Immersive television and the on-demand audience
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Abstract

The concept of "television," as Lynn Spigel pointed out in 2004, has changed to encompass viewing, using and sharing content on multiple screens. Alterations in media industry approaches to cross-platform content and entirely new opportunities for people to themselves generate content have joined with highly tailorable and mobile platforms to upset the norms of television viewing characteristic of the 1990s. Based on a binational survey of college-age students, our research investigates the role of Internet-based content or application sources, alongside various user-owned technologies (e.g., mobile devices and laptop computers), in order to map the new dynamics of entertainment media, attending specifically to how viewers/users engage with "television" or visual entertainment, particularly with respect to the role of user generated content. This research has implications for how content industries will respond to the new preferences of people for "on-demand" media.

Introduction

The media marketplace has witnessed an increase in the amount and types of viewing devices available to consumers. From the traditional television set to pocket-sized mobile devices to laptop computers, people now have a surfeit of choices available for entertainment purposes. Moreover, many of them are portable, and afford tremendous personalization opportunities. Technology, distribution, reception and content developments all influence new "television" viewing/using habits.

In the more traditional broadcasting environment of the 1990s, television shows had been delivered to audiences through fairly standardized mechanisms. The decade featured over-the-air broadcast to television set receivers, cable television delivery to set-top cable boxes and, commonly, a recording device that would enable one to timeshift. While audiences could enjoy a limited selection of programs, the viewer remained subject to a flow of programming options rather than exercising much choice over the programming. Only the remote control threatened to break the flow, with its opportunities to zap, zip and graze (Bellamy and Walker, 1996). Similarly, at that same time films and videos were experienced in the home through VCRs and DVD players. One would be required to purchase or rent videos, or record programs for later viewing, thereby controlling individual demand for content but largely remaining subject to the limited selection available.

This situation worked well for media industries that successfully windowed their programming in order to achieve maximum revenue opportunities from successive audiences for their fare, and it allowed audiences to exercise consumption behavior at different price points. However, the nature of the interactions people could have with programming, or their engagement profiles, were limited to the conventional TV screen, a remote control, and possibly a VCR/DVR. While many scholars were excited at these forms of "interactivity," they clearly pale in comparison to the choices and operations available today.

With the emergence of broadband Internet and wireless services, and the development of specialized online services for content distribution, media content opportunities changed, as have viewing apparatuses and user points of control. By the end of the first decade of this century, television programs no longer require a television; videos do not require video hardware for viewing. A "film" can now be viewed on a TV screen, a laptop, a mobile device, a tablet, or a

gaming console, provided that access to a telecommunications intermediary is available from that device. In short, to take advantage of a modern entertainment environment, a viewer might possess a combination of a multi-function receiving device, a connection through an Internet Service Provider or a telecommunications provider, and additional devices for communicating about programming content. Given the complexities of this media environment, researchers have only begun to grapple with the dynamics of contemporary media usage.

There is a generational shift in viewing media content, and the vanguard is young people, especially those in colleges where high speed Internet networks are common. The most recent generation of college students views television programming differently than previous generations of viewers seated in front of a TV set; the viewing habits of young adults could be characterized as anything but *stable.* Students engage with various devices to view television and film content, and they often respond to the content through exchanges with friends and by remaking spinoffs of it, viewing in waves as some things "go viral" on YouTube and routinely following "TV" via online services such as Netflix or Hulu, or downloading BitTorrent fare. The services supporting digital media have grown in size and influence to match the demand for entertainment media. A typical student's media environment now includes entertainment offerings inclusive of YouTube videos, Facebook status updates, shared photographs, personal videos, content libraries available on Netflix and Amazon, Twitter feeds, instant messaging, chat, and many others. In contrast to the flow of programming available in a set configuration, the student audience appears to prefer accessing content on-demand.

Our study decodes the behaviors associated with media engagement among university student populations in two divergent locations: a large research-based university in the southern United States and a similar institution in Portugal. Our intent is first, to describe some of the new

"viewing" behaviors among this group of users/participants, and second, to understand the influence of industrial setting (e.g., services available), cost, and platform on patterns of engagement. The broader goal of this study is to unpack how interactivity operates at this moment in time, and to broaden discussions around the idea of platform and choice. The background of media industries and their ability to structure choices is highlighted by the opportunity to compare two different environments, that of the US and Portugal, where viewing/using opportunities vary. (For example, authorized streaming video services like Netflix or Hulu are not available in Portugal.)

