Good afternoon everyone,

Today we are going to talk about Digital Rights Management and what it really means for you.

There are a few things to understand about DRM before we go further, like how it actually works. Also, know that DRM is something that people get really worked up about so when you read articles about it keep that in mind. The articles tend to be very one sided and, I feel, over dramatic. You might see why I feel that way when you learn what DRM is exactly.

There are two sides to this. For providers, they have a product they want to sell and don't want open access to on the internet. For users, they want convenient access to things they have purchased. Neither side is really satisfied with digital rights management as it stands today.

In very basic terms, when you format and upload an ebook it gets taken apart and each page becomes its own webpage and your book essentially becomes a website, even though it still looks like a regular book when you look at it on your ereader. That is how vendors track things like pages read, etc. It is essentially tracking clicks to the various pages/webpages of your book the same as most newsletter software companies can tell you how many people have opened your newsletter. Very loose comparison but same basic technology.

When you add DRM you are adding small chunks of code to your work. Which means you are adding that same small chunk of code to every page (webpage) of your book. Hold that thought, we will come back to our small chunks of code on each page in a moment. When you choose to add DRM it is not a function of Word or whatever program you are writing in, you are adding a chunk of code produced by someone specific depending on which company owns the program you wrote the book in or what vendor you are using. That was a mouthful.

I know that sounds complicated but it means if you write a book in Word and select DRM you are using the Microsoft DRM suite. If you select to add DRM when you are uploading a book you are choosing something like Mobipocket as your DRM service provider. Bottom line is it is not a function like track changes in YOUR program that you are choosing to up load, you are selecting an external provider that now must be available via internet every time someone wants to open your ebook. The permissions can be cached on the individual devices, which is why you

can read an ebook with DRM with no internet connection, but if you try to move that book or open it from a new IP address (your ereader has an IP same as your laptop) the software will have to touch base with the parent company to verify your rights each and every time you have a new IP for the duration of you owning that ebook. The same as Apple devices have to sync with ITunes to move your music if you use it.

There are five main companies that produce DRM software. When you are using Word and you click to add DRM you are using the Microsoft version of DRM, Microsoft Digital Rights Management (MDRM). When you upload to Amazon and you click add DRM you are using either MobiPocket or Topaz encryption software, Amazon owns both of them. Barnes and Noble uses Adobe ADEPT and Adobe Digital Editions (EPUB and PDF). Adobe DRM can actually be read by several readers so you may notice that your Nook purchases transfer more easily than others onto various devices.

Books with DRM added with Apple iBooks use FairPlay DRM software. Another non-vendor specific software is Marlin DRM that is sold to several retailers who can't afford their own proprietary software. The main software in use right now are the Adobe variations, MDRM, FairPlay, Mobipocket, and Marlin. The point being that DRM is not the same and varies book to book, vendor to vendor, DRM software maker to DRM software maker, there isn't just one. It's like ice cream. There is really just one common place ice cream most people think of, but there are ALL sorts of flavors, and they are all a little bit different, but with all of them you are still just eating ice cream.

The way DRM works is, at any point in building a book if you select to add DRM you are selecting one of the software listed above and they put a chunk of code into the programmed content of your document (which means you can't see it) and when it is formatted those chunks of code are copied into the webpages/each page of your purchasable/formatted/uploaded book. Because your book gets broken into a "website" of it's own for purchase that code is on each page with most vendors. When a user buys your book, they buy the "book" which is not a book but access to a "website" that looks like your book. That's essentially what formatting does (again, very loose description but essentially what is occurring).When readers download a book they are caching a copy of the website that looks like your book. They are not copying the actual

book unless they have an actual non-DRM, non-formatted copy direct from somewhere. Once the reader has your ebook on whatever device they chose, the ereader talks to the website and makes sure the reader has permission to read that book and that they purchased or shared it legally then it allows it to open.

This is done with a digital three way handshake between the reader's device, whichever DRM software was used, and the vendor. Every time you open a book that the company that owns the DRM software has to be part of that handshake or your book won't open. Unless you have no internet access then it looks for cached permission until it can "talk" to the seller/DRM vendor again. As in if you buy a book from Amazon it will error out if you try to put the file on another reader because the DRM software does not recognize the new IP address and won't complete it's part of the handshake.

