



The Truths Behind Software Piracy

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Abstract

This paper attempts to unravel the truths behind software piracy. Worldwide, software piracy costs the software industry billions of dollars, as well as millions in lost tax revenues — as will be discussed. Times have evolved for the software industry from the days where free-software existed in the 1960s and software piracy was minimal, into the commercialized, Internet-based hotbed it is now where software piracy has reached staggering figures.

With the advancement of technology, software piracy is no longer just the unauthorized copying and distribution of software, but now also includes softlifting, Internet piracy, software counterfeiting, hard disk loading, renting and OEM/Unbundling. With CDs, audio music is also becoming a hot item for software pirates and its difficulties are quite analogous to the software industry.

Many consumers put the blame on the software companies who charge high prices for their software, while the software companies argue that with high development costs these prices are justified and that the consumers are just infringing on copyright laws.

The fact is though that all stakeholders are suffering from software piracy. Consumers and the industry are two likely sufferers, but so are software developers who are losing the opportunity to further develop their trade in a flourishing industry, while the resellers suffer through lost revenues as consumers pirate more and buy less.

Piracy itself is committed by a vast majority of groups. Some of the worst offenders are businesses who install versions of software on systems without having a user license to do so. Individuals copy and distribute pirated versions of software for free over the Internet and in some cases even charge a nominal fee for their counterfeited CDs.

But all in all, the industry is making an attempt to combat software piracy with the help of government and anti-piracy agencies. Together they are educating society that software piracy is morally wrong by instituting stiffer penalties for potential pirates. Some of the larger software companies are coming up with their own ways to handle software piracy, through tighter security measures and "web-hunting" for counterfeited copies. But in the long run, I believe educating society will bring software piracy under control.

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Introduction

In 1998, it was estimated that 38% of business software applications loaded onto PC's worldwide were pirated.¹ This supposedly accounted for an \$11 billion (U.S.) loss to the software industry² — startling figures if you think about it. Every 1 in 4 systems had pirated software installed on it.³ But yet, if you have not already noticed, these figures do seem a little confusing. Software piracy, in short, means the possessing or using of software without the permission of the owner. How does one classify an owner of software? Many people might not be aware that when you purchase software you are actually buying the right to use that software, so technically although you did purchase it, you really do not own it. The ownership will always lie in the hands of the software companies.

With this in mind, it does seem a little odd to put a numerical approximation on the effects of software piracy. It is a crime that is very hard to detect and as mentioned off the top, the 38% refers to only business applications. This does not include the other massively pirated software applications, such as games and operating systems. So taking this into account, one can see that the losses garnered by software piracy are enormous beyond comprehension due to the nature of its actions.

To many people, software piracy does not seem like a big issue. People have taken a part in it, but yet will not openly admit to it. To them software piracy is acceptable, although considered a crime, they see it as a soft crime because it seems so harmless, with no violence involved, and therefore a perception of no real danger to anyone. It is not until the estimated figures are discussed that software piracy is put into its own light, showcasing that this is no soft crime. This form of piracy is more involved than one might imagine. It is more than just using software that you did not pay for, but it is about breaking copyright rules, infringing on one's intellectual property and the obvious crime of stealing.

With the recent boom of the Internet, piracy has taken on many new forms in addition to just software piracy. The pirating of audio CDs and the creation of the MP3 format are other growing areas with their own problems, some of which closely relate to those seen with software piracy. The pirating of television and radio signals and DVDs are currently the new areas of

¹ Business Software Alliance and Software & Information Industry Association. *1998 Global Software Piracy Report*. May 1999.

² Ibid.

³ Ibid.

discussion. In this Internet age, although piracy figures are on the decline, it is deceiving to say that overall piracy is on its way out. With our society depending more and more on computers, the challenges that the industry faces to control piracy are ever challenging.

This report will make an attempt to explain to the reader the challenges faced with software piracy in society and to bring out the truths behind the crime. In order to do so, software piracy will be described in detail showing how it can take on many different forms and how it has evolved over the last few years. This will put the reader in a mindset of understanding how difficult it really is to find out if software has been pirated or not. Once the reader has this comprehension, it will be important to explain why this crime is committed in the first place and why it has actually become a problem to the software industry. With the basic tools in place, it will be important to see how the crime is committed and to actually see who commits this crime. It is alarming to see how easy piracy is to commit and that almost everybody can do it — and does. Finally, the paper will move into the legal areas of the issue with a description of how perpetrators are being found and dealt with, making references to past legal cases and government hearings. But for some software companies, the law is not enough, so they are taking matters into their own hands, by taking an approach of making their products better equipped to avoid piracy. As well, with the help of several anti-piracy agencies, companies are trying to educate the public on how costly piracy really is and in doing so, trying to instill the idea that it takes everybody to help stop software piracy. With that, the paper will conclude with a discussion of the future of software piracy and how, possibly, this crime can be eliminated.

What is Software Piracy?

