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Music Copyright via the Internet

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Music Copyright via the Internet

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M. A. in Music Technology

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Table of Contents

	<i>Page No</i>
Acknowledgements	ii
Table of Contents	iii
Table of Figures	v
Abstract	1
Chapter 1 - Introduction	2
Intellectual Property Rights.....	2
Copyright Defined.....	4
The Internet	5
Methodology.....	5
Rights of Copyright	7
Copyright and Technology.....	9
Chapter 2 – Background to Copyright	13
The Law as it Relates to Copyright	13
A Brief History of Copyright.	15
The Economic Importance Of Copyright:.....	17
A Slice of the Price.....	18
Chapter 3 – Background to The Internet	21
The Internet Defined.....	21
A Brief History of Computers	24
Brief Portfolio of Music and the Computer.....	25
The World Wide Web (WWW)	27
Chapter 4 – Analogue and Digital Music	30
Recording	30
Music Copyright and Earlier Formats.....	31
Chapter 5 - Music, the Internet and Copyright	35
Distribution of Digital music files on the Internet.....	35
Copyright Security in the Digital Age.....	37
Secure Copyright on The internet	38
Pirated Product	40
Chapter 6 –Research Interview Results	42
Interview Findings –Advantages of an Internet Music Copyright System	43
Further Research of Advantages	55
Interview Findings – Disadvantages of an Internet Music Copyright System.....	63
Summary of Interview Research	70

Chapter 7 - The Website	71
Description	71
Methodology:	71
Demonstration of Online Music Copyright via The Internet.	72
Conclusion	77
Music Today.....	77
Music Copyright via the Internet Conclusions.....	78
Final Conclusion.....	82
Bibliography.....	83
Webography.....	84

Table of Figures.

	<i>Page No.</i>
Figure 1 - Economic Assets in Music Copyright	17
Figure 2 - Slice of the Price	18
Figure 3 - Internet Packet Routing	21
Figure 4 - Bandwidth.....	22
Figure 5 - A Network of Networks.....	23
Figure 6 - Internet Growth.....	29
Figure 7 - Digital Audio File Types	33
Figure 8 - How the Digital Music Distribution Cycle Works	35
Figure 9 - Napster P2P	36
Figure 10 - Copyright Security in the Digital Age	37
Figure 11 - Pay to Play	38
Figure 12 - Bootleg Pie.....	40
Figure 13 – Table of Research Interviewees	42
Figure 14 - Copyright Registrations by Year	59
Figure 15 - Copyright Registrations Breakdown	60
Figure 16 - Music Compositional Profile.....	61
Figure 17 - Website Flowchart	71
Figure 18 - Nuts and Bolts.....	72
Figure 19 - Sample Online Registration Form	73

Abstract

This thesis will ask if it is possible to use the Internet as a means of copyrighting music. At present, the Internet is not used for the copyrighting of music and furthermore no studies have been carried out to see if this is feasible. Digital technology is used in the composition, recording, playing, downloading and storage of music and the author will research if and how these existing technologies can work in conjunction with the Internet to create a music copyright system.

This thesis will research existing copyright requirements, the current technologies used in music that have potential copyright implications, and how that technology could be harnessed for a system resulting in Music Copyright Via the Internet.

A composer could connect to the internet, and subsequently could register their music immediately on a web site and receive a certification or statement of copyright all in one continuous transaction.

The relationship between copyright and technology will be examined and the structure of a hypothetical website dedicated to music copyright will be formulated. Research will be presented by literary review, relevant website content, and by personal interviews of music composers, producers, copyright solicitors, and information technology experts, the results will then be compiled. The core idea of such a system will be subject to an analysis within the parameters of feasibility, validity, and reliability, and an examination of the advantages and disadvantages of such an implementation will be carried out.

Conclusions will be formulated on a subject breakdown basis as to what conditions must be met for the successful application of such a system. Finally, an overall conclusion will be reached on Music Copyright Via the Internet.

Chapter 1 - Introduction

Exploring the concept of using the Internet as a means for copyright registration requires an investigation into the various areas that are encompassed by this idea.

Intellectual Property Rights

Music copyright is part of the portfolio of Intellectual Property rights. These include:

- a) Trade secrets and confidentiality
- b) Copyright (including music)
- c) Patents.
- d) Designs
- e) Trademarks and service marks
- f) Ancillary rights.

Each of the foregoing has its own unique registration or assigning of rights to the owner. In addition, each area has different rules and regulations, e.g. renewal of obligations as regards retaining those Intellectual Rights. For example, James Joyce's *Ulysses* was in the public domain until recent legislative action returned the rights of the book back to the Joyce family.

In the world of music, songs enter the public domain after 70 years following the death of the author. In the United States, the Library of Congress, under the auspices of the

U.S. Patent and Trademark Office are responsible for music copyright. Unlike the system in Ireland, the music must be registered using either a performing arts (P.A.) form or a sound recording (S.R.) form. The P.A. form requests details of the song title, the alternative song title, the words and music in score or “fixed” form, e.g. tape. The names of the composers/authors are included. The S.R. form is used to copyright the actual sound recording itself (usually the record company). Again the form asks for the song titles, the owner of the sound recording, the relevant dates, the address and signature of the applicant. Currently, a fee of \$35 is required.¹

Musicians very rarely write and record the final mix in one session. Paul McCartney and John Lennon usually brought in rough demos of songs into Abbey Road where together with George Harrison and Ringo Starr they would forge the songs with George Martin producing. The final mix resulted in a master that all the copies would be made from. This master sound recording is copyrighted by EMI and the songs are copyrighted by Northern Songs, the publishing company of Lennon and McCartney. So there really are two copyrights, each of which can be subdivided into various degrees of ownership.

In the case of Irish traditional music, no copyright issues occur when the music performed is part of a body of work that has been passed down from a time that would clearly indicate that any responsible copyright term has expired.

¹ Copyright.gov

Copyright Defined

“Copyright is the exclusive legal right granted for a specified period to an author, designer, etc., or another appointed person to print, publish, perform, film or record original literary, artistic or musical material”²

The general aim of this thesis is to examine the use of the Internet as a means of copyrighting music. The copyright, on a musical creation, exists as soon as the music is created and “fixated” in form.. However, the date of creation is always open to speculation unless some form of record is produced. In the United States, copyright is controlled by the Library of Congress. The applicant files various forms,(together with a filing fee) and the Library details the information and sends the applicant a receipt and confirmation. In Ireland, which is our main area of concern, no such copyright accreditation exists.

Copyright exists as part of Intellectual Property and it includes literature, poetry, films, photographs, scripts and screenplays, image rights, trademarks and music. Music copyright is the primary focus of this thesis.

Ireland is a member of the Berne Convention, an International Treaty, which defines the composer’s rights to copyright.

² Oxford English Dictionary

The Internet

“Internet” refers to the global information system that:

- a) is logically linked together by a globally unique address space based on the Internet Protocol
- b) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) and
- c) provides, uses or makes accessible either publicly or privately, high level services layered on the communications and related infrastructure described within³.

Initially, the foundation of the Internet was connected with the needs of the U.S. military to access and transfer knowledge from one source to another rapidly. Today, the ability to package information of every conceivable kind and disseminate it far and wide has become its “raison d’etre”.

Methodology

In pursuing this thesis there are four main areas which need to be considered:

1. Legal

Essentially copyright is a legal issue and as such is subject to the law of the land. Each country has its own laws, rules and regulations. In addition, there are international treaties and conventions which define and set out international standards.

³ Federal Networking Council, FNC Resolution Oct 24, 1995

2. Technical

Taping and copying music whether from cassette, vinyl or CD, or from the radio or T.V. for individual usage has always occurred and recording devices have been tailored for individual home use for decades now. Part of this has been the desire to share music with friends. One view is that the limitation on this activity was quite simply the number of friends the copyist had. However the main limitation was analogue technology. Duplication in analogue is slow in real time and sound quality degrades with every generation of recording. Digital duplication is faster than real time, and the sound quality of a copy is the same as the master recording.

Nowadays, in the age of the Internet, there is virtually no limit to the amount of contacts that someone can reach and distribute music to. Peer-to-peer networking programs like Napster have caused major headaches for the artistic community and record industry alike. Music for free or otherwise can reach a global audience quickly and easily and is available to anyone with a computer and internet connection.

3. Social

Copyright law has always been a 'work in progress' playing 'catch-up' to new technologies as they emerge and challenge the existing rules and regulations. Such challenges to music copyright have existed from day one. Piracy by means of illegal recordings called "bootlegs" has succeeded in appropriating a share of the market. Until recently, this has been a relatively underground phenomenon. However, with the advent of the new digital age, piracy has moved into mainstream culture and downloading, duplicating, marketing and selling openly flaunt the copyright ideal. Sometimes this can't be helped. For example, webcasting is a new form of media entertainment and it is only recently that politics and legislation entered the picture to assign a royalty system for this particular medium.

This, and other social considerations, e.g. perhaps the present model of copyright is outmoded in this modern information age, need to be addressed.

4. Commercial

Electronic commerce can be defined as “doing business electronically”⁴. The commercial aspects of such a project must be referred to as Music copyright Via the Internet which, if it is a private enterprise, must be economically sustainable. A good explanation of E-commerce is by Paul Timmers in his book ‘Electronic Commerce’:

“Internet electronic commerce includes electronic trading of physical goods and of intangibles such as information. This encompasses all the trading steps such as online marketing, ordering, payment and support and includes the electronic provision of services”⁵.

The advent of E-commerce has resulted in many successes and some spectacular failures. Music Copyright via the Net encompasses the idea of a service being offered and that is, a bona fide registration of music and a statement of copyright issued to the composer.

Rights of Copyright

Three basic areas exist in the field of copyright:

- a) The Performer rights
- b) The Composer rights
- c) The Owner of the sound recording rights

⁴ European Initiative in Electronic Commerce European Commission, April 1997

⁵ Paul Timmers, Electronic Commerce, p.4

It is important to notice the three areas of music copyright and the rights and protection offered by each.

- 1) Copyright which protects performances. The copyright of a performance work is protected if the work is fixated (recorded) in form, for example, the show Riverdance. The performance copyright is owned by Moya Doherty. Any group wishing to perform Riverdance would need the copyright holder's permission to do so.

- 2) Copyright which protects the composer's words and music, for example, John Lennon and Paul McCartney own the writer copyright to their songs and thus are entitled to royalties when:
 - (a) Any commercial release contains one or more of their songs. These are known as mechanical royalties.
 - (b) Any commercial transmission of their songs e.g. radio play. These are known as performance royalties.

- 3) Copyright which protects sound recordings. The actual sound recording is usually the final master mix from which all other duplicates are made. Generally this sound recording is owned by the Record Company, for example, EMI own the sound recording copyright to all the Beatles albums and this copyright gives them the right to duplicate and distribute those recordings. The rights exist so that selling and licensing of the works can be used in an effective economic environment.

Copyright has become one of the major intellectual property rights⁶. It is very important in relation to commerce, particularly electronic commerce. The development of copyright laws are continually evolving in tandem with

⁶ Justice Hugh Laddie, *The Modern Law of Copyrights and Designs*

technology's imprint. Organisations such as WTO and WIPO are involved in the forever changing world of copyright complexities.

Copyright and Technology.

As mentioned before, the 'fixation of sound' originally meant the score of the music. However the actual recording of sound, for example when Mapelson set up his Edison Cylinder Player at the Old Metropolitan to record the great voices of the day, a new fixation recording was needed for it be brought under copyright protection.

Copyright through the ages has always reacted either to changes in composers' needs or from the entertainment business interests that have been affected by the arrival of new technologies.

Three Phases of Copyright Reform

1. The first phase could be classified as the period from the 1880's to the 1930's when the process of copyright reform was dominated by the interests of composers and writers, culminating in the Berne Convention to protect such works.
2. The growth of mechanical and electrical media such as the cinema, the phonograph and the wireless triggered the second phase. These rights were those which underpinned the contribution to cultural production of such interest groups as performing musicians and singers, recording companies and film studios and broadcasters.

3. U.S. film and music interests have played a commanding role in the third phase (1960 – present day), focussing on bilateral treaties between governments and trading agreements such as GATT.

These legal, technical, social and commercial issues within the realm of copyright make for a challenging future for the world of music.

The implementation and recognition of music copyright via the Internet will use existing technologies and legal and commercial frameworks. The thesis will examine whether or not they are beneficial and come to an overriding conclusion about the viability of such an endeavour. The idea of Music Copyright via the Internet could easily spill over into other domains and it is important to remember that such a system of copyrighting music constitutes, in its most basic form, a registration of ideas that can easily be verified, processed and stored. Registration and the assignment of copyright in this way will exist in tandem with other means of registration.

It will be necessary to describe a website as this will form a major focal point for the transfer of information. A web address, content, connection concerns, reliability, security are all issues that need to be addressed.

The term 'bricks and mortar' is sometimes used to describe the world, as it existed before the Internet came about. AOL's takeover of Warner Brothers was an example of new business taking over old business. Yet in one way the new ideas are similar to the old ideas. People still want to see an entertaining movie or hear good music but the way

we see and hear the new creations is changing all the time. This exponential change in technology means that every new worthwhile idea gives birth to countless other new ideas on how it can be used to greatest effect in music and other spheres of life.

The new technologies employed in the transmission, production, storage and duplication of music can all be applied to music copyright via the Internet. Music, or digital audio as it is sometimes referred to, can now be manipulated, cut, copied and rearranged in a way that was inconceivable in the past. The new programs that allow this to happen will be addressed in connection with Music Copyright via the Internet. One of the primary reasons for the use of the Internet is music. The Internet is used for playing, selling and downloading music. Yet the actual copyright registration of all the music that is played has not changed in a 100 years. Forms are manually filled in, signatures signed, tapes sent in and postage paid.

The research will show the current legal situation with regard to copyright. The role of technology and its effect on music will be explored. A brief history of the internet and computers is necessary to explain the logical flow and aggregation of technologies that are in use today. Musical technology in use today will be discussed as will its effect on current copyright, e.g. illegal downloads etc., combined with pre-existing problems with copyright.

Composers get concerned when their copyrights are being violated and legal cases of copyright disputes will be referred to, e.g. Mike Love and Brian Wilson's legal action against each other, for the copyrights of The Beach Boys hit songs.

The description of a dedicated website will be detailed along with attendant benefits and difficulties.

Interviews and questionnaires from people in the music business and related areas will be analyzed. The final chapter will summarise the conclusions reached during the course of this thesis.

Chapter 2 – Background to Copyright

The Law as it Relates to Copyright

The Copyright and Related Rights Act 2000 is the most recent and comprehensive Act to cover copyright laws in Ireland. The preceding acts were 1801, 1836, 1911, 1963 and 1987.

