

Emerging Issues in Copyright Protection

Grace Kalu

Abstract: *This work considers the emerging issues in copyright law which includes copyright in a digitalized world, hyperlinking, software and open source, databases, and artificial intelligence. The questions raised here primarily revolve round the existence of requisite regulatory framework, and the efficacy of these frameworks in light of current digital realities. We adopt a desk-based research methodology to examine the areas aforementioned through a multijurisdictional approach covering the extant regime in Nigeria, United States of America and United Kingdom, with a major spotlight on Nigeria. From our findings, technology has affected the propelled the need for stricter regulatory approaches to curtail forms of copyright infringement in the digital era. However, some issues remain disputed, for example, the determination of authorship in work created by Artificial Intelligence. I advocate for forward-thinking policy considerations which will enable all frontiers opened by technology to be adequately addressed under Copyright or other Intellectual Property Laws.*

Keywords: Copyright, Intellectual Property, Hyperlinking, Artificial Intelligence, Databases

1. Introduction

The emergence of technology brought about significant changes in diverse areas of human endeavor. Over the years, laws and policies have either been amended or sought to be amended to reflect current realities which have been orchestrated by technology. Copyright is one of such areas. Now, concerns of copyright have moved from basic literary, musical or artistic work to things like artificial intelligence, database, and a lot of internet works. To this end, there is need to study copyright as it relates to matters arising in the digital era, while keeping in view the moral and economic rights of a copyright author/owner.

1.1 Aims and Objectives

This paper is aimed at providing an appraisal of the extant regulatory regime for the protection of hyperlinks, computer software, databases and artificial intelligence under copyright aspect of intellectual property law.

1.2 Scope

The scope of this work is primarily Nigeria. However, reference is also made to the regulatory regime in countries like USA, UK.

1.3 Research Questions

This seminar paper seeks to answer the following questions;

- What constitutes the copyright protection for hyperlinks, computer software, databases and artificial intelligence?
- Are there issues arising from hyperlinks, computer software, databases and artificial intelligence which are yet to be addressed by Copyright Laws

2. Copyright in a Digitalized World

Since the growth of the Internet, safeguarding the interests of copyright owners and upholding their rights has grown more complex. Some studies have the number of Internet users at above 500 million. Copyright infringement now has a new, worldwide outlet thanks to the Internet.

Infringement occurs when a writer's works are copied without his permission.¹ In the case of multimedia, distributing multimedia products for purposes other than education and making prints of literary or creative works without first receiving permission from the creators. This includes piracy, hotlinking or hyperlinked text, and software infringement without the creator's consent. An item can be quickly, affordably, and without sacrificing quality copied once converted to digital format. It is possible to make more copies of each copy without further quality degradation. Therefore, millions of buyers can be satisfied by a single digital copy of a work.

Before the Internet existed, in 1988, the first Nigerian Copyright Act was passed. Section 15 of that particular law, which has now been repealed stipulated that anyone using another person's work without the owner or licensee's consent or permission infringes on that owner's or licensee's copyright.² The Act specifies the number of actions that violate it. However, less obvious forms of infringement not covered by the current Act have emerged due to the Internet's ongoing development. Legislators have reconsidered the scope of copyright protection in the digital age due to the numerous copyright-related conflicts that have arisen, as the ability to replicate and transfer content digitally has increased exponentially.³

¹Akpabio A. N., (2014) "Socio-Economic Importance of Copyright Protection" *Juris Insight Journal*, Volume 1, Issue

1 pp 200 – 207. Also available at https://www.academia.edu/6837833/SOCIO_ECONOMIC_IMPORTANCE_OF_COPYRIGHT_PROTECTION?source=swp_share ; Google Scholar: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=eHQn-DIAAAAJ&citation_for_view=eHQn-DIAAAAJ:qjMakFHDy7sC

