

Introduction

BytesFree.org is dedicated to the principle that all human beings deserve the right of unfettered access to information – digital and otherwise – that they already legally possess. In fact, we would even go so far as to suggest that information rights are human rights, because of the fundamental role that information plays in shaping our culture and economy. Information plays such a fundamental role in our daily lives, in fact, that to restrict one's access is to restrict one's ability to fully participate in a global culture, thus handicapping economic progress. These are rather simple and straightforward statements, yet they have significant ramifications, because what follows next, logically, is an explanation for the digital divide phenomenon and a modest prediction that the digital divide will never be crossed unless and until we realize the importance of information rights.

What is Currently Broken?

At the moment, we have a system that legally protects locking up information and punishes as criminals those that create a means of access, even if it's only to access information they have purchased or otherwise legally possess. For example, giving others the tools to access a DVD they purchased runs afoul of US copyright law, as does selling a device that allows satellite TV subscribers to record programming. Frankly, this is backwards and flies in the face of our founding principles in the United States. We call our era the “information age” - why then, is so much information walled off behind artificial barriers that only serve to deny access to so many of the world's citizens? We tried this experiment before, and we now call that time period “the dark ages.” Let's not make that mistake a 2nd time.

Are These Human Rights?

One of the most successful enterprises taken on by enlightened governments post-Dark Ages has been the aggressive pursuit of an educated population. Guaranteed education has had an immeasurable economic and social impact on societies with enough resources to fully implement such concepts. With financial support from governments, the aid of knowledgeable instructors, and a population willing to learn more, the result has been a boom in science, technology, historical scholarship, literature, and music that has now lasted for more than 500 years.

The one constant throughout this history was the printed word. As long as someone had the desire to read and study, they had the ability to access all the knowledge of the world. This access to the printed word was a given for an educated public. Of course, the guarantee of a right to access the printed word was never specified because it was taken for granted. It was simply not conceivable, in an era before the exchange of knowledge in digital formats, that access to information could ever consist of more than picking up the printed word and reading. The world's first open format was the printed word, and it was accessible to everyone with the presence of mind to learn to read. It's important to note that at the same time that literacy and culture were spreading, so was the idea of copyright, that one could

restrict the dissemination of information and “own” intellectual property. However, there was never a question of use – once you had obtained information, it was yours to access and even annotate or edit as you wished.

The effects of this were obvious. A basic principle of western society and western thought became the exchange of information and the ability of everyone to access the exchanged information. In principle, someone in poverty could educate themselves and participate in a society with people of more privileged backgrounds. Over time, the ability to access information became an implicit guarantee to the world's citizens, and the relationship between it and education were intractable. In fact, it was impossible to decouple one right from the other, as to do so would invalidate the other. To take away the right to access information, would take away the right to education. To take away the right to education would obviate the right to access information. They were inseparable, though never explicitly defined as such.

The Aftermath

And then the world became more complicated. Technology advanced at a blistering pace, ultimately producing the digital revolution, which now allows information to be circulated in digital form, often without ever touching a physical object, such as paper. With this revolution came a new way of thinking about and treating information.

As technology companies competed against each other, they discovered a new way to protect their incoming revenue: encode the resultant information such that it was impossible to completely decode and reformat. In many cases, companies purposely tried to implement schemes that would prevent access from software created by a competing company. That way, a person could only view the information as originally intended if they used the original software, usually for a fee. And for future access, they would always need to make sure to have a copy of the software available, in order to view it. Thus, to begin writing and viewing documents in a specific format meant that you were tied to a specific piece of software. And if the vendor producing that software stopped supporting your version, it meant you could either upgrade, for a fee, or stick with the older version. Sticking with the older version, while not harmful initially, would not guarantee the ability to view information produced with later versions of the same software. Software vendors have been known to tweak their information formats to make past versions incompatible. Thus, the user was tied to one single software vendor in order to be able to view all previous, current, and future information.

The reasons for instituting this type of scheme were not inherently nefarious, but the results certainly infringe on our ability to access information. If you create or legally obtain information, how is it then fair to perpetually tie that information to a specific method of viewing or editing? By pursuing locked-in customers, software vendors were able to erect artificial barriers to the pursuit of information. For the first time in history, the ability to read a document, view an image or video, or listen to audio was limited to those who could afford to purchase a computer and accompanying software. And it couldn't be just any software - it had to be a specific version of software created by a single vendor. One might think that in a competitive market where multiple software vendors have a legitimate chance to woo more customers, a free market would naturally lead to a shared format by all vendors, thus obviating any problems. But in a market dominated by a single company, that impetus disappears, and there is no

natural incentive to coalesce around a common format. Thus, we are left with de facto standards - formats that are controlled by a single company which the rest of the industry are left to chase.

