
Background Information

Topic: Software Piracy

Historical Context:

Piracy and counterfeiting have been widespread since the dawn of artistic expression as human nature as existed. Digital piracy is defined as the act of distributing and downloading copyrighted material. This includes the typical idea of piracy such as downloading music, media, software and video games as well as the more uncommon such as sideloading iOS and android apps, streaming services/broadcasting and books/courses. “Digital piracy existed as soon as computers came about starting as in the 1980’s people were using dual cassette recorders to copy entire song off the radio to avoid paying” (medium). This fact is a testament to whether there is a way for people to not pay for something they will. The next stage of piracy “came about starting around the 1990’s as personal computers were on the rise, as the first form of piracy came through floppy disks as software was loaded on to floppy drives and spread among users and latter through CDs” (bytescare). The next stage of the evolution of piracy came when the internet was becoming modernized as “peer-to-peer which is a way of sharing files where each individual user would host the server to download it. A notable example of this would be Napster later to be sued for millions and shut down.” (USAtoday). Now coming from the current day piracy which is still happening right now through lots and lots of ways. Some of those ways are streaming piracy where sites would be hosted that allow people to download all sorts of media, Torrenting like Napster were it utilized peer-to-peer networks to download files, Warez sites where they host cracked software allowing to use, they freely most notable pirated software is windows itself and Microsoft office. People who host pirated content often use cloud storage as many places offer free easy way to store these types of pirated files. In addition, they often use decentralized networks such as Tor, I2P or VPN services often encrypting the files themselves such as password protected zip files, sometimes using decentralized cloud services such as IPFS (InterPlanetary File System) or ftp. Video games have also been a target for piracy as the rise of emulation makes it easy for unwanted access, most notably from Nintendo’s switch called Ryujinx, xemu for Xbox and pcsx for the PS5. There are many ways to pirate a console such as hardware cloning where software in the console is copied and sold often times with preinstalled games and firmware hacking where people modify their console to get rid of restrictions. Roms or ISOs can also be a way to steal console games as it allows people to distribute the game itself and run it themselves. In addition to pirating games, Operating systems can also be pirated such as rooting android phones and jailbreaking iPhones, fortunately jailbreaking on iPhones is not possible as of right now due to the security on iPhones the last time they were jailbreakable was when it was IOS 16 which was year 2022. Mobile apps are another option for pirates as sideloading on android and IOS is possible as it allows people to get paid apps. Cable is also an area of concern as the term camcording for movies and screeners for tv movies exists where recording of movies and releasing them online. Stream ripping where audio is ripped from services such as Spotify and YouTube to be watched for free and bootlegging for pirating live concerts. 3d models textures and digital art is a concern as websites like TurboSquid or Sketchfab host them. Even social media can be pirated, scraped off the web, stolen and reposted for the gain of the pirate. Educational content is pirated courses like Udemy, Coursera, MasterClass, textbooks and academic journals are often laid waste by people stealing their content most noble places are Library Genesis Z-libary and Sci-Hub. The newest form of piracy today is ai piracy as model/datasets can be stolen and redistributed. Deepfakes are another concern as people can pirate other people’s image and voice and use it for their own. Finally, as the internet grows you bet piracy is going to evolve with it

Sources https://en.wikipedia.org/wiki/Online_piracy , bytescare link from below

<https://medium.com/@bytescare/history-of-music-piracy-a-brief-explanation-5e03ed62a962>

<https://www.usatoday.com/story/entertainment/2024/06/01/napster-music-25th-anniversary-music-industry-impact/73871612007/>

<https://bytescare.com/blog/contemporary-piracy>

Laws/policies/regulations:

Software piracy encompasses various unauthorized activities involving copyrighted software, such as copying, selling, or purchasing without proper authorization. These actions are considered copyright infringement and can lead to both civil and criminal penalties. Specifically, the U.S. government has taken significant steps to combat software piracy, largely influenced by major software companies like Microsoft and Adobe. During the Clinton and Gore administration, stronger laws were introduced to protect software creators and enforce copyright regulations.

