Article | Gaming the Quantified Self

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Abstract

Gamification combines the playful design and feedback mechanisms from games with users' social profiles (e.g. Facebook, twitter, and LinkedIn) in non-game applications. Successful gamification practices are reliant on encouraging playful subjectivities so that users voluntarily expose their personal information, which is then used to drive behavioural change (e.g. weight loss, workplace productivity, educational advancement, consumer loyalty, etc.). The pleasures of play, the promise of a 'game', and the desire to level up and win are used to inculcate desirable skill sets and behaviours. Gamification is rooted in surveillance; providing real-time feedback about users' actions by amassing large quantities of data and then simplifying this data into modes that easily understandable, such as progress bars, graphs and charts.

This article provides an introduction to gamification for surveillance scholars. I first provide brief definitions of gamification, games and play, linking the effectiveness of gamification to the quantification of everyday life. I then explain how the quantification in gamification is different from the quantification in both analog spaces and digital non-game spaces. Next, I draw from governmentality studies to show how quantification is leveraged in terms of surveillance. I employ three examples to demonstrate the social effects and impacts of gamified behaviour. These examples range from using self-surveillance to gamify everyday life, to the participatory surveillance evoked by social networking services, to the hierarchical surveillance of the gamified call-centre. Importantly, the call-centre example becomes a limit case, emphasizing the inability to gamify all spaces, especially those framed by work and not play. This leads to my conclusion, arguing that without knowing first what games and play are, we cannot accurately respond to and critique the playful surveillant technologies leveraged by gamification.

Introduction

Every weekday morning, I sit at my computer. After checking my emails, I head to a gamification website, *750words.com*, that promises to make writing a daily habit by rewarding me with badges, positive feedback, and semantic and statistical analysis about my written text. After I complete my daily quota (summarizing field notes from the previous day), I am shunted to a page that awards me a virtual cheetah for improving my typing rate, and tells me—by noting my word choices and comparing them to other writers'—that I am feeling introverted and selfish this morning. I mentally make a note to use more 'we' and less 'I' in the following day's writing. I then check the task management application on my iPod, *Epic Win*. Framed as a questing game, every task I complete levels up my avatar and has the chance of uncovering virtual loot. I hurriedly put in a load of laundry, strike-through the task with my finger, and watch my skeleton avatar lurch forward on a crumbled treasure map. I am far ahead of my husband's Viking avatar, and I still have thirteen things on today's 'to-do' list. I close the app, noting that *Nike+* has sent me a reminder to run this morning. Literally, within an hour of waking up, I am playing at least two games that promise to help me become a more productive worker and prolific writer. The moral of this anecdote is that, while I am well-versed in Surveillance Studies, I am happily participating in this

gamification. The more information I divulge, the more enjoyable these gamified tasks become. I want to suggest two things: 1) that gamification is a form of surveillance; and 2) this surveillance is pleasurable.

This article provides an introduction to gamification for surveillance scholars. In order to understand gamification, we first need to understand how games become a frame for interpreting and interacting with others. Simply put, we need tools to unpack the framing of play to better understand how gamified surveillance is imposed. I first provide brief definitions of gamification, games and play, linking the effectiveness of gamification to the quantification of everyday life. I then explain how the quantification in gamification is different from the quantification in both analog spaces and digital non-game spaces. Next, I draw from governmentality studies to show how quantification is leveraged in terms of surveillance. I employ three examples to demonstrate the social effects and impacts of gamified behaviour. These examples range from using self-surveillance to gamify everyday life, to the participatory surveillance evoked by social networking services, to the hierarchical surveillance of the gamified call-centre. Importantly, the call-centre example becomes a limit case, emphasizing the inability to gamify all spaces, especially those framed by work and not play. This leads to my conclusion, arguing that without knowing first what games and play are, we cannot accurately respond to and critique the playful surveillant technologies leveraged by gamification.

Gamification, Games and Play

In *Loving Big Brother*, John McGrath (2004) argues that Surveillance Studies predominantly employs two ideological frames: crime control and privacy. These frames necessarily structure how we perceive, talk about, and respond to surveillance. However, in examining everyday surveillance, other frames emerge which have little to do with fear and risk, and more to do with empowerment, seduction and desire. Following McGrath, 'play' is a new frame for examining surveillance.

Working from a parallel perspective, Ariane Ellerbrok (2011) employs the example of facial recognition technologies to argue that 'play' is a new driving logic in the technological expansion and public acceptance of surveillance. When facial recognition was affiliated with militarized anti-terrorist tools employed in airports it was met with public resistance. Yet, these same tools are embraced when re-framed in the context of playful photo-tagging apps that use biometrics to sift through, organize, and share photos in social networking services such as *Facebook*. Drawing from Torin Monahan's work on gender and surveillance (2009), Ellerbrok (2011) argues that facial recognition technologies in their new 'benign' form as user-friendly computer applications speak to pleasure, convenience, and personal entertainment, thus shifting facial recognition from a controversial policing apparatus to a playful consumer gadget, and moving it from 'hard' to 'soft' technology. Photo-tagging apps, because they are associated with logics of play, are culturally coded as consumer-oriented, less technical, and non-threatening, than their 'hard' counterparts, and are accordingly disassociated from the more serious identification equipment, thus eliding similar modes of critique. The potential of play to change people's understanding of and opinions of 'hard' technologies is a feature that deserves further research. Yet without further empirical evidence, this becomes a slippery slope argument that I will compartmentalize for the time being.

