Critical Methods and User Generated Content: the iPhone on YouTube

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ABSTRACT

Sites like YouTube offer vast sources of data for studies of Human Computer Interaction (HCI). However, they also present a number of methodological challenges. This paper offers an example study of the initial reception of the iPhone 3G through YouTube. It begins with a quantitative account of the overall shape of the most frequently viewed returns for an "iPhone 3G" search. A content analysis of the first hundred videos then explores the returns categorized by genre. Comments on the most popular video "Will It Blend" are analyzed using grounded theory. It is argued that social science methods are not sufficient for a rich understanding of such material. The paper concludes with an analysis of "Will it Blend" that draws on cultural and critical theory. It is argued that a multi-methodological approach is necessary to exploit such data and also to address the challenges of next generation HCI.

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Author Keywords

Critical Theory, User Experience, User Generated Content, Research Methods, Green HCI, iPhone, YouTube,

INTRODUCTION: DATA GOLDMINES

User generated content on sites such as YouTube, Facebook and MySpace offer researchers in many fields unprecedented access to new forms of primary data. YouTube is already being used to critique and review new releases of technology. The launch of new or updated products is followed almost immediately by posts of commentaries and reviews. Often these amateur film makers are engaged in informal usability testing. But there

are also less direct responses to new technologies in the form of reflective vlogs or satires. Often these videos receive thousands of comments providing another source of easily collected data.

Such material could provide a rich resource to inform research and design. However, both the quantity and the quality of this material present challenges for using it in a meaningful way. Because the sites are dynamic and update constantly it is certainly impossible to be exhaustive. To use such material as a research resource requires new and perhaps unfamiliar methods.

The speed of recent technological change has led to almost equally dramatic transformations in the study of HCI. There have been turns to fun and enjoyment [e.g. 5], experience design [e.g. 22], cultural or reflective design [e.g. 1, 3, 25] semiotic design [e.g. 12] and aesthetics [e.g. 6]. Each of these areas has brought HCI into contact with cultural and critical studies. Cultural and critical studies have engaged with the problems now confronting HCI for a very long time. Increasingly, HCI is finding value in these traditions [e.g. 3, 4, 6. 12, 24, 25]. This paper draws on methods from both social science and critical theory to consider YouTube posts following the launch of the iPhone 3G on the 11th of July 2008.

iPhone Street Preacher

At the Apple store in New York City a queue of people waiting to buy a new iPhone are berated by a street preacher. "You people should use your brain more wisely!" he yells "And spend money on something important!" [16]. The film is made from within the queue and most of the people seem amused rather than threatened. Someone suggests he can afford it "You're damn right I can afford it!" the bleach blonde Preacher yells. A dog starts barking at him, he tells it to shut up and moves to a different spot to pray and read aloud from the Book of Revelations.

This video is one of the thousands posted to YouTube and returned under a search for "iPhone 3G" in the second week of July 2008. Among just ten comments posted below the clip is one saying that he is proud to be the man who owns the dog. Another writes "Don't spend your money on the new iPhone! Spend it on glowing hair bleach!" Another suggests it would be funnier to "prank people" when the

"prankster is believable". It had been viewed only 595 times and was far from representative of the kind of returns following the launch of the iPhone 3G and for this reason it poses a number of interesting questions about the ways in which YouTube can be used as a resource for research.

As HCI becomes more interested in rich, holistic accounts of user experience the self reports available on sites like YouTube offer quick and easy data collection. Yet the very richness of the material opens up a number of potential methodological and theoretical problems. This paper argues that although sites which archive user generated content provide an invaluable resource to researchers, a multi methodological approach is necessary to exploit them.

SOCIAL SCIENTIFIC METHOD IN HCI

Since its inception as a discipline studies in HCI have built on methodological techniques developed in traditions of social science. Quantitative and qualitative techniques have been adopted from psychology, sociology and anthropology in order to study people interacting with technology [e.g. 7, 26]. The designers of early computer interfaces were primarily concerned with measurable outcomes: how long did it take people to complete a task using this or that interface. Such questions could be investigated through the well established experimental and observational methods of cognitive psychologists. Various questionnaire and experimental protocols, eye tracking and physiological measures have been developed to design and evaluate interaction with increasingly sophisticated interfaces [e.g. 23].

For single users working with a single interface, such methods can be very useful but they cannot provide adequate guidance for design in complex social environments such as the workplace or the home [26]. Here methods from anthropology and sociology were incorporated, in particular detailed observation and in-depth semi-structured interviews. Although these methods did not provide results as easy to interpret as lab-based experimentation they were nevertheless recognized as essential to the design process: better "quick and dirty" ethnography than no ethnography at all [e.g. 7].

Quantitative and qualitative social science, then, has a long history in HCI. This paper will argue that, alone and in their current form, they are not adequate to making sense of the material available on sites like YouTube or indeed the next generation of human computer interaction.