Pertinent Literature

The concept of television has shifted in the past decade to include any screen or device that delivers television programming. "Television," therefore, has been increasingly reframed as a platform for content delivery rather than a simplistic one-way medium, belying its initial mode of delivery. Just as Spigel and Olsson (2004) differentiated "TV" from "television," characterizing the latter as the expanding terrain of multiple viewing and interacting experiences, we note that in the first decade of the century the language we can use to distinguish platform from content, viewing form from delivery method, or uses from distribution method, have multiplied into a combinatory plenitude. This creates the need to specify platform, setting, content, and user behavior in order to understand much of anything about any specific engagement. While a technologist might understand television delivery as the physical intermediary between sender and receiver of the signal (such as cable, DSL, or over-the-air antenna-based signal processing), viewers increasingly understand "reception" of programming

to be dependent on a mix of services as intermediaries for digital content; even the idea of "reception" fails to capture what people are doing with and to the content. How are the industries and the viewers/users engaging with "television" or visual entertainment?

The television industry has reframed its discourse around the idea of television programming as an arcane term in favor of the term "content." By making the move to *content*, television producers and industries recognize the multi-modal delivery systems available to audiences and fragment their viewing experiences across multiple devices and multiple modes of viewing. In contrast to the earlier windowing system, however, the economic models to maximize revenues are proving unruly. Even the "cartel" behind the streaming service Hulu shows the strain of multiple constituencies vying for privileged access to network-produced content and the means to shore up distribution modes that operate at odds with online systems.[1] These struggles belie the fact that Hulu is in fact quite popular and is on a growth trajectory as far as users are concerned. As of September 2011, one source reports that 182 million US viewers watched 40 billion online videos, with YouTube being the most popular source, and Hulu occupying 10th place in its rankings with 27.1 viewers (WorldTVPC.com, 2011).

In any case, the prevailing corporate structure prevalent in global entertainment industries continue to structure programming to suit financial incentives of delivering audiences to advertisers. However, the industry literature pays scant attention to YouTube and the user-generated content that excites many scholars and advocates of participatory media such as Yochai Benkler (2006), other than acknowledging its popularity. While this may be in part because YouTube is owned by Google and because user-generated content is unpredictable – thus representing no *stable* revenue-generating prospect – it also may be a blind spot in how people understand this particular form of engagement with amateur content. Therefore, one goal

of our research is to understand the role of user-generated content in the overall television engagement process.

In addition to a shift in the working concept of television programming or content, a shift has occurred in the method of viewing. Scholars such as Jenkins or Marshall have referred to the new generation of viewers being more *committed* viewers of network-created (but not broadcast distributed) series television, of forming social relationships and initiating fan behavior around certain content through Internet-based fan sites or YouTube or other similar apparatuses (Marshall, p. 41). However, there is so much heterogeneity in viewing/engaging processes that this claim may be suspect. What once was studied as an isolated or at very least home-based activity has now become an activity that can occur in multiple areas of the home via cable and wireless, in the workplace via broadband, in school via laptop or tablet, or bus or other places via mobile device and spectrum-based networks such as wi-fi and 3- and 4G. The shift becomes more pronounced when considering the convergence apparent in the use of gaming devices, set-top boxes, broadband-connected devices, streaming servers, and home entertainment servers as devices with multiple purposes and uses. Are users of new video technologies the committed viewers of content that Jenkins discusses? Alternatively, is their use of these media more spontaneous and "uncommitted" (in the fan sense)?

Some characterize the new engagement experience as a "highly personal medium of individualized, privatized consumption" (Marshall, 2009); however, there are differences across devices and screens, and much content on YouTube, for example, defies the conventional notion of *privatized* content, instead underscoring viral qualities and social media. Using a portable device does not imply that people are simply migrating the same content they would engage on a computer screen or another home-based large format screen. Rather, portable devices interact

with individuals' attention spans, privacy, bandwidth or connection speed available, and sense of aesthetics (i.e., some content is less acceptable on a small screen). New ways of thinking about mobility with respect to content must acknowledge the role of place as well as types of content. Our research therefore examines the role of the *mobile* visual experience among users, investigating how the content use on mobile devices varies from that of other more place-bound devices or platforms.

