

# Bringing Copyright into the Information Age

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Reviewing current literature about the Internet quickly reveals broad interest in copyright enforcement techniques. Given the magnitude of the economic forces involved, this interest is not surprising. It appears to be concentrated in two areas: software and music.

The emphasis on music stems in part from the existence of file exchange services primarily related to music, such as Gnutella or Kazaa. But music also serves as a prototype for other media copyright issues in that every technical and legal intellectual property protection developed for music will likely extend to other forms of artistic expression made available on the Internet.

Looking closely at recent technical work on music exchange, we see a disturbingly narrow focus: Virtually all mainstream computing professionals concentrate their efforts on enforcing current copyright principles rather than exploring ways in which technology can expand and redefine copyright. To claim that sharing songs on the Internet is piracy because it infringes on current copyright laws is, on one hand, a truism. On the other hand, however, it understates the role music exchange may have in altering the economic and business environment that has been defining and extending copyright law for the past century.



**Current copyright statutes promote an outdated, Industrial-Age approach to intellectual property.**

Given their antithetic relationship, software and music offer an informative comparison. In the case of software, a relevant percentage of computing academia and a reasonable percentage of the computing industry have led efforts to create new forms of copyright including open source, the *copyleft* contract that allows for open file sharing, and centralized communal projects like Linux. In the case of music, on the other hand, the industry seems unable to give credibility to any model other than strict corporate control of copyright.

Thus, the difference between copyright related activities for software and music is striking and analyzing it can reveal something about who we, as computing professionals, are. Before embarking on such an analysis, however, we should consider the principles of copyright.

## COPYRIGHT PRINCIPLES

In its current form, copyright results from the conjunct action of two his-

torically profound revolutionary forces: the printing press and industrialization.

## Gutenberg's legacy

The printing press consolidated the concept of the text as a closed corpus that can be changed only by the author, who is always clearly identified and takes responsibility for the contents of the text. This notion represents a change from the classic and medieval concept of a text as an open work to which the whole reader community contributes. Saint Bonaventura, the Franciscan monk and philosopher,

looked almost in scorn at those copyists who merely reproduced a text without altering it in any way. Likewise, Plato considered written language inferior to spoken language because it exposed the text to the risk of closure. Before the invention of the printing press, collectively written texts were common—from the tales of Homer to the commentaries of medieval philosophers.

Closing the text is essential for establishing the notion of ownership, whether the text's owner is the actual author or a surrogate. A closed text fosters the idea of giving credit to an author for his work and codifies operations that today we consider natural for a writer, such as the citation or quotation with attribution of a passage from another book.

The notion of closed and therefore controllable text and the reproducibility of books afforded by the press resulted at first in such governmental concern about the diffusion of seditious

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material that the immediate antecedents of modern copyright emerged: the licenses *ad imprimendum solum* granted in England by the Tudors since 1538, and the monopoly granted to the London Stationers' Company.

### **Industrialization's influence**

In an opposition that appears to have been essentially antimonopolistic and close to the interests of the emerging industrial class, when the Stationers' monopoly expired in 1694, England's House of Commons ignored renewal petitions for several years. Between 1694 and 1710, when the Statute of Anne was promulgated, copyright changed from a governmental instrument to control the diffusion of seditious material to a law regulating ownership, well suited to the needs of the upcoming industrial revolution.

Antimonopolistic concerns about copyright permeate these early laws that, judging by today's standards, granted monopoly for a short time only: 14 years in the case of early English patent law.

Concerns with monopoly, and the idea that copyright represents a somewhat necessary evil to be granted only to the extent needed to ensure society's well-being, can also be glimpsed in the wording of the US Constitution: "[Congress shall have the power] to promote the progress of science and useful arts, by securing for limited time to authors and inventors exclusive rights to their respective writings and discoveries." This passage shows that Congress's true end in framing the Constitution was to ensure that copyright protected the *progress* of science and useful arts, more than the financial interests of their creators. The character of copyright, however, changed with the evolution of the industrial establishment, coming to endorse a much more positive view of extended monopolies.