One of the key laws, Senate Bill S893, signed by President Bush in 1992, elevated large-scale software piracy to a felony. Individuals who create 10 or more illegal copies worth over \$2,500 within six months can face up to 10 years in prison and a \$250,000 fine (Stanford). The United States Copyright Act further enforces penalties for illegal reproduction, with fines reaching \$250,000 and potential imprisonment. The No Electronic Theft (NET) Act extended piracy laws to include digital distribution, making it illegal to share copyrighted software online, even if done without financial gain. If the copied software exceeds \$1,000 in retail value, violators can face up to six years in prison (Stanford).

Internationally, the U.S. has pressured countries like China to strengthen their copyright laws, even threatening trade sanctions to ensure compliance (Stanford). The Digital Millennium Copyright Act (DMCA) reinforced these efforts by criminalizing the circumvention of anti-piracy measures and banning the distribution of tools used to crack or copy software.

To support enforcement, the Justice Department and FBI have established specialized units to investigate and prosecute software piracy cases. These measures reflect the U.S. government's strong stance on protecting intellectual property and maintaining a fair and lawful software industry (Legal Match).

Stakeholders Involved:

Releasing software into the market creates a need for regulating that software or facing government regulation.

- Consumers

When deciding on a software to use an end user can find access to illegitimate distribution of software knowingly or not. Downloading, using or interacting with pirated software has many different repercussions, such as malware (malicious software), software owner demands, and even legal prosecution with fines and jailtime. (Norton Life Lock)

- Governments

There are laws in place that protect individuals and companies' copyrights, but piracy enforcement lacks prevention. There are costs for running the litigation to push back on piracy barricades smaller developers from considering anti-pirate methods. (LAWS)

- Producers

- Distributors
- Industry Companies
- Greater Economy

By understanding more about the persons impacted by the choice of piracy, a greater understanding can be created. Piracy is an illegal act that is hard to visualize when dealing with software and other internet illicit acts.

Industry Standards:

-Mario

Software piracy is a big problem in industries like semiconductors and electronics, costing companies money and putting their software at risk. To fix this, experts created the SEMI Server Certification Protocol (SSCP). It's a system that checks if software licenses are real before letting anyone use the software. This way, only people with proper licenses can use the software, and illegal copying is stopped.

SSCP works by checking licenses through servers, making it safer than older methods like using hardware keys. It stops people from using fake licenses and helps keep software protected. This ensures that companies get paid for their products and prevents people from using stolen software.

By making sure everyone follows the same licensing rules, SSCP also keeps things fair. It stops people from gaining an unfair advantage by using pirated software (eetimes). Plus, when companies stop losing money to piracy, they can spend it on new ideas and better technology.

Another big advantage of SSCP is that it keeps computers safer. Pirated software can have viruses or bugs that could harm systems. With SSCP, only trusted, safe versions of software are used, reducing the risk of security problems (eetimes)

Lastly, SSCP helps companies follow the rules, especially in industries with strict laws. Using it makes it easier for businesses to stay legal and avoid fines.

In short, SSCP is an important tool to stop software piracy. It helps protect software, keeps things fair, improves security, and encourages companies to keep creating new and better products. As more companies use it, the software industry will become safer and more honest (eetimes).

Ethics of the topic:

-Francisco

Software piracy is a large and complicated issue, the issue cannot not be viewed through a black and white lens as the reasons behind the act vary significantly and it is unjust to consider the act of committing software piracy all the same, yet it is also important to consider the rights of the creator or owner of said property and how they are affected by it. The ethics behind software piracy can be split into 4 major categories: "How does pirating impact the rights of the owner and different industries?", "Why do people pirate?", "Should pirating continue, what could happen?", and "What could be done differently?"

- How does pirating impact the rights of the owner and different industries?

