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Digital Preservation and Copyright

[1]Sakhawat Hussain,[2]Dr. Rajesh Kumar Diwakar

[1]Research Scholar, Mangalayatan University, Beswan, Aligarh, U.P
sakhawathuss@gmail.com
[2]Associate Professor, Mangalayatan University, Beswan, Aligarh, U.P
drrajeshkdiwakar@gmail.com

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Abstract

Keeping digital resources accessible and safe over time is very crucial and digital preservation is one of the best ways to do so. However, one of the biggest barriers in this area is the copyright laws. Various issues related to copyright and digital preservation are explored in this study which majorly focuses on the legal and practical impacts on organizations that preserve digital content. Its main focus is to create a balance between the rights of creator and the public who want to access this data or content. To make digital preservation smooth, safe, easy and effective is the main aim of this study.

Purpose

The main aim of this study is to analyze that how digital preservation practices relate to the challenges of copyright laws. Its main focus is to help an organization to understand how copyright affects the efforts of an organization which is trying to preserve digital data or content. It also focuses for the need of clear policies that help both preservation efforts and copyright holders.

Objective

The latest copyright laws which affect the digital preservation and the various hurdles which they create are explored in this study. It focuses on how various institutions such as archives, libraries and schools cope up with copyright issues while putting their best efforts to keep digital data safe. The main of this study is to provide information about preservation and copyright issues relate to it.

Methodology

Qualitative approach is used in this research. It absorbed information from various literature recourses such as legal documents, scholarly articles and case studies. It also took information from various other reliable sources such as journal articles and various reports from institutions which are involved in the practices of digital preservation, to get an insight about the various issues which are related to copyright in this field.

Keywords

Digital preservation, copyright, fair use, technological protection measures, libraries, archives, policy recommendations.

Introduction

To keep digital information safe and accessible for long period of time digital preservation involves various strategies and methods (Buneman et al., 2006). In this 21st century the amount of digital data is growing day by day, preservation of this digital data is very important for research purpose, educational use and for cultural heritage. One of the most important factors which play a crucial role in this area is the copyright laws. Preservation of digital work whether they are digitized from hard-copy or created digitally involves various legal issues. The major hurdles for the digital preservation process include copyright and other rights related to it. When multiple copies are shared between different institutions, and when an old work is updated to a new format all these tasks requires consent under copyright law. Additionally the digital modern technologies have completely transformed the way in which the works are shared and obtained, thus it create a dispute between the legal copyrights rules and the need for long term preservation (Besek, J.M., et al.2008). To inspect these questions and to find possible

answers to them in order to upgrade the digital preservation efforts is the main sight of this study.

Digital preservation

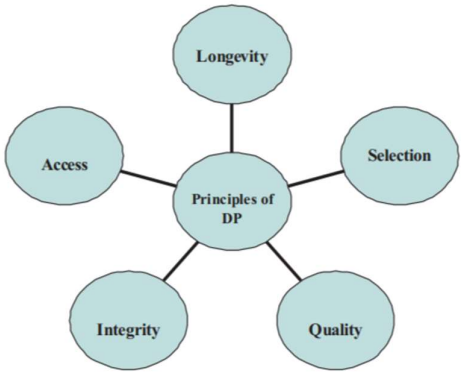
Sequence of various steps are combined together in order to keep the digital data safe and accessible for a long period of time. This stored data can be kept for short period or long period of time as per the requirements. The American Library Association (ALA) defines digital preservation as "a mix of policies, strategies, and actions aimed at maintaining access to digital content over time". According to the Encyclopaedia of Information Technology, digital preservation "is the process of keeping digital materials in good condition for use". In this modern technological world, it's a very demanding to keep this data updated because after every few years the storage media, computer equipment and software become out-dated. Also one of the most important feature of digital data is that it also includes the original non-digital formats such as manuscripts, print or film and hence it can be kept safe even if the original formats are permanently lost due to physical deterioration (Corrado, 2009).