Like Ellerbrok, I argue that play is a cultural practice and public legitimation tool that encourages the acceptance of otherwise contentious technologies. Gamification, in particular, applies playful frames to non-play spaces, leveraging surveillance to evoke behaviour change. In order to understand how this occurs (and the conditions under which it cannot occur), we must unpack the black box of play and develop a more refined understanding of what games and play are. Ellerbrok defines play as the 'lighthearted use of a technology or technological system for the purposes of personal entertainment, amusement, or fun' (2011: 538). Play is seen as a non-serious pursuit that provides downtime from the responsibilities of daily lives. Yet, as Erving Goffman (1961) argues—along with many other prominent

sociologists, historians, and anthropologists (Caillois 1961; Huizinga 1955; Geertz 1973)–play *is* a serious form of social interaction that requires a more nuanced definition.

Defining Games and Play

A game is an activity defined by rules in which players try and reach some sort of goal (Galloway 2006). Play is 'free movement within a more rigid structure' (Salen and Zimmerman 2004: 311). Play emerges both *because of* and *in opposition* to more rigid structures, such as rules. Following Goffman, games are exemplars of 'encounters':

> For the participants, this involves: a single visual and cognitive focus of attention; a mutual and preferential openness to verbal communication; a heightened mutual relevance of acts; an eye-to-eye ecological huddle that maximizes each participant's opportunity to perceive the other participants' monitoring of him. Given these communications arrangements, their presence tends to be acknowledged or ratified through expressive signs, and a 'we rationale' is likely to emerge, that is, a sense of the single thing that we are doing together at the time. Ceremonies of entrance and departure are also likely to be employed, as are signs acknowledging the initiation and termination of the encounter or focused gathering as a unit.
>
> <div align="center">(1961: 18)</div>

Goffman continues, 'Whether bracketed by ritual or not, encounters provide the communication base for a circular flow of feeling among participants as well as corrective compensation for deviant acts' (1961: 18). Games create a shared social space, and thus structure interaction. Games are social worlds whose boundaries are sustained by the encounter itself. In other words, the encounter can quickly break down if not everyone is playing the game. Players operate within the context of the gaming encounter and are defined as such by their acting in accordance with the rules. Those who are not operating via these rules are defined otherwise (e.g. cheaters, griefers, etc.). For Goffman, the 'fun' of the game rests on the sense of spontaneous involvement, the singular and exclusive focus on the game on behalf of the participants. One becomes immersed, engrossed in the game and the social interactions that the game system's rules and goals evoke. This is pleasurable.

Playing a game is inherently social. One cannot play alone. Even in solo games, the player is 'interacting with the sets of cultural representations, expectations, norms, etc…embedded in the rules, process and narrative of the game and the context of play' (Simon 2007: 10). Solo games, in this sense, become social interlocutors whereas multiplayer games become backgrounds for the structured interaction of players. Both impose social order. Freedom of choice is an essential element of games and play. As succinctly put by Mark Twain: 'Work consists of whatever a body is *obliged* to do, and… Play consists of whatever a body is not obliged to do,' (as cited by Robinson 2012: 32). Once this freedom of choice is removed, any game falls to pieces. It is no longer play.

What Changes When Games Become Digitized

Non-digital play is important to Goffman as a site of social order because its very existence and persistence depends on the participants agreeing to play the game, and in doing so constructing and upholding a shared set of rules that govern the experience. Together, the players interpret these rules and negotiate their meanings, determining how to play and how to win. Individuals can also play games with themselves, setting their own rules and indicators of success based on measurements of past performance and expectations. In both cases the rules are locally situated and constructed by the participants.

When rules are formalized and standardized, the game's reach is extended beyond the situated context. Written rules allow the game to reach a much wider audience, structuring experiences that are replicable

and comparable, regardless of whether the game is played with different players, in different locations, and/or at different times. Board games do this, and so do professional sports. The professionalization of activities such as baseball encourages a strict adherence to the formal rules in order to create a homogenous experience for the participant, as well as to allow spectators to follow the game. This homogenization is also essential in order to commodify the experience (e.g. broadcast rights, audience shares, etc.) (see Grimes and Feenberg 2009). The creation of a homogenous experience, by necessity, reduces the potential for the spontaneous negotiation of rules that is part of more informal game play.

Moving along this continuum, what is important about digital games is that the rules are not only formalized, they are completely hidden from players by the black box of the game software. For example, there is no rule book for *Super Mario Bros.* or *Angry Birds*, players simply enter the game and experiment with button presses that stimulate the game system to respond. Juicy feedback, such as animations of spinning coins, joyful beeping sounds, and flashing point meters indicate the system's intended use, thus channeling players' behaviour in a relatively consistent manner. This digitization allows the game to be distributed to a much larger potential audience, as the work involved in interpreting and maintaining the rules (and thus the system of social order) is taken entirely out of the players' hands, and is instead reliant on algorithms.