“The purpose of the Act is to make provision in respect of copyright, protection of rights and performers and rights in performances, to make provision for licensing schemes and registration schemes for copyright and related acts”

*“Copyright subsists in:
original literary, dramatic musical or artistic works
sound recordings, films, broadcast or cable programmes.*

Copyright shall not subsist in a literary, dramatic or musical work until that work is recorded in writing. Section 19 states; copyright shall not subsist in a sound recording until the first fixation of sound recording is made”.⁷

Thus the fixation means the embodiment of sounds and images or any combination of, from which they can be perceived, reproduced or communicated through a device. The fixation of sound originally meant the actual score of the music.

The Act also states:

“The author means the person who created the work” and “in the case of a work that is computer generated, the person by whom the arrangements necessary for the creation of the work are undertaken”⁸

⁷ Copyright Act 2000

⁸ Copyright Act, Chapter 2 (f)

The author of a work shall be the first owner of the copyright unless the working situation is a work for hire scenario⁹.

The copyright in a literary, dramatic, musical or artistic work shall expire 70 years after the death of the author, irrespective of the date on which the work is lawfully made available to the public¹⁰.

The Act also includes Performance Rights. The performance requires a fixation of sound.

A performance means a performance of any actors, singers, musicians, dancers or other persons who sing, play in, interpret or otherwise perform musical, dramatic or literary artistic works¹¹. In this case the fixation of sound relates to any fixation:

- a) made directly or indirectly from the live performance
- b) made from a broadcast of, or cable programme
- c) made directly or indirectly from another recording of the performance.

By copyrighting a musical work one is conferred certain rights and they are:-¹²

- a) to copy the work
- b) to make available to the public the work
- c) to make an adaptation of the work

⁹ Copyright Act, Chapter 2

¹⁰ Copyright Act 2000, Chapter 3

¹¹ Copyright Act, Chapter 25 ¹¹

¹² Copyright Act, Chapter 4

The Act defines further infringement issues. A copy shall be deemed an infringing copy where the making of it constitutes an infringement of the copyright in the work¹³ and also provides remedies for the copyright owner. Various acts such as illegal copying, selling or renting are referred to and the judicial remedies are outlined.

A Brief History of Copyright.

Copyright was originally vested in books. Early Irish lore recalls St. Columcille having illicitly copied a gospel manuscript belonging to St. Fintan. The dispute was settled by Dairmait, King of Ireland, in favour of St. Fintan.

Music sheets were held to be books as in the case of *Bach v. Longman* in 1777. Musical texts and dramatic works were soon recognised as being within the concept of a book¹⁴.

The Statute of Anne in 1700 gave the author a property right to legally make copies.

This only applied in England and not Ireland. In 1836, the Prints and Engraving

Copyright Act was passed giving protection to Irish authors. The dramatic

representation or performance of a work was protected by Bulwer Lytton's Act in 1862.

The Fine Arts Copyright Act in 1862 finalised the Irish law into the English template¹⁵.

¹³ Irish Copyright Act 2000

¹⁴ Robert Clark, *Irish Copyright and Design Law*, p.A5

¹⁵ Robert Clark, *Irish Copyright and Design Law*, p.A6

When the 1929 Copyright Act was passed, in essence it replaced the English template. Later on, in 1963, a Copyright Bill was introduced by Jack Lynch, then Minister for Industry and Commerce. This bill, however, was hurried and ill conceived. It was not until 1999, with the Copyright and Related Rights Bill, that new legislation was passed that embodied the concept that 'intellectual property' constitutes a major economic resource in Ireland as had already been recognised in the United States and other European countries.

In a nutshell, copyright law allows the author a statutory monopoly within which to exploit that work. It is a continuing struggle to keep the rights of the author and the case for continuous innovation, improvement and creativity of artistic works available to the world, in balance with each other. Copyright does not protect ideas, only the actual expression of those ideas ¹⁶.

Strengths of Copyright:

- a) It takes no time to obtain.
- b) Automatic protection
- c) Process is free
- d) Easy to discover where it exists with the copyright notice.

Weaknesses of Copyright:

- a) Does not protect ideas as such
- b) Non exclusive right
- c) Difficult to enforce, reproduction has become so easy and widespread
- d) Copyright can be easily exploited and abused. ¹⁷

¹⁶ Peter Hanna, Being Successful in Patents, Copyrights and Trademarks.

¹⁷ Peter Hanna, Being Successful in Patents, Copyright and Trademarks, p.115

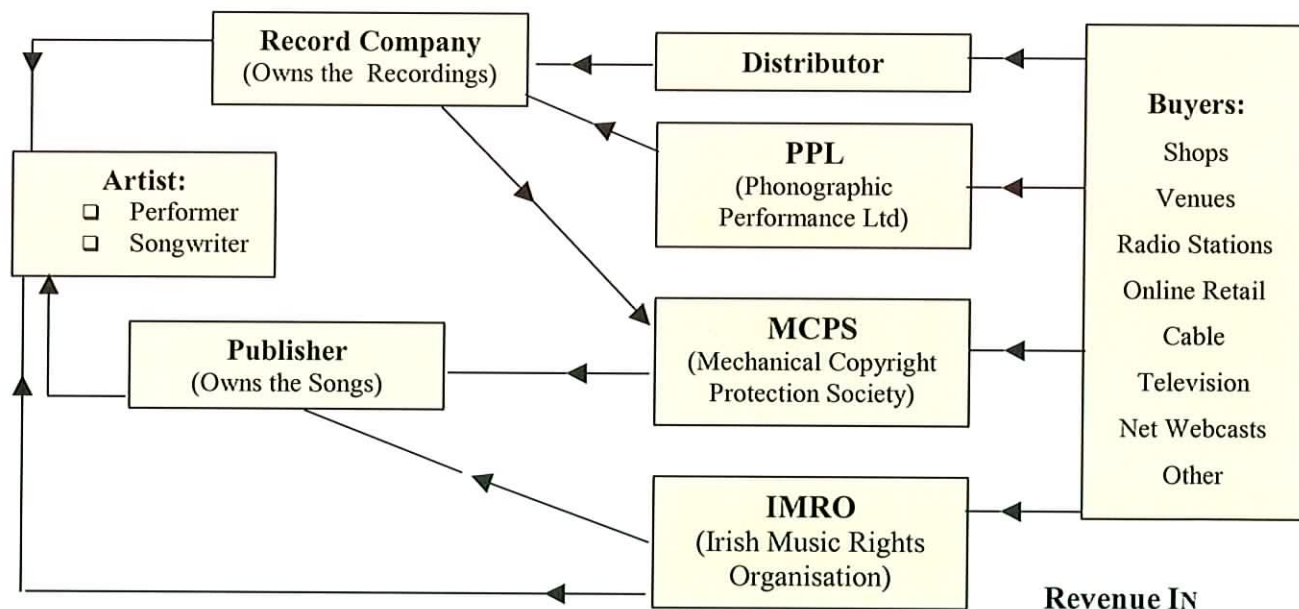
With the arrival of the new global economy and electronic commerce, these weaknesses will be magnified. Copyright covers practically everything which is two-dimensional, including code in computer software, drawings, artwork, graphics, photographs, etc.

Where a patent is concerned, the difference lies in the fact that a patent is a copyright for an original idea, meaning that it was not known to the public on the day the patent was filed at the Patent Office. To register designs, e.g. car bodies or ship hulls, an application to the Designs Registry is necessary.

The Economic Importance Of Copyright:

The assignment of a copyright results in an economic opportunity for the author. The diagram below shows the flow chart of economic assets in music copyright:

Figure 1 - Economic Assets in Music Copyright

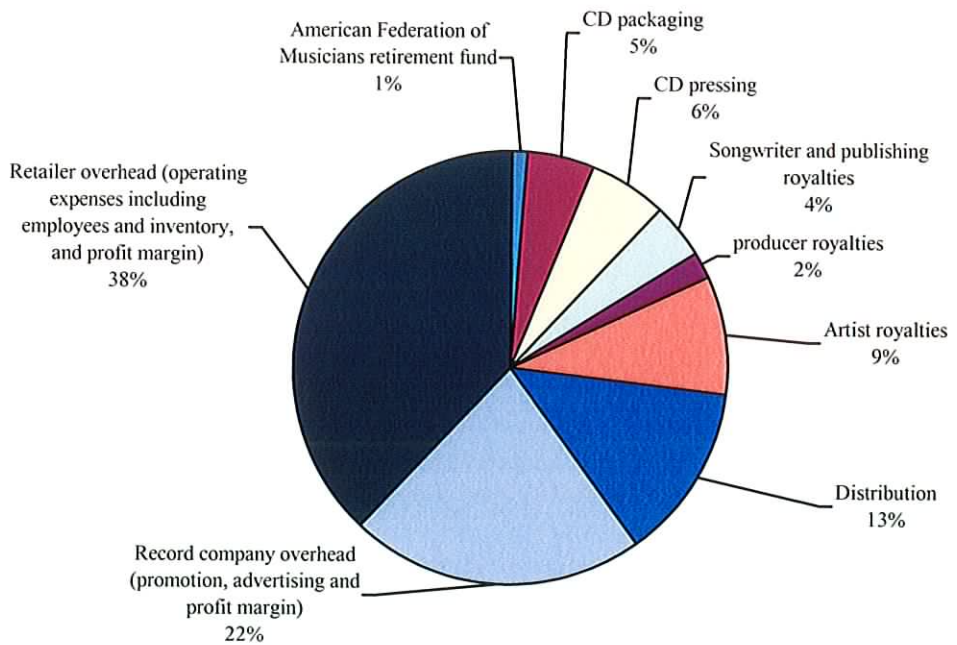


Total domestic spending on music in the U.K. and Ireland was just under £7 billion in 2002. Overseas earnings and payments in 2002 produced a net surplus of £500 million.¹⁸

A Slice of the Price

Retailers pay record companies \$7 to \$11 and more for the CDs they sell for \$11 to \$17. Who gets the money depends on market and contract forces. Big name artists may get 20% more in royalties. Here's how the take on a typical \$15 CD is divided.¹⁹

Figure 2 - Slice of the Price



The copyright owner gets 4% of the total sale price of a €15 C.D.

¹⁸ National Music Council press release 2002

¹⁹ Sidney Shemel, This Business of Music

When a song is played on the radio in the United Kingdom, the copyright owners, if they are also the publisher, are paid £15 per minute. IMRO is the Irish organisation responsible for collecting and payment of royalties to the copyright owners.

Thus the economic importance of copyright is beyond doubt, yet in stark contrast to trademarks and patents, no actual registration or certification is deemed necessary. Trademarks and patents in Ireland can be registered via the Irish Patents Office²⁰. In addition, a European Community trademark is available. This Community Trademark (CTM) is a symbol which identifies and distinguishes goods and services and is valid across the European Community²¹.

Thus, the question of who can claim copyright is clear and is virtually the same in Ireland and the United States of America. In the U.S...”the copyright in the work of authorship immediately **becomes the property of the author who creates the work**”²². So it is that copyright is secured automatically upon creation.

It is important to note that mere ownership of a book or C.D. or phonorecord does not give the possessor the copyright.

Form notice is the addendum written in the format © Publication Date, Author. This signifies the relevant fact of copyright being invoked.

²⁰ <http://www.patentsoffice.ie>

²¹ <http://www.oami.eu.int/en/mark>

²² <http://www.copyright.gov>

Both Ireland and the U.S. then have no statutory obligation to register the composition.

However, in the U.S. there are certain advantages to registration. These advantages are:

- a) Registration establishes a public record of the copyright claim.
- b) Before an infringement suit may be filed in court, registration is necessary for works of U.S. origin.
- c) If made before or within 5 years of publication, registration will establish prima facie evidence in court of the validity of the copyright and the facts stated in the certificate.
- d) If registration is made within 3 months after publication of the work or prior to an infringement of the work, statutory damages and attorneys' fees will be available to the copyright owner in court actions.
- e) Registration allows the owner of the copyright to record the registration with U.S. Customs for the 'protection against the importation of infringing copies'²³.

There is a situation called "Poor Man's Copyright". This is the practice of sending a copy of your own work to yourself. There is no provision in the copyright law regarding any such protection and it is not a substitute for registration²⁴. Copyright protection provides a vital incentive for the creation of many intellectual works including literary, dramatic, musical and other audiovisual works and sound recordings. The value of intellectual property protected by copyright is of vital economic and cultural importance. By its nature of being an entertainment sector of the economy, its significance is easily overlooked.

²³ <http://www.copyright.gov>

²⁴ U.S. Copyright Office

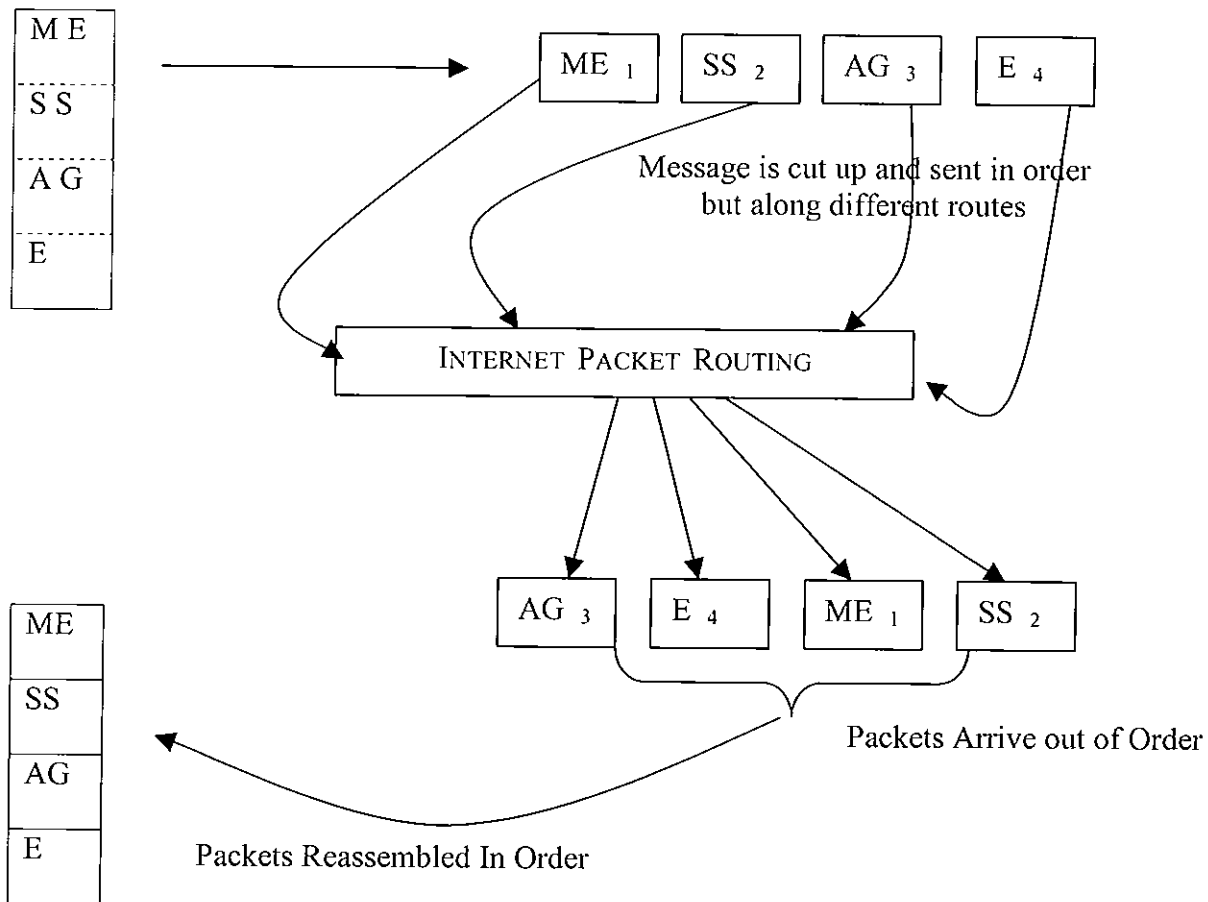
Chapter 3 – Background to The Internet

The Internet Defined

The Internet has become the single most popular form of communication in the world.

