

PROTECTION OF DATABASE AND COMPUTER-GENERATED WORKS UNDER THE NIGERIAN LAW*

Abstract

Copyright is the exclusive legal right to reproduce, publish and sell a book, musical recording, *et cetera* for a certain period of time. The essence of copyright protection is to ensure that one who labours gets the reward of his labour. It protects literary works, musical works, artistic works, cinematograph film, sound recordings and broadcasts from infringement from persons not authorised to benefit from same. Copyright generally does not protect ideas; it protects the expression of such ideas. For a work to be worthy of copyright protection under Nigerian law, such work must be original and fixed in a definite medium either known or yet to be known. This study sought to determine the protection works generated from a computer database has under the law. It discussed the ownership of such works whether it is owned by the person who created the database, or the person who purchased the database and makes works out of it, or the computer from where the work was created. In gathering and analyzing data, the study adopted the doctrinal method involving analysis of primary and secondary data. The primary data sources were local statutes, foreign statutes, international treaties, conventions, covenants and case law. The secondary data sources included journal articles, textbooks, encyclopaedia and some unpublished works. The study found that the law protects database and computer-generated works. It was also discovered that there is need for the Copyright Act 1988(as amended) to be reviewed to include database rights as is the case in some other jurisdictions. The paper also recommended proper orientation of citizens on what constitutes breach of copyright.

Keywords: Protection of Data Database, Computer Generated Works, Intellectual Property, Nigerian Law.

1. Introduction

Intellectual property is that which generally deals with the outcome of a person's mental exertion and creativity. This property is not tangible; it is intangible in nature. In the sight of many¹, especially the laymen, when one talks of property, what readily comes to mind is a tangible property, such as a house, a vehicle, electronic gadgets *et cetera*. Aboki holds the view that in some cases, both legal practitioners and laymen rarely think of modern forms of property, such as copyright, patents and trademarks which are called intellectual property. These properties are not less important than other properties; they need the protection of law; just like other forms of property not only at national level, but at international level.² Currently, there are both national and international pieces of legislation and conventions prohibiting offences touching on intellectual property. However, those offences bordering on intellectual property such as counterfeiting, imitation and piracy are on the increase globally.³ The storage of data in computers and other electronic servers is a highly significant element in digital information systems. Notwithstanding the importance of storage of data in computers and other electronic servers, it is not clear how far many jurisdictions especially Nigeria, has gone to protect the twin steps of storage and extraction of data Creation of files or data of law journals or a national art collection or the daily business of world stock exchanges is an expensive venture which could be shattered by free access for re-copying. The investors will fall prey to both pirates who are looking to create rival services and to those who want to extract materials for their own benefit without payment, if control is not possible.

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¹Y Aboki, 'Economic and Cultural Bases for Copyright Protection in Nigeria' In: Asein J O and Nwachu E S, *A Decade of Copyright Law in Nigeria* (1st edn, Abuja: Nigerian Copyright Commission, 2002) p. 76.

²*Ibid.*

³W.R. Cornish, D. Llewelyn, & T. Alpin, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (6th edn, London: Sweet & Maxwell, 2007) p. 830.

Providers of such services are like anthologists or directory compilers or catalogues. Conventionally, if the provider contributed sufficient skill, judgment and labour to the compilation process, albeit entirely through collecting and recording mundane data; they were treated in Nigerian Law as having copyright in their database themselves. It will amount to infringement of the compiler's copyright for one to substantially reproduce or take their contribution. The compilers have rights against the pirate who took the whole base and against many who for commercial purposes extracted some significant part in order to re-utilize it, perhaps in re-edited form. However, it is against the above backdrop, that this work: Protection of Database and Computer-Generated Works under Our Law undertakes to examine our copyright law in line with the protection of database and computer generated works. In doing this, this work shall discuss the ownership of computer-generated works whether it belongs to the compiler of such work, the Computer or the User of the compilation. The work shall also discuss the conditions which ought to be fulfilled for a person to claim copyright protection over works generated from a database.

