

New Technologies - New Challenges to Copyright Law

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Abstract:

The issue of copyright licence has endured a hit below the belt. Nowadays, the more and more up-to-date technical means that can be used in the real sphere are suitable to create an inestimable infringement of copyright licence. The Internet also is available. Owing to its massive nature, so-called file sharing creates the greatest challenge.

For companies producing and distributing different voice carriers, the main problem is lost income, while for the judiciary it lies, on the one hand, in the uncertain legal regulatory system, and, on the other hand, in the lack of personal and material conditions to catch up with events.

The dilemma is even more serious concerning legislation. There is no social support – so it is supposed – for announcing that file sharing should be prosecuted (contrary to traditional crimes); moreover, it is a crime adjudged differently throughout the world, and finally, if prosecutions commenced, the number of Hungarian criminals would be doubled (or even tripled) by a simple stroke of a pen.

In order to see the situation in reality, and to draw the correct conclusions, it is necessary to introduce the process and the technical environment of file sharing in a more detailed form.

Keywords: *copyright law; Cyber environment; file sharing prosecution; Hungarian criminal law.*

1. Introduction

Since new technical means and technological procedures have appeared that allow licensed products to be multiplied, forwarded or stored, approaches to copyright cannot remain unaffected.

For the last ten to fifteen years, computer technologies and related technical means have been developed, while simultaneously usage of the Internet has increased; therefore, copyright license law must bear stronger enforceability aspects than ever.

At first, media activity like founding presses, distributing books, creating radio and television programs, recording works of art on LP disks, CDs (Compact Disk), DVDs (Digital Versatile Disk) or VCDs (Video-CD), or even providing programs – through whatever platform – was accomplished through terrestrial means. Later many of these were carried out through cable and/or satellite technology although this is still not a major part of the market.

The spread of computer technologies, the wide range and general use of the Internet, techniques for compilation, and easy methodologies for multiplication have made the infringement of copyright licenses possible on a huge scale.

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The monopoly on producing, copying and distributing copyright licenced works of arts has been demolished.

It is not rare now that authors – due to various reasons or ideas – represent their works and provide access on the Internet.

Users create their own selections of music, film or pictures etc. for themselves and for their friends, choosing from products in circulation or accessible through the Internet. In order to listen to your favorite records on CD, you do not need to buy disks from the performers. The user no longer depends on supply (or even on price).

You also do not have to buy expensive albums of performers if you are fond of an artist or of an age. Their works can be digitalized, downloaded from the Net, copied to CDs, printed on color printers in excellent quality or even watched through DVD players. Furthermore, music or other audio effects can be attached to them, making the influence of users complete.

It is possible to produce mp3 format media from old LPs (ripping), which can be recorded on a CD later; in this way, old records can be saved for decades (with only minimal diminution in quality).

Films published on CDs and DVDs in Hungary do not usually have synchronized soundtracks (due to the small size of the Hungarian market), so the pleasure offered by them is less. However, this inconvenience can be averted by adding the soundtrack to films using a little ingenuity. Videofiles have so-called container formats, so they contain more data streams. The MPEG-2 videofile in the VOB files of a DVD can be detached from the AC-3, MPEG-2 and PCM files, thus making both the video and the audio bands applicable separately. This method allows Hungarian synchronized language taken from a video cassette to be given to films on DVD or VCD (whether original or recorded from television) of an excellent quality.

Of course, it is quite possible to infringe copyright laws without using modern techniques and technologies.

2. Products of authors in digital environments

The data collected, stored, processed and forwarded (such as handled) in electronic data processing and data carrying systems are all electronic impulses, invisible to the eye.

Hardware and software producers are pouring out more and more up-to-date technical means and programs for the computer technology market. The work of users has been supported by computers with better and better performance and more and more memory, and with other peripherals, data carriers, and faster and more stable data forwarding technologies.

2.1. Development of the software side

Effective use of these technical means and technologies is possible due to new computer programs.

Today, a film with a size of 3-5 gigabytes recorded on a DVD can be compacted with the help of the appropriate program (with a slight damage to quality) into a 700 megabyte extension.