In a general sense, software piracy can be described as the copying and using of commercial software that was purchased by somebody else — also known as theft. Its history has been a precarious one and began in the 1960s when computer programs were considered free-for-the-asking rather than commercial products. This was when the *SHARE User Group* of IBM computer owners started sharing software and programming experiences amongst themselves and the companies they worked for. The programs they shared usually cost hundreds of hours of programming time, but yet were freely exchanged between many of the top companies of the time such as AT&T, General Electric, General Motors and North American Rockwell. The programmers, who worked for these companies, considered the programs they wrote to be their own, and so carried them from one job to the other. IBM, for example, gave away their software programs as part of their computer sales, and so did many others. At that time, software development was considered as a cost of doing business.

In those days, many corporations never allocated the proper time and resources to software development and left much of the engineering up to programmers who had little or no experience in engineering techniques. Eventually, however, times began to change as more companies began to realize the importance of their software programs. Soon, vendors unbundled their software from the sale of their computer hardware and sold it separately. The commercial software industry was born and reached new heights as the introduction of desktop personal computers arrived in the 1970s.

Unfortunately, as software now became something that had to be purchased — commercialized — many software buyers took advantage of being easily able to copy the programs they purchased and pass them on to others for free, and sometimes for a charge. In addition, many programmers never did fully abandon the idea of free software and so continued their practice of sharing commercial software products. With these two events taking place, the software industry nearly drowned in its infancy. But even today, problems still exist as companies and organizations are finding it difficult to police the unauthorized copying and distribution of their software programs.

As mentioned in the introduction, software piracy is costing the software industry billions of dollars worldwide. Although, in North America, where controls are becoming stricter against

software piracy and the costs are slowly declining, the figures worldwide, where rules are more relaxed, are on the rise. As well, with the rising popularity of the Internet, software pirates have been able to "spread their art" at a faster pace, more easily. This has led also to the formation of different types of piracy in the areas of, audio CDs, television and radio signals and DVDs.

With software piracy spreading itself into different areas and spawning into new forms, piracy, in general, has entered into legal issues of intellectual property and copyright laws, at a local and global level.

In Canada, "intellectual property is the name given to a bundle of rights recognized by Parliament and the courts. It includes copyright, trademarks, patents, industrial designs, trade secrets, confidential information and several other industry-specific rights."⁴ Intellectual property can be created, bought and sold, but it has no real physical existence; it protects "ideas". Since intellectual property is not a physical entity, it is difficult to regulate and classify what infringes its laws. It is this ethical point that many programmers like to argue. During the 1960s, software programs were usually programmed by individuals or small teams, and so many thought of the programs they developed as their own, not directly the companies. Companies also gave away this software with their hardware, so this further confirmed what programmers already thought. But as the industry became larger, software programs were now programmed in large teams and companies began to sell their software separately. This began the introduction of companies taking ownership over their software not the programmers. This is now where the debate of intellectual property begins and is still debated over.

A specific aspect of intellectual property that protects an idea is copyright, which is the right to prevent others from copying. "The federal Canadian *Copyright Act* defines copyright as the sole right to produce or reproduce the work or any substantial part thereof in any material form whatsoever. The copyright owner has the exclusive right during the author's lifetime and, in most cases, for 50 years after the author's death, to copy the work or a substantial part of it."⁵ With this law in place, it allows the industry to prosecute those who challenge to infringe it. But again, this is not something that is directly physical, although it may be recorded on paper, and so it is open for debate if such an infringement is brought to court.

⁴ Davis, Robert W.K. and Hutchison, Scott C. *Computer Crime in Canada*. 1997.

⁵ Ibid.

Although laws protecting software programs are in place, it becomes difficult to enforce when the issues move outside borders. The aforesaid definitions of the laws are what are in place in Canada, but this does not mean it is the same everywhere else. For example, in Canada over the last few months, a heated debate occurred over a company called iCraveTV, which retransmits cable broadcasts from U.S. and Canadian television stations over the Internet without paying those stations any royalties.⁶ An intellectual property discussion arose over whether this was legal. In Canada, such an action may be deemed legal as long as iCraveTV pays into a copyright holders' fund. In the United States though, no such law exists. Although this is a small and isolated example, it shows how copyright and intellectual property laws vary here in North America. Now take this to a global scale, where many countries have different laws in general, and the problems can be seen on how to regulate piracy worldwide.

Types of Software Piracy⁷

With the description of what software piracy is, it is important to introduce and briefly describe the different types of software piracy currently being practiced.

Softlifting

Softlifting is the purchasing of a single licensed copy of software and loading it on several computers, contrary to the license. This includes sharing software with friends, co-workers and others.

Internet piracy

Internet piracy is the unlawful transmitting of software, or providing infringing material that enables users to violate copyright protection mechanisms in software (such as serial numbers and cracker utilities) over the Internet.

⁶ Borland, John. *Plug To Be Pulled On iCraveTV?* 2000, February 4.

⁷ Software & Information Industry Association. *SPA Anti-Piracy Division's Copyright Protection Campaign*. February 2000.

