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The socio-technical architecture of digital labor: Converting play into YouTube money

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Abstract

This article uses the case of video game commentators and examples from research to highlight implications for conceptualizing the concept of "architectures of digital labor." The concept draws attention not only to the social practices that position activities straddling labor/leisure into a commercial framework but also to the technological platforms that make that possible in a *seemingly invisible fashion*. The main analytical lens is that of "affordances." It is used to map how technological features designed into YouTube create a set of probable uses/meanings/practices for users while serving YouTube's business interests. The analysis is transferable to other social web platforms whose central business model focuses on user-generated content (UGC).

Keywords

Affordances, commentary, digital, games, labor, user-generated content, video, Web 2.0, YouTube

Introduction

Video game commentary is a genre of user-generated content (UGC) on YouTube. The top 10 commentators have over five million subscribers. That number grows daily and their videos have been viewed tens of millions of times, both on their channels and when re-posted by other users. The videos, be they from the "big" commentators in the community or from those with smaller followings, are rich cultural artifacts. They are not

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only performances of expertise or gaming prowess, but they also serve as performances of identity, community conflicts and allegiances, community values, economy, and creativity. When the videos come from commentators with large followings, they have the power to set the tone for discourse and shape the videos from other commentators by necessitating "response videos" and more commentary. Moreover, YouTube's commenting and rating system generates interactions which themselves are rich and meaningful. The data presented herein were gathered during a 24-month (fall 2009 to fall 2011) participant observation study of the YouTube video game commentator community. It follows the lifecycles of two popular games for console: *Call of Duty: Modern Warfare 2* (*CoD MW2*) and *Call of Duty: Black Ops* (*CoD BLOPs*).

My methodological approach in the overall research project was participatory and qualitative. Initially, I focused on 20 commentators and their communities. I watched over 1000 videos, played the games, commented on videos, started my own channel, and made commentary videos of my own. I catalogued and used all the technical and social networking elements within and outside the platform as part of the digital labor architecture. These included the commenting systems, the tagging conventions, the advertising system, subscriber in-boxes, the video ranking system, game consoles, capture cards, editing software, and so on. The analytical portion of the project took the form of field notes consisting of memos and notes on videos, and commentary, on the design of particular features on their use by commentators and the community and on the discourse about/within them. I used a grounded theory analytical approach to develop thematic codes and formulate connections between various socio-technical elements that make up the commentator experience and fan experience of video game commentating on YouTube (Glasser and Strauss,1967). In short, I explored YouTube, its features, and video game commentary as a socio-technical phenomenon through participatory practice, observation, and analysis for over 24 months. For the purposes of this article, I focus only on those facets that are relevant to understanding YouTube's architecture as a system framing digital labor while socio-technically framing and affording the meaning making enterprise of any cultural activity. Both leisure and labor are framed in YouTube's architecture and their meaning and value shaped by users' subject positions, the kinds of communication afforded, the communities supported, the algorithms in place to account for social or monetary capital and by the social practices engaged.

The main analytical lens herein is that of "affordances," applied to the architectures that frame the processes turning gameplay into pay in the form of monetary or social capital. The concept is used to show how technological features designed into YouTube create a set of probable uses/meanings for YouTube, most of which are undertaken as social practice. These same features, however, serve YouTube's business interests and so have created a set of affordances that allow YouTube to extract value from UGC and constitute its digital labor architecture.

The machine in the garden: technology, theory, and UGC

The garden: UGC, labor, and participation

Over the past decade, there has been a considerable amount of work in communication, cultural studies, and Internet studies that has addressed the issues raised by the notion of

digital labor as a process undertaken by media consumers and configured in digital networks as "productive" in its own right. While notions of the working audiences and audiences that aren't necessarily passive consumers have been part of critical work on mass media for some time,[1] digital networks are conceived as possessing organizing elements that are different than previous mass media structures and processes and thus merit a re-examination of theories on media consumers and audiences. A foundational work on the topic comes from Tizziana Terranova, whose exploration of "immaterial labor" framed much of how many critical scholars have come to theorize labor in digital environments. From Terranova's perspective, networked environments that foster and house social interactions form the framework for harnessing social practice into the capitalist logic (Terranova, 2000). The outcome is a social factory where our social interactions are captured and monetized. Her work inspired a number of subsequent research articles on topics such as AOL (America Online) volunteers, video games, media work, and other types of activities that add value to online media businesses and technology companies (Postigo, 2003; J. Banks and Deuze, 2009; J. Banks and Humphreys, 2008).

