technical requirements and significant dependencies with other groups, it must announce the Last Call to other W3C groups and to the public. The announcement must specify the deadline for review comments, identify known dependencies and solicit reviews from all dependent working groups and the public. After this document is widely reviewed and fulfills the working group's technical requirements, it would become a candidate recommendation and able to call for implementations to collect comments. If the candidate recommendation is stable and each feature of the technical report has been implemented, it can be advanced to the advisory committee for review. The support from the advisory committee, the team, other working groups, and the public would transform a candidate recommendation into a formal one.¹⁷ These working processes of the document and their subsequent results named maturity level can be observed by the public.

Modification of a technical report is a continuous work in W3C. Even after the recommendation is successfully published, the maintenance of the document would still cost a lot of time. Errors may be found after the recommendation is published and they would be listed and corrected on an errata page linking to the main text. The changes may affect the conformance of content or deployed software, like the non-conforming agents are turned into conforming ones or new features are introduced. Any proposed recommendations should be announced to call for review from other W3C groups, the public, and the advisory committee and incorporated into an edited

16 6.2.7 "Working Group 'Heartbeat' Requirement." Accessed on May 19, 2012. <http://www.w3.org/2005/10/Process-20051014/groups.html#three-month-rule>

17 "W3C Technical Report Development Process" 7.1-7.5. Accessed on May 19, 2012. <http://www.w3.org/2005/10/Process-20051014/tr.html#Reports>

recommendation.¹⁸ Supporting work of a document is the symbol of being active, however, it is not a compulsory requirement.

Under certain circumstances a recommendation may be rescinded in case of the existence of significant errors, being outdated or other issues. Once a rescinded recommendation is published, it should not be cited as normative reference in the future. Similar to the other processes, a proposal and publication to rescind a recommendation should be announced for review, and the decision to rescind can be appealed.¹⁹ After this, the document goes into an end state but still remains in a mode.

W3C adopts a consensus policy as the principle of discussion in a working group. If a substantial number of individuals in the working group support the decision and nobody registers a formal objection, then a consensus is reached. It is not the requirement that everyone agrees and abstention is also part of a consensus like an explicit expression of no opinion or silence. The working group can decide the minimal threshold of active support that is in need to make a decision. If the Chair finds that all available means of reaching consensus through technical discussion and compromise have failed, it can conduct a vote to solve the problem.²⁰ The recommendation based on the consensus would suggest the proposals for standards which had been agreed upon are on a basis as broad as possible, and are found on the current state of technical developments.²¹

The public documents on the W3C site are provided by the copyright holders under the document license. People have permission to copy, and distribute the contents of these documents, or the W3C documents from which this statement is linked, in any medium for any purpose and without fee or royalty, but the link or URL to the original W3C documents, the pre-existing copyright notice of the original author, and an existing status of the W3C documents should be included. The modification or derivatives of W3C documents are not granted freely but allowed conditionally.²² On software and its documentation, people have to follow a similar license clause but a free modification is

18 "7.6 Modifying a W3C Recommendation." Accessed on May 19, 2012. <http://www.w3.org/2005/10/Process-20051014/tr.html#Reports>

19 "7.7 Rescinding a W3C Recommendation." Accessed on May 19, 2012. <http://www.w3.org/2005/10/Process-20051014/tr.html#Reports>

20 "W3C Technical Report Development Process" chapter 3. Accessed on May 19, 2012. <http://www.w3.org/2005/10/Process-20051014/tr.html#Reports>

21 Case T 202/97, European Patent Office, Decision of 10 Februar 1999, Reasons 2.2.1.1, The board stated that, "The role of a standards committee consists precisely is to work with the experts on a wide scale coordinated at the current state of development-oriented proposals for the standard training. This target excludes a confidentiality agreement."(through Google Translation)

22 "W3C Document License." Accessed on May 19, 2012. <http://www.w3.org/Consortium/Legal/2002/copyright-documents-20021231>

granted.²³ W3C treats it necessary to distinguish the use of test suits between an ordinary developer and a developer with the need of producing an authoritative test. The ordinary developer can follow a 3-clause BSD license and an authoritative use is under the W3C test suite license. W3C test suite license would not allow the modification, and hence performance claims can only be made against unaltered tests.²⁴ Through these licenses, the right owners offer the documents and other parts of the recommendations the explicit conditions to be used by the public.

It can be concluded that the making and modification of the documents of a recommendation in the W3C is open to the public, thus a mode including all the documents in the W3C has an open property and this mode can be named after this property. Additionally, this property can be decorated by other information of the documents like their copyright policies. A single recommendation can evolve from this mode and generates binding effect on its implementers and users. In a more general circumstance that documents are produced automatically without external intervention a mode with a property on its process would be useful.

2.3 The Characters, Effects and Usages of Internet Standards

It may be argued that a mode cannot cover all aspects of the Internet Standards. For example, Internet Standards have different topics and a single mode may have difficulty in interpreting all these topics. To some extent this is true. First of all, the Internet is not built by linking many documents alone that data, devices, gadgets and other resources are connected on this network as well.²⁵ A description based on the documents of the Internet Standard seems limited on the scope of understanding and the program codes are not involved in this mode yet. Secondly, this separation of the content and formation of the Internet Standards would result in a confusion if they are to be interpreted together with other documents. Thirdly, nothing in an Internet Standard shows that the labels in a document that may produce legal consequence can be aliened from the main text.

The first question may be answered by comparing the standards of the W3C and IETF. These two organizations offered a lot of standards for the operation of the Internet, but the topics and forms of their standards are quite different. Even so, it can be identified that the mode can support them both. The differences lie in the functions of the standards, not the entire mode.

23 "W3C Software Notice and License." Accessed on May 19, 2012.

<http://www.w3.org/Consortium/Legal/2002/copyright-software-20021231.html>

24 "Licenses for W3C Test Suites." Accessed on May 19, 2012. <http://www.w3.org/Consortium/Legal/2008/04-testsuite-copyright.html>

25 See "Semantic Web." Accessed on May 19, 2012. http://www.w3.org/standards/semanticweb/#w3c_content_body

Following the Internet model, IETF published the main protocols used under this model, whilst W3C contributed their works more based on the HTTP protocol as it considers that HTTP is the core protocol of the World Wide Web.²⁶ Internet is connected using the Internet Protocol Suite. The suite has four abstraction layers that each is communicated with its own protocols. From lowest to highest, the layers are Link Layer, Internet Layer, Transport Layer and Application Layer. The link layer contains communication technologies for a local network like the PPP protocol which is the basis for the P2P service. The Internet layer connects local networks using protocols like the IP protocol which provides addresses for the Internet users. The transport layer handles host-to-host communication like the communication through TCP protocol which is utilized extensively by many of the Internet's most popular applications, including the World Wide Web (WWW), E-mail, FTP(File Transfer Protocol). The application layer contains all protocols defined for the functioning of the vast array of data communications services like HTTP, FTP and POP which can be used for web page browsing, downloading and sending emails separately.²⁷

IETF published most of the protocols on these four layers, and some other supporting RFCs that are the basis of any further development for the Internet. The list contains TCP/IP, HTTP, FTP, PPP, RFC2119, etc. These protocols formed a bridge between the hardware and software, provided a powerful driving force for the popularization of the Internet. In the contrast, W3C paid more attention on the application layer and the HTTP protocol. It developed the recommendation of text and data format for the presentation of the contents like the texts, graphics and audio/videos, solved the problem of internationalization, offered the solution to manage the resources on the Internet.

Moreover, the formats of their standards are different. IETF insisted to submit and publish plain ASCII text to describe the standards to achieve the maximal interoperability, in addition to the HTML and PDF formats that are used by the W3C more in its formal standards for the reading experience.²⁸ The maturity level adopted by the IETF has changed from three levels to two levels which is less than W3C.²⁹ The copyright license can be found in the main text of the RFCs offered

26 See "Requirements for Internet Hosts -- Communication Layers." <http://tools.ietf.org/html/rfc1122>, RFC1122, 1.1.3 Internet Protocol Suite. The instruction on the "protocols". <http://www.w3.org/standards/webarch/>. Accessed on May 19, 2012.

27 See "Internet protocol suite." Accessed on May 19, 2012. http://en.wikipedia.org/wiki/Internet_protocol_suite

28 The formats used in IETF can be seen through "Request for Comments." http://en.wikipedia.org/wiki/Request_for_Comments. the formats used in W3C can be observed an example on "Mathematical Markup Language (MathML) Version 3.0." <http://www.w3.org/TR/2010/REC-MathML3-20101021/>. Accessed on May 19, 2012.

29 See "Reducing the Standards Track to Two Maturity Levels." Accessed on May 19, 2012. <http://tools.ietf.org/html/rfc6410>

by the IETF which may be different from one to another before 2008, and the W3C provides a unified license policy that apply to all technical reports without being attached to each document.³⁰

These minor differences cannot rule out the mode of these standards. The IETF is open to the public to participate in the forming of Internet standard. People are encouraged to join the whole process. The related documents are available on the Internet, and the changes can be noticed. Any publication is also the end result of a consensus. The licenses of the documents provide the possibility of being used by the public. These common characteristics related to the processes are the properties of the mode and on the other hand, the contents and some formations of the documents, like the maturity level, may be abstracted as the functions of the documents which are different to their properties.

For a further clarification, function is used to describe the contents of the documents in a mode for these Internet Standards. The contents of a document are written to provide information, represent a person's thinking, account for ownership or obligation, reconstruct or prove a phenomenon.³¹ These functions can be accomplished in other ways like drawing pictures, playing audios and videos, presenting slide shows. In other words, each sentence of a document would be a functional part. For example, an abstract of an Internet Standard would provide an instruction for the whole document, and a reference would indicate one resource that can help to understand the standard. As same as the property, function is also a part of a mode.

With functions, the scope of a mode's description is not limited to the plain text. The contents of a document can be offered in other ways with the same function. For example, one plus one equals two can be written as $1+1=2$ which produces no damage to its function. To an Internet Standard, sometimes the program codes are integrated to record the structures or details of a program. Thus a mode containing all the Internet Standards from IETF and W3C can be described as an entity that has the open properties and many functions.

The second question may evolve an argument that the need to evaluate a single document of an Internet Standard cannot be satisfied by citing to a mode. Truly it is possible to try to find a mode from a series of documents and when this mode implies on other documents some errors or

30 On the date of the license in IETF, see "Trust Legal Provisions (TLP) Documents." <http://trustee.ietf.org/license-info/>. On the contrary, W3C offered the current edition in 2002, and the documents before 2002 point to the unified license whist some other clauses are also included. See "Copyright Notice." <http://www.w3.org/TR/2000/REC-DOM-Level-2-Style-20001113/copyright-notice.html>, and "Copyright Notice." <http://www.w3.org/TR/1999/REC-html401-19991224/about.html#h-1.4>. Accessed on May 19, 2012.

