



MULTIMEDIA SECURITY, IMPACT ON OUR SOCIETY AND THE PLACE OF OUR LAW ON IT

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ABSTRACT- *The Mass diffusion of digital media and the explosive growth of telecommunication are reshaping the lifestyles of ordinary people, research and industry. Over the last decades, the rise of digital telecommunication technologies has fundamentally altered how people work, think, communicate, and socialize. Despite the obvious progress of multimedia communications, these developments carry with them a number of risks such as copyright violation, prohibited usage and distribution of digital media, secret communications, and network security. Therefore, security, scalability and manageability amongst other become issues of serious concern, as current solutions do not satisfy anymore the growing demands of multimedia communications. Security has been in a center stage of international attention since we first-handedly witnesses the pervasiveness of terrorism activities. Lately, more and more government and industry resources are located to the researches of security systems. How can we ensure the trustworthiness of multimedia data? How can analysts extract intelligence from enormous video streams? How can visual or audio biometric features help to identify suspects? This research work examines multimedia security, its impact on our society and the place of our law on it, adopting literature review methods. This paper examines the meaning of multimedia security, its usefulness to our society and the place of our law on it and some possible interventions.*

I. INTRODUCTION.

The computer rights is protected by intellectual property law which in its all-embracing nature and in keeping pace with current technological progress, has acknowledged computer right in this computer age. It has made available patent protection for computer software to attract patent protection, the equipment has to be new, involving an inventive step and has to be capable of industrial application. Computer software comprises of its program, which are series of loaded instructions, which are intended to bring about a particular result in use in a computer.

Its' attracts copyright protection and they are treated as literary works under the copyright, designs and Patent Act 1988 [England].

The internet is a broad network of computers, a wonder of the twenty-first century that has reduced the world to a global village. Copyright applies also to internet-related issues. An internet run website could contain music, artistic and multi-media works such as photograph, drawings, audio, graphics, animation often packaged on CD-ROM with links to the internet.

These works will be protected as literary, musical or artistic or multimedia works as long as they meet the normal copyright requirements. Copyright in the works that are specifically created by the creator of the website for that purpose will be owned by the creator, subject to the employer-rule. Sound recordings, films, broadcast and cable programs also maintain their copyright status when they are put on internet.

Security has been in a center stage of international attention since we first-handedly witnesses the pervasiveness of terrorism activities. Lately, more and more government and industry resources are located to the researches of security systems. It is the degree of resistance to, or protection from harm. It applies to any vulnerable and valuable asset, such as a person, dwelling, community, item, nation, or organizations.

II. WHAT THEN IS MULTIMEDIA?

Multimedia can have a many definitions these include:

- *Multimedia means that computer information can be represented through audio, video, and animation in addition to traditional media [i.e. text, graphics, drawings, images etc.]*
- *A good general definition is that Multimedia is the field concerned with the computer-controlled integration of text, graphics, drawings, still and moving images [video], animation, audio, and any other media where every type of information can be represented, stored, transmitted and processed digitally.*



- *Multimedia is content that uses a combination of different content forms. It can be recorded and played, displayed, dynamic, interacted with or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance.*

It may be broadly divided into Linear which is an active content progress often without any navigational control for the viewer such as a cinema presentation. Multimedia communication plays an important role in multiple areas in today's society including politics, economics, industries, militaries, entertainment, etc, it is utmost important to secure multimedia data by providing confidentiality, integrity, and identity or ownership.

II.A. BRIEF HISTORY OF MULTIMEDIA

The term multimedia was coined by a singer and an artist Bob Goldstein [later Bobb Goldsteinn] to promote the July 1966 opening of his "Light Works at L' our sin" show at Southampton. On August 10, 1966, Richard Albarino of variety borrowed the terminology, reporting: "Brainchild of Songscribe-comic.

Two years later, in 1968, the term: "multimedia" was re-appropriated to describe the work of a political consultant, David Sawyer.