Critical research notwithstanding, other research and theory see UGC differently. Henry Jenkins has conceptualized UGC not necessarily as labor but as participatory culture, whose dynamics and meanings are subject not only to the rationale of capital accumulation, commodification, and profit but also to internal moral economies and self-defined systems of value. Others share this more optimistic view of UGC, the cultural industries, and digital networks, seeing them as an opportunity to explore creativity and synergies between media industries and consumers (J. Banks and Deuze, 2009; Benkler, 2006; Hartley, 2005, 2006). The participatory cultural view on digital labor and UGC sees the systems that make participation in mass media production and digital environments especially as having potential for fruitful collaboration, allowing user input into media discourse and production (Jenkins, 2006a, 2006b).

Taken as a whole, the research and theorizing about UGC production in digital environments and processes of monetization, incorporation, and commodification, whether from a digital labor perspective or a participatory culture perspective, suggest that because of the situated personal experiences of UGC producers, it is difficult to generalize about what the normative outcomes should be regarding UGC. In other words, despite calls for fair compensation for UGC producers or research that frames their work as either exploitation, mutually beneficial, or even false consciousness, analysis sometimes falls short of explaining from a grounded perspective how participants in UGC platforms see their work and the techno-social systems that frame it.

The idea that digital labor might point to more than a dichotomy between exploitation and participation is taking root in new media research agendas (Fish and Srinivasan, 2012). For its part, research on YouTube as a platform for UGC has at times mirrored the overarching theoretical divisions summarized above and it has also attempted to reconcile critical perspectives with the more optimistic understanding of UGC (Andrejevic, 2009; Wasko and Erickson, 2009). Co-production, notions of the amateurs as entrepreneurs, attempts to theorize the political economy of Web 2.0 platforms, and work on understanding situated moral economies of meaning and participation are endeavors for reconciling critical perspectives with those that see UGC as empowering (J. Banks and Deuze, 2009; Burgess, 2009; Burgess and Green, 2009; Fish and Srinivasan, 2012; Patricia Mooney Lange, 2007; Senft, 2008; Strange and Bennett, 2011).

The data and analysis presented add to the ongoing research on the political economy of media institutions that began with mass media and now interrogates new digital media and is being debated as researchers seek to understand processes and power involved in extracting value from digital networks populated by users and UGC (Arvidsson and Colleoni, 2012; Bermejo, 2009; Fuchs, 2012a, 2012b; Hesmondhalgh, 2010; Smythe, 2001). Investigation of the video game commentator phenomenon rests on the realization that, at least on YouTube, institutional logics regarding the production of content and its monetization remain in the form they were in before the rise of participatory production or the value of the "You" in YouTube. It is worth noting that as UGC ventures like YouTube strive to find reliable funding streams based on targeted advertising, the idea that a centrally produced content catalog can provide the audience for advertising is having to share its place as a priority with production that is increasingly dependent on individual users and community-based sets of practices and norms that may not be always in institutional control. As the description of video game commentating and its integration into YouTube's digital labor architectures will illustrate, as much as commentators must bend to the forces of production dictated by audience taste and organizational structure (legal, economic, or technological) they are themselves agents of these forces. Therefore, the digital labor described here takes the passionate form described previously as part of production in digital networks (Postigo, 2009; Campbell, 2011). The architecture that affords it takes the form of a "capture and conversion system" (Postigo, 2012), an architecture that both affords play and techno-social practice while converting it to value that is (1) situated in the YouTube gaming community's cultural form and (2) found in the economic value that production has for commentators and YouTube, the business venture. The takeaway from observing the flows of gaming culture as it becomes the producer of UGC for platforms like YouTube (or Twitch TV) is that all forms of cultural practice traversing through architectures framed by algorithm and affordances are similarly captured and converted to inventory and enter the organizational logics of platform owners, be they YouTube, Facebook, Tumblr, or Twitter.

The machine: socio-technical architectures, affordances, and features

One important element in considering digital labor, participatory culture, and UGC is technology's role as a potentiating or shaping structure, facilitating incorporation of many online activities into the "social factory" or conversely in shaping situated self-valuating participatory practices in mass media production online. While any claim of technology's absolute role in shaping either would be deterministic, considering how technical architectures, their design and their use shape and are shaped by social practice is important, because it gives insight into how otherwise little noticed or "natural" elements of the participatory/labor space actually serve as strong influences of action.

YouTube is ultimately a technological platform with a number of features that yield a set of technical and social affordances. What designers envision as affordances emerging from their systems and how those affordances are understood by users are two things not necessarily at odds but often separated by the gap that forms between intended use and actual use as performed by users.