Thus far, I've focused mostly on the written word as it applies to text documents stored on computers. However, the trend towards locking down data and granting the technology vendor a market advantage applies to more than simply text documents: it applies equally as much to graphics, sound, and video - essentially, any type of media a computer is capable of producing. The effects of this trend are profound - barriers to entry now exist for every type of information or media. This means that in order to view or edit diagrams produced with AutoCAD, to use one example, one must purchase a software license - a very expensive license, I must add. In order to view or edit graphics produced with Adobe Illustrator, one must purchase a license to use Illustrator, which is also fairly expensive. The list goes on and on.

These actions substantially restrict our ability to access information. Quite simply, obstructing access to information obliterates the dual rights to education and information. Today, we find ourselves in a dire situation: There are, in fact, open standards for almost all media, and yet many of these are discouraged or outright unsupported by much of the most popular software in use today. This means that an educational or government institution that wishes to do the right thing by publishing all media in an open format will invariably hamper the intended audience's ability to work with that media, on account of their software of choice not fully supporting an open standard. On the other hand, if those same governments and educational institutions produce media in a format tied to a specific software version, they have effectively picked the winner in that market and erected an almost insurmountable barrier to entry for other competition. Furthermore, they have now set the bar to entry such that, in order to make full use of that information, the intended audience must purchase software, and it must be a particular version. Either way, someone is harmed.

This begs several questions: if these trends continue, how much longer can we continue to educate the majority of the population and promise a higher standard of living to everyone with a thirst for knowledge? How much longer can current educational initiatives fuel the continued growth of humanities, technology, and culture, if we continue to erect barriers to our information? In economics, there is the concept of opportunity cost - the cost of something in terms of an opportunity forgone. Thus, if everyone is forced to pay a continuous stream to upgrade their software, they forgo the opportunity to spend it elsewhere. Furthermore, barriers to entry, by definition, mean that many are denied access, thus the opportunity for them to learn more and contribute more are also foregone. This opportunity cost is difficult to calculate, because one cannot determine with any kind of certainty how many more people would contribute to society, the economy, or the global knowledge commons if everyone were guaranteed access to all information formats – legally obtained, of course.

The results are obvious: with closed formats, significant numbers of people are denied from participating in the global economy and opportunities are lost. If one agrees that our society gains much from an educated public, and that education for all necessarily means information for all, then there is only one conclusion: educational efforts are hampered by locked formats, and society is adversely impacted. To require that someone purchase a specific type of software in order to simply access information infringes on our rights to education and to access information. The only way to guarantee access to everyone is to codify the rights to information explicitly and mandate that, at the very least, our governments enforce laws that guarantee them. In order to augment what our society has created over the last 4 centuries, these rights must be protected.

Adding Insult to Injury

And yet governments, specifically the United States government, have moved in precisely the opposite direction. Instead of protecting our right to access information, the US government has acted to support the locking down of data. In 1998, Congress passed the Digital Millennium Copyright Act (DMCA), which included an anti-circumvention clause designed to keep locked information locked. For the first time, reverse engineering, a previously legal act, became a crime. To claim infringement, you only need show that you intended to keep data locked down and wanted to prevent others from accessing it. If anyone breaks your code or unlocks your closed format, you can claim damages under the DMCA. As if things weren't bad enough before, the DMCA actually made them worse. Now, not only were a variety of formats locked down, but the act of accessing it was criminalized.

Under this scheme, incredibly audacious events took place. In one well-known incident, Dimitri Sklyarov, a Russian software programmer, was arrested at a security conference in the United States, at the request of Adobe, Inc. It seems Dimitri had written a tool that allowed users to access files intended for the Adobe e-Reader. Adobe wanted to lock down these files such that only those who purchased the eReader could read them, and Sklyarov's software gave anyone the ability to read them. Thus, insult was added to injury. Locked formats were protected, and the act of opening them was a criminal activity punishable under the law. It should be noted that Sklyarov was ultimately cleared of all charges, but only after spending a few months in jail. However, the chilling effect has been profound, despite his ultimate court victory.

