TELEVISION

PIRACY IS THE FUTURE OF TELEVISION

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Introduction

The convergence of television and the Internet is in its early stages, and the two media will increasingly interconnect over the coming years. A number of services are currently competing to become the dominant protocol for consumption of TV content via the Internet. This paper examines the major services that are currently available for downloading or streaming television programs online, both legal and illegal. We propose that, of the options now available to media users, illegal downloading is the most usable and feature-rich, and bears the greatest potential for pioneering new modes of audience engagement, as well as new global revenue streams, related to television products.

This paper will recommend that legitimate services facilitating the online downloading/streaming of TV adopt some of the protocols innovated by online pirates in order to improve the quality of their offerings. Although Internet piracy has been regarded in many circles as a threat to television's present economic models, we argue that piracy can also be a boon to media corporations invested in shaping TV's evolution in the Internet era. Contemporary online piracy may prove to contain the seeds of television's future.

Defining "Television"

In the past, "television" could refer to either audiovisual content or a household appliance. This essay will employ the terms "television" and "TV" to refer only to a type of content, and will use "television set" to signify a type of appliance.

Legal and Illegal Options for Downloading/Streaming TV

At the time of this writing, media users have a wide array of options for watching TV by downloading or streaming television programs via the Internet. This paper will examine eight legal options (iTunes, Amazon Video On Demand, Hulu, Fancast, network websites, Netflix, and Xfinity TV) and illegal downloading and streaming.

Legal Downloading: iTunes, Amazon Video On Demand

Apple's iTunes, launched in 2001, and Amazon Video On Demand (VOD), launched in 2006 (as Amazon Unbox), both allow media consumers to purchase downloads of television programs.
At present, iTunes prices individual episodes at $1.99 for Standard Definition and $2.99 for High Definition[1], and prices "Season Passes" (which grant the user a download of every episode of a TV show's season) at approximately $30 to $60. All TV files are downloaded in protected MPEG-4 (.m4v) format, and play only in the iTunes proprietary media player, which can operate on the Mac and Windows operating systems (OS), but not on the Linux OS. TV episodes downloaded from iTunes can be transferred to Apple mobile devices, and can also be played on a television set that is connected to an Apple TV (a network appliance that can synchronize media content downloaded to an iTunes library).

Amazon VOD prices individual episodes at $2.99, entire seasons at approximately $30-$40, and "TV Passes," similar to iTunes' Season Passes, that are less expensive (by 20%-30%) than the purchase price of entire seasons of TV shows, and automatically download new episodes to the user's machine as they become available. Some TV shows can only be purchased as "rentals," meaning that the downloaded files expire after a stated amount of time. Only Windows PC users can download Amazon VOD files to their machines, and these files can be viewed using the Amazon Unbox Video Player or various versions of the Windows Media Player (such as Microsoft PlaysForSure, which functions on several mobile devices).

Legal Streaming: Amazon Video On Demand, Hulu, Fancast, Xfinity TV, Netflix Watch Instantly, Network Sites

Amazon VOD also allows users to watch television content in any web browser via streaming Flash Video, either to a computer or to a television set via certain compatible devices (some HDTVs, set-top boxes, and Blu-Ray players). Prices are the same as for downloaded files. Mac and Windows users can both stream Amazon VOD; Linux users cannot.

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1 Apple will soon be testing selling TV episodes for half these amounts. Li, Kenneth. 10 February 2010, "Apple move to sell US TV Shows for $1," Financial Times [Online]. Accessed 14 March 2010. Available at http://www.ft.com/cms/s/0/14856f08-168e-11df-bf44-00144feab49a.html.

Hulu (founded 2007), Fancast (launched by Comcast in 2008), and individual network sites (such as MyLifetime.com and ABC.go.com, launched throughout the 2000s) are websites that allow users to watch U.S. television programs on their computers in their web browsers via streaming. TV viewed on these sites is fee-free, but most video files are intercut with commercials. The sites sometimes delay posting new episodes, but often, new episodes are available for viewing the same night that they air. Typically, only the most recent three-to-five episodes of a show's currently-airing season are available on the websites. A user can view past seasons of current TV programs, as well as older, no-longer-airing ("classic") series, more or less in their entirety on these sites. However, many shows' catalogs have some gaps, ranging from the minor (a few episodes missing) to the significant (entire seasons unavailable). Hulu and some network websites, which use Flash Video, can stream to a Linux machine as well as to Mac and Windows machines. Fancast requires a special media player that does not function on Linux, and some network websites restrict access to streaming video to Mac and Windows users.