Affordances come in two flavors: technological and social. Technological affordances have been described as the set of functions that a technology makes possible: telephones

make long distance conversation possible, antibiotics make defeating infections possible, and YouTube allows people to "broadcast" homemade amateur videos. Social affordances are the social structures that take shape in association with a given technical structure. Telephones allowed for increased socialization changed our perception of distance (the telegraph did that), reshaped market practices, and so on. Widespread use of antibiotics reconfigured health care practices and organizations, and YouTube fostered video sharing as a complex set of social practices, some of which have little to do with the actual videos being shared. The simultaneous use of technical and social affordance as a conceptual framework is important because a social affordance is distinct from social practice. Social affordances, one could argue, are dependent on technological structure, its form and flow otherwise untenable as a matter of material reality or as a matter of convenience. All this might appear at first deterministic but for the caveat that social and historical contingencies shape how we (users and designers) understand and socially construct technological and social affordances. So as much as the telephone, antibiotics, and YouTube made possible certain social arrangements, those social arrangements shaped those technologies further, reproducing the affordance structures or in some cases rejecting them. At the level of historical settings, cultural flows and market practices shape what constitutes a technology worth building. On the other hand, individual and community needs, social problems, and life histories define how people come to talk about technology, how they come to use it and how they view *what the technology was meant to do.*

Seeing technology as a tool for one thing as opposed to another is contingent. Twitter may have been seen as a quirky social networking gimmick when it first was introduced but in some countries experiencing social unrest, it was seen as an important element in providing news and information, especially within repressive regimes. For other users with different problems to solve and for cultures to give meaning to technology and its adoption, Twitter might be seen as a novel way of creating the "personal brand." Not unlike our understanding of Twitter or Facebook, our understanding of YouTube has shifted over time, and YouTube's vested communities (users, owners, designers, creators), shape the overall understanding of what YouTube affords. What is perceived as a probable affordance within YouTube, then, is a result of not only whether it is deployed in a democracy versus a totalitarian regime, within capitalism or other market systems, but also whether journalists use it versus gamers, or men as opposed to women, and so on.[2]

The market system is a strong driver in YouTube's affordance structure. It demands of designers: "Make a space where people can share video and socialize around it, and where we (the owners of the system) can turn a profit from it with minimum work in doing so." From YouTube's perspective, the key technological affordances are those that allow for maximizing profit; it is, after all, a business and profitability means survival. From the users' perspective those same affordances (social and technological) can mean similar or entirely different things.

The technical and social structure of digital labor, then, may not be one of pure exploitation but of selective seeing. In that sense, YouTube is never absolutely a means of extracting value nor is it always just creating community; it is doing all those things and some new things, none of which can be said to be the sole function for the platform. Of course, one may argue that the true reason YouTube exists is to make money since that is

what the designers intended but that discounts the myriad other reasons YouTubers would give for being part of the site.

## Gameplay and pay: affording play, value, and YouTube money

Architecture and its affordances

This feature list below explains how they are used in practice and constitute an effective system for harnessing the productivity of "YouTubers." The features beg analysis here because it points to general ways in which commentators and other communities have used them, as a result of the design decisions made by YouTube.[3]

1. *The video upload*. The video is both the central media commodity and the locus of sociality, that itself serves as commodity, in YouTube's communication and distribution (or labor) architecture. It is the "draw" that brings subscribers and others to the commentator's channel. View counts are the single most important component in the YouTube ranking system. Videos without many views do not show up on search results and suffer neglect. For the community of top commentators[4] and those that are just starting their channels, driving up the view count is of paramount importance since it exposes the video to even more views and drives potential subscribers to their channels. Views translate into more revenue for those commentators who are part of the "YouTube Partner Program."

2. *The video commenting system*. The commenting allows users to comment on any video. The commenting system contributes to how YouTube ranks videos in searches, as does the rating system and the favoriting system. Although YouTube (and its parent company Google) does not make explicit how ranking occurs, analysts have noted that community activity around a video is a component of the ranking system (Patricia Mooney Lange, 2007; Senft, 2008).

3. *The video rating system*. Two icons appear on the YouTube interface for each video: a "thumbs up" icon or "thumbs down." Reminiscent of the famous American film critics Gene Siskel's and Roger Ebert's way of reviewing films (thumbs up means good, down means bad), the system allows viewers of the video a way of registering a "like" or "dislike" rating. Thus, even if the viewer is not a subscriber he or she can register an opinion. "Likes" versus "dislikes" also contribute to a video's ranking and its place in search results and the YouTube home page.

4. *Favoriting the video*. Viewers can favorite videos. It is a common practice to use the favoriting function as a way of "spreading the word" on videos. As a social practice, favoriting a video is a powerful form of reciprocity. Top commentators often favorite each other's videos, promoting their channels to each other's subscriber bases. Favoriting a video counts is a community-building activity among gameplay commentators and their communities, and also influences the video's rank on searches.