Furthermore, the use of so-called "companion" devices to the television screen also demands our attention (Basapur et al. 2011, Cesar et al., 2009). Beyond the idea of a simultaneous, second screen, some scholars have suggested reformulating the idea of entertainment to encompass the social nature of media, whether by suggesting a rebranding of interactive TV systems as "social TV" (Chorianopoulos & Lekakos, 2009) or recognizing that audiences have extended their entertainment considerations beyond the traditional logics of the existing system. In line with the notion of social TV, studies in this environment cannot ignore the role of social media, particularly Facebook. Statistics from the service ComScor, for example, show that by 2011 Facebook is more important for online linking than are conventional portals. This social media site currently occupies a central role as a communication and entertainment platform for its users. How does Facebook function in viewing patterns and behaviors, and if it is significant, what might this mean for the structure of entertainment- or taste cultures in the near future?

Additionally, the content and delivery and platform industries, varied as they are, have become linked through the Internet. Interactive television shifts audiences from a viewership role to one of a navigator. If we look to the World Wide Web as a prevailing interactive entertainment system, existing broadcast networks attempt to structure the Web to orchestrate a

user's navigation path (McPherson, 2006). New pressure points have materialized among industries that barely would have been thought of as "media industries" ten years ago. For example, the arrival of Netflix, especially with its streaming services, has given rise to new fears about broadband service providers' abilities to control content by controlling the bandwidth Netflix requires. Amazon, for years heavily identified with books and then a wide array of retail products, is now squarely in the digital content domain with its Kindle and related e-publishing products and even more importantly with Amazon Prime, a video content delivery system. Apple, originally a computer company, is central to the content delivery system with iTunes. BitTorrent, a legal technology optimized for sharing large files (such as video), pushes the boundaries of legal downloading and streaming even as iTunes, operating in North America, authorizes and commercializes these same processes. Many people assume that the presence of an authorized service such as iTunes has greatly diminished file sharing through other (unauthorized) means. Our investigation explores the utilization of authorized and unauthorized file sharing services for entertainment purposes, contextualizing the results by comparing people who have easy access to legal downloads and streaming with those who lack that opportunity. More broadly, our research examines the role of Internet-based conveyances in the broader entertainment milieu in order to consider how new viewing and using patterns alter the stakes of industry relationships.

In summary, alterations in media industry approaches to cross-platform content and entirely new opportunities for people to themselves generate content have joined with highly tailorable and mobile platforms to upset the norms of television viewing characteristic of the 1990s. Our research will examine the role of Internet-based content or application sources, alongside various user-owned technologies (e.g., mobile devices) in order to map the new

dynamics of entertainment media, attending specifically to (1) how viewers/users engage with "television" or visual entertainment, particularly with respect to the role of user generated content; (2) the extent to which users of these new convergent media conform to ideas of committed viewers and fans; (3) the role of the *mobile* visual experience among users and how the content use on mobile devices varies from that of other more place-bound devices or platforms; (4) how Facebook or other social media function in selecting or creating content; and (5) the importance of authorized services in downloading or streaming content.

Method

With the increasing use of broadband- and wireless-based technologies, Internet-enabled devices, multifunction devices and portable media platforms, audiences for entertainment content can be distinguished from audiences accustomed to viewing media content in a less dynamic environment. Our study begins to grapple with this shift by examining several related aspects of contemporary device usage and media content delivery. Because the first population wave incorporating these technologies into their lives tends to be younger, we conducted surveys with close to 1000 college students at large, public universities. We chose two divergent populations for our survey, one in the U.S. and one in Portugal. The latter setting offers an interesting contrast with the US because there are no authorized video downloading/streaming services such as Netflix or Hulu. The universities are similar in terms of catering to full time students and offering a rich, broadband and wireless Internet access setting on campus. The U.S. and Portuguese universities are in general less diverse in terms of income, age, and ethnicity than would be the case in a community college setting in the U.S.

