The Seven Seas of the Internet: An Analysis of Illegal Film and TV Streaming

Prompt 1: Dissect a form of online offending in order to identify remedies

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Introduction

Breaches of copyright law[1] have happened as long as copyright law has existed. However, the invention and widespread use of the Internet has made the illegal distribution of copyrighted materials easier than ever. It is estimated that pirated video material currently receives over 230 billion views per year [1]. For a long time, films and TV shows have placed among the most pirated types of content on the Internet. While torrenting[2] was more popular in the early 2000s, by 2019 illegal streaming[3] made up 80% of digital video piracy in the US [2]. This has made it the leading issue in the field of film and TV piracy today.

Digital piracy is estimated to cost the global movie industry between $40 – $100 billion annually [1]. Some sources suggest the huge losses due to piracy have made large production studios wary of investing in new projects, as they are worried about not recouping the millions of dollars required to produce a film or TV show [3].

Despite efforts from governments and copyright holders over the past two decades, illegal streaming of films and TV shows remains prevalent. A thorough analysis of illegal streaming in 2021 is needed, as only by understanding the problem in depth can effective solutions be proposed.

Those involved in illegal streaming can be broadly categorised into two groups: distributors, who host the websites through which the illegal content is streamed; and consumers, who watch the illegal streams. Both groups have their own motives, methods and challenges for their involvement in illegal streaming. These could be mitigated or leveraged to discourage each group from offending.

Distributors

Pirated films and TV shows are only as accessible as they are due to the vast number of websites hosting copyright-infringing content online. By discouraging the existence of these sites, illegal streaming will be drastically reduced.

Motives

If you are not paying for a product, you are the product being sold

Many distributors recoup the costs of expensive website hosting with advertisements and tracking analytics. With enough traffic, they can gain a large profit. In a 2021 study of illegal sports livestreaming websites, which are adjacent to film and TV streaming sites and expected to share many qualities, researchers found multiple known malicious tracking services operating through the sites, as well as numerous pop-up adverts that violated online advertising standards [4]. Additionally, a 2015 report found one in three piracy websites exposed users to malware, to the total profit of around $70

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[1] Defined as "the manufacture, importation, distribution and sale of products which falsely carry the trade mark of a genuine brand without permission and for gain or loss to another" [23]
[2] The act of downloading copyrighted content, usually via a peer-to-peer network
[3] Streaming copyrighted content without the copyright owner's permission

million a year for distributors worldwide [5]. The attacks range from the theft of bank and credit card information to the distribution of ransomware.

Therefore, there is a financial draw for distributors, often involving other forms of cybercrime. Free film and TV streams are an effective lure for drawing in victims for financial gain, and it can be assumed that distributors with no qualms about infringing copyright law will have no qualms about becoming involved in other forms of crime as well.

A free culture

The co-founder of notorious torrenting site The Pirate Bay, Peter Sunde, spoke in an interview about how the Pirate Bay team, initially formed of political activists and hackers, had aimed to move power back from large companies to individual artists [6]. He emphasised the number of people around the world who had told him how "important" it was to their lives and careers to have "access to materials" through the "'free' culture" The Pirate Bay enabled. Many distributors of illegal streaming services likely feel the same, providing an ethical motive for their crimes that would cause them to offend even in the absence of financial gain.

Additionally, there are situations where films and TV shows are unavailable to certain consumers. This may be because they are region-locked on legal streaming services or are foreign media with no official translations in the consumers' spoken language. While Virtual Private Networks can be used to circumvent region-locking, these often entail more costs for consumers, many of whom may be from less wealthy countries and unable to afford it. Distributors of illegal content may see themselves as providing for such people. In the 2000s, there was a strong community of "anime fansubbers", who translated episodes and films of Japanese animation—colloquially known as "anime"—for an English-speaking audience and distributed them for free over the Internet. They viewed their actions as encouraging interest in anime in the West and followed a code of honour that involved taking down their fansubs as soon as an anime was officially licensed in the US [7]. While foreign media has become more readily available around the world in the past decade, with 45% of the content on Netflix US in 2020 being foreign-language titles [8], interest in niche foreign content has also seen a rise and there will always be unlicensed series only available to some through fan translations provided by illegal content distributors.

