A CROSS-JURISDICTIONAL ANALYSIS OF LEGAL FRAMEWORKS: DIGITAL WATERMARKING AND COPYRIGHT PROTECTION

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ABSTRACT

The rapid growth of the World Wide Web has made it incredibly simple, quick, and economical to transmit, access, distribute, and store digital data over the Internet. Nevertheless, alteration, flawless duplicate, and unauthorized copying of digital data are now achievable with the aid of various software programs. As a result, in the digital age, copyright and content protection have gained significance. Digital media copyright protection is something that content producers like big media organizations and individual artists are interested in enforcing. Digital watermarking technology has surfaced as a viable means of safeguarding digital content against unapproved replication.

Copyright holders and businesses must constantly adapt to remain ahead of infringement concerns and maintain compliance with growing legislation. Due to the rising prevalence of file-sharing, digital piracy, and illegal reproductions, stronger copyright laws are desperately needed. The United States' 1998 enactment of the Digital Millennium Copyright Act (DMCA) represents a significant step in resolving copyright issues in the digital era. Despite being US-specific, the DMCA has impacted copyright practices worldwide and offered a framework for resolving digital copyright disputes.

In this paper, using secondary sources of information through published articles and government websites, the importance of Digital watermarking in this era is analyzed. The Copyright (Amendment) Act, 2012 in India is the primary subject of this paper's analysis of laws and bills pertaining to the use of digital watermarks to safeguard intellectual property rights. China's Copyright act is also focused. Forensic watermarking has played an important role in protecting the media in OTT platforms and identifying the infringers in these countries and provide with punishments and compensations.

Keywords: Digital watermark, Copyright Protection, Legislation, DRM (Digital Rights Management), OTT platforms.

Background

Piracy is one of the main issues with copyright in the digital age. The concept of digital watermarking arose while trying to solve problems related to the copyright of intellectual property in digital media. It is used as a means to identify the owner or distributor of digital data. Watermarking is the process of encoding hidden copyright information since it is possible today to hide information messages within digital audio, video, images, and texts, by considering the limitations of the human audio and visual systems[1]. Watermarking does not limit data access, but encryption aims to render signals unreadable for any unauthorised individuals who may intercept them. A watermark is intended to stay in the host data forever. In the event that the ownership of a digital work is disputed, all relevant data can be recovered to fully describe the owner[2].

As an account of steganography illustrates, the concept of concealing data in another medium is quite ancient[3]. Historic papers' watermarks were traditionally manually traced on clear paper by conservators in The National Archives' Collection Care department[4]. Businesses and legal experts must recognize the nuances of a constantly shifting copyright landscape in order to gain protection for creative works in a fiercely competitive market, especially as the digital world continues to grow.

When it comes to curbing piracy, forensic watermarking, and multi-digital rights management (DRM) technologies combine well together. The streaming video business as a whole now uses DRM extensively[5]. However, it is possible to get around it by employing screen or video capture. In contrast, DRM-protected watermarked content moves safely across all platforms and devices. DRM makes sure that only authorized users can access the original content, and watermarking makes sure that you can spot content pirates. These days, there are two methods

[1] The History Of The Digital Watermarking Techniques, UKEssays, (August 11,2021), https://www.ukessays.com/essays/information-technology/the-history-of-the-digital-watermarking-techniques-information-technology-essay.php.
[2] Jordi Nin and Sergio Ricciardi, Digital Watermarking Techniques and Security Issues, https://upcommons.upc.edu/bitstream/handle/2117/23224/Nin.pdf.
[3] Mohamed Abdulla Suhail, Digital Watermarking for Protection of Intellectual Property, (2005), https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=25f3d3625f9240c9faf85521cc5db7d382bcc0c6.
[4] Lucia Pereira Pardo and Giles Bergel, Watermarks: New ways to see and search them, (July 30,2020), https://blog.nationalarchives.gov.uk/watermarks-new-ways-to-see-and-search-them/.
[5] Jeff Berman, Disrupting Piracy With Forensic Watermarking With DRM for OTT Streaming, (October 22, 2021), https://www.mesaonline.org/2021/10/22/disrupting-piracy-with-forensic-watermarking-with-drm-for-ott-streaming/.

for watermarking videos: visual bug and forensic watermarking, which embeds the watermark inside the video's pixels or data stream so that the player cannot see it.

