6

College Students: The Rationale for Peer-to-Peer Video File Sharing

Gali Einav

NBC Universal

"In this generation it's just something that people do" (John, 19, English Major)

Peer-to-Peer networking is not a new concept within the academic world. Universities have been utilizing the Peer-to-Peer architecture for decades. Before the advent of the world-wide-web in the 1990s, the original ARPANET connected UCLA, Stanford Research Institute, UC Santa Barbara, and the University of Utah and allowed direct information sharing between researchers.[1] Programs such as Bitnet allowed electronic communications between academics worldwide much earlier than e-mail and Instant Messenger.

College campuses have also provided a robust breeding ground for content file sharing. Napster, one of the most popular Peer-to-Peer programs used to share music files was developed by Shawn Fanning while a freshman at Northeastern University and was introduced in May 1999. By end of that year, Napster's membership had risen to millions – thanks to word of mouth advertisement at colleges and universities worldwide.

Peer-to-Peer file sharing is a growing phenomenon. By the end of 2004, it represented 60% of internet traffic,[2] with approximately one in four internet users who have downloaded movies and nearly two out of ten current "non-downloaders" likely to start downloading in the future.[3] The amount of television show piracy increased to 150% from 2003 to 2004, from 6–14%.[4] The number of downloaders can be expected to rise with the increase in Broadband subscribers and more internet users experiment with the technology.

File sharing is not necessarily seen as illegal copyright infringement. A MPAA worldwide internet piracy found that almost half of respondents believed it is acceptable to download movies after theatrical release and before DVD release. As for television, 50–80% feel it is legal to copy and share television programs they recorded.[5]

Peer-to-Peer usage is seen to be influenced by age. Internet studies show that the vast majority of file sharers on the internet are among the 18–29 age group.[6] Within internet households, those who house 18- to 24-year-olds are twice as likely to file share and download videos.[7] Examining the behavior of this age group can provide interesting insights into the current and future file sharing trends. Therefore college campuses, which allow students both access to the technology and a social breeding ground for Peer-to-Peer usage habits, provide an interesting case study for the examination of file sharing.

College students are a huge community, reaching approximately 14 million undergraduates in the USA.[8] A United States General Accounting Office report to congressional requesters from May 2004, states that 90% of students file share. Pew internet research shows that 80% of students don't care if the files they share are copyrighted.[9] College students are, in the most part, early adopters of technology, who have grown up with the internet. A constantly connected generation, many college students start their Freshman year as savvy file sharers, while for others, campus life provides their initial gateway into the Peer-to-Peer file sharing world.

Given this backdrop this research set out to examine the reasons for video file sharing among students, better understand how they share and shed light on their attitudes towards the technology and behavior. It also set out to inquire whether file sharing will be a habit students will continue beyond college years, thus potentially creating changes in future media consumption. This can have vast implications for content providers who are in a constant struggle with users on the other end of the computer screen.

The following are observations based on 15 in-depth interviews with students from six universities in the New York, Boston, and Washington, DC areas. The study was conducted in Aug–Sep 2004 and is an attempt to provide directional insights into behavior and attitudes of college students regarding Peer-to-Peer video (television and film) file sharing as well as their future expectations from this medium.

College Students: A Whole New World

"It's a great way to connect with friends." (Jay, 20, Computer Science Major)

"When I go to party and they hear that I don't download, it affects my social life. They look at me like I have three heads." (Michael, 19, Engineering Major)

Visiting a college campus today is a different experience than one might remember. A haven for the early adopter, it provides a gateway into a world of technology and connectivity over a myriad of devices such as laptops, cell-phones, and iPods. The social environment feeds and exposes students to new technologies and behaviors, file sharing being no exception.

Students interviewed for this study mentioned that file sharing is "something they just do" because other people around them do as well. This often creates awkward social situations in which those who do not engage in this kind of activity are seen as social outcasts. This doesn't necessarily deter the students who decide not to download due to a combination of moral qualms or just plain disinterest, but can make it difficult for others who just want to blend in. Those who don't engage in sharing do not try to convince the others to stop. They believe that although most students agree that it is wrong to file share, they will continue if they can get away with it, which they so often do. Attempts to change this behavior are seen as futile.