² Section 15 of the repealed Nigerian Copyright Act

³ It is also possible to have Copyright related conflicts in a contract of employment because an employment contract gives rise to certain obligations. See Akpabio, A.N., Bada, O.. (2023) The Effect of Frustration on an Employee's Earned Salary: National Revenue Mobilisation Allocation and Fiscal Commission v. Johnson in Perspective. *Journal of Law, Policy and*

According to the introductory note of the then Nigerian Copyright Bill which was passed into law in 2022, the primary goals of the legislation are to *"reposition Nigeria's Creative industries for greater growth; strengthen their capacity to compete more effectively in the global marketplace; and enable Nigeria to fully satisfy its obligations under the various International Copyright Instruments, which it has previously ratified or indicated interest to ratify."*

The World Intellectual Property Organization (WIPO) has internationally protected rights arising from digital environment through the World Copyright Treaty of 1996 developed under the Berne Convention to safeguard works in the digital sphere by ensuring that all digital works are safeguarded for at least 50 years. The two subject areas covered by the treaty that will be protected by Copyright (databases) are computer programs and the compilation of data or information (databases). Each country, however, has a role to play in the protection of people's IP digitally.

2.1 Hyperlinking

Faculty of Law, University of Ibadan

Clicking on the link above takes someone to the website of the faculty of law, University of Ibadan. That is the idea of hyperlinking, to redirect to a web content either through clicking a text like the one above or clicking on an icon, image or any visible element. This is basically how the internet operates, by linking computers, documents, etc. This linking could also through a technique known as framing where contents from a linked site are displayed on a site such that it appears as though that linked content is a part of that site.⁴

The nature of the internet makes it such that anyone can share a hyperlink to contents which can easily be reshared through a simple click, without necessarily seeking approval from the original author. This raises a flag and channels concerns towards possible exploitation of protected works. The questions arising for determination now would be whether the making available/sharing of a hyperlink amounts to copyright infringement, bearing in mind that Copyright law protects the right of the owner to communicate the work to the public.⁴

Globalization. ISSN 2224-3240 (Paper) ISSN 2224-3259 (Online) Vol.133, 2023. Available at <https://www.iiste.org/Journals/index.php/JLPG/article/view/61142> ; Google Scholar - https://scholar.google.com/citations?view_op=view_citation&hl=en&user=eHQn-DIAAAAJ&citation_for_view=eHQn-DIAAAAJ:UebtZR9Y70C

⁴ Leung, Dawn (2020) "What's all the Hype About Hyperlinking?: Connections in Copyright," Intellectual Property

Brief. Vol. 7: Iss. 1 , Article 3. Available at: <https://digitalcommons.wcl.american.edu/ipbrief/vol7/iss1/3>⁴ Section 5 Copyright Act, Nigeria

In Europe, hyperlinking copyrighted material on third-party websites is allowed as long as the material is freely accessible on those other websites, even if the copyright material is "framed" on the linking website.⁵ The position is the same in the United States.⁶

Hyperlinking is said to lead to copyright infringement where links are provided to unauthorized content (such as paid subscription content) where illegal streaming of contents take place and the hyperlinker is aware of such illegality, or where the work is shared to the "public" not contemplated by the author for distribution.⁶

It should be noted, however, that hyperlinks attributed to a Creative Commons license are not regarded as infringing as long as the license is attributed rightly.⁸

2.2 Software / Open Source

2.2.1 How computers speak: Examining Computer languages for copyright protection

Language is the basis for communication. For this to happen, such language must spoken or written, just like this seminar paper is written in English language. For a computer to function effectively given a set of instructions in a language that computers understand. This is what is called programming, and these programs are referred to as "software".⁷ Just like we have diverse languages in the world⁸, there also exist diverse languages used for computer programming. One of such is the source code which is written by humans. The open source code, therefore is a software which is made available for anyone to inspect, modify, or enhance.⁹

2.2.2 Legal Framework for Protection of Computer Software

In Nigeria, there is a statutory framework for software protection under copyright. In Section 108 of the Copyright Act, 2022, a literary work has been defined to include computer programs. Software and computer programs are usually written in computer language, and this basic fact is what grants its automatic copyright