Digital games are algorithmic machines, functioning through specific, codified rules of operation (Galloway 2006: 5). Gaming is the execution of algorithmic codes in coordination with the operation of a player. The player engages with the machine, fundamentally becoming part of a cybernetic feedback system. Play in digital games is governed by algorithms and the programmatic reduction of ambiguity, as mathematical equations process real world events, thumb movements and electric pulses into digital information for processing and storage. As Timothy Welsh states, 'In short, video gaming is informatics. As such, video games are synonymous with the forms of technology driving the burgeoning information age and the changing forms of social life and political control it engenders' (2007).

Defining Gamification
We now have an understanding of what games and play are, how they structure social activity, and what happens to games when they become digitized. It is time to focus on gamification.

As indicated previously, gamification is play applied to non-play spaces. Game developers and designers define gamification in terms of utilizing game mechanics, technology, and development techniques from games in non-game spaces, while those from outside of the industry generally equate gamification with adding points, leaderboards and badges to non-game activities. Epitomized by online technologies such as *Nike+*, *Mint*, and *Foursquare* that pledge to make everyday tasks such as exercising, financial planning and socializing more enjoyable, gamification proponents promise to make real life more like a game. Gamification applications are diverse and wide-ranging, including, to name a few: car dashboards that use mini-games and graphic visual feedback to reward reduced fuel consumption; software that allows users to set, track, and achieve financial management goals; websites that reward users who post interesting comments with reputation points and recognition; programs that promote healthy eating habits using points; and, a raft of fitness and weight loss coaches for game consoles.

Utilizing games to make everyday tasks more enjoyable and to motivate certain behaviours is not new. As the histories of organized sports (Campbell 2000) and board games (Flanagan 2009) attest, using games as training for real world tasks, such as military conquests to domestic prowess, is certainly not novel. The achievement badges, leaderboards, and levels found in gamification all have well-known equivalents, from classroom grades to boy scout badges. Systems for inciting and rewarding desirable behaviour are also commonplace, from happy hour drink specials to airline loyalty points. What *is* new is society's understanding and appreciation of how games shape human behaviour (see Fogg 2003; Bogost 2007; Schell 2010; McGonigal 2011) added to the increasing technological sophistication and decreasing cost of

the data collection, storage, and analysis that enable the gamification of everyday life. Gamification is reliant on quantification: on monitoring users' everyday lives to measure and quantify their activities. This data collection enables cycles of feedback and behaviour modification that are propagated as play.

Quantifying the Care of the Self

Gamification practices, operating under the umbrella of play, foster a quantification of the self; collecting, collating and analyzing minute data and providing feedback on how to better care for one's self. This quantification of the self feeds into neoliberal governance projects that promise to make daily practices more fulfilling and fun. Enabled by increased levels of surveillance (self-monitoring and otherwise), these projects use incentivization and pleasure rather than risk and fear to shape desired behaviours. In this section, I use the notion of quantifying the self to answer a series of questions including *what does being digital do to the collection of data? How is game data collection different from other digital data collection?* and *How does the collection of game data link to surveillance?*

Quantification is not just related to digital spaces, and certainly it is not restricted to games. Shove, Pantzar and Watson (2012) and, earlier, Pantzar and Shove (2005) in their analyses of the history of 'everyday metering' from bathroom scales to heart rate meters, show how these analog forms of measurement reproduce everyday life and the construction of social problems. Quantification through metering permits aggregation, using individual data to generate statistics that, when combined, present a collective picture of a social body, such as the weight or financial well-being of a country, thus informing the design and implementation of macro-level policies (e.g. combatting the 'obesity epidemic' or promoting the 'fit' body). Metering technologies provide users with instantaneous and long-term feedback on the outcomes of past practice, thus influencing future behaviour.

All measurements feed into circuits of reproduction, making performances visible and thus reproducible. This monitoring and quantification becomes a connective tissue essential for the reproduction of everyday practice, linking micro-level performance to the macro-level organization, while simultaneously spanning past, present, and future. The feedback developed through quantification 'is critical for the endurance of practices over time and for their diffusion and aggregation. Methods of metering (partly) construct the practices they sustain' (Pantzar and Shove 2005: 2). Data from metering becomes institutionalized forms of memory implicated in larger patterns of continuity and change. Take, for instance, the heart monitor:

> … technological developments in the portability, precision and 'accuracy' of heart rate meters has transformed the realm of everyday calculability. They allow us to 'see' our own heart (instant feedback), and in seeing, allow us to make adjustments in what we do: they allow us to quite literally tune our own engine. The results are made evident through longer term record keeping—a personalising of the medical record. As such heart rate meters have the potential to re-define the meaning of being well.
>
> (Pantzar and Shove 2005: 5)

Quantification is an essential tool in governance, the conduct of conduct.