Video File Sharing – How?

"Give and ye shall receive." (Bram Cohen)[10]

"The University does a good job in protecting us. Outside we can get into trouble." (Eric, 20, Engineering Major)

Colleges and universities provide very easy access to file sharing. T-1 and T-3 internet connections provide fast, easy, and reliable internet connectivity. Students find it easier to hide behind a "university hub" that awards them the anonymity they crave on the web. Many of them feel protected by the university, enough to file share without thinking about the consequences.

Additionally, file sharing programs such as BitTorrent and DC++, which were mainly used by students interviewed in this study, operate without any involvement from central computers, making tracking individual users more difficult. Students download the programs on their laptops through their school hub and they are ready to go.

Since BitTorrent's architecture breaks the files into small "bits" and allows uploading of content while downloading, it ensures that the more files a user is willing to share, the faster any individual "torrent" will download to their computer thus preventing people from "leaching," i.e., downloading files and refusing to upload.[11] When asked about their download time, students said that by using BitTorrent or DC++ they can download a full length movie in less than half an hour. A half hour television show can download in minutes.

Many students said that they are connected to about 200 other university students simultaneously. They don't necessarily see it as a community tool for meeting people but a great way to connect with their friends, sharing their favorite videos among them. They believe that a file sharing community is possible, but anonymity is much more important. It is also very important to them to know that the file comes from a trusted source.

The scope of downloading is impressive. When asked how often they download video, students ranged between 1 program a week to 300 movies per semester. They create their own collections which they take wherever they go. As for storage, an important issue in crowded dorm rooms, students keep their content either on their computer drives or on CDs, depending on file size. Some only keep the rarities since content is easily accessible through Peer-to-Peer whenever they need it. Movies are not typically stored on a computer, since they take up a lot of storage space due to their file size. Many watch and delete them. Those who do decide to keep their favorite movies burn them on DVDs and create personal collections.

Main Reasons for File Sharing

"I never don't find what I'm looking for." (Katie, 19, Cultural Studies Major)

Convenience, Immediacy, and Instant Gratification

"I can't wait a week." (Michael, 21, Communications Major)

Contrary to what might be the first thought that comes to mind, the main reason students file share is not the cost, but the convenience. File sharing allows them to watch what they want and when they want to watch it.

Their viewing has to fit into their personal schedule. Immediacy and instant gratification are very important factors for them. They will download a TV show which hasn't been released on a DVD and they feel there is no other way to get it. They don't like to follow schedules and therefore will not wait for the summer for reruns of their favorite shows to air.

Many of the students don't have a TV set in their dorm room, and use their laptop/computer as their main viewing screen. They will download shows so they will have something to watch while in their rooms. Some reasons for downloading are more mundane. One student mentioned that he downloads movies because the video store would not allow him to rent since he didn't have a proper credit card. The student turned to file sharing to find the same movies, this time for free.

"Quality Control"

"I hope people stop paying for bad movies – it will make the movie business better." (Katie, 19, Cultural Studies Major)

Many students see file sharing as a form of "Quality Control." They want to sample the offerings and will not pay for them until they are sure they like them. Since most of them are on a tight budget they feel that it would be just a waste of money for them to go to a movie if it is not one hundred percent something they would like to see. This doesn't necessarily imply that students are watching fewer movies than they did before. Some students stated that through file sharing they are exposed to content they wouldn't previously consider watching, broadening their offerings. On the other hand, file sharing has been assisting in turning these students into more selective consumers, which expect a taste or preview of the content before they pay for it.

