

# A Future Out of Our Control: Digital Rights Management

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Today is my birthday.

No one has sung "Happy Birthday"  
to me yet today.

I am so desperate to hear "Happy Birthday"  
that I will pay someone \$1  
if they will sing it to me.

Well,  
we just broke the law.

Seriously.

I'm not going to pay AOL TimeWarner,  
which owns the copyright to "Happy Birthday",  
its royalty.

What?

You didn't know?

"Happy Birthday" is still under copyright.



"Happy Birthday" was copyrighted in 1935.

Under the law current at the time,  
copyright was limited to 28 years,  
plus one 28 year renewal.

"Happy Birthday" would have been  
in the public domain  
in 1991.

However,  
Congress passed the Copyright Act of 1976,  
which extended copyright to 75 years.

"Happy Birthday" would have been  
in the public domain  
in 2010.

However,  
Congress passed  
the Sonny Bono Copyright Term Extension Act  
in 1998,  
which extended copyright to 95 years.

"Happy-freakin'-Birthday"  
will not enter the public domain  
until 2030!

Assuming, of course,  
that Congress doesn't extend  
the term of copyright again.



If you perform "Happy Birthday"  
for commercial gain,  
or in public,  
you owe AOL TimeWarner royalties.

"Happy Birthday" brings in \$2 million  
every year to AOL TimeWarner.

By the way,  
what's "public" mean,  
you ask?

According to copyright law,  
a public performance occurs  
"at a place open to the public,  
or at any place  
where a substantial number of persons  
outside of a normal circle  
of a family and its social acquaintances  
is gathered."

If you sing "Happy Birthday"  
to your kid at home,  
that's OK.

It's "fair use".

## Fair use

allows for the limited copying  
or distribution of published works  
without the author's permission.

Ever quote a paragraph in a paper?

Fair use.  
Perfectly legal.

Did your teacher ever copy a page out of a book  
& hand it out to the class?

Fair use.



Ever backup a music CD?  
Or a software CD?

Fair use.

Ever backup a DVD you bought  
of a Hollywood movie?

Fair u...

Hey!

Wait a minute!

I can't backup my DVDs!

Nope.

You sure can't.

And if you're using Linux  
(as most of us here are),  
you can't even legally **play** your DVDs  
on your Linux box.

Oh, you can play DVDs  
on your Linux box ...

... if you install DeCSS,  
a program designed to decrypt CSS.

CSS stands for  
"Content Scrambling System".



CSS is a very weak  
encryption scheme  
used by movie companies & the MPAA  
to encrypt the content on DVDs.

If you buy a DVD player  
in the store,  
it includes a licensed copy of CSS,  
which allows your DVD player  
to decrypt & play your DVDs on the fly.

I've got a DVD player on this laptop,  
which is running Red Hat 8.0.

In order to watch DVDs on this laptop,  
I've got to install and use DeCSS.

DeCSS is illegal.

Damn.

There I go breaking the law again.

Somebody stop me!

:)

DeCSS is illegal  
because it acts as what the DMCA  
defines as a "circumvention mechanism".



The DMCA  
is the "Digital Millennium Copyright Act".

Signed into law in 1998  
(hmmm ... the same year as the CTEA ...),  
the DMCA does several terrible things.

In particular,  
the DMCA makes it a crime  
to circumvent copyright protection systems.

It doesn't matter *why*  
you're circumventing the copyright protection.

Just that you are.

Are you trying to use DeCSS  
in order to backup the DVD you bought?

Too bad.

It's illegal.

Want to break the encryption  
on an "e-book" you bought  
so that you can save it as text and back it up?

Too bad.

Illegal.



Want to turn the songs  
on a copy-protected CD into mp3s  
so you can listen to them  
on your iPod  
while you work out?

Nope.

Illegal.

You can't even  
publish or discuss  
methods for circumventing  
copy protection schemes.

Illegal under the DMCA.

Goodbye,  
1st Amendment.

CSS is an example of DRM.

That's  
**Digital Rights Management.**

Although some of us  
prefer to call it

**Digital Restrictions Management.**

The CTEA gives copyright holders more time to control copyrighted works & keep them out of the public domain.

DRM helps copyright holders tightly control those copyrighted works.

The DMCA helps put the force of law behind DRM.



Remember ...

even if something is under copyright,  
you still have fair use rights.

Unfortunately,  
DRM makes exercising those fair use rights  
impossible.

And if you decide  
to exercise your fair use rights  
and get around any DRM,  
the DMCA means you just broke the law.

It's getting worse.

There are two new audio formats  
designed to replace the CD:

DVD-Audio & Super Audio CD.

Both sound great!

They each store more than 500 to 1000  
times the data that a CD holds.

Sounds like a winner, right?