Survey data were gathered through a questionnaire administered in person during undergraduate college classes. The cross sectional, purposive sample members had the opportunity to decline to complete the survey, although most students chose to provide responses. The sample conforms to the typical demographics for college-age students at large public universities, with a high concentration of people in the 18-22 age range. The sample includes 500 responses from the U.S. and 490 from Portugal.

The questionnaire items examine the following research questions:

(1) How do viewers/users engage with "television" or visual entertainment, particularly with respect to the role of user generated content? Our survey includes items assessing which devices are commonly used, how much time people spend with them, where they use them, and which sources of content they engage routinely.

(2) To what extent are users of these new convergent media committed viewers and fans, as Jenkins has proposed? Several questionnaire items inquire about content creation on the web, including what is created, where it resides, how often content is shared and services that are used to comment on others' content or share one's own content. These provide an initial sense of how much the user-generated content culture is present in our population.

(3) What is the role of the *mobile* visual experience among users and how does content use on mobile devices vary from that of other more place-bound devices or platforms? Several questions compare the use of mobile phones, tablet computers and laptops to more fixed apparatuses such as televisions and desktop computers.

(4) How do Facebook or other social media function in selecting or creating content? To what extent is it a central core of the interactive television experience? We inquired about the use of Facebook and other social media services in terms of frequency of use, how such services function in terms of discovering new entertainment, and the utility of their recommendation services, and how frequently these applications are used to communicate *about* programs being viewed.

(5) What differences exist between people in the U.S. and Portugal in the use of authorized services in downloading or streaming content? Questionnaire items assessed whether people use file-sharing services such as BitTorrent or an authorized service such as iTunes, and whether people archive media content. We also inquired about the choice process for entertainment fare, specifically whether people prefer an on-demand selection process or whether they prefer an unbroken flow of programming such as is typically provided by broadcast television or cable television channels.

A discussion group was conducted prior to survey distribution to contribute to the construction of the instrument. The fruitful discussion among graduate students and faculty elicited several motivating factors and conditions of viewership that had not previously been considered by the researchers. Focus group observations led to refinement of the survey instrument utilized in this study. The instrument contained both open- and closed-ended questions, and the open-ended responses were content-coded. The closed-ended survey questions asked about personal viewing habits across delivery systems, device usage, recommendation systems and characteristics of viewership. Open-ended questions included self-reporting of three preferred "content delivery systems," a question that caused some reconsideration of what it

means to define something as a "content delivery system" which will be discussed further in our results section.

In terms of characterizing the technology and platform characteristics in Portugal and the U.S., we note that Portugal ranks higher than the U.S. in terms of general household broadband penetration. However, its media systems are highly concentrated and limited, with just two dominant cable television companies (PT Telecom, serving 46.2% of the country's fixed-line broadband clients, and Zon Multimedia, with 32.7% of the country's fixed-line broadband clients as of 2010) and a broadcast system that is only now conforming to a digital standard (the government set a deadline of January 2012 for broadcasters to move to digital, and there is speculation that the deadline will be pushed back). The universities in our sample were located in heavily populated cities in Portugal, where broadband and mobile wireless services are readily available (which is not always the case in the country's interior). We note that the cable TV services in Portugal are marketing DVRs and on-demand services, and no streaming or downloading video services are available through their networks or those of the DSL provider, PT Telecom. The U.S. university is located in a city characterized by plentiful, free wi-fi access throughout the city and home-based access from three cable and broadband providers (AT&T, Time Warner, or Grande Communications), as well as a campus broadband network available (wireless or via fixed line) for free to any registered student. Mobile phone web access likewise is readily available, albeit for the standard data service fee.

Results

The survey results are reported below, focusing primarily on our closed-ended questions. Most of our statistical tests were chi square and T-tests, and the results noted below represent the statistically significant findings. Tables appear at the end of the article.

(1) How do people engage with new media, platforms and devices?

