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ARTICLE ON INFRINGEMENT AND REMEDIES RELATED TO IPR

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COPYRIGHTS AND RELATED RIGHTS

The term "copyright" typically refers to a licensing that allows unrestricted copying. Preventing unauthorized copying is a legal right. Copyright is a legal privilege granted to those who create literary works (such as written works and computer programme source codes), dramatic works (such as film and drama scripts), musical works (such as melodies), artistic works (such as paintings, photographs, architecture, and sculpture, etc.), sound recordings, motion pictures, broadcasts on television and radio, cable programmes, performances, etc. (The duration of copyright protection is the author's lifetime plus 60 years following death.) Ideas alone are not protected; only the expression of ideas is protected by copyright. This means that ideas, concepts, practises, methods, and information itself are not protected by copyright; rather, only the form or mode of expression is protected.

PATENT⁸⁴

For a specific amount of time, a government may issue an innovation a patent as an exclusive right to prevent others from manufacturing, using, and selling the invention (Once patent is granted, they are valid for 20 years from the date of filing an application, subject to an annual renewal fees). By supporting their protection and appropriate application, this law seeks to promote inventions. Example: A new product, process, or design that offers a novel method of accomplishing something may be the subject of a patent.

INDUSTRIAL DESIGN⁸⁵

An industrial design safeguards the configuration, pattern, colour, and style of an industrial object as well as its formal appearance. Engineering design is another

name for it. A product's user experience is the main focus of industrial design, which is utilised to increase both production and marketability. The primary goals of design law are to advance and safeguard the industrial production's design component. Additionally, it aims to encourage industry-related innovation. Either two or three dimensions are possible. Any industrial product, such as various types of automobiles, motorcycles, bicycles, phones, or other industrial goods, falls under the category of industrial design.

TRADEMARK

A trade mark is a visible indication that differentiates goods or services offered by an individual or business. It can be a word, letter, number, name, sign, signature, symbol, design, or expression. It is commonly referred to as "Brand name." It is primarily utilised in the business sector. Its nature and quality are denoted by its distinctive trademark, which aids customers in finding and buying goods and services. Up to 10 years are allowed for the initial registration term, following which may be periodically renewed.

⁸⁴Jisha Garg, "Rights Guaranteed to a patent holder"(iPleaders July, 2022.)<<https://blog.iplayers.in/rights-guaranteed-patent-holder/>> Accessed on 19th Feb, 2024.

⁸⁵ Mr. SatyabrataGaranayak and Dr. M. P. Singh," 3 Significance of Intellectual Property Rights in Modern Era: An Overview", (n Transforming Dimension of IPR: Challenges for New Age Libraries, 2015)<COMPLETE BOOK.cdr (nludelhi.ac.in)>Accessed on 11th Feb, 2024

TRADE SECRETS⁸⁶

A trade secret is any business information relating to commercial procedures that is private or confidential. Processes, methods, techniques, strategies, designs, formulas, patterns, and other things that are not generally known to other organizations may be illegal if they are known. Laws governing trade secrets differ from nation to nation. Industrial, commercial, and manufacturing secrets are other names for it. Coca-Cola trade secrets, for instance. Trade secrets prevent us from currently knowing the formula for Coca-Cola.

GEOGRAPHICAL INDICATIONS

Geographical indicators are symbols used on specific items that are associated with a given locality or origin or that have a particular reputation (It may be a country, a region, town or a village). A geographical indicator often includes the name of the country where the goods were made. Examples include Tuscany, Darjeeling tea, and Bordeaux wine (olive oil).

LAYOUT- DESIGN OF AN INTEGRATED CIRCUIT

An electronic circuit known as an integrated circuit (IC) has all of its component parts housed on a single chip. To make integrated circuits, silicon semiconductors are primarily employed. These are referred to as "chips" or "silicon chips" as well. After the date of creation, layout-designs are valid for 15 years.

PROTECTION OF NEW PLANT VARIETIES

A plant variety is referred to as a plant group that belongs to a single, lowest-ranking botanical taxon (plural: taxa).⁸⁷ A "breeder" is a person who breeds plants and has found and produced a new plant variety. Breeders can apply for a grant of protection for their new plant types. If you pay a yearly fee, the grant of

protection can extend for 25 years, and the plant variety becomes your private property.

