APPropriate Fitness and the CyberRunner:

Governing the body through mobile media

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Abstract

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The primary purpose of this thesis is to critically analyze mobile media and self quantification practices within the context of running and discourses of health. By focusing on mobile running applications I observe how one is called through an app's feedback mechanisms and interfaces to quantify, measure, control and continually improve. The apps work as a tool to discipline the body into becoming a better body. Drawing on interviews with runners who use these apps, the thesis contextualizes the discussion by using the framework of governmentality, of which gamification is a part. I question how personal data is generated and given meaning in an individual's life. As a modern and neoliberal subject, the runner engages with the apps as a technology of self, a tool of governmentality. An important point of inquiry regards the implications of breaking down a person into metrics for thinking about identity. As the ubiquity of mobile media increases, the ability to generate and share intimate personal data increases and this information is shaped by discourse as it is circulated through multiple interfaces. In the first chapter, I focus on the individual who becomes a calculable subject and in the second I look at the effects of social interfaces and disembodied information as they become a part of how we interact with ourselves and others. By studying runners, I attempt to better understand how locative mobile media and quantification become a part of the discourse of health and think of potential implications of ubiquitous data collection.

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Introduction

> *"Every time a machine robs us of the work a muscle used to do, we get a minute fraction weaker"* (Defaux & Koenig, 1960)

The relationship between the self, body and technology is fraught. French philosopher Michel Foucault writes in *The Technologies of Self* (1988) that for the Greeks "one of the main rules for social and personal conduct and for the art of life" was to be concerned with oneself and "take care of oneself" as they were self-governing subjects in accordance with this discourse (p. 19). In modern societies however, the maxim has changed to "know yourself," the Delphic principle. In the 1960 film *I Was a Ninety-Pound Weakling,* directors Georges Defaux and Wolf Koenig argue that the 20th century brought many new consumer technologies to automate mundane tasks, such as cars and microwaves. In their film, they see technology as the cause of increasing obesity and decreasing levels of fitness for urban citizens as it promotes an 'easy life.' To combat this problem caused by modern technology they recommend physical exercises like weight lifting and wrestling. Currently, mobile technology is becoming ubiquitous; Langdon Winner (1986) argues that it is increasingly "woven into the texture of everyday existence" and that technology becomes part of our identity as the "devices, techniques and systems we adopt shed their tool-like qualities to become part of our very humanity" (p. 12). In this thesis, I study mobile media that enable one to quantify daily activity and that support a claim that the technology can help one better oneself. Automation becomes a way to combat the 'easy life' rather than be implicated solely as a culprit. I am interested in how people strive to know themselves by giving meaning to personal data; this is the goal of the 'quantified self' movement where individuals strive to harness the

potential of their bodies to become superhuman through tools of self-tracking. In a network society, we come to know ourselves through our technologies which embody "a particular way of being in the world" and human relations (Barney, 2004, p. 38). We generate virtual selves through our technologies as we generate data through daily activities that is enframed by interfaces. We then identify with ourselves through the data as we present and perform aspirational identities online through these interfaces. In the thesis I understand interface as a site of mediation that should be studied in terms of its effect. Each interface affects how the data is presented and circulated. By looking at ubiquitous data generation and interface effects, the thesis studies running applications in order to learn more about our relationship to mobile, locative and networked technologies.

A running application, running app, or 'app' it as referred to throughout the thesis, is a mobile application that can be downloaded to a smartphone, iPod or smartwatch that first tracks a users activity by capturing movement using a GPS receiver or an accelerometer and then turn's the data into information. The apps promise to use the information to help the user enhance their appearance, improve their health and fitness, or to have fun by competing with friends through online sharing. The apps are new, but using analog and digital watches, along with log books, has long been a common practice for tracking improvement in running. Garmin created their first personal training GPS watch, the Garmin Forerunner in 2003; Nike Inc. created the *Nike+iPod* mobile running app in 2006 that synced a 'ShoePod,' a small accelerometer placed on a Nike shoe, to an Apple iPod. Apple released the iPhone in 2007 and in 2010 Nike Inc. released their first