For premium content, Netflix DRM is among the safest anti-piracy options. Viewer-based watermarking is used by the Netflix DRM encryption technique and numerous other premium video platforms[6]. Dynamic watermarking may have been demonstrated to many viewers while they watched a popular series, film, or live sports station. That watermark serves as your device's unique identification. This dynamic watermark is often left visible on some sites to deter users from taking screenshots and sharing their work. Invisible watermarks, on the other hand, are used by some other sites to identify pirate users when they encounter distributed stolen content without changing the viewing experience.

Within the current legal framework, digital watermarking is subject to different copyright laws and regulations in different countries. Digital watermarking as part of Digital Rights Management (DRM) systems is legally protected in the United States by the Digital Millennium Copyright Act (DMCA). Watermarks are increasingly being recognized by courts as legitimate proof of ownership in infringement cases. Among these are the rights of copyright holders to request injunctions against internet service providers, compelling them to obstruct access to websites that encourage copyright violations. Watermarking technology is also acknowledged in China's Copyright Act and India's Copyright Amendment Act of 2012, supporting legal claims in cases of piracy or unauthorized distribution. Notwithstanding these developments, inconsistent worldwide regulation and recognition of watermarking technologies make cross-jurisdictional enforcement difficult.

Future regulations on digital watermarking will probably concentrate on international standardization, utilizing blockchain technology and artificial intelligence to improve copyright protection across borders. Laws may be passed to impose blockchain-based and AI-driven ownership and provenance verification as well as to require interoperable watermarks for content traceability[7]. The use of automated detection systems will result in stiffer penalties for watermark tampering, and privacy concerns will be balanced between data protection laws

[6] Netflix DRM: How & Why of Encrypted Video Security? 2023, (June 3, 2022), https://www.vdocipher.com/blog/2022/05/netflix-drm/.
[7] Miche`le Finck and Valentina Moscon, Copyright Law on Blockchains: Between New Forms of Rights Administration and Digital Rights Management 2.0, (December 20,2018), https://link.springer.com/content/pdf/10.1007/s40319-018-00776-8.pdf.

and intellectual property rights. Regulations tailored to specific sectors, such as finance and media, as well as specifications for NFTs and AI-generated content will guarantee content transparency and authenticity in a rapidly changing digital environment.

Literature review

1)." A Comprehensive Survey of Contemporary Researches in Watermarking for Copyright Protection of Digital Images " by Mr.Manjunatha Prasad.R and Dr.Shivaprakash Koliwad (2009) [8]- The watermark identifies the material owner. A potential user might take advantage of this to obtain the legal authority to reproduce or publish the contact owner's content. Finding the source of unauthorized copies could be greatly aided by this. The Digimarc Corporation has provided examples of how to use an invisible watermark inserted in an image to determine copyright ownership. It is proven that safeguarding watermark security is nearly impossible when a detector is widely available. More specifically, an embedded watermark may always be removed if a detector is available. Should the watermark be eliminated, the initial proprietor will no longer be able to prove his ownership. Under certain circumstances, it is possible to apply a second watermark on an already watermarked image in a way that appears to be present on all copies of the dubious image, including the original. This is known as an ambiguity attack, and it can be used to establish a new ownership claim for the original digital content in addition to contesting the ownership rights of the legitimate copyright owner. This research provides an extensive analysis of the key watermarking methods now in use for copyright protection.