Promotional Value

"It's actually good for the studios." (Kristin, 19, Music Major)

Many students interviewed believe that file sharing is a very convenient way to introduce friends to new content, therefore, emphasizing the promotional value in their sharing activities. This also allows for rationalization of Peer-to-Peer sharing, since students believe they are promoting the content and not stealing it. In that sense, they see video file sharing as enhancing the entertainment business rather than disrupting it. Students feel that instead of fighting it, the best thing for the media companies to do is to make it flourish and utilize Peer-to-Peer networks to promote their

offerings. Some mentioned that if networks would offer cancelled shows, for example, online, they would profit.

What content do college students share? Mostly, whatever interests them. They share episodes of favorite television shows previously viewed or missed. They are interested in re-runs, canceled shows, or any show which particularly appeals to them. In this study the most shared TV content mentioned was HBO's "Sex in the City," Fox's "Family Guy" and Bravo's "Queer Eye for the Straight Guy." One student mentioned that most recently he looked for, and found, a documentary on Noam Chomsky that he was interested in seeing.

When it comes to movies, the main content shared is new releases. The students interviewed were more likely to share to "check it out" for quality control to see if it's worth going to the theatre for. Interestingly, file sharing for "sampling content" did not replace going to the movie theatre or buying the DVD. Going to the movies was seen as a totally different experience that students aren't looking to replace. It also did not replace the purchase of a DVD. Students will buy a DVD of content they liked and wanted to keep but also to enjoy the additional features which provided an extra value that would justify the purchase. File sharing of movies did replace the trip to the DVD rental store, which was seen as an inconvenient and costly alternative.

Cost

"It's not so much the price, but the convenience." (Violet, 19, Music Major)

Avoiding paying for content is not a main reason that students file share. While some students did state directly that they would not pay for content over the internet, the majority of students interviewed clearly stated that they will pay for compelling content, good quality and no "annoying" limitations, specifically the ability to keep the content indefinitely. They will also pay to feel safe from computer viruses typically transmitted through file sharing programs.

Students did feel that they were not willing to pay much for content due to the financial constraints of student life. Some said that they would probably pay more when they have a job, but the basic idea of finding a way to access content for quality control and convenience would not change for them in the future.

In order to pay for content, price has to compare or be lower than a DVD rental, setting the bar to approximately 3–5 dollars per movie. As for television shows, most agreed that they would pay between 99 cents and 5 dollars per episode or series bundle.

Students also stated that they would pay more (between 5 and 10 dollars) for hard-to-get content such as cancelled TV shows or old classic movies or documentaries that are difficult to find through other venues.

Students welcomed innovative solutions. For example, they expressed interest in a service that will allow them to rent movies online and then stream them on their computers.[12] Most students liked the ideas of the iTunes music purchasing model describing it as a great example of a legal and cheap file sharing model . [13]
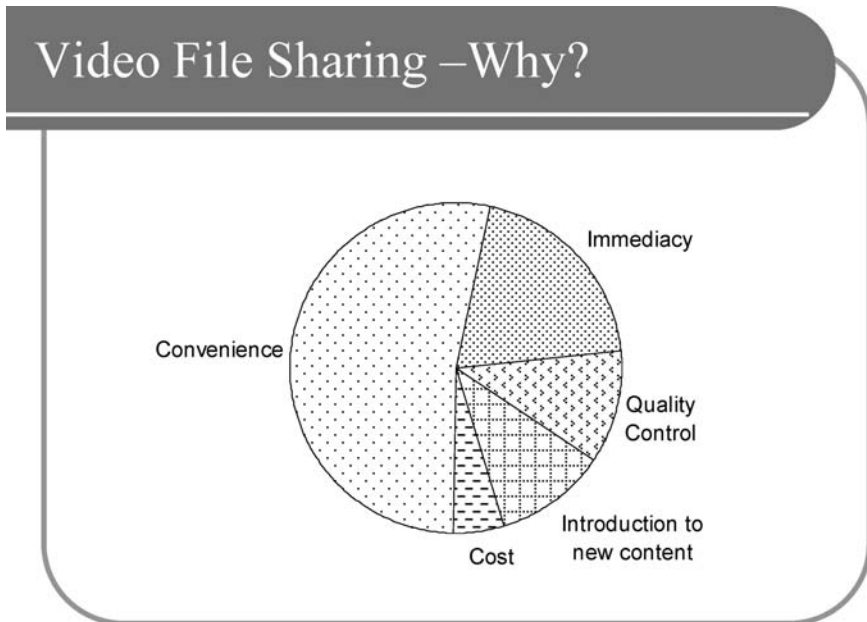

