



**Digimarc Testimony for Orphan Works
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Executive Summary

In 2005, the U.S. Copyright Office embarked on a study of the issues raised by “orphan works” – copyrighted works whose owners may be impossible to identify and locate. Concerns had been raised that the uncertainty surrounding ownership of such works might needlessly discourage subsequent creators and users from incorporating such works in new creative efforts, or from making such works available to the public.

Digimarc is pleased to have the opportunity to submit written testimony to the Judiciary Committee Oversight Hearing on “The Report on Orphan Works by the Copyright Office” and the role digital watermarking technology can play in providing content identification and copyright communication to address the issue of orphan works.

Balancing the needs of consumers with the rights of content owners is of paramount importance. Consumers deserve to have access to the content options available to them. Content owners and artists deserve to be recognized and compensated for their work. But the rapid proliferation of technology has made this balancing act increasingly difficult. The U.S. Supreme Court recently tackled this issue in *Metro-Goldwyn-Mayer Studios v. Grokster*, in which the court ruled that file-sharing networks (also known as peer-to-peer or P2P networks) can be held liable when their users illegally exchange copyrighted material.

In its ruling, the Court identified digital watermarking as a technology that can be used by rights holders and file-sharing networks to communicate copyrights and deter piracy and illegal use of copyrighted entertainment content.

Digital watermarking technology is currently available from many suppliers such as Digimarc, Philips Electronics, Dolby Laboratories, Thomson, Verance, Activated Content, Verimatrix, Jura, Teletrax, GCS Research, Signum Technologies, Nielsen Media Research and others.

Digital watermarking can enable content identification and copyright communication on a broad scale and can provide a range of solutions for identifying, securing, managing and tracking digital images, audio, video, and printed materials. In fact, digital watermarking technology has already been adopted by many photographers, movie studios, record labels, television broadcasters, and corporate enterprises as a way to identify, protect and manage the rights to their content while still offering their consumers the convenience and portability they have become accustomed to.

Digital watermarks can identify copyrighted content and associated rights, during and after distribution, to determine copyright ownership enable rights management policy while enabling innovative new content distribution and usage models. Digital watermarks are broadly deployed with billions of watermarked objects and hundreds of millions of watermark detectors in the market, supporting various applications.

We believe that policy makers can facilitate the adoption of technologies such as digital watermarking to enable content owners and users to improve their level of collaboration to help address the challenge of orphan works. In particular, we urge the Committee to consider:

1. Amending Chapter 5 of the Copyright Act , expressly authorizing courts to consider whether a copied digital work included a publicly-readable digital watermark -- by which the copyright owner could have been identified and contacted -- in determining whether infringement of the work was “willful;”
2. If provisions akin to those proposed by the Glushko/Samuelson Copyright Clearance Initiative are adopted, then listing a search for a publicly-readable digital watermark - by which the copyright owner could have been identified and contacted -- as one of the factors appropriate for consideration in determining whether a user’s inquiry was a “reasonable efforts search;” and
3. Recommending that the Copyright Office host a web page with information about digital watermark reader software that can be freely downloaded by the public, to check audio, video and image content for watermarked data by which the copyright owner of such content may be identified and contacted.

Problem

Today, a large number of “orphan works” – presumably copyrighted works whose owners cannot be identified or located – exists. Typically, such works are excerpts or newly digitized versions of books, movies, photos, and music whose ownership information has been stripped away or lost during distribution, re-formatting or editing.

Unfortunately for those individuals and organizations seeking permission to use such works, much of this rich material ends up left untouched due to the fact that ownership cannot be determined.

In its study of the problem, the U.S. Copyright Office solicited responses from the public. From libraries and business to legal institutions and individuals, the problem of orphan works is clear. A few examples from the responses:

- 198 works from 397 were deemed to have unresolved copyright issues during the digitization of The Core Historical Literature of Agriculture by the A.R. Mann Library at Cornell University.
- More than 100,000 photographs made by participants on oceanographic voyages had no identifying photographer or copyright information, causing The Scripps Archives at the University of California, San Diego to only publish 4,000 of these images online.
- Countless other libraries, universities, artists, teachers and students have been unable to use works because of the inability to identify or locate copyright owners.

Solution: Identifying Copyrighted Material with Digital Watermarking

When music, movies, images, programming or books are digitized, their identity (the detailed information about the content, its copyright ownership or the purchaser’s rights) is often lost, having been reduced to ones and zeros that only computers can read. This makes the content difficult to manage, protect and track, leaving the door wide open for both casual — and malicious — digital piracy and copyright infringement.

As a result, content often circulates anonymously, without identification of the owner, or without an easy means to contact the owner/distributor to obtain rights for use.

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In its ruling, the Court identified digital watermarking as a technology that can be used by rights holders and file-sharing networks to communicate copyrights and deter piracy and illegal use of copyrighted entertainment content.

Digital watermarking is the science of hiding extra information, such as identification or control signals, in media content. For example, the digital “pixels” making up a movie or a photograph can be slightly altered in value to represent extra information, while not visibly impairing the appearance of the movie to human viewers.

The extra information represented by digital watermarks travels with the content – persisting through changes in file format, and through transformation between digital and analog form.