Musical records of 60-70 minutes will fit on a CD sold in commercial circulation, while CDs in the mp3 format, with a content of six to ten times more, are also sold in shops.

However, the codes of DVD films are easily cracked with the help of computer programs, and then compactable into .avi format, and can even be provided with (*e.g.*, Hungarian) subtitles or synchronized language.

Later the .avi format can be converted into .mpg (.mpeg) format of a better quality, and again recordable as VCD through a program.

You can obtain DVD codes through the Internet from illegal sites, as well as so-called cracks, patches, and key generators, all suitable for cracking software codes.

2.2. Development of the hardware side

Wideband data transmission (called ADSL technology) is able to forward data at a speed of 66-67kb/sec. This way, a one and a half or two hour film can be downloaded within 3-4 hours, and a 3-4 minute musical record within approximately one and a half minutes. A novel of 500-700 pages can be copied within seconds.

LAN (Local Area Network) nets, through, *e.g.*, an optical cable with the speed of 1,5-2,5 megabyte/sec, reduce the time for downloading a film to 3-7 minutes, while in the case of a single musical record it requires only seconds.

Computer technology is more and more suitable to fill the functions of electronic entertainment accessories (television, radio, video recorder, CD player etc.), and can be connected to them.

Almost all new video cards are appropriate for playing films from the computer onto the screen of the television. The available DVD players nowadays use double layer technology, so they are ready to play not only original DVD disks, but also home-made copies of CDs (recorded in (S)VCD format).

Nevertheless, you can even make your own DVD record at home, and VCD disks have appeared in commercial circulation as well, being more popular in Western Europe while still little known in Hungary.

DVD players with Divx technology are also available, which can play films in .avi format, as are musical equipment (in DVD players, hi-fi towers, portable CD players), which can be used to listen to disks with records in mp3 format. When used to record .avi format films from television, DivX players reduce the amount of time required, but require a relatively long time (2-10 hours, depending on the performance of the computer) to convert, while good quality is not guaranteed.

The problem is obvious:

.Avi and .mp3 format works of artists are not currently in circulation. The producers have not agreed to the legal circulation of these formats.

The present CD standards are stated in the agreement of two giant companies, Philips and Sony, signed in 1982 (the so-called Red Book).

Products of artists available in .avi and .mp3 format can generally be obtained from the Internet and those creating and distributing through these means are well aware of this.

The customer, having obtained the necessary technology, looks for the new file formats on the Internet, or inquires about them among his acquaintances, and soon can find (mostly illegal) sources.

The situation is paradoxical, or nearly so. There is a great demand for this technology, and the fulfillment of this demand brings in money. The creators and distributors of these technologies emphasize their own profit interests.

The complex problems of defending licensed products of authors are transferred over to the copyright license lobby and into the jurisdiction of the legislature. Although this assumes that the situation 'supported' by them is to be considered as reality.

We have to accept that these technological means do not create infringement of copyright, but they (can) increase the number of criminals.

3. Cases of licence infringement in the cyber environment and their criminal features

There is a new legal infringement activity creating a heightened possibility of copyright crime.

This is *file sharing*, where users copy files from each other's' computers with the help of dozens of such programs, but without the permission of the author or the publisher.

Let me refer to some statistical data, while mentioning in advance that statistical differences – to the extent of several million – cited in other sources do not affect the essence of the phenomenon. Based on a source from the US, there are 63 million (!) users using file sharing regularly or at least occasionally, such as when users far from each other in space download music, movies, pictures and text documents (*e.g.*, novels).¹ Another statistical source states that 69% of US inhabitants older than 15 years used the Internet in 2003. The entire population of the US is 290 million people.² Of these, 30% of the whole, or approximately 200 million Internet users, are engaged in file sharing.

¹ http://www.szamitastechnika.hu/hirek_hir.php?id=32414.

² <http://www.cia.gov/cia/publications/factbook/rankorder/2119rank.ht>.