In the intervening forty years, the word has taken on different meanings. In the late 1970s, the term referred to presentations consisting of multi-projector, slide shows timed to an audio track. However, by the 1990s "multimedia" took its current meaning.

II.B. CHARACTERISTICS OF MULTIMEDIA

Multimedia presentations may be viewed, stage, projected, transmitted, and played locally with a media player. A broadcast may be a live or recorded multimedia presentation. Broadcasts and recordings can be either analog or digital electronic media technology. Digital online multimedia may be downloaded or streamed.

- *Multimedia may be used in a physical environment with special effects, with multiple users in an online network, or locally with an offline computer, game system, or simulator.*
- *It may also be intended to enhance the users' experiences, for example to make it easier and faster to convey information.*
- *In entertainment or art, to transcend everyday experience.*
- *Enhanced levels of interactivity are made possible by combining multiple forms of media content.*
- *Online multimedia enables applications with collaborative end-user innovation and personalization on multiple forms of content overtime.*

II.C. IMPACT OF MULTIMEDIA SECURITY ON OUR SOCIETY

Multimedia has been use in various fields, works and spheres of life to promote, expand, enlarge, and also make our society a better, improve place for us all to be able to live in. The following are the ways in which multimedia has affected our society positively. Among which are:

- *It is used by commercial artists and graphic designers for exciting presentations to grab and keep attention in advertising.*
- *It is also used for business to business, and interoffice communications.*
- *It is also used to sell ideas or liven-up training.*
- *It is heavily used in the entertainment industry to develop special effects in movies and animations [VFX, 3D Animation etc.]*
- *Multimedia applications allow users to actively participate instead of just sitting by as passive recipients of information which are called interactive media.*
- *Educationally, it is used to produce computer-based training courses and reference books like encyclopedia and almanacs.*
- *It has helps in expanding learning theory.*
- *Several lines of research have evolved; multimedia has opened various possibilities for learning and instruction which are endless.*



- *It convergence is rapidly changing the curriculum in universities all over the world.*
- *Multimedia changes the availability, or lack thereof, of jobs requiring this savvy technological skill.*
- *Multimedia teaching is more intuitive than old ways thereby bringing students into a class where they can interact with the teacher and the subject.*
- *It also engages global audiences and tells stories with technology, which develops new communication technique for both media producers and consumers.*

III. PROTECTION OF MULTIMEDIA

With the development of the internet and multimedia content has become increasingly important. Recent growth of networked multimedia systems, techniques are needed to prevent [or at least deter] the illegal copying, forgery and distribution of digital audio, images and video. It is also desirable to determine where and by how much the multimedia file has been changed from the original. One way to improve one's claim of ownership over an image, for instance, is to place a low level signal directly into the image data. This signal, known as a digital watermark, uniquely identifies the owner and can be easily extracted from image.

Due to the potential conflict of interests, the leak of classified information shared between agencies is not uncommon. To prevent classified information from leaking out of a dedicated group of users, it is essential that content providers have security and forensic capabilities of tracking and identifying entities involved in unauthorized redistribution of multimedia information.

III.A. WATERMARKING

It is an approach to protect images by adding an invisible structure to the image data itself that can be used to authenticate it. If the image is copied and distributed, the watermark is distributed along with the image.

Many approaches are available for protecting digital data; these include encryption, authentication and time stamping. One approach to protect images is to add an invisible structure to the image data itself that can be used to authenticate it. Watermarking can be visible, fragile, semi-fragile, or robust, spatial, image-adaptive or blind watermarking.

III.B. CRYPTOGRAPHIC ENCRYPTION

Cryptography prior to the modern age was effectively synonymous with encryption, the conversion of information from a readable state to apparent nonsense. The methods used to carry out cryptology have become increasingly complex and its application more spread.