31 See "Document." Accessed on May 19, 2012. <http://en.wikipedia.org/wiki/Document>, through the combination of the WordNet 3.1 definition and Briet, 1951, 7 definition.

exceptions may be found, but it will not happen during the implementation of the mode within its own scope. Additionally, the meaning of a mode cannot be as specific to the interpretation of a single document either that they are used in different areas. However, all the conclusions that can be applied to a mode would be sufficient to be concluded from any documents within this mode, and the documents that are not compliant with the mode can be excluded from the conclusions. For example, if there is a conclusion that the adoption of Open Standard in a country or a company can promote innovation, then this applies to all the documents related in this research, and if a document does not belong to this mode, then it may not promote innovation until a specific examination is conducted or an announcement that it is compatible with the Open Standard is offered. Another example is the calculation of the copyrighted items. We do not need to read every copyright disclaimer in the documents to exclude a document from a copyright license, instead it would be inferred from a mode that each document has only one license and a corresponding label that has a fixed position can be found.

The last question is about the relations inside the properties and functions themselves. As a preliminary observation, the functions in an Internet Standard may act on its properties and link to each other, but the properties may be independent and exogenous. For example, all the functions of the Internet Standard from W3C are decided on the consensus, or else the section shall be deprecated. However, there is no need to describe the property and function singularly for the use of a document is often the combination of the both. Only under certain circumstances for the convenience of analysis it is necessary to introduce the division. For example, when the lawyers in a court need to read a huge amount of documents it would be useful to find a mode firstly and use it as the surface proof.

The concept of the due process and the control of the intellectual property rights is already included in this Open Mode. As emphasized by Krechmer, under a due process the implementers and users would participate more.³² There are some cases on the intellectual property protection of the standards that Mark A. Lemley called for private companies be more positive to relieve intellectual property rights from the Open Standard.³³ However, this paper is satisfied to offer a concept on the basis of analyzing the documents that can be used for a further exploration, and the possibility of a detailed interactions between the application and the mode can be remained more to the practice.

32 Krechmer, K, "The Meaning of Open Standards", HICSS '05. Proceedings of the 38th Annual Hawaii International Conference(2005). Open standard need the cooperation of the creators and implementers, users.

33 Mark A. Lemley, "Intellectual property rights and standard-setting organizations", California Law Review, Vol. 90(2002), p5

For example, this mode can provide some conveniences in the practice. Generally speaking, it cannot be inferred from an isolated document to achieve certain legal results. Some other conditions need to be met like the date, place, authors, signatures or other documents need to be evaluated as a whole. In fact, a legal consequence originates from the intention, method and behavior of the people which the document is a proof. An instruction of an apparatus itself cannot understand or support its content to prevent illegal copying, however, their mode containing information of its intention, method and behavior with corresponding labels, disclaimers within the documents can be identified and protected by the court. Thus the mode can be interpreted as a circumstantial proof. Moreover, people were already using the concept of the mode to decide on the cases, as government would consider the circumstance of the industry to make the decision on whether some documents are confidential, of which the “industrial situation” is part of the mode of these documents.³⁴

2.4 The Reasons to Focus on the Open Standards

Internet is a global phenomenon that the Internet Standards are developed, set and used world wide. IGOs, NGOs, and private organizations join the work and make contributions surrounding the Internet. For example, ISO as an IGO developed the SGML standard that was the predecessor of HTML, and left the work of the MathML to W3C.³⁵ ITU working as the United Nations specialized agency for information and communication technologies promoted the use of Internet technologies in other areas like the bank service through the ATM.³⁶ IEEE is a NGO and provided a lot of standards on computer programming and wireless communication technology.³⁷ ANSI as a private organization of the US itself does not develop American National Standards, instead it provides all interested U.S. parties with a neutral venue to come together and work towards common agreements which include ASCII seven bit code standard and a standardized C programming language.³⁸ All these standards have direct relation to the Internet, and some of them can be merged into an Open Mode, some others cannot.

34 Optical members/HERAEUS, Case T 633/97, European Patent Office, Decision of 19 July 2000, Reasons for the Decision 6.2.(c), The board stated that, “depending on the nature of the business relations and the status of the companies involved, the existence of such an obligation might be assumed on a *prima facie* basis without the necessity of a written agreement.”

35 See "Standard Generalized Markup Language." Accessed on May 19, 2012. <http://en.wikipedia.org/wiki/SGML>

36 See "Global information infrastructure, Internet protocol aspects and next-generation networks." <http://www.itu.int/itu-t/recommendations/index.aspx?ser=Y>. see also “Y.1712 : OAM functionality for ATM-MPLS interworking.” <http://www.itu.int/rec/T-REC-Y.1712-200401-I>. Accessed on May 19, 2012.

37 "Wired and Wireless Communications Standards."

http://standards.ieee.org/findstds/standard/wired_and_wireless_communications.html. "ABOUT THE IEEE STANDARDS ASSOCIATION." <http://standards.ieee.org/about/ieeesa.html>. Accessed on May 19, 2012.

38 "Standards Activities Overview." http://www.ansi.org/standards_activities/overview/overview.aspx?menuid=3. "American National Standards Institute." <http://en.wikipedia.org/wiki/ANSI>. Accessed on May 19, 2012.

However, IETF and W3C are the key contributors to the Internet Standard. In order to narrow the scope of discussion and concentrate more on the infrastructure of the Internet, this paper would submit these two organizations as the international representatives of the Internet Standard developing organizations. On this meaning, Open Standard formed the main part of the Internet Standard.

Some Internet Standards, like the *de facto* standards developed by the vendors and the standards with a closed developing process may have different modes. It is hard to evaluate these standards on their numbers or effects. A number of them are very fundamental to the Internet, like the ASCII standard, others may be of limited scope, like the various APIs on the Internet. Among them no part is open to the public and the access may have a fee requirement, the membership may not be allowed for the public, or the meeting may be under strict restriction. Contrary to an idealistic Open Standard, these properties may block for a further analysis.

Consider the necessity of introducing a method to try to describe the Internet Standard as a whole. The working process would decide the maturity level of any Internet Standard, and on the reverse it is true. To an Open Standard, the probability of the transformation can be observed, and a model can be concluded that may help to contribute to a better work. If the working process of a close standard cannot be observed, then there would not be such a possibility to be tested. For the Open Standards contain the basic protocol of the Internet, such a probability may not be rejected and it would be reasonable to focus on the Open Standards when describing the Internet Standard.

With this interpretation probably there is no need to check the Internet Standards one by one when we use the term Open Standard to point to the Internet Standards generally. For example, one company offers a list of Open Standards as the proof of its online service instructions following a mode not infringing another company's copyright, and the judge may find this argument appropriate on its surface for the property of the Open Standard.

Moreover, at the time we need to refer to the properties of the Internet Standard, we can use Open Standard as a substitute. For example, instead of saying a sentence full of ambiguity like “these documents are in conformance with a series of Internet Standards including TCP/IP...”, we can say “these documents are in conformance with the IETF/W3C Open Standard” which would clearly identify these documents belonging to this Open Mode.

If some standards that are concerned on the Internet technology are developed, we can try to include them as the Open Standard. This similarity may be found in the making process, the copyright license policy, the structures or any elements that can be observed. The Open Standard is not a unique Open Mode that all documents follow and the detail of the Open Mode is decided on its issues concerned or the items contained. Even among the Internet Standards, it can be coexisted different Open Modes. For example, supposing there are ten Open Standards, six of them are separated into an Open Mode to describe the copyright policy and four of them are gathered to form another Open Mode about the patent policy, however, these ten standards are all Open Standards. From above we can conclude that Open Standard is a dynamic concept that there is not only one Open Mode. On this basis the Open Standard may work as a template for Internet Standards.

Focusing Open Standard in the area of Internet Standard can solve problems. With an Open Mode, there is no need for the public to consider how these documents are written, whether there are program codes inside, or how many pages are in need to read through. It may attract more attention on the fundamental aspects of the Internet Standards which are common characteristics and collective rights can be summarized.

3 Copyright Protection and the Evolvement of Internet Standard

From the observation in part 2, it can be stated that as the composition of computer programs and documents, a typical Internet Standard defines the function, interface or protocol of the Internet, using program codes and test suits, with detailed instructions in the documents. The function, interface or protocol alone may not be recognized as software. However, software is not only limited to the end-user applications that can be directly touched by the users, but also the types that can be used to program the software.³⁹ With this interpretation, this paper would use “software” as the replacement of “computer programs” in some places.

Computer programs and documents cannot be separated in some Internet Standard, however, they are different. Computer programs can be executed and understood by the machine to achieve a certain result. Documents, even if they are stored by the computer, cannot be explored on their contents and meanings independently. It might be possible to reverse engineer the programs from their results, and there is no necessity or possibility to do the same thing to the documents. The computer needs the support of programs to make a maintenance or reparation, and the documents are of no such function.⁴⁰

Computer programs and documents are under the protection of copyright. As the literary works, TRIPS provides the worldwide protection on the basis of the Berne Convention to the computer programs and documents both. It leaves space for the domestic laws to keep their own definitions, and a member could offer patent, copyright and trade secret protection for computer programs.⁴¹ However, does this flexibility result in a certain disassociation between the international protection and the domestic protection? Whether the copyright protection based on literary work is sufficient in a digital age? How to make an evaluation? These questions would be asked specifically on the issue of Open Standard with a review of the copyright protection.