There are no statistical data from other countries on the American Continent, or from Europe, the Middle East, the Far East, or Australia, yet still we surely are not mistaken if we talk about hundreds of million more users.

This giant number – taking into account the increase in use of the Internet and the continuing development of technical means and solutions – causes a considerable loss of (due to a reduction in revenues) profit from producing CDs, DVDs, VCDs, movies, books etc. This is the main reason for the strong representation of the license lobby, which seeks to defend the personal and financial rights of the authors.

4. 'Places' of committing copyright licence infringements

4.1 *Copyright licence infringement in real space*

In the cyber environment, the place the crime was committed is a possible special objective element of the statement of facts when analyzing copyright crimes.

Infringement may be realized in the *real sphere*:

Copying and distribution of licensed products of art derived from legal sources (software, music, movies, novels etc.) in order to create or increase financial income.

Copying and distribution of licensed products of art derived from illegal sources, even without the aim of creating or increasing financial income [Sec (1) Art 35 Act on Copyright License (Sztj)].

Through behavior, such as exceeding the limitations of a so-called free application.

Apart from these, in case of software, infringement of license rights includes:

Copying or distributing the License Contract, or the software or its documentation (codes, manuals) without the permission of the author. (Art 59 Sztj).

Applying the license to create a greater number of applications than was permitted.

Distributing software as an addition to hardware, without a License Contract.

In the case of other licensed products.

Copying a whole book, newspaper, or daily newspaper which legally can be copied only in handwritten form or on a typewriter. [Sec (2) Art 35 Sztj].

Causing somebody to prepare copies on computer, using an electronic data carrier [Sec (3) Art 35 Sztj].

Who can estimate the number of CDs, DVDs, VCDs, computer programs (operational programs or simple games) that have been copied, given away or distributed with the sole aim of making copies? How many users employ copied rather than legal software, even if the user is not the one who installed it?

4.2 Copyright licence infringement in virtual space

I have to state in advance that *virtual space* is a space that exists through physical means. It is a space through which computers communicate with the help of cable networks, by sending electronic impulses to each other.

We can include most of the types of license infringement mentioned above, but owing to its technological specifications some further infringing behaviors can also be observed:

Representing a work of art on a web site without the permission of the author.

Allowing products to be downloaded from web sites, FTP or other servers free, or for financial return.

Uploading crack, patch or keygenerator programs on web sites, FTP or other servers in order to crack software safety programs.

'Sharing' and forwarding licensed works of arts.

Entering networks – legally or illegally – through the Internet, and copying or employing distribution software.

Computers connected to the Internet are divided into two groups:

Domain or serving computers (servers): computers that store and systematize electronic impulses, and which usually ensure connection to the Internet

Client computers: on which single users work, play, entertain, use e-mail or arrange financial or administrative business etc., which use the services of the servers.

A server is figuratively a seller, serving the clients turning to it and demanding services.

Servers communicate with each other through the Internet, such as when we approach other clients (*e.g.*, mail) or data bases through servers.

However, there is another technical option for communication, different from this basic state. These new solutions are generating new forms of licence infringement cases, since most file sharing programs operate between users by direct communication, excluding the server that could support the infringement. This is called the peer to peer (P2P) solution and is now being investigated as legal infringements.

Most of the file sharing programs employ the computers of the users as servers and client (= servant) computers at the same time, such that the data on the user's computer (text, picture, audio or video file) are as available as the ones on the domain server. There are some file sharing programs based on the traditional server-client connection.

4.3 Types of file sharing

Those using file sharing programs represent a network among themselves while they are applying the program.

Such nets can be divided in two groups:

Centralized model: the users are connected to a server (as clients). The server records the list of the files that the participating clients want to share. The available list is presented after the user chooses one of the indicators of the file (name, title, extension, quantity, name of user etc.) These programs include Kazaa, Kazaa Lite, its clone program, Grokster and DC, and other clone programs like DC++, BCDC etc.