Uh, no.

Both SACD & DVD-A  
have major restrictions.



First of all,  
you can't play them on a computer.

No way, no how.

Part of the deal is,  
manufacturers are not supposed  
to make players for computers.

You will be able to buy  
a stereo component  
for your home stereo system,  
however.

No digital outputs,  
though.

Just analog.

No network connectivity either.

They may sound great,  
but I'm not planning on rushing out  
and buying a new SACD or DVD-A player.

If I can't convert it to mp3 or ogg,  
I don't buy it.

I don't think I'm alone.

:)



DRM is also being used more and more  
by software companies.

Guess who's leading the charge?

Yup.

Microsoft.

When you buy Windows XP or Office XP,  
you have to undergo what Microsoft terms  
"Product Activation".

You in essence register your copy  
of Windows or Office  
with Microsoft.

You get a software key from Microsoft  
that enables Windows or Office to work.

No key?

No work.

Change hardware "substantially"?  
(Their word, not mine ...)

You gotta re-activate your software.



Try to install your copy of Windows  
on another computer?

Nope.

Not allowed.

You know what's going to happen.

A few years from now,  
Microsoft is going to cease activating  
Windows XP & Office XP.

You'll be forced to upgrade.

Microsoft is now extending  
Product Activation  
to more and more products.

Product Activation  
is already used to lock down  
Windows & Office XP,  
newer copies of Office 2000,  
Visio 2002, & Project 2002.

On 7 January 2003,  
Microsoft released Plus Digital Media Edition,  
a \$19.95 add-on pack for Windows XP.

It uses Product Activation  
to limit installation & use to one computer.



Microsoft is thus extending Product Activation  
into their consumer products  
as well as their business products.

In addition,  
Microsoft is using product updates  
to force users to accept DRM.

On 26 June 2002,  
Microsoft issued a bug fix for a security hole  
in Windows Media Player.

In order to get the fix,  
you had to agree to the license.

The license said in part:

"In order to protect the integrity of content and software protected by digital rights management 'Secure Content', Microsoft may provide security related updates to the OS Components that will be automatically downloaded onto your computer."

Let me de-weaselize what we just read:

"We can install whatever we want  
onto your computer  
whenever we want.

If it breaks your computer or your files,  
too bad.

It ain't our fault."

Now Intuit, makers of TurboTax,  
have gotten into the activation act.

When you buy TurboTax,  
you have to activate it,  
which ties it to the computer  
on which you installed it.

<http://rss.com.com/2100-1040-980600.html>



If you try to install TurboTax  
on another computer,  
you're invited to buy a new license  
for that machine.

One person reported at Amazon  
that he installed TurboTax  
& then got a new computer.

He called Intuit.

He reported that they told him,

"I needed to send in my copy for a refund  
and purchase a new one".

Now there's a satisfied customer.

DRM in Windows  
is about to get a whole lot worse.

In July 2002,  
it was revealed that Microsoft  
had received a patent:

a "Digital Rights Management Operating System".

<http://cryptome.org/ms-drm-os.htm>

Hmmm ...

Now why would Microsoft  
be patenting a DRM OS?

Intel & Microsoft are members  
of the TCPA:

the Trusted Computing Platform Alliance.

The TCPA's goal:

"a new computing platform  
for the next century  
that will provide for improved trust  
in the PC platform".



Microsoft's contribution to the TCPA  
is called "Palladium".

<http://www.cl.cam.ac.uk/~rja14/tcpa-faq.html>

Palladium will lock down your computer.

In essence, Palladium will enable  
the creator of any digital file  
to create & enforce  
any desired policy  
governing the use of that information.

Microsoft is selling this as "security".

No more viruses!

No more piracy!

Things are a bit more complicated,  
however,  
once you begin examining  
just what Palladium will do.

I create a Word document  
& email it to you.

I set a policy that you can read it,  
but you can't copy it  
or send it to anyone else.

Palladium enforces that policy.

You buy a CD made by Sony.

Sony sets a policy  
that you can play but not copy  
or create mp3s.

Palladium enforces that policy.

You buy, er, rent software from Microsoft.

You don't pay the bill.

The software quits working.  
You can't access your files  
created by the software.

Palladium enforces that policy.



Can't you choose not to use Palladium?

Sure.

Microsoft says you'll be able  
to run Palladium- & non-Palladium-enabled  
programs & files on the same machine.

No big deal.

Until you want to play a CD  
that requires Palladium.

Or install software  
that requires Palladium to run.

Or until the administrators  
in your company  
force your PC to boot using Palladium.

Needless to say,  
Palladium is a direct attack  
on the GPL, open source, & Linux.

What happens when TCPA hardware  
requires a TCPA-approved operating system?

No Linux.  
No open source.