3.1 Copyright Protection on the Computer Programs

Compared to the literary works, the copyright protection on computer programs has a shorter history in the US. As the early programmable general purpose computer invented in the 1940s, the programming is a cumbersome human work using punched card or paper tape, of which the

39 See "Types of software." Accessed on May 19, 2012. <http://en.wikipedia.org/wiki/Software#Standard>.

40 See Digital Millennium Copyright Act, Pub. L. No. 105-304, secs. 301-302, § 117, 112 Stat. 2860, 2886-2887 (1998).

41 UNCTAD-ICTSD. *Resource Book on TRIPS and Development*. Cambridge: Cambridge University Press, 2005. Accessed on May 19, 2012. <http://lund.ebib.com.ludwig.lub.lu.se/patron/FullRecord.aspx?p=228306>, part 2, section 8

originality is ignored.⁴² By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. Text editors were developed that allowed changes and corrections to be made much easier than with punched cards.⁴³ Since then, programming became a kind of literary work that some parts of it are reusable. Before that, Trade secret protection was a viable means of protecting intellectual work embodied in software because most computer programs were customized and sold to particular customers through detailed licensing agreements.⁴⁴

With the growth of the software industry, people started to realize the necessity of protecting the computer programs separately, which would extend the copyright subject matter. At the same time, the thinking of excluding certain parts of the programs also rises. People concerned were hesitating to make a decision for the possibility to make mistakes on the scope of protection, like whether ideas, plans, methods, systems, and mathematical principles would be beyond the scope of copyright protection in programs.⁴⁵ In 1974, CONTU was established to make a study, and in 1979 it recommended that computer programs, to the extent that they embody an author's original creation, are proper subject matter of copyright. The fundamental limitation reflected in the idea/expression dichotomy that copyright law cannot protect any idea, procedure, process, system, method of operation, concept, principle, or discovery was maintained by it. However, the congress was satisfied to make a clarification of the definition of the computer programs in 1980 amendment to section 101 of the Copyright Act 1976 and authorized the owner of a copy of a computer program to make another copy or adaptation of the program for the purpose of running the program on a computer.⁴⁶

The congress did not make a further interpretation and the solution on the copyright protection of computer programs extended to the court. A series of copyright infringement suits under the 1980 amendments focused on whether and to what extent literal copying of computer software violates copyright law. These cases generally interpreted the copyright law as prohibiting direct copying of all forms of computer software, whether written in human- or machine-readable form, and whether designed to perform specific data processing tasks for the user (application programs) or to manage the internal functions of computers (operating systems), such as the Franklin case. Because the

42 See "ENIAC." Accessed on May 19, 2012, <http://en.wikipedia.org/wiki/ENIAC#Programming>. "six women do most of the programming on ENIAC" would suggest that it is a work in need of a lot of patience.

43 See "Computer programming." Accessed on May 19, 2012, <http://en.wikipedia.org/wiki/Programming#History>.

44 Samuelson, Pamela, "Why Copyright Law Excludes Systems and Processes from the Scope of Its Protection," Tex. L. Rev. Vol.85 (2006-2007)

45 *supra* note 44, pp.27-32

46 Menell, Peter S, "An Epitaph for Traditional Copyright Protection of Network Features of Computer Software," Antitrust Bull Vol.43. (1998), p.32

coding of operating systems is critically important to hardware system compatibility, the principal economic effect of the first generation of cases was on competition among hardware manufacturers.⁴⁷

The misguided application of the merger doctrine in assessing copyright protection for application programs was reinforced a few years later by the *Whelan* case.⁴⁸ In this case, one shareholder of a dental laboratory, Rand Jaslow, programed an application that was similar in its “structure, sequence, and organization” to the original one but ran on other computer systems. The court understood the similarity on the abstraction of the idea, and with the interpretation of the multiple means to achieve the idea, put the idea under the copyright protection.⁴⁹ It was followed by some cases such as the *Paperback* case and attracted a lot of commentators.⁵⁰ In some other cases the judges tried to develop alternative approaches as in the *Plains Cotton* case and *IBM* case.⁵¹ Anyway, in this period the copyright protection covered too wide an area.

Altai case was a turn point to *Whelan* approach. As Computer Associates developed software that could run on IBM mainframe computers, *Altai* learned from a legal copy and developed a program with a similar part of SSO including the parameters for enabling programs, modules to exchange information, and the interfaces that was claimed as the infringement to Computer Associates International’s copyright. The court rejected this claim and developed a test for determining the copyright infringement on computer programs, which included three steps: firstly, the allegedly infringing program should be separated into its constituent structural parts; secondly, the elements in these parts shall be filtered out to identify the ideas, expressions and non-protectable material; thirdly, the creative expression part would be compared with the allegedly infringing program. Another important issue raised in *Altai* case was that the court tried to substantially conclude the program elements that should leave to the programmers’ choice instead of the copyright protection.

These extrinsic considerations shall be made on the compatibility requirements of other programs with which a program is designed to operate in conjunction, the computer manufacturer’s design standards, demands of the industry being serviced, etc.⁵² In addition, *Gates Rubber* case expanded the extrinsic considerations to the hardware standards and mechanical specifications, software

47 Peter S. Menell, "An Analysis of the Scope of Copyright Protection for Application Programs," *Stanford Law Review*, Vol. 41, No. 5 (May, 1989), p.4

48 Peter S. Menell, "Envisioning Copyright Law's Digital Future," *N.Y.L. School Law Review*, Vol. 46 (2002-2003). Accessed on May 19, 2012 at SSRN: <http://ssrn.com/abstract=328561>, p.25

49 *supra* note 44, p.44 and *supra* note 48, p.25

50 *supra* note 44, p.48

51 *supra* note 44, p.45, *supra* note 48, p.26, and *supra* note 46, p.37

52 *supra* note 48, p.29

standards and compatibility requirements, as well as the processes used in designing a computer system, or components therein. It was thought of a victory of patent protection against copyright on software, however, the tension between the copyright and the public goods seemed released a lot.⁵³

Programmers were allowed to disassembly or decipher the programs to learn the compatible ways and develop their interoperable products. Judges in Atari case and Sega case affirmed the legality of the reverse engineering to reveal the unprotectable ideas merged in a computer system. As well there were a number of limitations to this work like the reproduction of protectable expression must be strictly necessary to ascertain the bounds of protected information, and the commercial exploitation of protected expression was not allowed. Interface specifications, on this point, remained to be in the public domain.⁵⁴

It seems that in the US, copyright protection on computer programs is a “thin layer” where fair use and encryption for compatibility stands as the exceptions. This suggest a background for the standard developing organizations to adopt a royalty-free policy like the W3C and IETF, and even some *de facto* standards were developed in a similar track. However, it is not an underestimation of the interoperability of the software but an adherence to the principle of the copyright law. On the other side, it leaves the Internet Standard in the public sector that there is not adequate protection on the links established by the Open Standard.

In the Europe, 1991 EC software directive regulated that computer programs shall be protected as literary works within the meaning of the Berne Convention for the Protection of Literary and Artistic Works.⁵⁵ Ideas and principles underlying the computer programs and their interfaces are not protected.⁵⁶ Decompilation, by contrast, was under a wider limitation as the decompiled parts of the program should be in need for compatibility that has not been found before, and the information collected should not be given to the others except for the interoperability of the independently created computer program, emphasizing even the development, production or marketing of similar products with the use of information is prohibited.⁵⁷ Directive 2001/29 develops those principles and rules and places them in the context of the information society.⁵⁸ Directive 2009/24/EC made little change to these understandings.⁵⁹ Subsequently in the SAS case, the ECJ offered a comprehensive understanding of the above regulations that “neither the functionality of a computer

53 *supra* note 48, pp.31-32

54 *supra* note 46, pp.44-46

55 Council Directive No. 91/250/EEL, art. 1(1), O.J.L 122/42, at 44 (1991).

56 Council Directive No. 91/250/EEL, art. 2(2), O.J.L 122/42, at 44 (1991).

57 Council Directive No. 91/250/EEL, art. 6, O.J.L 122/42, at 44 (1991).

58 Directive 2001/29/EC, O.J.L 167/10, 22/5/2001

59 EC Directive 2009/24/EC, O.J.L 111 , 5/5/2009

program nor the programming language and the format of data files used in a computer program in order to exploit certain of its functions constitute a form of expression of that program for the purposes of Article 1(2) of Directive 91/250.” Additionally article 5 is interpreted as the license authorisation is under the limitation of public interest in observing, studying or testing the function of the licensed program by everyone and these behaviors shall not infringe the owner's exclusive copyrights.⁶⁰

TRIPS is the first international treaty dealing with computer programs, however, it does not provide explicit rules on the expression of computer programs. As the second one, WIPO Copyright Treaty(WCT) article 4 states that copyright protection applies to computer programs, whatever may be the mode or form of their expression. The combined legal force of TRIPS article 10 and WCT article 4 confirms that computer programs are firmly established as copyrightable subject matter under international copyright law.⁶¹

Although the domestic law in the US and Europe retreated from the unprotectable parts of computer programs, the programmers were trying to circumvent the result through private license or contract.⁶² This reflects the need of a further protection. Case laws from the courts set a base line swinging for the requirements, and the practice of the industry provide another channel or compensation that can help, like the licenses embedded in the Open Standards. International treaties, on the other hand, protect computer programs in the form of literary work keeping a distance from the domestic legislation, which may be closer to the common characteristic of the computer programs as reflected from the Open Standard. However, it may not form an effective international protection more for the responsibility mainly attributes to the States.⁶³ This may result from the pluralistic situations of the States, and that the existing copyright law framework needs negotiable space to avoid conflicts.⁶⁴

3.2 Copyright Protection of the Contents on the Internet

From the start, the contents on the Internet were formed mainly with literary works that their lengths were under the limitation of the band width and the network stability, because the number of information packages in the server that were to be transferred to the end-users could not be too big or else the information may be missed very easily and the contents could not be displayed. It was a

60 SAS Institute, Inc. v. World Programming Ltd., no. C-406/10, Court of Justice of the European Union, judgment and opinion; May 2, 2012. Accessed on May 19, 2012.

61 *supra* note 41, p.7

62 *supra* note 46, pp.57-63

63 World Intellectual Property Organization: Copyright Treaty, December 20, 1996, art. 14, 36 ILM 65

64 As can be found in the international patent diversities or copyright diversities.

time that communication on the Internet was heavily dependent on the Email and BBS. Light weighted, free applications rather than the integrated programs were welcomed by the participants for everyone would be able to contribute a bit and learn something.

With the development of the Internet, the distribution of the digital contents started to spread in the US. Entertainment industry producing the digital contents was under the danger of piracy and a series of litigations emerged as the response, which made a further delimitation of the copyright protection on the Internet. It started from the 1995 Digital Performance Rights in Sound Recording Act which grants owners of sound recordings the right to perform their works publicly by means of a digital transmission, and mandates compensation only for a digital phonorecord delivery that is a specifically identified reproduction by or for any transmission recipient. The definition of “digital transmission” was offered as “a transmission in whole or in part in a digital or other nonanalog format”, and thus it would include the downloading and streaming of the phonorecord through the Internet.⁶⁵

No Electronic Theft (NET) Act adopted in 1997 criminalized the reproduction or distribution of copyrighted works, including by electronic means, for a set amount of the retail value in a limited period, in addition to the existed commercial crimes.⁶⁶ To deal with the situation that “damage from piracy has grown over the years as technology has developed, making it easier and easier to produce higher quality copies of copyrighted works in various formats”, and to compensate for the shortcomings reflected from the case United States v. LaMacchia, the provisions “allow criminal liability for willful infringement to be based on the commercial impact on the copyright owner rather than the commercial purpose of the infringer”.⁶⁷

Digital Millennium Copyright Act of 1998(DMCA) introduced the prohibition of trafficking of circumvention devices(including instructions) to make use control of the copyrighted works, whilst no person shall circumvent a technological measure that effectively control access to a work. The person who has lawfully obtained the right of a computer program can circumvent the technological measure on access or use control to enable interoperability, and make encryption research as well.