2)." Digital watermarks for copyright protection" by Nicholas Paul Sheppard,Reihaneh Safavi-Naini and Philip Ogunbona (2002)[9] - One can make the publication of their work an unquestionable public record by registering it with a reputable organization, such as a collecting society, to guarantee that their work is acknowledged as original. Explicit registration is frequently not required since broadcast media makes the release of a work a matter of public record. While everyone else refers to this process as (copyright) registration, computer scientists refer to it as timestamping. Digital media are still served by registration

[8] Mr.Manjunatha Prasad.R and Dr.Shivaprakash Koliwad, A Comprehensive Survey of Contemporary Researches in Watermarking for Copyright Protection of Digital Images, (April 2009), http://paper.ijcsns.org/07_book/200904/20090414.pdf.

[9] Nicholas Paul Sheppard,Reihaneh Safavi-Naini and Philip Ogunbona, Digital watermarks for copyright protection, (2002), https://ro.uow.edu.au/cgi/viewcontent.cgi?referer&httpsredir=1&article=9495&context=infopapers.

services, suggesting that registration was a successful strategy in preserving the ownership rights of non-digital media. On the other hand, formal registration may seem more onerous to authors than using a watermark on their own computer, and it also appears to be more costly than watermarking. The need to register watermarks lessens the convenience of use just a little bit, but it is one-time process. The technology of digital watermarking is still at an embryonic stage. Technical examples of this include the Secure Digital Music Initiative's experience with its hacking challenge and the benchmarking software StirMark's ability to outperform watermarking methods.

3)." DIGITAL WATERMARKS AS LEGAL EVIDENCE" by Maurice Schellekens (2011)[10] - This article examines one specific use of digital watermarks, which is to identify the source of unauthorized dissemination. Consideration is given to the digital watermarks' evidential significance. The study highlights the areas of concern regarding the scientific aspects of digital watermark proof as well as the legality of proof. When evidence obtained by civilians using watermarks is utilized in criminal proceedings against an infringer, the evidence collection process is primarily assessed in accordance with civil norms. The privacy of licensees who can be recognized by the watermark is impacted when digital watermarks are used to prevent copyright infringement. Procedures for handling identity data and informing the licensee are crucial tools. By registering only businesses or organizations as licensees within watermarks, privacy issues can be avoided. The scientific features of watermark proof are crucial to courts, and their comprehension is important. Both of these factors matter when evaluating the evidence and whether or not license terms addressing the evidential value of digital watermarks are viable. An expert witness provides information regarding scientific matters to a court. The standard is not intended for use in forensic applications, and there is no infrastructure in place for benchmarking tools or experts to be certified. It also leaves many implementation specifics unclear. Therefore, there is potential to enhance the assistance provided to courts in evaluating watermark evidence.

4)."Role of Digital Watermark in e-governance and e-commerce" by Swati Sunil Sherekar, V.M.Thakare and Sanjeev Jain (2008)[11] - The significance of digital watermarks

[10] Maurice Schellekens, Digital watermarks as legal evidence, (2011), https://journals.sas.ac.uk/deeslr/article/view/1965.

[11] Swati Sunil Sherekar, V.M.Thakare and Sanjeev Jain, Role of Digital Watermark in e-governance and e-commerce, (January 2008), https://www.researchgate.net/publication/242357155_Role_of_Digital_Watermark_in_e-governance_and_e-commerce.

in electronic commerce and electronic governance applications is the main topic of this study. In applications related to electronic commerce and governance, watermarks are employed to protect intellectual property. This makes it easier for developers of applications for electronic commerce and governance to choose the best digital watermarking strategies for their work. Notably, preserving the original data's quality when a watermark is inserted into it is one of the fundamental prerequisites for online content-based digital watermarking. The most suitable commercial systems and approaches for e-governance and e-commerce applications can be quickly identified by developers who are willing to utilize digital watermarking. Applications for online shopping and e-governance need to be protected to stop unauthorized use of the data they post for public consumption. Because they are not familiar with the technology, only a small number of electronic commerce application developers use effective methods to safeguard digital materials in their games.