What happens when a TCPA operating system  
permits only TCPA-approved programs?

No Linux.  
No open source.

And remember ...

if you DID figure out a way  
to get around TCPA and Palladium,  
you couldn't tell anyone.

Remember the DMCA?

You'd be breaking the law.

The final step in the DRM puzzle:  
forcing people to use it.

I believe that most people,  
once they realize just how problematic DRM is,  
how little it benefits them,  
and how it is really designed  
to benefit corporations instead of consumers,  
will refuse to use it.

Would YOU willingly limit  
what you can do with your CDs?  
Your DVDs?  
Your computer?

That's why the next step  
is to make DRM mandatory.

Microsoft hopes that its monopoly  
on operating systems  
will help it force Palladium  
whether we want it or not.



However,  
there's also the danger  
that DRM will be mandated by law.

Senator Fritz Hollings of South Carolina  
has proposed a new law:  
the CBDTPA.

**Consumer  
Broadband and  
Digital  
Television  
Promotion  
Act.**

Here's a tip:

if a Congressperson  
uses the word "promotion"  
in the title of a bill,  
someone's getting screwed.

If Congress passed  
the "Right Leg Promotion Act",

... it would mean  
we'd all have to cut off our left legs.

The CBDTPA  
joins the CTEA  
(Copyright Term Extension Act, remember?)  
& the DMCA  
(Digital Millennium Copyright Act, remember?)  
in the pantheon of horrible bills.

The CBDTPA would require that any "digital media device" that can digitally copy anything must include a government-approved anti-copying scheme.



It would be illegal  
to manufacture or trade  
any "interactive digital device"  
that does not have  
"certified security technology"  
embedded in it.

This includes computers,  
cell phones,  
DVD players,  
& televisions.

This also includes  
the Big Mouth Billy Bass,  
the Philips Digital Baby Monitor,  
the Sony Aibo robot dog,  
& the TinkleToonz Musical Potty.

[http://www.freedom-to-tinker.com/archives/cat\\_fritzs\\_hit\\_list.html](http://www.freedom-to-tinker.com/archives/cat_fritzs_hit_list.html)

If you broke the copy protection scheme,  
& you sold an unprotected Musical Potty,  
you would face 5 years in prison  
& \$500,000 in fines.

For a first offense.

Senator Howard Coble,  
one of the CBDTPA's sponsors,  
had this to say  
when asked about opposition to the bill:

"As far as I know,  
there have been very few complaints  
from intellectual property holders."

Well, duh.

Now that the Republicans  
are in charge of Congress,  
there's less likelihood that the CBDTPA  
will become law.

But that doesn't mean that it's dead.

Those who sponsored the CBDTPA  
will be back again.



We have to understand the mindset  
of the folks supporting the CTEA,  
the DMCA,  
& the CBDTPA.

The PVR  
(Personal Video Recorder)  
has gotten pretty popular in recent years.

Some examples ...

TiVo

ReplayTV

Even Microsoft is getting into the act,  
with their UltimateTV.

But what can you do with a PVR?

Record TV shows.

Easily.

For instance,  
tell your TiVo to record  
every episode of the original "Star Trek"  
anytime it's on.

Done.

Pause a live TV show  
and then continue watching it.

Easy.

The biggie --  
skip over commercials.

Easy.



A lot of media companies don't like PVRs.

Jamie Kellner,  
CEO of Turner Broadcasting  
(CNN, TNT, etc.),  
was asked:

"Why are PVRs bad?"

He replied:

"Because of the ad skips.... It's theft.  
Your contract with the network  
when you get the show  
is you're going to watch the spots.  
Otherwise you couldn't get the show  
on an ad-supported basis.  
Any time you skip a commercial  
or watch the button  
you're actually stealing the programming."

Let me repeat:

"It's theft. ...

Any time you skip a commercial  
or watch the button  
you're actually stealing the programming."

Someone pointed out to Kellner  
that sometimes people get up during commercials  
to pee.

Ever do that?

Jamie Kellner thinks that's kinda OK ... kinda:

"I guess  
there's a certain amount of tolerance  
for going to the bathroom."

Of course,  
if urinating is theft,  
I've committed theft many times.

I often mute the stereo during commercials.

I sometimes talk to my wife during commercials.

If I have the remote,  
I click over to another station during commercials.



Hey, I'm a guy.

We're hunter-gatherers at heart.

I'm hunting for a better show on TV.

I've stolen other stuff too.

I am a rampant *thief*.

I've surfed the Web ...

... with proxy software that blocks ads!

I've walked into movies ...

... after the previews!

I've watched "60 Minutes"

... and I'm under 50!



Jamie Kellner  
(Mr. "Ad skips are theft")  
is all in favor of innovation.