Importance of Digital Preservation

For Archives, libraries, museums and schools' digital preservation is very important. The National Digital Stewardship Alliance (NDSA) says "that good digital preservation helps keep valuable digital items safe and ensures that knowledge and culture remain accessible" (NDSA, 2021). These institutions need to adapt the latest technological methods in order to preserve their digital data as the devices, software, tools are changing rapidly (Meyer et al., 2019).

Digital preservation principles

The traditional methods which are used for preserving the physical media can also be used for preserving the digital data.



Principles of digital preservation (Chandran, 2014)

Longevity: Information stored digitally doesn't last forever due to the fragility of digital files. There are ways to replicate and ensure redundancy in hardware, software, and data formats, which means that what we can read and understand today may still be usable in the future (Chandran, 2014).

Selection: It is a multi-step process that involves various decisions. This includes choosing which materials to preserve digitally, selecting the right tools and technology, and deciding on the media and formats to use. Each of these choices is crucial to the success of the preservation plan (Lazinger, 2009).

Quality: The quality of digital content should be checked at three key stages. Firstly, when setting up the workflow specifications. Secondly, during the selection and handling of digital capture. Finally, when delivering the content, it's important to consider download times and how easy it is for users to access. Consistency is essential for maintaining the quality of digital files (Anderson, 2005).

Integrity: Integrity is important for ensuring access to digital content, even if we get rid of the original storage devices, software, and hardware. To keep digital integrity, we also need ways to check for any changes made to the original files (Babumathy, 2004).

Access: Access to digital content is a key factor when deciding to make valuable resources available online. It's up to each library to establish its policy regarding access to its digital materials (Gnansekaran, 2004).

Digital Preservation Challenges

Libraries and information resource centres face significant challenges in keeping up with the rapidly changing technology related to digital preservation. To effectively manage these challenges, it's essential to conduct a thorough analysis of the risks associated with digital preservation early on. This helps in identifying potential issues and understanding their possible impact. Here are some key challenges that often arise in the realm of

digital preservation (Parekh, 2009).

The nature of digital materials: It presents unique challenges with rapid technological advancements; the time available to take action is much shorter compared to traditional paper formats. In the digital world, decisions and interventions must happen more quickly (Deegan, 2006).

Machine Dependency: Accessing digital materials often depends on specific hardware and software. Without the right tools, it can be difficult or even impossible to reach and utilize these resources (Tanner, 2006).

Improper storage: The media used to store digital materials is inherently fragile. Even if it looks fine on the outside, improper storage conditions and management can lead to rapid deterioration (Pedley, 2005)

Shorter life span of digital media: Digital media tends to have a shorter lifespan due to how easily changes can be made. This necessity for updates can pose challenges in maintaining the integrity, authenticity, and historical context of digital materials (**Sinha, 2010)**.

Styles and Formats: The consequences of prioritizing formats and styles in digital resources are much more serious than with paper. If a digital resource isn't chosen for active preservation early on, there's a strong chance it will become lost or unusable soon after. Therefore, it's essential to adopt a life-cycle management approach for the maintenance of digital materials (Rhyno, 2004).

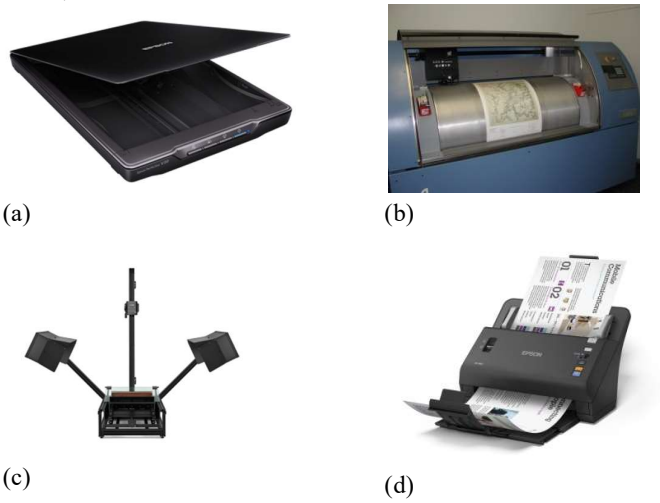
Copyright and intellectual property rights (IPR): These are big challenges when it comes to sharing works online. The issue isn't about technology; it's about the laws around copyright. When a digital library puts its collection on the Internet, it doesn't just keep and lend out existing works. By digitizing them, it makes new copies that are considered just as important as the originals. So, a digital library works like a distribution department in a publishing company (Hughes, 2004).