Software counterfeiting

Software counterfeiting is the illegal duplication and sale of copyrighted software in a form designed to make it appear to be legitimate (i.e. copying software and then selling the copies for profit).

Hard disk loading

Hard disk loading is whereby computer retailers load unauthorized copies of software onto the hard disks of personal computers, often as an incentive for the end user to buy the hardware from that dealer.

Renting

Renting is when a fee is paid for software so that one can temporarily use it, similar to renting a video.

OEM/Unbundling

OEM/Unbundling is the selling of standalone software that was intended to be sold packaged with specific accompanying hardware.

It has been determined that the unauthorized copying of personal computer software for use in the office or at home, or the "sharing" of software among friends is the most costly to the software industry; estimated at more than half the total revenue lost by the industry.⁸

⁸ Software & Information Industry Association. *SPA Anti-Piracy Division's Copyright Protection Campaign*. February 2000.

Why is Software Piracy Committed?

There are many different reasons that influence a person or organization to pirate software. Some of them include greed, carelessness, lack of awareness of the law, or general disregard for treating software as valuable intellectual property.

Some people argue that the price of software is far too expensive. So for a manager trying to cut costs, what is installing a version without a license on a few more machines going to do? The general consensus is that software piracy is not a real crime, and that nobody will get hurt. Pirates do not consider the fact that corporations are losing potential sales. Many companies spend thousands, even millions, of dollars developing a software program and as a result of this, they must charge such a high price for their software so that they can see a return on their investment. But even then, many consumers feel these prices are still too high.

The real issue is that the medium on which these software programs are distributed leaves consumers with an easy way to copy and re-distribute. Before, it was programs on a floppy disk that were easily copied. Then, early technology allowed the use of CDs for distributing a software program. This was a step forward for the industry, but soon technology advanced even further and allowed CD burners to enter into the consumer market, and then CD re-writers. This now made CDs easy to copy and the industry was back with the same old problem. Software, itself, presents a unique problem for the industry since it is so easy to duplicate and because the copy functions identically to the original. Unlike other products such as audiotapes and videotapes, there is no degradation in quality from copy to copy. Also, as mentioned above, the copying process is so effortless. The cost of a CD or floppy disk is minimal in comparison to the cost of the software being copied, and with the Internet, costs can become even less. With this, it can be easily understood why software piracy has become so prevalent.

Another important reason why software piracy is so prevalent is because of the old ideologies behind software programs, instantiated by programmers, as mentioned earlier. Many believe that software should be free to the public since it helps promote the better use of computers. Educational institutions are some of the worst examples of this as students believe they can freely distribute software in an attempt of achieving a better education. This same concept can be applied to households and some businesses. Also, some countries have had long

standing cultures and attitudes towards intellectual property such as Russia, where ideas were long considered common property, and so breaking tradition has become difficult to do.⁹

Piracy and the Music Industry

Piracy has long been considered a hindrance to the software industry, but now with technology advancements, the music industry is feeling the same effects. In the past, music lovers enjoyed listening to their favourites on audiotapes, but the copying of these tapes always caused a degradation from copy to copy, so the industry did not feel a pinch. But with advanced technology, music became distributed on CDs and the industry loved the fact that music lovers flocked to stores to buy the latest CDs. CDs were cheap to mass-produce and the artists, along with the industry, were making large profits. But as with the software industry, the introduction of CD burners began to make the music industry a little nervous. Then as the Internet began its revolution, the MP3 format became widespread and this allowed songs to be distributed through the Internet more quickly and for free. This has upset the music industry and they have begun to lodge protests against the format, seeing it as stealing. Currently, analysts suggest that the black market in audio CDs is costing the music industry \$4.5 billion (U.S.) per year as counterfeit CDs and CDs made from songs downloaded off the Internet are rapidly becoming a new threat.¹⁰ The reason why consumers are now ignoring the music stores and are looking for their music on the Internet are related to two things, cost and ease of access. Consumers can download all the songs they want from the comfort of their own home and then make their own compilations. This way, they save the cost of buying a CD and also get only the songs they want. Web sites such as napster.com and MP3.com have become a part of the cyberculture that the music industry is trying to shutdown. Definitely, a struggle the music industry will have to deal with in the years to come, and quite analogous to the situation faced by the software industry.

⁹ The Globe and Mail. *A Window on Russia*. 2000, February 24.

¹⁰ The Globe and Mail. *Black Market In Compact Discs Major Threat To Record Industry*. 2000, January 27.

The Cost of Software Piracy to Society

Obviously, the repercussion of software piracy affects the software industry and its companies. From the outset, it was mentioned that losses due to piracy worldwide amounted to nearly \$11 billion (U.S.).¹¹ But it is not the industry alone that suffers from software piracy. There are many stakeholders involved in piracy and each one of them is adversely affected in some way.