Next Generation HCI

The current generation of Interaction Designers draw on a range of sources for inspiration. Lab-based experimentation is no doubt still important but it was clearly not the determining factor in Apple's decision to implement the keyboard on the iPhone. In terms of speed and accuracy other kinds of keyboards are superior. Clearly there are other concerns at play in the design decisions than efficiency and ease of use. What the criteria are is a matter

for speculation. Where Apple do talk about their design philosophy they are not necessarily entirely candid or indeed, necessarily correct in their interpretation of why something works. In discussions of the iPod for example Steve Jobs and other Apple spokespeople frequently discussed its simplicity. Like John Maeda they counseled that the key to success was doing one thing and doing it well [18]. If Apple believed this at the time they clearly changed their minds when they developed the iPod Touch and the iPhone, both of which offer a huge range of functionality above and beyond merely playing music or making calls. Indeed the app store opens the phone up to third party developers and an almost infinite range of functionality and widely varying degrees of quality.

Such moves from usability to user experience necessitate an engagement with aesthetics, enjoyment and fun. These are far less tangible and measurable than the dimensions of usability. Neither are they "grossly observable" through ethnographic investigation. The following study of the iPhone will first draw on techniques familiar to the HCI community: quantitative and qualitative data analysis derived from traditions of social science. It will then argue that both of these traditions miss important aspects of cultural artifacts such as YouTube videos and indeed iPhones. The final sections of the paper will be the least familiar to an HCI audience as they will draw on traditions of critical theory.

PROFILING YOUTUBE CONTENT

The topic of the iPhone was chosen with some care. Although there are potentially many more interesting lines of inquiry to pursue using YouTube as a data source, the iPhone is particularly appropriate because Apple have explicitly targeted YouTube users in the architecture of the iPhone itself. The iPhone comes with a YouTube application on its first screen; this is more than a simple link to the YouTube site and (unlike other apps) cannot be deleted from the home page. It is not unreasonable then to conclude that Apple's target demographic might also be YouTube users. The videos posted to the site can be taken, broadly, as an indicator of the kinds of responses that "YouTubers" made in the initial excitement of product launch. The sample of videos does not of course represent the iPhone user population. No claims are made here regarding users, rather the sample represents videos posted to YouTube and returned under a search for "iPhone 3G"

A Quantitative Description of the Data

The basic statistics offered by YouTube are the number of hits returned for the search and for each search result the number of views. There are then options to re-order the search results by: relevance, the date the video was added, the number of views and viewer ratings. There are also options to restrict the search results from videos added anytime to those added within the last month, week or day. Our analysis used different combinations of these. Searches were also made at different times in order to confirm

previous findings and to observe changes due to the dynamic content of YouTube.

For a search done on 29th August, 2008, there were approximately 14,700 search results. For videos uploaded at anytime, the results were sorted by the number of viewings. The first three had more than a million views but only 417 out of the 14,700 had more than 2,500 hits. It was not possible to retrieve search results beyond that point. When this search was repeated two weeks later, there were now 18,000 or so results and 4 videos with more than a million views. However, only 408 had more than 2,500 hits. Again, it was not possible to view more than the first 426 hits.

Turning to the distribution of viewings, it is common that many social science phenomena follow a Zipf law where the size of objects is in a power law relation to its rank. This is most easily seen by a linear relation in a log-log plot of number views against rank. Figure 1 shows such a plot for the ranked search results for "iPhone 3G" made on the 29th August for videos uploaded anytime.

As with the overall distribution of viewings in all of YouTube [9], the overall viewings for iPhone 3G search results initially follow a linear trend but with a sharp drop off for very low rankings. This suggests that low ranked videos are harder to find. Indeed, this could be a direct consequence of not being able to access all search results from a single search term.

These straightforward searches and analyses seem to suggest that the numbers returned are rather unreliable because it is not possible to discern exactly what is going on. The fact that search results cannot be viewed beyond
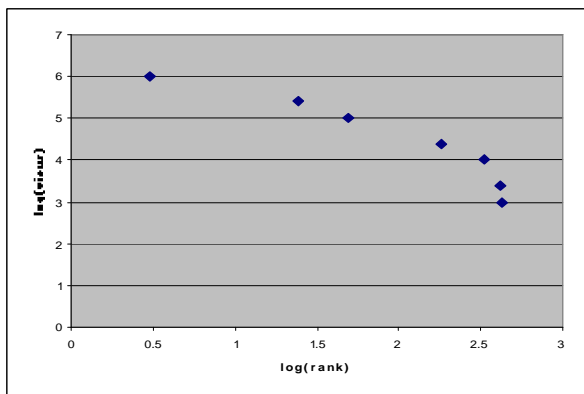

Figure 1: Log-log plot of views against rank for first 100 videos uploaded anytime

a cut-off point first means that the total number of search results is unverifiable and, more importantly for research purposes, there may be relevant videos that simply cannot be found through searching. Of course the very magnitude of YouTube makes archiving a far from trivial problem not just for current research but also future possible research [8].

Thus, in order to provide a lasting research contribution when drawing on YouTube, it seems our research methods need to explicitly include an archival element. It may be that the only way to provide data to other researchers is to record the YouTube interactions done at the time through some suitable software such as Morae.