EASY INFRINGEMENT OF IPR IN INTERNET AGE

The copyright mostly pertains to writers, publishers, librarians, etc., but Intellectual property rights span nearly every sphere of life, including agriculture, biotechnology, industries, and library sciences. The Intellectual property right (IPR), which provides legal protection for Intellectual property, includes copyright and covers printed content, patents, industrial designs, trademarks, and trade secrets, among other things. The idea of Intellectual property (IPR) and copyright has changed and grown more sophisticated and significant since the invention of printing and multimedia technology for storage and communication. IPR/copyright issues are of great importance to librarians and information scientists because they directly affect their ability to provide services like the gathering, storing, and sharing of information. The topic of Intellectual property rights (IPR) has recently been discussed in several gatherings, seminars, conferences, and forums around the world. Intellectual property (IP) generation, valuation, protection, and exploitation are concerns that are becoming more and more crucially vital inside this global village in today's post-information age, also known as the knowledge society. As a result of commitments made during travels, several nations around the world have started acting to strengthen and reform their Intellectual property regimes by establishing Intellectual property cells to give pertinent information regarding IPR. The Internet is being used for both business transactions and leisure as the Information Technology Age develops.⁸⁸ Data replication in electronic form is fairly simple, and P2P sharing networks or CD-ROMs are frequently used in music piracy. The court determined that copying CDs at home may be considered piracy and a violation of Section 14

⁸⁶"Trade Secrets and its infringement," (McMaster University Research and Innovation) <<https://research.mcmaster.ca/mcmaster-industry-liaison-office-milo/ip-education/intellectual-property-guides/what-is-a-trade-secret/>> Accessed on 20th Feb, 2024.

⁸⁷Manisha Singh, "Emergence of Plant variety Protection in India" (Managing IP, April, 2022) <<https://www.managingip.com/article/2a5d15ejam5bo2n1mvq4g/emergence-of-plant-variety-protection-in-india>> Accessed on 22th Feb, 024.

⁸⁸Gunish Aggarwal, "Intellectual Property Rights And The Internet World" (Intellectual Property Rights and The Internet World, March, 2019) <<https://www.ijlmh.com/wpcontent/uploads/2019/03/Intellectual-Property-Rights-And-The-Internet-World.pdf>> 11 Feb, 2024

of the Copyright Act, 1957, in the case of CIT v. Oracle Software India Ltd. Copying data from a source medium to a destination medium with a physical form is the process of duplicating. Duplication, for instance, is when a music file is copied from one CD to another. New technology such as scanners, digital cameras, recording software, email programmes, iPads, iPods, mobile phones, web TV, data mining, and other software tools make it simple to copy and distribute illegal materials. In India, China, Brazil, Indonesia, and Pakistan, music piracy has reportedly reached unacceptably high levels, according to a recent assessment by the Indian Federation of Phonographic Industry (IFPI)⁸⁹. On the internet, works protected by Intellectual property (IP) that take the form of music, literature, or photographs are converted into binary numbers (0s or 1s). Computers process and store the electronic works as bits and bytes.

According to the Indian Copyright Act of 1957, the creator of a work, whether a literary, artistic, or cinematic production, has the right to stop someone from unlicensed reproducing, altering, or disseminating the copyright work. The web page, if it is distinctive, may be protected as an artistic work combined with a literary work or as trade dress, particularly for virtual offices. Computer programmes are also protected as copyright works.

However, the court held that the Copyright Act of 1957 clearly indicates that, in the absence of registration under Section 44 of the Copyright Act of 1957 by the owner of copyright, it would be impossible to enforce remedies under the provisions of the Copyright Act of 1957 against the infringer for any infringement under Section 51 of the Copyright Act of 1957. Accordingly, registration of copyright is required. The court held that attributing intentional or unintentional infringement by him or on his part would be absurd unless such person (the infringer) knows

that there is any specific owner of copyright in India or that such owner of copyright has registered his work under Section 44 of the Copyright Act, 1957 before he did.

THE CHALLENGES OF THE DIGITAL ENVIRONMENT⁹⁰

Existing digital environment solutions are frequently faced with insurmountable problems. First off, the brand or content owner frequently has no idea who is behind the counterfeiting as the infringers themselves avoid detection, the anonymity issue worsens the "whack a mole" situation, where a website is taken down and a new online listing appears under a different URL nearly immediately. Third, because of the volume and speed of online counterfeit sales, listings are particularly time-sensitive and frequently only available for a short period of time (a few hours or days). This makes it exceedingly challenging to track down counterfeit listings online in a timely manner. Fourth, the usage of many websites by counterfeiters and pirates in various nations raises issues with international jurisdiction and the implementation of foreign judgements. Fifth, there is no standardized, global system in place for delisting and blacklisting online counterfeits and pirated goods.

These difficulties bring up the tricky question of whether legislation might be an appropriate reaction to Bad Actors' clever use of technology in the digital realm. Intuitively, regulation runs counter to the fundamental tenet of the digital age's founding fathers, who created the Internet.