Stakeholders

Consumers (End-users)

When a consumer decides to make an unauthorized copy of a software program, they are forfeiting their right to the support, documentation, warranties and periodic updates provided by the product's manufacturer. Also, they are putting themselves at a legal risk of being prosecuted under copyright laws. Each unauthorized copy also affects the consumer in that each copy is lost revenue for that particular software company. This means, in the long run, that that company will have to offset the lost revenue by raising the price of future software products. This is the same result with other software companies in the same position.

Resellers

Pirating software causes resellers lost sales, and lost sales result in a decrease of revenue for legitimate resellers. The lost revenue causes a decrease in tax revenue for the municipal, provincial and federal governments.

Software Developers

Without the pirating of software, developers could recover their research and development costs quicker, which in turn could help finance new development efforts in a shorter period of time. As well, with piracy causing lost revenue for software companies, in the extreme cases, it may be possible that enough piracy could hurt certain companies which would mean that those companies may have to lay-off or fire their developers since they do not have

¹¹ Business Software Alliance and Software & Information Industry Association. *1998 Global Software Piracy Report*. May 1999.

enough money to pay them. This also means that new developers cannot be hired for the same reason. It has been estimated that in 1998 in the United States, if pirated software had instead been legally purchased, 32,700 more developers could have been employed. If the ripple effect of piracy throughout the industry is included, 109,000 jobs were sacrificed because of software piracy. Wage losses totaled \$4.5 billion (U.S.), and subsequent income tax revenue forgone was \$991 million (U.S.). The projected figures for the year 2008 show that the potential losses for developers will increase.¹²

Software Industry

The losses seen by the software industry have been reiterated numerous times throughout this report and hopefully illustrates the massive monetary effects software piracy has. The companies that make up the software industry need to compensate for the lost revenues encountered, and they do this in many different ways. One way is to increase the prices of future product releases with the hope that those consumers that usually buy the product will continue to buy the product. They can also fire and fail to hire new developers in order to save costs. They can also hesitate in starting new research and development projects and also delay the completion of current projects. If companies fail to see a substantial return on investment then this will cause companies to reduce any future funding on investment opportunities and also deter new companies from entering the industry. If companies fail to invest in research and development then the software industry on a whole will suffer because the advancement of software products and computing will falter and possibly cause an adverse effect on global economies, through lost tax revenues and future economic growth.

So overall, it can be seen that software piracy can only harm any possible advancement that the computer industry may make both directly and indirectly. Without software, there would also be no need for computer hardware and combined, this would cause a drastic economical problem. Although, this idea may be a little extreme, it still illustrates the importance of software to the computer industry and the possible consequences of a decline in it.

¹² Business Software Alliance. *Software Piracy Steals Jobs and Tax Revenue*. 1999.

How is Software Piracy Committed and by Whom?

Software piracy is widespread and can be committed by anyone who has the equipment to do it. It also takes relatively little time to commit the act. Most of the statistics gathered by anti-piracy agencies reports piracy of business applications excluding operating system and game software. The biggest offenders are small and medium sized businesses that in an attempt to cut costs, purchase one copy of the program and license and then install the program on their many machines; a direct infringement of copyright and licensing laws. Many other companies are in a similar position, in which they might buy a site license for a specified number of machines, but then install it on more machines than the license allows. If a random check were made on most corporations, it would be astounding to find the number of violators. The problem is that the funds to do such a random check are not available, especially given the difficulty of this approach.

Convincing companies to follow the rules is difficult because many I.T. departments in organizations do not plan for an expansion of machines coming into the organization. So as a new user enters a company and requires a new system, the license may not be available for the software that must be installed on this new system. So management approves the installation with the idea of purchasing the licenses later, but in truth this never happens. Also, many I.T. departments hold their own in-house testing facilities where machines enter and leave the environment at various rates. Licensing of the software that goes onto these systems is never done because companies say that these systems will only be up for a limited period of time, so a license is not required. It is the combination of laziness, disorganization and the overall disrespect for the law to save a few dollars that influences a company to commit software piracy.

A specific small sector of business though, is actually responsible for most reported piracy. This sector is the individual consulting firms who buy a few copies of a program and then make copies for their business associates for installation. Since many of these firms are small, usually run by individuals on tight budgets, the chances of them committing software piracy are greater. Unfortunately, this sometimes also leaves their clients at fault and so if legal issues arise, both the consulting firm and the client are brought up on copyright infringements.

Surprisingly though, high-volume counterfeiters do not pose as large a problem as businesses. Counterfeiters mass produce software programs by copying them onto CDs which they in turn attempt to sell for a very low fee to the underground market. Many of these CDs are compilation CDs that contain more than just one program and may be worth thousands of dollars, but on the underground market, they are sold for a fraction of the cost. These violators can be found in many small "flea-markets", but mainly over the Internet, which is home to what is known as "warez" — the word commonly used to denote the transfer of pirated software over the Internet.

Although, most warez sites offer pirated software for free, or on a ratio basis, where if a person uploads a pirated software version then they are allowed to download a predetermined number of pirated versions, many warez sites do offer pirated software also for a small fee. Unfortunately, with the boom of the Internet, warez sites have also seen a boom of their own. But with this, anti-piracy agencies have been quick to counter on such sites with many charges being laid in the past two years.