Process

The first thing a distributor requires is a website. This can either be hosted on their own server, which may be expensive, or on a cloud service that can shield their IP address. The Pirate Bay infamously moved its servers to the service Cloudflare, which provided this IP-shielding, allowing the site to frustrate the law enforcement trying to shut it down [9]. Alongside the server, a distributor must also purchase a registered domain.

Secondly, the distributor needs copies of the copyrighted material. In the past, these have been sourced from DVDs, Blu-Rays and specialised stream-ripping tools designed to rip and decrypt the streams provided by legal streaming services [10]. Some of these legal services also give customers the option to download content for offline consumption, which may be exploited by criminals looking to distribute the media for free. Legitimate premium accounts are used to access the content, often using prepaid credit cards supported by fake identities [10].

Finally, a way to monetise is needed to cover the costs of hosting the server as well as make a profit for financially-motivated distributors. This requires involving third party advertisers who either do not know or do not care that the website is illegal, as well as malware distributors and organisations looking to buy user data.

Challenges

High traffic, wide bandwidth and good Internet are all needed for proper website hosting. Illegal streaming services aren't as equipped for this as legal companies—a comparison between legal and illegal sports livestreams found the illegal streams of significantly worse quality, with longer buffering time, frequent quality switching and significantly higher packet loss [4]. The same is likely true of most illegal streaming sites.

Additionally, ad-blockers are a threat to illegal websites' monetisation as they protect consumers from unwanted adverts and malware. Because of this, many illegal sites use anti-ad-blocking techniques or refuse to serve anyone using an ad-blocker [4].

Domain takedowns can pose a genuine threat to illegal websites. Many change domains often to evade the authorities as once a domain is taken down, all chance of monetisation and distribution illegal material becomes impossible without a new domain.

Distributors are also at risk of legal action. While most copyright holders wouldn't prosecute consumers [11], distributors are smaller in number and serve as more effective targets. In December 2020, the US Congress passed the Protecting Lawful Streaming Act of 2020 that changed hosting copyrighted material from a misdemeanour to a felony [11]. This allows offenders to be jailed for more than 5 years, forcing US citizens to face even greater consequences if found hosting an illegal site.

Consumers

Consumers of illegal streams of films and TV shows are technically not infringing upon copyright law. Unlike the downloaders of torrents, consumers of illegal streams are not themselves reproducing or distributing unauthorised copies of a copyrighted work [11].

However, discouraging consumers from seeking out illegal streams is still important as distributors would have no motive to distribute content if no one watched it. Additionally, consumers of illegal streams share many motives with the downloaders of torrents, who are infringing copyright law, and so some of the countermeasures proposed will equally apply to them.

Motives

In the Internet age, obtaining content on demand at a small cost has become the expected norm for consumers. This has led to a high demand for cheap, instantly accessible media.

A divided streaming landscape

The current legal streaming landscape is split across several notable services, including Netflix, Hulu, Disney+ and Amazon Prime. While not every consumer will be willing or able to pay for any of these services, a 2021 survey by the UK Government found the majority of those surveyed were subscribed to at least one [12]. Yet a separate 2017 survey found that of the 98% of the surveyed participants subscribed to Netflix, 47% still used illegal streaming sites [13].

There is a focus on exclusivity in legal film and TV streaming, with an effort made by every service to keep their own content exclusive to their own platforms. In January 2020, Disney pulled all of its films and TV shows from Netflix in preparation for the launch of Disney+, and in 2015 Netflix ended its licensing agreement with the cable network Epix, citing the network's plans to start its own streaming service, leading to the removal of Epix's media from Netflix [13].