iPhone version of the *Nike+GPS* running app. The app is now known as *Nike+Running* or abbreviated as *Nike+*. *Nike+* also represents a number of other products as well that are part of the Nike product 'ecosystem'. Many other running apps have since been created as well as many other consumer technologies aimed at self-surveillance and digitally 'hacking' one's life through quantification. The Apple iTunes store and Google Playstore each have hundreds of health apps, including a number of running apps, showing the popularity of such apps.

To understand why someone would use a running app in particular, the underlying question is 'why do people run?' As noted in an opinion piece on Forbes.com "we no longer need to chase down our food. So why do we do something physically and mentally challenging, and occasionally painful, if we don't have to?" (Gillum, 2013, para 1). Running USA explains that we are in what they define as the Second Running Boom, and that every year more and more people are finishing races with nearly half a million individuals completing marathons in the United States in 2012 (Details, 2013). With more race events now than ever, anyone can sign up and compete. The apps' logic of quantification therefore is in part related to the logic of training that may explain why people use them and share the data as a way to acknowledge their participation in the current boom in running culture. The apps provide abstractions of health, training and socialization that interpellate the neoliberal subject. The thesis recognizes multiple subjects created by the apps. The first chapter explores how one is called to quantify and train, while the second chapter explores how one can use the data on social networks that become a sort of social marketplace in their process of identification. The reasons why

people run is beyond what the thesis is able to address, yet the analysis of the apps and the subjects provides insights into this neoliberal moment in the creation of runners, many of whom eagerly and willingly participate in quantifying their running.

Running is not the only activity quantified by mobile apps. Apps aimed towards quantifying the self became so prevalent in 2012 that *Scientific America* wrote that "2012 may be known as the year that self-tracking went from niche to mainstream," and the running apps fit right into this trend of quantification (Schwartz). In the late 1970s, Mark Weiser coined the term 'ubiquitous computing' to describe the disappearance of the interface and the possibilities for pervasive computing to augment even mundane activities. For this project, I interviewed a number of runners, many of whom described running as being boring and the apps as the way they made it more fun. This is in part due to gamification. Gamification is the application of "game mechanics and techniques… to non-game processes in order to make them more engaging and fun," although fun is not a requirement (Whitson, 2012, p. 55). The playful interfaces gamify running by giving quantified feedback and making it social. Lev Manovich (2007) observes that new media often project "the ontology of a computer onto culture itself" and one must take account of this when studying ubiquitous computing as the interfaces can have ideological effects (p. 42). According to Farman (2012), who uses similar language to Winner, "the culture of pervasive computing is characterized by the ubiquity of digital technologies woven into the fabric of daily life, typically so integrated that we are often rarely aware of the extent of this integration" (p. 6). To further this argument, I look at how users engage with other runners through the interfaces of the app and on

social networks. By looking at the interfaces I can better understand the effects of using the apps. Alexander Galloway (2012) argues that we should look at the effects of interfaces as political and ideological whether or not the interface appears to be present or fades to the background. In the second chapter I recognize that interfaces are multilayered and discuss the social nature of the interfaces and data.

I am interested in understanding the current and potential implications of the trend towards digitizing and quantifying, and to situate it within current discourses. How is personal data generated and given meaning in an individual's life, through their social networks and in broader culture more generally? This thesis studies the specific mechanisms by which apps call us to quantify, measure, control, and continually improve ourselves via the construction of a running body. According to the logic of the apps, this running body should not only be a healthy body, but also one that must be known on a technical level and made social. Connecting this personal data to social networks is not a neutral activity, as it is motivated by a specific political economy that supports a particular set of market arrangements as explored at the end of the second chapter. The thesis contextualizes the discussion within the framework of governmentality, of which the concept of gamification is a part. As with all digital technologies it is important to understand the apps as an articulation between the discourses of health and the body. The apps work as a mechanism to discipline the body into becoming a better body. Through knowledge the body is improved and made efficient. My main research questions include: what can mobile media that quantify fitness tell us about our relationship to technology? How is the activity changed by the apps? What are potential social

implications for the user? How do the apps understand fitness and reward activity? What are the implications of ubiquitous data generation? In what follows I outline my approach to technology, methodology and theoretical framework and conclude with a chapter breakdown.