Despite these methodological issues, these searches do convey the kinds of returns that YouTube users would have seen searching the site at this time and it is on this basis that we proceed to a content analysis.

QUALITATIVE CONTENT ANALYSIS

A qualitative content analysis was performed on the first one hundred videos returned for the search "iphone 3G" on the 14th July 2008. Content analysis is a well known methodological procedure for studying qualitative data and is very frequently used in studies of mass media [21]. It is used for studying textual data, where text is understood to mean any media (e.g. film, newspaper articles, advertisements). Items are coded and counted to indicate patterns and trends in data sets e.g. sexist images in advertising (Ibid).

A search by relevance for "iPhone 3G" was made on the first Monday after the launch date of Friday, the 11th of July 2008. At this time the site reported that around 2280 results, the next day there were around 5880, two months after the launch date there were around 18,100. Four days after this it was down to 12,600. Clearly the time of making a search will determine the kinds of results returned. In the first week of the launch the increase in results for this search was rapid but growth steadied over the following months - as might be predicted as the initial excitement subsides following a product launch. A relevance search was made to gain an impression of the kinds of video being submitted.

The first one hundred videos were categorized and ranked by frequency (see figure 3) as **review, reportage, "unboxing", demonstration, satire, advertisemen**t and small number **vlog commentaries** (e.g. complaints about queues**).**

By far the most frequent categories of video were reviews, and news style reportage of the launch. Perhaps more surprising was the large number of videos (more than a fifth) showing the moment of "unboxing" when the iPhone was taken out of its packaging for the first time. Less frequent categories were satire, advertisement and vlog commentaries although view rate searches revealed that the satirical videos were amongst the most popular. The following sections describe in further detail the content of these videos.
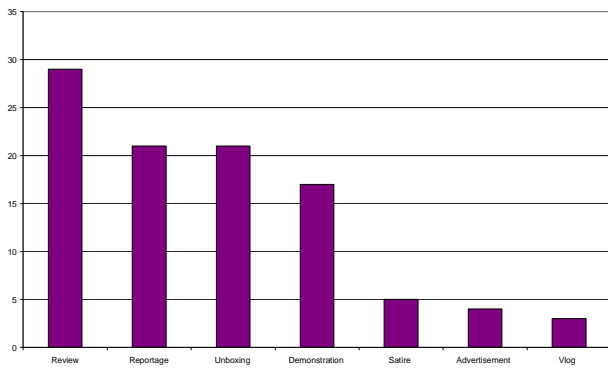
Figure 2: Categories of "iphone 3G" video on YouTube

Reviews: "Folk User Experience Testing"

As might be expected the most frequently occurring returns were reviews. Judging from the comments below these posts, it is clear that one of the main motivations of searching YouTube with the term "iPhone 3G" is to inform decisions about whether to buy one or not. Some of these reviews were "professional" mass media reviews which had been taped from TV news shows and featured expert evaluations. These evaluations were usually filmed in TV studios although one subjected the iPhone to stress tests on location showing how it fared when it was dropped from various heights and had drinks spilled on it. The majority of reviews however were made by users. Two thirds of these were presented by white males, most in the 20-40 age range although two were children. Five of the videos in this category were almost entirely uncritical celebrations of various features that the users considered to be "cool." The apps store was frequently mentioned in this regard. More often the reviews were sober comparisons of the 3G iPhone with its 2G predecessor.

A number of criticisms of the device were made consistently in these reviews. Common complaints were: the low pixel rate and the absence of a flash on the camera; the comparatively poor quality of the material on the back - plastic as opposed to metal in the 2G device; the absence of a copy paste facility; and the lack of flash support. Interestingly the most frequent complaint two months later was the very poor battery performance though that did not feature in these early responses, presumably because this would not be noticed until after a longer period of use. It is interesting to note the tone of these reviewers here which is generally one of world weary expertise, even child reviewers take on this arch manner "so this is the 3G. It's a little faster".

Demonstrations: Functionality and Hacks

The demonstrations of the iPhone frequently featured the user themselves sitting at a desk and moving the device towards a stationary camera as various functions are explained and illustrated. Frequently these demonstrations merge into review but here the focus is more on showing what the product can do rather than evaluating it.

Also included in this category are the official launch presentations from Apple events where executives show off various features to rapturous applause from the crowd. The tone of user generated demos is remarkably different, although some are skeptical and ironic featuring introductory songs like "iPhone madness", the tone is generally serious. Clearly the makers of these films intend to inform other potential customers of what they might or might not be letting themselves in for.

Within this category are also videos which Apple might be less happy about: demonstrations of ways to unlock the iPhone and make it available for networks other than the ones Apple have made deals with. Here then are examples of direct resistance to the corporation who makes the device. These users appropriate the technology to their own ends in defiance of the terms by which the device is made available.

Not only are there demonstrations of ways to unlock the software, there are also videos showing the device itself being physically taken apart. With immense care the iPhone is taken to pieces and its separate components are identified and described even to the level of how much each piece would have cost to buy from third parties. There is clearly an ideological if not a directly political agenda in these posts; they are presented as disruptive and mischievous if not outright techno-libertarian. .