However, with each of these services hosting their own new, popular films and TV shows, there is a social pressure on consumers to watch them all so they can participate in the related conversations

between friends and family. However, access to each service requires its own monthly fee. Paying for even the basic tier of the five most prominent legal streaming services in the UK would cost £40 per month [14], which will be far outside many consumers' budgets.

In the UK Government's 2021 piracy survey, the primary reason given for illegally streaming a film was that it "was not available on an existing subscription" [12]. Many consumers opt to stream desired films and TV shows illegally instead of paying for an entire separate subscription to watch only one piece of media. This is demonstrated in how the aforementioned move of Epix's library from Netflix to the smaller Hulu led to an estimated 20-22% rise in consumers illegally streaming those titles [13].

A mundane, victimless crime

In interviews in 2011-12 with self-reported torrent downloaders, researchers found many viewed piracy as a mundane activity [15]. The perceived pervasiveness of piracy also made the interviewees feel safe, as any blame for the act was distributed among millions of people. Many drew also distinctions between large companies and independent artists, with multiple interviewees claiming the large companies they stole from wouldn't be hurt by the theft, while dismissing the impact on independent artists with the claim they wouldn't receive most of the money anyway.

Kieran Sharp, CEO of the anti-piracy organisation FACT, reports that this "victimless crime" argument is one he's heard many times during his 17 years campaigning against piracy [3]. The combined beliefs that piracy is something everyone does, that no one is hurt by it and that the consumer won't face consequences have led to a majority of the public viewing piracy as unremarkable and socially acceptable, which makes it easier to justify.

Process

The average process of finding and watching an illegal stream of a film or TV show is as follows:

1. a) Navigate to a known illegal streaming website and search for the desired film or TV show.

1. b) Search a variation of "watch [*name of media*] online free" using a search engine, then try each link that appears until a decent quality stream is found.

2) Play video in browser, disabling ad-blocker if necessary.

3) Watch illegally streamed video.

A consumer will try to find a stream of decent quality as quickly as possible. They require a good Internet connection, a website that hosts a decent quality stream of the title they wish to watch and a way to easily find that website.

Challenges

The main challenge consumers face is malware, the risk of which is the only cost consumers encounter when watching illegal streams [11]. They may also face difficulties finding an available stream of decent quality. There exist many forum threads in which consumers complain about well-known illegal streaming websites being shut down as it makes finding illegal streams more difficult [16].

Countermeasures

Distributors

The first way to deter distributors from offending is to reduce the profit they make. Targeting the advertisements and malware they host on their websites may be difficult as the third parties providing these often fall outside of the law, becoming difficult to monitor or regulate. However, as ad-blockers have been shown to have some effect on reducing the adverts and malware users are exposed to [4], one unique method to disrupt monetisation could be a campaign stressing to consumers that they should not trust websites that force them to disable their ad-blockers. If effective, distributors will be forced to choose between allowing ad-blockers or receiving reduced website traffic, both of which will decrease their income as the advertisement space on their websites will become less desirable to third parties.

It is difficult to say whether this method will have much impact on distributors' revenue. It would work most effectively in congruence with other countermeasures. However, many legal websites, especially news sites, also encourage users to turn off ad-blockers. A campaign against websites that require the disabling of ad-blockers could have an unintended impact on these legal sites.

Distributors' justifications for digital piracy can also be combatted as these often stem from misconceptions. The Pirate Bay's co-founder Peter Sunde's claim that the torrenting site would move power back from large companies to individual artists [6] is refuted by FACT CEO Kieran Sharp, who insists that it is the people with normal jobs in the entertainment industry that are put at the greatest risk by piracy, such as sound engineers, camera operators and set builders [3]. Sharp explains that the wages for these jobs are "fickle at the best of times" and money concerns caused by piracy will only lead to further job insecurities.