Research Problem

The final season of Game of Thrones premiered in front of approximately 17.4 million viewers. However, according to piracy analytics firm Muso, an episode was pirated approximately 55 million times in the first 24 hours, nearly three times the official number of watchers. The report's most startling finding was that India was the largest source of piracy, accounting for 9.5 million of the 55 million. Copyright issues due to digital innovation, for movies and media in the traditional form are discussed vastly but there is a gap in addressing the copyright protection provided for the media streamed in the OTT (Over the top) platform.

Research Methodology

This study adopts a qualitative approach that is primarily based on a thorough literature review Some relevant scholarly articles, legal documents, and case studies were reviewed to explore the legislation governing copyright infringement across various jurisdictions. In order to do a comparative analysis, the legislation of countries the USA, India, and China are taken from their respective official websites.

Research Objectives

The objective of this study is to analyze how each country has taken importance in their intellectual property protection with the use of digital watermarks in this era of digital evolution

in the OTT platform. This paper consists of both Developed and developing countries' legislation and how different their perspective on copyright infringement is taken into consideration. The US, India, and China are taken for comparing legislations as per a report they were considered as the Top 3 countries to lose their revenue to online piracy.

Copyright framework of the countries

USA

In June 2024, five individuals were convicted for operating Jetflicks, an illegal streaming service that, as stated by federal authorities, offered a collection of movies and TV shows that surpassed the combined libraries of Netflix, Hulu, and Amazon Prime Video[12].

The companies involved—Netflix, Disney, NBCUniversal, and Warner Bros. Discovery—are intensifying their anti-piracy initiatives by bringing on a former FBI official to lead the effort and are also advocating for new federal legislation to tackle online piracy internationally.

Among other things, the fast spread of digital media and technology makes it ever more challenging to preserve and enforce content with copyright. A major step in the resolution of copyright issues during the digital era is the Digital Millennium Copyright Act[13] enacted in the United States in 1998. This law was a creation intended to settle problems with digital copyright-making it illegal to produce and distribute technology that aims to get around copyright protections.

The Digital Protections in USA

Provisions

- **Section 1201**

Section 1201 of the Digital Millennium Copyright Act of 1998 addresses the prohibition of circumventing technological measures that are used to protect copyrighted works in a

[12] Brooks Barnes, Hollywood Sharpens Aim at Online Pirates, (June 24, 2024), https://www.nytimes.com/2024/06/24/business/hollywood-piracy.html#:~:text=Just%20last%20week%2C%20five%20men%20were%20convicted%20of,catalogs%20of%20Netflix%2C%20Hulu%20and%20Amazon%E2%80%99s%20Prime%20Video.

[13] Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998).

completely digital form. This prohibition now prohibits a user from bypassing and bypassing an access control, such as an encryption or digital rights management tool, although the user may own it or be licensed to copy or have access to the underlying copyrighted work. Additionally, this chapter criminalizes the distribution of circumvention tools or technologies with the purpose to break these protections. However, under specific circumstances, such as fair use or non-commercial purposes, the DMCA makes exceptions, which are reviewed periodically by the Library of Congress. Of course, this section is important both to protect the rights of creators of content and to avoid inhibiting proper uses in education or research or consumer contexts.

Penalty

Penalties for violation of section 1201's anticircumvention provisions may be civil and/or criminal. Under the civil provisions, statutory damages between $200 and $2,500 may be awarded for each violated copyright in the circumstance of a summary judgment motion; wilful violations reach up to $25,000 per act. Injunctive relief, including the costs of the action, can also be given by the court to the prevailing party. Criminal sanctions for knowingly engaged criminal conduct include fines of up to $500,000 and imprisonment of up to 5 years for a first offender, and up to 10 years imprisonment for repeat offenders. These sanctions add another layer of reinforcement to the notion that dealing in circumvention tools never should be considered petty offenses, because the DMCA accords copyright protection in the digital realm an enormous value.