Other smaller groups of people who are committing piracy are those who believe that renting software is legal. As described, renting software is analogous to renting a video. During the time when copyright laws were still being refined in terms of software products, some companies actually made a business out of renting software to customers who in turn signed an agreement to remove the software once they returned the product. An ingenious idea thought by many companies, but unfortunately this was illegal under the Copyright Act and soon this sort of activity slipped into the underground where it is still prevalent today.

The final two types of violators can be discussed jointly and probably are the easiest to relate to. Although, it has been hard to measure the monetary cost of software piracy committed by these two groups, it is easy to say that home users and students at universities and colleges account for a good portion of software piracy. Home users enjoy using their computers for entertainment, educational and business purposes. They also are likely to have the equipment needed to copy software programs, such as CD burners. Many are not educated properly in terms of the effects of software piracy and many do not have large amounts of money to spend

on software programs. The software that is pirated the most by these groups is operating systems, games and productivity suites.

Many students are the biggest offenders due to the nature of their occupation as well as their demographics. Studies have shown that students spend a greater portion of their time on the Internet in comparison to their elders. Most of this time is spent doing research, but is also for personal enjoyment. As well, students find that they require more time on computers to do school assignments. It is this fact that encourages students to pirate software, mainly from borrowing versions from family and friends or from Internet downloads, as their attitude is that they are doing it "for a good cause". Software firms are also reluctant to pursue the educational market for fear that once they sell a few copies to schools, millions more will be illegally copied in the name of educating children.¹³ This problem has been blamed on the school administrators and local governments that fail to properly budget for software purchases. With this attitude, combined with the low income of a student, it is understandable why software piracy is so rampant in schools. To combat this, some firms have offered low cost site licenses to schools, as well as educational discounts on their products to students in a hope to lower piracy.

Piracy, itself, is a global problem. North America has the lowest piracy rates, as values towards intellectual property are higher than in regions such as Eastern Europe or Asia where old values still reign.¹⁴ The highest piracy rates occur in countries such as Vietnam, China and Russia, all of which have rates above 92% (percentage of business applications installed).¹⁵ Many software companies who have found their products to be successful in the countries listed above have reported that their sales figures for the regions are negligible due to the effects of piracy. A lot of the software piracy is attributed to counterfeiting and softlifting as black-market activity is higher in these regions as compared to North America, but also because attitudes towards software is seen as something that can be shared by all, a by-product of communist and socialist governments.

¹³ Parker, Donn B. *Fighting Computer Crime*. 1998.

¹⁴ Business Software Alliance and Software & Information Industry Association. *1998 Global Software Piracy Report*. May 1999.

¹⁵ *Ibid.*

What Actions are Being Taken to Prevent Software Piracy?

With software piracy being such a large global problem, it seems nearly impossible to believe that it can be eliminated. Although, the prospects of eliminating software piracy may be somewhere in the future, software companies, governments and anti-piracy agencies are taking many steps now in an attempt to bring the future closer to the present.

Software Companies

The direct effects of software piracy hurts the industry and its companies. For many companies, overcoming software piracy is a long and hard battle that takes up valuable resources that for small companies are not available. For the bigger companies such as Microsoft, which loses millions of dollars annually due to piracy, their fight against software piracy is fiercer as they have more resources to work with in an attempt to regain some of the lost revenues.

For many smaller companies whose budgets rely on possibly the sale of one product, software piracy poses a hurdle almost unstoppable to them. They do not have the resources to stop piracy on their own so they rely on governments and anti-piracy agencies for assistance to help in the fight. Other smaller companies have just given up trying to control piracy and offer their products as shareware. They make their products freely available usually through the Internet and ask users that use the product for voluntary payments. In other cases, smaller and larger companies offer their product for free and attempt to sell support or upgrades with some success. Then there are the select few who actually think piracy helps market their product better, giving the company and product free advertising. Another approach that companies have attempted is that instead of selling copies of the program and a license to a business, they offer site licensing. This allows a business to buy a copy or two of the product but also a specified number of user licenses so that they can use the medium to install the program on as many systems the license allows. The idea was that businesses were hesitant to buy new software each time they needed to install the program seeing they had the medium already to do the installation. The fact that they did not have a license did not bother them, hence the software piracy. This way a business orders the medium up front as well as a specified allotment of licenses. The up front style means businesses will have to be honest and purchase enough

licenses for their employees, instead of their old practice, hopefully allowing software companies the chance to re-gain some of the possible revenues that could have been lost due to piracy.