Scanners used for digitization

Digital scanners are devices that turn physical images, like printed pages or microfilm, into digital pictures. They do this by scanning the image at a certain resolution and color depth. There are two main types of scanners: vector scanners and raster scanners.

Vector scanners scan images by creating a set of points (coordinates) that represent the image. These points are then used to redraw the image. Vector images are commonly used for things like maps, engineering drawings, and blueprints, especially in programs like Geographic Information Systems (GIS). The advantage of vector images is that you can zoom in on them without losing detail (Hosmani, 2021).

Raster scanners work differently. They scan an image line by line using a light source (often a laser), converting the image into a grid of pixels. For colored images, the scanner may need to go over the page several times to capture all the colors. Raster scanners are often used in places like libraries to convert printed books and documents into digital files. Most digital images we see, like photos, are created using raster scanning. Scanners that turn analogue images into digital ones come in many sizes and types, depending on what kind of material is being scanned (Patel, 2021).



(a) (b)

(c) (d)

Different types of scanners used for digitization. (a) Flatbed scanner, (b) drum scanner, (c) digital camera scanner, (d) sheet feed scanner

Copyright protects things like books, poems, plays, movies, music, artwork (such as drawings, paintings, and photos), and architectural designs. It also covers the rights of performers in their live shows, music producers in their recordings, and TV and radio stations in their programs (Kumbar, 2021).

Intellectual Property Rights

Intellectual Property Rights (IPR) isn't a new idea. It's thought to have started in North Italy during the Renaissance. In 1474, Venice passed a law to protect patents, giving creators exclusive rights to their inventions (Handa, 2015). Copyright, on the other hand, dates back to 1440, when Johannes Gutenberg invented the printing press with movable letters. In the late 1800s, many countries recognized the need for laws to protect intellectual property. Intellectual Property (IP) refers to creations of the mind, like inventions, artistic works, and symbols used in business. Intellectual Property Rights (IPR) are the legal protections given to these creations, which have both personal and financial value. IPR usually gives the creator the exclusive right to use and profit from their work (Adav, 2015).

Copyright in India

The Copyright Act of 1957 started in January 1958 and has been updated five times—specifically in 1983, 1984, 1992, 1994, and 1999, with the 1994 update being the most important. Before this Act, copyright law in India was based on the Copyright Act of 1914, which followed the British Copyright Act of 1911. The 1957 Act also took ideas from the UK's Copyright Act of 1956. The Indian Copyright Act keeps the common law tradition and has adapted to changes in copyright laws worldwide. Today, it aligns with many international copyright agreements. India is part of the Berne Convention (1886, updated in 1971), the Universal Copyright Convention (1951), and the trade –related aspects of intellectual property rights (TRIPS) Agreement (1995). Although India is not part of the Rome Convention (1961), the 1957 Act still follows its main ideas (Copyright office, GoI).

In 1996, two important treaties, called the Internet Treaties, were created by the World Intellectual Property Organization (WIPO). These are the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT), which aim to protect the rights of copyright holders, performers, and producers in the digital age. India is not a member of these treaties, but discussions are happening to amend the Copyright Act to better protect copyright in the digital world (Ram, 2023).