Quantification relies on data collection, followed by visualization of this data and cross-referencing, in order to discover correlations, and provide feedback to modify behaviour. As Pantzar and Shove note, 'Once equipped with a heart rate meter, an individual becomes a knowable, calculable and administrable object' (2005: 4). Through self-observation and quantification, both digital and non-digital, we control our bodies through reason via the care of the self. Data collection is directly enrolled in altering behaviour, and as such, quantification is a surveillance apparatus. When we subject ourselves to this quantification, we come to know and master the self.

The term 'care of the self' refers to the later work of Michel Foucault (1988). Foucault draws heavily from the Socratic dictates that one must care for oneself and know oneself, arguing that through this self-reflection and care, individuals come to see themselves as responsible for constituting themselves as moral subjects. This care of the self was achieved in three ways; i) knowing how to live without luxury, through abstinence, ii) regularly subjecting oneself to a thorough examination of one's conscience, and ii) be in constant control. For Foucault, there is pleasure associated with this mastery and control.

Digitizing the Care of the Self
We commonly gamify the everyday without technology. Every time a parent rewards a child with a gold star for finishing their tasks, they are making these chores into a game. What is important about digitized gamification is how good it is at getting us to quantify ourselves, enrolling automatic data collection and feedback practices into an intimate care of the self.

As stated by Gary Wolf, the co-founder of The Quantified Self movement (along with *Wired* magazine's Chris Anderson) we track ourselves all the time, but something changes when we digitize this self monitoring:

> We step on a scale and record our weight. We balance a checkbook. We count calories. But when the familiar pen-and-paper methods of self-analysis are enhanced by sensors that monitor our behaviour automatically, the process of self-tracking becomes both more alluring and more meaningful. Automated sensors do more than give us facts; they also remind us that our ordinary behaviour contains obscure quantitative signals that can be used to inform our behaviour, once we learn to read them.
>
> (2010)

While the quantification of the self has commonalities with the time honoured tradition of journaling and the care of the self as an ethical practice of reflection detailed by Foucault (1988), what is different is the precision, complexity and the amount of the data collected, as well as the way it is ultimately presented back to the chronicler. Instead of leaving it up to us to decide what is worth chronicling, and then delegating our spotty memories to provide the details, the journaling process is automated, enabling incredibly precise details. It is also framed as playful.

The digitization of data gathering and quantification permits new kinds of accumulation and scorekeeping, detailing and chronicling the minutiae of our lives at an unprecedented level of granularity. Data-gathering is automated and feedback is near instantaneous. New technologies enable us to measure, chart, and quantify what was previously unquantifiable. It also allows us to transmit and share what was previously private. It is now relatively simple to measure and analyze patterns in our sleep, exercise, sex life, food intake, mood, location, alertness, productivity and even our mental health and spiritual wellbeing. We effortlessly track and measure, display and share all of this heretofore unknown data using our computers, smart phones, and gaming consoles.

This form of surveillance (i.e. data collection that is then used to shape and channel users' behaviour) would have been impossible to carry out in the past. But, automated closed systems, such as the walled gardens of games and social networking sites, put Moore's Law into practice. Inexpensive data storage and number crunching, combined with the increasing ubiquity of mobile sensors, make the collection and analysis of data much easier. These advances are combined with a shift away from rudimentary monitoring and analytics such as aggregate page views to more sophisticated individual user behaviour analytics. With these tools, progress on tasks is now easy to chart and reward, especially as virtual rewards and reputation scores do not have to cost anything.

Playing with the Care of the Self

There is already a game being played within everyday metering. Every time we imagine an action with multiple future outcomes, this becomes a game (see Malaby 2007). For example, every time we prepare to step on a weigh scale, we play a game with ourselves: *Will I be heavier? Have I lost weight? Have I hit my goal of losing two pounds?* We frame our experiences in narratives of success and failure, and develop strategies for attaining victory (or evoke rituals such as the shucking out of clothes that may taint our results and praying for divine intervention). We gamify without technology all the time. Many of these games are tied with measuring our own performance. We engage with our selves as something that is contingent and can be operated on, improved, and mastered.

Digitized gamification leverages the feedback tools from games as part and parcel of this care of the self. The game to be played is about bodies and human capacities. The user sees a representation of their self in the game and engages with it. This representation is formed from the data collected by algorithms, which is collated into strings of numbers, variables, and inputs within the game's database, and then assembled into feedback systems that let the player know what to do next. The interiority of the self is made recognizable and—more importantly—actionable first via quantification, and then by the algorithms that frame that body as something that can be measured, quantified, and then acted upon. Moreover, becoming the victorious subject of gamification is a never-ending levelling-up process, guided by a teleology of constant and continual improvement, driven by an unending stream of positive feedback and virtual rewards, and fuelled by the notion that this process is playful.

What gamification primarily leverages from games is the ways that games render space visible, from points systems to pathfinding. As Byron Reeves and J. Leighton Reid discovered in their research on games and gamification, data visualization techniques from games are essential tools in shaping users' behaviour:

> Game interfaces set a new bar for feedback. At any one time, Helen sees progress bars, zooming numbers, and status gauges, all in a well-organized dashboard that lets players know how things are going, good or bad. Numbers indicate the health of players, the time left before an attack, the amount of gold accumulated so far…
>
> (2009: 71)

Games excel at providing precise real-time feedback to help players chart their current progress and determine how to advance.