Approach to technology

Throughout the thesis, I refer to Foucault's understanding of technologies of self and governmentality as a framework to understand the ways in which the user engages with the apps. This is detailed at the beginning of the first chapter and in this section I give a broad overview of my approach to technology in order to situate the thesis and to clarify why I find my analysis productive. I chose running apps as my object of study because at the time I decided on a project, running was a central part of my life. A major struggle I had in my research was trying to figure out why the apps matter: why care about running apps that I saw friends on Facebook using to share their activity? I found working through this to be productive for the thesis and my own understanding of technology. In what follows I try to understand how studying an object as seemingly innocent as a smartphone application can reveal a lot about our current technological moment and way of being in the world by outlining the theories I find most productive.

In the first issue of *Mobile Media & Communication* (January 2013) Richard Smith's article, 'So what? Why study mobile media and communication' asks "what is different about a world in which people carry their phones around with them all the time" (2013, p.

38)? Smith argues that while all communication is moving towards being digital and the "digital loses distinctiveness even as it gains everyday power and ubiquity," (p. 39) it is still important to study the digital because "human beings are endlessly variable and their circumstances are perpetually changing" (p. 40). For instance, Smith explains how while we take the marvels of electricity for granted, it does not mean it has declined in importance. There is a sense with pervasive mobile media that the "always on, always on you" nature of mobile technology is the context for everyday routines, and the running apps are only one example of this (Frizzo-Barker & Chow White, 2012, p. 581-582). The apps that I refer to within the thesis are not so ubiquitous as to disappear, but are still taken for granted, so I explore how the runners have come to engage with this relatively new form of surveillance and quantification.

If one follows Marshall McLuhan's famous thesis that "technologies are extensions of human faculties" then it follows that "changing our technologies changes how humans perceive and interact with the world… [and] in many ways, this changes humans themselves" (Slack & Wise, 2005, p. 52). This can come across as technologically deterministic, unless we read it to mean that technology *favours* a particular way of perception and interaction. For example, an app's interface has affordances and limitations that favour a way of interacting, but this explanation is still too limiting. Rita Raley (2012) reminds us that "to participate in the project of modernity has arguably always meant that one becomes a calculable subject by voluntarily surrendering data" through a census or digital technology, so through the apps, one intensifies and extends to mundane activities the ways in which they are calculable (p. 5). In *The Question*

Concerning Technology (1977), Heidegger defines technology - traditional and modern - as a mode of revealing. As Raley notes, modern thinking tries to put everything into a science, and does so through technology, which Heidegger argues also reveals. Heidegger writes that "the revealing that rules in modern technology is a challenging, which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such" (Heidegger, 1977, p. 14). I am interested in how the apps, as we see in the example of Nike's invention of a universal metric of fitness called 'NikeFuel,' use a similar discourse to encourage user engagement. The apps may then be understood as appealing to modern subjects, who use them to make their running productive through calculation and control, and which are articulated by the app to a discourse of health.