The Doctrine of Fair Use

Technological improvements have also forced an evolution in the theory of fair use, which permits restricted use of copyrighted content in specific situations. Although fair use clauses have always been a feature of copyright law, new difficulties have emerged in defining the parameters of allowed usage in the digital era[14]. As a result, it is currently not possible to get over digital copy protections—which are forbidden by the DMCA—in order to access a work that is copyrighted for fair use.

[14] Ellis Sweetenham, Copyright Law Evolution: Navigating the Digital Age, (November 14, 2023), https://lawdit.co.uk/readingroom/copyright-law-evolution-digital-age.

Global initiatives to safeguard copyrighted works in a global digital environment have been aimed at combating cross-border piracy through programs like the International Anti-Piracy Caucus and the U.S. Immigrations and Customs Enforcement (ICE) program.

Case Law

- ***Capitol Records, Inc. v. Thomas-Rasset***[15]

Facts: In 2006, Jammie Thomas-Rasset, a resident of Minnesota in the U.S., found herself being sued by the RIAA in 2006. According to the complaint filed by the RIAA, Jammie Thomas-Rasset was claimed to have been distributing 24 songs using the Kazaa file sharing platform without the necessary authorization.

Contentions: R.I.A.A. averred that the defendant had illegally shared their songs which were protected and may be subject to $150,000 per song for damages. Thomas-Rasset refuted the charges arguing and holding herself blameless of any copyright infraction.

Decision: The court held three trials. In 2007, Thomas-Rasset was declared guilty of the infringement of copyrights concerning the 24 songs. The jury had given the award amount of $222,000 which was reduced to $54,000. Thomas-Rasset, upon appeal, claimed that the damages were immoderate. In 2009, she faced a second trial where she was again found guilty of the copyright infringement of 24 songs. Now, the jury brought in damages to the tune of $1.92 million to go light but subsequently refuted this to reduce $54,000 again; again Thomas-Rasset appealed.

Another trial was held in 2010 where Thomas-Rasset found herself again guilty of copyright violations for 24 songs. The jury found support for $1.5 million in damages ultimately reduced to $54,000. Thomas-Rasset again appealed the decision. Ending her plight was when the U.S. Supreme rejected her last appeal in 2012.

Conclusion: The trial court ruled for Capitol Records in that digital watermarking was a legitimate way to prove ownership and tracking use of the music involved in copyright. It has

[15] 692 F.3d 899 (8th Cir. 2012)

rendered itself as the landmark case in guiding the really progressive trend within the operation of the legal mechanisms by which copyright infringement and online piracy are attended to.

India

In India, 2022, Disney+ Hotstar filed an FIR against platforms TamilMV, TamilBlasters, Tamilrockers, and the PikaShow TV app for hosting leaked content. Combined, these platforms reportedly attract around 62 million visitors[16].

According to statistics, the total damages incurred by the Indian sector as a result of piracy approached $2.5 billion. Despite efforts to stop copyright theft, Rajnikanth's movie Kabali encountered significant piracy issues. Prior to the release, producer Kailapuli S. petitioned the Madras High Court that 225 websites and 169 service providers to be prohibited by the court from displaying it beforehand[17]. But an hour after its release, the movie was copied on Vimeo, garnering two million views in just twelve hours. Additionally, Tamilrockers.com leaked a torrent version that was downloaded more than 160,000 times.

According to a survey by TECXIPIO Gmbh, “Raaes” was the most pirated Indian film of 2017. According to the data, followers shared Raaes about 6.2 million times. Clearly, this affected the movie's collections since it earned only 176.6 crore from a budget of 127 crore.