The free and unrestricted cyberworld⁹¹ was envisioned by digital pioneers John Postel, Sir Tim Berners-Lee, and Vincent Cerf as a glorious environment where information flows freely, the right to know is a given, scientific collaboration is simple, you can express your opinions without

⁸⁹AnushreeRauta, "Guest Interview: In conversation with Ms. Melissa Morgia of IFPI on 'Digital Music Piracy: Trends, Challenges and the Way Forward'" (IPRMENLAW Nov, 2022) <<https://iprmentlaw.com/2022/11/30/guest-interview-in-conversation-with-msmelissa-morgia-of-ifpi-on-digital-music-piracy-trends-challenges-and-the-way-forward/>> Accessed on 20th Feb, 2024.

⁹⁰Vlere Hysene, "Digital Transformation Challenges and how to overcome them" (PCEB, 2022) <<https://pceb.com/article/digital-transformation-challenges-and-how-to-overcome-them>> Accessed on 20th Feb, 2024.

⁹¹ 'Intellectual Property Faces The Challenge Of A Digital World' (PROVOKE Media) <www.provokemedia.com/agencyplaybook/sponsored/article/intellectual-property-faces-the-challenge-of-a-digital-world> accessed 9 March 2024.



fear of repercussion, and where free competition enables you to launch an online business that has no geographical restrictions. The question is, how can you reconcile a potion with a poison?

But in the digital age, there is an even bigger and more urgent challenge. The ability of courts and legislators to address and curtail the conduct of Bad Actors online has deteriorated to an appalling degree on a global scale. The amount and frequency of internet actions are unparalleled, as Professor Tim Wu has cautioned. The law has historically trailed behind advancements in business and technology. Additionally, courts' attempts to keep up with the Moore's Law-predicted explosively rapid speed of technical advancement in the online setting have become an increasingly desperate struggle (by which the number of transistors per square

inch on integrated circuits has doubled every year since they were invented). Because the real listing often only lasts a few hours online, it makes little sense for a brand or content owner to file a costly lawsuit in an attempt to halt a single sale of a pirated or counterfeit product on a digital platform. Furthermore, such action is ineffective in addressing the abundance of additional false postings that other Bad Actors have submitted.

SOCIAL MEDIA, PIRATES AND COUNTERFEITERS, CYBER SQUATTING, ETC.

The spread of counterfeits on social media is a recent and particularly sneaky menace. According to recent research by the UK Intellectual Property Office,⁹² "social media has become a critical component of a complex eco-system to divert visitors from authentic sites covering many illegal online venues." On Facebook, Instagram, and WeChat, the official accounts of well-known brands from around the world have all been targeted by counterfeiters who use them to publicly

advertise their stolen products and knockoffs. The CEO of Brand Bastion, Jenny Wolfram, reports that "earlier this year, over the course of two weeks, one brand pirate wrote 114 comments, advertising fake goods on the Instagram accounts of many internationally renowned businesses." The fact that existing digital environment remedies frequently face significant barriers raises the tricky question of whether legislation may be an appropriate reaction to Bad Actors' savvy use of technology in the digital world. Pirated goods and counterfeits advertised on social media can seriously endanger the health and safety of the general public in addition to costing the real brand owner lost sales. A recent law enforcement operation in the United Kingdom resulted in the seizure of "tens of thousands of counterfeit and unsafe goods, including hazardous cosmetics, fragrances, razor blades, electrical products and chargers, as well as apparel, footwear, leather goods, and tobacco products. The collection included "Android TV units with dangerous mains chargers to several hundred counterfeit Cinderella dolls with high quantities of harmful phthalates," according to the report. "Fake items are not subject to the strict safety inspections that genuine goods, made by legitimate enterprises, must comply with," the UK National Trading Standards advises.

Additionally, postings of counterfeit goods on social media seriously damage a brand's reputation. Customers of the legitimate brand are duped into purchasing fake goods by listings that tack on to the legitimate social media pages of firms. These upset customers then publish their own extremely negative comments about the brand on the same social media website for the benefit of all other customers. In an effort to avoid the stricter anticounterfeit procedures that online e-commerce platforms like Alibaba, Amazon, and eBay are adopting more frequently, counterfeiters have set up specific stores on social networking sites like Facebook.

⁹² Mallory King "Social Media Squatting" (BPP) <<https://bpp.msu.edu/magazine/what-is-social-media-squatting-and-is-it-time-to-legislate-march2021/>> Accessed on 20th Feb, 2024.

The anonymity on the Internet is the driving force of criminal activities. Bad Actors might avoid discovery because of their anonymity. Enforcement can only make significant progress if the misbehaviour is methodically monitored and traced to the source of the issue, from the digital world to a physical site. Even if it makes sense to stop the harmful flow of fake and pirated goods at the gatekeepers' distribution points, such as the internet and social media platforms, doing so is about as effective as trying to make a river turn around at the estuary.

