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Dear Sirs,

It has come to my attention that you are requesting comments on the interpretation of the Digital Millennium Copyright Act as it applies to the class of copyrighted works known as DVD (Digital Versatile Disk). I will attempt to answer your questions (from the document fr24no99-23 "Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies") to the best of my ability. Specifically, I seek to answer questions 1, 2, 3, 4, 8, 13, and 15.

To answer your first two questions, there is no copy protection scheme in existence that prevents people from pirating content. One point that I continually stress, and that the music and movie industries obviously have yet to grasp, is that if it can be seen or heard it can be pirated in some form.

The CSS (Content Scrambling System) encryption scheme uses 40-bit encryption, that can only be described as "pathetically weak." This expedited the breaking of the system. However; even if it had utilized a strong encryption scheme, the content could still be copied (commonly referred to as "ripped") by placing a tap on the line going to the television and copying the unencrypted stream of audio/video.

This is not the purpose of DeCSS. In fact, DVD piracy tools have been available since 1997! The purpose of DeCSS, and LiViD (Linux Video and DVD, which is based on DeCSS) is to *play* DVDs which have been legally acquired.

There is currently no DVD playback software for any operating systems other than Windows and MacOS. Users of alternative OS's such as Linux, FreeBSD, Solaris, OS/2 and BeOS have wanted to use this technology very much, but the industry shows no signs of accommodating us.

In response to this need, many Linux hackers decided to write their own (important note: I use the term "hacker" in the traditional sense: someone who enjoys solving problems and improving existing technology. The media has misused and perverted this word to mean someone who breaks into computer systems; this is an erroneous use of the word).

This is a typical attitude for a Linux user. The development model under which Linux is written (referred to as "Open Source") involves giving away the source code and allowing others to improve the code themselves. This cooperative attitude is nearly a constant throughout the user community and is what prompted this project.

To answer questions three and four, there are many users of alternative operating systems who wish very much to be able to legally use DVDs. There are also a number of people, myself included, who have already purchased DVD playback hardware and videos but have since stopped using Windows in favor of Linux,

rendering us unable to use said equipment. Because of the CSS encryption scheme in place, we are unable to use DVD even if we already own the proper equipment. This also answers question thirteen.

Another application of DeCSS is copying a DVD for archival purposes. This is most definitely legal. However, the CSS encryption scheme prevents legitimate users from doing so. It prevents people from making illegal copies, true, but it also prevents people from making *legal* copies by preventing people from making *any* copies at all! I believe this is an infringement of fair use. According to fair use, it is within my rights to make a copy or copies of a copyrighted work for archival purposes. CSS prevents me from doing so, and I protest this.

To answer question fifteen, yes, CSS most definitely prevents customers from engaging in noninfringing uses. I have already explained why it hinders playback and archiving, but there are other hindrances as well.

Diamond was recently taken to court by the RIAA because they are marketing a product known as a Diamond Rio player. The player in question is a hand-held device similar to a walkman that plays mp3s (mp3 is a digital format for music that involves downloading a track from a CD and compressing it. This compression is extremely efficient and portable, and the Diamond Rio takes advantage of this). They claimed that converting a copyrighted work to a different format and size was illegal; they were found to be wrong and Diamond won the case.

Such conversion of medium would be extremely useful in the future, for instance, when the format of home video changes yet again. Instead of being required to buy all of the movies you already own, you can merely convert them into the newer format and save money. The movie industry obviously would not want us to have this ability, since they would not get to make us buy our movies all over again. CSS prevents anyone from doing something like this--I protest this as well.

As for the legality of reverse engineering, I believe that the Digital Millennium Copyright Act says the reverse engineering, especially for the purpose of interoperability, is legal. This is exactly what has been done. CSS was reverse engineered so that PCs running alternative operating systems can interoperate with DVD technology. This, however, is irrelevant. CSS was reverse engineered in Norway (where, by the way, reverse engineering is also legal). Even if reverse engineering was illegal there, the US court system would have no jurisdiction.

Reverse engineering is very important. The United States government itself has been practicing reverse engineering for over two hundred years. Companies have been reverse engineering competitors' products in order to compete for equally as long. In fact, if Phoenix and Texas Instruments hadn't reverse engineered the IBM PC BIOS (Basic Input/Output System), there would be no personal computer market as we know it! AMD and Cyrix, among many others, have reverse engineered competitor's products (namely,

Intel) to produce compatible processors. Linux users in Norway have reverse engineered the CSS encryption scheme for the express purpose of Linux machines, and other alternative operating systems, to interoperate with DVD technology. Such a desire is perfectly understandable, and even commendable.