The sweeping, rapid expansion of digital media and the technological advancement within Indian society have provided unique and diverse obstacles to the enforcement and protection objectives of copyright laws, arising, and mushrooming in the area of digital piracy, unauthorized or unlicensed file-sharing, and other forms of online infringement. The Indian Copyright Act passed in 1957 was last materially amended in 2012 to be sufficiently updated to counter the always-mushrooming digital threats. The amendment stands as a clear illustration of India's responsiveness to the changes and challenges that occur within India and its commitment to budging toward modern global circumstances in copyright protection with various efforts, the most palatable being the creation of rigid measures for digital rights

[16] Karuna Sharma, Indian OTTs might lose $3 bn to piracy this year as leaked content sites see 62 mn footfalls, (May 31, 2022), https://www.businessinsider.in/tech/enterprise/news/disney-star-is-the-latest-victim-of-online-piracy-which-is-expected-to-touch-3-billion-this-year-in-india/articleshow/91912088.cms.
[17] Mohit Kar, Curbing Online Piracy in the Indian Film Industry : Effectiveness of the Indian Copyright Act, SCC Online, 5 JIPL (2020) 103

management and the enactment of anti-circumvention provisions aimed at addressing unauthorized access to or reproduction of digital content.

The Digital Protections in India[18]

The legislation seeks to create a resilient framework that both protects creators' rights and aligns with international standards for copyright in the digital domain by incorporating Sections 65A and 65B to fortify digital copyright protections.

Provisions

Section 65A specifically crudely sets an unqualified prohibition against circumventing digital protection of copyrighted works, defective notwithstanding the fact that the act of bypassing may have had exclusive coverage under the fair dealings in those days. The section ensures that the technological safeguard put in place by the copyright holders in their works is rendered useless, thereby pre-empting unauthorized access, distribution, and digital piracy.

Section 65B constellates certain requirements so as to protect rights management information-RMI; this relates to the associated metadata embodied in copyrighted works so as to indicate copyright ownership, license terms, and usage constraints. This section makes it penal to tamper with RMI, to remove it, and to alter it in any sense, thus ensuring its integrity in the whole expanse of digital rights data[19]. Such falsification of RMI information is nipped in the bud by the provision, hence it ensures that the attribution of works and terms of use are accurately maintained, thereby safeguarding the rights of copyright holders, and timestamping the digital marketplace.

These provisions comprise a full-fledged detailed legal scheme to protect digital rant-aiding automated technological measures against access and data on rights management body for governing lawful use and distribution of copyright works.

[18] The Copyright Act, 1957, No. 14, Acts of Parliament, 1957 (India).
[19] Prateek Chakraverty, Effective Applicability of Sections 65A and 65B of Copyright (Amendment) Act, 2012 using Case Study of Digital Watermarks, (November 2015), https://docs.manupatra.in/newsline/articles/Upload/BEE7A809-A589-4597-999D-823A97850E9A.pdf.

Penalty

Those convicted for violating Section 65A and 65B may face up to two years of imprisonment and may also be fined. The copyright owner can pursue civil remedies against those who tamper with RMI, under section 55 of chapter XII of the act.

Doctrine of Fair Dealing

These sections, while enhancing copyright protections, also limit the scope of fair dealing, as bypassing digital protections for accessing copyrighted content—even for purposes traditionally permissible under fair dealing—remains prohibited. Although fair dealing has long been part of India's copyright landscape, technological advancements have blurred the lines of permissible usage, especially for educational, critical, and transformative works in digital spaces.

India takes a proactive part in international copyright forums such as World Intellectual Property Organization(WIPO) in support of initiatives that uphold cross-border copyright enforcement. This cooperation underlines India's commitment to the protection of copyright in a digital economy vulnerable to unauthorized use and piracy.

Case Law

- ***Star India Pvt Ltd & Anr V. Yodesiserial.Su & Ors***

Facts: The plaintiffs produce a range of television programs, motion pictures, and online series that are aired on their channels and on the Disney+ Hotstar platform, which is purportedly owned and run by Plaintiff No. 2.

Contention: According to Star India and Disney Hotstar, a number of pirate websites were unlawfully streaming their copyrighted content, infringing upon their exclusive rights.

The Delhi High Court dealt with piracy concerns pertaining to a number of well-known TV series and films that were aired on Disney+ Hotstar.

Judgment: The court observed that the defendant's websites were airing popular television shows and films without permission. In order to prevent these websites from hosting,

duplicating, or streaming the plaintiffs' content, the court imposed a permanent injunction against them.