PIRACY IN THE DIGITAL DOMAIN IN INDIA⁹³

The biggest change in the modern day is in the digital domain. Change is the law of nature, and the process of change is extremely natural. The advent of new categories and types of work, such as software, digital music and movies, etc., has made copyright protection of works a significant concern in the twenty-first century. The distribution and volume of content that needs to be distributed are connected challenges in the digital sphere. Copyright infringement in the digital sphere can be done easily, cheaply, and without sacrificing the calibre of the work. Other severe difficulties that are emerging include bogus websites and e-commerce, illicit music and movie downloading, and others that are of the utmost concern in this day and age. Copying content and launching a new website has evolved into a new type of digital fraud that costs the owner significant cash and generates enormous profits for the imposter with each click on the false website. There are several causes of Intellectual property infringement, but the most frequently seen cause of piracy is the ease with which the internet may be accessed and used. On the other hand, e-commerce, or conducting business online, is made possible by the internet. People now operate online because of the quickness, simplicity, and adaptability of digital technology, which makes it simple to

gather information across regional borders. There is a significant need for the protection of the work without any limitations because copyrighted material is easily sent and distributed using modern technologies throughout the globe utilising the internet without authentication and authorization of the owner. The advent of digitization sparked a revolution and made it easier for people to operate online in the business, entertainment, and educational sectors, among others. The positives of digitization have certain drawbacks as well.

Piracy is the biggest issue that exists in the digital world. In India, counterfeit goods such software, videos, music CDs, pen drives, and software are readily accessible on the market at a considerably lower price. In addition to piracy, obtaining databases and other important material from the internet is a major problem. We frequently come across roadside vendors and wholesalers who offer pirated DVDs and CDs for sale. They have all the recent movies, which typically run between 30 and 40 rupees a movie. Occasionally, these pirated CDs are also available for rental, and the video and audio quality are both quite acceptable. This ease of access to pirated media encourages piracy and has an adverse impact on "Business." One might infer from observations of daily life that the cost of original CDs, DVDs, and software is the primary driver of pirate. People are more likely to purchase pirated DVDs of movies, videos, games, and music than they are to pay greater prices for the authentic versions of these digital goods, and as a result, piracy is on the rise like a forest fire.

Despite the availability of these pirated CDs of games, music, movies, and videos, web URLs that are prone to illicit downloading are also accessible on the internet. Due to the easy accessibility of the internet and the lower prices that internet service providers and telecom companies charge for their services, downloading illegally has become very affordable. Technology is widely accessible to the public due to the rise in mobile phone users

⁹³PatrikPutman,"The consequences of Digital Piracy"(United States Cybersecurity Magazine)<<https://www.uscybersecurity.net/digital-piracy/>> Accessed on 30th Feb, 2024.

and other similar devices, and this is now causing a great deal of concern due to the advancement of advances in the digital world.

In addition to the previously mentioned problems, the internet-based transmission of an original work into the public domain raises another significant worry. Protecting content that is broadcast via the internet in the present era is becoming increasingly difficult. Signal piracy is a continuing theft that is currently being used. It would be considered piracy and a violation of copyright to broadcast original content that is intended for a certain platform, such as cable TV, but is made available on other platforms like the internet. In addition to granting the right to govern how something is used, certain sections of the Indian Copyright Act address the problem of digital material's copyright breaches. The Copyright Act must address conflicts involving the unauthorized download of music, movies, games, and other content in the digital realm. Other items including computer software, file transfers between personal computers, and peer-to-peer networks are also directly covered by the Copyright Act's requirements. In truth, protecting online data and material has become very challenging, and limiting access to the data and material that is secured has become quite challenging as well.

The piracy of software is just another problem brought on by the digital revolution. Software piracy includes the copying, sharing, and using of software. More than 36% of the software in use is reportedly pirated or stolen, which drives up the cost of original software for users and significantly reduces the amount of money that the true owner of the software makes. Software can be pirated in a number of ways, including by downloading it from peer-to-peer networks online, purchasing it on a pirated hard drive, copying it even though only the original user has a license, purchasing a copy of it from an individual, and installing it after repeatedly entering the same product key on different computers.

The duplication of databases on the internet is the other new problem brought on by technology. It is easier and less expensive to edit, replicate, and spread the content that is available on the internet, which poses a serious issue in the digital age. The similar problem exists with e-books, which are readily available online and can be downloaded, but the issue arises when they are printed and sold for much less, which significantly reduces the financial return to the publisher and authors. Numerous sectors, including the film, software, and music industries, have suffered significant losses as a result of illicit downloading and internet piracy.