Fig. 6.1 Main reasons for file sharing

Moral Attitudes

"Someone has bought it and then decided to share it. You should be allowed to share it." (Nate, 20, Computer Science Major)

The majority of students interviewed do not have moral qualms about copyrights or revenue loss. On the contrary, they see big media companies as money making conglomerates, full of executives earning six figure salaries, who are making a hefty profit as is. They also believe that when they pay, their money doesn't channel directly to the artists but to the managers and offices that want to increase their profit.

As for television, the notion that TV is "free," despite the existence if subscription multi channel models still prevails. Therefore, they do not feel compelled to pay for it. Additionally, students could not think of many successful models for paying for content over the internet that they have ever previously used.

Many students admitted that they don't lose sleep over the fact that file sharing is illegal. They feel that they are supporting the artists that they do like by buying their CDs or DVDs, and feel that it is up to the media companies to provide better quality content if they would like to sustain the business. Some believe that music downloading has actually done the music industry a service and apply that example to video file sharing, believing that the movie industry can benefit as well since there are many "less than great quality" movies out there.

Qualms are closely related to personal preferences. One student, a classical music lover and violin player, said that she would never download "anything classical" because it is dear to her heart, but as for movies, if it's not a good movie, she wouldn't care, since she doesn't believe people would see it anyway.

Interestingly, many students mentioned that file sharing for them is a way to earn back their consumer rights which they feel have been taken away from them. They oppose the media companies' treatment of file sharers as "criminals," referring to some tactics used by content companies, explaining that it is unfair to consumers which are not given adequate alternative legal and cheap options to acquire content.

In their world of convenience and choice in media consumption, they feel they should not be forced into purchasing content they are not interested in, whether it is a full album for the one song they like, or a full price movie theatre ticket or DVD rental for a movie they are not sure they want to see.

Students believe that in the long run people will always find a way to access the content for free; therefore, it is up to these companies to develop methods to allow consumers to pay a reasonable amount of money for quality.

University Involvement

"It's really weird to be downloading SouthPark and have my parents pay for it." (Laura, 19, Physics Major)

Universities had attempted to develop collaborative solutions to address illegal file sharing on premises.[14] One suggested solution was for universities

to negotiate deals with content companies to directly purchase content from them which will be offered to the students. Fees will be paid to the online service by the university; the service will pay royalties to copyright holders. The cost would then be factored into the tuition.

Students interviewed in this study were ambivalent towards these attempts. Some thought it was an excellent idea allowing the universities to point out the legal options that students have to keep using the file sharing programs, which they felt were the easiest to use to access content. Therefore, if the university could purchase the content and then give it to subscribers at subsidized rates they would endorse it.

Others either oppose having file sharing related to tuition or believe it just would not make a difference. Those students saw it as a waste of efforts, since there will always be those who will continue to file share and while it might partially prevent students from pirating content they will continue to do so if they could not find the content they are looking for. They also felt that these attempts are a bit patronizing since they would like to be the ones to decide what content they want to pay for. Some just didn't think it is appropriate for any form of file sharing to be affiliated with their education. They would only find it appropriate if the content downloaded would be a class requirement.

The Future

"As long as the software exists I don't think you can eliminate it completely." (Jay, 23, Engineering Major)

College years are seen as habit forming years by the students interviewed. Many students, both those who entered college with the Peer-to-Peer knowledge and those who were introduced to it for the first time during these years, believe that after 4 years, they will continue to file share, mainly for entertainment purposes.

The reasons for continuing to file share differ among students. Some out of habit, some would do it because it's available. There seemed to be a unanimous belief that there will always be those who will file share and that with increased technology the amount of sharing will increase as well.