Conclusion: 352 defendants were covered by this order, which also applied to government agencies in charge of ensuring compliance and internet service providers.

China

Generally, in China, piracy of films has attracted a lot of unwanted attention and with it, various judicial actions. One case that stands out is the 2020 case in which four pirates were convicted for massively copying several films in excess of 400, including The Wandering Earth and Crazy Alien. The sentences ranged from four to six years instilled with heavy fines as yet another deterrent against piracy in China.

More recently, China has focused on advanced technologies, such as blockchain and digital watermarking, in efforts to prevent piracy, underscoring their commitment to IP protection. In 2023, the Supreme People's Court insisted that these technologies be at the center of copyright enforcement. The case involving Renren Yingshi, a large-scale pirated streaming platform, further exemplifies China's aggressive approach to piracy. It offered over 30,000 unlawful films and TV shows that would eventually lead to the founder being sentenced to three-and-a-half years in prison and fined.

The above-mentioned cases reflect China's dual dilemma: that of strict copyright enforcement on one hand and balancing their effort to meet the demand for foreign content with persistent government censorship, with amicable continued tension between IP protection and public access. China, seeing the challenges posed by rapid digital media growth and technology advancement, has proactively addressed the concerns by introducing sweeping amendments to its copyright laws. Subsequent amendments to the Copyright Law, made in 2020, represented a significant advance towards embedding inviolable DRM protocols and robust anti-circumvention regulations. Their goal is to stem the tide or minimize the effects of piracy and unauthorized sharing of media online, while, at the same time, putting China’s copyright system into synchronization with a universal set of standards presided over by the Berne Convention and WIPO Internet Treaties. This legislative upgrading provides testimony to the resolve on the part of China in swearing to fortify the protection of intellectual property in the Digital Age.

The Digital Protections in China[20]

In 2020 China made changes to its Copyright Law aimed at strengthening protections, for digital copyrights.

Provisions

In the Copyright Law of the Peoples Republic of China Article 48 imposes responsibility, for actions that involve bypassing technological protection measures (TPMs). These safeguards aim to safeguard copyrighted materials by limiting access and thwarting usage. This article forbids any access, access by circumvention, or any means of an interference with those digital security mechanisms without proper authorization. This provision, therefore, reinforces the framework of law by securing the integrity of TPM. It thus fortifies the ability of the rights holder to control and commercially benefit from their protected content

Penalty

Article 49 provides for the award to the rights holders with regard to losses sustained, while a further alternative shows that, where actual damage is not provable, the compensation may be not less than the amount of unlawful gains accruing to the infringer. It contains the reasonable cost that was incurred by the rights holder in stopping or preventing the infringement. Failure to establish actual damages or the unlawful gain may result in statutory damages of up to RMB 500,000 depending on the circumstance.

The Doctrine of Fair Use

While these provisions strengthen digital copyright safeguards, they also limit the scope of fair use, as the circumvention of TPMs—even for traditionally permissible purposes under fair use—remains unlawful. These legislative changes align China's copyright enforcement with international anti-circumvention frameworks, emphasizing a secure and controlled digital ecosystem[21].

[20] Copyright Law of the People's Republic of China (promulgated by the Standing Comm. Nat'l People's Cong., Sept. 7, 1990, amended Nov. 11, 2020), translated in P.R.C. Laws (Lawinfochina).
[21] Xia Liu1, Yunfei Zha, Copyright Protection of Digital Movies Using the Coalition of Technology and Law in China, (November 2018), https://www.scirp.org/journal/paperinformation?paperid=87271

The expansion of digital media has similarly complicated the application of the fair use doctrine in China, which allows limited use of copyrighted material for purposes such as research, education, and commentary. While fair use has been recognized under Chinese copyright law, the rise of digital technologies has created ambiguity regarding permissible uses, especially for educational and transformative works in online environments.

