

Response to the APIG DRM Inquiry by Kevin Marks

In order to address the [APIG questions on DRM](#), I need to state some principles.

Firstly, the Church-Turing thesis, one of the basic tenets of Computer Science, which states that any general purpose computing device can solve the same problems as any other. The practical consequences of this are key - it means that a computer can emulate any other computer, so a program has no way of knowing what it is really running on. This is not theory, but something we all use every day, whether it is Java virtual machines, or Pentiums emulating older processors for software compatibility.

How does this apply to DRM? It means that any protection can be removed. For a concrete example, consider MAME - the Multi Arcade Machine Emulator - which will run almost any video game from the last 30 years. It's hard to imagine a more complete DRM solution than custom hardware with a coin slot on the front, yet in MAME you just have to press the 5 key to tell it you have paid.

The second principle is the core one of jurisprudence - that due process is a requirement before punishment. I know the Prime Minister has defended devolving summary justice to police constables, but the DRM proponents want to devolve it to computers. The fine details of copyright law have been debated and redefined for centuries, yet the DRM advocates assert that the same computers you wouldn't trust to check your grammar can somehow substitute for the entire legal system in determining and enforcing copyright law.

Each computers' immanent ability to become any kind of machine and the copying of data that happens as part of this, leads the DRM advocates naturally to the point where they want to outlaw computers, or to take them over by stealth, using virus-like techniques.

The reductio ad absurdum of this is to privilege DRM implementers in law above the owners of the computers on which their software runs, without their effective consent. Sadly, this is exactly what is being demanded by the publishers' lobby.

With those principles established, I will respond to the questions asked by APIG

Whether DRM distorts traditional tradeoffs in copyright law

Yes. DRM arrogates law enforcement to a dumb mechanism. The computer program acts as judge, jury and executioner, and it is controlled by the publisher. It is an attempt to recreate through technological fiat the publishers' dominance, at the expense of both readers and authors, that the Statute of Anne, and subsequent UK copyright laws, were created to fight. Just at the time that computer-based editing, and internet publishing enables all of us to become publishers of our own creative works, the DRM lobby want to re-establish a privileged role for publishers, like the 17th century Stationers' monopoly.

Whether new types of content sharing license (such as Creative Commons or Copyleft) need legislation changes to be effective;

These are designed to work with current copyright law, and involve a fair degree of complication to make them work legally. Changes in copyright law to reinstate the registration requirement, or to revert to shorter, more defensible terms to clarify public domain status of orphaned works would be advantageous to these licenses.

How copyright deposit libraries should deal with DRM issues;

The law should require DRM to be removed, or for the creator of the DRM to fund sufficient emulation software that their publication can be accessed by future scholars. An earmarked tax on DRM may be appropriate here, just as the Statute of Anne provided penalties for not submitting publications in a useful form.

How consumers should be protected when DRM systems are discontinued;

Consumers are generally wise enough to reject DRM systems. Seeing them discontinued reinforces this wisdom. However, a requirement to provide DRM-free copies to the copyright deposit libraries will help.

A more robust requirement would be for the DRM-using publisher to be required to fund the costs of archival copying and emulation until the copyrighted work is released to the public domain, so that this does not burden the limited budgets of copyright libraries. As reliance on DRM frequently leads to bankruptcy due to consumer rejection, mandating the purchase of an annuity to fund this by DRM practitioners may be the safest course.

To what extent DRM systems should be forced to make exceptions for the partially sighted and people with other disabilities;

DRM systems should make exceptions for everyone. They should warn but not enforce. The computer cannot know if I am partially sighted, or have other requirements for transformative software.

What legal protections DRM systems should have from those who wish to circumvent them;

None. My computer is mine; it is not owned by people trying to sell me media. They should have no control over what I do with it. This is prior restraint that reverses the presumption of innocence, and makes the increasingly false assumption that individuals are passive viewers of media, not the creators they evidently are. Penalties for actual copyright infringement are severe enough, let those suffice.

Whether DRM systems can have unintended consequences on computer functionality;

They can be huge. DRM systems inevitably lead to a power grab by publishers to take control of our computers - the Sony DRM debacle illustrates this clearly. As DRM is inherently ineffective, lobbying leads to an effort to repeal by fiat the underlying mathematical laws that govern computers, and the demand for draconian powers over others' computers grows. Any interference by DRM systems with computer owners' ability to listen to, create, edit and publish media should continue to be illegal, and criminal prosecutions under the Computer Misuse Act should be initiated against Sony/BMG and First4Internet for their assault on our computers.

The role of the UK Parliament in influencing the global agenda for this type of technical issue.

The UK Parliament set the precedent for Copyright law in the [Statute of Queen Anne](#) that defended authors from rapacious publishers, and which has served as the basis for global copyright law ever since. Re-reading it for this essay, I was struck by how well it balanced authors', readers' and publishers' rights:

Whereas printers, booksellers, and other persons have of late frequently taken the liberty of printing, reprinting, and publishing, or causing to be printed, reprinted, and published,

books and other writings, without the consent of the authors or proprietors of such books and writings, to their very great detriment, and too often to the ruin of them and their families: for preventing therefore such practices for the future, and for the encouragement of learned men to compose and write useful books;

We also recall [Macauley's judicious balancing in 1841](#):

It is good that authors should be remunerated; and the least exceptionable way of remunerating them is by a monopoly. Yet monopoly is an evil. For the sake of the good we must submit to the evil; but the evil ought not to last a day longer than is necessary for the purpose of securing the good.

The independence of both MPs and Peers from the extremes of special interest lobbying that bedevil the US Congress and House give an opportunity for the principles of free expression, of jurisprudence, and of underlying scientific facts to hold sway over the fear-mongering fictions of professional fantasists.

[Kevin Marks](#), December 20th 2005

As Principal Engineer at [Technorati](#), Kevin Marks is responsible for the spiders that make sense of the web and track millions of blogs daily. He has been inventing and innovating for over 17 years in emerging technologies where people, media and computers meet. Before joining Technorati in September 2003, Kevin spent 5 years in the Quicktime Engineering team at Apple, building video capture and live streaming into OS X. He was a founder of The Multimedia Corporation in the UK, where he served as Production Manager and Executive Producer, shipping million-selling products and winning International awards. He has a Masters degree in Physics from Cambridge University and is a BBC-qualified Video Engineer. One of the driving forces behind [microformats.org](#) and co-Chair of [Tag Tuesday](#), he regularly speaks at Conferences and Symposia on emergent net technologies and their cultural impact.