Additionally, this is a significant problem with the first sale of books doctrine. The Indian Copyright Act's doctrine of first sale makes it very clear that anyone can resale a copy without the owner's permission but cannot sell a copy without the owner's consent. However, since it is common for people to sell copies and pocket the proceeds, this creates a contradiction between the rights to own and distribute copies and makes it impossible for the owner to recover the proceeds from the sale of a copy that was distributed without his permission. There are a number of additional problems, such as fake websites, which are websites with

similar domain names, increasing access to these fake websites and benefiting the infringement, such as several phoney shopping websites etc. Customers experience problems and lose money as a result of these online scams when they pay for a product online but do not receive it because the website is fraudulent.

The Copyright Act only protects the software portion; scams on bogus shopping websites are not covered by the Copyright Act but rather fall under the purview of IT and cyber law. Copyright infringement has a number of negative effects on the economy and on Intellectual property, including high revenue losses for the owner of the IP, a decline in the sale of digital products, increased litigation costs, wasted time dealing

with the litigation process, and, last but not least, a very significant effect on the rise in the price of original digital products

CHALLENGES FACED BY COPYRIGHT IN DIGITAL WORLD

The technologies relating to digital storage and transmission of works are those that have been problematic for copyright protection. The simplicity of replication and the ease of distribution are just two of the features of contemporary technologies that have an impact on copyright law. Digital technology is a Holy Grail⁹⁴ for pirates because it makes it possible for data to be flawlessly duplicated, altered, diced, and re-edited with enormous freedom. All these technical options make it difficult for copyright law to devise effective methods for stopping the infractions. Due to the decentralised nature of the Internet, anyone can distribute a work indefinitely online through an infinite number of venues, which has led to widespread piracy. The amount of money lost due to piracy of entertainment software, music, and books is estimated to be in the billions. Because users of the Internet spread other people's copyright material widely and upset the balance between authors and users, the Internet offers a challenge for copyright holders. Therefore, the emergence of digital technology offers legislators a decision: either broaden or alter current "old media conceptions" or rewrite the list of prohibited acts, taking into consideration the unique characteristics of the new environment in the various dimensions outlined below.

FOLLOWING ARE SOME OF THE MOST PROMINENT COPYRIGHT ISSUES:

MULTIMEDIA WORK⁹⁵

The diversity of works produced by digital technologies is significantly greater than in the

past. A phonogram and a cinematographic film can now be used in a piece of work that formerly only included literature, art, music, and dramatic elements. The user can "interact" with the work in a way that previous generations could not, for instance, one can now create a new work out of an existing one rather than merely making changes to it. By definition, multimedia works are works that combine various elements, such as text, sound, still images, and moving images, with various classes of works, with the resulting work being classified under the current categorization. Had the rights for all classes of works been the same, then perhaps this would not have been a major issue. But the law as it stands in India distinguishes between different classes of works in the matter of rights. The authorship raises yet another problem, as the criterion of authorship is different between literary, dramatic, musical and artistic works. There is a view that multimedia works being a digital product be classified as computer programs. Since there are separate provisions for rights and authorship of a computer program as distinct from literary works in the Copyright Act, this could be a possible solution.

ISSUES REGARDING REPRODUCTION

One of the fundamental rights granted to the owner of a copyright is the right of reproduction, which has presented the greatest challenges in the digital era as well. In 1967, a right of reproduction was specifically included in the Berne Convention. Owners of copyrights are permitted to disseminate and reproduce their works. The digital revolution has had a significant impact on this copyright owner's entitlement. With the development of technology, anyone can now make use of a piece of work by copying, altering, recording, and distributing it to others, which typically constitutes a violation of the copyright holder's rights. There are some organisations operating online that have a strong network for stealing text, music, films, and photographs.

⁹⁴Adams, R., & de Jong, E., "Intellectual Property Rights in the Digital Media Era: A Comparative Study" (International Journal of Law and Technology 2019) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=704101> Accessed on 15th Feb, 2024.

⁹⁵ Bhawna Kumari, "Protection of Multimedia work under the copyright Regime" (Corpbiz July, 2023) <<https://corpbiz.io/learning/protection-of-multimedia-works-under-the-copyright-regime/>> Accessed on 30th June, 2024.

The reproduction right has been at the centre of copyright law for more than three hundred years, ever since the Statute of Anne, the forerunner of contemporary copyright law, was adopted. The reproduction right per se has not been clearly defined by the international copyright protection instruments, although being acknowledged as a fundamental authorial right. The Berne Convention's original wording did not contain any clauses that specifically safeguarded the reproduction right since there was disagreement over the scope and content of the right. Copyright holders are given "the exclusive right of allowing the reproduction of these works, in any manner or form," according to Article 9(1) of the Berne Convention.⁹⁷ However, the ambiguity of Article 9(1) of the Berne Convention, specifically the wording "in any manner or form," has led to a disagreement on the topic of the reproduction right on a global scale.