In response to our first and broadest area of concern regarding how viewers/users engage with "television" or visual entertainment, we find strong evidence of a shift from the usage of television content on standard audiovisual devices such as the television and DVD player to portable multi-purpose platforms, especially the laptop computer. The student population by and large views media on their laptop devices, but also opts for television secondarily as a ready-made system for display. The Portugal sample is statistically significantly more likely to use a "normal" television as a display device than is the U.S. sample (75% percent versus 47% report they frequently or very frequently use televisions as a display device). Approximately 71% of the overall sample indicated a laptop frequently or very frequently is their primary medium for watching entertainment fare, with an average 59.2% giving comparable responses for "television" (multiple responses were accepted on this item since we assume people use multiple devices). Surprisingly, very low percentages reported using desktop computers or tablet computers for entertainment viewing. About 11-12% of U.S. and Portuguese students reported using mobile phones for this purpose.

■ TABLE 1 about here --

There is remarkable similarity between the U.S. and Portuguese students in terms of how much time they spend viewing entertainment fare, 30% of both populations indicated they viewed between one and two hours (the modal response), with about 20% viewing two to three hours.

---TABLE 2 about here --

In terms of what constitutes the source of visual material, cable television material is still highly popular, although more so among Portuguese students than U.S. students (78% versus 63.5%, a statistically significant difference), while web-based films (such as available from Amazon or Netflix) were most popular for American students (78% use these services regularly). The most striking statistic, however, comes from a query regarding how frequently people use certain content sources. There, while "television" (cable or broadcast) is certainly cited (24.1% weekly and 48.5% daily use), downloaded or streaming fare is also very high (33.9% weekly and 32.3% daily use). The mean scales of these devices illustrate the popularity of downloading.

--TABLE 3 about here --

In terms of where entertainment content viewing/using occurs, 56% of the sample is still in their living rooms, while 60% are in their bedrooms. The movement toward being entertained outside of the home is evident in the relatively high utilization of "common areas" (lobbies, libraries, cafes) for viewing (11.2% for the entire sample, skewed to the 20% of the U.S. students who report using common areas for these purposes). Only 3.3% of the sample reported using mobile devices for most of their viewing, although U.S. students used them more often than did their Portuguese counterparts.

(2) What evidence suggests that users of these new convergent media are "committed" viewers and fans?

We rely on various items concerning creating content in order to explore the nature of young audiences or participants. In response to "What services do you use to share *your* creative work," students focused largely on Facebook (87.6%), YouTube (57.9%) and email (64.9%). Other options such as vimeo, Flickr, Photobucket, picasa, personal blog/site, google docs, twitter, MySpace, and hi5 were mentioned by some, but in numbers far behind these three. The frequency of using Facebook and email was similar, with about 30% using these services multiple times a day. Using YouTube was somewhat lighter: about 16% use the video service multiple times every day.

Among U.S. students, Facebook use for *responding to others'* content dwarfs all other services: 95% of the US sample report using Facebook to share or comment on content *created by others*, and over half the same (66%) do so several times a day. In other words, this secondary circulation of commentary is extremely common. YouTube has lighter use, but it is still prominent: 20% of U.S. and 26% of Portuguese students use it daily to share or comment on others' content. The comparable email responses are 30% and 26%.

These results underscore that sharing content is common, and that some element of creativity – sharing and commenting on other peoples' content – is practically a daily activity. However, the transactions on Facebook do not precisely correspond to the sort of activity that Jenkins discusses with respect to fans and committed media participants. If people were spending a great deal of time adding content to sites or responding to favored content, we might expect them to communicate in real time about that content. When we asked about the

simultaneous use of devices when viewing a film or television program, we found that 78% of the sample does indeed use a mobile phone for those purposes, mostly through text messaging; in addition, 76% reported using a laptop computer to communicate about the content they are watching, generally through instant messaging. Facebook is the third most often cited communication service on this score. These results do hint that people are very engaged (if not dedicated) viewers/users.

(3) What is the role of the *mobile* visual experience among users and how does content use on mobile devices vary from that of other more place-bound devices or platforms;

Mobile technologies such as laptop computers, mobile phones (especially smart phones capable of accessing the Internet), and tablet computers are among the devices that have allowed people to engage content in more places and at more times of day than ever before.
In general, we found that people were not using tablet computers in great numbers. However, as noted earlier, laptop computers were extensively used for viewing films, television and entertainment content, particularly among U.S. students (75% report frequent or very frequent use, compared to 68% of the Portuguese sample). The comparable mobile phone use stands at 11.2% U.S. and 12.2% Portuguese. Even though the "old" medium of the television screen is still popular (more so in Portugal than in the U.S.), laptop computers are a heavily used second screen, and cell phones appear to be the third screen. This means that the act of engaging entertainment – whether creating or sharing or something else – can be portable.