### **COPYRIGHT AND CREATIVITY**

Apart from large corporations' monopolistic—and thus anticapitalis-

tic—tendencies, we should question the notion, endorsed by the US Constitution, that we still need copyright to protect creative efforts. In this respect, however, we have no reason to believe that a profound redefinition of copyrights would have a noticeable effect on creativity. This is quite evident in software, in which open source efforts hold the creative forefront. Music's history also confirms this assertion, with its rich heritage of popular, anonymous songs and authored pieces produced before modern copyright's introduction.

**We should question the notion that we still need copyright to protect creative efforts.**

Little more than a century ago, folk music was being created constantly, then shared, reproduced, and modified by thousands of musicians without restriction. The very notion that someone could somehow own popular music someone seemed ridiculous. Yet this open environment in no way restricted these composers' creativity.

Thus, the justification for promoting the progress of arts as the basis for copyright's existence—which, in the US, at least, is its only rationale for existence—doesn't seem to apply to software and music. What does apply is companies' understandable desire to continue making money with the current business model. These companies should not, however, demand that intellectual property's evolution be blocked by their greed.

Many aspects of today's music business that people take for granted—the sale of music independently of live performances, the existence of a celebrity system and consequent narrowing of mainstream music to a few profitable genres and artists, and the very idea of owning a musical piece—arose from a certain industrial culture that has been

built around music in the past century. If we expect the Internet to take us beyond this culture, we should be unsurprised if the copyright concepts created especially for it will be changed.

There is little doubt that most musicians, who regard live performances as their almost exclusive source of income, would benefit from having their music distributed for free. Extrapolating from our music example, it should be obvious that what we may lose with a drastic reduction of copy rights is not the variety of artistic or cultural expressions—which have been around long before any intellectual property law and are in fact often hindered by corporate use of copyright—but simply the industrial model that, in the past two centuries, has been built upon them.

This model connects intimately to accidents like the music industry's reliance on a significant marginal cost and a physical medium. Once these premises change, the model and the copyright concept that came with them should change as well. The computing profession has already been somewhat successful in proposing and endorsing, even at an industrial level, alternative models of software distribution. Why then have the alternative solutions proposed for music exchange been so restricted and, by and large, divergent from the computing mainstream?

### **ALTERNATIVE MODELS**

A rather obvious difference between software and music arises because electronic distribution of software, with its ensuing impact on copyright, has been around much longer than electronic distribution of music. This extended period has given original software copyright protections more time to mature.

Possibly more importantly, software development takes place within the computing profession's completely enclosed confines. As a consequence, the industry can develop autochthonous solutions for software's distribution with relative ease, even if they

require a redefinition of traditional ideas about intellectual property.

In the case of music—and, for the foreseeable future, all other forms of cultural expression—because production and distribution remain external to the profession, the creation of alternative sharing practices requires an interaction with external referents. Traditionally, the computing profession's main referent has been the industrial establishment. It is natural that, in this interplay, the industry's concerns make their way into the collective consciousness of computing professionals.

So, for example, the standard defense offered in favor of music exchange techniques is that they will help CD sales. No one ever openly discusses that a new technology might radically change how artists make music and alter the music arena's power relationships—possibly at the expense of the current industrial establishment, which relies heavily on sup-

plying the medium's physical support.

Many computing applications share this rather common situation with the state of music distribution: New technologies have the potential to alter well-established power and economic equilibria. Yet those who represent the computing profession to mainstream society tend to support—and seek to preserve—the very same power structures we have the potential to disrupt.

Structural changes in the premises underpinning industrial culture, such as those exemplified in potential alterations to existing copyright statutes, require that computing professionals participate more openly in the relevant social and cultural debate. We should operate in a way that does not restrict development of computer systems on a massive scale, but also makes them available to other entities, from non-profit organizations to advocacy groups. Universities in particular should take on the goal of creating eco-

nomic and social awareness of computing scientists beyond their restricted industrial environment.

It remains unclear if the net effect of computers on our cultural and intellectual life will be positive. If we want at least the possibility that it will be, computing professionals must avoid becoming yet another cog in the mechanism of industrial globalization. ■

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