To see the body as a 'standing reserve' is one way to interpret the user's use of their data, especially when using the data for purposes of identity creation and to generate social capital as discussed in chapter two. However, in order to get a broader idea of why the apps matter, and to avoid a technological or social determinist approach to technology, I am inclined to find a middle ground through Andrew Feenberg's instrumental theory of technology that "holds that technology must be analyzed at two levels, the level of our original functional relation to reality and the level of design and implementation" (2004, p. 3). As users can exert agency in their use of technology, the technologies can be inserted into social settings that include unintended environments. I therefore study the mobile apps and ask questions such as 'what does it mean for a runner to use a mobile device to quantify their fitness and bodies?' in order to explain how technologies can be understood on multiple and often overlapping levels. For example, there is an implicit

social layer as the user and technologies are bound in discourse. I try and keep this

multilevel and instrumental approach in mind when studying the apps to understand how

technology on all levels should not be taken for granted, and how even an everyday

object such as a running app can reveal a lot about our relationship to the world and our

things.

Project inspiration

> *"Phones can know," said Dr. Pentland, director of MIT's Human*
> *Dynamics Laboratory, who helped pioneer the research. "People can get*
> *this god's-eye view of human behavior."* (Hotz, 2011)

In the summer of 2011, I was on a flight headed to Bangkok, to celebrate the successful

completion of my undergraduate degree and enjoy a last 'hurrah' before starting graduate

school. As I boarded the plane, I picked up a copy of the *Wall Street Journal* where I

came across the article entitled, "The Really Smart Phone" (April 22, 2011) by Robert

Lee Hotz. I kept the article with me as I travelled, and it eventually ended up with me in

Montreal. The article explains how the location data generated and tracked by our phones

can be used to predict our behaviour, the stock market, elections, likelihood of obesity,

and a number of other outcomes. The article refers to a study by researchers at MIT who

study how cellphone GPS data can be collected, monitored and mined to predict an

individual's behavior. For example, do repeated interactions with people of a different

political position than yours affect how you vote in an election, and if so, how many

interactions on average does it take? Intrigued by the possibilities of ubiquitous data

collection, I decided to focus on mobile media, eventually deciding to analyze the

running apps. How is the runner captured by their mobile device and how does this affect

their sense of self? How does one identify within discourse? As Farman writes, in locative media "location *does* become meaningful for the construction of self-identity, yet this construction takes place…simply by using your mobile device to broadcast: 'I am here'" (Farman, 2012, p. 75). As made evident by the MIT researchers, location data has the potential to be mined for many uses. The function creep, the unintended uses of the locational data, is immense. By studying runners, I offer a glimpse into how locative mobile media and the function creep of the data is changing our we see ourselves and change social interactions as we strive towards achieving healthy and fit bodies and work towards our aspirational identities.

Method and Theoretical Framework

The two methods I used for this thesis are in-depth interviews, and discourse analysis. I interviewed a total of thirteen runners that use mobile running apps, who are referred to throughout the thesis using pseudonyms. The project is not a study of runners, but rahter the interviews are used to guide the inquiry of the technology. The interviewees ranged in age from 18-32, six females and seven males; two lived in Europe, one in the States, five in Vancouver and five in Montreal. The Montreal interviews were done face-to-face, while the other interviews were done via Skype or phone. The interviews were between twenty-five minutes and an hour in length; twelve of the interviews were recorded and transcribed, while one was only document by in-interview handwritten notes. I found the interviewees using 'snowball' sampling. Snowball sampling is "a form of non-probability sampling" where the researcher starts by identifying an "individual perceived to be an

appropriate respondent" who is then asked to "identify another potential respondent" (Oliver, 2006). This is then repeated until sufficient data is collected. Although it is often used when one is studying topics where it can be hard to find participants, it also offers a way to distance oneself from the research participants. In the end, two participants are people I consider friends and I asked them to participate based on their Facebook activity, two participants were recommended by non-participant friends, and the other nine were by recommendation of participants.