The emergence of the Internet has made it increasingly difficult to define the reproduction right in the modern day. The question of whether right owners should be given control over all temporary reproductions looms large amid the dematerialized and decentralised nature of the Internet, given that any transmission of protected works over the Internet involves the reproductions transitorily stored in the connected computers' RAM.

In contrast, two articles (Articles 7 and 11) of the WIPO Performances and Phonograms Treaty, 1996, respectively, provide for the protection of the reproduction rights held by Performers and Phonogram Producers. The exclusive right to approve the direct or indirect reproduction of their respective protected themes in any way or form is granted to Performers and Phonogram Producers under the WPPT (Agreed Statement concerning Articles 7, 11 and 16 of the WPPT).

The Article 9 of the Berne Convention shall apply mutatis mutandis to the protection of the reproduction right in the digital environment, as stated in the Agreed statements attached to the WCT and WPPT. The WIPO Treaties⁹⁸ of 1996 protect permanent digital copies, such as those kept on floppy discs or in a computer's read-only memory (ROM), according to these two agreed-upon assertions. Additionally, subject to the three-step test, members are permitted to add new restrictions or exclusions to the re-delimited reproduction privilege. However, the second agreed-upon statement's usual meaning, particularly the meaning of the word "storage," is still mainly unclear. Does it include producing a copy for a short time? "In usual usage, 'storage' connotes a significantly greater level of action than simply 'temporary' conduct," one would respond in the negative. On the other hand, the opposing position can be as straightforward as saying that the work is in fact stored in the temporary copy. Without making explicit reference to the word "permanent or temporary," the agreed-upon declarations fall short of realising the avowedly ambitious goal of providing clarity by failing to specify how broadly the reproduction right should be applied in the digital environment. The ambiguity of the treaty text raises a possibly unresolved issue regarding whether the temporary copies have been covered.

MANAGEMENT OF COPYRIGHT IN THE DIGITAL ENVIRONMENT

Management and administration of copyright is another area where digital technologies have brought dramatic change. The administration and preservation of copyright have become more challenging due to emerging technologies, which have also made it simpler and much more within the capabilities of the average person to reproduce, distribute, and communicate works.

⁹⁶ 'Intellectual property and assisted reproductive technology - Nature Biotechnology' (Nature) <www.nature.com/articles/s41587-02201592-9> accessed 9 March 2024.

⁹⁷ 'Berne Convention for the Protection of Literary and Artistic Works'(WIPO)<<https://www.wipo.int/treaties/en/ip/berne/>>Accessed on 12th March, 2024.

⁹⁸ "WIPO Copyright Treaties"(WIPO)<<https://www.wipo.int/treaties/en/ip/wct/>> Accessed on 12 March, 2024.

Today, copies may be created at incredible speeds while maintaining perfect originality. They can also be transported across greater distances and distributed to millions of people in a matter of minutes or even seconds. This has increased the likelihood of widespread illicit copying and dissemination of works protected by copyright, which would materially harm the owners' economic interests. However, as noted author Charles Clark once said, "the answer to a machine is another machine," suggesting that technological solutions are necessary to address issues brought about by technology. To make it a crime to remove or alter any rights management information used in a copyrighted work, provisions must be enacted in the Copyright Act or some other Act.

OTHER COPYRIGHT ISSUES ON INTERNET⁹⁹

DOWNLOADING AND UPLOADING

One can download software applications or files from the internet to their computer's hard drive. Making a copy or reproduction of the file copied is what downloading entails. It is wise to confirm whether downloading files or applications from a website is permitted, as well as any limitations on commercial use. Uploading is the process of delivering data from a personal computer or mobile device to a server on another system so that it can be stored remotely. For instance, users can upload their films to YouTube or their photographs to the Picasa server.

CACHING

When browsing the internet, the term "caching" refers to the storage of a copy of the file being transmitted so that it may be more simply and rapidly accessible when it is subsequently viewed. At the user's end, "caching" refers to a temporary copy created by the RAM, and "proxy caching" takes place at the server's end. The idea of caching is an exception to both fair dealing and copyright infringement. In a client's

browser software, a client cache is kept. It comes in two varieties: persistent cache and non-persistent cache. When a non-persistent cache has a high retention potential and will be quickly accessed by users, the memory is cleared. Because it makes it possible to duplicate content from websites and has a negative impact on business, caching may have legal repercussions. A viewer may be presented with an outdated page, while users may miss specific adverts on the updated page. It is generally agreed that because caching gives web users more accessibility and quickness, it should not be considered a copyright infringement.