Netflix (founded in 1997), a website facilitating video rental-by-mail, began offering a service called "Watch Instantly" in 2007. Watch Instantly permits subscribers (at the $8.99-per-month and higher price points) to stream video content, including U.S. and some U.K. TV shows, using the Microsoft Silverlight media player (Netflix automatically prompts and manages this software download when it is required). Users can view streaming video on their computers or on their television sets by means of one of Netflix's "Ready Devices" (a range of approved game consoles, set-top boxes, HDTVs and Blu-Ray Players). However, all of the television episodes available via Watch Instantly are from past seasons of currently airing shows or from classic shows; new TV episodes are not viewable, with the exception of Starz cable network's original programs. Watch Instantly runs on Mac and Windows, but not Linux.

Fancast Xfinity TV (which we will call "Xfinity TV," to avoid confusion with Fancast.com), launched by Comcast in early 2010, is free for households that subscribe to both Comcast's Internet and cable TV services. Eligible users can authorize up to three computers for Xfinity TV access, and must download the proprietary Comcast Access media player in order to stream Xfinity TV content. This content consists of 2,000 hours of television programming from 30 cable networks, including new episodes of currently-airing series. Shows from premium cable networks such as HBO and Showtime are only viewable by users whose Comcast packages already include subscriptions to those channels. The amount of advertising shown during each TV episode varies by network. Fancast Xfinity, like Fancast.com, works on Mac and Windows machines, not on computers running Linux.

As of this writing, the above downloading/streaming services are accessible only to computers connected to the Internet from within the United States.

Illegal Downloading: The Pirate Bay and similar sites

The most well-known illegal downloading site is probably The Pirate Bay, founded in Sweden in 2003. In November 2008, the site had 25 million unique users[2]. In April 2009, a Swedish court found The Pirate Bay's founders guilty of copyright infringement, but dozens of similar sites remain in operation.

A user interested in illegally downloading a TV episode can visit a pirate site, also known as a "torrent directory," and download a BitTorrent (.torrent) file (which will henceforth be referred to simply as a "torrent") that corresponds to the episode she wishes to acquire. The user then uploads the torrent to a BitTorrent client application (such as Tomato Torrent or Vuze), and opens the torrent in the client, which signals the client to begin downloading the data associated with the torrent from any active "seeders," or uploaders, of the torrent that the client can find on the Internet. In other words, the client gathers the data not from one source, but from several, for there may be any number of individual Internet users seeding a torrent at any given time. The client then assembles a complete video file on the user's computer over a period of time, ranging from a few minutes to several days, or even a week or more for a very large file (such as an entire season of a television program). The TV episode file will typically be in .avi or .mp4 format, and can be viewed in any media player that will support those formats.

Illegal Streaming: YouTube and similar sites

TV episodes, of both currently airing and classic series, are occasionally uploaded to YouTube (founded in 2005) and other video streaming websites. However, many TV videos disappear from these sites a short time after they are posted, as copyright holders frequently issue takedown notices to individual uploaders. The "life" of TV torrents is generally much longer than that of illegally streamed TV.

Therefore, downloading via the BitTorrent protocol is more popular than streaming as a means of illegally accessing TV content, and this paper will discuss BitTorrent downloading as the primary form of pirating television.

The Advantages of Pirating TV

The above descriptions of legal and illegal Internet-based services for viewing TV do not sufficiently explain the differences in the individual user's experience of these services. This section will propose several reasons why a user might find pirate downloading superior to legal downloading and streaming options.