One commentator invested close to US$4000 of his funds to purchase Xboxes, Play Stations, and other goods and offered them to his viewership as part of a giveaway
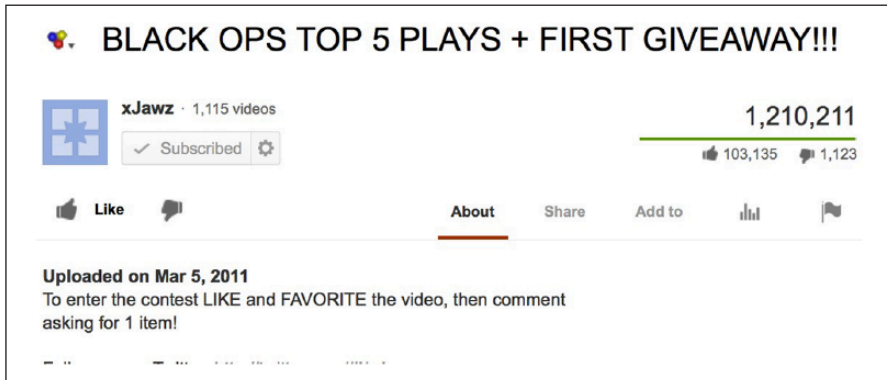
Figure 1. Screen capture of commentator XJaw's first giveaway video view count taken in March 2012.

campaign. The commentator chose viewers who had rated, comment, or subscribed to his videos. As a result of the amount of attention this drew to his channel, his content was the first video game UGC to appear on the YouTube home page. His giveaway video received over one million views, a huge number at the time that other commentators were lucky to receive 30,000 views on a video (see Figure 1).

5. *The subscription system*. Once subscribed, a YouTube user will get video updates from channel commentators. This is the single most important feature for getting consistent views on a video and for viewers to keep track of their favorite channels. Subscribers are the central most common social currency on YouTube; happy viewers subscribe to channels, and unhappy ones unsubscribe or stop visiting the channel. Video game commentators often go to great lengths to gain subscribers and fret when they lose them. Because subscribers play such a central role in creating social structure in the game commentary community (and on YouTube), commentators have found ways of both competing against each other for them and at the same time sharing or trading them. For example, the top commentators will subscribe to each other's channels. Since a channel owner's "subscription list" is available to viewers, subscribers or potential subscribers can see what their favorite commentators are subscribed to and follow their lead.

If one thinks of the subscription system as the feature that allows for the technical affordance of following a commentators' content, then one social affordance is the creation of a currency system, one in which the subscriber is the basic unit of exchange. The most popular commentators engage in the practice of subscriber trading when they favorite one another, have each other on their respective channels as guest commentators, or provide links to other commentators in the "Video Description" section of the video interface. All this is done in the hope of growing their channels through reciprocity. The outcomes are quite significant. When one commentator, WingsOfRedemption hosted another commentator Woody's Gamertag on his channel, Woody saw a significant jump:

> This is an old video that I did with Wings of Redemption over a month ago. I was organizing my hard drive when I thought that I might have a lot of subs that have never seen it before because I've never posted it. His channel was smaller than it is now and mine had about 38 people at the time. ([Old] 32-3 Underpass Domination w/Wings of Redemption, 2010)

After 2 years, Woody's Gamertag posted this video, he had over 1 million subscribers, not all can be attributed to being hosted on WingsofRedemption's channel but Woody has noted that it got him on his way to YouTube "stardom." Subscriber trading continued between the two commentators as they forged a friendship outside of YouTube, started their own podcast, and grew each other's channels by pointing their subscribers to each other's work.

6. *The advertising system*. On YouTube, video creators who are part of the YouTube Partners Program receive a share of the moneys garnered by YouTube from advertising placed on or near a video. The advertising can take the form of a banner ad, a pre-video commercial, or an in-video box ad. The system monitors unique video views, ad clicks, and other metrics that translate the videos' popularity (gauged in terms of the number of views) into a monetary figure that can be charged to advertisers and then shared with partners. The advertising system and the YouTube Partners Program form the central financial driver for commentators. There are other important drivers that motivate commentators to make videos, manage their brands, raise subscribers, and form social networks (SNs). However, the advertising/partner program is the central tool with which much of the work that the top commentators do is monetized both for YouTube and the commentators. The system makes clear the importance of UGC as a revenue stream. It frames gameplay commentary videos so that viewers and commentators are not ignorant of the value extraction system. Commentators talk about the system, they tell their subscribers about it, and show off the things they have been able to buy or experience because of it. The system gives life to a narrative of entrepreneurship among many commentators. Interestingly, that narrative of accumulation lives in tension with other community norms, such as passion for a craft, hobbying for hobbying's sake, staying in touch with your subscribers, and staying true to the values of sharing. This tension is so strong that many top commentators find themselves in the most awkward moments of cognitive dissonance. Often, the most successful commentators (in terms of ad revenues, subscriber base, and video views) are the most vocal in bemoaning what "money has done" to the commentator community. As one commentator noted,