⁵ The European Court of Justice's (ECJ) decision in *Nils Svensson and Others v Retriever Sverige AB (C-466/12)*.⁶ A New York federal court decision in *Pearson Education, Inc. v. Ishayev*

⁶ Andembubtob, David & Apuru, Jonathan & Dogo, Ezra. (2020). Software Piracy in Nigeria. *Asian Journal of Research in Computer Science*. 1-13. 10.9734/ajrcos/2020/v6i130148. ⁸ Creative Commons Attributions, <https://creativecommons.org>

⁷ Osterweil, L.J. (2018). What is software?. In: Gruhn, V., Striemer, R. (eds) *The Essence of Software Engineering*. Springer, Cham. https://doi.org/10.1007/978-3-319-73897-0_4

⁸ Over 7100 spoken languages

⁹ Open Source licenses are often called copyleft licenses. <https://opensource.com/resources/what-open-source>

protection as a literary work. As with the case with matters of copyright in Nigeria, the elements of originality and fixation must be established following Section 2 of the Copyright Act.

In the United Kingdom, a computer program is protected as a copyright work under the UK Copyright, Patents and Designs Act 1988, and there are other legislations put in place to offer more extensive definitions, for example, the definition of a Computer Program.

The basic principles for copyright protection on software in the United States are the same with that of Nigeria. However, the US has recorded more practical definitions and explorations of this area in decided case. The foremost is the recently decided case between Google LLC and Oracle America, Inc., In that case, the Supreme Court of the United States (SCOTUS) had to determine the infringement level of Google's use of about 11, 000 lines of source code owned by Oracle. In the Supreme Court's decision, Google's use amounted to fair use. This case just demonstrated the difficulty in enforcing software copyright infringement.

2.2.3 Issues arising from Copyright Protection of Software/Open Source

From the above, it can be deduced that infringement of copyright on software and codes may occur where a person copies an original code entirely or copies a code from one programming language to another. However, where this work is an Open Source Code, infringement may not be said to have occurred. Even at that, anyone who seeks to use open source software must take steps to understand the licensing terms so they not act in contravention of the economic or moral rights of the author

On the other hand, in spite of the regulatory framework for protection of software, practical issues of law still arise for determination, chief of which is the prevalent menace of software piracy in Nigeria. In the Nigerian tech sphere pirated software remains prevalent and this has impacted the economy negatively.¹⁰ From illegal copying and distribution of software to download and use of unauthorized software, and even to the illegal duplication of copyrighted software, these acts of infringement remain on a rampage. The question now remains, what can the law do to effectively contain incidences of copyright infringement?

A step in the direction of answering the questions of strengthening copyright enforcement in the digital environment is evident in the new Copyright Act 2022. The Act, in part IV, criminalizes piracy and establishes stringent rules for. There is also the possibility of exploring other IP protection frameworks like trade

¹⁰ Andembubtob, David & Apuru, Jonathan & Dogo, Ezra. (2020). Software Piracy in Nigeria. Asian Journal of Research in Computer Science. 1-13. 10.9734/ajrcos/2020/v6i130148.

secrets and patents¹¹, even though these frameworks are in dire need of reforms too.

2.3 Databases

The Nigerian Copyright Act does not recognize databases directly, but some nations and international treaties do. According to section 108 of the Nigerian Copyright Act, a database that serves as a directory is a literary work. A literary work is defined in the Act as "encyclopedias, dictionaries, directories, and anthologies" and similar works. Consequently, these provisions may be seen as preserving a database if the facts, data, or resources compiled and organized as a compilation fulfill a directory or similar purposes.

Article 3a (1) of the UK 1988 Copyright, Designs, and Patents Act defines a database as a "collection of independent works, data or other material which are arranged systematically or methodically and are individually accessible by electronic or other means." During data processing, databases are designed to store, access, alter, and delete records.