Copyright Issues in Digital Preservation

Legal Framework

Copyright laws can vary from place to place, but they generally protect creators' rights while allowing some exceptions for preserving works. For example in the United State of America, the Copyright Act of 1976 has specific rules for libraries and archives, letting them make copies of materials to keep them safe, as long as they meet certain conditions. However, these rules are quite narrow and don't cover all types of digital preservation (U.S. Copyright Office, 2022).

Preservation and Fair use

Copyright laws most important part is the fair use which is very important for digital preservation. Through fair use a small mass of people can access and use some amount of copyrighted data without asking for the consent of the owner of that data, as long as they follow certain guidelines (Kwall, 2015). While in the case of digital preservation, using fair use can be complex and hence it can create unpredictability for the organisations or institutions. As the result of which they are not sure to digitize and preserve data, because they have a fear that they could breach the laws of copyright and hence the preservation efforts go in vain (Hirtle, 2018).

Technological Protection Measures

Digital rights management (DRM) comes under various Technological protection measures (TPMs), which make it complex and challenging to preserve the digital content. The access to the stored digital data through these measures become limited which ultimately results in a complexity of the legal process which is involved for preserving them. From 1998 The Digital Millennium Copyright Act (DMCA) declares it unlawful to get around these protections, and thus they create legal barriers for the institutions which are trying to keep the digital data safe and secure (Lemley, 2006). Hence there is a continuous tussle between the protecting the rights of copyright holders and allowing for preservation.

Case Studies

Educational Institutions

One of the biggest barrier or challenges which universities face is relates to the copyright issues when they want to store the course material in the digitize form. In 2021 a study was done by O'Donnell and others in which it

was found that most of the faculty members were not aware about the rules of copyright laws around the world and which ultimately leads to unintentionally use of material without permission. It's the duty of the institutions, organisations, schools, libraries and archives to issue clear guidelines so that the faculty and other researches or scholars can understand the copyright laws and hence motivate them to preserve digital data effectively.

Archives and Libraries

There are many instances when various libraries and archives have copyright issues while they try to preserve the data into digital format. For example, when the British library tries to archive the web data into digital format they faced obstacles due to the copyright laws (British Library, 2020). Hence this shows that how important it is to have clear policies and guidelines to handle a complex relationship between digital preservation and copyright laws.

Recommendation of Policies

To make digital preservation smooth and effective, here are some of the policies which may be recommended:

Exemptions for Preservation: Special exceptions in copyright laws can be made by the governing body so that the digital preservation can be done without any consent from copyright owners.

Clarification of Fair Use: it's the duty of the governing bodies to create clear and sharp guidelines on how fair use applies to digital preservation. By doing so it will make a clear way for the institutions and hence the confusion related to the fair use and digital preservation will also get reduced.

Collaboration and Advocacy: it's the duty of the institutions also to work with the copyright representatives like publishers and creators to force for strategies that promotes and support digital preservation while also paying attention to copyright laws.

Conclusion

As we move further to advanced digital age, the role of digital preservation is very important for the protection of intellectual and cultural heritage. A huge amount of digital data and information is stored and shared online and hence there's a huge risk of losing this digital data. Through digital preservation we can keep this material safe and available for the future generations. However, this process is not very easy there are lot of challenges and complexities in this process, especially related to copyright laws. These laws make it difficult to access this digital content and hence it makes it complex for institutions and individuals to preserve the important work. The old copyright laws were made for the physical items and hence they didn't synchronize with the digital medium which ultimately causes a confusion and makes preservation hard for the digital medium. To avoid such situation these copyright laws, need to be updated according to the need of the today's digital data. We need some modification in the old laws to make them smooth for the digital world data. Libraries, archives, creators and policymakers should work together in order to create a strong and unified approach to digital preservation. By bringing people together from different domains we can give respect to the rights creators while also allowing that the valuable digital data remains accessible for future generations. By collaborating, we can respect the rights of creators while also ensuring that valuable digital content remains accessible for future generations. Effective digital preservation is like a bridge which link our past data with the future data.

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