MP3 REVOLUTION (DERIVATIVE WORKS)

MPEG audio layer 3 is known as MP3. It is an audio file that has been compressed, and after a certain point, the quality of an audio file may degrade. Many businesses, including Napster, permit the peer-to-peer (P2P) file sharing of digitally protected music. Legal action was taken against Napster for online copyright infringement.

The fair use exception for P2P file sharing was taken into consideration by the court, along with the services providers' culpability for permitting such file sharing. Through new technology like Bit-Torrent, the techniques of file sharing for digital music have changed from centralized distribution to a decentralized approach.

INFRINGEMENT OF COPYRIGHT IN CYBERSPACE

Due to the internet network's susceptibility in the cyber world, there is a boost in growth and an equal threat to Intellectual property rights with its introduction. Cyberspace is the term used to describe the electronic realm or virtual arena that is utilized¹⁰⁰ to create a global network to enable online communication. However, it enables a user to conduct business, interact with the outside world, contribute to ideas, participate in social media discussions, and

⁹⁹ Lothar Determann "Dangerous liaisons—software combinations as derivative works? distribution, installation, and execution of linked programs under copyright law, commercial licenses, AND THE GPL."(Berkeley Technology Law Journal)<https://www.btlj.org/data/articles2015/vol21/21_4/21_04_04.pdf>Accessed on 15th April, 2024.

¹⁰⁰ PatrikPutman,"The consequences of Digital Piracy"(United States Cybersecurity Magazine)<<https://www.uscybersecurity.net/digital-piracy/>> Accessed on 30th Feb, 2024.

share information, among many other things. The virtual worlds are connected through this. Today's technology has enabled artists to share their thoughts and works, which is a benefit in and of itself. However, this interconnection also presents a risk of modifying and distorting the author's original work for one's own benefit. Because of the effective barriers that stop individuals who attempt to breach those boundaries, it is extremely simple to protect copyright, patents, trademarks, and other Intellectual property in the physical world. This gave the owner of an Intellectual property right the freedom to freely share their creation and ideas with the entire world on a broad platform without worrying that someone else would misappropriate them. But does it also apply to the virtual world? With the growth of the internet, copying has gotten much easier while making it much harder to find the infringer. Since cyberspace is a non-physical area, anyone can access data there and exchange information without being aware that doing so may violate Intellectual property rights. Cyber laws and Intellectual property rights are inextricably linked since, in the modern world, content that is in digital form needs to be protected. Cyber concerns were not given much attention when IPR laws were enacted, but with the emergence of digital media, there is a need to guard against illegal use of the author's inventions, developments, and artistic works so that the author can profit from his own work.

VULNERABILITY OF INTELLECTUAL PROPERTY RIGHTS IN CYBERSPACE

There is an increase in content being released and going digitized as we advance into the Internet age, and anyone can access that. There are many unauthorized individuals gaining access to the material, which will probably be altered or copied, because there is no restriction on accessing the information unless it breaches cyber law. The need for IPR protection at both the international and national levels is repeatedly emphasized by the several international legal frameworks that have been adopted, including the Berne

Convention of 1886, the Rome Convention of 1961, and the WIPO Copyright Treaty.

IPR in the digital world is crucial in the modern day, but there is also a pressing need to safeguard against cyberspace's vulnerabilities. These issues cannot be disregarded.

The e-commerce industry is expanding daily as a result of technological advancements, and organizations and businesses are under more pressure than ever to uphold the Intellectual property rights of content published online. It encourages the author to disseminate and exchange knowledge and data, and the creator is rewarded for doing so when their work is published. However, there is a negative tendency when it comes to the protection of Intellectual property, which is a result of the growing popularity of E-commerce. These are the following methods that can be seen, which are responsible for becoming a threat to Intellectual Property Rights:

CYBERSQUATTING¹⁰¹

It is the activity of registering, offering for sale, or utilising a domain name with the goal of making money off of the reputation of another person's trademark. In essence, someone uses a registered trademark's domain name with the nefarious goal of making money or scamming customers and profits from it. It has evolved into one of the strategies used to trick people and violate trademark rights in the realm of cyberspace.

In the case of Yahoo! Inc v. Akash Arora & Anr, where the defendants were utilising the name "Yahoo" under the domain name "Yahooindia.com" for delivering internet services, an example of cyber-squatting can be observed. Yahoo's owner, who filed the petition in this case, registered the domain name "yahoo.in" for the purpose of offering services in India. The court ruled that the domain name "yahooindia.com" should be treated as passing off because it is misleadingly similar to the

¹⁰¹ "What Is Cybersquatting? What Can I Do About It?" (VPN.com) <<https://www.vpn.com/domains/faq/cybersquatting/>> Accessed on 20th Feb, 024.

domain name "yahoo. In" and could be mistaken for it. The court also ordered the defendant to stop using the domain name "yahooindia.com" and granted relief to the Petitioner.

