From the Boardroom to the Classroom: Piracy Impacts and Solutions
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Introduction

Good afternoon, it is a true pleasure to be able to address your group today. I would like to first thank Karen Chesley, president of the Penn Intellectual Property Group for inviting me to speak with you today, as well as first-year student representative Elise Corley, and I want to applaud all of you on having such an active organization. I would also like to recognize my good friend Chris Yoo, and thank him for introducing me to your group, and for his hospitality over the past two days here during my visit at Penn. As a former law student myself, I know these can be busy and hectic times, and the initiative you have shown to put on these seminars and panels shows your dedication to the study of intellectual property.

As you may be aware, I am from Nashville, Tennessee, known worldwide as Music City, and I have seen firsthand the impact that piracy has on our country—from a very personal view like the impact on my neighbors and friends who are writers, artists, producers and record label executives to the local economy and finally to its impact on our national economy. The cost of piracy to our musicians, video producers

and other creators of content is exponential, and is continually growing. The Institute

for Policy Innovation concludes that global music piracy alone causes $12.5 billion of

economic losses every year, a loss of $2.7 billion in workers' earnings, and $131

million in lost corporate income and production taxes.

Overall, the U.S. economy lost $58 billion in output that would have been

realized if piracy had not occurred. In addition, the U.S. lost 373,375 jobs due to

piracy, and federal and state governments lose $2.6 billion annually through unrealized

tax revenue. And the effect of piracy goes beyond the creators of the content. The

U.S. Chamber of Commerce estimates that counterfeiting and piracy cost the U.S.

economy up to $250 billion per year. These count the losses of the auto industry, with

billions lost in parts counterfeiting, the fashion industry, which loses $12 billion

annually in revenue, the software industry, which lost $48 billion last year, and modern

medicines that help to cure disease that take time, effort, and intellectual capital to

produce. The US-based Centre for Medicines in the Public Interest predicts that

counterfeit drug sales will reach $75 billion globally in 2010, an increase of more than

90% from 2005. Ultimately, the pocketbook of the average American takes a hit,

particularly in job losses.

But we are not the only ones affected. Like many issues today, the solution truly

must be global. This is especially correct given the prevalence of piracy abroad. When

I was in Beijing, the there were streets lined with illegal DVDs and CDs for sale. In 2007 alone, Brazil alone was estimated to have had 3.8 billion illegal downloads. In fact, while I was in Brazil for official bilateral meetings, the AMCHAM-American Chamber of Commerce-agreed to host a specific program to educate and make all the companies more aware of the impact on piracy on all types of goods, software, research and applications far beyond just the music industry.

The opportunities to share content illegally have proliferated over the last 10 years. When Napster first appeared, most pirated material was music, with some videos and software.

No longer is this problem focused on one type of media, all digital media, whether it is video, music, software, or another type, is routinely stolen through the internet. However, as piracy has grown, so have the solutions to this problem. Content owners know that technology is a vital weapon in their efforts to curb piracy. Bob Iger, President and CEO of the Walt Disney Company, has famously said, 'The best way to combat piracy is to bring content to market on a well-timed, well-priced basis.' Last year, I had the opportunity to visit Disney's studios to see just how they are carrying out Mr. Iger's theory. Albert Cheng, Executive Vice President for Digital Media, and his colleagues showed me the multitude of ways that Disney uses technology to make its content available to consumers: through its ad-supported media player where viewers can watch ABC's prime time lineup for free; on iTunes where consumers can

purchase TV episodes; and on many other web sites where content can be streamed or downloaded legitimately. I also had a chance to see how important Digital Rights Management methods are to enabling these new methods of electronic distribution. These solutions have become surprisingly complex, and very effective. Two widely-used innovations that are helping to combat the wave of illegal content online are digital watermarking and digital finger-printing.

Watermarking

With digital watermarking, data is inserted directly into the content, and as it appears on the internet, or passes through a university network, the content can be scanned for the digital watermark. Owners of content can actually review listings on a P2P server, or scan uploaded videos on websites, and examine the content for a watermark. For example, in South Korea, Warner Brothers is combating piracy of its DVDs by releasing a watermarked version online, instead of a DRM-protected DVD. The particular watermark in these videos is called a "forensic watermark" and will allow Warner Brothers to track its content through networks as it is illegally shared.

While this technique is effective, as always technology and creative minds, of course, create alternative ways to defeat these techniques. Common methods include encrypting the file, or stripping the watermark from the file. While both methods may hide the pirated material among the innumerous files on the internet for a short period

of time, other methods, including digital fingerprinting, will ultimately find the material.