China's strong involvement in copyright agreements and collaboration, with the World Intellectual Property Organization (WIPO) demonstrates its dedication to strengthening intellectual property rights and enforcing them across borders amidst the growing challenges posed by digital advancements.

Case Law

- ***Beijing XX Company v. Shanghai XX Company***

Facts: The plaintiff alleges an exclusive right to distribute the film I Am Not Madame Bovary via information networks. Undeterred, the defendant provides the barrier-free version of the film via their app, allowing it to be accessed by the unspecified public. The plaintiff prayed the court to hold the defendant liable because this act has violated its exclusive distribution right under the copyright law of China[22].

Contentions:

Plaintiff's Argument: The plaintiff prayed the court to hold the defendant liable since his act of putting the barrier-free version up for streaming was unauthorized and thus constituted an infringement upon the exclusive right of the plaintiff concerning the distribution of the film via the information networks. This act also affected the commercial value of the original film.

Defendant's Argument: The defendant asserted that to do so was fair use, for he was trying to provide constitute access to the film to people with disabilities.

Decision: The court felt that modification creates a new work or adaptation:- dubbing, and signing language interpreted with subtitles on the original.

[22] Beijing Internet Court Digital Copyright Ten Major Typical Cases, (December 14,2023), https://english.bjinternetcourt.gov.cn/2023-12/14/c_678.htm.

The court finds that the defendant leaves a barrier-free version of the movie available- even when access is limited to people with disabilities- still violates the plaintiff's exclusive rights. The defendant substituted original films profiting its commercial utilization, thus defeating the purpose of fair use.

Conclusion: The defendant will stop infringing and shall pay RMB 10,000 as damages. That case refers exactly that the definition of fair use in China is going to include the aspect of barrier-free film and enhances that protection of economic interests for the copyright owners.

Scope and Limitation

The scope of our research paper is to address the ever-increasing digital innovations causing online piracy infringing copyright protections provided by various nations'(US, India, and China) Anti-circumvention measures. This provides us an insight as to how much similarities exist between Developing and developed nations in protecting their country's content and they contribute in the International aspect as Online piracy goes beyond prescribed jurisdictions. The limitation of our research is that we have focused only on online piracy and OTT platforms that use Forensic watermarking a type of Digital watermarking to identify copyright infringement. The international contribution of each nation is also discussed in a very limited manner.

Conclusion

Stronger copyright regulations were sorely needed because of the growing incidence of unlawful reproductions, digital piracy, and file-sharing. The goal of the law was to establish a strong framework that would safeguard the rights of creators while also conforming to global copyright norms for digital content. Watermarked content with DRM protection travels securely across all platforms and devices. Watermarking ensures that you can identify content pirates, and DRM ensures that only authorised users can access the original content.

Through this paper, we find that Anti-circumvention measures are effective in all countries we have discussed and that they help the government to identify the source of infringement of copyrighted content. India's amendments in the Copyright act have played an important role in this digital era in maintaining the interests of the content owners. Digital watermarking has been widely used in all three countries for safeguarding the contents and being able to identify

the infringers. Many pirated websites are found with the help of these measures and injunctions are granted to avoid piracy. In US the penal nature of piracy has led to the arrests of many individuals. From the Chinese cases, we can see that monetary compensations were awarded to the content creators for their loss caused by online piracy. From comparing the legislation of these countries, it was found that China is the only country that has fixed compensation to be awarded to the content owners.

Recommendation

In this paper, we have focused only on Digital watermarking as a sole measure to combat copyright infringement in OTT platforms. In this digital era, other literary and artistic contents are also at danger and need to be examined in how the legislation of each nation is protecting it. We have taken one Developed country and two developing countries; other nation's legislation can also be scrutinised in upcoming research papers. OTT platforms invest millions in exclusive movie rights, and piracy risks not only their initial investment but also potential subscriber losses. The concept of providing compensation for the copyright owners can be adopted in India as these online piracy of media from OTT platform causes huge losses to them. Similarly, the compensation awarded in China can be increased in quantum as the losses are proportionally more to the compensation.