2 *s25m. 15 November 2008, "25 million!," The Pirate Bay Blog [Online.] Accessed 14 March 2010. Available at http://thepiratebay.org/blog/138.*

Single Search

Today's media user searching online for legally available TV content must visit a number of sites in order to find what she seeks. No one legal site makes available all popular television programs. A fan of highly-rated reality TV shows, for instance, will discover that Hulu does not stream episodes of the CW's America's Next Top Model or Bravo's Top Chef; neither Amazon VOD nor iTunes offers Lifetime's Project Runway. Fancast streams none of the three shows. A frequent purchaser of Amazon VOD videos will have to look elsewhere for any ABC television series she wishes to view. The loyal iTunes customer will not be able to download Starz' Spartacus: Blood and Sand from iTunes, but she will be able to view the series on Netflix Watch Instantly (provided she is willing to become a Netflix subscriber) or on Fancast (if she can wait for one to three weeks for new episodes to become available after their air dates).

Every pirate downloading website, in contrast, offers every popular television program from every network for download. A user typically visits one pirate site in order to find all the torrents that she seeks. Rather than looking at various sites for programs, and learning that X site carries a couple of her favorite shows, while she has to buy some others from Y, and subscribe to Z site for yet others, she need only go to her favorite torrent directory, look in the "TV" category for all of the torrents uploaded that day, and download at once all of the torrents for the programs she wishes to view that day, regardless of the originating network of each program.

Simple Indexing

In addition to the fact that the TV pirate only has to visit one website in order to collect recent episodes from her favorite programs, she is also able to discern what new episodes have become available quickly and easily on that pirate site. Torrent directories list torrents by genre (Movies, Games, Books, Music, TV, and so on) and always exhibit the most recent, most popular files uploaded. In other words, if many users are seeding and downloading a TV file on a given day (and most new television episodes drive this kind of heavy traffic when they are first uploaded to pirate sites), then that file will appear among the top twenty or so files of the day under the TV category. A user looking for the most current television shows can go to a torrent directory and look in one place to find all of the day's available TV torrents.

This is not the case with legal downloading and streaming sites, none of which organize their television offerings by date. Amazon VOD's home page and iTunes' TV home page have a sidebar showing the top ten bestselling TV episodes, but the top ten sellers are not always the ten most recent episodes to have become available, and ten is too small a number to display all of the new TV episodes that appear on a given day. Hulu's TV Show page lists only six "Most Popular" and six "Recently Added" episodes, and the "Recently Added" category (where the user might instinctively look to find all the latest episodes so she can watch them all in a row) is made confusing by the fact that it includes clips, excerpts, and interviews, not just whole episodes. Fancast's home page only exhibits three TV episodes in its "TV Hot List" category, although when the user clicks on "Full TV Episodes," a list of all available TV programs appears, and the titles of shows for which new episodes have been made available are helpfully outlined with a blue box.

Most pirate sites list many more than ten television episodes under a given day's heading – on the majority of torrent directories, the list is comprehensive; all of the television files that have been recently uploaded and are proving to be popular downloads appear in one place – so the user can see at a glance all of the newest TV episodes available. This simple indexing enables the user to grasp which TV files are new, and to select which ones she will download, within a few seconds of clicking on the pirate website, rather than hunting through several pages of the site and wondering if she has missed a recent upload.

Uniform Software and Interface

The user of pirate websites typically makes use of the same software each time she downloads TV files: an operating system, a web browser, a BitTorrent client application, and a media player that can play the downloaded files. (It is presumed that she has the hardware needed – an Internet-connected computer). She may set up her computer with her favorites in each of these software categories, and she need only make a choice in every category one time. (There are many competing options for each category, so she always has the option of switching from one OS to another, or one browser to another, or one client to another, if she wishes). Using this set of software, she can acquire and view on her computer all of the television programs that she desires.

The user of legal downloading and streaming sites, however, must navigate numerous software requirements, which, as detailed above, differ from service to service. It is conceivable that one user will download to his computer the iTunes application, the Amazon Unbox media player, the Comcast Access media player (as well as the special plugin required for authentication by Xfinity TV), and Microsoft Silverlight, in addition to the more commonly installed Adobe Flash, in order to be able to use all of the legal TV-via-Internet options and guarantee that she will be able to view on her computer all of the television programs that she desires. As mentioned above, no single legal service offers every popular TV show, so she must install the software required by several services in order to gain access to the widest possible array of TV content.