65 U.S. Copyright Office, "Statement of Marybeth Peters The Register of Copyrights before the Subcommittee on Courts and Intellectual Property Committee on the Judiciary." Accessed on May 19, 2012. <http://www.copyright.gov/docs/regstat062895.html>, summary and overview part. See also Reese, R. Anthony, "Copyright and Internet Music Transmissions: Existing Law, Major Controversies, Possible Solutions," Miami L. Rev. Vol.55 (2000-2001), pp.14-15

66 No Electronic Theft Act (NET) Act, Pub. L. No. 105-147, 111 Stat. 2678 (1997)

67 U.S. Copyright Office, "Statement of Marybeth Peters The Register of Copyrights before the Subcommittee on Courts and Intellectual Property Committee on the Judiciary." Accessed on May 19, 2012. http://www.copyright.gov/docs/2265_stat.html

OSPs, are able to enjoy safe harbor limitations and exemptions to the liability relating to online material under certain circumstances.⁶⁸

Latest bill, Stop Online Piracy Act, tried to limit the use of the Internet which “harbors a category of bad faith actors whose very business models consist of infringing copyright in American books, software, movies, and music with impunity, as the next step in ensuring that our law keeps pace with infringers”. It requires all key members of the Internet ecosystem, including service providers, search engines, payment processors, and advertising networks, to cooperate with the Attorney General to adopt the measures that would potentially jeopardize the operation of the Internet.⁶⁹ The provisions include the requesting of court orders to bar advertising networks and payment facilities from conducting business with infringing websites, and search engines from linking to the sites, and court orders requiring Internet Service Providers to block access to the sites.⁷⁰ As a complement to this, copyright owners who have suffered harm are allowed to seek relief against foreign and domestic infringing websites.⁷¹

With these legislations, a number of cases raised for the protection of the copyrighted content on the Internet. The specific business model of MP3.com was not held legal for the users were not listening to their own contents but the copies bought by the website.⁷² However, its search service survived following the notice and take-down process set forth in the DMCA.⁷³ In Napster case, the peer-to-peer network was rejected as a legal way of distributing the copyrighted work or else would undermine all the elements of the fair use doctrine. The liability of the service provider could not be exempted by the safe harbor provision, for the service was recognized as a contributory infringement and it had control over its network. After all the Ninth Circuit narrowed the scope of injunction, provided that the architecture of the service was not designed to know the content shared.⁷⁴

In RealNetworks case, a product named RealDVD was programmed by the RealNetworks which can copy the content of a DVD into the hard drive. Although there were already similar products on

68 Digital Millennium Copyright Act, 112 Stat. 2860(1998).

69 U.S. Copyright Office, "Statement of Marybeth Peters The Register of Copyrights before the Subcommittee on Courts and Intellectual Property Committee on the Judiciary." Accessed on May 19, 2012.

<http://www.copyright.gov/docs/regstat111611.html>

70 See "Stop Online Piracy Act." Accessed on May 19, 2012. http://en.wikipedia.org/wiki/Stop_Online_Piracy_Act

71 *supra* note 69, "Marketplace Notification and Injunctive Relief: Section 103"

72 Recordings, Inc. v. MP3.com, Inc., 92 F. Supp. 2D 349 (S.D.N.Y. 2000). Its case summary is accessed on May 19, 2012. "UMG RECORDINGS, INC. v. MP3.COM, INC."

<http://www.law.uh.edu/faculty/cjoyce/copyright/release10/UGM.html>

73 *supra* note 48, p.112

74 See A & M Records, Inc. v. Napster, Inc., Court, 2001 WL 227083 (Mar. 5, 2001). Its case summary is accessed on May 19, 2012. "A&M Records v. Napster." http://itlaw.wikia.com/wiki/A%26M_Records_v._Napster

the market or distributing on the Internet, the RealDVD was thought of a serious infringement on the access and copy control under the DMCA. Additionally, as the judge writes, it may well be fair use for an individual consumer to store a backup copy of a personally-owned DVD on that individual's computer, the law has nonetheless made it illegal to manufacture or traffic in a device or tool that permits a consumer to make such copies. The case was settled in the end, however, the situation did not change a lot.⁷⁵

In the YouTube case, the plaintiff claimed that YouTube had infringed its copyrighted works to gain financial benefits. YouTube was forced to offer its users' data anonymously, however, the evidences from the other side pointed out that it hired a number of companies to upload the clips with authorization, and the distinction was impossible on this point. The court decided that YouTube was under the protection of the safe harbor provision and the plaintiffs' motions were denied.⁷⁶ However, in April 5, 2012 the United States Court of Appeals for the Second Circuit reversed the first trial on the reason that Youtube had actual knowledge or awareness and it is eligible for a jury trial. On the other side, the functions of the Youtube remained in the soft harbor protection.⁷⁷

At the same time, the copyright owners tried hard to stop the trafficking of tools or instructions that can be used to decrypt code. In Corley case, the defendants were sued for the distribution of DeCSS, a program that can be used to circumvent the protection of the content on the DVD through CSS. The exception of reverse engineering in the DMCA was rejected by the judge since the defendants were not the author, and even if they wrote the program, the purpose of writing the program and posting was not limited solely for achieving interoperability. The defendants were not involved in legitimate study of or work in encryption, and a good faith encryption could not be achieved on their unlimited posting which was not communicated in a timely fashion to the copyright owner. As to the argument based on the fair use doctrine from the defendants, the court selected to respect the Congress' legislation that left technologically unsophisticated persons who wish to make fair use of encrypted copyrighted works without the technical means of doing so is a matter for Congress unless Congress' decision contravenes the Constitution, a matter to which the Court turns below.⁷⁸ The court ruled that the defendants shall restrain from instructing or trafficking

75 RealNetworks, Inc. v. DVD Copy Control Association, Inc., 641 F. Supp. 2d 913, 2009 U.S. Dist. (N.D. Cal. August 11, 2009). Its case summary is accessed on May 19, 2012. "RealNetworks, Inc. v. DVD Copy Control Association, Inc." http://en.wikipedia.org/wiki/RealNetworks,_Inc._v._DVD_Copy_Control_Association,_Inc.

76 Viacom International, Inc. v. YouTube, Inc., Court, 2010 WL 2532404 (S.D.N.Y. 2010).

77 See "Viacom International Inc. v. YouTube, Inc." Accessed on May 19, 2012.

http://en.wikipedia.org/wiki/Viacom_International_Inc._v._YouTube_Inc.

78 Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, Dist. Court, (S.D.N.Y. 2000). Accessed on May 19, 2012. http://scholar.google.com/scholar_case?case=4887310188384829978&q=111+F.+Supp.2d+294&hl=en&as_sdt=2,5&scilh=0

DeCSS and linking to web sites operated by them to any other web site containing DeCSS, which was upheld in the appeal.⁷⁹

Another case that should be mentioned is the Veoh case. Providing a similar service to the YouTube, Veoh operated a website which users could upload video clips that were transmitted into another format to store in the server and share with others. Plaintiff claimed that Veoh infringed its copyright and did not satisfy the requirements of the safe harbor provision. The court followed the interpretation to DMCA in eBay case that the DMCA specifically requires a service provider to remove or block access to material posted on its system when it receives notice of claimed infringement...also provides that the limitations on liability only apply to...that has adopted and reasonably implemented...a policy that provides for the termination in appropriate circumstances, and ruled that Veoh was not liable for the unauthorized copyrighted works on its website.⁸⁰

In the Europe, it adopted a different approach. The regulations similar to the safe harbor and fair use provisions were provided in the form of EU Directive, following the continental-European tradition that offered a catalogue of the exceptions and exemptions to the exclusive rights of the copyright owners. The E-Commerce Directive regulated that mere conduit, caching and hosting conducted by a service provider would not constitute infringement under certain conditions.⁸¹

The Information Society Directive allowed the reproduction of the copyrighted work under the limitations to copyright protection and for the sake of the digital rights management.⁸² The exemption of the liability of the OSPs was provided emphasizing upon the actual knowledge of illegal activity, whilst the monetary liability may be attributed to the intermediaries for their facilitating and deriving a benefit from user uploads of infringing content.⁸³ On the other hand, a three-step test originated from the Berne convention and recognized by the TRIPS and WCT was used by the national courts as well in deciding the limitations and flexibilities of the copyright

79 Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2D 346, Dist. Court, (S.D.N.Y. 2000). Accessed on May 19, 2012. http://scholar.google.com/scholar_case?case=1916797329375920003&q=111+F.Supp.2d+346&hl=en&as_sdt=2,5

80 IO Group, Inc. v. Veoh Networks, Inc., 586 F. Supp. 2d 1132 (N.D. Cal. 2008). <http://docs.justia.com/cases/federal/district-courts/california/candce/5:2006cv03926/181461/117/> and http://en.wikipedia.org/wiki/IO_Group,_Inc._v._Veoh_Networks,_Inc. Accessed on May 19, 2012.

81 EU Electronic Commerce Directive 2000/31/EC O.J.L 178/1 , 17/7/2000. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:178:0001:0001:EN:PDF> See also "Electronic Commerce Directive (EU)". http://en.wikipedia.org/wiki/Electronic_Commerce_Directive Accessed on May 19, 2012.