More generally, cryptography is about constructing and analyzing protocols that prevent third parties or the public from reading private messages; various aspects in information security such as data confidentiality, data integrity, authentication, and non-repudiation are central to modern cryptography. Modern cryptography exists at the intersection of the disciplines of mathematics, computer science, and electrical engineering. Applications of cryptography include ATM cards, computer passwords, and electronic commerce.

This is a powerful tool for access control and confidentiality protection, the protection usually terminates once the content is delivered and decrypted. The growth of cryptographic technology has raised a number of legal issues in the information age. Its potential for use as a tool for espionage and sedition has led many governments to classify it as a weapon and to limit or even prohibit its use and export.

III.C. PERFORMANCE RIGHT

Right of performance is given to the performers and to the person who has recording rights in relation to the performance. A performance in this context means a live performance by one person or a group of persons. It can be musical performance, a dramatic performance, and dance.

The acknowledgment of performers' right began in the 20th century in England its acknowledgement began with the enactment Protection Act 1972 [which increased fines for the offences created by existing legislation and gave some rights of civil action to performers as a particular class of persons].



Sections 23-27 Copyrights Act 1992, makes provisions that “a performer” shall have the exclusive right to control, in relation of his performance of the following acts:-

- a. *Performing;*
- b. *Recording ;*
- c. *Broadcasting live;*
- d. *Reproducing in any material form; and*
- e. *Adaption of the performance.*

Subsection [2] of the same Act, elaborates on performance by stating that performance includes dramatic performance [dance and mine], musical performance and reading or recitation, literary act or any similar presentation, which is, or so far as it is, a live performance given by one or more individuals. The duration for a performance right is fifty years from the end of the year in which the performance first took place.

However, a performer’s right is infringed by a person who, without the performer’s consent or authorization in writing does make a recording of the whole or substantial part of a live performance and shows or plays in public the whole or substantial part of the performance for commercial purposes. Primary infringement is called the offence of piracy, which includes the recording or reducing of a performance for commercial gain without the due authorization of the original producer or his successor in title. While the secondary infringement includes:

- *Recording of the whole or substantial part of a live performance;*
- *Broadcasting live, or includes live in a cable programme, the whole or a substantial part of the live performance;*
- *Performing in public the whole or a substantial part of the performance;*
- *Showing or playing in public the whole or a substantial part of the performance for commercial purposes;*
- *Broadcasting, or includes in a cable programme, a substantial part of the performance by means of recording which is, and which that person knows or has reason to believe was made without the performer’s consent.*
- *Importing into the country otherwise than for his private or domestic use, a recording of a performer’s work which is an infringing recording; or*
- *In the course of trade or business, sells or let’s for hire, offers, distributes, or displays for sale or hire a recording of a performer’s work which is an infringing recording.*

Infringement of a performer’s property rights will entitle the holder of those rights to sue for damages, injunctions, and an account of profits, conversion and delivery upon an order of the court.

The rights of performers are however more akin to those of copyright owners, as they protect the artistic creation, whereas the right of the person with a recording right are purely economic rights created by contracts.

IV. CONCLUSION

Copyright can be said to be a title, which an author has in the protection of his intellectual property. In essence, it delimits the users and how a third party can use the title an author has in his works. The exploitation of copyright is strongly linked to the evolution of the reproduction technology with the development of the printing press in the second of the fifteenth century Gutenberg and Caxton.

Digital multimedia [whether it be audio, video, or still photography and art] is exposed to a broad spectrum of security problems. From the standpoint of the media provider, protection of materials from unauthorized distribution or modification is a primary concern. At the delivery end, recipients want to ensure that downloads are virus-free and legitimately obtained. Ironically, encryption and digital branding tools can be employed both for securing multimedia as well as for circumventing laws pertaining to content and use.

Certainly the challenge will be for security technology to keep pace with the evolution of multimedia content and services. Hopefully, new paradigms for protecting ownership rights and revenue will continue to emerge through cooperative approaches that view the spectrum of protective mechanisms from different sided of the prism of possibilities.



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