If the *DRM company* closes readers also can't access their purchases once the reader is online and the handshake can't happen. In that case, the files normally won't open again. Last year AllRomance closed and gave readers just a few days to download all their purchases because they were closing their doors and would no longer be able to complete their part of the digital handshake. AllRomance did not allow authors to use DRM so at least that was not an additional issue and that section of the handshake was not required. **Had** AllRomance had it's own DRM software once they closed down, even if readers had downloaded their book purchases they would not have been able to read them without stripping off the DRM because the AllRomance DRM would not have been able to complete it's part of the digital handshake either.

Every time a reader wants to open a book with DRM software that reader has to ping the DRM software provider (Adobe, MDRM, Marlin, etc.) to make sure it is OK. Then ping the vendor to also make sure it is OK. If any part of that circuit does not work the books likely won't open or download. Again, if there is no internet access it will open a cached copy until it can get an answer on that ping. *Or, here's where things get interesting,* the reader can load the book into Calibre and strip off the DRM and put the file in any format, on any device they want with a few clicks, and not have to worry about any of that nonsense or risk not being able to read what they like AND PAID FOR because the DRM provider's server is down or the vendor server is down or some sort of authentication protocol has a hiccup. Why would you not do that?

The truth of it is, that it is technically illegal to strip off DRM. However, I was not able to find a single case where breaking DRM was the sole charge in a case. It IS perfectly legal for you as a user to backup your purchases (ONE COPY) for your personal use, more on that later. I was also not able to find a single case of a user stripping DRM who was charged and this was not an add-on to other numerous instances of gross and blatant piracy. EFF even sponsored a lawsuit last year against DMCA to make it legal to break DRM. https://teleread.org/2016/07/22/eff-lawsuit-seeks-to-overturn-dmca-ban-on-breaking-drm/ This article mentions that it also wants to make it legal to tell people how to break DRM.

In 2014, there was an anti-trust case that was won stating that it is indeed NOT illegal to tell people how to break DRM. https://www.engadget.com/2014/12/11/drm-stripping-software-not-illegal/ Good thing that was settled, otherwise someone would have had to tell the 27,473 internet users who have posted articles and how to's on the internet on how to break DRM or the nearly eight thousand separate users who have posted videos on YouTube of how to do it that it was some sort of no-no. That case was also a good thing for ebook management software companies (Calibre, Handbrake, etc.) because the various ebook management software programs, which are all legal, automatically remove DRM upon uploading something into the program. Did you notice the most important part of the article above and what made the difference legislation and prosecution wise was? No one was encouraging anyone to do more than manage their personal collections and single back-up copies, another article went so far as to say *had* the parties encouraged sharing in any way it might have gone very differently. So as long as users are manipulating their own collections, the chances of any sort of prosecution are miniscule.

The only industry I have seen take anyone to task over DRM stripping is the movie industry and I still could not find a record of any occurrence of retailers attempting to take a single person to court who was stripping DRM off their own personal purchases for back up (which, again, IS legal). There are some cases of companies going after pirate sites and prolific pirates, but nothing I could find on single users manipulating their private collections. Which does not mean it could not happen, it just means that is has not happened so far in a way that can be easily located and researched.

Back to our books…so when you add that small chunk of code to your webpages/book pages all that is required by most programs to take it back out is the equivalent of a find and replace search in Word. There isn't anything complex about it for someone who knows what the proprietary bit of code they are looking for looks like. While computer code may look like alphabet soup to most people, it comes in chunks for the most part, and once you know what the first and last line of a particular chunk look like, manipulating it isn't all that hard.

In general, DRM is meant to prevent unauthorized copying, printing, and sharing of e-books. However, it also limits users from putting their purchases on the devices they want and in how many places they want (meaning personal devices, not how many sites they decide to share it on, that's a different kettle of fish). Some proponents claim it is not a big deal wouldn't be an issue at all if companies allowed users to strip it while adhering to the terms and conditions of use for their purchases. Some who are against it claim it does nothing but hinder legal users. Both are right, and completely wrong at the same time. I don't have a good answer for you. One point I can agree with is that it can set the stage for a slippery slope as far as vendor overreach. The following is a snippet of a Wikipedia article, which I verified against other articles, that discussed an Amazon foul up in 2009 shows why DRM might not be such a great thing. This instance doesn't rankle too badly because they were correcting an infringement issue, but it showed how easily removing paid purchases from customer's devices without their consent can be done.