Are people taking advantage of the mobility inherent in laptops and mobile phones for entertainment purposes? When we cross tabulate use of the mobile phone with use of Facebook, YouTube and email, which are the primary sources of entertainment for the sample, we see

mixed results. First, the use of FB is so dominant that the device platform does not appear to matter: people are on Facebook a lot, wherever they happen to be and whatever technology is in their hands (chi square = .500, ns). YouTube is a somewhat different story. The people creating and sharing content via this video platform rely more heavily on mobile phones; their frequent use of the mobile is associated with YouTube content creating (chi square= 5.33, significance = .021). The 100 or so people who report themselves being heavily dependent on the mobile phone also frequently use google docs, picasa, MySpace, and hi5 to share content. Mobile phone users more frequently use email for sharing as well (chi square = 3.79, sig. = .052).

----Table 4 about here ----

It does appear that mobility or the mobile device may be a factor associated with being more active in the content creation and sharing domain, essentially with being an active participant in the online world. We interpret some of the differences between U.S. and Portuguese samples as symptomatic of stages in engagement, possibly reflecting the greater penetration of smart phones (as opposed to feature phones) in the U.S. sample.

(4) How do Facebook or other social media function in selecting or creating content? To what extent is it a central core of the interactive television experience?

Some of the results already presented suggest the centrality of Facebook in students' media experiences. For U.S. students, Facebook was cited by 95% of the sample as a service used to share or comment on content created by others, with U.S. students somewhat more intensive users than Portuguese students. We find 81.3% of the latter used it as a

sharing/commenting service. In terms of where people shared their *own* work, Facebook again was the primary venue. About 94 of the U.S. and 84% of the Portuguese students indicated it was their primary location for presenting their work. Given this, it may not be surprising that in the combined sample, 52% reported that they use FB multiple times per day. Everyone uses it, and they use it nearly everywhere as well. Facebook is the dominant medium for sharing and commenting on others' content and for sharing one's own content as well.

When assessing comparative qualities of various content delivery systems, we asked about issues such as cost, ease of use, the graphical interface, the physical interface (if applicable), content availability, image and audio quality, and recommendation systems (if any). On these dimensions, Facebook and YouTube and email received very high ratings compared to many other competing services, particularly in terms of ease of use (for example, the entire sample agreed email was extremely easy to use (an "excellent" rating), compared to the 32% of the sample who said the same about gaming consoles, or the 27% who rated "television" as excellent. Facebook does not compare as well in terms of content availability, however, compared to streaming media or YouTube, although it receives a rating that is higher than "conventional" television. On cost, Facebook also rates very highly, and cost is highly significant in determining how people engage media.

(5) What differences exist between people in the U.S. and Portugal in the use of authorized services in downloading or streaming content?

Our motivation for asking this question stems from the differences in the U.S. and Portugal media systems. The United States media system offers access to several authorized downloading

and streaming services, and our data show a clear preference for authorized streaming services in the United States. Authorized services like Netflix (27.2%) and Hulu (13.8%) are ranked highly by U.S. respondents as their most frequent method of accessing media. With nearly 40% of the U.S. surveyed population using one of these two services. Cable TV is the preferred medium of 16.2% of the U.S. respondents. Only 6% of U.S. respondents indicate that other streaming services serve as their primary media choice.

In contrast, the Portugal media system does not feature access to Netflix or Hulu, nor do they have access to a popular authorized streaming service. Instead, Portugal respondents turn to cable TV at a rate of 45.5%, followed by 28.4% who choose streaming media for their primary source of entertainment. The specific mechanisms for streaming media are not captured in this question, but given the lack of popular authorized sources in Portugal as opposed to the plentiful access in the United States, one might presume that unauthorized services are popular in Portugal among college students.