Perhaps more significantly, the user of pirate websites also need only learn one interface in order to acquire TV episodes, for all pirate sites have similar Graphical User Interfaces (GUIs): the user scrolls down to find a television episode (always listed by the series title, season number, and episode number – a typical listing would be "Modern Family.S01.E12"), clicks on the listing of the episode she wants in order to download the corresponding torrent, and then follows the protocol described above for downloading the file through the BitTorrent client.

In contrast, the user of legal downloading and streaming sites must learn multiple GUIs, as the layout and navigation of each site are different, and the viewer must search, scroll, and click through each site in order to view the TV content available on each.

Installing the software required by various legal sites, and adapting to the differences in their GUIs, is not too difficult or time-consuming. But the lack of uniformity in software requirements and interfaces between the different sites makes the use of these legal options more bothersome and complicated than illegal downloading. Pirating TV is a straightforward procedure, the same in every instance. Legal options for watching TV online, with their lack of standardization, cannot claim this simplicity.

It is also worth recalling that a user who owns a computer running Linux cannot use iTunes, Amazon VOD, Netflix Watch Instantly, Xfnity TV, and some network websites. This means that the only way a Linux user can gain access to a comprehensive selection of TV via their computers is by means of pirate protocols.

File Portability

The question of how to make video content portable looms large in the media industry today. A January 2010 New York Times article states, "It is easy to take a DVD to a friend's house and watch it on his TV. But things are more complicated when digital video downloads are involved. A movie file bought from Blockbuster.com will not work on a Sony HDTV, for example, and videos from iTunes work only on devices with Apple software.

"Hollywood and its high-tech partners are deeply concerned that their customers will rebel against some of the limitations taking shape as video moves away from physical discs. Consumers, the industry believes, could balk at buying digital movies and TV shows until they can bring their collections with them wherever they go — by and large the same freedom people have with DVDs."[3]

An answer being proposed by the Digital Entertainment Content Ecosystem (DECE), which is an alliance that includes five of the six major Hollywood studios in addition to Microsoft, Cisco, Comcast, Intel, and Best Buy, is a common digital standard that will allow users to buy videos once, store them in a "digital rights locker," and access the videos on any DECE-compatible device.

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3 Stone, Brad. 4 January 2010, "Trying to Add Portability to Movie Files," The New York Times [Online]. Acessed 14 March 2010. Available at http://www.nytimes.com/2010/01/04/technology/04video.html.

Amazon VOD currently operates according to a "digital rights locker" principle: an Amazon VOD user may purchase a TV episode or season, stream it on her computer screen, and then re-access the same content from any other device or computer by logging in to the Amazon VOD site again (the VOD's Video Library recognizes the user's login and authorizes the already-purchased content for re-viewing). And iTunes and Amazon VOD downloads can be transferred between certain approved devices (iTunes files may be ported from a user's computer to her Apple mobile devices or her Apple TV set-top box, and VOD files can be ported to any Microsoft PlaysForSure mobile device).

But pirated files are already portable, and users who illegally download TV need not purchase any specially configured devices in order to take their television content with them when they travel. After downloading TV episodes from a pirate site, a user may simply copy the video files onto an external hard drive, take the hard drive with her wherever she goes (currently, these hard drives measure about 7"x5" and weigh less than 1 lb.), and connect the external hard drive to any other computer's hard drive. If a user took her external hard drive to a friend's house and connected it to the friend's computer, she could simply open the desired TV episode file using the friend's OS and play it using the friend's media player (provided it supported the TV file's format). Then, she and her friend could watch television together on the friend's computer monitor.

Television content is downloaded from pirate sites as data – as .avi or .mp4 or .mkv or .rar files – and can be stored and transferred via external hard drives just as .doc or .pdf or .xls files can. Pirates move around video files just as they move around any data, and do not have to consider whether their set-top box, mobile phone, or HDTV is compatible with the various TV content services that they use.