> Quick feedback creates immediacy and contingency in the interactions. When you make a new move, you know quickly whether the action was right or wrong. The close connection between behaviour and feedback (it's usually obvious which reinforcement applies to which behaviours) increases the likelihood that the reinforcement will be effective.
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> (Reeves and Read 2009: 72)

Feedback thus governs behaviour; steps towards a goal are encouraged in multiple ways and channels, while steps in the wrong direction are penalized. Feedback can be immediate (e.g. providing a *World of Warcraft* (WoW) player with real-time *per second* data on how they are faring in an attack). But feedback also takes mid- and long-range forms, providing information on how a player is progressing with goals that take weeks, months, or even years to accomplish.

Porting the feedback methods used in games to non-game activities thus makes sense. We turn to gamification to respond to a gap in our day-to-day lives, where feedback on one's progress, cues for future directions, and a place for experimentation and even failure, is lacking. For the most part, feedback in non-digitized spaces is much more infrequent and difficult to accomplish, largely because the automated cycle

of data collection, compilation, analysis, and feedback is simply not established. For example, at work feedback is often restricted to annual performance reviews, whereas in academia, feedback cycles can take months and even years—as in a tenure application or journal submission.

The game involved in gamification projects is in setting challenges and goals, both short-term and long-term. Charts, graphs, and statistics are automatically compiled, transforming what is essentially a large database of meaningless numbers into something that users can quickly parse and understand. Players interpellate themselves in this data, seeing the messiness of everyday lives and the interiority of their selves as something that can be meaningfully collected into a database to be rendered understandable and actionable. In the next section, I introduce examples of gamification to flesh out how this occurs, delineating the contexts in which gamification can successfully operate, and showing how unpacking 'play' increases the depth of existing work on playful modes of surveillance.

The Successes and Failures of Gamified Surveillance

By gamifying everyday tasks such as exercise and healthy living, users can make solitary and tedious activities more enjoyable. At the very least, users feel they are making progress, however incremental. What is important here is that this is *willing* self-surveillance. This is not institutionally-imposed disciplinary surveillance, or even the instrumentalization of hedonistic desires that fuels the consumer surveillance described by Deleuze (1992). Gamification enrolls people into self-governance by using their highest aspirations and capacities, that of self-care and self-development.

When aggregated, this individual data becomes a statistical technology enrolled in managing large populations. Quantification, and its enrolment in games, is a process of translation, forging alignments between the objectives of authorities wishing to govern and the personal projects of those organizations, groups, and individuals who are subjects of government. This quantification becomes enrolled in a Taylorism of everyday life, in which self-help and self-improvement traditions become combined with rhetorics of managing and shaping the ideal, victorious, self-regulating body. Quantification is a pleasurable surveillance apparatus. But it is not a valent one that can be unconditionally categorized as 'good' or 'evil'. There are, however, good and bad applications of gamified surveillance. If the marketing behind gamification applications is to be believed, in principle, gamification could be applied anywhere to make tasks more pleasurable, from workplace, to home, to schools. In practice, however, there are limits to gamification. As the following examples attest, the success of gamification lies in how well it can leverage games and play.

Self-surveillance and the gamified body

We are used to measuring and quantifying many things in our lives—from optimizing assembly line production, to measuring how fast our computers operate, to grading our intelligence, to using software to clock how many hours and minutes each day we work. Yet, we are unused to opening our intimate private selves to such measured scrutiny (see Di Domenico and Ball 2011). With the aid of technology, we measure and chart what was previously private. Gamification is successfully leveraged as a form of self-surveillance by: i) exposing the minutiae of our everyday lives and delving for meaningful patterns, ii) using this data to improve ourselves, and iii) inciting and maintaining behaviour change by making this self-improvement process more pleasurable.

Take for example, gamified running apps. I loathe exercising, yet gamified tools make this process endurable, by turning it into a game about myself. *Nike+* collects data about me (or at least the running me) on my daily exercise route. This data appears as a table, a database, somewhere on Nike's servers, with variables that change over time depending on my input (i.e. how fast, how long, and where I ran). The algorithms of the software act on this table, doing relational work. It makes a value judgement and

instantly feeds this information back to me in some form of juicy aural and/or visual feedback. I adjust my input and performance accordingly (i.e. picking up my pace).

This process exemplifies what the digital does to play: the lovely sound of simulated coins clinking, or bars levelling-up, or an encouraging simulated voice, provides the feedback and support I crave, bringing me into this relation with myself and the machine, and persuading me to stay. These sounds, colours, badges, etc. let me know that the system is listening to me, that it is reading me, that its sensors are working. This feedback feels *good*. It works to mask the pain of my wheezing lungs and staggering feet.