For larger companies, more advanced methods have been tried in order to prevent software piracy. As an example, Microsoft projected from past experiences that software piracy of Windows 2000 would be quite large. In an attempt to curtail the amount of piracy, especially over the Internet, Microsoft has "a virtual bloodhound to sniff out illegal copies lurking on the Web, holographic CDs and authenticity certificates that are harder to counterfeit than a \$100 bill."¹⁶ Using this "bloodhound", Microsoft in January alone already uncovered more than 100 web sites with illegal versions of the product.¹⁷ The hologram is so complex because it is etched "edge-to-edge" across the entire face of a CD and features the Windows logo, the name of the software version, and how the disk was sold, so that consumers can tell the differences between counterfeits.¹⁸ Reports in Russia showed that before Windows 2000 was even released, Moscow street vendors were already offering a counterfeited version at about \$4 (CDN) per CD, leaving customers happy.¹⁹

Microsoft, as well as other companies' attempts at more technological solutions relating to cryptography and embedded secret switches to restrict program use to the purchaser, have largely failed. Some software companies attempted inserting "suicide switches" in their programs, which caused the software to stop working, or to cause damage if the user failed to enter a code that had to be purchased from the vendor. Unfortunately, this technique raised many civil suit damages and criminal prosecution for selling dangerous software. But the reason why this technique is not used too frequently, is because of the competitive nature of the industry where other vendors are glad to sell similar products without the protective devices.

BMG Germany said that piracy was to blame for a rampant drop in music sales attempted a similar approach. The company debuted the first copy-protected audio CDs in German music stores, but failed miserably as about 100,000 protected CDs were sold with about 75% of them being returned due to a locking problem during play on different types of players.²⁰ Obviously, the company stopped the pilot and returned to selling the normal CDs while its software producer was looking into the problem.

¹⁶ Hillis, Scott. *Microsoft Already Battling Windows 2000 Piracy*. 2000, February 10.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ The Globe and Mail. *A Window on Russia*. 2000, February 24.

Governments

To help the industry, it is important that the government play a strong role in helping fight software piracy. Their support comes from making Copyright Laws more stringent in an attempt to discourage would be pirates from committing the act. Governments have worked closely with the industry and anti-piracy agents to impose heavier fines as in the No Electronic Theft (NET) Act, in the United States, while in Canada, the federal government has followed suit imposing heavier fines, as well as allowing software companies to gain more in damages.

In the United States, the U.S Department of Justice, FBI, and U.S. Customs Service have joined together in a fight to combat software piracy. With combined resources they believe they can increase the successfulness of bringing pirates to justice. The joint venture will increase resources available to the software piracy/intellectual property fight, which is seen as a detrimental white-collar crime.

Anti-Piracy Agencies

"If individuals and organizations can afford to buy computer hardware, why shouldn't they be expected to purchase legitimate copies of software to run on that hardware?"²¹

To help prevent and control software piracy, many anti-piracy agencies have formed as a combined voice on behalf of software companies so that as a group they can approach and negotiate with governments and pirates in order to help bring piracy to an end. In Canada, this group is the Canadian Alliance Against Software Theft (CAAST). In the United States and actually worldwide, it is the combined efforts of the Business Software Alliance (BSA) and the Software & Information Industry Association (SIIA).

Many of the largest software organizations, such as Microsoft, Adobe, Corel and Novell are a part of these groups. Combined, they provide a united force on all fronts trying to bring an end to software piracy. Some of their roles include providing educational information to corporations, consumers and resellers about software piracy and its implications. As well, they work with governments and justice departments to help bring stricter penalties against software pirates. They also provide a reporting mechanism for all people to report software piracy in a

²⁰ Oakes, Chris. *Copy-Protected CDs Taken Back*. 2000, February 3.

²¹ Software & Information Industry Association. *SIIA 1999 Global Software Piracy Report*. 1999, June 8.

discrete manner. To go through all of the items these agencies do would be too great for this report, so I ask you to please visit these agencies' sites as listed in Appendix A.

On the forefront, the BSA and SIIA plan to attack global piracy by using education, litigation and legislation. In order to stop software piracy, people must be educated so that they can have an understanding that intellectual property theft is a major crime and does have large negative social effects. One way they do this is through school programs (schools being one of the worst offenders) and they believe if they can get to people early then future generations may help decrease piracy. Another key aspect of these organizations is a massive legal blitz where they have brought charges against software pirates across the world, with the hope of getting piracy more into the news and the message that these actions will not be tolerated across to the masses.

Are the Proper People/Companies Being Prosecuted?

With the help of anti-piracy agencies, the software industry is beginning to prosecute more pirates. Going through the Internet news portals and the newspapers on a weekly basis shows proof to the fact that software piracy legal cases are entering the media world. The major players attempting to apprehend pirates are the governments and their agencies, anti-piracy agencies and software companies such as Microsoft.

The attacks have mainly been on businesses and pirate rings (groups who pirate large volumes of software). Many of the suspects are determined through reporting mechanisms such as the BSA's and SIIA's piracy reporting web site. The web site allows any person to blow the whistle on any other person or group that they feel may be pirating software. Detective work is usually used to find those pirates that use counterfeiting as their means of piracy. Finally, companies and agencies search the web diligently for warez sites and any other forms of Internet piracy.