A database can be protected by copyright if it is intellectual property. It grants owners the exclusive right to copy, modify, and distribute the database or any version without their consent. As compilations, databases are covered by copyright. A compilation is defined as a "collection and assembling of preexisting materials or data that are selected so that the resulting work as a whole constitutes an original work of authorship" under the US Copyright Act.

The TRIPS Agreement extends copyright protection to databases and other compilations if their selection or arrangement of the information constitutes a creative creation, even though any or all of the contents are not protected by copyright. Numerous nations adhere to this norm, as databases are protected by copyright if this criterion is met, and there is no specific Intellectual Property Right covering databases (or their constituent parts) that do not meet this condition. It does not require the conditions for copyright protection and is only acknowledged in a handful of jurisdictions, including the EU. It does not require the conditions for copyright protection and is only acknowledged in a handful of jurisdictions, including the EU.

In contrast to Nigeria's copyright regulations, the EU Directive of 1996 and member state regulations are more detailed. The Directive's Article 3.1 stipulates that "databases whose selection or arrangement constitute the author's original creative contribution shall be protected

¹¹Akpabio A. N., (2012) "Assessing the Conditions for Patentability in Nigeria" UNIUYO Journal of Commercial and Property Law. Volume 3 Pp 128 – 136; Cited on Google Scholar https://scholar.google.com/citations?view_op=view_citation&hl=en&user=eHQn-DIAAAAJ&citation_for_view=eHQn-DIAAAAJ:2osOgNQ5qMEC

by copyright. " There will be no additional considerations in determining their eligibility. " Also, the US has no database law like EU. Databases that qualify as "compilations" are protected under copyright. This indicates that the collector incorporated novel things into the database.

Finally, according to the definition and concept of a database and relevant legal circumstances, databases can be protected by copyright laws.

2.4 Artificial Intelligence

In our world today, it is possible to have machines execute tasks which require human intelligence. The development and use of such machines is known as Artificial intelligence. The role of AI has morphed today into creative content creation roles, and not just assisting humans in routine tasks.¹² Today, it is not uncommon to find works created by AI - books, videos, songs, etc. The major question under the ambit of copyright which arise for determination in relation to AI is this, How will the questions of authorship and originality with regard to AI-created works be answered?

The main issue with authorship arises because of lack of a human author. Article 1 of the Berne Convention provides a basis for the protection of rights under copyright law to be the right of authors. Under the Copyright Act of Nigeria, an author is simply defined as the creator of the work.¹³ Copyright law in the US also requires human authorship, although statutes and laws, including the Berne Convention, do not explicitly refer to such a requirement. Works must also be original. And the way originality has been interpreted, for example in the EU, leaves little doubt about the importance of having a human being as creator

In the UK, Copyright, Designs and Patents Act 1988 (CDPA) suggests a pragmatic solution.

CDPA Sec.9 (3) provides that "in the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.

This perspective is broader and leaves room for the accommodation of AI-created works as it may be argued that the author in this case will be the person who arranged the AI tools involved in the creation of the work, although some authors suggest that works created autonomously by artificial intelligence should belong to the public domain.¹⁵

3. Conclusion

¹² Lana, P (2022) Why works created autonomously by artificial intelligence should belong to the public domain – A viewpoint based on droid'ateur. *Transformations Issue* 36. <https://estudogeral.sib.uc.pt/handle/10316/92751>

¹³ Section 108 Copyright Act Nigeria ¹⁵ Lana, Op Cit.

The internet world is as vast as an ocean and perfect regulation of copyright-related appears like impossibility. For Nigeria, the old laws are not helping matters. It is akin to putting new wine into an old wine skin. While technology continues to advance, it is important to also have solid statutory backing for matter of concern to intellectual property like databases, hyperlinks, artificial intelligence, computer software, and even other issue not addressed here. Also, policy groundwork will be in place to watch new trends as they unfold, especially taking cues from what other countries are doing in the line of advancement with technology. Not just that, these reforms should be channeled towards other areas of intellectual property protection like patents, trademarks, trade secrets, as the protection of these emerging works of the intellect can cut across different types of intellectual property protection.