82 Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society. O.J.L 167, 22/6/2001. Accessed on May 19, 2012. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32001L0029:EN:HTML> See also "Copyright Directive". Accessed on May 19, 2012. http://en.wikipedia.org/wiki/EU_Copyright_Directive

83 Travis, Hannibal, "Opting out of the Internet in the United States and the European Union: Copyright, Safe Harbors, and International Law", Notre Dame L. Rev. Vol.84, Iss.1 (2008-2009), p.35 and p.50

protection on the issue of fair use which was a compensation to the closed catalogue, however, probably some deficits may exist.⁸⁴

Some courts in the Europe agreed with the sufficiency of a notice-prevention procedure for the Online Service Provider, whilst some others held a different approach. Even before the E-Commerce Directive was published, in 1999, the Hague court sitting in full procedure stated the opinion that since the Service Providers do not select the information and do not process it either, then they do not do the publishing themselves, but only provide the opportunity for publication, nevertheless they can be bound to assist and take adequate measures under notification.⁸⁵ In Germany, Google was exempted from its liability upon the service that provided the previews of the books for the book previews were removed after receiving copyright complaints.⁸⁶ In the UK, the judge of Bunt case decided that the protection to the ISP is not confined to the publication of defamatory material, but embraces other illegal material that infringes intellectual property rights.⁸⁷ In the France, Google case, Wikipedia case and others established repeatedly that hosting providers should not be attributed the liability of infringed content under a circumstance of ignorance.⁸⁸ However, other cases also indicated that it was not a strict principle for the OSPs to be exempted the liability of the online contents. From Google News case in Belgium to the MySpace and DailyMotion cases in France, and the Paperboy case in Germany, the intermediaries had to be liable for facilitating and deriving a benefit from user uploads of infringing content.⁸⁹ Recently two cases in the ECJ reaffirmed that the hosting service provider is protected against the injunction from the national courts requiring the installation of a filtering system that produces *preventing* effect on *information* provided by the service users *indiscriminately, exclusively for an unlimited time period*. It is structured on the interpretation of the protection to personal information and the fundamental right of conducting business.⁹⁰

On the issue of fair use, the courts in the Europe adopted a comprehensive understanding that not only private copying was under the restriction but also the quotation right within the domestic scope of an exception. The French Supreme Court ruled in the Mulholland Drive case that the intended act was in conflict of a normal exploitation in the digital environment, and the normal exploitation was

84 Senfleben, Martin, "Bridging the differences between copyrights legal traditions - the emerging EC fair use doctrine," Journal of the Copyright Society of the U.S.A., Vol. 57, No.3(2010), pp.24-26

85 *supra* note 83, p.41

86 *supra* note 83, p.45

87 *supra* note 83, p.45, see also Bunt v Tilley & Ors [2006] EWHC 407 (QB) (10 March 2006). Accessed on May 19, 2012. <http://www.bailii.org/ew/cases/EWHC/QB/2006/407.html>. paragraph 38(opting)

88 *supra* note 83, p.47

89 *supra* note 83, pp.49-50

90 Case C-360/10, Belgische Vereniging van Auteurs, Componisten en Uitgevers CVBA (SABAM) v. Netlog NV, 2012. Accessed on May 19, 2012. Case C-70/10 Scarlet Extended [2011] ECR I-0000. Accessed on May 19, 2012.

important to the film investors.⁹¹ Dutch court ruled that for the quotation right to apply, the reproduction and communication of collected data to the public had to keep within the limits of what was necessary to give a good impression of the housing offer concerned.⁹² Out of caution, the Germany court decided not to contain the Google's image search service as the unauthorized use of picture thumbnails into the right to quotation. However, it assumed that the copyright owner had consented implicitly by making her works online without employing technological means to protection.⁹³

It can be observed from the legislation in the US and Europe that infringement on digital contents emerged these years and some latest amendments to the law are in relation to this phenomenon. The liability is distributed in the whole eco-system of the industry that SOPA suggested a very strict doctrine of liability fixation, however, its single-sided effect is of some doubt. Even if Internet contributed to the expansion of the illegal contents, it is not the case every where. For example, there are a lot of original contents publishing on the Internet and they are recorded in the DVD to sell as well. Another example is the Open Standard which is freely provided and sometimes is cited without any references. The cases with a similar background were judged with somewhat different results in the US and Europe that imply there lacks a clear consensus on the copyright protection of the Internet contents, especially to the new formats containing the video or citation. International treaty protection, as interpreted through the modelization of the Open Standard, implicitly applies on these formats. However, it can hardly fill the gap left by the domestic copyright protection. This would suggest that the problem exists with a low probability of solving by a single international act or domestic legislation. Thus it is necessary to analyze the problem from other perspectives and find other possible solutions.

3.3 The Development of the Internet Standard, A Comprehensive History with the Copyright Protection

A synchronous description between the development of Internet Standard and the copyright law may connect the both and contribute some to a full image. The first two-network TCP/IP communications test was performed in 1975 with which the TCP/IP protocol was further developed to build networks among computers.⁹⁴ After then the computer programming started to attract the attention of the public and the computer program was defined in the 1980 amendment to the 1976 Copyright Act. As soon as the experimental networks migrated to the TCP/IP protocol in 1983, a lot

91 *supra* note 84, pp.13-14

92 *supra* note 84, p.16

93 *supra* note 84, pp.17-18

94 See "Internet protocol suite." Accessed on May 19, 2012. http://en.wikipedia.org/wiki/Internet_Protocol_Suite.

of networks among the institutions and major corporations were built, and in 1989, this protocol was put into the public domain as a part of the BSD system.⁹⁵ It cannot be stated arbitrarily that the Altai case in 1987 had connection with this decision from the AT&T, however, the exemption of copyright protection for achieving software interoperability made vanished the legal obstacle at least, and opened the gate for the programmers to produce other protocols freely, like the HTTP protocol. The rise of the Internet would be attributed to these progresses as a whole.

The contents on the Internet elaborated depending a lot on the standards developed by the W3C on the application layer of the Internet Model. In 1994 W3C was created by Tim Berners-Lee with the prototype of the web browser, editor and server. The next year HTML language was introduced as a method to input the information to the web editors and display it in the web browser, followed by the XML language in 1996 which can be used to interchange data on the Internet.⁹⁶ With these tools the Internet was able to spread with a fast speed and as a response or a synchronized development, NET Act and DMCA were established in a short time.⁹⁷ These regulations delineated the copyright protection of the contents on the Internet, provided safe harbor provisions for the Online Service Providers and compensated the users with fair use exceptions. Similar approach was adopted by the Europe as well after the internationalization was integrated as a W3C standard which solved the problem of correctly displaying the web pages using different languages without being garbled.

The web services expanded rapidly to bring in more contents to the Internet, and the interaction of the law and technology continues. There was not a clear definition of web2.0 that made it more like an aggregation of rich web services, of which the digital libraries, social link websites, search engines produced some legal questions.⁹⁸ As to this, the scale was not without controversy and the results were fragmented.⁹⁹ The development of Internet standard promoted the recognition of the copyright protection, and more challenges emerged prominently.

Open Standard under this context provides a sample of efficient management on the copyright licenses and optimal interaction with the public. It can be generalized at least a mode that can attracts more attention on the problems and phenomenons in the copyright area. For example, is it necessary to include software license and document license on Open Standard at the same time

95 See "Unix." Accessed on May 19, 2012. <http://en.wikipedia.org/wiki/Unix#1980s>

96 See "FILE TRANSFER PROTOCOL (FTP)". Accessed on May 19, 2012. <http://tools.ietf.org/html/rfc959>, other protocols such as FTP found in 1985 can also be used to transmit data on the Internet as well, however, the transmitted data cannot be viewed by a web browser directly.

97 "W3C10 Time Line Graphic." Accessed on May 19, 2012. <http://www.w3.org/2005/01/timelines/timeline-2500x998.png>.

98 "Web 2.0." Accessed on May 19, 2012. http://en.wikipedia.org/wiki/Web_2.0.

99 *supra* note 84, on the right of quotation, the fast spread of the infringed contents, the potential abuse of copyright overprotection.

since their contents do not have too many differences? How big is the difference between the literary work and computer program? What is the meaning of the format to a copyrighted work? These questions generating from the Open Standard are worth to be explored further.

The Open Mode provides some clues. Based on the consensus from the industry concerned with the Internet, Open Standard uses the form of literary work in addition to the program codes and test suits, use cases that are also the important functional parts of a standard. However, the Open Mode implies that the electronic document is also a kind of software from the perspective of programming. Its functional parts express the ideas, principles or discoveries, whilst the properties of the documents record making processes, licenses or policies that are exogenous. Licenses distinguishing a certain form of expression in a standard that is unmodifiable may be integrated in a unified license.¹⁰⁰ It may provide some commonality to some tests in the practice like the three-step test, however, it is such a complex legal problem and a further research is in need.

From the Open Mode it is also obvious that traditional copyright law protects more based on the functional parts of the Open Standard like the material rights and a small part of the properties like the moral rights. On the other hand, no provisions in the copyright law can protect one Open Mode from being lost or transmitted into another kind for the making processes, licenses and policies themselves are out of the range of the copyright protection. With the development and accumulation of the Open Standards and the Internet contents there would be a need to protect these contents more. Merging these parts into a human rights protection framework may be a potential solution.

100 For example, the W3C test suite license or the creative commons.

4 Human Rights Protection on Open Standard

Open Standard is endorsed by the access to knowledge, right to Internet, right to science and culture, and a comprehensive understanding of Open Standard was provided by the international drafted treaties on human rights. This part intends to argue these realizations imply that Open Standard is possible to be protected by the human rights law, and the derivative questions are to be discussed.

4.1 Open Standard shall Enjoy the Human Rights Protection

Open Access is the right for the public to access to the knowledge and cultural heritage. In the BBB definition, Open Access is stated as "a comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community".¹⁰¹ It is endorsed by "the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment", and "the Internet".¹⁰² Open Access authors and copyright holders agree to give up some parts of their rights, but hold "proper attribution of authorship".¹⁰³ According to Peter Suber, "Open Access" literature is online, free, flexible with other legal permissions, compatible with some business models. Open Access accommodates for archives, journals, blogs and many other documents, techniques like P2P, RSS.¹⁰⁴

A detailed description of the Open Access would be better to include the various implementing methods. They started from the Open Journal and Digital Library. In 2003, Open Access is widely reported by magazines like "Science", "Nature", "Wall Street Journal".¹⁰⁵ After some discussions on this basis, the NIH-funded investigators are required to submit the electronic file of the manuscripts to PubMed Central to the public.¹⁰⁶ In 2004, the authors of Elsevier journals are allowed to post

101 See "Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities." Accessed on May 19, 2012. <http://oa.mpg.de/lang/en-uk/berlin-prozess/berliner-erklarung/>

102 "Budapest Open Access Initiative." Accessed on May 19, 2012. <http://www.soros.org/openaccess/read>

103 "Bethesda Statement on Open Access Publishing." Accessed on May 19, 2012. <http://www.earlham.edu/~peters/fos/bethesda.htm>

104 P Suber, "What is Open Access? An Overview", Lecture on ALPSP-SSP Meeting, Washington DC, November 8, 2004. Accessed on May 19, 2012. http://www.sspnet.org/documents/130_suber.pdf

105 Alexei Koudinov, Peter Suber, "Open Access, a breakthrough for science that every neuroscientist should know about", Society for Neuroscience Abstracts online, Program No.30.6, September 1, 2004, p.3. Accessed on May 19, 2012. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:4783840>