“The Internet is a global network of networks enabling computers of all kinds to directly and transparently communicate and share services throughout much of the world”²⁵

Figure 3 - Internet Packet Routing



²⁵ <http://www.isoc.org/internet>

Computers communicate using packet switching. This is basically cutting up messages into chunks of the same size and transmitting them. This idea was conceived by Paul Baran in 1964. The way to hook up to an ISP (Internet Service Provider) is through the phone lines via the modem on the computer.

Bandwidth:

This is the capacity of carrying packets per second. Rather like a motorway getting slower in rush hour, the Internet can slow up on the user depending on the bandwidth.

Figure 4 - Bandwidth

Name	Typical Speed	Transmission Time	
		<i>24 Bit Colour Screen</i>	<i>Bible</i>
T3	45,000,000	.5 sec	60 sec
T1	1,544,000	15 sec	30 min
Typical ASDL/Cable	1,000,000	10 sec	20 min
Dual ISDN	128,000	3 min	6 hours
56 kbps	56,000	7 min	13 hours
14.4 Kbaud	14,400	0.5 hours	2 days

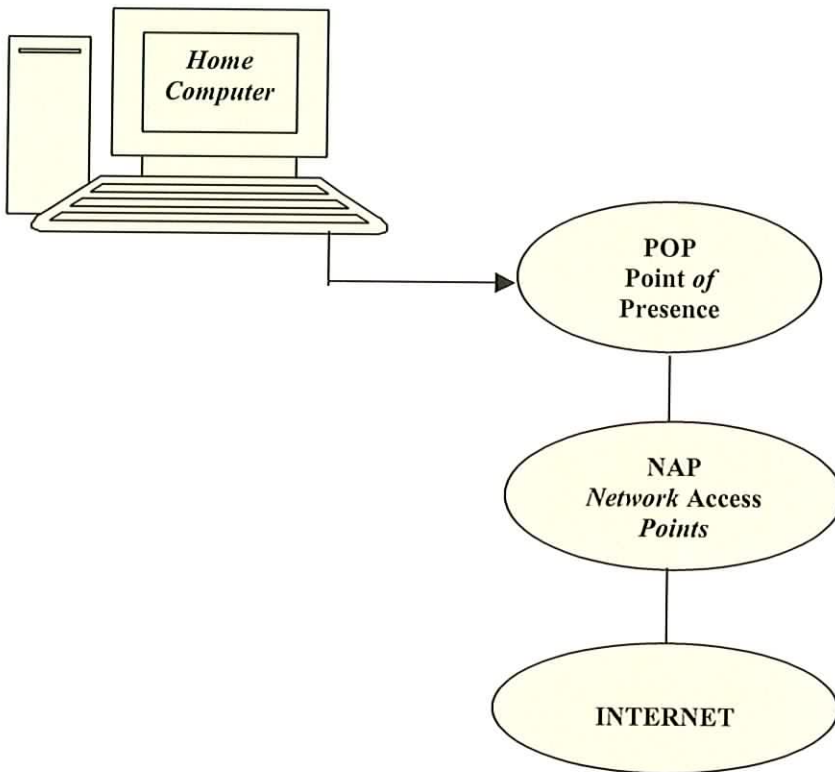
Hierarchy of Networks in the Internet²⁶

Every computer that is connected to the Internet is part of a network. For example, you may use a modem and dial a local number to connect to the ISP you have subscribed to.

²⁶ <http://www.computer.howstuffworks.com/internet>

When you connect to the server, you become part of their network and then may connect to a larger network and become part of their network. In effect, the Internet is simply a network of networks.

Figure 5 - A Network of Networks



Every machine on the Internet has a unique identifying number called an IP, Internet Protocol. A typical IP address might look like this:

215.27.61.139

.When the Internet was starting out you could only connect with another computer's IP address. In 1983 the University of Wisconsin developed the Domain Name System

which maps text names to IP addresses. Servers translate the human-readable domain names into machine-numbered addresses

A Brief History of Computers

With the development of hypertext systems and networks, the Web had two of its principal ingredients but there was third. What allowed the Web to grow so quickly was personal computing²⁷.

When the first stored program computers were built in the 1940's, they were far too bulky, unreliable and expensive for any individual to buy. Thomas Watson, Head of IBM in the 1940's, was one day asked how many computers would be in the world in the future and his reply was "about three or four".

The invention of the transistor and the integrated circuit (IC) made mass production of computers possible. In fact chip technology is developing so fast that, according to Intel founder Gordon Moore, "no sooner has a computer been produced than it is out of date".

Nowadays, digital computers dominate the computing world. They have the power, economies and scalability necessary to deal with large scale computations.

²⁷ James Gillies, How the Web was Born , p.115

The computer generation (1984 – 1990) saw the development characterised mainly by the acceptance of parallel processing. Integration of semi conductors continued apace. Other developments included the widespread use of computer networks, both wide area (WAN) and local area (LAN).

The most dramatic change is the explosive growth of wide area networking. Network bandwidth has expanded tremendously in the last few years. T1 transmission rates (1,544,000 bits per second) are now standard for regional networks.

Brief Portfolio of Music and the Computer

The very first PC's, appearing in the 1980's, came without soundcards. The original machine was designed by IBM for business users not noted for their timbre and orchestral needs. Noise or sound back then was a simple beeping speaker, usually for alerts.

The PC's greatest asset was not what it had but what it could do. A neat row of empty expansion cards meant that by installing a soundcard, the PC could be transformed into a serious sound generator, for example, LucasArts' X-Wing Space Combat Simulator. Computer music and sound effects had always been an important part of games and the PC took sound to a new level.

Also around this time came the launch of MIDI (Musical Instrument Digital Interface). The Atari ST computer came with two MIDI ports, an In and an Out. The keyboard acted as a controller for the PC.

Creative soundcards have been the industry standard for a while now since CD-quality sound was introduced. Speakers for the PC have become highly developed, for example, the Dolby Digital 5.1 Surround system

Computer Processing

Computer processing of sound files has given the user extraordinary ability to edit, mix, add special effects, compress, normalise, equalise and use many other ways to process the digitised waveform. To many composers, computers have become part of their working environment. Audio applications have made music composition more attainable. Thus with more composers finding themselves on the internet every day, the next logical step would be the opportunity to copyright their works via that system.

Since the first soundcards that came with audio inputs, people have been able to record to the PC music from tape, vinyl LPs, live sources, CD and DVD. If necessary, the sound is converted from analogue to digital and is stored on the hard disk. CD data can be “ripped” and converted to MP3 format and stored. To play the songs, such players as Windows Media Player, or Winamp or Media Jukebox can be used.

From the hard disk, the files can be burnt onto a CD. In the late 90's, CD burners became more affordable. In essence, it gave the user their own "private pressing plant". Sales in blank CD-Recordable disks skyrocketed. Most burners are packaged with music programs. These programs are easily downloaded for free from such sites as www.download.com.

The World Wide Web (WWW)

The Internet is a series of networks across the globe, like an information super highway, and the WWW is just one of the services using that network. This is an important distinction. On the Internet, the WWW is by far the most popular of these services. It is accessed through a web browser like Internet Explorer or Netscape Navigator.

The Web is an immense collection of web pages, linked together with hypertext links. Thousands of new pages of information are added every hour. Each page is placed on a server, a computer continuously connected to the WWW. The information is then available to anyone else with access to the Internet. Web pages can have a mixture of text, graphics and multimedia.

Activities include exchange of e-mail, interactive talk or chat sessions, transfer of documents of all description, data sets, computer programs, images and music.

Statistics

As of 2003, the world wide total number of websites was 42,807,275²⁸. The WWW (World Wide Web) is only one of the ways of practical implementation of the Internet.

Some others include the following:

- Gopher – the dispersed system of menu driven subject oriented data bases
- FTP – the remote file exchange system; email systems

Definition

“The WWW is a method system that provides the members of the Internet community with new opportunity to create and develop the global field of texts, images, animations and sounds, all of which are able to cross connect with each other”²⁹.

The Development of the Internet.

The development of the Internet has involved scores of people over several decades. During the course of its history, success was never guaranteed. Even in 1991, legislation trying to prevent the commercial use of the Internet was being considered. It was only when Hewlett Packard started using it commercially for its many customers in academia that it was approved. Thus it was that the door to commercialisation of the Internet was thrown wide open.³⁰

²⁸ <http://www.netcraft.com>

²⁹ Gregory Gromov, <http://www.netvalley.com/intvalconc1/.html>

³⁰ James Gillies, How the Web was Born, p.265

In 1989, while working with CERN, Tim Berners-Lee sent in a memo to Mike Sendall with the title “Information Management: A Proposal“. On the cover was a bewildering array of bubbles with arrows pointing between them. Inside was the first draft of Tim’s blueprint for the Worldwide Web³¹. On seeing this, Mike Sendall wrote on top of the page the words ‘vague but exciting’!

In 1990, Tim Berners-Lee was then developing a working prototype browser and server on a NEXT computer. . At this stage, all there was initially was a single web site on Tim Berners-Lee’s NEXT computer. His idea was there would be many people with their own websites for personal use or community use among colleagues working on the same project, and webs for global use as in news organisations³²

Now almost 10 percent of the world’s population is connected to the internet. NUA Internet services have statistics for the growth of the Internet³³. For example:

Figure 6 - Internet Growth

	Number	% Population
December 1995	16 m	.39
August 2001	513.41m	8.46

³¹ James Gillies, How the Web was Born, p.180

³² James Gillies, How the Web was Born, p.195

³³ <http://www.netvalley.com/intvalstat.html>

Chapter 4 – Analogue and Digital Music

Since the 1990's, music has become an ever more digital medium. Indeed most forms of commercial media are now digital – replacing analogue formats. A convergence of music and digital technology started to occur.

Recording

“During the 1920's, when broadcasting was in its infancy, electrical recording became more widely used, based on the principles of electromagnetic transduction. Microphones could be positioned and connected to a complimentary transducer which drove the stylus to cut the disc”³⁴.

Later developments resulted in magnetic recording:

“A sound recording is made onto magnetic tape by drawing the tape past a recording head at constant speed”³⁵.

Sound Signals are recorded as a magnet pattern along the length of the tape. Les Paul with his wife Mary pioneered the use of multitrack recording, in 1967 the Beatles recorded “Sgt. Pepper” on a Studer 4 track and in 1978, the Police recorded “Outlandos d'Amour” on a 16 track at Surrey Sound Studios. U2 recorded “All that you Can't Leave Behind” on a Pro Tools Digidesign system at Hanover Quay, Dublin. Digital recording systems are now standard in professional and home studios. Music can be recorded, edited, mixed, mastered and saved with digital technology.

³⁴ Francis Rumsey & Tim McCormick, Sound and Recording, p.37

³⁵ Richard Brice, Music Engineering, p.211

The manufacture and distribution of earlier formats as sound recordings gave rise to vinyl records and analogue cassettes. The compact cassette was invented in 1963. It was originally intended as a convenient format suitable for office dictation³⁶. Early in the 20th century these were distributed to the commercial market place in various forms, 78”, 33 1/3, 7”, and 12”.

Music Copyright and Earlier Formats.

The laws of each particular country applied to the area of distribution of the music product. For example, the U.S. Copyright Act 1909 stated that “federal copyright was generally secured by the act of publication with notice of copyright”. A © symbol was a notice of copyright together with the name of the creator and the date. Notice also that publication was necessary. The 1976 U.S. Copyright Act defines publication, as follows:

“Publication” is the distribution of copies or phonorecords of a work to the public by sale or other transfer of ownership, or by rental, lease or lending³⁷.

In Ireland, the Copyright Act 2000 states that publication:

*(a) means the issue of copies to the public, and
(b) includes making it available to the public by means of an electronic retrieval system.³⁸*

³⁶ Francis Rumsey, Sound and Recording, p.160

³⁷ <http://www.copyright.gov>

³⁸ Copyright Act 2000

However since 1978, in the United States publication is not necessary to obtain a federal copyright and, in Ireland, publication is also not required for copyright. Publication is required if the composer wishes to join a performance organisation such as IMRO in Ireland or PRS in the United Kingdom.

Bootlegs or Piracy of Early Formats

The term “bootleg” refers to an illegally made and sold copy of music from an unauthorised source. Since the master tapes were of the highest quality and kept under lock and key at the record companies, any duplication was inferior due to the signal-to-noise ratio. Very few people had their own vinyl manufacturing plant so piracy of copyright was usually from foreign countries.

Sales of blank cassettes were a different matter. Tape to tape duplication machines were available to the public so, although the quality was not as good as the original, the copying was substantial. The RIAA estimates that over one billion dollars’ worth of illegally copied recordings are distributed annually to domestic and overseas markets³⁹.

In Ireland, the record labels even took out a marketing campaign which warned the public - “Home taping is Killing Music”, complete with a logo; ☠ Also copyright infringement was widespread and using composers’ songs without permission still occurred.

³⁹ Diane Rapaport, *How to Make your own Recording*, p.171

“Since there are a limited number of musical notes, copyright law treats single notes like ideas and does not protect them”⁴⁰

Borrowing one note from a song will usually be a “fair use” of the copyright in the song and, as such, not an actionable infringement.

“Lawsuits though have resulted from copying as few as four notes from “I Love New York” and three words from “I Got Rhythm”⁴¹

“Fair Use” is the privilege that others, other than the copyright owner, have to use copyrighted material in a reasonable manner without the owners consent.

Digital Recording Formats, Duplication and Storage

The Compact Disc and the minidisk and DATs all replaced the analogue recordings⁴². The hard disk is a storage medium for files of all types. In essence, the hard disk stores the “master” audio file and is a stamper for all copies that can be made. The software allows copies to be made of any file on the hard disk and it is these file type copies that have the music business in disarray. These formats have to be technically accessible over the Internet.