This gamification not only orients my current behaviour, it orients my future actions. Instead of just noting on my calendar that I ran today, *Nike+* tells me that I ran 4.2 miles in 28 minutes and 14 seconds, 42 seconds slower than my personal best. I can tag the run with details about the weather and how I felt, and later look at the accumulated data to determine that I run best when I am sad and the temperature is 15°C. *Nike+* records the route I took through the city, how many calories I burned, the music I listened to, and how many days within the last months I missed. It charts the incremental improvement in my running times over a period of months. Moreover, it can broadcast this data to sites like *Facebook* and my *Nike* profile page, allowing me to share this detailed information with friends, initiate running challenges, or even follow a friend's running route through Ottawa.

The game involved in *Nike+* is in setting challenges and goals, both short term and long term, and beating the shadow data of my past selves. As my total running distance accumulates, I earn rewards such as congratulation messages that are pre-recorded by celebrity athletes, virtual trophies, and certificates of achievements. I can 'level up', which is visualized in terms of earning colours, moving from Yellow (0-49 km) to Orange (50-249 km), and onwards, going through the rainbow as the total number of kilometres I have run accumulates. If I decide to train for a marathon, there are coaches that I can download, that plan my workout regime for weeks in advance, allowing me to ramp up. Charts, graphs, and statistics are automatically compiled, transforming what is essentially a large database of meaningless numbers into something that I can quickly parse and understand. By gamifying my running using *Nike+*, I take a tedious activity and make it somewhat more enjoyable—my iPod reminds and motivates me to run, and ultimately provides me with a litany of reasons why I should continue running (for example, noting the accumulated distance I have travelled, the decrease in my running times, the increase in my overall fitness, and grand totals of how many pounds of fat I have burned).

This game adds society to the otherwise solitary process of running. I am sharing with others a set of rules that I could otherwise establish and set myself. Even running alone, I am participating in a shared community of players, who all operate via the same rules and are striving for similar goals. Every time I go online I can see these players and their own progress. My pleasure is not only rooted in my individual successes, but rooted in my shared identity as a healthy subject, part of a community that embraces similar values. This is a form of being alone, together, via the shared rules that are established and upheld by the gamification software (Simon 2007). Monitoring and sharing this data with others enables me to be part of this community. As the next example attests, understanding how these communities are formed around the rules of play is important to understanding not only gamified self-surveillance but gamified participatory surveillance.

Participatory Surveillance and Gamified Social Networking
Foursquare is a gamified check-in service that broadcasts a user's location to friends. Launched in March 2009, *Foursquare* grew to over three million users within half a year (Barnett 2010), inspiring competition from similar services such as *Gowalla, SCVNGR,* and *Facebook Locations*. Utilizing the GPS in their smart phones, users automatically 'check-in' to participating locations to earn points and badges, as well as inside information, exclusive discounts, and offers that reward loyalty to specific physical sites and brands. These 'check-ins' are also published to the user's *Facebook* and/or *Twitter* accounts to let their

social network know where they are and what they are doing. *Foursquare* lets the user know whether any friends (at least those who have recently 'checked-in' at a participating location) are near their own location, as well provides recommendations (e.g. shops, services, restaurants) based on the user's current location. Users are able to tag venues and locations with their own tips that suggest interesting things for other users to do, see, or eat at that location. The user with the greatest number of 'check-ins' for any one venue in the last 60 days is awarded a badge declaring them the 'mayor' of that location and may receive rewards from that venue as an appreciation of their customer loyalty. Other badges are awarded by *Foursquare* according to where, when and how often the user checks in to certain locations. Users can check their statistics on foursquare.com, which are presented in a graphic manner akin to the trophies and achievements common in console gaming.

Foursquare has already captured the attention of surveillance scholars such as Anders Albrechtslund (2011). Albrechtslund, along with Lynsey Dubbeld (2005), was an early proponent of the idea that surveillance can be pleasurable and fun, a form of entertainment and play. They highlight how games leverage surveillance in their mechanics, not to criticize surveillance but to enroll it in play (Albrechtslund and Dubbeld 2005). In later work, developing his concept of participatory surveillance[1] Albrechtslund, following McGrath (2004), Ball and Wilson (2000), and Koskela (2004), reasserts that surveillance is 'potentially empowering, subjectivity building and even playful' (2008). He argues that the self-surveillance and social surveillance that operate in social networking spaces (SNS) cannot be adequately described within the framework of hierarchical, top-down, understandings of surveillance, because SNS empower the user. This empowerment is rooted in the users' choice in what information they choose to share, thus structuring how they appear to others in these spaces, and thus building their own subjectivity. Surveillance, in this sense, enables social engagement.

Albrechtslund uses the term participatory surveillance expressly to develop the 'social and playful aspects of surveillance' that are otherwise ignored by hierarchical (i.e. panoptic) models of surveillance, arguing that 'lateral surveillance' (Andrejevic 2005), while useful in depicting surveillance as a mutual, horizontal practice, is too strongly linked with 'spies in a disciplinary society' to actually capture the everyday practice in social networking services:

> Online social networking can also be empowering for the user, as the monitoring and registration facilitates new ways of constructing identity, meeting friends and colleagues as well as socializing with strangers. This changes the role of the user from passive to active, since surveillance in this context offers opportunities to take action, seek information and communicate.
>
> (Albrechtslund 2008)

Participatory surveillance is rooted in the act of act of sharing yourself—or your constructed identity—with others.