Emphasising the impact of piracy on individual artists has proven to be one of the most effective methods for anti-piracy campaigning. The UK Government's 2021 piracy survey concludes with a study done on which anti-piracy messages have the most influence on both "casual" and "savvy" pirates. While the impact on large companies garnered little empathy, the demonstration of harm to individual creators was effective on even "savvy" pirates [12]. An anti-piracy campaign that centres this individual impact may reduce the number of distributors who feel justified in hosting illegal streaming sites, as well as the number of consumers who use them.

The issue of unavailable content, particularly unavailable foreign content, is naturally decreasing on its own. The rise of legal websites such as Crunchyroll that translate and distribute anime episodes within an hour of their Japanese broadcast has caused anime fansubs to become nearly extinct [7]. This has been echoed across most foreign media and meant distributors have far less incentive to translate and distribute copyrighted media themselves.

However, the issue of certain media being region-locked on legal streaming services remains. With a more globalised world of streaming, licensing laws could be adjusted to allow for easier distribution of media to wider audiences.

The other approach to targeting distributors is to disrupt their methods for hosting illegal sites. Firstly, legal streaming services can take certain measures to make stealing the content they host more difficult. Simple steps such as storing content in .zip files that cannot be found through "filetype:" Google searches make content more difficult to download directly from a company's database [17]. Additionally, having users subscribe to a service instead of downloading products directly makes it easy to shut down suspicious accounts. As most distributors gain access to copyrighted works through legal means, this can be an effective countermeasure.

Even the largest companies like Netflix have not been able to prevent content theft entirely and cybercriminals will always be a step ahead of security experts, so this cannot serve as more than a roadblock for distributors. However, when used alongside other countermeasures, it can add to the effort involved in hosting an illegal streaming site, which will make the rewards for doing so less enticing.

DMCA takedowns have been one of the most used methods for combatting illegal streaming sites over the past decades. They give copyright holders themselves the power to act, which is effective because the copyright holders are the ones most incentivised to stop illegal streams. However, there have been cases of DMCA takedown notices being abused, with false claims being sent for personal gain [18]. This can lead to legitimate content hosts facing unfair targeting, as well as poor PR on behalf of the companies that send the false claims or who are being impersonated by the false claims. Additionally, even when DMCA takedown notices are legitimate, an illegal website often reappears under a different domain name or is replicated through mirror websites. There is a well-known 'hydra' analogy stating that as soon as one illegal site is closed down, several more appear in its place [19]. This means that, while DMCA takedowns are important, they can in no way solve the issue of illegal streaming sites on their own.

Maintaining the threat of legal action is the final important countermeasure. When combined with all the previous countermeasures, distributors will have fewer incentives to offend, more difficulty in carrying out their offences and face greater consequences if they are caught. This will cause many to view hosting an illegal site as not worth the risk. FACT CEO Kieran Sharp has worked closely with the police in the past year to crack down on illegal streams and suggests more harsh crackdowns are coming, which will serve as an effective threat to deter many distributors [3]. Even though cloud hosting services such as Cloudflare may shield IP addresses, they are willing to provide them to companies that report a website through their Trusted Reporter program [9]. Making sure all cloud services have such options available will help legal measures to be taken against distributors.

Consumers

While distributors have been heavily targeted by copyright holders and law enforcement, there has been little attempt to provide countermeasures against consumers themselves [3]. Even in the days when torrenting was the major form of digital piracy, copyright holders did not focus on prosecuting consumers due to the sheer scale of offenders [11]. The same is even more true for consumers of illegal streams, who are not infringing copyright law. However, as targeting consumers will reduce the traffic to illegal sites, the following countermeasures are still worth implementing.

It has been a long time since FACT's famous "You wouldn't steal a car" adverts and there haven't been any anti-piracy campaigns on the same scale since. An effort could be made to educate consumers on the dangers of piracy, emphasising the threat of malware and malicious tracking services. Centring the impact on individual artists could, once again, cause even veteran consumers to self-reflect on their reasons for offending [12]. A lot of anti-piracy campaigns that do exist emphasise the illegality of the act, while omitting the information that watching an illegal stream is technically legal. Letting the public assume that watching illegal streams is actually illegal will make it harder to justify in the minds of many consumers, particularly more casual ones. However, there is a level of ethical dubiousness to such a tactic and a clear explanation to consumers as to why they shouldn't watch illegal streams regardless of legality may be considered more ethical. Regardless, the main misconceptions an anti-piracy campaign should combat are that piracy is widespread, that piracy is victimless and that piracy is socially acceptable. Consumers should be encouraged to recontextualise illegal streaming as

abnormal, hurtful to individual artists and socially undesirable to refute their internal justifications for engaging in it.