The interviews centered on how the runners use the apps, what inspired them to start using it, how it changed their running, and what information they would publicly share. I wanted to see how they engaged with the interfaces and how they imagined themselves changing with the use of the apps. According to Justin Lewis (1991), "the interview is a type of conversation" and can therefore take many forms (p. 82). I conducted semi-structured interviews, meaning I prepared a set of questions (Appendix II), but tried to only use the list as a guide. Conducting a semi-structured interview allows "the interviewees to move in a direction of their own choosing and to impose their own definitions and framework of interpretation upon the subject under discussion" (Lewis, p. 83-84). At the same time, it allows the "interviewers the opportunity to delve fairly deeply into these structures of interpretation, and to establish some of the discourses they seem to draw upon" (Lewis, p. 84). During the interviews, I kept in mind Rapley's (2001) take on the artful open interview, to be conscious of how my own body language, phrasings, silences, all plays a part in what and how the interviewee chooses to discuss a topic. I had in mind a grounded theory approach to analyzing the interviews, so I

transcribed the interviews used an open coding system to sift through them. I also followed the same staged format as Joke Hermes (1995) by updating the prepared questions after evaluating each interview; in the end, however, the questions remained nearly the same and I did not make significant changes.

I consider the users and the apps within the context of neoliberal society. Neoliberal society is premised on an assumption that markets should self-regulate in order for society to improve. It this society capitalism is rampant and the generation of new data to commoditize fits into Jeremy Rifkin's (2000) analysis of the commodification of everyday experience. Neoliberal subjects are induced to "regulate and govern themselves" while forms of "neoliberal governance…are focused on the privatization and deregulation of the State" (Whitson, forthcoming). This means that private companies take on the role of creating products that one can buy in order to better themselves, to become good citizens. It all can be seen to work in an articulated manner; governments engage in campaigns for public health, the apps are created in the private sector and purport to promote a fit population, which is in return good for the state and 'better' citizens are created. The first chapter uses the concepts of governmentality and gamification to explore the neoliberal citizen's self-improvement through the apps.

The second tool I use is discourse analysis to frame this neoliberal citizen within the discourses that produce them as subjects. Linguist Zellig Harris, first introduced the term 'discourse analysis' in 1952 "as a way of analyzing connected speech and writing" (Paltridge, 2007, p. 2). Discourse refers to the 'bigger picture' of language. It takes the

analysis a step further than semiotics, as it contextualizes and historicizes the texts. The discourse analysis I use stems from Foucault who saw "*discourse* as a system of representation" that "constructs the topic" (Hall, 1997, p. 44), and "produces subjects" (Rose, 2007, p. 142). According to Gillian Rose, a discourse refers to "groups of statements which structure the way a thing is thought about, and the way we act on the basis of that thinking;" in other words, "discourse is a particular knowledge about the world that shapes how the world is understood and how things are done in it" (2007, p. 142). Discourse is not synonymous with ideology and discourse analysis rejects Marxist class reductionism, but does take into account power relations.

According to Foucault, power is located in discourse and power is productive, so I look at the bodies that are produced by the apps. In Foucault's work, power is able to construct apparatuses which govern the body. Foucault "places the body at the center of the struggles between different formations of power/knowledge" (Hall, 1997, p. 50): the body is "*produced* within discourse" (p. 51). The idea of a body that is produced through discourse is a central concept to my research as I hypothesize that the use of the apps and self-governance is part of broader discourses. Discourses can be productive and construct subjects, but they can also "[rule] out', [limit] and [restrict] other ways of talking, of conducting [oneself] in relation to the topic or constructing knowledge about it" (Hall, p. 44). To think of what is absent from the discourse is therefore as important as acknowledging what is present.

According to Rose (2007), "if you are writing a discourse analysis, then, the arguments about discourse, power and truth/knowledge must... be just as pertinent to your work as to the materials you are analysing" (p. 167). I use the interviews to help me contextualize the apps and discourse. As Jennifer Daryl Slack (1989) notes in *Contextualizing Technology*, using the word 'context' is often "invoked as a sort of magical term... [to] banish the theoretical problems of its specificity," just as an interface may be ideological as it makes one forget the social totality behind it (p. 329). Slack suggests that we study and contextualize technology within Hall's model of articulation. According to Slack, "articulation is... a nonnecessary connection of different elements that, when connected in a particular way, form a specific unity" and can be used to study relationships, for example of discourses (p. 330-331). Slack gives the example of articulated discourses of technology and gender. I find the idea of the articulation of discourses to be especially interesting for my study, as I attempt to analyze the interplay between, for example, the discourses of fitness and technology.