"Unboxing"

The word "unboxing" is in the title of many of the videos showing the moment when an iPhone is first removed from its packaging. An astonishing number of videos returned in the first hundred results of this search (twenty one percent) are users simply taking their phones out of the box for the first time. This number has grown considerably and a search for "iPhone 3G unboxing" conducted two months after the launch date yielded an initially baffling 1,050 results.

This is particularly interesting given the recent focus in HCI on holistic accounts of the user experience. McCarthy and Wright, for example, note that the experience of a product begins long before it is first used [22]. Watching advertisements, discussions with friends, going to the shop, taking it out of its box, these are all a part of the experience of technology. Clearly, Apple understand this very well and the packaging on the iPod as well as the iPhone has long been praised for its distinctive look and feel. Clearly the amount of videos showing the moment when the box is opened indicates degrees of pride and pleasure in ownership. But there is more going on here.

The moment is dramatic and perhaps lends itself to film better than others. Typically the camera is pointed at a box which is placed on a desk, the user's hands then appear in shot as the product makes its first appearance, literally entering the stage. One video even featured stirring music, added later to enhance the drama of the iPhone's arrival.

Often the video makers here simply narrate what they are doing. Very quickly however, the commentary becomes review, two remark on the "plasticky feel" as soon as they touch it.

In the moment of unboxing is the pleasure of anticipation. Although they already possess the iPhone they have not yet used it and it is not truly theirs. It remains, while it sits in the box, solely an object of desire. Once it is in the user's hands the experience is no longer one of anticipation but evaluation and inevitably, disappointment. Boredom and the dismissive tone of the world weary reviewer can be detected as soon as the moment of unboxing is over.

Advertisements: Official and Unofficial

Some of the posts in this category were not Apple campaigns: a used car salesman was giving away an iPhone as part of a deal. Most were from the official Apple campaign however. This featured security guards carrying a locked metal box through stainless steel corridors. Each inserts a separate key into this box whereupon it clicks and whirrs as it opens mechanically to, literally, raise the device on a pedestal. Interestingly this echoes the unboxing videos that the users themselves posted. This is a grand high tech and secure unboxing. At no point is the device touched by human hand, thus prolonging the pleasure of anticipation.

Reportage: Launch Day Queues

Most of the reportage videos had been recorded from TV broadcasts though some were home made videos that adopted the format and style of news reports. Typically these reports would begin in a studio setting where a presenter noted that today was the iPhone launch day before cutting to location footage and interviews with people queuing up outside stores, buying the device inside and emerging with the box.

A number of these reports focused in particular on the phenomena of the queue. Interviewers were keen to know how long people had been waiting. The spectacle of the launch and the desire for this device evidenced by willingness to wait were of particular interest here. These videos reported from around the globe and displayed the queues in the UK as well as America and Canada. Most of the Canadian reportage was concerned with the initial pricing of the iPhone which was far more expensive there than anywhere else in the world. Significantly the YouTube site became a focus for protest and a number of subscriber lists were formed by Canadians demanding a fairer deal, demands which were eventually met.

Satire: Price and iPhone-mania

This category is perhaps the most interesting and certainly the most popular in the "iPhone 3G" search returns. The speed with which these parodies appeared is remarkable though some referred to the 2G rather than 3G model. One satirical post featured a mock review which focused on the high service costs "Eviction notices download faster!" Another stages a conversation between a five year old

phone and an iPhone. The older phone begins by complaining that the comparison is not fair, the iPhone is a different generation of technology, it's sure to have a better camera … uh, no, the iPhone admits, and so on. Two videos mocked people standing in the queue, e.g. a reporter asks a middle aged man in the queue if he has "ever seen a woman naked?" Another very early post in this category is "Will it Blend" [28] where a man in a white lab coat wonders if the device will blend and proceeds to test his hypothesis by inserting it into a blender and obliterating it to a fine black dust. Beyond categorizing such videos as comic this method of analysis has little to add and these posts will be returned to in the final sections of the paper.

WILL IT BLEND?

The remaining sections of this paper will focus on the most popular iPhone 3G return – "Will it Blend?" the most viewed posting returned in the search at the time of writing. "Will it Blend?" Is a long running series of short films in which a middle aged white male in a lab coat asks "will it blend?" of various consumer products before putting them into a blender to find out. The series has been phenomenally successful and according to Wikipedia has now surpassed one hundred million hits.

Each film follows a format which is seldom deviated from. The presenter, Tom Dickson, wearing a white coat and protective goggles addresses the viewer directly saying "Will it blend? That is the question" and music reminiscent of a nineteen sixties game show begins as credits roll over clips of previous blendings. After a brief introduction on the item to be blended Tom tells the viewer which setting he is going to use and the blending begins. He looks up at the camera during this often spectacularly noisy and violent spectacle and flashes a reassuring smile. When he opens the lid Tom wafts the smoke and warns "don't breathe this". He tips the dust onto the desk and a caption appears "Yes! It Blends!" the music reaches its climax and the show ends.