References

Journals

Akpabio A. N., (2014) Socio-Economic Importance of Copyright Protection. *Juris Insight Journal*, Volume 1, Issue 1 pp 200 - 207. Retrieved from https://www.academia.edu/6837833/SOCIO_ECONOMIC_IMPORTANCE_OF_COPYRIGHT_PROTECTION?source=swp_share ;

Google Scholar: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=eHQn-DIAAAAJ&citation_for_view=eHQn-DIAAAAJ:qjMakFHDy7sC

Akpabio A. N., (2012) Assessing the Conditions for Patentability in Nigeria. *UNIUYO Journal of Commercial and Property Law*. Volume 3. Pp 128 - 136. Cited on Google Scholar https://scholar.google.com/citations?view_op=view_citation&hl=en&user=eHQn-DIAAAAJ&citation_for_view=eHQn-DIAAAAJ:2osOgNQ5qMEC

Andembubtob, D., Apuru, J. and Dogo, E. (2020). Software Piracy in Nigeria. *Asian Journal of Research in Computer Science*. 1-13. 10.9734/ajrcos/2020/v6i130148.

Banterle, F. (2018). The interface between data protection and IP law: the case of trade secrets and the database sui generis right in marketing operations, and the ownership of raw data in big data analysis. In *Personal Data in Competition, Consumer Protection and Intellectual Property Law* (pp.411-443). Retrieved Dec.1, 2022, from https://link.springer.com/chapter/10.1007/978-3-662-57646-5_16

Enrico B., Lucchi, N. and Mazziotti, G., (2022). Will Technology-Aided Creativity Force Us to Rethink Copyright's Fundamentals? Highlights from the Platform Economy and Artificial Intelligence. *IIC-International Review of Intellectual Property and Competition Law*, 53 (8), pp.1174-1200. Retrieved Dec.1, 2022, from <https://link.springer.com/article/10.1007/s40319-022-01213-7>

Lana, P (2022) Why works created autonomously by artificial intelligence should belong to the public domain – A viewpoint based on droid'ateur. *Transformations Issue* 36. Retrieved Dec.1, 2022 from <https://estudogeral.sib.uc.pt/handle/10316/92751>

Leung, Dawn (2020) "What's all the Hype About Hyperlinking?: Connections in Copyright, " *Intellectual Property Brief*: Vol.7, Iss.1, Article 3. Retrieved Dec.1, 2022

<https://digitalcommons.wcl.american.edu/ipbrief/vol7/iss1/3>

Articles

Makridakis, S. and Christodoulou, K., 2019. Blockchain: Current challenges and future prospects/applications. *Future Internet*, 11 (12), p.258. Retrieved Dec.1, 2022, from <https://www.mdpi.com/1999-5903/11/12/258>

Osterweil, L. J. (2018). What is Software?. In: Gruhn, V., Striemer, R. (eds) *The Essence of Software Engineering*. Springer, Cham. Retrieved Dec.1, 2022 https://doi.org/10.1007/9783-319-73897-0_

Books

Moleya, N. I., *Evaluating the copyright protection of databases in the information age: a comparative perspective between South Africa and the European Union* (Doctoral dissertation). Retrieved Dec.4, 2022, from <https://uir.unisa.ac.za/handle/10500/29023>

Österström, H., (2022) *Protection of Data in the Context of Big Data*. Retrieved Dec.4, 2022, from <https://lup.lub.lu.se/luur/download?func=downloadFile&recordId=9096073&fileId=9096076>

Legislation

Copyright, Designs, and Patents Act 1988, United Kingdom

U. S Copyright Act, 1976

The Copyright Act 2022

The Nigerian Copyright (Repeal and Re-enactment) Bill 2021

Berne Convention 1885