When we use *Foursquare,* we are mapping our social lives, mastering the messy complexity of our lived experiences, reducing it to an 'overview' that is shared with others (Albrechtslund 2011: 195). Drawing from Roland Barthes, Albrechtslund argues that mastery is 'pleasurable because it structures the world in a certain way that reduces diversity and replaces it with meaning, and this mastery is a fantasy because the panoramic mapping cannot be exhaustive' (2011: 195).Yes, mastery creates some of this pleasure. But other pleasures are evoked by using this data collection and monitoring to create a shared social encounter in the Goffmanian sense: a mutually constructed, voluntarily entered, shared social space. A game. The playfulness here that Albrechtslund and others leave nebulous and undefined is found in the creation of a shared social space that bounds and bridges online spaces such *Facebook* with physical locations such as

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[1] Interestingly, Albrechtslund draws from Game Studies scholar T. L. Taylor (2006) in developing this term.

coffeeshops, imbuing both with a shared sense of meaning. The rules defining the game of becoming mayor or earning points enable this play. In cases like *Foursquare* and *Nike+¸* understanding that the subjectivity that freely takes part in its own surveillance is intertwined with the realization that what people are actually doing in these cases is playing.

Gamified self-tracking and participatory surveillance applications are seen and embraced as play because they are entered into freely, injecting the spirit of play into otherwise monotonous activities. These gamified self-improvement apps evoke a specific agency—that of an active subject choosing to expose and disclose their otherwise secret selves, selves that can only be made penetrable via the datastreams and algorithms which pin down and make this otherwise unreachable interiority amenable to being operated on and consciously manipulated by the user and shared with others. The fact that these tools are consumer monitoring devices run by corporations that create neoliberal, responsibilized subjectivities become less salient to the user because of this freedom to quit the game at any time. These gamified applications are playthings that can be abandoned at whim, especially if they fail to pleasure, entertain and amuse. In contrast, the case of gamified workplaces exemplifies an entirely different problematic.

Hierarchical Surveillance and Gamified Work Places

Gamification promises to turn workplaces in playspaces. Julian Dibbell, Nick Yee and Stephen Kline *et al.* have all argued that games are a form of socialization for high-tech work practices, such as fostering the ability to multi-task and the ability to parse multiple kinds of information being received simultaneously (Kline, Dyer-Witheford and De Peuter 2003; Yee 2006; Dibbell 2006). However, gamification proponents Byron Reeves and J. Leighton Read propose something entirely different: using game veneers that overlay work practices. Reeves and Read applied game elements to the hypothesized design of call centre work in the hope of improving employee retention, which averages between ten and eleven months per employee, and reducing absenteeism. They acquired the code from the *Puzzle Pirates* game and imagined how it could be changed to accommodate a call centre worker's daily tasks.[2]

In their ideal workplace, employees would log into the game each morning and select a team to work with. Assuming the role of pirates, each team takes a ship and quests for treasure. The interface would allow the employee to click on their teammates' avatars to automatically check on their progress, (indicated by a range of metrics such as their level, how many calls they fielded that day, and, on average, how long they took on calls). This would allow employees to check on and immediately offer aid to other workers who have encountered difficulties. Teams would receive virtual treasures and points for completing each task and meeting overarching productivity goals. Workers would select from a variety of missions and quests. They would be free to do as they will, as long as what they do consists of fielding calls.

Ideally, Reeves and Read look to create Taylorism 2.0: instead of advocating a single, most efficient method of production for every task, the competitive 'game' would provide incentive to continually improve efficiency, to innovate and find creative methods to field the greatest number of calls. As call centre employees' skill improves, the challenges to which they would be subjected also increase. The bar for achievement is constantly raised, not allowing workers to become complacent and rest on their laurels. Most importantly, workers would be told that they are free from the tightly constrained hierarchical control, and instead are 'playing' with work.

Metrics collection and analysis would be automatic and presented in easily understandable visuals on a worker's game dashboard. These productivity measurements would be broadcast company-wide, enabling co-workers and supervisors to precisely measure one's merits with a quick glance at their dashboard. This

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[2] It is unclear from both Reeves and Read's writing and their public talks how far beyond conceptualization they took this project. Re-envisioning the call centre is a prominent topic in *Total Engagement*, however, they do not publicize any concrete data from the project.

information not only lets each worker know exactly where they are in the game, it also identifies their place in the corporate hierarchy, exposing apparent competencies and talents as well as weak spots and failings. Employees ideally would monitor themselves, hastening their pace if they felt they were short of meeting their goals. Moreover, these systems would allow for lateral surveillance, as clicking on the avatars of coworkers immediately indicates who is productive versus who is dragging the team down. While employees may not care about meeting their own productivity goals, Reeves and Read argue that they would perform in order to avoid the censure of their co-workers. Friendly competition to be the best in the office may further incite productivity.