An important point of inquiry in the thesis regards the implications of breaking down a person into metrics of fitness for thinking about identity. As the ubiquity of mobile media increases, more and more personal data is generated, circulated and shaped by discourse. According to Hall, "because identities are constructed within, not outside, discourse, we need to understand them as produced in specific historical and institutional sites within specific discursive formations and practices, by specific enunciative strategies" (Hall, 2000, p. 17). So in the thesis, I use discourse analysis in order to bring to light the specificity of the discourse produced within and existing around the apps that are a part

of the runner's identity creation. In the first chapter, I focus on the individual who becomes a calculable subject, while in the second chapter I look at the effects of the social interfaces in which the runner, as a virtual representation of them, exists.

Breakdown

The thesis is broken into two chapters. Each looks at a different way in which a subject is interpellated by the apps. The first chapter looks at the runner and the articulation between discourses of health, governmentality and the apps. It explores how the apps are one of several consumer products sold with a promise of making one healthier. The neoliberal subject is interpellated through the call to health and quantification to be a runner. The gamified feedback of the app propels one to push oneself and identify as a runner. I observe how as neoliberal consumer citizens we use the products around us to better ourselves and discipline our bodies. I look at how the apps create runners through the data, how they are interpellated into the science of training and the quantification becomes a part of their identity.

While the first chapter is focused inward on the individual runner, the second chapter situates the runner within larger networks of data communities (such as social media) and capital (such as the political economy of the Nike brand). It analyszes the interface effects of the running apps and social networks, to analyze how they materialize discourse in their ideological design through which the users engage with as sites of self-presentation in a process of identification. It also considers the communities that are

created, how the data becomes social, and again looks at the implications of gamification. It then returns to the idea of governmentality and neoliberal society, to look at the political economy of the apps to show how they generate value for the users as well as the companies which create them. I look at how the subject is interpellated into different social regimes and the apps allow the runner to participate in a specific neoliberal moment. The apps are an example of the pervasive, social and playful interfaces that are a part of everyday life, so by analyzing them within the context of discourses of health and fitness, they highlight tensions between agency, technology and neoliberal society.

Chapter 1: Quantified runner: Governmentality, quantification and gamification

> *"They are selling their product to people to hopefully get them healthier. I think a lot of that also has to do with a culture change over time. At least in western culture, people understand that they are probably not the most healthy of people; so what are some of these tools and some of the ways that I can get from where I am now to a point of being a bit more healthy?"* (Nick)

The runners I interviewed all had different reasons for using the running apps, but they all acknowledged that running is good for you. Misia explains that "you are supposed to get *x* amount [of exercise] per day, I don't know what it actually is." Running is one of the ways she achieves her daily *x* amount and by using her running app, she can track how far she ran, how fast she went, and how many calories she burns. Misia is active and quantifies her running but meanwhile has no idea how much exercise she should do in order to stay healthy. As she tries to stay fit, she is interpellated into the science of training through the metrics of the app that tell her when she is improving. Many of the runners admitted to 'loving' the data that the apps collect and are committed to taking their health into their own hands – by relying on in-app feedback that encourages them to quantify, rather than by setting their own goals. The way Misia engages with the app specifies an articulation between discourses of health and mobile technology. As the number of technologies that call us to quantify and control expands, it is important to think of how this creates new subject positions.