2. Database Protection

Works under the Nigerian law enjoy copyright protection if sufficient effort has been expended on making the work to give it an original character or the work has been fixed in any definite medium of expression now known or later to be developed, from where it can be perceived, reproduced or otherwise communicated either directly or with the aid of any machine or device.⁴ The term database is used to describe a compilation of works, data or other materials (i.e. collection of facts) arranged in a systematic or matricidal way.⁵ Database forms part of literary work under the Nigerian law.⁶

Originality and fixation form the crux of copyright protection in Nigeria. Same applies to database. What is meant by originality is not an invention; it is rather originality in the expression of an idea. The main point is that a compiler of a database should create the compilation himself, and not just rehash the pre-existing public information. The compiler is needed to use his knowledge in addition to the facts available so as to have protection of copyright. Copyright does not protect facts. However, compilations of facts are protectable. A compiler of database should select and arrange the factual information in a unique way along with his subjective knowledge in order to be availed copyright protection. A database is original if skill, labour and judgment were expended by the compiler to give it an original look. The Act⁷ in Section 1(2)(a) used the phrase 'sufficient effort' while describing the amount of effort to be put in place in order for a work to enjoy copyright protection. Sufficient is defined as enough, as much as needed.⁸

By the above meaning of the word 'sufficient', it simply means that a compiler of database needs just enough effort in order for his work to pass the test of originality. The brain behind the test of originality is that the compiler should add to the knowledge of the world and not just to reproduce without effort, what is in public domain. *Feist* impels compilers to add value in the form of subjective information to their compilations.⁹ Originality as a test of copyright protection allows the judges to assess compilations according to a set of objective characteristics, rather than determining the value of each case. Fixation on the other hand is a requirement for copyright protection under our law. Fixation being an essential requirement for copyright protection means that the work must be embodied in a copy which allows it to be seen or copied by others.¹⁰ This requirement is relatively easy a standard to meet. Examples of sufficient fixation include, writing something on a piece of paper or typing something into a computer and then saving or storing the information. Under the Act, the test of fixation is that the work should be

⁴ Copyright Act, 2004 S.1 (2) (a) & (b)

⁵ M. esa.int/About us/Law_at_ESA/Intellectual_Property_Rights/Copyright_and_databases accessed on 11th May,2021.

⁶ Copyright Act, Ibid S. 51(1)

⁷ Copyright Act, 2004

⁸P. Friedman the *New Wester's Dictionary of English Language* (International edn, New York: Lexicon Publications, Inc. 2004) P. 989

⁹J.C. Ginsburg, *No "Sweat" copyright and other protection of works of information after Feist V. Rural Telephone* 92 *Colum L. Rev.* 338, 372 (1992)

¹⁰ Quiz Law, 'Meaning of Fixation' www.quizlaw.com/copyrights/what_is_fixation.php accessed on 13th May, 2021

fixed in any medium where it could be perceived.¹¹ The idea of making fixation a requirement for copyright protection could be for the fact that none could accurately prove the existence of an infringement, if the work is not fixed. Fixation as a requirement for the protection of a database, goes to further strengthen an earlier point that copyright subsist only in expression of ideas and not the idea per se. This means that the idea to compile a database is not enough; the idea must translate into action.