Wikipedia describes the series as a "viral ad campaign" and clearly, advertising is one of the motivations for the makers of the films. The "Will it Blend?" website makes all of the videos available but also links to online stores where it is possible to buy the BlendTec blenders. For viral ads to work they must be forwarded on between friends. If this is to happen there must be some other content that will be of interest: few would forward "a will it blend" video because they thought their friends might be interested in purchasing a new blender. Indeed, part of the subtlety of this form of advertising is that it is not often clear that the video is an advertisement at all. The "Will It Blend" series primarily takes the format of satire; it would be possible to watch the video and have no idea that the makers were trying to sell anything; no caption urges viewers to buy a BlendTec blender, indeed it is only by following several links away from YouTube that viewers may discover that this is possible.

At the time of writing there were 6,888 comments on this video. The following section provides an overview of the kinds of comments made using grounded theory.

Grounded Theory Analysis of "Will It Blend?" Comments

Qualitative content analysis was an appropriate method for analysing the content of the "iphone 3G" search returns because genres of media such as review, demonstration, reportage, advertising and satire are well understood and already heavily theorised. The comments made about each video are not so well suited to this kind of analysis. The ability to comment on this kind of video is a relatively new phenomena and requires a different approach. Grounded theory analysis begins with data, rather than pre-existing categories. Open codes are developed to summarise the data, these are then grouped together and linked in axial coding, the final stage of selective coding involves the selection of typical quotes to illustrate the "theory". Theory here may refer merely to a broad description or set of categories rather than a fully worked predictive schema [10]. Around twenty open codes were grouped into the broad categories of: confusion, dismay and celebration. After the first twenty pages of comments (roughly twelve comments to a page) the coding scheme "saturated" i.e. new data did not necessitate the creation of new codes (Ibid). Nor did they vary very much over time.

Confusion

A number of the comments indicated that the viewers did not understand what was going on "*I don't get it*". Others raised specific questions about why this was being done and speculated about whether it was sponsored or not. The rest of the comments were split between dismay and celebration.

Dismay

Although some of the expressions of dismay were comic "NOOOOOO!" many seemed to indicate sincere outrage focussing on how much money had been wasted. Occasionally criticism was directed against Blendtec or the persona of Tom Dickson. Several within this category were simple expressions of abuse, a surprising amount of which was homophobic. Many of those dismayed by the destruction commented specifically on wanting an iPhone themselves: "*WTF!!!!???? why! u couldve given it too meeeeeeeee!!!*" Occasionally these were expressed violently "*you know what tom i think you should put your dick in a Blender because i know people who save for years to get something like an i phone. How does that make you fell mike? uh? You should feel ashamed.*". The video then evoked strong responses which polarised between dismay and joy.

Celebration

Unsurprisingly for a comic video many of the comments were little more than "*Awesome!*" "*HA HA*" or "*LOL*" style indications of laughter. Within these positive responses are a number of jokes "*iphone smoothie, my favorite!*" and suggestions for future blendings – a steel bar, a nutcracker at Christmas and "*this text comment*". Others are appreciative of the power of the blender. A surprising number comment that the girl in the iPhone queue featured briefly is "*hot*". Some of these comments suggest an anti-iPhone agenda "*you can blend my iPhone if you want its a piece of shit*" and "*iphone suck*s". Occasionally more information is offered, the dust was sold on ebay, Tom lives in the neighbourhood and made smoothies for the kids once. Finally a small number of comments focussed on the aesthetics of the video saying that slow motion was a good idea or "*I love how it just explodes*"

Although these comments indicate a wide range of responses from bewilderment to rage to joy, they say little about why the video is powerful and provocative. For this reason an entirely different methodology and indeed disciplinary tradition is necessary to interpret the video itself.

LIMITATIONS OF SOCIAL SCIENCE BASED APPROACHES

The preceding sections have indicated something of the general shape of these data. It is clear that the most common classes of videos are demonstrations and reviews. Yet the most viewed videos on the other hand are comic or satirical takes on the iPhone. The qualitative analysis suggests an ambivalent relationship between iPhone users and their device. The sheer number of videos recording for posterity the moment when the iPhone is removed from its packaging indicates a strong degree of pride and excitement at the moment of purchase. However, the merging of this kind of video with demonstration and review also indicates the development of a burgeoning critical community. Within the reviews are a range of insights which Apple would be foolish to ignore.

But there is a further category of rather more puzzling videos which, though categorizable, are not necessarily easy to explain. These videos indicate the surplus of meaning which is present in these rich data sets and also indicates the limits of this type of inquiry. What are we to make of the video of the preacher telling the New York launch queue that they are going to burn in hell? What is going on when a man puts a brand new iPhone into a blender?