A TV pirate can make use of the portability of video files within her home just as much as when she travels from home to another location. For television piracy frees users from having to consider purchasing an object called a "television set." A pirate can simply download files to any computer in her household (her laptop or her spouse's laptop, for instance), and then, if she wishes to view the content on a larger screen, can use her external hard drive to transfer the content from her laptop to a hard drive connected to a large flat-screen computer monitor, connected to external speakers. The computer monitor, hard drive, and speakers form a "viewing station" that supplants the "TV set." Many computer monitors have high-definition (HD) resolution, so there is no loss of quality between an HDTV's picture and an HD monitor's. Also, most computer hard drives are equipped with DVD players, and can of course be connected to the Internet, so a user can watch DVDs, pirated downloads of video content, and streaming video content on this kind of viewing station. Most software for media playback also have fast-forward, pause, and rewind functions, so if a hard drive comes with a remote control (as do Mac hard drives), or if a user has the Mobile Air Mouse Pro application on her iPhone (which allows her to use her iPhone as a remote control for any Mac or PC computer), then the pirate's interface with a viewing station has all of the capabilities, and more, of a television set connected to a DVD player. The TV pirate, then, might port video files between computers in her own household just as much as she ports files between her computer and others'.

Streaming sites, such as Hulu, Fancast, and network websites, also make TV portable in the sense that an individual user can access the same TV episodes from those sites from any computer. The advantage, with regards to portability, of illegally downloading video files rather than streaming them from legal websites has to do with piracy's greater flexibility. While legal streaming sites only make a handful of episodes of a show's current season available at once, a pirate can transport any number of TV episodes she chooses at any time. She can make selections from her entire library when deciding what files to port to another location. Also, a user who plays video files from an external hard drive is not dependent on Internet access; she may find herself in a location with no Internet connectivity and still be able to watch TV. A user may also simply prefer to watch downloaded video files rather than streaming video: video files play more smoothly, with fewer glitches and stops, than streaming video, and pirates have the option to download HD files, while streaming video is not in HD format. Therefore, downloaded files are often preferable to streaming video in terms of picture-quality and quality-of-experience.

Access to Global TV

While most legal services for downloading or streaming TV currently make available some British television programs, and iTunes also offers some Japanese television content (through agreements with distribution companies like Anime Network), the vast majority of non-U.S. television shows cannot be accessed legally by television viewers in the U.S. Conversely, TV viewers outside the U.S. cannot legally access U.S. television programs as they air, but must wait, often a year or more, for popular U.S. shows to be broadcast in their own countries.

Illegal file sharing is a global enterprise. TV pirates in the U.S. can download episodes of Project Runway Canada, Australia's Next Top Model, the U.K.'s The X-Factor, Indian game shows, German soap operas, and Colombian telenovelas soon after they air in their home countries. TV pirates in France, South Korea, or Nigeria may download episodes of 24, American Idol, and Burn Notice without having to wait months for the shows to be sold on non-Region 1 DVDs or broadcast by their countries' television networks.

When one considers the popularity of Susan Boyle, a competitor on Britain's Got Talent in 2009, among American audiences, and recognizes that Britain's Got Talent has never been legally viewed in the United States (most U.S. viewers watched Boyle's performances via illegal uploads to YouTube), it is evident that there is significant demand for a service that would allow U.S. users to view global (non-U.S.) television online. Legal options cannot satisfy this demand, but illegal options can and do.

Freedom from Preempting in the U.S.

There are occasions upon which television shows in the U.S. are preempted, for example, when a broadcaster opts to air a breaking news report rather than a regularly scheduled program. In this scenario, the television program is typically truncated, or is not aired at all. Feuds between TV networks and cable service providers can also cause the delay or non-broadcast of television shows; for example, on March 7, 2010, three million cable subscribers in the New York area (40 percent of the New York City TV market as defined by Nielsen) were not able to watch the Academy Awards live broadcast until 10 minutes after it began because Disney/ABC and the New York cable company Cablevision were locked in a dispute over retransmission fees, and the standoff persisted until after the Oscars show had already started.[4] Time Warner Cable had similar disputes with Viacom in 2008[5] and FOX Broadcasting in 2009[6], threatening subscribers with blackouts of numerous television channels in each instance. In both cases, the cable company and the broadcasting company were able to reach agreements before any service disruptions took place, but one can easily envision a scenario in which many millions of television viewers would find themselves suddenly unable to watch favorite television programs on their TV sets due to a failed negotiation between two media corporations.