Fingerprinting

Digital fingerprinting is another innovative method for detecting illegal content online. With fingerprinting, characteristics of the video are catalogued, with the ability to capture both audio and video samples. These samples may include the particular way color shifts in a scene or the background music of a clip. These are then stored on a database and compared against other files. These fingerprint files are highly compact, and are stored on inexpensive servers. For example, leading digital fingerprinting company Audible Magic expects a turn-key system to cost around $100,000 for a large university this year. And unlike watermarking, where changing the content may defeat the watermark, digital fingerprinting has the ability to identify and eliminate altered materials. This allows detection of copyrighted material, even if the user tries to defeat the system by rotating the image slightly or changing the color values on the screen.

Audible Magic counts Google, Microsoft, YouTube, and MySpace among its clients. Its sophisticated software sniffs out illegal content, and is having a positive effect on the war against piracy. In one example, Audible Magic's software created an 80% reduction in traffic on a college campus once illegal content was removed. This shows how the cooperation of industry players and ISPs has helped stem the flow of

piracy, while minimal regulation was needed. Companies desire to minimize their liability when it comes to pirated material, and openly accept these technologies if they will help them remain competitive while blocking illegal content. NBC, another company that realized the importance of the internet for their business, understood that they needed to protect their valuable content online, and did so through the new fingerprinting technology, with great success. For example, less than 1% of the Olympic coverage viewed this past summer was pirated. This wasn't due to a lack of viewing either, viewers watched 10 million hours of coverage on NBC's own website. However, NBC's employment of fingerprinting technology identified pirated material, and allowed them to remove it from P2P and video sites. This aggressive strategy helped eliminate pirated material while enlarging NBC's legitimate viewer base. NBC has aggressively pursued new ways to distribute its content, *through legal channels*, and has created a framework that coordinates with other content creators, one that respects copyright, and creates rules that they all can abide by.

In much the same way, and for the same reasons, universities wish to minimize their risks, the risks of their students, the potential for increased tuition to pay for expansion of storage capabilities and ultimately to stem the flow of piracy.

Piracy on Campus

As you can tell, it requires cooperation and partnership to stop piracy. This applies not only to websites, as we just discussed, but applies to universities as well. A

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2004 study found that 58% of students at two large universities engaged in file sharing, and 40% of their music collection consisted of pirated music. College students are also more likely to engage in piracy than the general population: 25% versus 16%. With piracy becoming so prevalent on college campuses and with such a high amount of traffic devoted to P2P sites, much of which is illegal content, universities must manage their networks to ensure that those who need bandwidth to complete legitimate tasks can do so.

Some campuses have taken measures to create their own tools to combat piracy. The University of Florida is a great example. Once they realized the huge cost that piracy was creating on campus, they developed their own tool to combat illegal file sharing. This tool, called "Red Lambda," helped bring the University's number of infringement claims to almost zero, and the infrastructure and bandwidth savings were so great that the University was awarded a taxpayer award for the savings generated. Additionally, many universities including Vanderbilt and UVA provide university wide downloading on an annual basis, at an inexpensive price. I would also like to applaud Penn for their implementation of an "acceptable use" policy, which clearly sets the boundaries regarding what is legal and illegal use of University's electronic resources. I commend all those universities who have taken a leadership role against piracy and challenge all our college campuses to do more.

The Positives of Network Management

These examples illustrate the positive side of network management, an important tool that is far too often overlooked. Network management has a very positive role when it comes to eliminating online piracy, but much of the emphasis of network management is put on the restriction of lawful uses of the internet. The focus should be on how network management can help reduce illegal uses of the internet, allowing operators to effectively identify and remove pirated content traveling across their platforms. It's crucial that we not only allow operators to manage their networks, but to not tie their hands with prescriptive regulations. And make no mistake, "net neutrality" as network management is sometimes referenced in Washington and among political discussants, if implemented in its strictest form, will tie the hands of network operators. Digital fingerprinting and watermarking would not be possible if net neutrality is enforced in its harshest form.

All of the great advantages that the internet has brought us have been accomplished without overly prescriptive regulations. I often refer to myself as a "humble regulator," and this philosophy involves knowing when to when to take regulatory action, but more importantly, when to stop. We are all aware that this industry moves very quickly, and by the time our regulations are put into place, they are likely obsolete. In much the same way, we should be wary of creating harsh net neutrality regulation that could slow innovation. If net neutrality is implemented in its strictest form, with carriers not being able to distinguish between any packets,

prioritizing more time-sensitive traffic such as video and VoIP traffic, we will have lost much of the innovation that makes the internet great, and may lose what progress we have made.

We should let the market work as much as possible. Let operators manage their networks, find solutions together, do not bind their hands with prescriptive regulation, and when a problem arises, facilitate a market solution, rather than governmental intervention. This is what happened with Comcast and BitTorrent this past summer, leading up to the *Comcast Order.* The two parties came to a solution on how to manage Comcast's network without harming BitTorrent users, and both were better off for it.