106 "NIH Public Access Policy Details." Accessed on May 19, 2012. <http://publicaccess.nih.gov/policy.htm>

their own versions in an Open Access e-print archive at their institution.¹⁰⁷ Springer adopted a more open policy not only to allow its authors' published articles to appear in open archives, but also a grant for these articles to be accessible to anybody.¹⁰⁸ Libraries are also trying to convert their lending system to a more open one, as the process described by Ben Hunter in the University of Idaho Library.¹⁰⁹

The range of Open Access is not limited to the Access to literature, thus it is a conclusive right in its legal meaning. It covered the right to freedom of expression, to knowledge, to science and culture, that "has a claim on our humanity that stands with other basic rights", "closely associated with the ability to defend, as well as to advocate for other rights", like the right to participate in cultural life.¹¹⁰

Corresponding to the call for Open Access, Access to Knowledge movement started in 2003 in Lisbon, Portugal as a work program for WIPO, which underpins the right to knowledge. In 2004, "A2K" is used by the Open Society Institute to describe the movement. In 2005, the "Treaty on Access to Knowledge" is drafted in WIPO.¹¹¹ The treaty is a big step towards the right to knowledge, with "a dozen articles on limitations and exceptions to copyright".¹¹² It also recognized the importance of the Open Standard and titled part 6 as the promotion of Open Standards. In this part, Open Standards are described as "essential interfaces for Knowledge Goods", and a committee for Open Standards should be established to request for the demand of Open Standards and publish. Members of this treaty should agree to use products implementing the Open Standards in advantage.¹¹³

Copyright of the Open Standard is not mentioned in this draft treaty, however, two versions of definitions to the Open Standard are in fact composing a compulsory requirement that Open Standard should be published under a due process without restriction to the access, and adopted or

107 "Your Open Access Choices." Accessed on May 19, 2012.

http://www.elsevier.com/wps/find/intro.cws_home/open_access

108 "Springer Open Choice – Your Way to Open Access." Accessed on May 19, 2012.

<http://www.springer.com/open+access/open+choice?SGWID=0-40359-0-0-0>

109 Ben Hunter, "Moving open access to open source: transitioning an open-access journal into the OJS", *Technical Services Quarterly*, Vol. 28, Iss. 1(2010).

110 John Willinsky, *The access principle : the case for open access to research and scholarship*, Cambridge, Mass. : MIT Press, 2006, Digital libraries and electronic publishing series. p.143. Accessed on May 19, 2012.

<http://mitpress.mit.edu/books/chapters/0262512661pref1.pdf>.

111 Gaëlle Krikorian, Amy Kapczynski, *et al.*, *Access to Knowledge in the Age of Intellectual Property*, Edited by Gaëlle Krikorian, Amy Kapczynski. New York : Zone Books; Cambridge, Mass. : Distributed by the MIT Press, 2010. pp. 481-482.

112 Helfer, Laurence R, "Toward a Human Rights Framework for Intellectual Property", *U.C. Davis Law Review*, Vol. 40, Iss. 3 (2007); *Vanderbilt Public Law Research Paper No. 06-03*. Accessed on May 19, 2012 at SSRN: <http://ssrn.com/abstract=891303>

113 "Treaty on Access to Knowledge." Accessed on May 19, 2012. http://www.cptech.org/a2k/a2k_treaty_may9.pdf

implemented with no cost or for a nominal/reasonable fee. It seems that the freedom to copyright in the Open Standard has already become a consensus among the treaty authors. It can be seen as an Open mode is recorded in this draft, but probably this is not sufficient for the treaty remains on the draft status.

If the intellectual property rights are recognized as part of the human rights, then the copyright problems that the Open Standard covers, for example, the need of more flexibility for the copyright protection, maintaining the public domain, promoting the education and innovation, are under the regulation of the human rights law. However, current interpretation provided by the International Human Rights Treaties and domestic regulations cannot reach to this extent partly for the existing legal system needs to be adjusted and partly for the problem is very complex.

Some fundamental human rights have close relation to the intellectual property rights like the rights applauded by Open Access. The right to science and participate in cultural life is endorsed by the UDHR in 1948 as "everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits".¹¹⁴ There are some questions from the delegates in drafting process of the treaty that whether the right to intellectual creations or the freedom of creative thought shall be protected as fundamental human rights, but this consensus at that time cannot be found.¹¹⁵

ICESCR went further in defining the state parties' obligations to realize the contents of the right to science and participate in cultural life, respect the "freedom indispensable for scientific research and activity" and recognize the benefits.¹¹⁶ In General Comment 17, the differences between the human rights and intellectual property rights are clarified that intellectual property rights are concerned more on the proprietary side of the intellectual creations and human rights emphasize the fundamental entitlements of the human person. Accordingly, "intellectual property regimes primarily protect business and corporate interests and investments", and "human right safeguards the personal link between authors and their creations and between peoples, communities, or other groups and their collective cultural heritage, as well as their basic material interests which are

114 United Nations General Assembly (1948). Universal Declaration of Human Rights. Resolution 217 UN Doc. A/64. Article 27, Section 1. Accessed on May 19, 2012. <http://www.un.org/en/documents/udhr/>

115 Yu, Peter K., "Ten Common Questions About Intellectual Property and Human Rights", Georgia State University Law Review, Vol. 23 (2007), pp. 709-53; Michigan State University Legal Studies Research Paper No. 04-27 . Accessed on May 19, 2012 at SSRN: <http://ssrn.com/abstract=1090241>, see also Johannes Morsink, *The Universal Declaration of Human Rights: Origins, Drafting, and Intent*, Philadelphia, Pa. : University of Pennsylvania Press, cop., Pennsylvania studies in human rights series (1999), p218

116 International Covenant on Economic, Social and Cultural Rights art. 15, Dec. 16, 1966, 993 U.N.T.S. 3

necessary to enable authors to enjoy an adequate standard of living”.¹¹⁷ This difference is notable from the observation of the Open Standard and the Open Mode concluded from it if Open Standard is under the protection of the human rights law, for the functions of the Open Standards are mainly the proprietary parts and the properties are mainly the parts that are built on the “links between peoples” like the working processes, licenses and policies. Thus there lacks a clear premise to put the Open Standards or the Open Mode under the protection from the human rights law that would fill the gap between the law and the reality.

Open Access is also accompanied with the right to freedom of expression and some other rights like the right to justice, as recorded in the treaties like the UDHR(Article 19), ICCPR(Article 19, Section 2), and ECHR(Article 10) to "link public access firmly to the long-established fundamental human right".¹¹⁸ To these rights the intellectual property rights are the support that help these rights to be respected, protected and fulfilled. However, the descriptions of these rights do not contain the requirements to the intellectual property rights. In other words, the contents of the fundamental rights are in need to be substantiated to be understood further. For example, if all the documents of the court can be published freely on the Internet without a working process to exclude the ones that are of potential danger to the privacy, then it would not be a positive response to the right to justice. Hence, the recognition of the intellectual property rights from the perspective of the human rights may not be achieved through a single treaty.

Regional human rights instruments provide the provisions that support a human rights understanding for intellectual property rights and they are cited as the direct basis of judgment in the courts. Not only the right to culture, freedom of expression, education are recorded but also the material interests that are necessary for the authors to enjoy an adequate standard of living are recognized. Article XXIII of the American Declaration of the Rights and Duties of Man of 1948 states that “every person has a right to own such private property as meets the essential needs of decent living and helps to maintain the dignity of the individual and of the home”.¹¹⁹ Article 1 of Protocol No. 1 in the ECHR states that “Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of

117 See ECOSOC, Comm. on Econ., Soc. and Cultural Rights, General Comment No. 17: The Right of Everyone to Benefit from the Protection of the Moral and Material Interests Resulting from Any Scientific, Literary or Artistic Production of Which He or She Is the Author (Article 15, Paragraph 1(c) of the Covenant), U.N. Doc.E/C.12/GC/17 (Nov. 21, 2005), Accessed on May 19, 2012. <http://tb.ohchr.org/default.aspx?Symbol=E/C.12/GC/17>

118 Roy W. Davis, "Public access to community documents: a fundamental human right?", European Integration Online Papers, Vol. 3, Iss.8. (1999), part 2

119 American Declaration of the Rights and Duties of Man, O.A.S. Res. XXX, adopted by the Ninth International Conference of American States (1948), reprinted in Basic Documents Pertaining to Human Rights in the Inter-American System, OEA/Ser.L.V/II.82 doc.6 rev.1 at 17 (1992). Article XXIII

international law”¹²⁰ Article 17 of the Charter of Fundamental Rights of the European Union recognizes the right to property and states “Intellectual property shall be protected.”¹²¹

Moreover, in the practice the intellectual property rights issues are already under the protection of the right to property in the *Anheuser-Busch Inc. v. Portugal* case. In this case the court confirmed that intellectual property, especially the right to application is under the protection of right to property, for the registration is with relation to the economic interests of the trademark, and a priority, exploitation and transfer right is granted to the applicant.¹²² This case is a great advancement for the human rights protection on intellectual property rights, however not so direct that the right to a due process is protected as a part of the right to property for the lack of relevant provisions in the ECHR. Other cases may be used as the proof as well that the protection of intellectual property rights relied a lot on the domestic processes.¹²³ Thus the right to property may not solve the problems that may happen on the protection of intellectual property rights as a whole.

On the interpretation of the intellectual property rights from the perspective of the human rights, scholars offered some models and theories on the definitions and processes. According to Peter K. Yu, “Intellectual creations” are established by the UDHR and ICESCR, cover the “scientific, literary or artistic production” made by “an intellectual worker, scientist”, broaden the scope of the protection and the author limitation. In this model, the right was instituted to “protect the narrow interest of just remuneration for intellectual labor” that satisfy the need of “an adequate standard of living”, and other human rights options of protecting the material interests are respected.¹²⁴

“Collective goods” on the other hand, emphasizes that “possessions” have at least a ‘legitimate expectation’ of obtaining effective enjoyment of a property right” which is based on a legal provision or legal act, and a legitimate right is in need to be proved first when an infringement is claimed. Thus in the eyes of Tuomas Mylly, collective goods affect the states, society and individuals and human rights are a part of the products that are provided by the states fulfilling the

120 Convention for the Protection of Human Rights and Fundamental Freedoms, ETS 5, Article 1 of Protocol No. 1

121 European Union, Charter of Fundamental Rights of the European Union, 7 December 2000, Official Journal of the European Communities, 18 December 2000 (2000/C 364/01). Accessed on May 19, 2012.

<http://www.unhcr.org/refworld/docid/3ae6b3b70.html>

122 *Anheuser-Busch Inc. v. Portugal*, App. No. 73049/01, 45 Eur. H.R. Rep. 36 [830] (Grand Chamber 2007).