Using an instrumental approach to studying technology that considers both a technology's function and design – which are often linked – I look at why the users engage with the apps to see how they hail neoliberal subjects to operate within discourses of health and fitness and encourage them to digitize and quantify the running. Discourses

of health and fitness are pervasive in society and new technologies can be a means to self-govern one's body to be like the bodies idealized through discourse. As explained in the introduction, Foucault saw "*discourse* as a system of representation" (Hall, 1997, p. 44) that can construct subjects and *simultaneously create and limit* ways of constructing knowledge around topics. Therefore, it is productive to consider the subjects that are created through the discourses, and how this relates to runners' use of the app in order to question how the apps construct subjects; the apps are a part of the articulation between technology and discourses of health. In this chapter I use the concept of governmentality and look at discourses of health to help explain why the runners engage with the apps. I then look at gamified mechanisms within the app to understand how the data can motivate the runner to engage and identify with the app as simultaneously a physical and a virtual runner, a cyberrunner.

There were four apps used by the interviewed runners: *Nike+Running*, *MapMyRun*, *Sporty Pal* and *Zombies, Run!*. Two of the runners simultaneously used an app along with a Garmin Forerunner, which is a GPS sport watch. As noted in the introduction, the *Nike+* mobile app was the most popular app amongst interviewees and used by eight of the thirteen runners, as well as the app I have used the most. It is, therefore, the example I focus on through the thesis. It is available for free on the Apple iTunes store or the Google PlayStore. The product blurb tells the user/runner that with the app you can "map your runs, track your progress and get the motivation you need to go even further. Hear mid-run cheers every time your friends like or comment on your status, or outrun them in

a game of Nike+ Tag" (Nike, Apple iTunes store). This app had the most social sharing

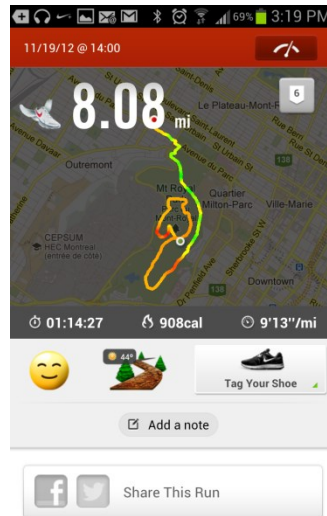functionalities of all the apps, and this is explored in the second chapter.

Figure 2.1- Nike+ Map

The screenshot shown in Figure 2.1 is an example of what the in-app feedback looks like

on *Nike+* for Android. The screenshot is from a workout I did in November 2012. It

shows the distance, the duration, the average pace, the calories burned, a map of where I

went faster and slower, how I felt, what type of terrain I ran on, how many awards I

received, as well as options to specify the type of shoe I wore, to add a note and to share

the map with my Facebook friends or Twitter followers. The technology is marketed to

help you '#makeitcount' (Twitter hashtag), motivate you to "push for your longest,

farthest and fastest run yet," and rewards you with achievements for going on your

longest run, running every week, and challenges you to run faster than ever before. As

presented in hashtag form, the user is called not just to count, but also to share. The

running apps all focus on long-term engagement and award you for continued use. They

maintain logs of your activity and calculate the cumulative distance you have run each month or since you started using the app. They call you to quantify your running, to assess your progress and improve.

Governmentality and discourses of health

There are currently hundreds of smart phone applications available on the Apple iTunes store and the Google Play store within the health and fitness category. The tone of the apps range from serious to playful: monitoring diseases like diabetes, providing health information, encouraging you to run by sending fictional zombies after you, and providing a number of other life 'hacks.' The running apps used by those I interviewed sell themselves as helping users improve their health, improve their fitness, and create fun experiences such as competing with friends or earning in-app achievements that in-turn motivate the user to continue engaging. As Frizzo-Barker and Chow-White (2012) explain, the current shift towards "mobile media facilitated by smartphones amplifies the rise of personalization," and these apps are examples of how a user can gain personalized information through mobile media that promise to help improve their health or make them fit (p. 582).