Sweat of the Brow Principle

Sweat of the brow doctrine as it applies to intellectual property basically relates to copyright law¹². According to this doctrine, an author gains rights through simple diligence during the creation of a work such as a database, or a directory. Substantial creativity or originality is not required. This principle or doctrine permits copyright in a work, even if it is completely unoriginal. Sweat of the brow postulates that such effort in the gathering and publication of unoriginal work deserves protection so as for, the compiler or author of such work to recoup his expenditure. A classic example of the application of the doctrine in relation to Sweat of the brow is a telephone directory. Telephone directories acquire the protection of copyright under the sweat of the brow doctrine. Nigeria is not a sweat of the brow jurisdiction. This is because the Nigerian copyright law has made originality¹³ and fixation the bane of copyright protection and same is the direct opposite of sweat of brow. Such directories as mentioned above could only be copied if there was permission by the compiler or that an independent collection of the data was done by the intending user. In *University of London Press Ltd v. University Tutorial Press Ltd*,¹⁴ the court was faced with the question as to whether certain mathematics exam papers were original literary works. The examination paper in question consisted of conventional mathematics problems in a conventional manner. The court held that originality does not mean that the work must be an expression of individual thought. The mere fact that authors drew on a body of knowledge common to mathematicians did not compromise originality. As was held by the court in this matter, originality requirement in copyright does not entail that an idea be original or novel. However, such work must not be a mere duplication of an already existing work. The work must originate from the author. As such even though these were the same old mathematics problems every student is familiar with and even though there was no creative input, the skill, labour and judgment of the author was sufficient to make the papers original literary works. Also, in *Kelly v. Morris*,¹⁵ the court protected a compilation of facts and information in the form of a post-office directory.

Effect of the Feist Doctrine on Copyright Protection of a Database

The US Supreme Court's opinion in *Feist Publications, Inc. v. Rural Telephone Service Co.*¹⁶ is still the starting point for analyzing copyright protection for facts, data and databases. A line of cases prior to the case Feist had granted protection to 'sweat of the brow' or 'industrious compilation', that is, protection simply because it took much effort to gather the database of facts. The underlying notion was that copyright was a reward for the hard work that went into compiling facts. There are cases prior to *Feist* that had held, for instance, that public domain materials could be copied if one went to the original source, but not if one copied directly from the work. In *Monogram Models, Inc V. Industro Motive Corp.*,¹⁷ the court held that as the defendant had admitted access to plaintiff's original plastic scale model airplane kits, there was an infringement. Also, in *Leon v Pacific Telephone & Telegraph Co.*¹⁸ the defendant copied plaintiff's alphabetic telephone directory listing by arranging the phone numbers in numerical order. The individual names and numbers were obviously not copyrightable per se, and the defendant did not copy the arrangement. However, the court still found these actions to constitute infringement. This line of cases was in conflict with the principle that copyright in a derivative or collective work protects only the added original material. In 1991, the US Supreme Court set the record straight in the *Feist* case. In that case, the defendant copied a substantial amount of factual information

¹¹ Copyright Act, Cap C28 L.F.N 2004, S 3.1(2)(b)

¹² Wikipedia Encyclopedia, sweat of the brow https://en.m.wikipedia.org/wiki/sweat_of_the_brow accessed on 14 June, 2018

¹³ Copyright Act, 2004 S. 1(2)(a) & (b)

¹⁴ (1916) 2 Ch 610

¹⁵ (1866) L.R.I. Eq. 697 (Ch.)

¹⁶ 499 U.S.340(1991)

¹⁷ 492 F. 2d 1281: 1283 (6th Cir. 1974)

¹⁸ 91 F 2d 484 (9th Cir. 1937)

from the plaintiff's telephone book white pages. The Supreme Court held that telephone book white page facts are in the public domain and constitutionally, beyond congress' power to include within copyright protection. The Court rejected plaintiff's argument that *Feist's* employees were required to recollect the same data door-to-door to construct its own directory, noting that raw facts may be copied at will.¹⁹ The Court soundly rejected the 'Sweat of the brow' doctrine. Noting the tension between two established principles of copyright law- facts are never copyrightable but compilations of facts are generally copyrightable – the court reached its compromise position. Original selection, coordination or arrangement of facts is protectable and the scope of protection is limited to those original contributions.²⁰