Those who believe that they will discontinue file sharing, did not explain it for moral reasons, but also due to technological difficulties such as slower cable connections once they leave the campus. They also feel that at home the behavior is more likely to be detectable, which is a strong deterrent. They do feel that they will continue to use models such as iTunes, which allows legal and cheap content downloading.

Statements regarding future behavior are difficult to validate. Although it is probable that many will continue to file share after graduation, it will be interesting to track whether their media sharing habits will change with the time constraints that a demanding job and family life bring with them.

Discussion

File sharing is very common on college campuses. Students share content mostly for the convenience and immediacy and less due to the price.[15] Very few are concerned about the legality of sharing copyrighted material. Students view sharing, on the most part, as a form of sampling content to determine purchase intent. They lean towards the promotional value in file sharing, rationalizing their behavior in the belief that downloading and sharing video files will eventually enhance the entertainment business rather than disrupt it.

The study shows that while college students are still interested in television and movie content, the consumption and distribution models have changed. While video file sharing does not replace going to the movie theatre or purchasing a DVD, the study found that it does replace DVD rentals. However, most students interviewed admitted that they will pay same or less than rental for the convenience of accessing good quality content on their computers. As for television, in many cases the laptop replaces the television set within the dorms and students are looking for content to fill the screen, either catching up on existing shows without abiding to schedules, or enjoying content no longer available on air.

Looking into the future, students believe they will continue to file share after graduation. In many ways it is their way to oppose what they see as the dominance of media conglomerates by allowing them certain control over how much they contribute to the wealth of media companies.

Media companies are facing a challenge of providing this content to students while managing digital copyrights and revenue models.[16] Most students expressed interest in legal file sharing models that will allow them to access the content safely, and for a reasonable price. They expect media companies to treat them with respect rather than as thieves and provide models that will allow them legal and cheap access to video content. Apple's iTunes model was mentioned as a great example of a creative solution.

The overall agreement that file sharing will continue to grow as the technology develops and broadband penetration rises, creates a challenge for media companies. Not to say that they should not fight the phenomenon of piracy. There have been recommendations for creating educational Ad

campaign to fight file sharing, but it would also be wise that media companies tap into these students online expertise and their willingness to pay to provide legal outlets for the students out there looking for content. This would allow college students to feel they are being treated with more of the respect they crave and in the long run, might yield better results in this battle.

The promotional value of Peer-to-Peer students mentioned should not be overlooked as well. Students can be introduced to new content which they will share with their friends, creating opportunities for reaching new or additional consumers. Entertainment companies should take notice of the appetite that exists for video content. Rather than fighting the phenomenon, new business models should be explored. Utilizing the Peer-to-Peer technology, especially second generation such as BitTorrent, in a legal way can be extremely helpful to utilize college students' expertise in a productive way. It is also helpful as a distribution system that will help, in this growing world of streaming content, to manage the interest in content without clogging the sites as in the case of providing multiple streams, thus allowing for a more robust online experience.

While revenue will always be lost to file sharing, there is an opportunity to capitalize on existing content. Providing good quality content for a reasonable price can prove very beneficial to media companies. They could capitalize on content which is currently not in use such as cancelled shows, and reruns, creating catalogues of content that students will be willing to pay small amounts for. Offering promotional segments from movies can help boost movie and DVD sales to a certain extent. It is important, however, that media companies assure that they own the digital distribution rights of their content.

Some networks are already trying to set up their own Peer-to-Peer networks to provide legal and hopefully profitable alternatives to video file sharing. The BBC, for example, is utilizing BitTorrent technology to provide free downloads of their programming.[17] Fox is looking at creating a youth skewed portal that will allow to download the company's film and television properties via Peer-to-Peer technology. In November 2005, NBC Universal and WurldMedia, the creator of the legitimate Peer-to-Peer service Peer Impact, announced an agreement that would make Universal movies and NBC Universal TV events available to Peer Impact customers on demand. Users would even be rewarded for sharing. By leaving their computers on they can be selected to receive "Peer Cash" that may be used towards future purchases.