Pirating software is illegal, plain and simple. This is due to the intellectual property rights of the owner who can choose who can access their property and what they need to do in order to access their property. Either through payment or for free it is the owner's choice of how to distribute their property. Yet by pirating the software, it undermines that right and, in most cases, the owner usually depends on that right to make a living off their property. In addition, the more a property is pirated, it can deter potential investors, "Piracy is argued to harm industries by depriving creators and companies of revenue. This lost revenue can lead to reduced investment in new works and can harm individuals working in these industries." (BYTESCARE Team, "Are there any Ethics of Piracy", pt 2). Piracy affects industry just as much as the individual creators, which is to say it should be illegal and frowned upon yet a large number of people still pirate.

- Why do people pirate?

Despite the illegal act, people pirate software and media for a multitude of reasons. Some have the funds to pay for the software yet do not want to pay for the software or wish to sell the software themselves. Yet, those are not the reasons for a majority of people pirating software or media. Technology is everywhere; it has become so prevalent that not using it is frowned upon and not having the most up-to-date device or software leads to problems. The issue arises in places where that technology is not the most up to date or is unavailable, "... countries that most access pirated content, Brazil appears in fifth place, with 4.5 billion accesses in 2021..." (Halpern, 2022, para. 5), Brazil is a developing country attempting to get its foot into the tech industry door, yet companies like Adobe, who specialize in making software for businesses in the graphic design industry, only have a select few number of countries in which they provide region-based pricing for and Brazil is not one of them, meaning if companies or entrepreneurs in Brazil wanted to make a web design company, they cannot use the current leading graphics tools and would struggle to keep up with other countries who have access to the software. So, they pirate it in order to keep up despite it being wrong and costing them in the future.

The same can be said for media. Music and Anime are considered some of the most marketable media of today and the issue is, many countries cannot access it or must pay enormous prices to access it. Music has always been very popular and, since the pandemic, anime has taken the world by storm in popularity, yet despite both still being popular, it can be expensive to listen to music or watch some shows as streaming is becoming increasingly popular yet having set and firm prices. The issue arises when a particular streaming service becomes the only option to listen to certain artists or watch certain shows, they get to decide what type of service you receive and the rate you must pay. For example: Spotify is one of the most popular music streaming services out there and Crunchyroll is the leading anime streaming service both with little to no competition, and due to that they have no competition causing to want to improve their service and allow them to change their pricing as they please ((Harding, 2024) & (Colbert, 2024)). It also does not help when these services are not available in certain regions. Consumers are not happy with what they are paying for and look toward other sources to receive their product. This is another one of the many reasons why people pirate media and due to this the idea of pirating has become a lot more normalized despite the actions taken toward combatting it.

- Should pirating continue, what could happen?

Due to pirating becoming more normalized, consumers are going suffer due to the consequences. Since the software is not up to the same standards as it is not up to date with all the new updates that the distributors add. Additionally, software not obtained directly by the owner does not follow the same rules or regulations, pirates could put their own tweaks in the code and could have malicious intent with said code, "Pirated content often lacks the quality and safety checks of legally distributed content. This not only affects the user experience but can also pose security risks, raising ethical concerns about the responsibility to protect consumers from harm." (BYTESCARE Team, "Ethical Issues in Piracy", pt 4) This could also impact the employment of people in creative industries that rely on said software as they may put more restrictions to block pirates which may impact their actual paying consumers which continues the cycle of more people deciding they're unhappy with the product and switch to pirating.

- What could be done differently?

There is one quote from Gabe Newell that still resonates with me, and I think about every time someone questions piracy, “The easiest way to stop piracy is not by putting antipiracy technology to work. It’s by giving those people a service that’s better than what they’re receiving from the pirates.” The idea that the main reason people pirate is due to being unhappy with the product or service being delivered begs the question “What is the pirate providing that makes the customer want to comeback?” Sometimes, a company cannot provide exactly what the customer wants, as in some cases the customer just wants a free product, yet in other cases it may be an issue with increased prices yet no real improvement to the value of the product. This is when a company approaches an endgame strategy yet instead of doing this after a while, they started now, “This is the new normal. You will pay more for less.” (Gioia, 2024, para. 17) This focus on seeing how much a company can get away with is frustrating and annoying, unfortunately people do not realize what is happening and until the masses finally notice, it will already be too late.