Decentralised program: the user is connected to a server, representing a part of the network. This server generates a chain of requests, finding a server connected to the net, which finds another server etc. Files (by the name of the author, title etc.) and their downloads also can be found this way, server by server. E-mule, Gnutella, and E-donkey, Bit Torrent programs and Shareaza, which employs the common platform of the three last working as a multi-network, are the decentralized programs.

A attempted connection between the centralized and the decentralized models: This program is, *e.g.*, WinMX, which operates in a basically centralized way, while also ensuring a connection to other servers.

All models have their advantages and disadvantages (*e.g.*, concerning the quantity of the available files, choosing the band width, technical stabilization of file sharing etc.)

5. Dynamics of file sharing

File sharing is like a flea market. The comparison is appropriate for several reasons: all the users take the files to be shared among themselves that have been offered, and because the sharing is also somewhere on the border between legality and illegality. Its legal status based on the relevant decisions is uncertain.

The process of file sharing is described below.

5.1 Uploading

When a user starts a file sharing program, the user becomes a part of a network. Whether it is a centralized or decentralized model, when the user enters the server of the network he carries with him uploads of the files to be shared, with the name, title, extension, e-mail address etc.

Programs are available that allow the user to enter with only a limited quantity of files to be shared, while other programs prefer a larger quantity, because the quantity affects the speed of the upload.

Questions on the legal aspects of uploads:

1. Only digitalized products can be uploaded. The question is whether a user who is a private person may digitalize a work of art? Art 35 Act LXXVI on Licence, 1999 (Sztj) allows copying for private purposes. The issue is whether digitalization is to be considered 'copying'? The work of the author became intangible and changed its material form, and it was placed in a new data carrier. Therefore it cannot be included

under the referred article. The legislature obviously did not think about digitalization as a new way of representing works of arts.

However, as the Act did not specify the quantity and techniques of copying, and did not tighten the definition, in my opinion digitalization can be included in the concept of copying.

From the marketing point of view, copying a work of art onto a new data carrier and distributing it can lead to a significant profit. Let's mention here the current distribution of old records, which earlier existed only on LPs, on CD or DVD. Such a perspective can result in a different legal understanding concerning digitalization. ('Existence determines sense.')

Naturally, after multiple exchanges of a file it is impossible to determine who digitalized the work of art first. Sometimes a cracker group makes its name or access obvious in the name of a file when working with films.

2. Is the concept of 'distribution', prohibited in the Act on Defense of License (Sztj), equal to the concept of upload?

The Sztj considers making original or copies of a work of art available to the public as distribution, through putting into or offering for circulation (Sec (23) Art 23, Sztj.) Art 23 of Act on License includes putting into circulation and offering for circulation in the concept of being available.

It is a special aspect of criminal penal law that both a completed behavior and preparation for it – although considered as separate behaviors – are sanctioned. (*e.g.*, Art 250 Penal Code, factual statement of passive official corruption.)

In a Ministry Opinion on the Act on License (Sztj) regarding the distributional rights of authors, it is stated that distribution means making the original or a copy of a work available to the public, through selling or transferring possession – and thus basically applies to material, copied products. [Ministry Opinion on Art 17/b AL (Sztj)]. This legal concept concentrates on the transfer of possession.

An upload can unambiguously be considered as distribution; it can be identified with offering for circulation.

During file sharing, we cannot talk about transfer of possession as the digitalized form of the work of the author stays with the uploader, and when downloaded the work is doubled or even multiplied.

3. Although a mistake of the uploader (Art. 27 PC) concerning the free availability of works cannot be excluded. These products (*e.g.*, freeware, shareware with conditions, promotional music records, own products etc.) can be shared through the Internet freely by anyone.

It is a basic question whether the work was freely available or not, and as such it is relevant regarding criminal liability. We should not have illusions, of course, in

connection with the fact that this is true only with respect to a portion of downloads. Sharing files mostly happens without the permission of the authors or the publishers.

5.2. Phases of downloading

After the user has entered an identifying feature of the file to be obtained in a file sharing program – which is done in a different way in each network – the program presents a list, notifying whether the file is available, and, if so, whether it is downloadable.

If so, then the process is started by entering the download command.