Figure 7 - Digital Audio File Types⁴³

<i>Uncompressed</i>	<i>Compressed</i>
.raw	.mp3
.aif	.mp2
.wav	.wma
.sd2	

⁴⁰ Diane Rapaport, How to Make your own Recording , p.174

⁴¹ Diane Rapaport, How to Make your own Recording , p.174

⁴² Francis Rumsey, Sound and Recording , p.176

⁴³ <http://www.optophonic.com/mustech>

Linear Uncompressed Stereo Files

16 Bit files are big and require 10 MG per minute of 16-bit stereo samples with a sampling rate of 44.1 kHz.⁴⁴ WAV files are a version of the generic RIFF file format co-developed by Microsoft and IBM.

Compressed Audio Formats suitable for the Internet

Audio compression on the internet is used in a variety of forms and there are always new algorithms being developed . Current files in use today are:

1. Real Audio (streamed).
2. MP3 has a variable compression rate e.g., it can be 5:1 or 50:1. It maintains reasonable fidelity, hence its popularity.
3. Microsoft (streamed).

Compression, Data Rate and Transfer Speed of Audio Files

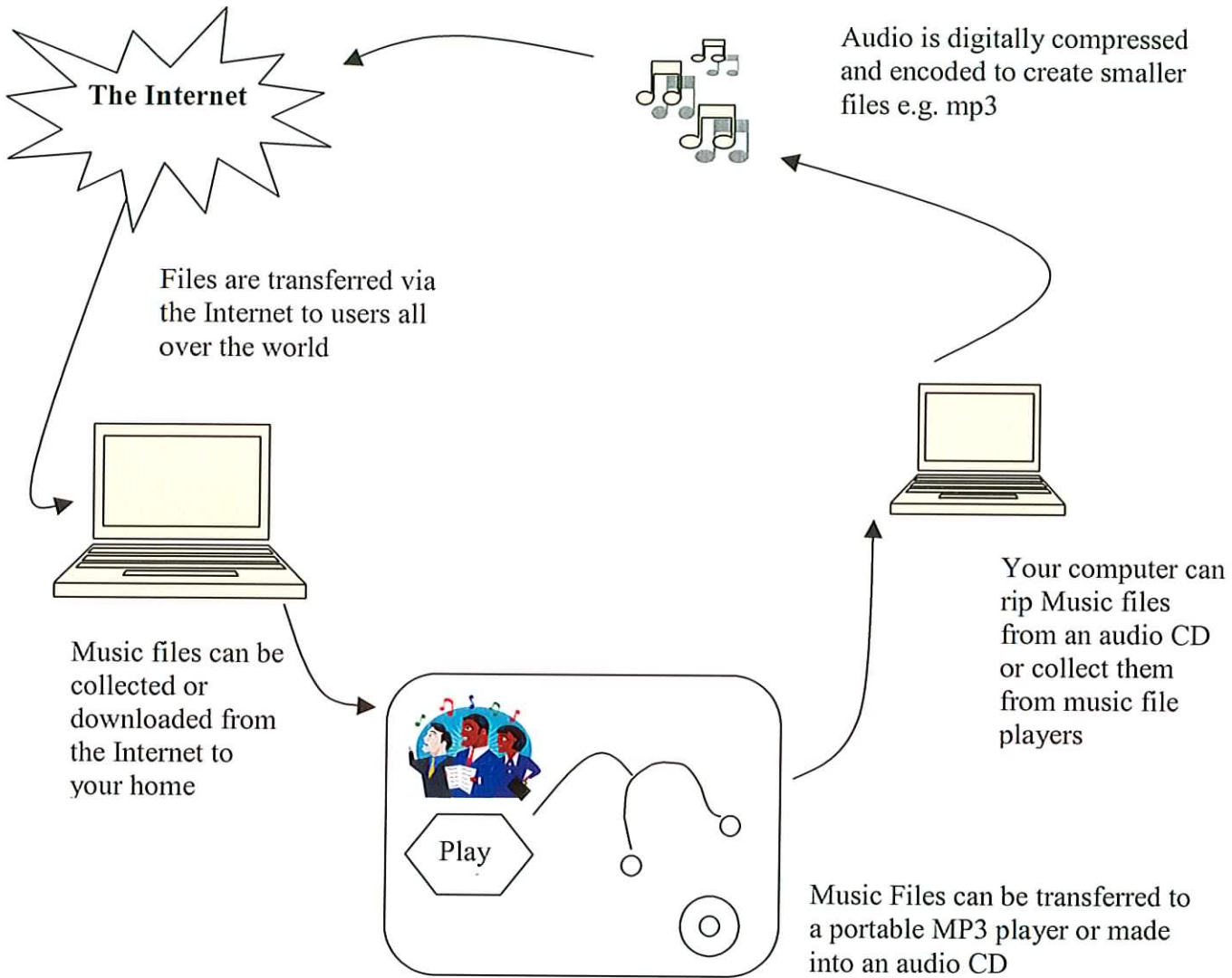
Compression of files is necessary on the Internet because of the speed at which data can be read. This is why small compressed files are used on the Internet because it has variable amounts of bandwidth and the transfer of files should occur as quickly as possible. Also home computers can only read data at a certain speed and compressed files allow for faster transfer.

⁴⁴ Richard Brice, Music Engineering , p.288

Chapter 5 - Music, the Internet and Copyright

Distribution of Digital music files on the Internet

Figure 8 - How the Digital Music Distribution Cycle Works



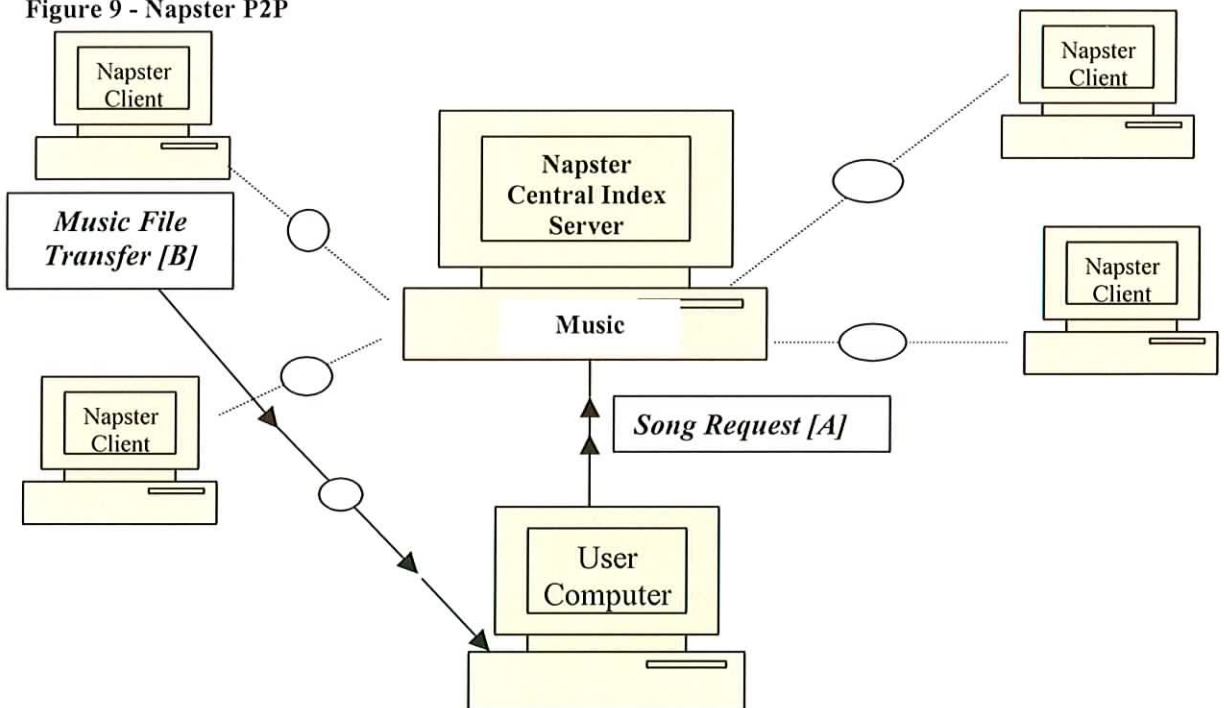
The Internet, the functionality of the desktop computer and compressed audio file formats, have opened up a global music jukebox. The distribution is instantaneous and at practically no cost, it's reliable and delivery is certifiable. Average speeds on the

internet are increasing rapidly. Finally audio files have the big advantage of being ‘streamable’ so that not all the file has to be downloaded before one starts listening to it.

Peer to peer networking- Napster

Napster, developed by Shawn Fanning, worked in a different way. The MP3 songs were not stored on a central computer but on the users’ machines. This is an example of **peer-to-peer sharing**. Songs in MP3 format are downloaded from another person’s machine from anywhere in the world. The legacy of Napster and the Internet was the incubation of Peer-to-Peer (P2P) sharing which has become a major obstacle to the control of copyright⁴⁵.

Figure 9 - Napster P2P



⁴⁵ Irish Times, 6/6/03, “Instead of trying to shut down a website, the popularity of P2P sites means that the majors are now faced with the daunting and near impossible task of prosecuting millions of consumers for illegally obtaining, storing and sharing their music catalogue”.

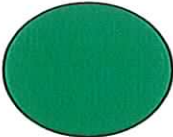
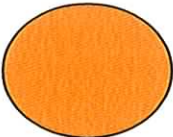
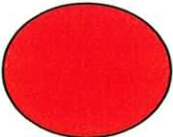
Copyright Security in the Digital Age

The digital age brings many economic opportunities to music copyright holders. There are many legitimate E-commerce business's that respect copyright laws. Conversely the P2P file sharing and the ease of duplication of digital music files are a weakness to copyright security. Figure 14 below illustrates the three levels of copyright security in the digital age. However many independent musicians feel that P2P music file sharing is of benefit to the marketing of their music, and their main concern is not of file sharing, but the idea that anybody could claim the authorship of a song that they had written.

Colour Code

- Green:** Represents the areas where copyright in the digital age is secure
Amber: Represents the areas where copyright is between secure and not secure
Red: Represents the area where copyright is being infringed and broken

Figure 10 - Copyright Security in the Digital Age

	Webcasters (Licensed) E-commerce sites (Licensed) Artist Web Sites (Artist owns copyright) Music Sites (various – Artist or Record Company permission) Legal Music Download sites
	Webcasters 'Promotional' websites P2P Home Copying Delivery devices e.g. MP3 players
	P2P E commerce (unlicensed) Website downloads (unlicensed) Webcasters (unlicensed) CD manufacturing, "bootlegging" (unlicensed)

Secure Copyright on The Internet .

E commerce

There is a legitimate e commerce angle to music on the internet. These are many legal pay-to-play downloading services, such as:

Figure 11 - Pay to Play

Apple.com (iTunes)	Mp3.co.uk
Listen.com	Hmv.co.uk
Musicnet.com	Ministryofsound.com
Pressplay.com	Music.lycos.com/rhapsody
Ecast.com	Classical.com
Buy.com	

Artist Websites

There are legitimate artist sites offering secured copyright music:

Janislan.com
Davidbowie.com
Thecrayonz.com
Jimcamacho.com

“Apples’ iTunes music store is a success story and has won rave reviews for ease of use both in burning CDs and transferring songs to Apples’ iPod (MP3) players”⁴⁶

⁴⁶ www.usatoday.com/tech/news/2003-07-28

Their song base is currently 200,000 songs (Computer Active No. 143). Apple has sold 6.5m songs in the first four months of operation. It has a licensing agreement with the copyright holders of the music. Pressplay is a subscription service where users pay a monthly fee.

Webcasts

In addition to the foregoing, webcasters are now legally obliged to pay royalties on the playlist they use. The Small Webcaster Settlement Act 2002 in the U.S. sets out the rates, terms and conditions for commercial and small webcasters⁴⁷.

Publishing

The Book Publishing Business online has released eBooks. Stephen King's e-novella "Riding the Bullet" had 500,000 downloads for a 66 page story he released especially for the Internet⁴⁸.

Many of these new legal music sites endorse a "Digital Rights Management" (DRM). The goal of DRM is for a media company to have absolute control over who can listen to what, when they can listen to it and how the music is accessed.

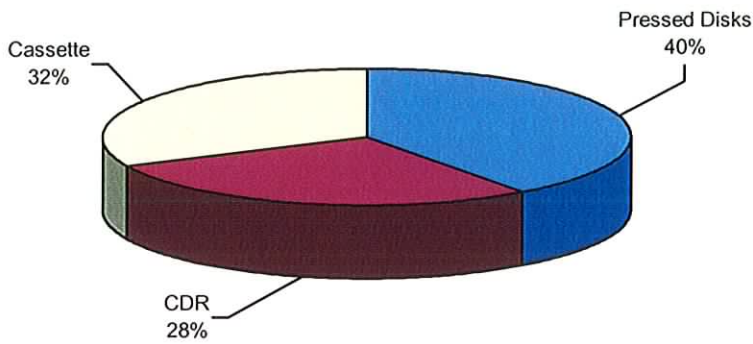
⁴⁷ www.copyright.gov/carp/webcasting_rates.html

⁴⁸ Time Magazine, 27 March 2000

Pirated Product

The following pie chart explains the breakdown of how music is recorded on the bootleg market:

Figure 12 - Bootleg Pie



This explains to a certain extent why above 1.7 billion **blank** CDs were sold in 2002 in America alone.

Music downloading is also causing a reduction in sales.

Global CD sales 2001 2.37 billion
Global CD sales 2002 2.25 billion⁴⁹

Meanwhile MP3 player sales were up 56% over 2001⁵⁰

⁴⁹ Time Magazine, May 19, 2003

⁵⁰ Time Magazine, May 19, 2003

Copyright Disputes

Infringement of copyright is a matter of grave concern for any legitimate music composer. The dispute between Brian Wilson and Michael Love of the Beach Boys is a case in point. Michael Love was forced to take Brian Wilson to court in order to get his name as co-composer on 39 of the Beach Boys' songs, thus gaining copyright recognition and entitlement to royalties. A court settlement of \$3m was also awarded to Love to compensate for back royalties.

Another dispute that caused widespread interest was that of Led Zeppelin who found themselves at the sharp end of a significant royalty payment in 1987, when a claim by Bluesman, Willie Dixon, for compensation for the band's use of his song, 'You Need Love' as the basis for 'Whole Lotta Love', was settled out of court.

Nearer to home, U2 were forced to take out an injunction against a band called Negative Land, who were infringing their copyrights by substituting different words to U2's lyrics.

In all disputes regarding copyright, the onus of proof is necessary if the claimant is to have a chance of a successful outcome.

Chapter 6 –Research Interview Results

Research was conducted by emailed questionnaires, telephone and personal interviews, the results of which are quoted verbatim. The purpose of the interviews was to explore the feasibility and validity of Music Copyright via the Internet. Interviewees constituted of people with a mix of musical, legal, and technical backgrounds, which, it was hoped, would bring balance to the overall conclusions.