In this world of file sharing many additional challenges arise. There is a need to better understand how students find the content they are looking for and how to promote content to that audience. Networks of the future

might be morphed into content aggregators that distribute shows in Peer-to-Peer video torrents and sells ads or subscriptions to its portal.

Media companies would be wise to attempt to bridge the psychological gap that exists between them and file sharing students and try to change the way they are perceived by these students shake off their reputation of money making conglomerates.

There might be a long way to go to bridge the gap between media companies and the way the college students view them, as money making conglomerates. Earning the respect of the young consumer in this generation where power is transformed to consumer is a challenge for media companies. How to do that successfully is an interesting question for the future.[18]

Notes

1. See http://iml.jou.ufl.edu/projects/fall02/Moody/History.html
2. http://www.cachelogic.com/
3. See OTX/MPAA WorldWide Internet Piracy. Additionally, according to a Harris Interactive study, while Yahoo (33%) and Google (28%) are the top sites among those who only get free video downloads, 23% of respondents mentioned file sharing services as their main sources for free video downloads.
4. According to Envisional, sharing American Television content is a global phenomenon. Most Peer-to-Peer file sharing of television programs is done in the UK (16%) with 7% of traffic originating from the USA.
5. See OTX/MPAA WorldWide Internet Piracy Study and Gartner RSA Executive Briefing, 2004.
6. According to the Pew Internet and Life study, 2003, 82% of file sharers are 18- to 29-year-olds.
7. According to a Gartner Study, while a total of 19% of online households surveyed downloaded media from Peer-to-Peer networks, 41% of respondents, ages 18–24, said their household downloads media from Peer-to-Peer networks. 23% of the 18–24 age group downloaded video compared to 10% of the 25–34 age group, and 7% all. See "Free Downloads Depress U.S Online Purchases," Kydia Leong, Gartner Dataquest 7/8/04.
8. US Census Bureau; http://www.census.gov
9. Pew Internet and Life (July 2003).
10. See Clive Thompson, "The BitTorrent Effect," Wired, January 2005, p. 153.
11. See Wired, January 2005, p. 153.
12. Since the completion of this study, in September 2004, IP Video on demand models have been further explored by media companies.
13. As of Sep 2004, Video downloading via iTunes was not yet available.
14. In Aug 2004, a joint committee of the higher education and entertainment communities issued a report to congress on their latest efforts to curb illegal file sharing on college campuses.
15. Other studies have shown that another reason for illegal file sharing (movies mostly) is access to R rated movies. (UK TV addicts won't endure the lag time before episodes of new US hits air in Britain 9 like Desperate Housewives and 24) (Envisional, 2004, Television Piracy, Aug 2004).
16. Online advertising models were not discussed with students in this research.
17. The BBC made use of the Kontikis file sharing system in summer 2004 to send TV shows to 1000 households. See Jeff Howe, "The Shadow Internet," in Wired Jan 2005, p. 155.
18. Gali Einav is the Director of Digital Technology Research at NBC Universal. Email: gali.einav@nbcuni.com.

References

Envisional, "Television Piracy, An Envisional Briefing Note," Aug 2004, http://www.envisional.com

GAO, Report to Congressional Requesters, "File Sharing, Selected Universities Report, Taking action to Reduce Copyright Infringement," May 2004.

Gartner, RSA Executive Briefing, 2004, http://www.gartner.com

Harris Interactive, Entertainment On the Move: Video Downloading and Portable Entertainment, April 2006.

Jeff Howe, "The Shadow Internet," Wired, January 2005, pp. 155–159.

Madden Mary, Pew Internet & American life Project Memo: Music Downloading, File Sharing and Copyright, July 2003, http://www.pewinternet.org

Matt Moody, http://iml.jou.ufl.edu/projects/fall02/Moody/History .html

OTX, MPAA, Worldwide Internet Piracy Study, 2004.

Clive Thompson, "The BitTorrent Effect," Wired, January 2005, pp. 151–154, 178.