Once a pirate is found, it must be determined that they are indeed breaking Copyright Laws. Then a warrant is issued and property is seized, followed by the filing of a lawsuit. With new amendments passed by government appending to the Copyright Laws stricter penalties for infringements, anti-piracy advocates have long looked for that one case where maximum fines are placed against the offender. Unfortunately, although laws do mention stricter penalties, trials usually never materialize since most offenders, mainly businesses, agree to settle out of court to avoid any possible embarrassment. If the offender is an individual, past cases have seen the penalty dropped to minimal charges in which the individual pays a small fine and possibly community service.

Such an example was in Toronto, where a former York University student was charged with the distribution of pirating software through the university's Internet Service Provider. High levels of traffic through this one account caught the eyes of system administrators who contacted the RCMP and CAAST. However, the former student pleaded guilty to the charges and was handed a \$1,200 (CDN) fine instead of a jail term, which disappointed CAAST as the crime was punished lightly in their minds.²²

²² Canadian Wire. *Toronto Student Fined in Software Piracy Case*. 1999, August 20.

But finally, just recently the industry received what they have long been looking for. The Florida State Circuit Court handed out the most severe judgment against a software pirate to date, which has made the BSA and other anti-piracy groups stand up and applaud the ruling. Government officials were able to buy pirated software over the Internet from the offender and when they searched his home they found counterfeited CDs worth over \$52,000 (U.S.).²³ The judge handed out a penalty of 30 months in jail, 2 years probation and court costs. The offender will also not be allowed to own computers or have them in his place of residence.

“This sentence sends the clearest signal yet that software piracy can land you in jail,” said Bob Kruger, vice-president of enforcement for the BSA. “BSA commend the Florida Department of Law Enforcement (FDLE) for its efforts to protect the Internet and help create a safe environment for legitimate electronic commerce.”²⁴

With similar cases appearing in other states, the industry hopes that software pirates will think twice before committing the crime.

A final thought now on the prosecution of software pirates. Normally, a software pirate is the one who is directly committing the crime and so pointing the finger is quite easy to do. But what happens under this scenario:

As a consultant you go on-site to hook up a few more PCs to the network and the customer asks if you could install some software on those new PCs as well. You are quite certain that they do not have a license for it but if you perform the installation, are you liable for the piracy when, and if, charges are laid?²⁵

According to law the answer is yes. If illegal copying is involved, all those involved are jointly and severally liable. The law gives the legal right to a software company to sue whoever did the install, or whoever ordered it, or both.²⁶ This puts consultants in a difficult position but the SIIA advises consultants to protect themselves. The problem with this is that many customers realize that they are committing software piracy, so if a consultant adds a line to their contract stating that the customer is responsible for providing legal copies of the software, this may cause many customers to back away. As well, if a consultant asks for all installation requests to be done in writing, a customer may have the same hesitations. But what else is the

²³ Business Software Alliance. *Software Pirate Receives 2 ½ Year Jail Sentence*. 2000, March 17.

²⁴ Ibid.

²⁵ Schindler, Esther. *Are You Liable For Your Customer's Software Piracy?* 1999, October 10.

²⁶ Ibid.

consultant supposed to do, turn down the deal? In competing times, that is not the case and so consultants are left in a sticky dilemma relating to business ethics.

Conclusion

In conclusion, this report has focused on many different aspects of software piracy. The large social costs are apparent, and all stakeholders are affected in some negative manner. But who is to blame for these costs? If you ask each stakeholder, you will see the blame put on somebody else. The consumers say it is the software companies' fault since their software prices are too high. The software companies say it is the consumers' fault because they are stealing from them, infringing copyright laws. In my opinion though, I think everyone is at fault. The industry began with a few small groups of programmers who took pride in their programs, and thought of them as theirs, as companies gave them away for free with computer hardware. Then as times progressed, the companies realized that money could be made from selling their software products and quickly they took control of the ownership. Software programs became million dollar ventures for companies that needed to raise prices in order to offset high development costs. Customers now found themselves paying top dollar for something they used to get for free. Programmers lost their right to ownership of the programs they wrote. Thus began the times of software piracy and unfortunately, historical norms have not been altered as we have moved through time.

As now the problem has moved into the state it is at; the industry finds itself trying to control software piracy, instead of trying to bring it to an end, something they agree looks unlikely to happen soon, if ever. So how has their attempt fared as of now? All things being fair, I believe the industry and government is on the right track. It has been shown that worldwide piracy rates are on the decline,²⁷ but obviously specific areas still need to be educated. Using new technologies to combat Internet piracy, and increasing policing against the other forms of software piracy has started to put some fear in pirates, in conjunction with stiffer penalties for violations. But to be successful, I feel the industry must attempt to change the attitudes society has towards software piracy. Intellectual property rights — and our society's view of such rights — are the underlying issues in software piracy. The problem cannot be resolved until all stakeholders effect a change in moral social norms and piracy becomes unacceptable in respectable societies worldwide. When most countries realize that software

²⁷ Business Software Alliance and Software & Information Industry Association. *1998 Global Software Piracy Report*. May 1999.

piracy is damaging their own software industries, then their view of piracy may change. With the fall of the old free-software ideology in the 1960s, and the new upbringing of individuals who see the future of software as profitable and successful, then maybe this may cause society to change.