Figure 13 – Table of Research Interviewees

Name	Occupation	Speciality	Mode of Interview
John Rutledge	Copyright Division, Department of Enterprise, Trade and Employment	Co-author of Copyright Act of Ireland 2000	Personal
Colm Kelly	Solicitor	Landwell Law Firm	Personal
Jason Schultz	Solicitor with Electronic Frontier Foundation.	www.eff.org	Email
George Ziemann	Musician/songwriter.	Azoz.com owner	Email
Gerard Handrick	Musician/Songwriter	Guitarist with Dublin based The Crayonz	Telephone
Eamon Shakleton	Director of Services IMRO	Irish Music Rights Organisation (with 3600 members)	Telephone
Al Cowan	Musician/songwriter and Owner of Sonic Studios	Drummer with the Irish group Caliban	Personal
Sean O Carroll	IT Raidio na Gaeltachta		Personal
Dennis Kenny	Website Developer		Email
Declan Kilroy David Halpin	Musicians/Songwriters	Band Members of The Rise	Personal
Michael Seibert	Musician/Composer/	Producer with RTE	Telephone
Jonathan Grimes	Information Manager	The Contemporary Music Centre, Dublin	Personal

Interview Findings –Advantages of an Internet Music Copyright

System

- (1) The people and business organisations involved in the process of music composition are all aware that security in music copyright is necessary if the work is to be published and made commercially available to the public. In Ireland, as a member of the Berne convention, there is no need or obligation to register musical works. Colm Kelly, solicitor with Landwell in Dublin and author of a book about the Copyright Act 2000, stated the legal facts:

“If you have created the song, whether you record it on disc or MP3 or any format, immediately it is your copyright without you having to do anything further”⁵¹.

John Rutledge, of the Department Of Trade and Commerce and who co-authored The Copyright Act 2000, in a personal interview had this to say:

“However the current standard, which is effectively increasingly the world wide standard, is the one set by the Berne Convention of the Protection of Literary and Artistic Works Paris Act that basically says that as far as primary copyrights are concerned, which would include copyrighting musical works and compositions, such rights have to be employed without formality so you can’t enforce registration. The way it works here is when the work basically comes into existence and is fixed, it benefits from protection and the same is true of sound recordings. With the sound recording it is just a question of being fixed”⁵².

Eamon Shakleton, Director of Services of IMRO, via a phone interview said the following:

“There is no registration necessary under Common Law, none whatsoever, when you create a copyright piece, it is copyrighted immediately”⁵³..

⁵¹ Colm Kelly, Solicitor

⁵² John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

⁵³ Eamon Shakleton, IMRO

- (2) Musicians and composers still feel the need to register their work in some form that may include sending the music in a registered envelope to the author or a solicitor and keeping and storing that unopened envelope should a dispute arise.

Singer and songwriter Gerard Handrick, of The Crayonz, in a personal interview, mentioned how he makes sure to secure the copyright of those songs:

“I copyright the songs, I get the lyrics , chords and music, everything on the CD and post it by registered mail to yourself”⁵⁴.

Studio owner and composer, Al Cowan remarked in an interview at his studio:

“One means of copyrighting something is to put it onto a CD or tape and post it to your solicitor, now if there is ever contention over who wrote that, your solicitor can turn up in court and say, ‘On such a day, such a year, I had this song in my possession’, so if the opposite party can’t prove they had the song before that date, it’s obvious the court is going to rule in favour of the person who can prove they’ve had this song the longest”⁵⁵.

Solicitor Colm Kelly gave the legal view:

“It is a method of having some type of legal guarantee and you can always deposit your work with a solicitor who will give you an affidavit to state that they have received the work on a particular date”⁵⁶.

- (3) There is certainly a real interest in strengthening copyright in some form by composers. In conversation with the Director of Services of IMRO, Eamon Shakleton, he said:

“People are always asking me “Well, how can I copyright my work?” and really what they’re asking is “How can I prevent other people saying it’s their work?” and then you have the cliché, if you’re in the music business at all, “Well, you should write it out in notation, or tape it and post it to yourself by registered mail, then keep it sealed

⁵⁴ Gerard Handrick, Songwriter, The Crayonz

⁵⁵ Al Cowan, Musician and owner of Sonic Studios

⁵⁶ Colm Kelly, Solicitor

and in the event of a dispute arising you can produce that as evidence”⁵⁷.

- (4) There also a sense of dissatisfaction with this actual process of sending songs via mail: Gerard Handick followed up by saying:

“I am not satisfied with sending songs in the mail as a way of copyrighting songs”⁵⁸.

- (5) Sean O Carroll, IT technician with Raidio na Gaeltachta, thought that Music Copyright via The Internet is a great way to copyright songs:

“Absolutely, I think it is a better way than sending by post. People now are recording on hard drives , editing, chopping stuff up, encoding to Mp3, I think it is easier”⁵⁹.

- (6) In my research, the musicians interviewed feel that Music Copyright via the Internet would be of interest to them. Al Cowan of Sonic Studios and composer with Dublin group Caliban, had a definite point of view in this subject:

“Via the Internet, that could be done. If you had a central archive where people could e-mail their songs off in MP3 form, and maybe also a Word document containing the lyrics and details of who wrote it, who played on it, whatever, that could be archived in much the same way a solicitor would take the tape or CD and hold it in his office. A note is made of what date that song arrived in the archive, it’s logged and you have an independent party who can vouch for the date that song was registered with that website or with that company or whatever and it is instantaneous. You know you send it off by email, it arrived a minute later or two minutes later and there can be no argument over the date it arrived, provided the people who are holding that archive are reputable and beyond reproach”⁶⁰.

⁵⁷ Eamon Shakleton, IMRO

⁵⁸ Gerard Handrick, Songwriter, The Crayonz

⁵⁹ Sean O Carroll, IT, Raidio na Gaeltachta

⁶⁰ Al Cowan, Musician and Owner of Sonic Studios

And later in the interview, he went further:

“It sounds like a great idea. I think that is a great idea, basically there would be a lot less copyright infringement because a lot of people do write songs and they don’t bother registering them and they’re performing them live and somebody hears a little melody and they go off and write something based on that melody and if it gets into court, it’s amazing the number of times people have had no comeback when they have been ripped off. The easier it is made for people to register their copyrighted material, the more inclined they’ll be to do it and I think again the Internet has great potential for that, for if it is as easy as sitting at home and sending an email with your song contained in it, people are more inclined to do that than the process of finding a solicitor. A lot of people don’t have a solicitor you know and it’s put on the long finger, whereas if you can sit down and do it in 30 seconds, people are going to do that.”⁶¹.

Band members of Dublin based The Rise gave their views at their rehearsal studio in Mount Merrion. Bassist Declan Kilroy said:

“I think it would have a big advantage because a lot of recording these days is done on computers anyway, through Cubase for example, and if you could download it in audio compressed form, then it would be very easy just to get on a web site and then you could copyright it, easier than sending off a demo to some company or whatever way it is now”⁶².

Guitarist David Halpin agreed with the bassist and expressed an interest in using such an online copyright system:

“I imagine so, because when songs are first being recorded, if we come up with a song tonight, we might record it on to minidisc, and you can put this straight onto my computer so it would probably be the easiest way of doing it, just put it straight on the Internet.”⁶³.

David Halpin also mentioned another benefit an online music copyright system might have :

“If you had a web site where you could upload your tunes for the purpose of copyrighting but once they were copyrighted up, there was also a facility for people, maybe people from record companies, just to

⁶¹ Al Cowan, Musician and Owner of Sonic Studios

⁶² Declan Kilroy, Bassist with The Rise.

⁶³ David Halpin, Guitarist with The Rise

*go onto the web site and listen to all these songs and hear new music, then the web site would serve two purposes.*⁶⁴

Michael Seibert of RTE, mentioned his view on the ease of using such a system:

*“I think it does have an advantage, just the ease of it. I have a friend in Nashville who writes music as well, and he has set up a library to sell his own music. So for him to download an MP3 song, I think would be brilliant, instead of him having to burn a disc and post it”*⁶⁵.

Colm Kelly, solicitor with Landwell, gave his opinion at his office in Dublin in August, mentioning that the primary purpose of Music Copyright via the Internet would be one of creating evidence to reveal the true copyright owner:

*“Any of these registration systems, they really are going towards a matter of evidence rather than the substance of copyright and subsistence of copyright per se. So really it is creating a secure evidentiary system”*⁶⁶.

- (7) The speed of registration and the statement of copyright would be instantaneous. Also, the new system would be up to date using current technologies that are widely used in other activities, for example, E-commerce, databases, data transmission, file transfer protocol etc. The data on the website would be meta tagged in order that search engines such as Google or Yahoo could locate song copyright information quickly and efficiently. Many legitimate music users have no online method of finding out the music’s true copyright holders. Composer George Ziemann, in the United States, gave me his view in an email interview with regard to the speed of registrations with the Library of Congress:

*“All registrations are still processed manually, with a lag time of approximately 6-8 months, as no useful computer system is in place”*⁶⁷.

⁶⁴ David Halpin, Composer with The Rise

⁶⁵ Michael Seibert, Composer and RTE Producer

⁶⁶ Colm Kelly, Solicitor

⁶⁷ George Ziemann, Musician and Music Website Owner (azoz.com)

Mr Ziemann further wrote:

“For those who wish to register their music, having the ability to do so electronically would appear to be an advantage just for purposes of expediency in other countries”⁶⁸.

- (8) Also the use of such a copyright system would help musicians keep control of their music copyrights while searching for new economic markets on the Internet on an independent, rather than an international corporate level. Dennis Kenny, a website developer, gave his view in an email interview on the importance of such a system to the individual musician:

“I think that control of music will return to the hands of people making music; currently the industry is dominated by companies who control distribution and have large budgets for promotion. However distribution will soon be irrelevant and profits will fall to a stage where it will not be economic to promote music with expensive video promos or poster campaigns. Making music will still be profitable, but will only make sense for small labels or individuals. In my opinion, the cottage industry approach will benefit everybody”⁶⁹.

- (9) Music Copyright via the Internet would help in the following scenario. Eamon Shakleton mentioned during the phone interview that when a dispute arises and none of the parties involved have some form of proof, a copyright stalemate occurs:

“In IMRO, we work on the basis of the title of the song and the declaration you give. All societies have that. In the event of some dispute, we don't pay any money until you sort it out between yourselves in court. We only administer the copyright, we don't get involved in a jural authority with somebody else and unfortunately that is not a satisfactory way, but that is the way any society like IMRO operates”⁷⁰.

⁶⁸ George Ziemann, Musician and Music Website Owner (azoz.com)

⁶⁹ Dennis Kenny, Web Site developer

⁷⁰ Eamon Shakleton, IMRO

- (10) The only real way to resolve a copyright dispute is proof of evidence of who wrote the song and evidence of the date when it was written. Music Copyright via the Internet could help in this matter by establishing the correct date of the fixation of sound. Eamon Shakleton of IMRO told me how the current method operates:

“Tape it and post it to yourself by registered mail, then keep it sealed and in the event of a dispute arising you can produce that as evidence”⁷¹..

Composer Al Cowan knows what the Courts look for in copyright disputes:

“It’s obvious the court is going to rule in favour of the person who can prove they’ve had this song the longest”⁷².

In discussion with Colm Kelly (solicitor with Landwells, Dublin) he outlined the advantage of this process in a nutshell:

“All of these things, the whole core of these things is proof of the time of creation because with any type of infringement, if you can prove that you created yours before the other person, then you have a massive chunk of proof in your case”⁷³.

- (11) The importance of copyright in Ireland was generally understood and well thought of. The interview with composer Al Cowan confirmed this:

“The music copyright laws - I’m depending on them for my income to some extent because any material that I write with my ban; I mean if we don’t have music copyright there is no official organisation to collect royalties for our play, for broadcasting in the workplace, for broadcasting in night clubs and there are several official bodies in place in Ireland to cater for the collection of that money which in turn is distributed to artists like myself”⁷⁴.

⁷¹Eamon Shakleton, IMRO

⁷² Al Cowan, Musician and Owner of Sonic Studios

⁷³ Colm Kelly, Solicitor

⁷⁴ Al Cowan, Musician and Studio Owner

Eamon Shakleton told how crucial copyright is to the Music Collection Agency, IMRO:

“Well, without it, IMRO would not exist. IMRO was involved in the January 2000 revisions of the Copyright Law”⁷⁵.

Jonathan Grimes, Information Manager of The Contemporary Music Centre in Dublin, which is Ireland's national archive and resource centre for new music, supporting the work of composers throughout the Republic and Northern Ireland, revealed the relevancy of copyright :

“Of course, we have to be aware of copyright and how it effects our work, particularly in relation to the whole question of ownership of music, all the scores that people have and all the work of composers whom we represent”⁷⁶.

Later in the interview, Jonathan Grimes also mentioned that copyright was slow to react to changing technologies :

“With emerging technologies, and the internet as a way of disseminating music, it seems that copyright needs to catch up in terms of different mediums, primarily internet and digital”⁷⁷.

John Rutledge, co-author of the Copyright Act 2000, stated his view on the benefits of copyright:

“The advantages clearly that are always argued are ones of providing a strong incentive for creation and indeed, also in the case of sound recordings, for investment in the production of sound recordings and the distribution of music by those means”⁷⁸.

(12) However one vital issue was pointed out in the interview with John Rutledge, and this was that any Music Copyright via the Internet would have to be a voluntary

⁷⁵ Eamon Shakleton, IMRO

⁷⁶ Jonathan Grimes, Information Manager, Contemporary Music Centre, Dublin

⁷⁷ Jonathan Grimes, Information Manager, Contemporary Music Centre, Dublin

⁷⁸ John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

based system. and he also added that the idea of a registration system, voluntary in nature, was of benefit to composers:

“However, I understand the TRIPPS agreement, the agreement on trade related aspects of intellectual property rights which was annexed to the worldwide GATT agreement, basically says that all the mandatory elements of the Berne convention have to be observed if you are to be TRIPPS compliant. Lack of compulsory formalities is becoming, or has become, the worldwide binding standard which is not to say that quite a few countries still don’t have voluntary registers. There is a question that people prefer not to ask which is, well, if you have a voluntary register what is the advantage? The obvious advantage is that it provides evidence of authorship, a claim of authorship, if it ever goes to court”⁷⁹.

(13) Music Copyright via the Internet would satisfy composers’ concerns if a solicitor was involved in the company for the purpose giving any statement of copyright some legal standing. In this respect, composer Al Cowan gave his ideas:

“Maybe the person would have to swear on affidavit, as part of the registration of that company, or perhaps a solicitor would have to be involved, a copy that has arrived that week or that month is registered with his office, so that the whole system is beyond reproach”⁸⁰.

