Andrew Dykman - Web Security and Ethics - Homework 3 - Anti-Piracy Paper w/ Solutions to Prevent It - 7/9/2012

Problems with piracy: There are many things that are wrong with piracy. The first and the foremost, is that intellectual property is created by the authors to be sold at a profit, just as every good in America and the world is bought, sold and used. Having said this, intellectual property comes with its own set of problems, as it is a digital good and not a physical one computers can be used to produce, copy, counterfeit and mass distribute it and send it all over the world without a cent being paid. The greatest problem with this is that the companies and authors who create the intellectual property receive no profit from their work.

Let me throw a worst case scenario out: If everyone in the world were to pirate and never purchase, all intellectual property authors, short of companies or individuals who release any sort of public domain software, music or movies would stop creating any sort of intellectual property product at all, as they would no longer have any reason or means to do so without turning a profit. This would lead to a slew of economic problems, having a massive ripple effect that would rock society as a whole, regardless of whether or not people even used the intellectual property that was being stolen. Music artists would stop recording, companies would stop selling ebooks online, video game producers would stop creating video games, and so forth. Even the most backwater farmer who didn't own a TV, Radio, Computer or any other electronic device would feel the effects of the violent backlash from the economy if all companies that produced intellectual property were to be shut down. One producing company shutdown would lead to people being laid off, and in turn a distributing company that relied on the producing company would shut down, then a general store store would shut down because they lost profits from truckers who bought music CD's, etc. - just to give a scenario of how everyone is negatively impacted - and hey, maybe the farmer was related to some of the people who got laid off from the producer so now he has to employee extra people on his farm so they can continue to work. So, as you can see, this would have a massive global effect, and nobody could escape the economic devestation it would cause overall whether they were concerned about piracy or not.

Other problems with piracy: Short of the fact that it against copyright law in most industrialized nations, not to mention immoral, there are other serious problems with piracy as a whole: Piracy encourages hackers to continue to try to override and defeat DRM measures employed by companies who create intellectual property, and their continual effort and success in compromising the DRM forced those who work in the industry to constantly work harder to create even more secure DRM, which drives up the prices of whichever product is being sold with the DRM. This frustrates many end users, who are less likely to purchase the product due to the rising price, and makes them even more likely to turn to piracy themselves as they can no longer afford to legitimately purchase said wares. It also leads to the overall mass believe that it is "okay" to steal intellectual property, demoralizing people in the industry and giving the populace the idea that there is no big deal with getting intellectual property for free, teaching them that something bad is good as long as everyone is doing it.

Preventative measures: Short of proposing extended jail time for the ringleaders of piracy groups such as "The Pirate Bay", etc, and heavily fining and shutting off the internet access of those who receive the pirated intellectual property, the only real solution is to come up with some sort of perfect DRM scheme.

DRM encryption that is built into software such as video games and music is easily overcome by smart hackers. Once they find out exactly what method is being used they begin to find ways to either shut off or disable it. So building DRM into the software or intellectual property itself is essentially worthless protection. The overall effect of this is it generally annoys the end users to a great point, and hardly does anything to protect the intellectual property itself making it more detrimental than useful to the authors of any sort of ware, and actually ends up hurting legitimate sales more than preventing any sort of piracy.

The best DRM scheme so far that I have seen, and thus my proposed solution to the whole debacle of piracy, and way to end it for good is to force all users of intellectual property to be connected to the internet, and require them to connect to a validation server to legitimize the intellectual property they are using, by selling them a license key with their intellectual property and when they connect to the server only allowing the DRM protected intellectual property to be used if the key can be matched up with a legitimate key from a copy that has been known to have been sold and only has one user linked to it, and not having more than one user trying to access that specific key at one time.

The sad truth is that to have a perfect DRM scheme and a piracy free world there has to be sacrifice and headaches for the end users. Unfortunately because all other DRM has had a workaround found by clever hackers this remains the one undefeatable DRM scheme. Most the industry is starting to move in this direction, and over time end users will become used to the fact that they must have an internet connection and a legitimate product to be able to use it. Additionally, 78% of the population of industrialized countries have internet access, and 90% of this demographic has broadband (Cited from Wikipedia.) That makes this a viable DRM scheme for most users.