These questions can be asked sociologically but they can also be asked hermeneutically. Sociological approaches are primarily concerned with classification; hermeneutic approaches are concerned with meaning and interpretation. So far "Will it Blend?" Has been considered within the broad traditions of Sociology. The analysis has been concerned with who is making the video for whom. There has also been a focus on how popular the videos are and a codification of the kinds of comments given. An analysis of the comments indicated that some found the video funny

and engaging while others were angered by the waste. And yet these are not the only readings of that video.

Alternative Interpretive Strategies

Although physical scientists might dispute the methods and findings of social scientists, they have broadly similar ambitions: to objectively describe the worlds they are studying. Social science takes on as much of the scientific method as messy social relationships will allow (which is often, of course, not very much). However social science methodologies are not the only ways of taking a structured approach to the study of a cultural artefact. Literary and critical theory offers a range of analytical and interpretive approaches.

New readings of literature and film are constantly being produced. There could never be a correct or final reading of a poem or a film or a YouTube video. In this sense, the meaning of a cultural artefact can never be pinned down. This is not to adopt an anti-scientific epistemology, but rather to say that cultural artefacts allow for other forms of knowing. The kinds of interpretation which critical theory generates do not result in scientific knowledge but rather "imagined hermeneutic understanding" [29] or provocative interpretation. Critical interpretations are often surprising and entirely counter intuitive.

Slavoj Zizek is one of the most celebrated cultural commentators alive today. His critical insights do not attempt to define how most people would view cultural artefacts but rather to convey provocative interpretations that might never have occurred to anyone else. For instance, he interprets the films of Stephen Spielberg as being primarily concerned with Fatherhood. *ET*, for example, is befriended by a child whose parents are divorced; ET does not leave until the Mother has begun a relationship with one of the good scientists at the end of the film. Similarly, Zizek claims that the dinosaurs are not the real threat in *Jurassic Park*, it is rather the problem of the bad Father. Only when Sam Neill has protected the children from danger and kept them safe overnight in a tree do we see one of the benign herbivorous dinosaurs. And for Zizek, the same theme is present in *Schindler's List*. Schindler begins as the bad Father, rejecting his responsibilities to the Jews; he ends by becoming the good father and protecting them. For Zizek the film completely infantilizes the Jews and is for this reason reprehensible [29].

Whether Spielberg intends this or not is precisely not the point. The novelist Milan Kundera was once asked if a particular interpretation of his novel was correct or not, he replied that the meaning may be there but he did not put it there [18]. Authorial intent is generally dismissed as a fallacy in cultural studies, often it can never be known (what did Shakespeare mean by Hamlet?) and even if it could be known the meaning goes beyond the intentions of its author. Zizek then is not identifying what Spielberg was "really saying" with these films. Neither is he making claims about how most people interpret them. Rather he

provides a counter-intuitive and deliberately provocative "reading" of the films.

As the study of HCI becomes ever more entwined with the study of human culture, these kinds of radical interpretive moves may offer insight into human computer interaction. It may be that this kind of analysis, though not replicable or falsifiable, may nevertheless contain insights into user experience.

CRITICAL THEORY

Zizek's critical theory is based in Lacanian psychoanalysis. This is just one thread of critical theory which is a rich and diverse field. Critical theory incorporates a number of theoretical perspectives such as structuralism, post-structuralism, feminism, Marxism, and psychoanalysis [14]. This pluralistic approach to cultural analysis has grown from several sources. In the early 1950s, the Chicago school theorists such as Theodor Adorno developed a mixture of Marxism and phenomenology which sought to analyze and moreover change mass culture. In the early 1960s French theorists such as Roland Barthes and Umberto Eco also turned their attention from "high" to popular culture. Barthes had studied literature and used techniques of close and detailed reading to analyze not poems and novels but other "texts" like films and commercials. In the 1970s, the Birmingham Centre for Contemporary Cultural Studies (BCCCS) was founded by Stuart Hall. There had been a long history of studying sub-cultures in anthropology but this work was primarily a colonial encounter where (typically) western field workers studied non-western cultures, usually with a view to governing them more effectively. In the BCCCS, analytical tools that the West had developed to understand distant countries were turned back onto itself [14].

There is a small but growing literature in HCI which has sought to adopt the practices of critical theory to interaction criticism [e.g. 3,4,6,12,22,24,25]. What, if anything could critical theory tell us about the iPhone and its representation on YouTube? The following sections apply Zizek's style of analysis to Will It Blend? and other videos where the launch of the iPhone 3G provoked acts of destruction.

"Let's Do Some Theory"

The "Will It Blend?" films parody a number of genres from other media. The Tom Dickson persona is a parody of the objective lab based scientist. With unwavering simplicity he asks an apparently objective empirical question: will it blend? Here then is scientific method: a hypothesis is posed and tested, results are published. Comic effects result from incongruous juxtapositions: *Halo 3*, for instance, in a blender. The scientific method is invoked through the lab setting and the white coat and then undercut by the ridiculous questions and pointless experiments. But science and scientists are not the only subjects being parodied. The music evokes game shows and sitcoms from the nineteen fifties and sixties. Tom Dickson's smiling, avuncular

manner also connotes television personalities of previous decades, Tom Boswell in Happy Days for example: the benign patriarch. Again this is undercut in the stories of his grandchildren. They beat him at *Halo 3* so he blends their game. Their copy of *Guitar Hero 3* does not feature the Beach Boys so he blends it. But these elements of parody refer to the form rather than the content of the films. The event which distinguishes the highly formulaic shows from each other is the blending of a particular object: often a piece of digital technology. Why?