Television pirates are always able to access a complete version of any television show, regardless of whether it has been preempted or not aired at all in certain regions of the U.S. It is almost never the case that a TV broadcast is preempted in every time zone and every region in North America, so when a show is truncated or unaired in one area, some pirate or group of pirates operating outside that affected area will package and upload the episode.

However, pirate networks only make files available for download after they have aired in their entirety. This may not be a workable solution for viewers who desire to watch specific programs, such as the Superbowl or the Academy Awards telecast, live.

Personal Archives

Some individuals are not content with treating TV texts as ephemeral objects; they are interested in collecting television, in assembling personal archives of favorite programs. Videocassette tapes, then DVDs, were the preferred media for personal TV archives in past decades, but downloaded video files are superior to these hard-copy forms of storage in several respects.

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4 Littleton, Cynthia. 7 March 2010. "Cablevision, Disney/ABC Strike Deal," Variety [Online]. Accessed 14 March 2010. Available at http://www.variety.com/article/VR1118016182.html?categoryid=14&cs=1.

5 Associated Press. 31 December 2008. "Time Warner Cable and Viacom Reach Deal," MSNBC [Online]. Accessed 14 March 2010. Available at http://www.msnbc.msn.com/id/28440958/.

6 Gomstyn, Alice and Dalia Fahmy. 1 January 2010. "Time Warner, Fox OK Deal on Broadcasts," ABC News [Online]. Accessed 14 March 2010. Available at http://abcnews.go.com/GMA/nfl-idol-time-warner-cable-fox-reach-deal/story?id=9460090.

Hard-copy media can be damaged in physical transit. Digital files can be ported between hard drives easily, and a collector may keep as many "back-ups" or copies of the files as she wishes. If she likes, she can keep copies of her entire video library on a number of storage devices simultaneously, for example, on an external hard drive, on a Network-Attached Storage (NAS) unit, and on her desktop or laptop computer, so long as she remembers to periodically update all libraries and keep their contents synchronized. Hard-copy storage also occupies far more physical space than the storage of digital files. It is convenient for a user to create a cataloguing system that best suits her needs for digital files; she can organize the files by date, by program name, by genre, by a lead actor's name, by a showrunner's or writer's or director's name, or by any field she wishes, simply by creating file folders on her hard drive and moving the files into the appropriate folders. Physical storage units, however, do not lend themselves to multiple organization styles; most DVD collectors arrange their libraries by title (or by title within genre groupings), since titles dominate DVD packaging and packaging is difficult to alter.

Of the legal means for acquiring TV, the downloading options – iTunes and Amazon VOD – allow for video files to be digitally stored on a user's hard drives. Amazon VOD also allows purchased Flash videos to be "kept" for the individual customer in a password-protected library; any future "digital rights locker" system would presumably do the same. Other streaming sites do not offer archiving functionality at this time, although one could use Netflix's "Instant Queue," which is tied to the user's login and password, as an archive of favorite Flash video.

The significant advantages of illegally downloading TV for the collector are:

1) the ability to keep one's entire television library in one place, in one file format (as mentioned above, today it is likely that the TV fan has to use several different legal services in order to view a full range of TV programs, since no single service offers access to all popular shows);

2) the ability to merge one's library with another person (if a couple wishes to cohabitate and consolidate their two libraries into one, for instance) or to import files from, or export files to, another person's library; and

3) the ability to organize and sort one's archive by whatever principles one chooses, rather than adhering to the organizational design of the library "host." As mentioned above, pirates also have the option, for most TV shows, of downloading HD versions of television episodes, while streaming sites do not offer the same resolution. For the collector, the higher-resolution version is more desirable as the archival copy.