Under the Nigerian law, it is not correct for industry of the researcher or compiler to be protected if that which ought to be protected does not meet the originality test.²¹ However, it is recommended that such an industrious research should be given protection by way of sui generis right which applies in other jurisdictions. There can be no argument that one who explores obscure archives or conducts statistical studies has performed a valuable service to the public and that labour itself does not make the finder of these facts an 'author'.²² As the US Supreme Court held in *Feist*,²³ 'facts do not owe their origin to an act of authorship. The distinction is one between creation and discovery. The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence.' Original or creative selection, coordination or arrangement of facts is not denied protection under the *Feist* doctrine. It only made originality a sine qua non for copyright protection. Be that as it may, one would not expect a scientist compiling fact or statistics to take the position that her selection or arrangement of data had a subjective or creative component. The court in the *Feist* case for instance noted that refusal to use copyright law to protect fact compilers is neither unfair nor unfortunate. It stated that it is the means by which copyright advances the progress of science and art.²⁴ The clear intention of the court was to offer to all U.S. scholars' free use of the fruits of previous researchers, and writing. The court further stated that: 'Copyright is not a tool which its compilation author may keep others from using the facts or data he or she had collected'.²⁵

3. Owner/Author of a Work Generated from a Database

The word 'author' is capable of being confused with the word owner. An author in some cases is the owner of the work so produced, but in other cases, it isn't the same. In copyright law, the author of a work is the person who performed the act that led to the production of the work. According to the Black's Law Dictionary, the word owner is defined as one who has right to possess, use and convey something, a person in whom one or more interests are vested.²⁶ Copyright vests first on the author of a work under the Nigerian law, once the author is domiciled in Nigeria or a citizen of Nigeria.²⁷ It could however be altered if there exists a written contract to the effect that the person who commissioned the author to do the work or the person whom the author works for should acquire copyright over the work.²⁸ The crux of copyright protection as it has been seen before now in this work, are originality and fixation. Both form an inseparable partnership and one cannot exist without the other. This part of this work deals with ownership and authorship of a work generated from a database. The questions here are: who owns a work generated from a database? Is it the compiler of the database, the user of such database or the compiler and user of such database jointly? We shall now examine the three questions posed above.

¹⁹ *Feist*, 499 U.S. at 344, 350

²⁰ *Feist*, 499 U.S. at 344

²¹ Copyright Act, 2004 S. 1 (2)(a)

²² *Nimmer S. 3 04 (B)(1)* at 3-22.12. https://h20.law.harvard.edu/playlists/12922/2xport_all accessed on 11th May, 2021

²³ 499 U.S. at 347

²⁴ *Feist*, 499 U.S. at 350

²⁵ 499 U.S. at 359

²⁶ B.A. Garner, *Black's Law Dictionary* (8th edn U.S.A.: Thompson West, 2004) p. 1137

²⁷ Copyright Act op. cit. S. 10(1)

²⁸ Copyright Act, op. cit. 10 (2)

The Compiler

In the first instance, a compiler programmer can make a strong claim to a copyright in any output of a computer program. The creativity and originality that the programmer contributes to the source code is the impetus that generates the Mandelbrot set. A source code is generally understood to mean programming statements that are created by a programmer with a text editor or a visual programming tool and then saved up in a file²⁹. Mandelbrot set on the other hand means ³⁰a particular set of complex numbers which has a highly convoluted fractal boundary when plotted. Mandelbrot set is generated by iteration, which means to repeat a process over and over again³¹. The programmer contributes substantially to the output and thus should be rewarded for his efforts that lead to the generated work of art. In addition, the output generated from the computer program can be viewed as a derivative work of the underlying copyrighted program; thus, guaranteeing protection of any output to the copyright owner of the programme. However, several crucial problems arise in characterising the output as a derivative work, which leads to a conclusion that the fractal generation should not belong to the computer programmer. The intellectual demand and large amount of effort required to write a computer program are very convincing arguments in favour of granting copyrights to the programmers. The Mandelbrot Sets would have likely never come into existence without originality and creative spark of the computer programmer. The programmer has contributed more thought, devoted more time and expended more energy to create such a work of art. That notwithstanding, there exist several reasons why it is simply not feasible to award copyright protection to the computer programmer for direct authorship of the output. The argument that the programmer should be rewarded for his efforts would have been more persuasive had it been our copyright law recognises ‘Sweat of the brow’ instead of the originality test. Furthermore, Section 10 of our Copyright Act³² could be a defence or support to the argument that programmers should acquire copyright over their work. In the above section, the first owner of copyright is the author of a work. However, there is a proviso to that provision in Section (10) subsection (2) and (3). If the work is produced in the course of employment, copyright would first vest on the author unless there is a written agreement to the contrary.