Solicitor Colm Kelly also mentioned the legal concern that the security aspect of such a database would be of prime importance to the success of the idea:

“Certainly a reputable company with proper security systems in place which is using that in a bona fide manner, certainly a court would have to treat any type of evidence of that nature seriously. A solicitor is an officer of the court and a solicitor’s statement, his affidavit – the court would treat his statement the same”⁸¹.

The interview with John Rutledge of the Department of Trade and Commerce and co-author of The Copyright Act 2000 revealed a of a positive view of Music Copyright Via the Internet:

⁷⁹ John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

⁸⁰ Al Cowan, Musician and Studio Owner

⁸¹ Colm Kelly, Solicitor

“Provided the security aspect can be dealt with, I can’t see why the whole thing can’t be done at least as an option. I wouldn’t necessarily make it compulsory as an online process”.

Mr. Rutledge mentioned also:

“And registration as long as it is voluntary is certainly not a dead thing. There are some countries that are actually considering introducing it rather than doing away with it. I don’t see why it can’t be done as an online process. I would suggest that for the time being, it would have to be an option rather than compulsory”⁸².

- (14) The idea behind copyright is still firm despite the infringements that have escalated in recent years. Al Cowan, at his studio in Merion Square, stated the following:

“The amount of downloading that people do, it still hasn’t put a major dent in music sales but if they’re was no copyright to go hand in hand with that, I think it would be a lot worse, because you’d see copyright infringement, not just on the Net but you’d see it creeping into the retail sector as well and then it would be a free for all”⁸³.

- (15) The consensus was that E-commerce is a viable solution for music sales, downloads and music subscriptions and could be applied to Music Copyright via the Internet. Despite the worldwide infringement of copyright both on and off the Internet, there is a new expansion in the use of music in E-commerce and this is the “green light” scenario as outlined in Figure 20, for the companies involved are legitimate commercial entities and will respect copyright laws.

The advent of Apples’s iTunes, Pressplay and Peter Gabriel’s OD2, for example, has shown that new business models are being developed to replace the old models. Copyright will therefore still be valid and necessary for these new E-

⁸² John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

⁸³ Al Cowan, Musician and Studio Owner

commerce markets such as the use and transmission of music by Nokia. Their latest “Nokia Music Phone” (Nokia 3300) is advertised as:

“Mobile music player for MP3 and AAC files, music files as ringing tones, stereo FM Radio, digital recorder, multi media messaging and Java games”⁸⁴.

Likewise AOL Broadband are offering exclusive interviews and recordings with their online show, “Sessions”. Subscribers with broadband or high speed connections can watch entire concerts by Bjork or The Rise before they air on TV.

The use of music has new modes of transmission such as the use of music in ring-tones. An article in The Daily Mail noted:

“Sales of mobile phone ring tones could soon outstrip demand for CD singles”⁸⁵.

The Times in London had this to say on the changing economic uses of music:

“The irony is that kids will pay up to £2 to download 30 seconds of a song (for a ring-tone) but wont buy the CD single which costs more or less the same Ring-tones began as a promotional gimmick but today around 500,000 songs are available for downloading on the internet.”⁸⁶.

Music distribution over the internet is the new business model for the music industry and E-commerce is a viable solution for music sales and downloads. Solicitor Colm Kelly affirmed his beliefs about the new music markets during the course of a personal interview:

“Yes. I think it’s going to be the norm for the next five to ten years. I think even simple sites, such as CD Wow, which is a popular site for purchasing music, CDs, DVDs, are cutting away at traditional High Street stores. You certainly don’t see High St. music stores expanding”⁸⁷.

⁸⁴ www.nokia.ie

⁸⁵ Daily Mail, August 13, 2003

⁸⁶ Adam Smith, Media Reporter, The Times

⁸⁷ Colm Kelly, Solicitor

John Rutledge felt that E-commerce could be applied Music Copyright via the Internet:

“In principle there’s no reason why not. I think the problem here is arriving at a business model that actually manages to collect money”⁸⁸.

Dennis Kenny said he felt copyright holders will benefit from using the Internet:

“Other than a small minority of collectors, I think the public will source all their music from the Internet. This is already starting to happen in the US and is unlikely to be obstructed here. Obviously the rewards would be huge where music copyright holders able to collect per use payments”⁸⁹.

US digital music provider Rhapsody are now providing an internet subscription service. A monthly fee of \$6.20 will enable users to record onto a CD. EMI are releasing the digital rights to this service and 150,000 tracks are to be made available online.

Many of the research respondents felt that E-commerce could be applied to Music Copyright via the Internet. George Ziemann gave his opinion with regard to the Government being involved in running such a system:

“In a technologically competent government , yes”⁹⁰.

Colm Kelly of Landwells had this to say:

“Well , E-commerce is applied all the time to music copyright, the apple iTunes website is an example of that”⁹¹.

Sean O Carroll of Raidio na Gaeltachta, gave his verdict on E-commerce being applied to this copyright system:

“I think that is a good idea, you would have to pay for it, for the administration I suppose. I am surprised there isn’t a system like that already”⁹².

⁸⁸ John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

⁸⁹ Dennis Kenny, Website Developer

⁹⁰ George Ziemann, Musician and Music Website Owner (azoz.com)

⁹¹ Colm Kelly, Solicitor

⁹² Sean O Carroll, IT Technician, Raidio Na Gaeltachta

Further Research of Advantages

Internet connectivity using Ireland as an example.

Over the past four years the proportion of Irish adults using the Internet has grown from 15% to 40% which adds up to about 1.15m people. According to research carried out by Amarach Consulting, usage is closely linked to age with about 60% of 15- to 24-year olds online. One in 10 have an ISDN line⁹³. All the composers consulted during the course of the research have an Internet connection.

Statistical Analysis of Irish Bands on line

Likewise many other Irish artists have websites. In the Hot Press yearbook 2003, a comprehensive listing of bands in Ireland is given from which the following statistics were drawn:

Total No. of Bands:	530
Total No. of Bands with Websites:	230 ⁹⁴

That is a percentage of about 43.3%. These bands are all a market for Music Copyright Via the Internet if they wish to sell and promote their music. The majority of these bands are independent musicians and are not signed to major labels.

Copyright Ownership and Transferral.

Copyright ownership is transferable, yet composers often lose their claim when signing with record companies. Copyright laws do not offer much protection against legal

⁹³ Olive Keogh, The Sunday Times, August 24 . 2003

⁹⁴ Hot Press Yearbook, 2003

contracts that do not favour the composer. Book publishing contracts are more equitable to the writer but music recording contracts generally require the relinquishing of music copyright.

Courtney Love is suing Universal Records because of these copyright contracts and she wrote this on her web site:

“When you look at the legal line on a CD, it says copyright 1976 Atlantic Records or copyright 1996 RCA Records. When you look at a book, though, it'll say something like copyright 1999 Susan Faludi, or David Foster Wallace. Authors own their books and license them to publishers. When the contract runs out, writers get their books back. But record companies own our copyrights forever”⁹⁵.

George Ziemann, composer and music website owner, stated in the email interview that the composer gets a bad deal whenever music copyright contracts are signed:

“The copyright laws that have been so corrupted in the United States as a result of the DMCA (Digital Millennium Copyright Act) and the RIAA (Recording Industry Association of America) that valid reasons for registering copyrights no longer exist and they provide no real protection for the author against contractual abuses of the publishers . Even though the copyright laws were originally written using English common law as a framework, and were designed to protect the authors, the system has been severely corrupted to protect only the publishers, who are allowed to wrest ownership of copyrights as a term of recording contracts . Copyright law is being misused, misrepresented and distorted to promote the greed of the global music cartel”⁹⁶.

But even so Music Copyright via the Internet would prove crucial in proving that the seller of a copyright was in fact the true owner of the work and this gives the right to sell or license the work. The ownership records would have to be accessible for any copyright search enquiries.

⁹⁵ Courtney Love Manifesto

⁹⁶George Ziemann, Musician and Music Website Owner (azoz.com)

Copyright Complexities

As the legal complexities regarding copyright continue to grow, then there is all the more reason to promote a system of Music Copyright via the Internet in order to assign, not only copyright, but the correct proportional representation of authorship. As an example of such difficulties, compare the segmental nature of the division of copyright royalties of the Beatles LP “Sgt Pepper” in 1967 with a CD released by the Beatles called “Anthology” in 2000 (as described on a Beatles web site):

“If you plonked down \$5 for the LP "Sgt. Pepper" in 1967, pieces would go to (a) EMI (as record presser & distributor), (b) the Beatles (as artists), and (c) Northern Songs (as publisher).

Today it's far more complex. Although I don't know the specifics, never having read the contracts, my guess would be that when you buy "Anthology 1" on CD it goes: (a) the lion's share to EMI/Apple as owners of the recordings; (b) a portion to song publishers MacLen and/or Northern Songs -- this segment to be divided (again, by specific contract) between the publishers and the songwriters; (c) a portion to "The Beatles" as Apple recording artists -- but only because they have a deal with Apple/EMI (Pete Best, et al, don't get a dime since they have no contract); (d) a portion to Paul, George and Ringo as individual artists contributing to the project (unless this was waived); (e) a portion to Yoko as John's heir and controller of his interests (and tapes); (f) a portion to any other song publisher whose numbers are included (i.e. Lenono, original owner of "FAAB"; and the publishers of "That'll Be The Day" -- which song is, in fact, owned by Paul McCartney!); and lastly (g) a portion to any third parties who happen to own material included in "Anthology 1" (i.e., whoever owns the Morecambe & Wise stuff). No wonder they pay lawyers to follow all this!!!”⁹⁷.

Music creation

Thus the role of new technology in music is of paramount importance. As pointed out, technology is used in creation, storage, duplication, replication and distribution –

⁹⁷ <http://www.ptrob.com/Music/Beatles/RMB>

everywhere, in fact, except in the area of registration. This thesis proposes that music copyright could be effected professionally and securely by the development of a website connected to the world via the Internet

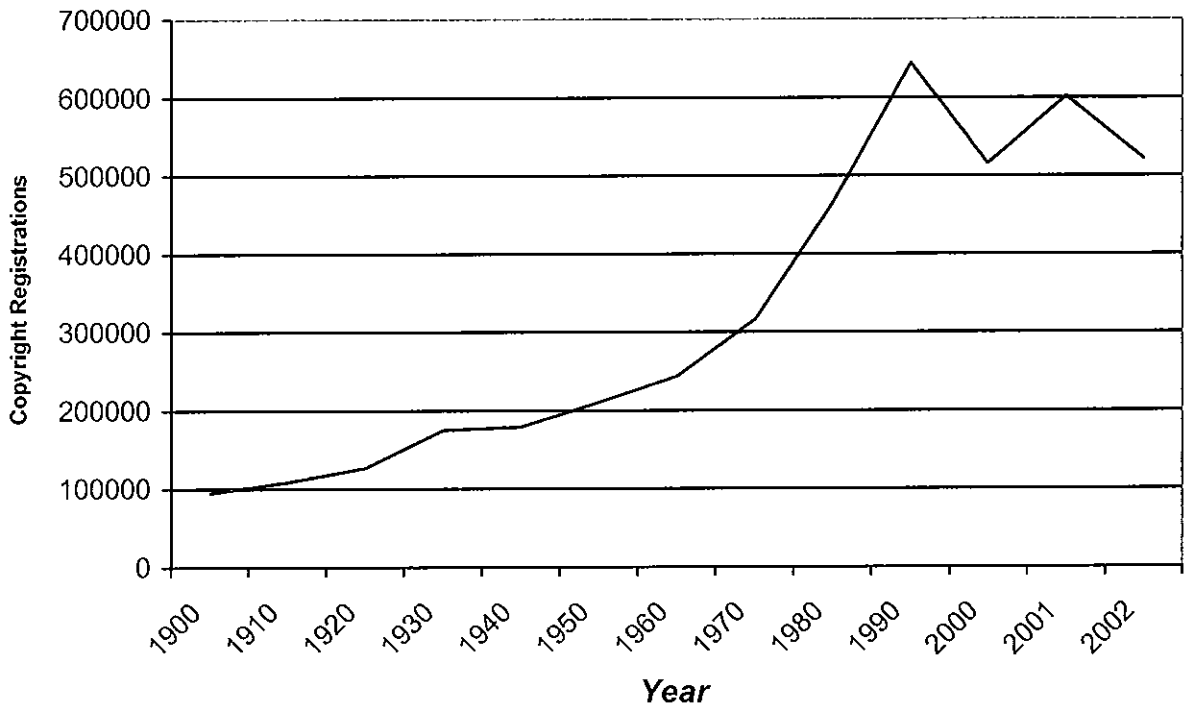
Music is changing, its compositional methods are changing and it has a developing art form with the new music technologies that are being created. There is a need for Music Copyright to cover these new developments as its existing systems are becoming more ineffective in this respect.

“ The U.S. copyright office does not provide a means of copyrighting sound apart from music. There are artists today who are also “sound publishers” and this cannot be notated for copyright application sounds ”⁹⁸.

Charles Cullen of the Dublin Institute of Technology is doing research entitled “The Sonification of Mathematical Data”. After much work and research, it will be necessary to copyright any music created by the mathematical data discovered in the calculations. Traditional registrations do not cover this kind of music creation since it only recognises either the fixation of sound or musical score.

Music is often a digital medium and it is this digital format that can facilitate the process of Music Copyright via the Internet.

⁹⁸ Simon Firth, Music and Copyright , p.73

*Demand for Copyright*Figure 14 - Copyright Registrations by Year⁹⁹

The demand for copyright is substantial. The total number of copyright registrations in 2002 in the library of Congress was 521,041. Of this number, there is the following breakdown:

⁹⁹ Ari Friedman, www.fairforshare.com/ari/

Figure 15 - Copyright Registrations Breakdown ¹⁰⁰

	Published	Unpublished	Total
Literary Works	207,291	52,776	260,067
Works of the Performing Arts, including musical works	46,444	77,649	124,093
Works of Visual Arts	51,003	28,988	79,991
Sound Recording	14,053	23,126	37,179
Total Basic Registrations	318,791	182,539	501,330
Renewals		19,169	
Mask Work Registrations		508	
Vessel Hull Design Registrations		34	
Grand Total – All Registrations			521,041

Thus, the two numbers that would be relevant to music copyright via the Internet are:

- Works of The Performing Arts including musical works **124,093**
- Sound Recordings **37,179**

There is then, despite the United States membership of Berne, a desire to register works in order to strengthen the copyright and this demand is present in Ireland as noted in my research interviews.