The movie and music industries seem to be under the impression that releasing their copyrighted works without any means of copy control would lead to a proliferation of piracy; this is slightly true, but mostly false. The movie industry tried to have VHS and Betamax banned from the US because they would enable piracy of copyrighted materials; however, this has not come to pass. VHS has made the movie industry *billions*, not lost them money! The music industry has been releasing copyrighted works on unencrypted media such as CDs for some time; they are doing just fine! If piracy is such a big deal, why hasn't it hurt them yet?

In a similar fashion, I portend that the DeCSS program will make them much more money by lowering the price of DVD playback software, and broadening their market to include all of the alternative operating systems; they actually owe these guys a favor!

To answer question eighteen: the DVD CCA has pretty much shot themselves in the foot by making such a big stink about DeCSS. I believe this has prompted many, many people who would otherwise be uninvolved to become active distributors of the source code to DeCSS. They feel that the DVD CCA is attempting to infringe on our rights, and thus feel compelled to aid in the proliferation of DeCSS. Because of this, anyone with a computer and passing knowledge of programming can easily circumvent the CSS encryption scheme, and this will not change.

Even if the CCA is rewarded with an injunction, this will have little or no effect at removing DeCSS from the Internet. For every American site containing the program, there are two others in countries where they have no jurisdiction; because of the globalness of the Internet, downloading a program from a site in Croatia is no more difficult than downloading it from a site in California. Therefore, this lawsuit is an exercise in futility. I believe they know this, and are merely using the court system to intimidate potential codevelopers of LiViD, and other free playback programs. I will explain why later.

Also, the DMCA (Digital Millennium Copyright Act) says that it protects against circumvention of protection schemes which *effectively* protect against copying. As stated above, 40-bit encryption is anything but effective. A personal computer could defeat it with a brute force attack in less than a week.

Conversely, Distributed.net has been working to crack a 64-bit key for two years and are only twenty percent done--and that isn't even considered to be "strong" encryption! Strong encryption is 128-bit, which is way stronger than the weak 40-bit scheme CSS employs. For this reason, I believe that CSS is not effective at all (even if DeCSS hadn't been written, it could

still be easily broken) and is not a valid form of copy protection.

In fact, CSS is not even copy protection at all; it does not prevent anyone from making a bit-for-bit copy of a DVD, therefore all it prevents is the playing of a DVD by an unlicensed player.

I believe that DVD should be exempted from the DMCA for the above reason, among others. Another reason is that circumvention of CSS is necessary in order to gain fair use privileges of the copyrighted work without using licensed players. The absolute denial of fair use privileges without a license (or licensed player) from the DVD Consortium should not be supported by law. Nowhere in the DMCA does it restrict fair use privileges explicitly in this way.

CSS is actually an exercise in *tying*, i.e. requiring you to buy a specific player to play content, which is generally illegal under the antitrust laws. Thus, attempts to use the copyright laws to enforce a tying arrangement are improper. The DVD Consortium has set themselves up as a monopoly, and they are using a tying arrangement to make even more money by requiring a very high licensing fee for companies to produce a player. *This is why they feel threatened by DeCSS.* Not because they are afraid of piracy ruining them, but DVD players becoming freely available so that they wouldn't be able to tie DVD movies to licensed players anymore.

The DVD CCA will be blowing a lot of smoke about piracy. I doubt they believe their own accusations themselves; the real issue is that they are attempting to illegally enforce their monopoly by tying the content of DVDs to licensed players. The DeCSS program defeats this. They are also attempting to blur the distinction between posting information and linking to information someone else posted. If this is accepted, it will have a devastating effect on free expression on the Internet. The Internet is nothing without hyperlinks; if everyone is concerned that just maybe you might link to someone who might link to something controversial, it could ruin the free expression currently enjoyed on the Internet.

The DVD CCA also uses the analogy to the effect that breaking the encryption surrounding DVDs is like breaking into someone else's house: it is not their fault you broke in. This is faulty because I *paid* for my DVDs. I paid for the right to view those movies in my home and there is no restriction as to *how* I watch it. Watching it in Linux does not break the license in any way, therefore breaking CSS is tantamount to breaking into my own house. As long as I don't display it publicly or distribute copies to people who don't own a similar license, I'm legit.

I request that you declare DVDs as exempt from the DMCA, and please take into consideration that if the DVD CCA gets their way, it could possibly have a very adverse effect on free speech on the Internet and the ability to reverse engineer to interoperate.

Sincerely,
Adam Lassek