Frequently, the computer-generated fractals that are randomly produced by chaotic systems create beautiful pieces of art.³³ Users of these fractal programs can make a convincing argument that computer programmers may not possess the requisite taste, for art that is required to produce the selected arrangements. In other words, if the programmer cannot distinguish one piece of art from another, he may not be the one to enjoy copyright in the work. Mandelbrot Sets are frequently created by ‘tinkering’ with the number of iterations or transformations performed; thus furthering the view that the user contributes for more to the output than the programmer in addition, by developing a copyrightable source code,³⁴ the programmer has arguably only created a potential for creation. Just as Bill Gates does not own copyright in works produced by Microsoft computers, as much as he would like to, a programmer should not own a copyright in outputs created from his or her program. Opponents of programmer – copyrights also argue that selling or leasing the program to a user has already rewarded the programmer for his work.³⁵ A copyright in the output generated from the program doubly rewards the programmer and ostensibly takes from the user a deserved copyright. However, this argument seems weak as the primary purpose of copyright is to provide incentives to create new works, rather than to reward authors.³⁶

²⁹University of Washington Office of Research, <https://www.Washington.edu/research/glossary/source-code-and-object-code/>, accessed on 29th March 2021.

³⁰ Oxford Reference, <https://www.oxfordreference.com>, accessed on 29th March 2021.

³¹ What is Mandelbrot set? <https://plus.maths.org/content/mandelbrot-set>, accessed on 29th March, 2021

³² Cap. 28 Laws of Federation, 2004

³³ Swarthmore, *Computer-Generated Works As Applied to Mandelbrot Sets* (2001)

<http://forum.swarthmore.edu/~sarah/mandelbrot.all.html>. Accessed on 20th March, 2021

³⁴ *Computer Associates International, Inc. V. Attai Inc.* 982 F. 2d 693 (2d Cir. 1992).

³⁵ Darin, *Copyright in Computer-Generated Works: Whom, if Anyone, Do We Reward* (2001) Duke L. & Tech Rev. 0024 7/11/2001

³⁶ MVC Ozioko’s Lecture Note on *Intellectual Property Law* for LLM Class of 2014/2015, Faculty of Law, Nnamdi Azikiwe University, Awka. P.15

In addition to the direct authorship argument in favour of the programmers, an argument can be made that all Mandelbrot Sets are derivative works owned by the programmer. A determination that the outputs are derivative works of underlying computer program would give the computer programmer exclusive rights to create the fractal outputs. However, numerous problems are associated with defining outputs as derivative works; so much so that a derivative works argument made in favour of a programmer will likely not stand. The most convincing argument in favour of defining the output as derivative works is the Mandelbrot sets are ‘based upon’ the underlying computer program.³⁷ The Mandelbrot Sets are generated from computer program; without the computer program, Mandelbrot Sets would never come into existence. From the common sense understanding of the phrase ‘based upon’, it appears that fractal output is derived from, owes its existence to and has stemmed from the program. Bolstering the view that computer-generated outputs of fractal geometry are not a derivative work is the fact that the artwork contains no recognizable block of expression from the program.³⁸ Additionally, the US Congress in 1979 created a National Commission on New Technological Uses of Copyrighted Works (CONTU) to look into the matter which is who is the author of a computer-generated work. The final report of CONTU makes the determination that user of the program is the author of the outputs of computer-generated works.³⁹ Therefore, to suggest that a computer programmer could own rights to any outputs (negating the claim by the users of the program) would render useless the position of our law which gives copyright to a person upon establishing originality and fixation.