Resistance and Eco-Criticism

In the introduction to the iPhone 3G episode of "Will It Blend" the format of the shows is deviated from considerably. As in the other launch day reportage videos, Dickson is pictured on location at the AT&T store in front of a queue of people waiting to buy an iPhone. In a piece to camera, he tells the viewer that he is here to "*keep up with the latest technology*". After noting that he is "*not the only one*" the camera pans to the people in the queue who cheer and clap. A young woman walks past with her new phone, Tom asks if he can see it and she replies "*No! You're going to blend it!*". "*Not me!*" he says and the film cuts to the studio. Here he announces that he has his new iPhone and will not need the old one "*so I'm going to blend it*". A slow motion close-up on the blender shows the iPhone being smashed into smithereens. There is clearly something very satisfying about this spectacle, the close-up and slow motion indicate that we are to enjoy this moment. The next shot shows the blender full of black dust, Dickson takes the top off and realizes that he is smelling the wrong kind of smoke "*this isn't iSmoke, it's 3G smoke!*". At least as far as the narrative of the film is concerned, Dickson has just bought and destroyed a brand new state of the art iPhone.

"Will It Blend" is not the only video on YouTube to respond to the launch of the iPhone 3G with an act of destruction. "*Is it a Good Idea to Microwave This?*" [17] belongs to a series of films made by *JPizzle1122* that parody "Will it Blend". He begins microwaving an iPod by saying it is his way of celebrating the release of the iPhone 3G. There is a direct satire on the ultimately commercial nature of "Will It Blend" in a eulogy of the microwave being used "*Lacey: the new love of my life, it's everything I ever wanted*". When the iPods are placed into the microwave the person behind the camera says: "*I'm not going to lie. This is like a wet dream for me. To watch Steve Jobs' precious creations melt away in my microwave*". The iPods spark and smoke until they explode and burst open the microwave door. There is an instant replay of this for our viewing pleasure. As they clear up the debris the presenter asks "*Is it a good idea to microwave an iPod?*" and the cameraman answers "*I would say it is.*" The presenter explains "*If you can't get it repaired you might as well blow it up in a microwave you bought on Craig's list, am I right?*".

A number of the comic or satirical iPod videos on YouTube take as their subject the problem of what to do with a dead iPod. The "*Dead iPod Song*" [12] by RhettandLink lists the things that might be done with a dead iPod once the "doom seed" has germinated after eighteen months of use. They suggest burying it, using it as a weapon, putting it on a hogie and calling it an "iPodwich" or putting it into a drawer for your grandchildren to find many years from now as relics of a bygone technological era before music was uploaded directly into our brains.

Like the iPhone street preacher these videos may appear comic, ridiculous and exaggerated but at their heart is a serious concern with what the production and consumption of these devices is doing to us. Similarly the demonstrations of ways to unlock and take apart the iPhone could be read as critical interventions in corporate commodity production cycles.

It would be possible to read these "iDestruction" videos as expressions of resistance to current cycles of commodity production and consumption. Over our lifetime each one of us will throw away enough electronic goods to make a waste sculpture like the WEEE man which is seven metres tall and weighs 3.3 tonnes (see www.weeeman.org). One of the biggest challenges facing consumer electronics is the high turnover of goods with products moving from shelf to landfill within two years (Alakeson et al 2003). There is a particularly large annual turnover in computing technologies because, following Moore's Law, they double in power and speed every eighteen months making things like mp3 players into disposable fashion objects. Technological obsolescence, economic obsolescence and perceived obsolescence (Cooper 2004) result in a market where journalists can speculate that even if an mp3 player could be "built like a rock and last ten years" we probably wouldn't want it (Hickman 2006). After eighteen months to two years the device is going to be obsolete: either it will not work or there will be a much better one available. These videos then are forms of eco-criticism.

For Zizek, a thesis such as this would have to be rejected immediately and countered with its antithesis. The next section then will dismiss the notion that these videos express protest or resistance.

Commodity Fetishism and the Mystique of the Object

A first reading of these films suggests an obvious interpretation, one which is partly the film maker's own view of what they are doing: expressing resistance to corporate commodity cycles. But this is a superficial reading. As previously noted, the hidden, or "latent" content of the "Will it Blend" videos is an injunction to consume: buy blenders. At the level of explicit, or "manifest" content the videos depict the obliteration of the devices. In the Dead iPod Song, iJustice opens a drawer and finds it filled with dead iPods. The problem here is: what to do with the body. The answer in all cases is to derive a final moment of pleasure from it, in staging its destruction, whether actual (in the microwave, or the

blender) or symbolic (in the imagined iPodless future of the song).