Low-Cost and Commercial-Free

Pirating television is not zero-cost, as the individual user must pay for hardware and software, usually including extra hard drives, as well as high-speed Internet connectivity, just as users of legal downloading and streaming services must. Some illegal downloaders also pay monthly fees for the use of "seedboxes," dedicated servers through which users can upload and download files. What the pirate does not pay for is access to specific content. Since pirate file-providers almost always edit out commercials from their files before uploading them, pirate downloaders also do not watch commercials when they watch TV.

The preceding paragraphs have aimed to show that the low cost and commercial-free nature of pirating TV are not the only reasons that individuals choose to engage in this illegal activity. In the next section, we will offer recommendations regarding how legal services for downloading/streaming TV can adopt or adapt some of piracy's features and benefits, in order to entice pirates to pay for these services.

Recommendations to Legal Services

Legal services for Internet-facilitated TV may improve their offerings and attract more customers – including individuals who, until now, have found piracy the most attractive option – in the following ways:

Standardize

A single interface, a single mode of searching, a single way of listing new TV content, and a single file format that plays on a single media player and works on every OS and can be ported to any mobile device: this should be the goal of all legal services. Uniformity in each of these areas across services will make all services of this kind – will make TV viewing on the Internet as a practice – more appealing to all potential users. Once watching TV online can match the simplicity of clicking through channels on a TV set, a larger percentage of the TV viewing population will be interested in using the Internet as their primary interface for television content. And TV pirates will not migrate to legal services unless they are at least as straightforward as pirate protocols. In fact, legal services can model their protocols directly on established pirate standards, as they are hardly secret.[7]

7 See the "Standard (warez)" entry in Wikipedia for explanations of the video and audio standards deemed acceptable by pirate communities: http://en.wikipedia.org/wiki/Standard_%28warez%29. Accessed 14 March 2010.

Offer Downloading and Streaming

The only legal service to currently offer both downloading and streaming as options for consuming TV via the Internet is Amazon VOD, but Mac users can only use the streaming option (and Linux users cannot use this service at all). All services should allow users to choose to either download or stream all video (or both). This will allow users to transfer downloaded files to mobile devices or other computers when they wish, or simply log in to their service provider's website to access a streaming video on a computer other than their own. Pirate communities do not offer users the option to both download and stream any file, so giving users both capabilities would make legal sites more flexible and feature-rich than pirate sites.

Strategize for Global Audiences

There is high demand for non-U.S. television content in the U.S., and high demand for U.S. TV programs outside the U.S. The Internet is a global network through which both demands can conceivably be met. If pirates could pay to legally access more global content online – content that they could not acquire via broadcast or cable television – they would likely pay for this content. One reason that individuals pirate global television programs, after all, is that there is simply no other way to acquire those shows in the timeframe in which it is most passionately desired. Timing would play a large role, as many popular shows from each nation do become available to global audiences but only eventually, several months to a year after their original airing in their home countries. So the greatest value proposition to global consumers, for which they would pay the highest prices, would likely be timely access to new episodes of currently airing shows (within 24 hours of the episodes' first broadcast in the home nation).

Offer a Premium Service for Personal Archivists

At the moment, piracy provides the best means for individuals to build personal libraries of television content, for all of the reasons given above. Legal services should consider how to serve this niche even better than pirate communities do. Users interested in creating archives would likely pay a premium if legal services could:

- Offer downloads (both standard definition and HD) of canonical versions of classic and current television programs, either with their original commercials (an important feature for some TV archivists) or commercial-free.

- Make files of new TV episodes available for download immediately after broadcast.

• Persistently "seed" those files (i.e., guarantee that the interested user can always acquire TV files, even older ones, since on pirate networks, older files sometimes are "unseeded" and very difficult to obtain). In fact, the network of collectors could be encouraged to seed files as they come into demand, under some kind of incentive program. (Pirate communities dedicated to "cult" or "art" films often offer rewards to members who are willing to seed requested torrents; for example, if a member seeds a currently unseeded torrent that six other members want, then the community may reward that seeding member with an increase in her maximum permitted download volume for a month).