Ideally, instead of resisting the monitoring of their every action, and unlike call centre workers elsewhere (see Ball 2002; Ericson, Doyle and Barry 2003), workers would submit to surveillance because they are rewarded by it—being surveilled is the price of participating in the game, which replaces the dreary monotony of call centre work with a more appealing narrative of swashbuckling and pillaging pirates. Broadcasting to one's coworkers and supervisors—to the second—how long one spends on calls, or how many calls one has fielded, is not an intrusion phrased in Orwellian terms. It is a way to earn victory points and to chart one's progress as one levels up their avatar and completes quests. With minute-by-minute monitoring, gamifying the workplace results in a game that is never turned off.

And this is the problem. If workers are unable to turn the game off and are unable to choose to participate or not, this is not a game. Theoretically, the barrier for success for gamification projects is not high.[3] Reeves and Reads' projects do not have to compete with WoW or *FrontierVille*, they simply need to show incremental improvement in the workplace, such as lower absenteeism, less churn, or slight increases to productivity and worker satisfaction. However—unlike gamified self-improvement applications— gamified call-centres have failed to gain any traction. They remain hypothetical cases.

The practical failure of gamified workplaces lies in the clashing frames, and expectations, of work and play. Frames of play are successful in opt-in gamification, but become discordant when they conflict with other competing frames (i.e. frames about work), exposing the tension between the game logic and the logic and demands of the larger social context. Pre-existing understandings of the institutional arrangement of work, and how work contrasts to play, are deeply embedded within subjects, defining their relationship with these institutions. A veneer of play is unable to hide the underlying reality of work. This effectively kills the motivation to play and instead motivates workers to thwart and resist the systems that have attempted to mislead them and take advantage of their playful tendencies. Playful frames may enable the smoothing over of potentially contentious data-gathering practices (such as sending *Nike$_+$* a running record of my geo-positional data), but it is unable to efface the reality of work, the hierarchical and unbalanced power relations that characterize these spaces, the social expectations therein, and the fact that covert surveillance is used to judge, rank, and punish employees. When employees have no choice but to participate, the gamified call-centre can no longer be framed as a game or play, it reverts to work: 'what a body is obliged to do'. It is revealed as a thinly-veiled ploy to create ideal workers and is thus resisted.

Discussion

This article argues that surveillance scholars need to understand how play and games work so that we are not fooled by new technologies that leverage playful frames. Accordingly, I have started unpacking the black box of play to highlight how this surveillance operates. This leads to several key findings.

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[3] This was confirmed to me by an employee of Reeves and Reads' gamification company. Their products do not have to compete with games, but rather create working conditions that are just slightly more preferable than what went before. Yet, despite this confidence, years later the gamified call centre has failed to materialize.

Firstly, there are limits to gamification in terms of framing. The moment you understand that you are working, you are not playing. This is not to say that play never occurs in workplaces. It can and does, and this is not to say that work can never be framed as play. But for it to be experienced as play, everyone needs to be a willing participant. With *Nike+* and *Foursquare*, users are encouraged to expose their data in order to coordinate social action (e.g. sharing data in order to belong to a community interested in health or to share a social process). Revealing this data is not damaging to users' subjectivity, but rather pleasurable. With the case of the *Puzzle Pirates* workplace, something different is happening. Data collection is achieved by trying to trick the worker into thinking they are playing when they are not. This exposure is incentive-based (e.g. revealing data to prevent being fired) versus pleasure-based, and rooted in hierarchical surveillance. This example is a limit case, showing a failed gamified project. Understanding games and play are essential tools in outlining *why* these projects fail.

Secondly, just because a surveillance technology is successful in playful, participatory spaces like *Facebook,* does not mean this technology will be accepted and treated the same way in other spaces. This applies to facial recognition and biometrics, just as much as it applies to gamified quantification. However, surveillant technologies can be further developed and refined in these spaces in terms of precision, accuracy, ease of use, unobtrusiveness, etc., and these advances may be exported to other domains. The data gathered and utilized in playful surveillance spaces can, in a process of function creep, be put to other uses. For example, *Nike+*'s gamified data is already used for targeting marketing, and we can easily see how the intimate, long-term data about our everyday lives, our health, our movements, and our relationships collected via gamification would be alluring to corporations, health agencies, governments, law enforcement and others.

Thirdly, the most important point in this: if we are to unpack digital play, we must also unpack the algorithms that make it possible. This is the danger of digitized processes, especially games: we cannot open up the black box of the software that hides the rules from us. We cannot see why and how and when some of our actions are deemed successful and rewarded versus others that are not. We want to assume that these value judgements are achieved in a fair and impartial manner, but this is not always the case. There is no space in these systems for the mutual negotiation and agreement upon the rules.

The gamified quantification of the self allows us to replace the holes in our memories and the vagaries of our intuition with something more reliable and something seemingly more objective—streams of numbers. Clear parallels can be drawn here to the work of a number of authors, for example, on the history of statistics and the valuation of quantitative knowledge (Hacking 1990; Porter 1996; Poovey 1998). While we tend to see these statistics and quantitative computer processes as objective, as Tarleton Gillespie (forthcoming) and Alexander Galloway (2004, 2006) both show, these algorithms are rife with embedded value judgements that often work against the user's best interests. Accordingly, this final point indicates future research directions for understanding the intersections of surveillance, games, and play.

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