"I'm certainly not opposed,  
and I encourage the idea  
of exploring new models  
with new technology that make it better for people.

At the same time,  
we have to make sure  
we don't damage the existing businesses,  
whether it's pay-per-view business ...  
and that we don't damage  
the advertising-supported networks,  
cable and broadcast."

**NEWS FLASH!**

We live in a system called

C - A - P - I - T - A - L - I - \$ - M

In a capitalist system,  
new markets  
come along that *disrupt*  
old markets.

Where are the buggy-whip makers?

They used to be doing quite well,  
I hear.

Where is the shoe company  
my grandfather worked at his whole life?



Where is the gas station  
my Dad used to own & operate?

Here's a statistic for you:

The IBM Selectric typewriter  
had a 90% market share at one time.

IBM quit selling typewriters in 1991.

It's how capitalism works:

new technologies  
cause disruptions and new business models.

Companies can fight change,  
or they can adapt.

It's like the Chinese proverb says:

"Learn to bend and you will never break".

A lot of companies  
are facing radical challenges  
to their traditional ways of doing business.

Instead of changing the way they do business,  
they're trying to ...



force technology to change to suit them

AND

use the courts & Congress to give  
those technology changes  
the force of law.

Robert A. Heinlein said it best  
in "Life Line",  
one of his first short stories:

"There has grown up in the minds of certain groups in this country the notion that because a man or corporation has made a profit out of the public for a number of years, the government and the courts are charged with the duty of guaranteeing such profit in the future, even in the face of changing circumstances and contrary to public interest.

This strange doctrine is not supported by statute or common law."

Unfortunately,  
a lot of smart & powerful people  
have exactly the attitude that Heinlein  
was lampooning.

We are informed.  
We know what's going on.

Most people don't.

The one thing that we,  
the people in this room,  
**cannot do**  
is just sit back and shrug our shoulders.

"It doesn't affect me."

"I don't use Windows. Big deal."

"It'll never happen."

The reality:



It does affect you.  
It affects everyone.

Microsoft is an implacable foe  
of Linux & open source.

It *will* happen.  
It *is* happening.

We must act!

We must educate everyone we know.

Family.

Friends.

Co-workers.

Spread the word!

I've got lots of articles you can send out.

I've got Web sites you can visit & recommend.

Heck, send this presentation out!

We need to organize!

Join the Electronic Frontier Foundation.

[www.eff.org](http://www.eff.org)

Lawrence Lessig,  
the brilliant law professor & copyright activist,  
issued a challenge recently.

Every time you spend a dollar  
on a CD or movie,  
every time you support the people  
who would restrict your rights,  
match that dollar by a donation to the EFF.



If you can't match it dollar for dollar,  
make it \$.50 on the dollar.

Whatever.  
Just do it.

Nike,  
that had nothing to do with you.

:)

Finally,  
learn about copyright alternatives.

Lessig recently unveiled a fantastic new project:  
Creative Commons.

[www.creativecommons.org](http://www.creativecommons.org)

Creative Commons makes it possible  
for people to easily create licenses  
for their works of art  
that let people know they can copy those works  
under certain conditions.

If you want to release your work  
directly into the public domain,  
Creative Commons can help you do that as well.

Some of those conditions:

Require attribution.

Allow commercial use of the work.

Allow modifications.

This presentation,  
for instance,  
is licensed under the Creative Commons  
Attribution-ShareAlike license.

Look at the last page for more info.



In addition to The Licensing Project,  
Creative Commons is also spearheading  
The Founders' Copyright Project.

This will make content available  
under the same terms as the framers  
of the United States Constitution did:

14 years.

No renewal.

Tim O'Reilly,  
of O'Reilly & Associates,  
has already pledged to place 200 books  
under the Founder's Copyright.

So as you can see,  
there's a lot that is positive  
occurring in the space where copyright,  
rights, and controls meet.

But we still need to act.

Don't be complacent.

If you're not willing to fight for your rights,  
you don't deserve them.

Let me finish with one last story.

Jake Johansen  
was a 16-year-old Norwegian kid  
who just wanted to watch "The Matrix" DVD  
on his Linux box.



To get around CSS,  
he wrote DeCSS.

He was arrested in Norway  
at the MPAA's behest,  
& charged with a crime.

Just a few days ago,  
he was acquitted in Norway.

The judges in the case found that

"someone who buys a DVD film  
that has been legally produced  
has legal access to the film ...  
even if the films are played in a different way  
than the makers had foreseen".

The judges in the case  
also made this wise statement:

"no one could be convicted  
of breaking into their own property".

We face a future  
where you could be convicted  
for breaking into your own property.

I'm not going to let that happen.

Let's work together for a change.



Thank you!

Email me: [scott@granneman.com](mailto:scott@granneman.com)

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