Following up on this point, the survey instrument does measure access through authorized services versus "rogue" file sharing services, which shapes our understanding of the distinction between the two audiences, and the two populations diverge significantly. The respondents were asked, "Given the choice between downloading a television program from a file-sharing service (such as BitTorrent), or downloading the same program from an "authorized" service (such as iTunes), which source do you typically utilize?" Portugal respondents utilize file sharing with much more frequency than their U.S. counterparts. About 85% of Portugal respondents report a preference for file sharing versus 51% of U.S. respondents. Only 13.6% of Portugal respondents prefer to access content from an authorized service, while 45% of U.S. respondents report a preference for authorized materials.

We have observed that the Portugal population will seek entertainment from file sharing services regardless of whether an authorized source exists. Responses from the United States population indicate that access to authorized services correlates significantly with the availability of authorized entertainment sources. Nearly 50% of the U.S. respondents use streaming media as their primary source of entertainment, and over 40% of the overall respondents use either Netflix or Hulu. The lack of access to authorized sources in Portugal with the wide program choices offered by Hulu and Netflix may influence that audience to seek on-demand media from unauthorized sources, and hence the high rate of using file sharing services among the Portuguese sample.

Another question asked in our survey delves specifically into the audiences' preference for accessing media in a "flow" of programming versus accessing media in an on-demand configuration. In characterizing these populations, the U.S. population overwhelmingly prefers an on-demand configuration (82%) to an uninterrupted flow of content (17%) typical of the conventional programming of broadcast or a cable channel. In contrast, the Portugal population does not vary as significantly between those who prefer a flow (41%) versus those who prefer on-demand content (57%). These observations lend credence to the idea that access to on-demand, authorized streaming content, and the devices that facilitate an on-demand lifestyle, shape the way in which audiences engage with media. Even given an absence of authorized sources for entertainment, both populations show a substantial preference for on-demand media.

Discussion

As the interplay of media distribution mechanisms and multiple device configurations evolves, a core question for contemporary media research becomes how new viewing, interacting and content creation and sharing activities define new relationships among viewers, between them and the content they both create and share, and what they might mean for insuring that people have maximum opportunities to enjoy and to share their cultural creativity. A related question concerns the implications of the evolving landscape for media industries.

Our results suggest that the audience is evolving into one that expects to create and use content in various forms and in various places. While students may not typify the adult audience since they typically have fewer economic resources and perhaps also limited time to spend with media, they are early adopters of technology, and they may set the agenda for how other generations engage with entertainment programming of various sorts. We find evidence that user-generated content is popular, and the two to three hours per day of use common among our sample is spent in a "lean forward" fashion, rather than a "lean back" fashion: leaning forward to create and interactive, rather than leaning back to just consume. Using a laptop computer is nearly as common as using a television for entertainment, and one tenth of our sample uses various devices for entertainment in public places rather than the home, a trend more pronounced among the U.S. students.

The mixed evidence regarding "committed" viewers and fans suggests that there are diverse styles of engagement. We find that email, YouTube and Facebook are the most popular services with which people share content and comment on others' content, and arguably the types of interactions one has with each are unique. One does somewhat different things in each environment. The level of discussion around content – three quarters of the sample reported

communicating about content they see – underscores the extent to which this interactivity is immersive, a part of a daily flow of communication that is voluminous and meaningful.

While the mobile phone occupies fledgling status in terms of its role as a content creator and disseminator, the disparity between U.S. and Portuguese samples may illustrate that mobile is going to occupy an increasingly important role in the content connections. It, along with the laptop, offers portable opportunities for the connected viewing and creating that enmeshes users. Many people use it to stay connected on Facebook, a service that is a contemporary fulcrum of content engagement. Facebook is used among this sample more than any other service, and its attributes (it is free, easy to use, has interesting content, and so forth) are extremely attractive to its users and competitive with alternatives.

Facebook also epitomizes the "on demand" culture that our results on file sharing and downloading explore. The ability to quickly upload or download, the opportunity to sample a range of content, to share one's own work simply and immediately, is what the contemporary culture appears to desire. This is a paradigm shift away from the notion of programmed content channels that wash over the viewer, in the "lean back" characterization. This poses significant challenges for media industries. As Butler put it, "The future of media convergence ... depends upon media companies' ability to compete with the real-time screen's user agency, navigable space, temporal simultaneity, and virtual sense of shared space" (Butler, p. 167).