Education

While we should not regulate how traffic flows across the internet, it is imperative that we educate the youth of America to the ills of piracy. If students learn to understand and respect the intellectual property rights of those who create content, learn the real legal consequences of such actions, and receive education regarding the legal alternatives to accessing content, especially a respect for property rights, hopefully they will avoid falling in the pitfalls of online piracy.

So how do we make sure that our children understand piracy and refrain from stealing other's intellectual property? I believe that government and industry must work together, and while we have not reached critical mass, progress is being made.

The Recording Industry of America, along with the American Council on Education and EDUCAUSE, have worked together to help make anti-piracy education materials available to universities to help deter infringing activity.

Curriculum for children has also been made for nearly every grade level. I am delighted that groups have taken the initiative to create the content, and have done such a great job introducing the concepts of piracy to children at an early age. Take for example materials that have been created by companies such as IKeepSafe. One recent initiative taken was the creation of a new online adventure: "Faux Paw and the Dangerous Download." This book and animated adventure helps explain to kids why piracy is bad, and encourages them to only download from trusted, legal sites. Government must continue to work with interested parties such as these, and help to create comprehensive solutions to combat piracy. This can be accomplished by partnering with parties such as RIAA and IKeepSafe to ensure that these tools are put into place.

Federal Solutions [slide 11]

I am grateful that government has acted in an appropriate manner, incorporating piracy education requirements in the *Higher Education Opportunity Act*. This bill requires colleges to teach both students and employees about the dangers of illegal downloading, the personal liability associated with distributing copyrighted materials,

and ensures that colleges assist students in accessing valuable digital information---

through *legal* channels. This bill takes another reasoned, calculated step towards

eliminating piracy of copyrighted materials by students.

While this is a meaningful step to stop piracy at the college level, I am afraid that

it may be too late to stop the tidal wave of piracy. Unfortunately by the time students

are at the high school and collegiate level, piracy is too often viewed as a victimless

crime. That is why it is so crucial that we instill respect for intellectual property much

earlier—as we do regarding property in the offline world. Your generation has grown

up surrounded by computers, and is at ease using any technology available. The

curriculums that have been developed help teach respect for the creative process that

creates music at an early age. As children grow, it moves from introducing the creative

process toward concepts of intellectual property and how these concepts work in the

everyday world around them. As children progress, they continue to learn that rather

than being a "victimless" crime, piracy affects real individuals, artists, creative talents,

brilliant entrepreneurs and entire corporations---helping them understand the very real

consequences of their actions.

E-Rate

Some of you probably attended public schools that were connected to the

internet through a program administered by the FCC, the "E-rate program" which

provides $ 2.25 billion per year to help connect schools and libraries to the internet. In

addition to this, many states have their own funds to help connect schools. I am proud

that I can say that my home state, Tennessee, was the first state to have 100% of its

schools connected to the web. But beyond the connectivity that is possible, these funds

could give us an opportunity to help further "digital and media literacy," such as

education about piracy, by tying education requirements to these funds. The FCC

should utilize the lessons learned from the *Higher Education Act*, and the strides

private parties have made in educating young Americans, and encourage the use these

tools to educate our youth about the dangers of piracy. If schools are utilizing

government—*and by that I mean taxpayer*—funds to connect to the internet, we need

to ensure that they are using this access only for <u>legal</u> uses. For instance, obviously we

already condition the receipt of these funds on strict auditing, contractual and other

requirements. Certainly we require tools that prevent school children from going to

illegal websites, inappropriate ones such as adult or even child pornographic websites

(which, by the way make up approximately 12% of all websites). Similarly,

government predicates the use of highway funds upon states abiding by certain safety

goals such as seat belts and DUI checkpoints. Many other federally funded programs

come with "strings attached," so I have been encouraging the FCC to incorporate

similar requirements upon the Erate funds and requiring compliance to stem piracy

through education—much of which is already available in the private sector--- in the

early grades.

Conclusion

Piracy is a growing economic problem—locally and globally, and we must all work together. The private sector must continue to develop tools to combat illegal material on their networks, and government must continue to provide leadership and education regarding the negative impact upon our individual creative talent -- from pharmaceuticals to motion pictures -- and help to bring parties to the table when a conflict occurs. Ireland—home of some of the greatest literary works in history—upon recognizing that they were losing an entire generation of writers, resulting in a huge negative impact to their economy and beginning at the very top levels of government, created a plan to encourage them to return to their homeland from tax incentives to expansion of broadband. This is the type of leadership, from the highest levels of US government, is what it will take in order to truly protect the great minds and creative talents from storytellers to pharmaceutical research for the next cure for cancer; from blues to country to hip-hop music to software and application development.

Thank you for your interest in this important topic and I hope you will help us find ways to reach the next generation and finally minimize piracy and re-energize one of the key drivers of our economic backbone: the creative entrepreneurial spirit of America.