The User

This is perhaps the most appealing candidate for ownership rights in the output of a computer program. If in most situations the user is the person most directly responsible for literally putting the work in a tangible form, it is hard to ignore a user’s demand for copyright protection. For instance, the user may attempt to create a specific Mandelbrot set, by trial and error, with particular colour assignments and distinctive chaotic arrays. The United States case of *Alfred Bell & Co. Ltd V. Catalda Fine Arts, Inc.*⁴⁰ where the court ruled that striking uniqueness, ingenuity and novelty are not required of a copyright holder is a pointer to the fact that, a person acquires copyright when there is an improvement which is capable of passing the originality test on an existing work. The court’s *de minimis* standard for originality supports the user’s claim for copyright status of a computer-generated art. By ‘tinkering’ with the iteration inputs and transformation selections, a user can make a fairly convincing argument that his or her actions have contributed directly to the originality of a particular Mandelbrot Set. Several websites allow users to create, interpret and manipulate Mandelbrot Sets.⁴¹ Few could argue that the user’s inputs into the end product are not substantial. Determining the values of certain colour assignment involves both originality and uniqueness, and seems to satisfy the low level of creativity required. The user can be described as a painter, choosing from a palette which colours to apply to the canvas. Similar to the argument of the computer programmers, users of fractal programs also argue that the work made should be regarded as work made by an employee in the course of employment and as such, should belong to the employer⁴². The program users are employing the computer to produce creative works of art. In essence, a user can own the rights to whatever outputs his or her ‘employee’ (the computer) has produced. Though the final report of CONTU refers to the user ‘as one who employs the computer’,⁴³ this argument would likely fail because the computer cannot be viewed as a person acting within the scope of employment. Lacking the traditional characteristics of an ‘employee’ (desire to form a union, for example), the courts likely will not be receptive to ownership rights asserted by the user under this rationale. The final report prepared by CONTU in 1978 fully supports the view that the user of the computer program obtains a copyright in the output.⁴⁴ However, the subsequent report issued

³⁷ Copyright Act op. cit. S. 6

³⁸ *Berkic v. Crichton*, 761 F.2. D (9th Cir. 1985)

³⁹ Final Report of the National Commission on New Technological Uses of Copyrighted Works July 31, 1978, Library of Congress, Washington 1979, page 44

⁴⁰ 191 F. 2d 99 (2d Cir. 1951)

⁴¹ <http://forum.swarthmore.edu/alejandre/applet/Mandelbrot.html>. Accessed on 22nd April, 2021

⁴² Copyright Act op. cit. S. 10

⁴³ Op. cit.

⁴⁴ Ibid

by the United States Office of Technology Assessment in 1986 (the OTA report)⁴⁵ questions CONTU's assessment that computer, like a camera or a typewriter, provides the users exclusive copyrights in the resulting pictures in papers. The OTA disagrees with CONTU's determination that computer is an inert tool of creation and raises the possibility for authorship in the computer.⁴⁶