This issue is not easy as it is not black nor white, it is full of grey.

Ethics depends on how you view the same story yet, only from viewing all the motives and perspectives can you see the full picture. As of right now, people are complacent and are allowing companies to get away with their plans in which continues this endless cycle of pirating. Until the masses call out companies for their actions then can the companies improve, which benefits all except the pirates. This additionally allows those who wish to properly obtain the software or media to stop pirating software. So, until either companies step up and the industry changes or people step up and the industry changes, nothing will change, and this issue will most definitely spiral out of control.

Term Definitions: (serve as a glossary for definitions of certain unique terms)

Sanctions: a threatened penalty for disobeying a law or rule.

References:

Cory, N. (2020, February 20). *How Voluntary Agreements Among Key Stakeholders Help Combat Digital Piracy*. Information Technology and Innovation Foundation - the leading think tank for Science and Technology Policy.
<https://itif.org/publications/2020/02/24/how-voluntary-agreements-among-key-stakeholders-help-combat-digital-piracy/>

Legal and public affairs. A global leader in consumer Cyber Safety. (n.d.).
<https://www.nortonlifelock.com/us/en/legal/anti-piracy/consequences/>

LAWS. (2024, August 16). Unveiling the dark side: Shocking trends in software piracy revealed - laws.com. <https://copyright.laws.com/copyright/unveiling-the-dark-side-shocking-trends-in-software-piracy-revealed>

Strategy for information markets/piracy. Wikibooks. (n.d.).
https://en.wikibooks.org/wiki/Strategy_for_Information_Markets/Piracy

<https://bytescare.com/blog/history-of-software-piracy#:~:text=The%20history%20of%20application%20piracy%20is%20closely%20intertwined%20with%20the,or%20through%20mail%2Dorder%20services.>

(Bytescare: a recent blog about the impact of Counterfeit and Piracy)

Sources for Historical Context:

<https://www.legalmatch.com/law-library/article/software-piracy.html>

<https://copyright.laws.com/copyright/unveiling-the-dark-side-shocking-trends-in-software-piracy-revealed>

<https://www.forbes.com/sites/erikkain/2012/02/15/a-brief-history-of-us-anti-piracy-efforts/>

Source for Laws and regulations:

<https://cs.stanford.edu/people/eroberts/cs201/projects/1999-00/software-piracy/government.html>

<https://www.legalmatch.com/law-library/article/software-piracy.html>

<https://www.linkedin.com/pulse/ethics-digital-piracy-copyright-alexander-hodges/>

Industry Standards Sources:

<https://www.eetimes.com/an-industry-developed-approach-to-thwart-software-piracy/>

Ethics behind Software Piracy references:

BYTECARE Team (Ed.). (2024, November 27). *Ethics of piracy - top limitations of piracy // bytescare*. Bytescare. <https://bytescare.com/blog/ethics-of-piracy>

Halpern, A. (2022, March 30). *Brazil is the fifth country with the highest number of accesses to pirate content*. LinkedIn. <http://linkedin.com/pulse/brazil-fifth-country-highest-number-accesses-pirate-content-halpern>

Harding, S. (2024, June 3). *Spotify raising prices by up to \$3 as frustrated subs beg it to “Just do music.”* Ars Technica. <https://arstechnica.com/gadgets/2024/06/spotifys-2nd-price-hike-in-a-year-raises-prices-in-july-by-up-to-3/>

Colbert, I. (2024, May 1). *Crunchyroll announces price increase for two subscription tiers, its first price hike in five years*. IGN. <https://www.ign.com/articles/crunchyroll-announces-price-increase-for-two-subscription-tiers-its-first-price-hike-in-five-years>

Gioia, T. (2024, November 2). *Why streaming subscription prices will continue to rise*. Why Streaming Subscription Prices Will Continue to Rise. <https://www.honest-broker.com/p/why-streaming-subscription-prices>