• Provide collectors with seedbox accounts so that individual users do not have to consume their personal bandwidth in order to download as much content as they wish.

• Offer to host collectors' libraries remotely, and to stream files from those libraries to any machine authorized via login and password.

• Give users the ability to organize their archives as they choose.

Eliminate the TV Set

Today, watching TV acquired via the Internet is a complicated procedure if one uses a TV set. It is quite easy if one understands that computers are now the best means of viewing television. Legal services should promote a change in the standard configuration of the home theater, from a system which consists of a television set and various set-top boxes and/or disc players, to one that is a "viewing station" comprised of an HD monitor connected to a hard drive (with a high-speed Internet connection) and a pair of speakers. They can begin the project of acclimating consumers to the idea that in the future, all TV sets and home theater systems will be computer systems (in fact, many television sets are already computers with standardized software, although they are not perceived as such). Once users have replaced the term "TV set" with "computer system" in their minds, they will more easily grasp that they can stream TV, or transfer downloaded TV files, to the largest and best screen in their household without worrying about special formats or compatibility among various machines. By and large, pirates understand this already, and regard all video files as portable, and all streaming video as viewable on every monitor in their homes.

Charge Subscription Fees Based on Volume of Usage

Internet Service Providers already structure fees according to volume of usage, and television content providers can do the same. Pirates understand television as data that consumes both bandwidth and hard drive space; some pirate communities put a maximum on the volume of data that an individual member can download in a given month (as mentioned above, members are often rewarded for desired behaviors – such as seeding requested files – by having the cap on their maximum downloads raised). Once all users comprehend that TV is data, they will understand that they should pay more for downloading or streaming a significant amount of television per month, and less if they download or stream less TV per month. Such volume-based subscription pricing would eliminate the need for the wide variety of prices offered now by legal services. Rather than charging more for HD versions of shows, users who often download HD versions would simply have to pay a higher subscription fee, because their volume of downloading would be higher than someone who only watches standard definition TV content. Or a person might choose to download three HD shows per month, while another person at the same subscription level could download ten standard definition episodes for the same price. Rather than ask pirates to begin paying for content, which they do not currently do, companies could ask pirates to begin paying for the right to transfer files, which is a kind of transaction that pirates understand as necessary and just, and which (some) pirates would be willing to do in order to be safe from legal action. The core benefit to most users would be simplicity and standardization (i.e., the elimination of confusing pricing options), and a pricing scheme that adheres to a logic that most pirates already accept.

This paper has been a fanciful exercise in many respects. The negotiation of licensing and rights agreements between media content producers and distributors, and between those parties and hardware and software makers, is highly complex, and current deals and contracts cannot be easily altered. However, we hope that the analysis and recommendations presented here might prompt a consideration of television piracy as potentially useful and relevant, rather than absolutely threatening, to mainstream media. Many individuals do not pirate TV just because it is free, but because piracy is the easiest, simplest, most feature-rich means available to them for acquiring TV by means of the Internet. Ideally, as television migrates more and more to the Internet, the TV industry will incorporate some of piracy's benefits in an effort to offer the highest-quality product possible to customers.

Appendix: Recommended Reading

The following papers are previously-published research by the Convergence Culture Consortium, recommended as additional insights into the ideas presented in this research memo:

How to Turn Pirates into Loyalists: The Moral Economy and an Alternative Response to File Sharing
by Alec Austin
with Dr. Henry Jenkins and Dr. Joshua Green, Ivan Askwith and Sam Ford

Available at: *http://convergenceculture.org/research/c3_pirates_into_loyalists.pdf*

It's (Not) The End of TV As We Know It: Understanding Online Television and Its Audience
by Sheila Seles

Available at: *http://convergenceculture.org/research/C3NotEndTVExecSum.pdf*

If It Doesn't Spread, It's Dead: Creating Value in a Spreadable Marketplace
by Henry Jenkins, Xiaochang Li, and Ana Domb
with Joshua Green

Available at: *http://convergenceculture.org/research/Spreadability_doublesidedprint_final_063009.pdf*