The Computer

In compliance with the requirement of originality, an author must be able to think about, consider and process information so as to create a unique work of art capable of copyright protection.⁴⁷ The computer's ability to process information can be demonstrated in the way applications are run in computers. In other words, the primary function of a computer is to process bits of data. It is admitted that computers are not able to communicate taste for art. That notwithstanding, this lack of taste should not stand in the way of a computer gaining a copyright in a computer-generated work. Courts in the United States have ruled that artistic merit is not a hurdle for a creator to pass before he or she can acquire copyright protection in a work.⁴⁸ Justice Holmes stated thus: 'It would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of pictorial illustrations, outside of the narrowest and most obvious limits.'⁴⁹ While the thought of computer thinking independently is a radical idea, there are theories in existence for such proposal. The most convincing of these arguments is best seen in Artificial Intelligence (AI) computers. A computer can independently produce creative works; likely displaying the requisite originality required by the copyright Act. Even though computers are capable of exhibiting creative and fanciful works of art,⁵⁰ granting copyright protection in the latest ThinkPad is dangerous and impractical. Computers are simply unable to perform several tasks that a copyright holder must perform to be eligible for protection. For instance, a computer cannot have standing to sue an alleged infringer of its work. *ThinkPad 1452 v. Compaq 1342* is simply not a reality. Additional to this, a computer is not capable of transferring rights to others (e.g. renewal rights licensing arrangements) to satisfy the needs of a changing market. Put differently, computers are not able to evolve with a shifting market. Therefore, computer-owned copyrights debilitate and hamper a market that hinges on and benefits from alienability of right and interests.

However, a quasi-market failure and enforceability concerns from computer-owned copyrights are not convincing obstacles in disallowing a computer from owning a copyright. Copyright law is viewed with more certainty and followed with more precision if we had arguments other than, 'we can't grant copyrights to computers because it just doesn't seem right' and, 'it wouldn't work in practice'. Lucky enough, there are persuasive reasons why computers cannot own copyrights, for example, even though a computer programmer who instructed the computer on how to treat certain pieces of data. In 1983, in the hearing before the subcommittee on the judiciary, Harvard Law School *Professor Arthur R. Milmer remarked* 'Behind every robot there is a good person.'⁵¹ In addition, the main purpose of granting copyright protection is to stimulate creation and promote original works of authorship. Therefore, even though computers compile the information and process the data, human authors are responsible for circuitry of the hardware, ingenuity of programs and arguably the imagination of the fractal output. It is therefore unattainable to say that, a computer has acquired copyright over a work, when it is in fact a human effort that propelled the action of the computer.

⁴⁵Office of Technology Assessment of Intellectual Property Rights in the Age of Electronics and Information (1986) (OTA Report).

⁴⁶ Ibid

⁴⁷ Copyright Act op. cit. S. 1(2)(a) & (b)

⁴⁸ *Bleistein v. Donaldson Lithograph Co* 188 U.S. 239

⁴⁹ Ibid

⁵⁰Peter Garrison, Glued to the set, *Harv. Mag.*, Jan.-Feb. 1989, at 27, 28-29 and Ken Sofer, Art, or Nort Art? *Datamation*, Oct. 1981 at 118, 122-23

⁵¹Arthur R. Miller, Copyright Protection for Computer Databases and Computer-Generated Works: Is Anything New Since (ONUT?), 106 *Harv. L. Rev.* 977 at 1045 (1993)

4. Conclusion and Recommendations

Database protection and ownership are the crux of this work. It has been seen that database is a literary work which is protectable by copyright, if the work is original and fixed in a medium known now or later. Prior to the case of *Feist*⁵², databases were protected by what was known as the sweat of the brow principle. This is to say that a work is protectable so far there was an effort by the person who produced it. However, in *Feist* case, originality and fixation became the requirements for protection. It was also seen that the user of a database is the owner of works produced from the database. There are arguments that the work belongs to the compiler of the database, the user, and the computer, but after a proper evaluation, it was concluded that works generated from a database belongs solely to the user of the database. This is because there are usually improvements carried out by the user when such work is produced and it is capable of giving it an original look. Nevertheless, originality in copyright does not mean an invention as could be seen in patent; what is required is that the expression of the work must be new.