LINKING¹⁰²

It is one of the ways to violate a person's copyright. Linking occurs when a website enables a user to access another website on the internet without leaving the current one. Copyright infringement occurs when a website contains links to content that is protected by Intellectual property rights on another website without the owner's consent. According to these sections, it is possible to commit a copyright violation if you reproduce any copyrighted works, make copies of them available to the public, or share them with them. Since linking is so simple, many users think that prohibiting it violates their right to free speech and the freedom to move about the internet without limitation.

One such technique for using links to infringe is deep linking. Bypassing the content and adverts on the home page, the visitor can go straight to an internal page. Although copyright law does not expressly forbid hyperlinks, it does ban infringers from setting up links that aid in the illicit reproduction of protected works if they believe they are the ones doing the unauthorized reproduction. It was determined in the first instance of "linking," *Shetland Time Ltd. v. Jonathan Wills and Anr*, that using the news headlines from the Times' website to "deep link" to embedded pages on the Shetland Times website violated copyright laws in the United Kingdom. A preliminary injunction prohibiting deep linking was given by the court. Because of the court's application of an exceptionally low evidence standard, this judgement has turned out to be of little relevance.

FRAMING¹⁰³

A user can view a website's contents while they are being framed by content from another website, a practise known as framing. Because a framed site potentially modifies the appearance of the material and gives the idea that its owner endorses or deliberately chooses to associate with the framer, it may give rise to a dispute under copyright and trademark law considerations. When they encounter copyrighted content on such websites and assume the information therein is accurate and not illegal, this can deceive the honest website visitors frames typically feature either other pages from the same website or highlighted URL addresses of other Web pages that are meant to be "chosen" by the user of the framing page. Framing is prohibited because it could lead to consumer confusion and a breach of trademark and copyright laws. One such instance of case framing is *Ticketmaster Corp. v. Microsoft Corp.*, where the plaintiff used to sell and advertise tickets to various entertainment events via its website on the internet and the defendant's website contains a link to the plaintiff's website that features the logo of the plaintiff.

INLINING¹⁰⁴

With in-line linking, sometimes referred to as inclining, a web page might entice distinct pieces from several pages or services to form a new web page. According to Inlining, "The composite page would include a list of links to other servers and websites. The composite page directs the user to access the images, graphics, etc. from their original sources while exploring the page.

A visual search engine called ditto.com created thumbnail images of photographs and used them to link to the original pictures in *Leslie A. Kelly v. Ariba Soft Corporation*. The plaintiff, a photographer, took offence to the search engine's reproduction of thumbnails of the photos on his website, which, when clicked,

¹⁰² "Hypertext Linking and Copyright Issues"(American Library Association)<<https://www.ala.org/ala/washoff/WOissues/copyrightb/copyrightarticle/hypertextlinking.htm>>Accessed on 20th Feb, 2024.

¹⁰³ "Hypertext Linking and Copyright Issues"(American Library Association)<<https://www.ala.org/ala/washoff/WOissues/copyrightb/copyrightarticle/hypertextlinking.htm>>Accessed on 20th Feb, 2024.

¹⁰⁴ "Hypertext Linking and Copyright Issues"(American Library Association)<<https://garagetchnologyventures.com/resources/referencelibrariy/internet-law/linking-framing-and-inlining/>>Accessed on 20th Feb, 2024.

displayed the full-size image in a window on Ariba's website. The respondent was found to have violated copyright with this action.

Under Indian law, in lining's operations are subject to the legal limits imposed by Sections 14 and 51 of the Copyright Act of 1957. This clause states that it is illegal to copy any work that is copyrighted, make copies accessible to the public, or communicate with them. A moral restriction on in lining is likewise permissible under Section 57 of the Copyright Act. In this case, the copyright owner may claim authorship of the work. The user may never discover the author's identity as a result of inclining if they are unsure of the original source.

Since there are no physical borders in cyberspace, any data updated there could be changed however an infringement sees fit. However, as the Internet has developed, more artists have had the chance to share their creations with the world, which also aids in their growth because of the recognition their work has earned.

However, this material is being misused and violated, and the person who created it isn't being given due credit for their work violation of privacy. India has long wrestled with this issue, and it is urgently necessary to pass a comprehensive privacy law that supports author rights and forbids the unauthorized alteration of material before Intellectual property rights are completely secured in India, there is still much work to be done. Now that everything is digital, it is essential to update and enact laws to reflect the changing requirements of society rather than depending on rules that were made decades ago. Fast track courts that only handle IPR cases should exist as well so that the party who was mistreated will also receive justice on time and traditional courts won't be swamped with new cases in the backlog of cases.