Finding illegal streams should also be made more difficult for consumers, as if they cannot find a viable website within the first few pages of a Google search, most will give up. Therefore, continuing to take down illegal websites with DMCA takedowns will help deter consumers. However, not all that give up will turn to legal options, so legal streaming services and production companies may still never receive the money they would have had the consumers opted to stream legally.

The final way to deter consumers from watching illegal streams is to make the legal options more accessible. In contrast to the film and TV sectors, the music industry has seen huge success in combatting piracy [14]. The music streaming service Spotify was "designed from the ground-up to combat piracy", according to the company itself in 2013 [20]. The aspects of its design pointed to include a 'free' tier that allows cost-free streaming with some restrictions as well as an emphasis on having an inclusive library. In contrast to legal film and TV streaming services, there are only two major legal music streaming services, Spotify and Apple music, neither of which aim for exclusivity. The UK Government's 2021 piracy survey recorded that 99% percent of music streamed by participants had been streamed through exclusively legal means [12]. This indicates that Spotify and Apple Music's business models have been extremely successful at decreasing illegal music streaming.

Legal film and TV streaming services could replicate the example of the music industry. Merging services or giving consumers the option to purchase subscriptions to multiple services in one package could make it far easier for them to access all the films and TV shows they want to watch without having to pay for multiple subscriptions. Having free tier options like Spotify could also make legal streaming options far more appealing to consumers than illegal ones when their desired media is not on a platform they already pay for.

However, this would require a major restructuring of the legal film and TV streaming industry. The reason most legal streaming services focus on exclusive titles is because they encourage more users to subscribe to that service. It also means they receive more revenue—Disney can generate more profit by directing consumers through Disney+ than they would if they had compensate Netflix for hosting their content for them. The profit gained through better accessibility for consumers will be made redundant by the loss of profit involved in third-party hosting. This means most legal streaming services won't be motivated to restructure the industry in this way.

A final counterargument
The final option to consider is to not discourage illegal streaming at all.

Stopping piracy entirely in the Internet age where there will always be demand for free, readily-available content is impossible, and the effort companies put in to prevent illegal streaming may not always be worth the revenue regained. Copyright holders are the only ones impacted by digital piracy, and the evidence for the negative impact on them is actually somewhat mixed. A 2008 model analysis on digital piracy predicted that in a market dominated by only one content provider, piracy would always hurt that provider, however in a competitive market with multiple competing companies, piracy can be a benefit [21]. More price-sensitive consumers opting to pirate allows a company to charge higher prices for its products as they don't have to cater to these consumers when competing with rivals.

Furthermore, many consumers don't have legal access to their desired media anyway. This means the revenue 'lost' is actually revenue the legal streaming services and media production companies would never have had. Additionally, illegal streaming can help expand the reach of shows on platforms of

limited availability, which can bolster future box and merchandise sales. *Game of Thrones* was one of the most popular and most pirated TV shows of all time [22]. It likely would not have had the success it did had its audience been kept exclusively to the viewership of HBO, the service it was released on. Jeff Bewkes, the boss of Time-Warner, the company that owns HBO, has called piracy "better than an Emmy" because his experience is that "it leads to more paying subs".

Consequently, while many of the measures taken against distributors should be continued and there is cause for targeting consumers with anti-piracy campaigns, as well as reason to fundamentally restructure the legal film and TV streaming industry, whether these anti-piracy measures are worth the costs involved should be left to the discretion of each copyright holder impacted.

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