Appendix A: URL References

Business Software Alliance (BSA)

- <http://www.bsa.org/>

Canadian Alliance Against Software Theft (CAAST)

- <http://www.caast.com/>

Microsoft Corp.

- <http://www.microsoft.com/piracy/>

Software & Information Industry Association (SIIA)

- <http://www.siaa.net/>

Bibliography

- Davis, Robert W.K. and Hutchison, Scott C. *Computer Crime in Canada*. Carswell, 1997.
- Parker, Donn B. *Fighting Computer Crime*. John Wiley & Sons, Inc., 1998
- Schindler, Esther. 1999, October 10. *Are you Liable for Your Customer's Software Piracy?* [Online]. Unavailable: HTTP: unknown.
- Hillis, Scott. 2000, February 10. *Microsoft Already Battling Windows 2000 Piracy*. ZDNet [Online]. Available: HTTP: <http://www.zdnet.com/zdnn/stories/news/0,4586,2436421,00.html>
- Oakes, Chris. 2000, February 3. *Copy-protected CDs Taken Back* [Online]. Unavailable: HTTP: unknown
- Reuters, Cannes. 2000. *Black Market in Compact Discs Major Threat to Record Industry*. The Globe and Mail, 27 January, R5.
- Cheney, Peter. 2000. *On-line Plunder Rocks Music World*. The Globe and Mail, 29 January, A1
- 1998 Global Software Piracy Report*. May 1999. Business Software Alliance and Software & Information Industry Association.
- Software Piracy Steals Jobs and Tax Revenue*. 1999. Business Software Alliance.
- Software Piracy Status Report, by Country*. 1999. Business Software Alliance.
- 1997 Global Software Piracy Report*. 1998. Business Software Alliance and Software & Information Industry Association.
- Majendie, Paul. 2000, January 26. *Report: Pirates cost record industry \$4.5B a year*. Yahoo [Online]. Available: HTTP: http://dailynews.yahoo.com/h/nm/20000126/wr/leisure_pirates_1.html
- First Software Pirate to be Convicted...* 1999, November 24. Software & Information Industry Association.
- SIIA 1999 Global Software Piracy Report*. 1999, June 8. Software & Information Industry Association.
- Software Acquisition & Piracy in Higher Education*. 1999. Software & Information Industry Association.

SIIA Asks Congress for Tougher Penalties on Software Pirates... 1999, May 21. Software & Information Industry Association.

SPA Anti-Piracy Division's Copyright Protection Campaign. 2000, February 16. Software & Information Industry Association [Online]. Available: HTTP: <http://www.siiia.net/piracy/programs/backgrounder.htm>

The No Electronic Theft (NET) Act. 2000, February 16. Software & Information Industry Association [Online]. Available: HTTP: <http://www.siiia.net/piracy/programs/lamacchiadef.htm>

Software Use and the Law. 2000, February 16. Software & Information Industry Association [Online]. Available: HTTP: <http://www.siiia.net/piracy/programs/sftuse.htm>

Questions & Answers about Software Piracy. 2000, February 16. Software & Information Industry Association [Online]. Available: HTTP: <http://www.siiia.net/piracy/programs/Q&a.htm>

Piracy Investigations and Sanctions. 2000, February 16. Software & Information Industry Association [Online]. Available: HTTP: <http://www.siiia.net/piracy/programs/INVEST.HTM>

Frequently Asked Questions. 2000, February 16. Canadian Alliance Against Software Theft [Online]. Available: HTTP: <http://www.caast.com/theft/faq/>

Protection Against Software Piracy. 2000, February 16. Microsoft Corporation [Online]. Available: HTTP: <http://www.microsoft.com/piracy/>

Forty-three Percent of Canadians Condone Software Piracy... 1999, March 12. Canadian Alliance Against Software Theft [Online]. Available: HTTP: <http://www.caast.com/>

Federal Government Changes Law to Deter Copyright Thieves. 1999, October 4. Canadian Alliance Against Software Theft [Online]. Available: HTTP: <http://www.caast.com/>

Toronto Student Fined in Software Piracy Case. 1999, August 20. Canadian Alliance Against Software Theft [Online]. Available: HTTP: <http://www.caast.com/>

Canadian Economy Stunted by Software Piracy. 1999, October 22. Canadian Alliance Against Software Theft [Online]. Available: HTTP: <http://www.caast.com/>

Borland, John. *Plug To Be Pulled On iCraveTV?* 2000, February 4. CNET News.com.

A Window on Russia. The Globe and Mail. 2000, February 24. T2.

Toronto Student Fined in Software Piracy Case. Canadian Wire. 1999, August 20.

Software Pirate Receives 2 ½ Year Jail Sentence. 2000, March 17. Business Software Alliance [Online]. Available: HTTP: <http://www.bsa.org>