¹⁰⁰ U.S. Library of Congress, Annual Report 2002

Published and Unpublished Works

Published work is that work that is commercially available to the public. The numerical breakdown of the published and unpublished works for sound recordings registered is:

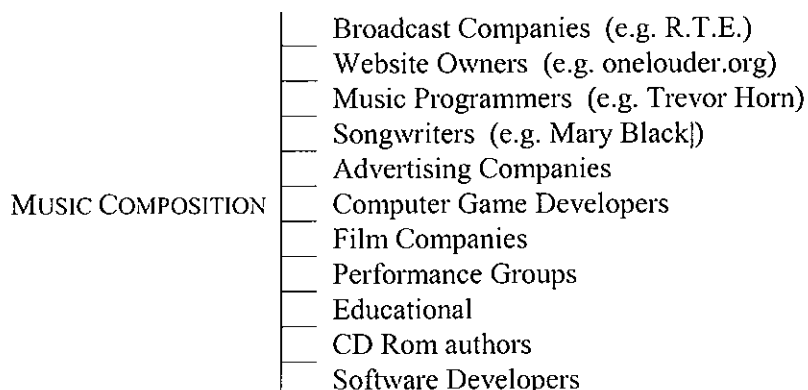
<i>Published</i>	14,053
<i>Unpublished</i>	23,126
<i>Total -</i>	37,179 (see Figure 15)

In Ireland, the organisation responsible for the collection of performance royalties is IMRO. At IMRO lists of writers and songs are kept for broadcast royalty reasons and not for copyright. To even join IMRO as a member, there are three criteria¹⁰¹:

- a) One of the writer's works has been commercially recorded
- b) One of the writer's works has been broadcast in the last two years
- c) At least one of the works has been performed live in public

The above three criteria are a priori that the author or publisher owns the music copyright. Thus the author of unpublished works in Ireland needs copyright protection while they are in the process of marketing their work.

Figure 16 - Music Compositional Profile



¹⁰¹ IMRO Membership Booklet

Other Advantages of Music Copyright via the Internet

- When musicians send registered mail to themselves, the tapes or CD's are stored at a residential address and this method of storage is prone to misplacement or damage, whereas an online system would act like a "soundbank" and songs would be stored on the database which would be more secure due to back up data records. The event of a monetary transaction to pay for this service by the user would act as a security buffer to registrant claims, e.g. bank transaction records would reflect the actuality of a transaction having occurred between a user and the website company.
- The system would be responsive to new music programs, specifically those file formats that result in the fixation of music in order to copyright compositions, for example, Reason files.
- The system would be accessible to composers from anywhere in the world with computer and modem connections.
- Present on the system would be a researchable database using multiple keyword searches for confirmation of copyright to establish the true ownership.
- This online system would work in conjunction with the existing copyright system. There are many new interesting musical activities in need of copyright that are not covered under the existing system and the developing market for innovative sounds using digital synthesizers and samplers ("sound publishers") is in need copyright protection.
- The global access of such an online copyright system means that any Irish Citizen anywhere in world could register their music. This would benefit Irish composers who are touring abroad and wish to instantly copyright their music.

Interview Findings – Disadvantages of an Internet Music Copyright System

- (1) Musicians generally thought it was a good idea, yet such music organisations as IMRO or MCPS which represent these musicians, do not have any agenda for the implementation of an online registration system. Eamon Shakleton of IMRO, during interview said this:

“I don’t think it is an issue in this country”¹⁰².

- (2) The most important thing to note is that under Ireland’s Copyright Act 2000 the created work is immediately assigned to the author and there is no legal requirement to register the work unlike patents or trademarks, which do need to be registered. Eamon Shakleton further elaborated:

“There is no registration necessary under Common Law, none whatsoever, when you create a copyright piece, it is copyrighted immediately”¹⁰³.

At the Intellectual Property Division of the Department of Trade and Commerce, Earlsfort Terrace, John Rutledge said:

“Not in Ireland or in the U.K. or as far as I know in any E.U. country is there a registration requirement, there’s no register, we do obviously suggest that people who create works that are going to qualify for copyright by reference to Irish law, create some evidence that they are the authors, but there is no registration requirement”¹⁰⁴.

Solicitor Colm Kelly also confirmed this:

“If you have created the song, whether you record it on disc or MP3 or any format, immediately it is your copyright without you having to do anything further. So in the sense of the actual subsistence of copyright, the internet or digital technology hasn’t changed that”¹⁰⁵.

¹⁰²Eamon Shakleton, IMRO

¹⁰³ Eamon Shakleton, IMRO

¹⁰⁴John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

¹⁰⁵ Colm Kelly, Solicitor

- (3) Legal research interviewee Colm Kelly, solicitor and co-author of a book explaining the Copyright Act 2000, queried the necessity for an online music copyright system:

“I don’t feel that there is any need for a registration system for copyright at all”¹⁰⁶.

Colm Kelly’s knowledge of The Copyright Act 2000 provided this information which again makes the point that legally there is no mention of any registration system in the Act:

“There’s nothing mentioned in the Copyright Act about voluntary systems or registrations. There is compulsory registration of collection societies. That’s a slightly different issue”¹⁰⁷.

Furthermore, Colm feels that the very nature of copyright, its fluidity in creativity, does not lend itself to a registration system, and says:

“Copyright is certainly more difficult to enforce because of the lack of the registration system, but then the nature of copyright is such that its creation is more fluid than, say, even potentially, design or in the patent area. Therefore hampering copyright with a registration system for its protection would certainly lead to too much of a formalistic control over copyright which may hamper artistic creation for the purposes of a copyright system”¹⁰⁸.

- (4) A similar reply was voiced by Jason Schultz in regard to the United States. Mr. Schultz is a lawyer with the Electronic Frontier Foundation (EFF is a non-profit group of people lawyers, volunteers, and visionaries working to protect digital rights). He replied to the interview by email:

“For instance, there are already copyright registration systems in place that are fairly easy to use to register music. Why would we need one for the Internet specifically? The bigger problem is finding copyright holders, not getting them to register their copyrights”¹⁰⁹.

¹⁰⁶Colm Kelly, Solicitor

¹⁰⁷ Colm Kelly, Solicitor

¹⁰⁸ Colm Kelly, Solicitor

¹⁰⁹ Jason Schultz <http://www.eff.org> - their logo states “Defending Freedom in The Digital World”

- (5) John Rutledge stated that if an online copyright system were created, the Copyright Act would require that registration be voluntary. Such a copyright system, if implemented, would need to be voluntary to comply with Ireland's membership of the Berne convention

"That's not an issue that anyone has investigated with any great rigour, all I can say is when you register it is likely to be voluntary though there may be advantages both formal and informal in registering"¹¹⁰.

- (6) For real recognition and effectiveness, some sort of Government approval and legislation would be necessary as at the end of the day, subsistence of copyright is legal in nature. Copyright, having its origins in Common Law, still requires the legal profession to regulate it. This is how John Rutledge sees it:

"It doesn't have any official recognition even though it may have evidentiary value, if it were to have more weight than that, if it were to be explicitly recognised that would require government action. Nothing to stop people from setting up something privately which may be useful in creating evidence but in terms of it having some sort of binding effect or having specific juridical advantages, that would need legislation I think"¹¹¹.

- (7) Government recognition any statement of copyright issued via the Internet would be necessary for the validity of such a web document, according to Mr. Rutledge:

"Because copyrights are enforced through civil and criminal actions in the courts, it would be necessary for, in our case Parliament, to take some action to give recognition to any system of registration if it were to have that significance"¹¹².

However, Colm Kelly disagrees. The actual logistics and economic cost of such a music copyright system would not merit Government intervention, according to

¹¹⁰ John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

¹¹¹ John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

¹¹² John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

him. He suggests that an Internet-based music copyright system would have to come from private enterprise:

“But I don’t think it should be government backed because of a resource issue. There are a few systems in Ireland of Government guaranteeing of ownership. One is the Land Registry system, that we have, where the government certifies ownership of land and properties. The other is the Trademark and Patent system and to set up these systems is a huge cost, an expense from a government point of view and I don’t think it would be to the government’s advantage as a policy to have a government backed copyright system”¹¹³.

- (8) Jonathan Grimes of the Contemporary Music Centre felt that not all composers would be keen to use an on-line registration system :

“There is that thing about a system that is virtual and online. For something that is as real and important to them as copyright, one would need to do a lot of persuading.”¹¹⁴

- (9) This access to the Irish site would propose problems if international applicants applying for copyright as they would not qualify for copyright protection under Irish law. John Rutledge pointed out that copyright law is territorial and each country has different copyright laws.

Colm Kelly talked about this subject:

“I can see a lot of difficulties with your system. A registration system on the Internet is available world wide so if you had to run it, you would have to run it for Ireland, that only Irish people had access to that, because the actual criteria for qualifying for copyright in Ireland is that you’re an Irish citizen or an Irish company or you’re a citizen of a member state of the Berne Convention – they are qualifying criteria. If you are trying to do a registration system over the Net, that is one of the hurdles you would have to overcome”¹¹⁵.

¹¹³ Colm Kelly, Solicitor

¹¹⁴ Jonathan Grimes, Contemporary Music Centre

¹¹⁵ Colm Kelly, Solicitor

- (10) Both John Rutledge and Colm Kelly felt that security issues are a major concern. Encryption procedures, the authenticity of the data base, the vulnerability of such a system to manipulation and the necessity to attain some kind of legality for a statement of copyright were matters that needed to be addressed and resolved.

John Rutledge underlined these difficulties, as follows:

“The only disadvantage I can see is the security question, that transmitting things down wires or otherwise there’s obviously a question, if a dispute subsequently arose, was what was transmitted actually the same entity, which might be easier to raise than if the medium was supplied in some form of hard copy, like a disc”¹¹⁶.

Colm Kelly elaborated further:

“I think you would have to make sure there is a proper encryption system for the music going over the Net. To be able to stand up in court and say this is the music of this individual, you would have to have some kind of certification PKI encryption system certifying those actual individuals themselves with the certification are associated with the music, and that music then was successfully transferred over your network without any corruption nor any interference, you would have to make sure that you had placed sufficient security systems in your own server where you held the digital music to satisfy a court that there was no actual tampering with the digital music, either something goes on the name and the date just to secure the integrity of it in some way. If I send you an MP3 how do you know when did I write it, how do you know I didn’t rip it from someone else’s CD, so how do you guarantee all these procedures?”¹¹⁷.

Michael Seibert of RTE also touched on this subject :

“I suppose the disadvantage is of the technology failing, you know the server failing, and every song that was ever submitted is gone”¹¹⁸.

- (11) Ireland is not considering any form of copyright registration as it is a member of Berne, so any E –commerce business set up to run Music Copyright via the

¹¹⁶ John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

¹¹⁷ Colm Kelly, Solicitor

¹¹⁸ Michael Seibert, RTE Producer

Internet would have to come from the private sector. This would make the business subject to market forces. It would be vulnerable in that it would incur all the risks associated with the sustainability of an E-commerce operation in a free marketplace.

Dennis Kenny detailed this opinion in his email:

“Any organization that takes control of the collection, dissemination and maintenance of the copyright information is likely to come from the private sector and will focus on making money for itself and protecting the interests of its financial backers (likely to be Irish branches of multinational music companies)”¹¹⁹.

John Rutledge - on E-commerce:

“I think the problem here is arriving at a business model that actually manages to collect money”¹²⁰.

Al Cowan ,taking a break from recording, said that any company developing music technology would still need to refer to legal advice. His opinion is:

“I think a private enterprise is good as long as it is affiliated to law in as much as somebody setting this up would need to get some legal advice on it so that it would stand up in court”¹²¹.

- (12) One of the interesting findings that resulted from the research was the way in which the development in digital technology is damaging the cause of copyright. The worldwide use of peer-to-peer networks such as Kazaa are undermining copyright, as downloading songs , duplication of songs and transmission via the web are all within the range of anyone with a computer and Internet connection. Composer Al Cowan, the drummer with Caliban, mentioned this during the interview:

“It’s in its infancy really, the internet is wide open to copyright abuse. That’s the downside of it, especially with broadband, with high speed

¹¹⁹ Dennis Kenny, Website Developer

¹²⁰John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

¹²¹ Al Cowan, Musician and Studio Owner

internet connections, people can download albums in a matter of minutes. So it is affecting record sales, but it is mainly affecting the bigger companies, the bigger record companies, the bigger recording artists”¹²².

John Rutledge had this view:

“It is going to be hard to stop the peer-to-peer business at a very low level, perhaps impossible to stop at an organised level. At a Napster-like level, you can slap injunctions on people, but two more pop up in their place”¹²³.

Colm Kelly gave an good overview of this development:

“What digital technology has done is that it has made it possible; and it has been a problem since the early 90’s, to create exact reproductions of music because the whole point about digital music is that it is not an analogue recordin. Its actual conversion into bits of that music which facilitates the exact reproduction without the loss or deterioration of quality, which is the fundamental problem facing the music industry, the digitisation of music coupled with the ease of distribution for the internet, these two factors have led to a crumbling of the traditional structures of the music industry per se”¹²⁴.

Other Disadvantages.

- There is no mention in Irish law of legal recommendations for the strengthening copyright and, as such, each copyright dispute would still be done on a case by case basis. For example, sending a registered letter to the music author is not referred to in Irish Copyright law.
- Server logs can still be manipulated.
- The very nature of computers is that sometimes a crash occurs and data is lost in transmission.
- Computer viruses are continually evolving and can cause data corruption and shut down servers.
- Recent legislation in the U.S. and Europe like the Digital Millennium Act foretell excessive legal intervention in the transmission of music files. Such legislation could well end and the use of compressed audio files on the World Wide Web.

¹²² Al Cowan, Musician and owner of Sonic Studios

¹²³ John Rutledge, Copyright Division, Department of Enterprise, Trade and Employment

¹²⁴ Colm Kelly, Solicitor

Summary of Interview Research

The majority of composers interviewed were very interested in such a system of copyright mainly because of the ease and speed of a transaction of this nature via the Internet. They were not wholly satisfied that the current system fully meets their needs should legal disputes arise at a later date, due to the lack of adequate evidentiary proof.

The legal interviewees were concerned with legal and security issues more than anything else. However, it is felt that their reservations could be addressed and overcome by the implementation of an efficient and secure music copyright system.

The I.T. interviewees were of the opinion that technically everything is in place for such a system to exist.