The effect of downloading as actually realized is not obvious:

If the uploading was illegal because the uploader accomplished the uploading without the permission of the author, the downloading – although I would dispute this – in compliance with the principle of *ius ex iniuria* has to be judged as illegal.

Due to a possible mistake of the uploader, the fault of the downloader cannot be excluded either. Here I repeat that the fact whether a work of an author is freely available or not is also a constitutive fact, relevant from the point of view of criminal liability.

Should the downloader know if the downloaded files originate from illegal sources? Many hundred thousands of files are 'circulating' in the file sharing networks.

Sec (1) Art 35 AL (Szjt) allows the usage of copies for private purposes except if the aim is gaining financial profit. When somebody else is made to prepare a copy of the original issue on a computer or onto another electronic datacarrier, it is excluded from this main rule. [Sec (3) Art 35 AL (Szjt)].

In connection with the permission to copy for private purposes, it can be stated that when establishing the law in this field the legislators did not consider the fact – as indeed they could not – that owing to the development of technology many tens (hundreds?) of thousands of works would be copied for private aims on the file sharing networks every second.

5.2.1. Possible technical, commercial and legal means to fight against copyright licence infringement

The possibility of file sharing – as we have seen before – was established by the free communication ensured by the Internet. Because through these communication channels not only written texts but files can be forwarded, it is not easy to limit file sharing through technical means.

1. Within the *technical means* of limiting file sharing used against the operators of FTP servers, the appearance of warez pages (used to distribute illegal pirated software) was significant. (*E.g.*, continuous observation of the concept of such web sites and servers, prohibiting them, excluding the user from the circle of Hungarian users, or indictment in case of permanent infringing of the law.)

I think that a server supplier cannot escape from responsibility however difficult finding a solution to the problem may be.

It would be possible to exclude file sharing programs from the servers of our suppliers. The question is, are there suppliers that try to increase the number of clients by decreasing services?

The other question is: who should finance the observation and prohibition of the continuously renewing file sharing programs? Who can develop such a program and who will finance it? The suppliers would obviously transfer the extra charges to the users.

However, taking the liability of conceptual suppliers *stricto jure* (by strict law) we can state that conceptual suppliers are physical coactors in crimes when they provide web sites, storage places, servers etc. (Art 21 PC). A physical coactor is someone who ensures the means necessary or assists someone to commit a crime (material behavior during preparation Art 18 PC).

Although, as with all technical prevention, it would be possible to defeat file sharing limitations.

In case of centralized models, following the elimination of the central server another server can start to operate automatically within seconds. (Most programs inform you in advance about the availability of a reserve server.)

If it is a decentralized model, the elimination of one or two servers would not cause problems; at most the quality of supply on the server will be reduced for a while.

As in other fields of computer piracy, probably in the case of file sharing it would not be hard for suppliers to defeat newer and newer safety- defense solutions.

With the technology of .avi files, files can be forwarded in a much smaller size (e.g., works of arts of authors could be included in an e-mail).

In case of prohibition, the decentralized models will quickly become dominant, or would be organized in a new form.

Nowadays there are file sharing programs (Blubster, Piolet etc.) that mix the IP addresses of the users. We are talking about tens of thousands of addresses, so it would be extremely difficult to identify them.

Internet radio and television applications may easily turn into file sharing. The users do not choose from each other's offers, but from the 'program service' that provides the files in a hidden form, like a 'request program'.

We should not forget about postal letters and parcels in the real sphere, for which Internet serves as communication base between partners (and offers). There are winamp generated lists on WEB sites and FTP servers, which report in a codified form on the musical records available from other suppliers (or through the post).

It is also obvious that Internet users will not be satisfied with limitations on apparently free communication. Should we talk about free communication at all if the IP number of the visited web site, the length of the visit, the files downloaded, e-mail addresses from which the communication arrived and where letters have been sent etc., are available to the server supplier?

It is only the content of the communication which is unknown to them (yet) as server supplier are not obliged to report on it.