A lot of people have asked why I never wrote professionally or never tried to get my works published. The reason I never tried to get any of my writing published is because once you start doing something for money it loses a lot of the fun it once used to have and that's where video games have gotten at this point in my life. I do them for money. A game like *Fallout New Vegas* comes along I don't want to monetize that. I want that to have the fun that it's always had. I want to just sit back and play the game. (Wings Response to Hutch and Woody, 2010)

It is a fine line for them to draw. For the top commentators who are enjoying the benefits of their financial success, they cannot be seen to have forgotten the core community values, even as some of them are driven more and more to increase their revenue streams by any means necessary.

Given this list of features, their technical and social affordances, and the themes that analysis showed as important in making these features meaningful for YouTube and the gameplay commentary community, let us now describe how they come together in a complex interaction of hardware, algorithms, and user practices that constitute both the practice and architecture of digital labor.

Gameplay and the labor process: making gameplay and making videos

The best way to illustrate the situated experience of turning play into work is to show the extensiveness of digital labor infrastructures that are part of and transcend YouTube as a media distribution enterprise. I begin here with a description of the commentators' immersion in both gameplay and technology. *They are clothed in both artifact and play.* When a commentator sets out to produce commentary, he or she will need to play the game. Commentators often refer to playing the game as "making gameplay."[5] Much like a professional photographer "makes" a picture, for many commentators, the processes of production have shifted how they understand playing. Play becomes a subjectively recognized creative process. Unlike the ludilogical understandings of play as bounded outside worldly considerations of time and consequence in a magic circle, the outcome of play weighs heavy in the minds of commentators. While "flow" is still experienced, it is in the context of a mindfulness that an eventual return to the moment will be necessary as part of a post-play production process. Under these conditions, one should *not* conceptualize play and production as distinct. Rather, the creative and the productive processes are melded in the context of *making gameplay*, and play and production are unified processes.

The hybridity of play and production are framed and afforded by technological systems that capture gameplay. The features that frame gameplay on YouTube extend beyond the platform's architecture to a matrix of technologies that work with it, by design or as a matter of coincidence, to allow (1) gameplay, (2) making gameplay, and (3) making game pay.

Making gameplay

The most basic and obvious place to begin our analysis of YouTube's architecture of labor and its practice as it captures video game culture is at the level of the hardware that affords play: the game console or personal computer (PC) and its associated peripherals. While YouTube does not have a hand in designing its business goals into an Xbox 360 or Play Station 3, I place the gaming platforms and its associated peripherals within YouTube's orbit because gamers have taken them there. Conversely, gamers have taken YouTube to the game console, not as an app on the interface dashboard but as part of the

gaming experience. Commentators often play with their YouTube channel subscribers, and their subscribers want to be seen playing with them. Designers have also taken the production paradigm inherent in making gameplay into the gaming experience as demonstrated by CoD's recent installment, *Black Ops 2*, which includes in its features list a built-in theater mode and webcasting function. These features allow users to both record their gameplay onto servers owned by CoD's makers and then distribute those recordings through the manufacturer's venue. This new architecture of production and distribution is mentioned here to illustrate how the logics of productive gameplay have made their way out of the YouTube framework into novel ones. Discussion of this architecture, their affordances, and social dynamics are saved for another time.

Game commentators are gamers first. Specifically, they are what the industry and video game studies research have denoted as hardcore gamers. In the CoD community, hardcore gaming entails not only a significant time commitment but also a significant investment in high-quality peripherals such as surround sound audio headsets and sound amplifiers, modified controllers, special eye wear, gaming monitors, and other technologies. The hardcore CoD gamer and gameplay commentators play for long periods of time per day, wanting to excel in the competitive environment present in online multiplayer game modes.

Peripheral technologies are important in making gameplay and crucial components in producing valuable content because they afford a different level of play, they create what the YouTube video game community considers entertaining gameplay. While they are not part of what could be considered part of the explicit productive architecture that YouTube affords to gameplay commentators, their presence in concert with the YouTube platform renders them more than tools for a hobby, they are tools of a trade. They allow average gamers to become what the community calls "pub stars," a term used among all gameplay commentators I observed to identify players in public gaming lobbies that almost always finish matches at the top of the scoreboard. The top commentators are seen as pub stars and at the most basic level, watching what they can do in competitive multiplayer gaming is entertaining in the way it might be entertaining to watch Michael Jordan play a pickup game of basketball at a neighborhood park.