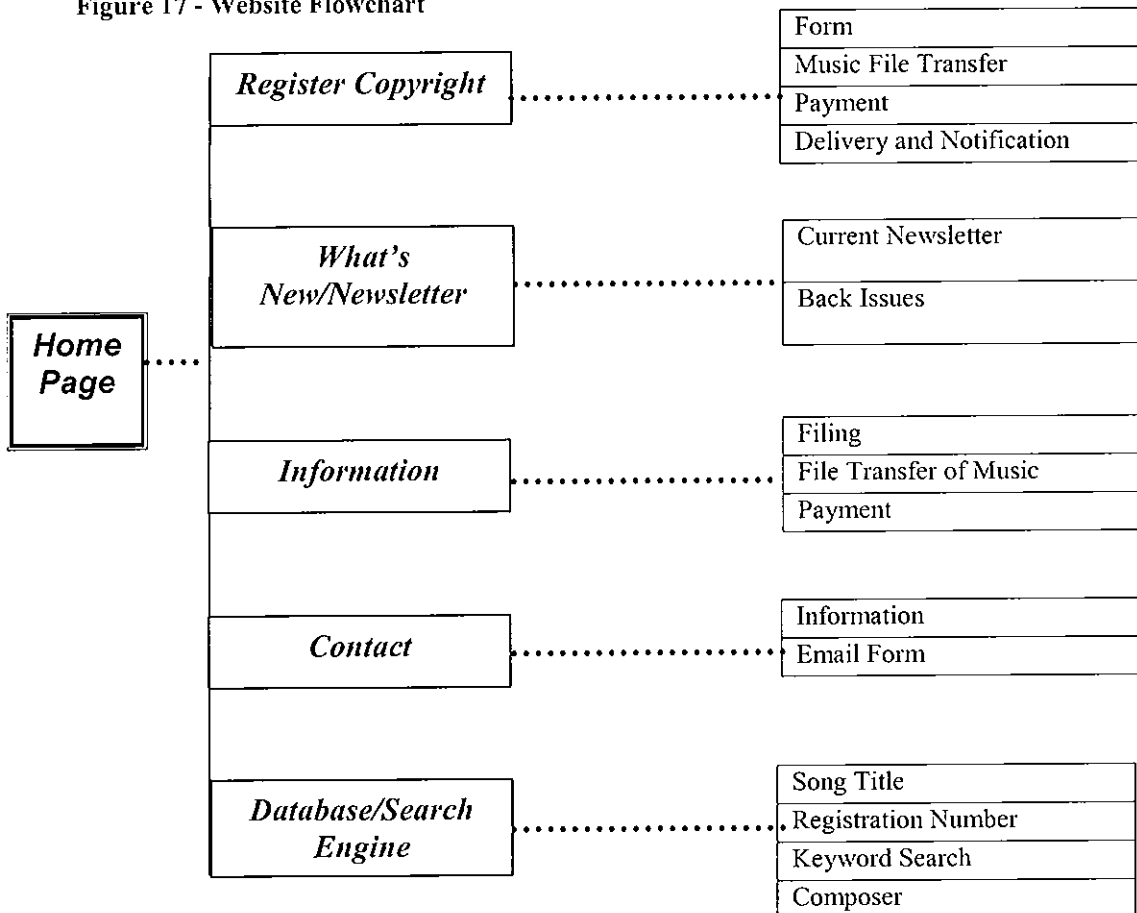
Thus, in the next chapter, the blueprint of a Music Copyright Website for composers to use will be developed.

Chapter 7 - The Website

Description

As part of this thesis, a feasibility study was undertaken to develop the outline of a web site for Music Copyright via the Internet.

Figure 17 - Website Flowchart



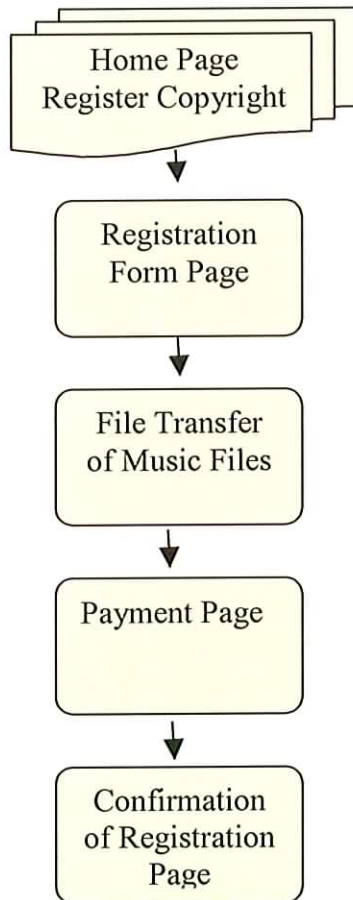
Methodology:

A defining feature of the world wide web is the Uniform Resource Locator (URL) that constitutes its address format. Therefore, a domain name would need to be registered.

This can be done on line using such sites as register.com, easyspace.co.uk or cloch.ie. Following this, a website would have to be developed, the design being similar to the flow chart in Fig. 21. The Home Page is the introductory page and is the only page that will appear when the web site is accessed. From here, users can navigate and register their music on line.

Demonstration of Online Music Copyright via The Internet.

Figure 18 - Nuts and Bolts



Once on the Home Page, the user would press a menu bar button to select “Copyright Registration”. On the next page is a sample form for use in the online copyright process.

Figure 19 - Sample Online Registration Form

Submit Form

Sample Form
For a Work of the Performing Arts
Republic of Ireland Copyright

Back to
Home Page

TITLE OF THIS WORK:

PREVIOUS OR ALTERNATIVE TITLES:

FILE FORMAT OF COMPOSITION:

.MP3 <input type="checkbox"/>	.wav <input type="checkbox"/>	.aif <input type="checkbox"/>	.wma <input type="checkbox"/>
.SD2 <input type="checkbox"/>	.raw <input type="checkbox"/>	.mpeg <input type="checkbox"/>	.jpg <input type="checkbox"/>
Scorch <input type="checkbox"/>	Sibelius <input type="checkbox"/>	Midi <input type="checkbox"/>	Finale <input type="checkbox"/>

NAME OF AUTHOR

DATE OF BIRTH:

Year Born:

Author's Nationality or Domicile:

Was this contribution to the work a "work made for hire"?

Citizen of:

Yes

Domiciled in:

No

NATURE OF AUTHORSHIP: Briefly describe nature of material created by this author in which copyright is claimed

YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED

This information must be given in all cases

.....Year

DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK:

This information to be given only if published

Day.....Month.....Year

Nation:

COPYRIGHT CLAIMANT(S). Name and Address and email .

CERTIFICATION* I hereby certify that I am :
(check only one)Author Ownership of Exclusive rights Other Copyright Claimant Authorised Agent of *Registration Number:**Effective Date of Registration: (dd/mm/yyyy)*

Top of Form

The Scenario

Imagine the scenario, a film composer is composing in a scoring program and the moment it is completed, he or she can have it copyrighted. This is a definite advantage in terms of both the speed of submission of the music and rapidity of a confirmation of copyright over present day methods of copyright.

Form Page

The Form Page is the area where the user enters all the relevant data including copyright claimant name, song title, writers, creation and publication dates, derivative work and certification. See Figure 19 - Sample Online Registration Form

Music Transfer Page

The next stage would be the actual transferring of the music files from the user's home computer to the website.

Payment Page

Following this, the user accesses the payment area where a fee is charged for the services provided. This would require a secure credit card transaction facility. Secure payment transactions over the WWW are an E-commerce reality. For example, the success of Ryanair owes much to an online booking and payment process embodied in

their website. The current cost of buying an envelope and sending the song as a CD via registered post is €4.50¹²⁵, so the charge would not need to be much more than that.

Confirmation Page

Confirmation is the final stage where a transaction receipt number or code is issued representing a statement of copyright and the music placed on the copyright database.

Technical Issues

All the information on a website is stored on a server - an Internet Service Provider. Every technical detail required for music copyright via the Internet is already in place. Servers can store huge amounts of data e.g. CMC.ie¹²⁶ has thousands of songs stored on its database. The security and backup issues are currently in use with online banking and can be utilised for secure copyright transactions. The Irish government is now using the internet for filing tax returns, such is the development in Internet security systems¹²⁷. Firewall technology would have to be used to protect the copyright information.

Music File Formats Suitable Copyright On-line

Acceptable file formats for the transfer and registration of music files online would be any that result in the 'fixation of sound' and represent the fixation of the idea. The

¹²⁵ An Post, September 10 2003

¹²⁶ Contemporary Music Centre, Dublin - A non-profit library and archive containing the only major specialist collection of manuscript and recorded music by contemporary Irish composers

¹²⁷ <http://www.ros.ie> - ROS.IE is the Irish Revenue's interactive internet facility providing business customers with a quick secure and cost effective method to conduct their business electronically with Revenue

selection of the file format of the songs uploaded would have to include any music file that has a good compression algorithm and, since copyright concerns the fixation of sound, file formats such as Scorch, Sibelius, Midi, Finale would be appropriate. A JPG or scan of a music score would also be acceptable, since they are simply new ways of reproducing an original document, which describes the music and lyrics. According to Jonathan Grimes of the Contemporary Music Centre in Dublin, many of the composers that CMC represents fixate their compositions in score form. Also musical programs such as Cubase or Reason have particular file formats which would also be represented on the music file format submission page.

In addition, this E-commerce business would need a solicitor working full time to advise the company on the legal ramifications of the process being used to copyright the music, for it is crucial the system would show the date of copyright and be able to prove it in a court of law. The fact that a payment is made would reflect a financial record of copyright.

Further Support

For music copyright via the Internet to work, the package would also need to include:

- a) Supporting integration with databases and store the information locally after upload.
- b) Information about actual copyrighted music
- c) Supply a digital watermark (essentially a digital fingerprint that embeds information about the music within the actual audio signal)
- d) Supply some form of encryption that limits access to that file on a permission only basis, thus preventing illegal copying

Conclusion

Music Today

In the 1940's, Pierre Schaeffer required the full use of the R.T.F. studios in Paris in order to create his "Musique Concrète". Today, Mr. Schaeffer could achieve all this and more with a PC and a soundcard.

"Eimert at the RTF studios in Cologne uses Pitch Timbre and tone mixing and tape manipulation combined with vocal editing in his work"¹²⁸.

Music had changed along with the studio until...

"Musique Concrète and electronic music has now merged into what we refer to as The Studio"¹²⁹.

The internet allows the mass distribution of media within a rapid communication network. The traditional definition of copyright is struggling to keep up with advances in media technology and distribution. New music requires a suitable and easy way to copyright. The assignment of a musical work or performance, once fixated in form, can be accredited to the correct author in a easy and verifiable way by Music Copyright via the Internet.

¹²⁸ David Erest, Evolution of Electronic Music

¹²⁹ Elliot Schwartz, Electronic Music

Music Copyright via the Internet Conclusions

Composers Point of View

There is an active need for some form of music copyright protection according to the composers interviewed in my research. The use of the Internet to achieve this goal has struck a chord with the composers interviewed. The Copyright Act 2000 offers great protection in principle but in reality it does not cover the outstanding matter that, should copyright infringement occur, some form of evidence is required. In this respect, Music Copyright via the Internet would help to meet composers concerns. Writers feel the need that their contribution to a song's creation be acknowledged in some way. Even royalty free music that is sold, such as the music at chrisworthproductions.com, still needs to be copyrighted in some form so nobody else can make false claims of ownership of it. The faster the speed of registration, the quicker the music is protected and Music Copyright via the Internet can achieve this goal.

Technical

The combination of home computers, the Internet and the WWW, makes for a digital toolbox for musicians to play, transmit, duplicate and store music. The Internet was conceived to search and transfer knowledge via a networking system. The technical conclusion is that Music Copyright via the Internet can avail of all these facets and such a system can be implemented with today's existing technology.

Legal

The Copyright Act 2000 protects the composer's music once it is "fixated in form" However musicians feel that some form of extra copyright and acknowledgement of song creation is necessary. The legal conclusion is that Music Copyright via the Internet is possible on condition that the statement of copyright issued by the Website is verifiable and recognised by the courts, as proof of evidence as to whom and on what date the song is registered.

Relevancy

Neuros have introduced an MP3 Digital audio computer which has numerous applications, including encoding FM Radio transmissions into an audio compressed format.¹³⁰

"You can also record from the Neuros FM Radio directly into MP3 format with a double click of the orange HiSi button"¹³¹.

"The very fact that information is digital means that no corner of the technology industry is safe against illegal copying. It enables songs , films, games and just about any computer program you care to mention to be copied."¹³².

Copyright infringement on the web, the use of peer-to-peer networks and music websites will continue to grow as music is considered a form of free content. Sony Music, Phillips and other multi-nationals continue to sell blank CDs, blank DVDs, digital recorders with download capabilities, all of which contributes to corporate cultivation of

¹³⁰ www.neurosaudio.com

¹³¹ www.neurosaudio.com

¹³² Eddie Lennon, Irish Independent, Aug 2003

piracy. All the more reason then, for composers to have a verifiable statement of copyright of their work if they are to try to protect their rights. The potential of a record of copyright to solve copyright disputes is beyond doubt and this is why composers feel that any system of copyright that is easy and immediate is of interest to them. Music Copyright via the Internet combines the need to copyright with the technology that they are already using on a day-to-day basis.

Music is being dispersed around the globe more widely, almost free of charge (apart from the cost of an Internet connection and hardware investment) and faster than ever before, and this is the prime reason for the erosion of the relevancy of copyright. However, despite this there are still legitimate business interests such as T.V. and radio companies that wish to adhere to copyright laws. Ireland is still a member of relevant international copyright treaties. Nevertheless, despite the technological dangers of unauthorised duplication and distribution which have always existed in some form or other, Music Copyright via the Internet would continue to protect the genuine author of a song against a false claim by somebody else.

Financial

E commerce is still relatively a new business model and such an enterprise would need to be financially self sustaining. Music is an intangible asset and nobody knows its true worth, but..

“The globalization of intellectual property rights is tied up with trade policy”¹³³.

¹³³ Suzanne Scotchmer, Dept of Economics University of California

Music plays an important part in Ireland's economy, (0.5% of GDP)¹³⁴, and Irish artists constitute 26% of the domestic market value.

As long as there are economic gains associated with copyright ownership composers will be willing to pay for the provision of such services. In the U.S, to register a song with the Library of Congress costs \$35. In Ireland, the composer's method of sending the song via registered mail costs €4.50 approximately. Thus, the potential for commercial gain in a trade environment is always present. The Financial Conclusion is that the provision of Music Copyright via the Internet is a service, and that musicians would be willing to pay for it as such. This could be done in an E-commerce environment while bearing the usual risks of a private enterprise endeavour.

Security

The security of such a site would need to be highly developed with encryption and other security details meticulously planned, as the main purpose of the database of songs and compositions would be of an evidentiary nature. The very nature of computer programming means that new computer and email viruses such as the recent Sobig.F virus, whose purpose was to create a massive network of anonymous proxy servers for the purposes of spam, will be a constant threat¹³⁵. The Security Conclusion of Music Copyright via the Internet is that it is of paramount importance and success or failure depends on the quantization of the security detail both internal and external.

¹³⁴ Music Board of Ireland Report, 2003

¹³⁵ Jonathan Ungoed-Thomas, The Sunday Times, August 24 2003

Validity

Copyright will still be valid in this digital age for it is part of the law of the land reinforced by the Copyright Act of Ireland 2000. The concept of copyright as an essential part of intellectual property is still valid. Music Copyright via Internet would allow global access to such a system for Irish citizens both at home and abroad and thus the authority of Music Copyright via The Internet is certain.

Final Conclusion

The overall conclusion of this thesis is that the Internet can be used to protect music copyright. Composers wish to copper fasten their copyrights in some form that can be used in evidence. Music composers could use the Internet quickly and easily to secure their copyright and they desire to do this.

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