In one instance of DRM that caused a rift with consumers, Amazon.com in July 2009, remotely deleted purchased copies of George Orwell's Animal Farm (1945) and Nineteen Eighty-Four (1949) from customers' Amazon Kindles after providing them a refund for the purchased products.[55] Commentors have described these actions as Orwellian and have compared Amazon to Big Brother from Orwell's Nineteen Eighty-Four. After Amazon CEO Jeff Bezos issued a public apology, the Free Software Foundation wrote that this was just one more example of the excessive power Amazon has to remotely censor what people read through its software, and called upon Amazon to free its e-book reader and drop DRM. Amazon then revealed the reason behind its deletion: the e-books in question were unauthorized reproductions of Orwell's works, which were not within the public domain and to which the company that published and sold them on Amazon's service had no rights.[61]

Yeah Amazon! Right? I don't know. What do you think? Things like this and the ability for retailers to not allow books to be passed on in the event of a customer's death or if the customer gets locked out of an account for some reason make DRM contentious. Another example of this is if you get locked out of a major retailers account for some reason (like unintentionally leaving reviews for someone you know or a pirate posting your book on another site and Amazon thinks you are violating your KU contract) and you get nailed by the review police and argue until you lose account access altogether, your books may or may not be readable. By most retailer's terms and conditions they can take away your access at any time for a large list of possible grievances and readers/you most likely have no avenue to appeal in many scenarios.

On the other side of that coin, sites like the Electronic Frontier Foundation always talk about limiting users. As you can see in the following article: https://www.eff.org/issues/drm. However, they never seem to mention that having legal access to those files at all or the ability to read them on a supported reader with apps, neat functions, etc. all comes at a cost. Reading articles like this leaves NO avenue for creators of any product (or device) to profit at all, so their arguments are sort of ludicrous. The cost for all that easy access, one click ordering, curated shopping, etc. is users can't share any way they want. All those things are spelled out very clearly in the terms and conditions for each vendor but the pro-digital freedom folks never seem to mention that all that infrastructure has to be paid for by someone and it isn't the artists (for the most part) and it really isn't the consumers mostly so as much as I hate to say it, if I were a vendor I would require and use DRM as well.

So the bottom line here is is DRM is worth it? I think whatever makes you feel more comfortable is the right answer, but know that if someone wants to strip the DRM off your book, no matter who the vendor is, or which DRM provider you are using, if they are determined, it can be done in less than thirty seconds. So I would not get too worked up about DRM. I think knowing what it is and how it works is important as an author, so you can make an educated decision, but that decision is yours and there is no right or wrong answer. Anyone who tries to convince you there is a "right" or "wrong" side of this is also incorrect, there is only what is best for you.

The idea is good, but how it works right now is not conducive to its actual purpose. It is too easy to remove. It is clunky, clumsy, and the process was so easy to figure out and reverse that there

are YouTube videos on how to break DRM that are as old as the technology itself. I understand all the major retailers claim their DRM is unbreakable, secure, and safe. I would encourage you to research it yourself and see if their claims are true. If you go on YouTube and search your vendor, file type, and "break DRM" (example: Amazon Mobi Break DRM) if you get hundreds of hits you can ascertain from that it is pretty commonly done. Watch the videos yourself and see how easily it's done. It is a bit depressing, but it never hurts to know how it is done for the sake of being informed.

It is one of the things about piracy you can't really do much about. As much as we all like to think computers and coders can do anything, most coders are not like the ones on TV that can magically make anything happen with a few clicks (I am looking at you law enforcement shows with sketchy tech nerds). For the most part, the code itself is complex, and can be made *extremely* complex, but due to how the books themselves are structured and how they are uploaded for sale, stripping out DRM is currently not only possible but not all that difficult.

So I encourage you to keep the decision in perspective as to how much you worry about it and how much faith you put in it. It may make you feel better to add it to your books, it might even go a little further towards prosecuting someone who had to take the time to remove it, but I wouldn't buy a home security system from any of the companies or vendors that claim their DRM is absolutely, positively secure. Watch phrases like "most secure on market", "cutting edge technology", "most secure version yet or to date" are worthless. It's all great to say that, but none of them are very secure overall, all are easily removable, none of them function as advertised or as most retailers would like you to believe. So take it for what it is worth, and what it actually is, and don't expect it to really protect much of anything. Don't let one of these companies snow you into thinking it is valid protection against piracy. It simply isn't.

That will do it for now. Have a wonderful weekend! See you back next Tuesday.

Warm Regards,

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