Making videos

Making commentary videos started for many of the commentators studied here as a hobby. Beyond that, I have seldom heard (or read in their comments) any fledgling commentator say they are doing it to make money (though privately that is their goal long term) or that they are taking on the practice as a day job. Making a MW2 or BLOPS commentary video is not easy. Beyond the peripherals mentioned above, an aspiring commentator will need an Xbox 360 (the majority of CoD commentary is from gaming done on this platform), but since most other commentators also have a PS3, then one might need that too. He or she will also need some form of a video capture device, either an high-definition personal video recorder (HD-PVR) or a capture card installed onto a high-end PC or Mac that is connected to the console and records gameplay in real-time. Finally, the commentator will need the game itself (valued at US$70) along with any downloadable content that the game company releases. All summed up, it is possible that a commentator will need to make a US$5000 investment upfront.

After their commitment of capital, commentators will have to practice the game. The overwhelming majority of commentators with large subscription bases (and even moderate ones) is skillful at the game. Despite their talent at play, commentators have a number of strategies to improve their odds of making gameplay that will attract views to their videos, making the time spent gaming more "productive." They engage in the practice of "lobby shopping," for example, by popping into game sessions, observing the gameplay to see whether the competition is stiff, staying if it is not and leaving if it is. In short, while practice and skill play an important part in the performance of prowess, so do other externalities. In many instances, commentators will say that they are producing "entertainment" which justifies practices that otherwise might be seen as "padding" game performance.

The overwhelming majority of CoD gameplay commentary is of online multiplayer team-based matches (players play against each other on teams of six or nine, not against game artificial intelligence [AI]). Commentators are at some level talented gamers, but they are working often from a number of competitive advantages geared to transform their playing of the game into what the top commentators define as "YouTube-worthy" gameplay. YouTube-worthy gameplay involves not only talent, but also the use of a number of technological and social structures that convey competitive advantage. Beyond the added peripherals discussed above, commentators also deploy their social networks to increase their odds of excelling.

At its most extreme, gameplay is a well-orchestrated performance that has as much to do with gaming talent than with being able to stage the game to go in your favor. Some commentators invite their subscribers to play on their teams, example, and instruct them to play support roles. In these instances, the commentators' subscribers funnel victorious play to the commentator by controlling traffic patterns and deploying game elements that serve to give the commentator information as to the location of members of the opposite team. At this extreme, gameplay is more athletic theater than pure competition. Of the 20 commentators, I studied in the past 2 years, all have done this either regularly or at least once in their time making gameplay. Sometimes, they are not playing with subscribers but with personal acquaintances. Commentators admit to being able to "control their engagements" and gain "map control," maximizing their chances of generating good gameplay[6] through their effective use of skill, technology, and SNs. In a real sense, some commentators direct gameplay. Regularly, some top commentators refer to themselves as "directors," a nod to their shifting identity as they move from being "just a gamer" commentating on good gameplay to a professional who is creating a genre of entertainment: gameplay commentary.[7]

One well-known commentator with over one million subscribers, for example, was given a contract by the video game content outlet Machinima.com to produce gameplay for them on their YouTube outlet. He tells his subscribers,

> I have a new video up on Machinima.com. One of the ways Machinima evaluates its directors based on the feedback they get in terms of comments and the ratings. So if you went over there and hook me up with some ratings and some comments that would mean the world to me. (Domination video on Machinima, 2010)

Consistent with this identity, commentators strive to be engaging speakers. They often strive to provide something other than commentary about gameplay to keep

viewers engaged. Initially, the genre involved "tips and tricks" videos. Now, it has evolved into other formats such as video blog, montages (clips edited together and put to music), parody, machinima, and so on. Gameplay commentary requires a good speaking voice, a microphone, and good video and sound editing skills to combine the gameplay with recorded audio.[8] If the commentator gets more exposure, they might design an introduction sequence for their videos with customized theme music and graphics (some top commentators do this, though it is not widespread). Ultimately, the production quality for many of the videos is quite high.

Any given video takes 10–15 hours to produce, if not more, taking into account time to game, commentate, produce, render, and post. Some top commentators post two to three videos a week. This is not a hobby for those who are pressed for time or have extensive family responsibilities; thus, a great majority of the commentators are young and still in school (high school or college). A few have "day jobs" and families; these commentators are usually recording and producing late at night or early in the morning while their families sleep or before they have to get to their regular jobs.