2. We also have to consider prices. Can the prices of frighteningly expensive musical CDs and DVDs be 'highly burdened' with the need for extra profit? This is the definite reason evoked for illegal copying and alteration of software, audio- and video files, and it has created massive demand. Today the non-discounted price of a CD is 2-6 thousand HUF, a DVD 6-9 thousand HUF, and the prices of books are as high as the stars, while the price of a WIN98 operational system, which has sold many hundreds of million copies all over the world, was still about 30 thousand HUF in 2004.

We all should trust that there are users who insist on obtaining the products of authors in the best quality and in the original form. By decreasing prices, providing discounts, and applying further market advantages the contrasting interests could be brought closer. That marketing behavior should be followed; there have already been some good examples ('Bomb-price' sales, permanent discounts, club sales etc.)

3. The *legal means* to fight against file sharing should be imbued with reality.

The legislature is compelled to defend the personal and material rights of the author in each phase of using the products of art.

There are lobbying activities taking place in all countries in the interest of authors and distributors. To prevent lost profits, a harsher approach should be required, even through increasing the range of criminal law remedies.

However, there are arguments that file sharing does not reduce CD distribution.³

Actually, the authors' license lobby will inspire the legislature to establish prohibitions. The Ministry of Justice will refer to international decisions and organizations in connection with the provisions lobbyists support.

5.2.2. Concerns

What is the effect of a legal regulation that would turn tens or hundreds of thousand people into persons whose activities should be condemned, and, if file sharing is criminalized, that even turns them into criminals? Is it right to establish a regulation that may double the number of criminals in our age?

What could a legislative proposal be like, that allows the government to observe and record the data transmissions, including the content, of hundreds of thousands of Internet users? Data downloads about the private interest of users – political, religious, health and sexual etc. – would be recorded and observed. Such regulations could be – unfortunately – dedicated to the memory of George Orwell.

Prohibiting file sharing will be unenforceable in the future. Besides the necessary hundreds of legal procedures, is it possible to call to account tens of thousands of users?

³ <http://pcforum.hu/hirek/A-fajlcsere-nem-csökkenti-a-CD-eladásokat.htm?qnid=8118>.

I do not consider it as probable that a legal provision aiming at observation of our use of computers would gain social support.

The opinion of suppliers as to an increase in their legal responsibility is also questionable.

6. What can be the solution?

The development of new technical means, their availability to the public, the nature of the Internet, and lately file sharing have made it clear that the principles of copyright licence – first established by LÁSZLÓ ARANY, the son of the poet JÁNOS ARANY, in the 19th century – have been shaken.

The principal values and interests (protecting the author's copyright licence, prohibiting changing the product without permission, royalties etc.) are clear. New solutions for collecting fees are also well known, and some new ideas have also emerged. The legal royalties of products of authors found in student books should not be included here.

The free availability of works of authors (in many cases), and their recording, multiplication by different technical means, application in compliance with our convenience, and copying, as well as the elimination of the monopoly of publishers and other arguments, should to persuade the legislature to consider whether it is worth retaining the strict, but no longer feasible, provisions of Art 329 of Penal Code without any social support.

The statement of facts on copyright license and the attached rights established in Art 329 is a definitive statement of facts; making the license law stricter means criminal liability is aggravated.

Considering the material aspect of the statement of facts, the objects of the act committed and the behavior committed are to be judged by the Szjt (Act on Licence) at present.

I think that the Penal Code should approach the matter realistically and criminalize businesses aimed copying and putting into circulation licenced products of authors. So the behavior committed would be determined *expressis verbis* in the Penal Code.

The Szjt should continue to govern the objects of commission and other regulations.

The *de lege ferenda* regulation – in my opinion – is in compliance with Art. 10 of the Convention on Cyber-Crime signed on 22 November, 2001 in Budapest.

Instead of making the Penal Code stricter, payment of the copyright licence fee to authors – in accordance with the amount of downloaded data – could be considered as a real solution. However, such a royalty could be introduced only if the regulations of the Penal Code are softened. The maintenance of this strict approach and the introduction of licence fee at the same time would be incorrect.