The problem here then is not that the iPhone must die but what to do with it afterwards. There are myriad videos where iPods and iPhones are broken in amusing ways occasionally featuring devices which are presented as still fully working. Like the unboxing videos, these destruction posts celebrate consumption. Buddhist philosophy as well as Lacanian psychoanalysis claims that what we desire is desire itself. Once we have bought an iPhone we can no longer want it. We might want to keep it but this is not the same and this desire too will fade. As the device is utterly destroyed the desire for the next model is properly ignited.

The films are not expressions of protest then but rather a celebration of consumption at its purest. But this antithetical reading must also be rejected in a final synthesis.

The Medium is the What Now?

"The medium is the message" is Marshall McLuhan's most famous quotation and also perhaps his most enigmatic and annoying. Zizek illustrates its meaning precisely in a discussion of the first Hannibal Lecter film *Manhunter*. Here a detective must watch the home videos of families who have been brutally murdered by a serial killer. He looks for similarities in the layout of the houses, the shape of the gardens, the makeup of the families themselves. Finally he realizes that what they all have in common is home videos. He then narrows the hunt to an employee of the film processing lab that the families all used. It was not the content of the videos then but the fact that they had all made videos that mattered [29]. The medium was the message.

What happens then if we consider not the content of these videos but their medium: posts on YouTube? Whether the films are read as protests against unsustainable commodity production or celebrations of the same is, in a sense, not the point. The films are commentaries on the iPhone, if not entirely ironic then at least removed and distanced.

Zizek argues that the lesson of psychoanalysis at its most basic is this: the purpose of fantasy is not to give us what we want but to tell us what it is that we want. Even the most critical of these videos (the iPod in the microwave) does not seek a world without these devices. Rather it allows the film makers to say – look, we understand this problem, we can comment on it ironically, now let us get on with buying the next generation of devices.

In other words, rather than take some form of direct action in an engagement with, say the environmental movement, posting and watching these videos allows consumers to express their fears and concerns over the rampant cycles of consumption they are engaged in without ever seriously challenging their own complicity in it. They are then "Reflective Consumers" aware of the problems they face and able to articulate an ironic response that positions them somewhere above the dilemma while still allowing them to continue consuming.

Not only the existence but also the popularity of these videos suggests that our relationship with this kind of technology is increasingly ambivalent. The urgency of recent calls for sustainable design and green HCI (e.g. 20) is clear not only in terms of the environment but also user experience. Here then is a critical reading of the iPhone on YouTube, it is by no means final. Other perspectives from critical theory, feminism for example, would offer entirely different and no less provocative or stimulating readings.

DISCUSSION

This paper has argued that user generated content provides an invaluable resource for researchers interested in human computer interaction. Not just in reviews where users engage in folk usability analyses of their new devices but also in the social and cultural commentaries that surround the launch of new products.

The speed of technological development is increasingly difficult to keep up with. The app store on the iphone alone presents almost daily developments. Artists such as Brian Eno are already using it to distribute innovative forms of musical interaction such as *Bloom*. Fortunately for researchers in HCI users of web 2.0 sites provide responses to new interactive devices like this, or to take another example, the Wii Fit, as soon as they are released. However, HCI must widen its methodological practice to make full use of these resources.

Web 2.0 sites offer a resource for investigating both sides of human computer interaction: the users and the technologies. There may be a tension in such studies between investigating the topic (here the iPhone) and the medium through which it is discussed (here YouTube). It is therefore vital not only to employ multi methodological approaches but to understand the limitations of each one. The ready availability of different kinds of data (numbers, videos, text) make the possible applications and limitations of different methods very clear. Quantitative accounts will show the frequency with which usability problems are reported with this or that device. Qualitative approaches may uncover further insights into how technologies could be improved. However user generated content is as likely to consist of song and satire as review and demonstration. These kinds of response are far more difficult to analyze and the perspectives available in critical theory may help further understanding of our increasingly complex relationship with technology.

Critical theory has a reputation for jargon and pretension and this reputation is sometimes justified. The physicist Alan Sokal famously hoaxed a cultural studies journal into publishing a "postmodern" physics paper which was "liberally salted with nonsense" [27]. Misgivings about critical theory are understandable because all too often critical theory is not understandable at all. Indeed making

critical theory accessible to HCI may make some contribution to clarifying critical theory itself.

The readings offered here drew on traditions of psychoanalytic critical theory. A wide range of other perspectives exist within critical theory including: structuralism, deconstruction, Marxism, feminism, and reception theory. Each of these would have offered quite different readings and insights. Methods which draw on such fractious and diverse traditions must almost by definition be multi-perspectival.

Although HCI has a long history of incorporating methodologies from different disciplines most have been concerned with social science. Critical theory's roots are in the arts and humanities and their theoretical and methodological practices may seem quite alien. As HCI becomes more interested in problems such as aesthetics, interpretation and appropriation it must at least engage with disciplines which have studied these topics for many years. Although this kind of endeavor is not without risk it is increasingly necessary if we are to provide rich understandings of next generation HCI.

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