123 *Dima v. Romania*, *Dima v. Romania*, App. No. 58472/00 (2005); *British-American Tobacco Company Ltd v. the Netherlands*, Appl. no. 19589/92, 1995, Series A, vol. 331, at paragraph 63 of the Human Right Commission’s Opinion and at paragraph 91 of the ECtHR’s Judgment.

124 Yu, Peter K., “Ten Common Questions About Intellectual Property and Human Rights”, *Georgia State University Law Review*, Vol. 23 (2007); Michigan State University Legal Studies Research Paper No. 04-27 . Accessed on May 19, 2012 at SSRN: <http://ssrn.com/abstract=1090241>

obligations for everybody to enjoy which cannot be achieved by a single person or infringed by private interferences.¹²⁵

Laurence R. Helfer concluded on the possible frameworks and suggest that the minimal outcomes that human rights law requires of states be specified first to identify different mechanisms available to states to achieve those outcomes. Then the intellectual property laws that help to achieve these outcomes shall be embraced and those hinder shall be modified. With this framework a pragmatic approach would be possible to prevent a further fragmentation of the international law, protect the public interest and solve the potential conflict between intellectual property rights and human rights.¹²⁶ The Open Standard is in close connection with the intellectual property rights, and the protection of Open Standard cannot constitute the protection of human rights unless it was put into the framework of the human rights protection on intellectual property rights together.

The protection may be available on different layers of an Open Mode. Taking IETF/W3C Open Mode as an example, its functions cover all four layers of the Internet, however, when it comes to a certain case only one or two of the layers may be concerned. Moreover, some standards may be of particular importance to this layer, like the HTML or XML protocol to the application layer, others may have limited scope and influence like the *de facto* standard set by a specific vendor. This may imply a pluralistic arrangement for the protection of the Open Mode on different layers in accordance with the technical requirement like the Internet model. It is not saying that some standards are more important than the other standards, but the sufficient proof from the implementations or the employments is of ultimate significance to the standards. The properties of an Open Mode, on the other hand, are not concerned with so many technical considerations that once a property is confirmed to be under protection then a precedent is built.

A number of rights are recognized as human rights since the establishment of the international human rights law and the number is growing with the development of the society on the basis of a consensus. Internet as an aggregation of technologies that advanced a lot for the convenience of the human life shall be treated as a right which everyone can enjoy through the Open Access.¹²⁷ Internet Standard is the programming infrastructure of the Internet and Open Access to Internet may need to have access to the Internet Standard as a basis. Open Standard can contribute to this process and Open Mode is a tool efficient for the promotion. Although this cannot solve the problem of whether

125 Mylly, Tuomas: "Intellectual Property and Fundamental Rights: Do They Interoperate?", in Bruun, Niklas (ed.): Intellectual Property Beyond Rights (WSOY, Helsinki, 2005)

126 *supra* note 112

127 *supra* note 104

intellectual property rights are a part of human rights, a preliminary statement that Open Standard or Open Mode fits for the protection from the human rights may be sufficient. However, it should not be underestimated the complexity of the problems that may derive from the protection. From above it can be concluded that an international treaty protecting Open Standard is in demand but not sufficient for the support from other treaties is necessary, and the protection on the properties and functions may be separated for they concern different problems which the human rights protection on intellectual property rights needs to be developed further.

4.2 The Human Rights Implications on the Open Standard

Human rights is not a fresh concept for the public, however, the intellectual, cultural and legal development of the society would offer new contents from time to time. It roots deeply in the cultural, religious, and legal achievements that established the links among the people, no matter the forms of custom, rule, or legal right. Before the twentieth century, human rights issues appeared without a general realization and international protection, like the right to religion, abolition of slavery and international humanitarian law. The technological development from the industrialization era promoted the connection of the people worldwide and a number of incidents made them realize the necessity of cooperating to protect their rights, like the World War I. A watershed was established after the World War II that the UDHR and UN Charter confirmed the existence of a universal human rights system.¹²⁸ Since then, the list of the human rights and its corresponding enforcing mechanisms continued to expand as the number of the States and NGOs increased dramatically from the 1970s and the wave of globalization spread across the world. Today an information society steps in and the human rights system is facing the challenge from the new phenomenons and requirements like the intellectual property protection, Access to Knowledge, or Open Standard. Since it is hard to argue that Open Standard is under the protection of human rights law in an existing intellectual property rights framework, it would be necessary to discuss the range of human rights to include a specific item like the Open Standard.

The characteristics of the human rights are controversial. Some thought of human rights as universal, some argued that it is dependent on the specific circumstance and thus generates vague and ambiguity.¹²⁹ The proponents of the universality argued that human rights as a pillar of the post-Westphalian order should be universal otherwise its function of influencing the domestic law would

128 Shelton, Dinah L., "An Introduction to the History of International Human Rights Law", GWU Legal Studies Research Paper No. 346; GWU Law School Public Law Research Paper No. 346. (August 2007). Accessed on May 19, 2012 at SSRN: <http://ssrn.com/abstract=1010489> or <http://dx.doi.org/10.2139/ssrn.1010489>

129 Eric Engle, "Universal Human Rights: A Generational History", ANN. SURV. INT'L & COMP. L. Vol.12(2006), part 3

be derogated. A further understanding of human rights is based on the interpretation of the human nature since the ancient times that “human rights are, thus, a means to the end of political society, which insure and obtain not merely life, but the good life, for the members of the polity ”. Additionally, “the universality of human rights is a legal fact recognized by international law.”¹³⁰ Some opinions suggest that “What human rights may be interpreted as being differs according to the particular economic, social and cultural society in which they are being defined. ” For the concept of a right is not without ambiguity, “Some 'rights', for example, are intended as immediately enforceable binding commitments, others merely as specifying a possible future pattern of behavior. ” However, the judge of the ICJ recognized the effect of the international human rights law and tended to confine the scope to “the protection of individuals and groups against violations by governments of their internationally guaranteed rights”, which in part admit the universality.¹³¹ Generally speaking, as the “international human rights law”, it is binding or at least able to produce influence worldwide which can be inferred from the implementation of the human rights Treaties. Moreover, the historical teachings informed that “the question of human rights is an international one and should be dealt with at that level.”¹³²

Human rights are fundamental. “Fundamental” as a prefix for the human rights appeared in the preamble of the UN Charter stating one of the purposes of the treaty is “to reaffirm faith in fundamental human rights ”.¹³³ This statement is repeated in the UDHR, whilst in ICESCR and ICCPR it is specified as “No restriction upon or derogation from any of the fundamental human rights”.¹³⁴ It is obvious that the human rights recorded in these treaties are fundamental, but the question on evaluating the human rights to decide whether they are fundamental still exist. For example, the broadest possible construction of the right to life would encompass access to an adequate standard of living in addition to the right to food, water, housing, which would be argued as not so fundamental to the extent from the developed countries.¹³⁵ Theoretically, fundamental human rights can find their origins in the natural law, human experience and other philosophical aspects. According to the dictionary, in the natural law system, these fundamental human rights are

130 *supra* note 129, p.7

131 John King Gamble *et al.*, "HUMAN RIGHTS TREATIES: A SUGGESTED TYPOLOGY, AN HISTORICAL PERSPECTIVE", *Buff. Hum. Rts. L. Rev.* Vol.7 (2001), part 1

132 C. B. B. , "International Recognition and Protection of Fundamental Human Rights", *Duke Law Journal*, Vol. 1964, No. 4 (Autumn, 1964) . Accessed on May 19, 2012 <http://www.jstor.org/stable/1371169>. p.6

133 United Nations, Charter of the United Nations, 24 October 1945, 1 UNTS XVI. Accessed on May 19, 2012. <http://www.unhcr.org/refworld/docid/3ae6b3930.html>. Preamble.

134 *supra* note 116(ICESCR), International Covenant on Civil and Political Rights, G.A. res. 2200A (XXI), 21 U.N. GAOR Supp. (No. 16) at 52, U.N. Doc. A/6316 (1966), 999 U.N.T.S. 171

135 Mohammed Enesi Etudaiye, "The theory and practice: the universality and utilitarianism of human rights and the selectivity of fundamental human rights", *Commonwealth Law Bulletin*, Vol.37, Iss.1 (2011). Accessed on May 19, 2012. <http://dx.doi.org/10.1080/03050718.2011.548131>. p.19

believed to exist prior to any positive precept.¹³⁶ However, the modern practice advocate scholars to merge the theory with the constitution or efforts in the court which seems a little difficult.¹³⁷

On the other hand, the realization from the human experience or the self-consciousness of the people suggest that what a fundamental right is or ought to be is a question of whether the right is essential to one's idea of a free individual. The question of this explanation lies in the danger that may proliferate from an arbitrary majority action infringing the fundamental human rights.¹³⁸ Hence, from a practical view the fundamental human rights need to find the origin from an international system or else they cannot be universal, and they have to be concluded from the needs of the humans that are under the limit of the resources and the minorities. In a plain language, a fundamental human right may not be recognized unless it is in need and implementable.¹³⁹ However, it is such a big sliding scale that any specific requirement needs to be evaluated under a certain process that would ensure the conditions being satisfied and maintained. With this interpretation it may be stated that the processes to the fundamental human rights are necessary.¹⁴⁰

The legal definition of inalienable is "of rights, that they cannot be abrogated".¹⁴¹ Human rights are inalienable on the ground that they reside in the human nature and people's daily life as interpreted by the UDHR that "recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world".¹⁴² Although UN Charter did not mention the concept of inalienable human rights, the ICESCR and ICCPR explicitly followed the statement from the UDHR.¹⁴³ Definitely family members are of particular importance and unalienable meaning to a person, however the social links like the friends and access to the community, public services, are necessary for the livelihood and development as

136 Black's Law Dictionary, Second Edition, 804, "Natural Law." Accessed on May 19, 2012.

<http://blacks.worldfreemansociety.org/2/N/n0804.jpg>

137 Theodore H. Lackland, "Toward Creating a Philosophy of Fundamental Human Rights", Colum. Hum. Rts. L. Rev. Vol. 6, Iss. 2. (1974-1975), part 3

138 *supra* note 137, part 3, d

139 "At times these rights have been grounded in reason, need, custom and contract, but in all cases they have been seen as universal and inalienable." From a wider vision, the rights that are built through the need, custom and contract are reflected through the human need. The reason, on the other hand, may be claimed but hard to be recognized. With this interpretation, it seems reasonable to understand these cases to be the fundamental and inalienable rights theoretically. See also Christian Reus-Smit, "Human rights and the social construction of sovereignty", Review of International Studies, Vol. 27, Iss. 4. (2001), p.3

140 Other possible ways may be discussed such as the interaction of the rights, customs, institutions, etc., however, in an international context the domestic rejection may lead to a negative result and the efforts from the governments and organizations can be integrated as a part of the process, or a framework.