Digital watermarks enable copyright holders to communicate their ownership, usually with a public detector, enabling infringement detection and promoting licensing. A digital watermark embedded within a piece of content can carry a persistent copyright owner identifier that can be linked to information about the content owner and copyright information in an associated database or to appropriate usage rules and billing information. Digital watermarks are broadly deployed with billions of watermarked objects and hundreds of millions of detectors in the market, supporting various applications.

For example, photographs can be embedded with the photographer owner’s ID to determine copyright information and usage rights. The same can occur with video (e.g., TV news and commercials), DVDs, and music.

Case Study Example: Digital Images

Millions of copies of Digimarc's digital watermark reader software are currently in distribution, and thousands of creative professionals, organizations and businesses use digital watermarking to embed copyright notification information into their content, such as images. Leading image-editing applications, from companies like Adobe, Cerious Software, Corel, Jasc software include Digimarc watermarking technology as a standard feature.

These Digimarc-aware applications are capable not only of embedding digital watermarks, but also of reading and detecting digital watermarks already embedded in digital images. When an image is opened within one of these applications, the Digimarc auto-detection software quickly scans the image for the presence of a digital watermark. If a digital watermark is present, the application displays a copyright symbol © in the title bar of the image window, providing an instant, visual cue that copyright and ownership information are available by reading the Digimarc digital watermark. The passive detection and proactive notification are key features of Digimarc's copyright communication system.

The digital watermark can provide a link to a publicly-accessible database, where complete contact details for the copyright holder or image distributor are stored. This makes it easy for the viewer to license the image, license another one like it, or commission new work.

In addition to the embedder and reader plug-ins within many image editing applications, Digimarc also offers its own stand-alone reader product for detecting digital watermarks within images on your desktop or on the web. This free reader download enables users to detect digitally watermarked images directly from Internet Explorer or Windows Explorer. If a digital watermark is present, the image displays a "D" symbol in the lower right corner of the image.

By simply clicking an "Image Info" button, the user viewing an image can link directly to the publicly accessible database, to obtain complete contact details for the image owner or distributor.

Once an image contains a digital watermark, it can be searched and monitored as the image is distributed over the public Internet to determine its location and compliance with usage rights.

The Digimarc MarcSpider image tracking service scans the web and reports to image owners and distributors where their digitally watermarked images are found. This service enables photographers, web content developers, stock photography libraries, corporations and other users and creators of digital images to discover both authorized and unauthorized uses of their works migrating across the web.

The core of Digimarc MarcSpider technology is a search engine that crawls through publicly accessible areas of the Internet looking for digitally watermarked images. It scans hundreds of millions of pieces of information, locating Digimarc-

watermarked images and reporting back to their owners where and when they were found.

Through the information found in the digital watermark, anyone with a Digimarc "reader" (available in the stand-alone free software reader as well as in the plug-ins) can obtain complete contact details about an image's creator and/or its distributor, making it simple to license the image, license another one like it, or commission new work.

Current digital watermarks are robust against attack. Attempts to impair a digital watermark require impairing the host content, e.g., making a movie blurry, or a song noisy. Moreover, such tampering with a copyright protection measure can trigger liability under the Digital Millennium Copyright Act.¹

In Summary: Policy Recommendations

Digital watermarks are available and widely deployed today, and can help speed and facilitate deployment of online digital content by enabling identification of copyrighted content, facilitating rights management policy, and enhancing consumer experiences.

Content owners can digitally watermark image, audio and video now for forensic tracking, copyright notification and monitoring. We believe that policy makers can facilitate the adoption of technologies that can enable content owners and users to improve their level of collaboration to help address the challenge of orphan works. In particular, we urge the Committee to consider:

1. Amending Chapter 5 of the Copyright Act , expressly authorizing courts to to consider whether a copied digital work included a publicly-readable digital watermark -- by which the copyright owner could have been identified and contacted -- in determining whether infringement of the work was "willful;"
2. If provisions akin to those proposed by the Glushko/Samuelson Copyright Clearance Initiative are adopted, then listing a search for a publicly-readable digital watermark -- by which the copyright owner could have been identified and

¹ E.g., Section 1202(b) provides "*No person shall, without the authority of the copyright owner or the law, (1) intentionally remove or alter any copyright management information, ... (3) distribute, import for distribution, or publicly perform works, copies of works, or phonorecords, knowing that copyright management information has been removed or altered...*"

contacted -- as one of the factors appropriate for consideration in determining whether a user's inquiry was a "reasonable efforts search;" and

3. Recommending that the Copyright Office host a web page with information about digital watermark reader software that can be freely downloaded by the public, to check audio, video and image content for watermarked data by which the copyright owner of such content may be identified and contacted.

In addition to addressing these ideas through direct legislation, the avenue of legislative report language could also be considered. Courts, for instance, could be invited to consider an award of enhanced damages if an infringement plaintiff proves that it marked the copied content with a digital watermark by which the copyright owner of such content could have been identified and contacted. Similarly, courts could be invited to consider a defendant's unsuccessful attempt to identify or contact a copyright owner by reference to such a digital watermark in assessing a reduced damages award. Private sector organizations, such as the various library associations, could be urged to develop best practice models leveraging advances in technology of the kind discussed above.

In conclusion, we appreciate the opportunity to share our thoughts on ways in which technology can be used to help address the growing challenge of orphan works. We stand ready to assist in whatever manner may be helpful as the Copyright Office and the Judiciary Committee address the orphan works issue.