

Defective Rights Management

By Aaron Weiss

Someone should produce a reality show based in corporate conference rooms. Oh sure, at first this sounds about as exciting as a reality show about actuarialies. But who wouldn't want to see how, for example, bankrupt Northwest Airlines decided to distribute a memo to laid-off employees suggesting that they take dates on nice walks instead of buying movie tickets, and not to be "shy" about "pulling something you like out of the trash." Didn't people wearing suits have to gather around a meeting table and agree that this was a good idea? Who wouldn't want to see that? Oh, to be a fly on the wall at a major record label or movie studio meeting as they discuss the merits of DRM, or digital rights management. Wait, did I say "merits"?

Although not on the receiving end of invitations to a great many corporate meetings, were I to find myself, say, sitting in a Herman Miller Aeron chair in a conference room on the 8,000th floor at GlobalCo Music, I imagine we would begin by exchanging pleasantries. We might joke about how brightly the sun shines up here compared to ground level, praise the quality of today's catered lunch, and the CEO would ask how we could stop people from stealing our music.

"Digital rights management," someone would say. The CEO would nod. DRM, the subordinate suit would explain, is like a digital padlock that will secure our high-value content. Only with the right combination—such as playing the content with an approved piece of hardware or software—will open the padlock. "Brilliant!" says the CEO. All the suits in the room signs off on

DRM, except for one. "Terrible idea," I mutter. The others realize this meeting won't be over anytime soon. They groan and slump into their remarkably comfortable chairs.

I could say that DRM tramples on consumers' rights. The copyright law of the United States allows the public a number of rights granting ways we may use copyrighted works without explicit authorization from content owners. These uses include review, commentary, scholarship, and parody. By locking up content people have legally paid for, DRM overrides the rights afforded to us by law. The CEO isn't particularly moved by my argument.

I could also say that DRM will create consumer hostility. Competing DRM technologies mean that some content can be played in some places but not others. Customers will not want to keep track of

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which portable media players and computer software play which brands of DRM and under what circumstances. They will become confused, angry, and resentful. The CEO feels badly about the ill will but argues that it's a burden customers will have to bear to protect our ability to sell content and thwart thieving pirates.

The others grow restless, tapping away at their Blackberries and noshing on the delicious bagels. I finally say that DRM is a big fat waste of money. The CEO's eyebrows furrow with concern. "Waste of money? How do you figure that preventing thievery is a waste of money? Don't you lock your home? Your car? You don't just leave all your possessions out on the lawn every night and hope they'll still be there in the morning, do you?"

Nobody likes telling the boss bad news. But the DRM doesn't stop thievery. The Internet is teeming with the very content that corporations spend millions to protect with DRM, liberated of its digital shackles. "Then we'll buy better DRM," the CEO boasts. Unfortunately—"and you may want to sit back down for this," I offer apologetically—DRM will never work. It can't work. Digital rights management is fundamentally flawed.

When content is sold with a DRM lock, it must include the key. The key might be alongside the content data or the key might be in the player or pieces of the key might be in both. But somewhere, somehow, that unlock key must exist for the customer to watch Bill be Killed or hear Nelly Furtado's warbling vocals. No matter how elaborate or byzantine the security routine, no matter how many layers and bits of encryption bury the key, it exists because it must. And it must be revealed for playback to commence. By definition and by necessity, any DRM scheme gives away the keys to its own lock. It can't be any other way. As a

result, DRM schemes are completely worthless.

In 1996, media corporations introduced the Content Scramble System (CSS) as a form of DRM to protect the new DVD format. The DRM scheme, which encrypts the disc to prevent duplication, was compromised three years later by a fifteen-year-old. Lawsuits were filed and actions were taken, but in today's electronic world, the genie can never be put back into the bottle. Millions of dollars of investment into CSS evaporated as software to circumvent CSS proliferated. Today, duplicating and extracting content from a DRM-protected DVD is trivial and widely practiced.

With last year's introduction of the high-definition video formats HD-DVD and BluRay, the industry vowed not to repeat the mistakes of the past. So they stopped throwing away their money chasing after an illusory DRM solution. Just kidding. They actually spent millions more to develop AACIS, the Advanced Access Content System. Unlike CSS, AACIS is designed around a much more sophisticated key distribution system. In other words, this DRM scheme plays a much smarter game of "hide and seek." Introduced on commercial media in 2006, it has taken only until early 2007 for AACIS to surrender to serious, probably irreversible compromise. Expect this DRM to be as neutered as a stray dog by the time the tulips come up this spring.

Recently, Apple CEO Steve Jobs made a splash with an open letter challenging music labels to abandon DRM. His own iTunes music store sells content wrapped with Apple's FairPlay DRM, a software lock that Jobs describes as both among the most liberal and in place only at the insistence of the recording industry. Critics say that Jobs is just grandstanding and that Apple actually benefits from their proprietary DRM

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Web Sites

The “\$100 Laptop”

OLPC Wiki wiki.laptop.org/go/Home

“The purpose of this wiki is to both share information about the project and to solicit ideas and feedback. The articles and discussion vary from technical to epistemological.”

The Jem Report www.thejemreport.com/mambo/content/view/286/

More information and discussion on the OLPC firmware flap, possibly the most polarizing aspect of the entire project.

Free Software Foundation www.fsf.org/

“Free software is a matter of liberty not price.”

Potenco www.potenco.com/

How did they solve that OLPC power problem? And how and when will it appear elsewhere?

3D Desktops

BumpTop honeybrown.ca/Pubs/BumpTop.html

Wondering about that “physics-enabled” desktop developed by a doctoral student? Here’s the skinny, complete with a link to a 20-second hip-hop video on YouTube that explains it all. We’re not kidding.

Metisse insitu.lri.fr/metisse

The info page for this “X-based” window system intended to make it easy for HCI researchers to design and implement new window management techniques.

Compiz/XGL www.go-compiz.org/index.php

Beryl www.beryl-project.org

Technical information on the two flashy 3D-enhanced window managers for Linux, each featuring the desktop-as-cube visual.

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because it creates “customer lock-in”—only Apple’s own iPod can play music purchased from iTunes. Well, that is, unless customers visit the Hymn Project Web site and download the free software to digitally strip FairPlay DRM from their iTunes purchases.

The CEO nods at all these stories but asks, “So what? All you’ve proven is that thieves can break into anything if they want to. We should just give up?”

Let’s be honest. This is a business meeting. We’re not talking about the morality of copyright infringement or the preservation of the public’s rights. We’re talking business. Our goal—your goal, Sir or Madam CEO—is to improve the bottom-line. The money spent on DRM is stopping nobody from making unauthorized copies en masse. It takes just one person to remove a DRM lock for millions of copies to flourish.

Copyright infringers are, by and large, not lost customers. They are not customers at all. Winning customers cannot come from employing DRM to stop infringers, because DRM cannot stop infringers. Customers need to be won with incentives because they cannot be won through disincentives.

The EMI Group, one of the four largest record labels, may be doing the same math. Recent reports suggest that EMI is in talks with several online outlets, including RealNetworks and MTV, to sell tracks without DRM. Industry analysts Forrester Research agree, commenting in a *USA Today* story that by dropping DRM, EMI would “slow the loss of its sales.”

If I were a part of this reality-show business meeting, I might display a little bravado, because that’s what you do on a reality show. I could tell the CEO that this company’s DRM strategy comes down to choosing between the possible and the impossible. You want to increase sales and earn more money by spending millions to lock content with DRM? Impossible. ~