141 Webster's New World Law Dictionary Copyright © 2010 by Wiley Publishing, Inc., Hoboken, New Jersey. Used by arrangement with John Wiley & Sons, Inc. "Inalienable." Accessed on May 19, 2012.

<http://law.yourdictionary.com/inalienable>

142 *supra* note 114

143 *supra* note 133, 134

well. Moreover, not only the person would recognize the importance of his circumstances but also it is the environment that understands his rights.

Consider an ideal situation related to the right to food. Supposing there is a public cake on the table with four persons around looking forward to be fulfilled with the right to food. They are equal, peaceful, justified with the respect on each other and the cake is so small that can only satisfy three persons. One of the results that can enforce the right to food of this group would be that one of them gives up his part and then they need to make the decision on the choice of the person. Multiple processes can lead to the decision that one may be on his own initiative, persuaded or voted to leave the cake. His need is aliened and no compensation is offered. However, it is not saying arbitrarily that his right to food is abrogated for he joined an equal, peaceful, justified process to divide the cake which is attributed to the right to food.¹⁴⁴

In reality the story may be different. One of them may be rich enough to buy in the cake, or charming enough to make a decision, or strong enough to defend his part, or fast enough to eat. Under these situations the cultural cohesion, moral restriction or state intervention may produce effect that may ensure a process satisfying the human rights requirement. On the other hand, these external strengths are not affecting without the possibility to deteriorate the process. Whatever the situation, it is held that the inalienability of the right to food implies that a process for the right would be part of its attribute.

With this understanding the teachings from the UDHR and other international treaties suggest that the interactions with the family groups, social links and the public authority are a part of the inalienable human rights. They formed the pluralistic processes that respect, protect and fulfill the human rights.¹⁴⁵ International human rights protection in this context may support and refine these processes and produce an effect on a higher level.¹⁴⁶ Moreover, some human rights may be seen as involving other human rights as the supporting processes, like the right to life with the right to food, right to water and right to housing. This implies that every supporting process of the right to life has no exact meaning in a certain place or time to the right to life as a whole, but none of them can be

144 This is based on a collective right definition.

145 Ernst-Ulrich Petersmann, "Theories of Justice, Human Rights, and the Constitution of International Markets", *Loy. L.A. L. Rev.* Vol.37 (2003), p.52, "The dynamic evolution of regional and global integration law illustrates that 'justice' remains a never-ending regulatory task and 'cannot be related to any one value, be it equality or any other, but only to the complex value system of a man, a community, or mankind.'"

146 For example, *supra* note 145, p.55, The constitutional and legislative definition, and the administrative and judicial protection, of economic and social rights may, however, differ legitimately from country to country and from international organization to organization.

absent to implement the right to life. It suggests that the process and the object are both inalienable in a human rights context.

Since the universal, fundamental, inalienable interpretation on human rights is appropriate, a number of human rights may generate additional focus on their process, like the right to fair trial, education and “benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author”.¹⁴⁷ Traditionally the human rights protection on the process reflects a lot in the international criminal procedure, whilst in other areas it is starting to attract the attention.

“Nearly all basic international human rights instruments recognize a number of rights that have implications for criminal procedure.”¹⁴⁸ In the past this recognition is interpreted more on the limitation to the States power based on the due process model, which can be observed from the words of UDHR and ICCPR.¹⁴⁹ In some regional treaties this aspect is emphasized like the ECHR reserved its protections solely for the accused. Another interpretation lies in “the need to correct the natural imbalance of power in the criminal justice system” that may lead to the protection of the victims more by the State while “remaining faithful to due process values”. The realization oriented from the comparison of the regional human rights system in Latin America and the Europe and a pluralistic approach of the process is recommended.¹⁵⁰ It can be observed that not only the importance of the process for the implementation of the human rights is emphasized but also a more comprehensive protection inside the process that covers all the individuals in an international criminal procedure is developed through the examination of the human rights implementation.

Similar to the right to fair trial, right to education is widely endorsed by the international human rights instruments. It overlapped the right of the children, women as one of the economic, social and cultural rights recognizing the principles of non-discrimination and equality, that few oppositions raise on the right itself but more on the achieving process.¹⁵¹ The implementation of the right to education can be evaluated from quantitative and qualitative indicators which can be divided into formal equality, equality of opportunity, and equality of results.¹⁵² However, this measurement “calls

147 *supra* note 116, Article 15(c)

148 Mykola Sorochinsky, "Prosecuting Torturers, Protecting Child Molesters: Toward a Power Balance Model of Criminal Process for International Human Rights Law", *Mich. J. Int'l L.* Vol.31, Iss.1 (2009-2010), p.15

149 UDHR Article 9-12, ICCPR Article 7,9,10,14,15. *supra* note 114, *supra* note 134

150 *supra* note 148, p.19, p.73

151 Angela Avis Holland, "Resolving the Dissonance of Rodriguez and the Right to Education: International Human Rights Instruments as a Source of Repose for the United States", *Vand. J. Transnat'l L.* Vol.41, Iss.1 (2008), p.18, see also General Comment 20 on ICESCR.

152 Kate Halvorsen, "Notes on the Realization of the Human Right to Education", *Human Rights Quarterly*, Vol. 12, No. 3 (Aug., 1990), p.6

for the development of rights-based indicators, capable of reflecting the norms, principles and values underpinning human rights in general, and the right to education particularly".¹⁵³ Putting into consideration of the difficulties of visualizing the whole image, some measurements may go first in this digital age. For example, the process of getting the educational materials may be evaluated in compliance with the human rights doctrines since there would be multiple forms to get the educational materials like the textbooks, videos, audios. To the disabilities, the videos and audios have specific importance and the online materials can contribute more to the distance education.

Unlike the previous two human rights, right to culture and science seems standing on a disadvantageous position towards private rights and the understanding of which may lead to conflicts with the existing intellectual property rights that the framers of the UDHR may not raise, although the "right to culture and science" provision is already the product of compromise.¹⁵⁴ This distinction roots deeply in that the need of the public to access to knowledge, scientific progress and culture is of potential ability to deprive the moral and material interests realized by the creators, which is reflected not only on the domestic protection but also an international level. On the other hand, how can one author or inventor refuses the request from the family or friends to share with them the knowledge or experience which the acknowledgement in a modern world may spread worldwide in a few days?¹⁵⁵ Thus the right to science and culture as universal, fundamental, inalienable human right presents the need of the people on both sides which may produce conflicts. Judges in the ECtHR realized this problem and distinguished that the right to property can extend to the intellectual property rights on the sphere of the access to the application process that the principle to an equal opportunity is maintained.¹⁵⁶ Scholars noticed that the public interest generated from scientific development needs to be protected, and "the belief was that we could not only directly enhance human welfare by collaborating to provide these goods, but that the process of collaboration itself would also pay dividends." Multiple dimensions of access can be inferred from this incisive observation.¹⁵⁷

However, under an international human rights context some harms on the right to culture and science are hard to express in the language of human rights, for example, the decreased access overall and a connection between the harm and a particular rights violation.¹⁵⁸ A specific case would

153 Katrien Beeckman, "Measuring the implementation of the right to education: educational *versus* human rights indicators", Int'l J. Child. Rts. Vol.12, Iss. 1 (2004), p.2

154 Shaver, Lea Bishop, "The Right to Science and Culture", Wisconsin Law Review, Vol. 2010 (2010). Accessed on May 19, 2012 at SSRN: <http://ssrn.com/abstract=1354788> or <http://dx.doi.org/10.2139/ssrn.1354788>, historical part, B.

155 Notwithstanding the knowledge can accumulate through sharing. *supra* note 150, p.37

156 *supra* note 122

157 *supra* note 154, p.23, p.41

158 Molly Beutz Land, "Protecting Rights Online", Yale J. Int'l L. Vol.34, Iss.1 (2009), p.22

be possibly be found on the Open Standard that a number of companies are trying to patent particular XML Schemes, or if the IETF or W3C is privatized. If the process of setting the Open Standard cannot be protected internationally with the effect against or from the State procedure/private interference, such issues may happen repeatedly from country to country which harm the public interest staying outside the traditional intellectual property protection. Thus it is necessary to build international treaty about Open Standard to protect, respect and fulfill the right to science and culture. Alternative solutions may also be offered like “the cooperation within the technology field among firms being inside and outside the polling system”.¹⁵⁹ These processes can be recognized as a part of the human rights framework and maybe there can be other human rights emergent inside.

A premature attempt would be offered here on “the right to document”. Documents as the carrier of the information or knowledge are used in the educational, cultural and scientific processes like the food to the livelihood. The right to document would imply the State and other duty bearers to take actions to guarantee the supply of the government information, educational materials and traditional knowledge including but not limited to the computer programs and other forms of documents. The process of providing the documents like the Open Mode may be protected as well in the form of funding, regulating or recording. Bearing in mind the international protection on literary work the right to document may be envisaged consistently with the protection from the copyright and human rights.

159 Nawrot, Anna, "Intellectual Property Rights - New Realization in EU", (October 21, 2005). Accessed on May 19, 2012 at SSRN: <http://ssrn.com/abstract=871107> or <http://dx.doi.org/10.2139/ssrn.871107>, p.5

5 Conclusion

All roads lead to Rome. On the protection of the Open Standard, it would be suitable to use this word to summarize the discussion. Through the analysis built on the Open Mode of the Internet Standards, it seems obvious that copyright protection is not sufficient to cover all the aspects. On the other hand, as an international phenomenon, international human rights law is able to provide concepts, structures and tools within the human rights framework to protect its process. To the extent that Open Standard is understood by the human rights, it would be appropriate to be offered more cases or international legislations on this subject matter.

Moreover, this may lead to the need of a further interpretation to the existing international human rights instruments. The internal relations of the human rights may be enhanced through connecting to each other, and some specific characteristics of the human rights may emerge during this process. The problems of the international human rights law in connection with other legal system may be understood further that solutions can be translated in a fluent way. With these efforts the international human rights law may reach a further progress worldwide.

Lastly, a number of questions are included for a further discussion. For example, is a self-contained private license equal to the related copyright protection? What is the condition of distinguishing public protection and private protection on a legal issue? How to evaluate the fundamental rights framework in another context like the copyright? Although these questions are hard to be answered in a single thesis, it is expected the clues can offer some inspirations.

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