Some other notable events, in addition to the Sklyarov case, surrounded the creation of DeCSS, open source software that allowed all users to access DVD's. The creator of DeCSS, Jon Johansen, was arrested twice by Norwegian authorities at the behest of the Motion Picture Association of America (MPAA). Other individuals caught up in the DeCSS imbroglio include Matt Pavlovich of LiViD, an organization that created open source tools for viewing DVD's on Linux. Both of these individuals were ultimately cleared of any wrongdoing after protracted legal engagements. However, what is notable is not that they were cleared. What's notable is the chilling effect these events have had on innovation in the United States. As of this writing, every major open source multimedia project is based outside the US as a result of actions taken under the DMCA. The DeCSS controversy has resulted in two items of note that should be, but are not, common knowledge: 1.I cannot play a DVD with open source software without breaking the law 2.I cannot use open source software from US-based projects to play a DVD – it simply doesn't exist.

One cannot blame a programmer for deciding that hassling with US authorities is simply not worth the effort, thus the innovation occurs elsewhere. That's our loss. In fact, the DMCA-instigated exodus is remarkably similar to another mass exodus that occurred as a result of American technology policy: the exodus of all cryptography software innovation to other countries. In that case, however, lawmakers were able to see their mistake and reverse the ill-formed policy. In the case of the DMCA, however, it has been almost 10 years, and there's no major effort for reform making legislative headway.

The Ownership Society Myth

Much has been made of the term "ownership society" in recent years. Whether you agree with that concept or not, it's clear to any observer of technology that there is no such thing as an "ownership society." It is a rental society. We do not own the information that we purchase or otherwise legally obtain. We merely pay for the privilege of accessing it. And we cannot simply access the information as we please, but only as the publisher of that media permits. Under the DMCA, being so audacious as to define the tools with which to access information is a crime. Under US law, producers of media can not only define who has access, but how they access it. If our rights to information were infringed before, they certainly aren't getting any more protections with the added wrinkle of laws such as the DMCA.

In the name of bowing to the knowledge of technology companies, the United States government has denied countless numbers of its citizens from accessing information, thus disenfranchising them. By doing so, that portion of the population is locked off and at a severe disadvantage in terms of their ability to climb social and economic ladders and pursue higher education. This cannot bode well for the future of American society, not if a significant portion of the population is prevented from ever fully participating. A healthy democracy requires an engaged public with equal access to information, and yet we are actively denying the very thing that has been so beneficial in the past.

Rights of access and education must be protected. They must be explicitly codified into law. It is the only way to ensure that the general public remains engaged in the activities of its government and all other facets of society. And if these rights are not explicitly guaranteed, there are a host of other bad things that can take place. While the original intent of technology companies may not have been necessarily bad, their actions can certainly be exploited. Locking down content and denying access to large portions of the public can be awfully useful to a totalitarian regime, or to an extremely powerful company. The ability to control what people can see, ultimately grants a government the power to control what they think. After all, locking down content is a great way to shut off dissent and ensure that most folks tow the company line. It's hard to make your opinions heard when access to those opinions is unavailable to a majority of the people.

To illustrate just how absurd these laws are, let us apply the "paper standard." Paper is accessible to everyone. No one is ever denied the ability to read a printed document. Publishers printed books and didn't require any sort of special decoding tool. If they needed to prevent access, governments would lock up papers in a safe when they contained classified information. Somehow, despite the ability of everyone to access printed information, copyrights and other intellectual property were protected. This demonstrates the absurdity of our current situation. Our government should be in the business of guaranteeing our right to access data, not actively work against it. Those who claim that the MPAA, government, or publishers must "protect" the information are ignoring the harm to society: barriers to entry disenfranchise a significant portion of the populace.

Conclusion

In February, 2007, Assemblymember Mark Leno (D-13) introduced Assembly Bill 1668, which would have mandated that the State of California use open formats when producing and exchanging documents. It didn't go far enough - it did not, for example, amend the state constitution to guarantee

our rights to access information. It would have accomplished something very significant, however. It would have ensured that everyone, regardless of their income level, background, or choice of technology, would be able to engage with our state government. It could have been one small step forward in what will be a long, hard slog towards proper recognition of our rights to education and information.

Unfortunately, AB 1668 never made it out of committee. It might surprise you that there was heavy opposition to this bill, and lobbyists were out in force to make sure that it never saw a floor vote. This is wrong, and it is a gross infringement of our rights. AB 1668 was but one small step, yet it was a battle we could not win. If there are to be any victories in the future, they will be hard won after many long struggles.

BytesFree.org is dedicated to the prospect of creating grassroots support for information rights. We want every politician and candidate for office to understand why these issues are important. We also want every citizen to understand how these issues impact daily life. Support BytesFree.org:

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