For effective copyright protection and growth of intellectual property in Nigeria, the following recommendations may be helpful:

Enlightenment of Citizens: It is not as if copyright law is new in Nigeria, however it remains unknown by many. Even among lawyers, what amounts to breach of copyright may not be clear. Since it has been found that some lawyers have little or no knowledge of copyright law, it is only reasonable that proper enlightenment of what constitutes an infringement of copyright and the subject matter of copyright be taught in our schools. Children tend to hold strongly what they were taught at the early stage and that is why I recommend that Intellectual Property should be taught from our primary schools to the tertiary institution. By doing so, people will become aware of what copyright is and avoid infringement. The National Copyright Commission on their own should, from time to time, organize public awareness programmes in markets, churches and mosques to ensure that intellectual property becomes a household word;

Stiffer Punishment for Infringers: Punishment may not deter people entirely from copyright infringement. However, if the law provides that an infringer should face a longer term in jail and pay more fine than what we have today, those involved in infringement could have a rethink and be deterred from copyright infringement.

Court Actions by the Copyright Owner: The Act empowers copyright owners to take civil action for copyright infringement. The Nigerian Copyright Commission on the other hand is saddled with the responsibility of prosecuting criminal infringements. Sadly, there are few cases of copyright infringement instituted by individuals. To stamp out infringement, all hands must be on deck in the fight against infringers. The state must do their best in the criminal aspect of infringement, while affected individuals should ensure that they prosecute their cases to a logical conclusion.

Creation of Special Courts: It is recommended that special courts be created for enforcement of intellectual property rights. Intellectual property is not the regular practice which every lawyer or judge is conversant with. There are lawyers who are specialized in this aspect of law and as such, there ought to be special courts where judges who are knowledgeable in intellectual property would preside over matters before the court and ensure that justice is done.

Review of Relevant Laws to Accommodate Database Right: Under our law, a database enjoys only copyright. However, in the United Kingdom, database enjoys both copyright and database right. A database is copyrightable if it meets the requirements of originality and fixation. While a database right is a *sui generis* which confers rights on a compiler who has a work though not original, but he is rewarded for his effort in assembling the work and putting it out for public consumption. The above may not be within the purview of copyright, but it is important as it could serve as a means of enhancing knowledge.

⁵² 499 U.S 340 (1991)

Further Research: Intellectual property is generally a work of the intellect. That is to say that, intellectual property is an exercise where the intellect is engaged to produce something good. It involves rigorous researches which is often expensive. Intellectual property is truly a means of generating revenue for the state and creating job opportunities for citizens. Indian government for instance is a beneficiary of intellectual property. They have taken over the pharmaceutical industry and are of the arrow heads in world drug production. Nigeria could rank among the best in the world if support is given to researchers on ways to improve intellectual property in Nigeria, more especially now that oil price is dwindling and recession is at its peak.

Clear Definition of Terms by the Act: It is always difficult to have a generally accepted definition of a term. However, the need to have a clear definition cannot be overemphasized. The term copyright was defined as copyright under the Act. The possibility of knowing what copyright means by the above definition is minute. It would require one to go through almost all the provisions of the copyright Act in order to have a firm understanding of copyright. This would have been avoided by a clear and direct definition. The English Act defines 'database' as a collection of independent works, data or other materials which are arranged in a systematic or methodical way and individually accessible by electronic or other means. In our own law, there is no definition of what database means. Its examples were only mentioned in the definition column of literary works. It is on the above premise that I recommend that the copyright Act, be reviewed and some key terms be defined clearly.

Provision of Loans for Producers of Works and Inventors: It is my humble recommendation that soft loans should be made available to producers of protectable works, trademarks, patents and industrial designs. These people are of great importance to the nation. They have the capacity of creating sufficient revenue for our country, but that is when government supports them.

Fight against Corruption: Corruption is a menace bedeviling our country Nigeria. It cuts across all sectors of the country and as such it is something which should be fought vigorously. In commissions, it has always been heard that money meant for a task was embezzled by individuals. The possibility of such occurrence in the Nigerian copyright commission is high as well. This would hamper operations as the willing workers would be left with little or nothing to work with. Some corrupt members of the taskforce who should go against pirates now have arrangements with those who sell pirated works and they are left to continue in such illegality, leaving the copyright owner to suffer. It is against this background that we recommend that corruption should be fought in our institutions.