One commentator has been quite open about how he has come to rely on YouTube and gameplay commentary, cataloging his transition from a programmer to a full-time commentator and YouTube personality. When he announced his transition to being a commentator full time, he noted,

> I got a huge decision to make … it's what I call going pro … people think YouTube is my full job. I actually have a regular job … started as an accountant now I'm senior software architect … YouTube is just a passion for me … I do it because I love it … If you can follow your dream and turn that into how you make your living … that's what I'm thinking of doing … when I'm not making videos I'm arguing which CoD is the best in comments on YouTube or Reddit … if I could turn this hobby into what puts food on the table that would be awesome. (Black Ops: Huge Decision, 2011)

A prevailing question among scholars who study hobby culture and its relation to consumer culture and capital has been: When does a hobby become work? The answer is not easy. Some say it is always work if capital can capture its value, others suggest that there is a duality to certain forms of hobby that makes it both. For many hobbyists, it is also a complicated answer. Commentators sometimes say that once you are paid for it, the hobby no longer is a hobby or at least the "job" aspects of the activity are so prevalent that they cannot be ignored. As the hobbyist becomes dependent on the pay or responsible to an employer, the "freeness" of the hobby is lost. Often, game commentators who are being paid either by YouTube or Machinima.com express this sentiment. They note how they have to produce content even if they do not want to or that other life circumstances that prevent them from producing the videos they want to make.

One commentator said,

> I could only play 3 games of BLOPS tonight, not b/c of time but b/c of health reasons. Playing this game takes years off of my life. This was the best gameplay out of the 3. (Call Of Duty| Black Ops| Rage & TDM, 2011)

Releasing the video and extracting value

After the video is completed, the commentator must release it on his or her channel. The video then enters the digital labor architecture in earnest, and all the dynamics associated with that architecture and its features come into play. The video does a lot of work once uploaded to YouTube. It is announced in subscribers' in-boxes, it is viewed, commented on, ranked, favorited, linked, and so on. To follow Sut Jhally's notion of the working audience, the video and YouTube architecture capture subscriber's clicks and views, organize them and make them available to others (Jhally and Livant, 1986). The intent is to (1) encourage community activity and (2) translate it into more views for the video. It is in YouTube's best interest that all videos get as many views as possible, and its technical systems are designed to facilitate that.

But the features alone cannot achieve this. Commentators must market their videos to subscribers, encourage their responses, and seek new audiences, all in the hopes of increasing video views. Top commentators are motivated by both the social capital that is garnered in the community when a video gets thousands of views (the well-studied YouTube Star status) and the financial return (Senft, 2008). To this end, the top commentators use Twitter and Facebook to reach out to their subscriber base. They tweet about videos, they update their Facebook page, and they engage users. The video's success is tied to the personal connection that commentators have with subscribers, so commentators often organize "open game lobbies" where they invite subscribers to play a few matches, hold "question and answer" sessions via chat and live stream gameplay, with subscribers watching and asking questions.

As described earlier, the advertising system is the way YouTube garners revenue for the videos produced by its users. The revenue system, by providing a monetizing algorithm, makes possible a dual configuration of social practice. The practice of subscriber trading takes on a financial dimension; subscribing, favoriting, and rating all do as well. The advertising system incentivizes practices that might drive up subscribers but that are counter to community norms, for example, "giveaways" by commentators. Giveaways drive traffic to channels but undermine underlying norms of meritocracy.

Conclusion

YouTube's technical affordance structure allows for distribution of video, advertising, communication between commentators and subscribers, subscriber recruitment and retention, and community participation. It also allows for the effective collection of data that along with the advertising system can be translated into revenue. The social affordances frame practices such as community dynamics, systems of subscriber exchange and valuation, competition, participatory culture, and so on. There exists a tension between those social–technical affordances and structures that serve the accumulation of social capital and those that serve the accumulation of revenue.

The subscriber is the basic currency in this system. Their recruitment and retention translates into revenue for YouTube. YouTube Stars and game commentators in the case of this article, serve as one of the means by which YouTube retains viewers. In that sense, those YouTubers with large subscriber bases are a management class harnessing (into

channel views) and maintaining (retention and channel growth) the value of subscribers which function as the basic currency and labor within the digital labor architecture. Importantly, subscribers and game commentators live in the same normative environment where sharing and community must be prioritized. Gameplay commentators and those in the YouTube Partner Program also live in the life-world where capital accumulation is important and so have sometimes-conflicting values. Despite these tensions, YouTube's revenue generating machine marches on, and therein lies an important point: even as there is conflict within different categories of YouTubers (subscribers, commentators, YouTube Partners), the views keep coming. Should a partner lose subscribers, they will go to someone else who will then be offered a partnership. Should a channel shrink or a genre go out of fashion, another will take its place and YouTube's architecture will accommodate it and get its share of cash.