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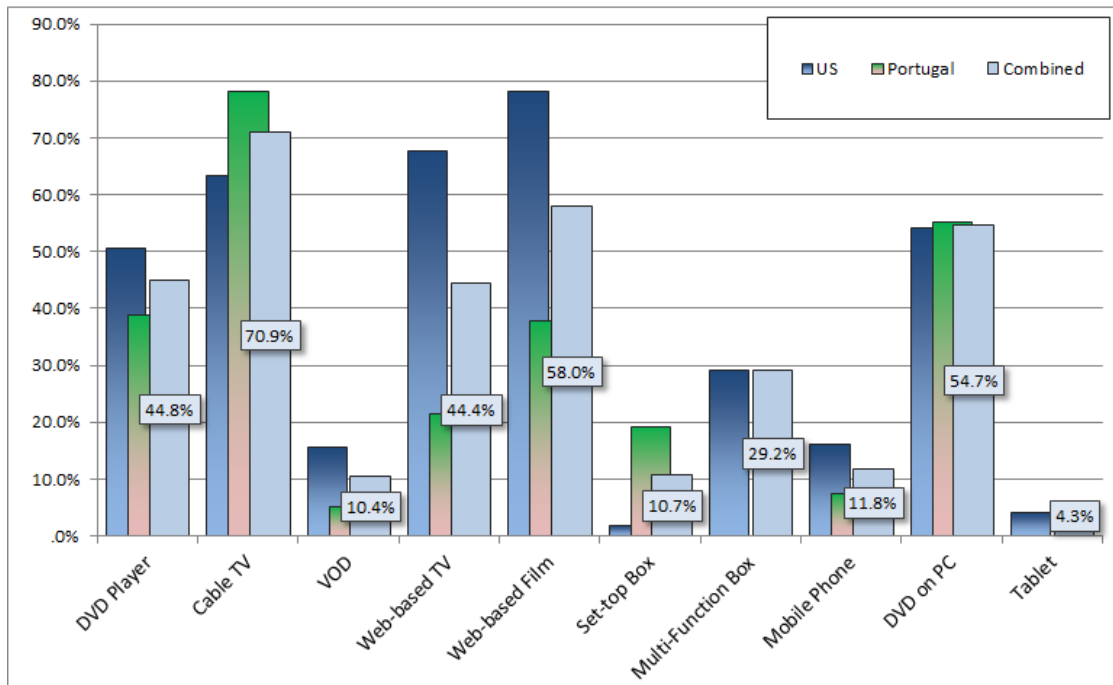**Appendix**

Table 1: Percentage use of devices by US v. PT

Table 2: Time per day spent viewing entertainment programming

		< 30 minutes	30 min. - 1 hr.	1-2 hrs.	2-3 hrs.	3-4 hrs.	> 4hrs.
US	n=490	10.4%	23.9%	30.4%	21.6%	6.9%	6.7%
Portugal	n=499	9.2%	21.0%	30.9%	19.0%	8.8%	11.0%
Total	n=989	9.8%	22.4%	30.6%	20.3%	7.9%	8.9%

Table 3: Means Use Frequency by Device (1 = rarely, 5 = daily)

	US	Portugal
Broadcast/Cable TV	3.65	4.31
DVD Player	2.88	2.34
DVD on PC	2.70	2.46
Digital download/streaming	3.82	3.70
Digital files (ripped)	2.56	3.08

Table 4: Services for Sharing/Creating Content by Use/Nonuse of Mobile Devices

	n	% of users	Pearson Chi-Square	df	Significance
Facebook	111	90.1%	0.454	1	0.50
YouTube	111	68.5%	5.326	1	0.02
MySpace	58	17.2%	9.074	1	0.00
hi5	58	24.1%	4.35	1	0.04
Google Docs	109	40.4%	14.212	1	0.00
Picasa	58	25.9%	5.326	1	0.02

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[1] As of October 2011, Hulu is owned by News Corp., Disney, and Providence Equity Partners. In early October they called off a potential sale of the company, apparently pleased with the results of Hulu's new subscription service. De La Merced (October 13, 2011) Hulu's owners call off plans to sell company, New York Times, available at http://dealbook.nytimes.com/2011/10/13/hulus-owners-call-off-sales-process/?scp=6&sq=hulu&st=cse.