From a theoretical perspective, the case of YouTube commentators shows some important generalizable characteristics of digital labor architectures that are becoming prevalent in other platforms dependent on UGC for financial valuation (i.e. Facebook or Twitter or LinkedIn).

1. *Stars matter*. Whether we call them network nodes or YouTube Stars, those that rise, hold, and grow large follower bases are important players in ensuring revenue generation from UGC. Tools that allow for the creation of Stars are a basis for the digital labor architecture of SNs and other socially oriented UGC platforms.
2. *Architectures that serve dual roles are key*. Architectures must afford social rewards (popularity, status, etc.), as well as revenue accumulation for the company (and Stars).
3. *Conflict at the level of users is irrelevant so long as subscribers (or members) move to new nodes or stars*. The architecture allows space for conflict and movement so long as the movement is not out of the platform space (from MySpace to Facebook or from YouTube to some other video sharing venue, for example). One instance of this is illustrated in the data presented below in Figure 2. One commentator, iFlyIllini accused another commentator 12awinstinct of copying his content and ideas. When other commentators supported his accusation, many of the accused commentator's subscribers left his channel and the offended commentator gained a large amount of subscribers (see Figure 2).

It is important to keep in mind that this particular community's dynamics (economic and social) are tied to successful video games in the *CoD* series. Some of the dynamics illustrated by this community may live or die by the continued success (or lack thereof) of that franchise. Nonetheless, reflecting on commentators' experiences and analysis of YouTube's general feature set is useful for discerning how architectures (YouTube's or others') *meaningfully* position situated practitioners (hobbyists, community members, or members of a particular technical community) into a plurality of roles. In other words, the platform affords meaning; however, it may be derived from user and/or viewer practice, while at the same time algorithmically circumscribing it. The ways in which the platforms' affordances open up meaning serve situated community values (and value).

Figure 2. Comparison of subscriber loss/gain for iFlyIllini and I2awinstinct. Screen capture from VidStasX.com August 2011.

The ways in which the platform's affordances determine other practices are in service of the platform's business model. The fact that moments of dissonance between the two are present illustrates the limits of platforms designed to allow a level of social play.

To what degree that really translates into lost revenue remains an open question for the following reason: YouTube (and nearly any web platform deployed as a for-profit enterprise) is ultimately the instantiation of a particular investment philosophy made possible by the context of networked computing and the Web (1.0 and 2.0, if you are counting). The investment philosophy in so far as UGC goes can be thought of as follows: YouTube (or any platforms that invite UGC for its inventory) is not unlike a bettor at a roulette table who is in the happy position of betting on all the numbers, where the payout *in aggregate* outweighs what appears to be an otherwise wild investment. Some numbers don't pay, others pay a little, and some pay a lot. Some content types may thrive and then fade into obscurity, some commentators may be successful and then burn out, and some videos may go viral and others remain unknown. In aggregate, however, no matter what the scenario, YouTube the bettor always wins.[9] YouTube's revenues have been increasing since its acquisition by Google in 2007. Ultimately, observations made in the course of this study point to the architecture of labor in the YouTube platform. This study evidences YouTube's enduring business strategy, which is meant to generate revenue from its UGC catalog through advertising and some revenue sharing achieved by inviting profitable user practices via the platform's social and technical affordances (Walker, 2012).

Funding

Notes

1. See Stuart Hall (1991), Sut Jhally (1982), and Dallas Smythe (1977) for generative work in this vein.
2. Much of my understanding of affordances, social and technological, is influenced by Earl and Kimport (2011), Graves (2007), Hutchby (2001), and Gaver (1991).

3. danah boyd (2010) has used a similar analytical approach to develop her notion of "net-worked publics" on social network sites. This analysis differs from hers both in the categories it develops and in its focus on how affordances and features are serving business interests, providing a set of possible options for users but also always converting user actions into value for the platform owner.

4. In this article, I define "top commentators" as those commentators who have over the duration of this study sustained subscriber bases of over 100,000 and either hold a "directors contract" with Machinima.com or a YouTube partnership.

5. I use the phrase "making gameplay" because it's a term used by every commentator followed during this study.

6. The terms "control the engagement" and "map control" were coined by a well-known commentator, Woody's Gamertag.

7. The "director" title and its associated identity is reinforced by the ways in which commentators are reconfigured through advertising deals and contracts with entities like Machinima.com which directly refers to them as "directors" on its promotions.

8. Broadcasting live gameplay is becoming increasingly popular, both within the CoD commentary community and as T.L. Taylor (2012) has noted, other YouTube game communities.

9. The simile of "YouTube as bettor," implies the assumption and transfer of risk in the production of and monetization of user-generated content (UGC). Gina Neff (2012) explores more deeply the notion of risk in digital economy in her work on "venture labor."

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