The interviewed runners are aware that one does not have to buy fancy running shoes or use an app to improve their fitness, but nonetheless they all chose to make it a part of their practice. Misia explains that "running is one of the easiest things a person can get into. You don't need to get gear. You don't need to get a partner. You just need a pair of

shoes." The apps insert themselves into the runners' routine by promising self-improvement, data, connectivity and fun. Veronika agrees that the simplicity of running attracted her to the sport, "I like it because there are no opening hours or fitness fees." Veronika and Misia use the apps, not because they *need* them, but the technology allows them to stay motivated, track themselves and improve. The technology makes demands on the body to move, run, run fast, run faster, run longer, and through their interface, and the apps are used as a technology of self, in order to discipline their bodies. The feedback provided by the apps shifts the focus of the runner towards the metrics they provide which guide how the user reads the practice. By rewarding certain behaviours over others, they reify specific assumptions and discourses about the runners and health.

To contextualize the products within the discourse of health, I note that healthy activity and fitness of the overall population is the focus of several government bodies such as Statistics Canada and Health Canada. For instance, in a study by Statistics Canada, it was found that between 2007 and 2009, fitness levels dropped (Shields et al. 2010). It is important to remember that health is a powerful discourse, as exemplified by how it is used to sell products that have more to do with cosmetics than health. Cosmetics can make one appear healthy by masking imperfections. For example, figure 1.1 shows a recent ad by MAC cosmetics entitled 'Strength' features a female bodybuilder, Jelena Abbou from Serbia. She is posed in a shiny black dress, flexing her arms and her strong profile.
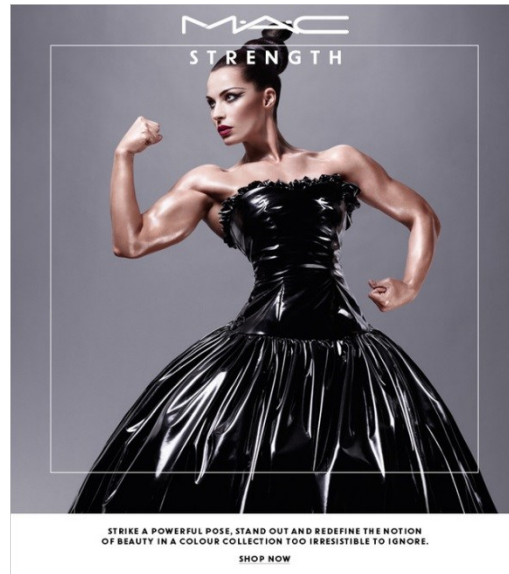
Figure 2.2 – MAC Strength (Sauers, 2013)

It is a stunning photograph and her arms are the focal point. It is not a typical image used in cosmetic ads that often feature very feminine bodies. The ad however, is part of a large discursive regime about ideal bodies being healthy, beautiful and well put together. The ad celebrates the woman's strength, fetishizing the brand with the attribute. Her strong, healthy body in the ad is an example of the hegemonic ideal of health and fitness, however in an exaggerated manner. By juxtaposing beauty with athleticism, especially athleticism of this kind, which is typically assumed to be male, it ultimately draws athleticism into the regime of beauty. Despite these spheres seeming at odds with one another, this ad is a useful example of how persuasive the call to be fit can be. A number of other products are sold with the promise of health: gym memberships, nutritional supplements, athletic clothing, and health magazines to name a few. Other products, such as this example of MAC cosmetics, are also articulated with the discourse of health although the product does not improve one's health. Health and fitness is a large industry

and uses and contributes to a powerful discourse that stretches beyond the health products that neoliberal subjects can buy in order to engage with the discourse of health.

The interviewed runners ran as a part of their regime to stay fit and healthy. Five of them mentioned a desire to lose weight, while the others wanted to maintain a fitness level or feel healthy. Sean explained that "[in high school] I was doing PE every week, so I didn't care about my fitness that much because I was getting it every day," but now he is left to his own devices and he is compelled to care nonetheless. Anna had a similar explanation, "right now it is more of a way to maintain fitness. I was very active in high school and now I am not doing as much as I was before, so it is just maintaining fitness." These runners make a reference to engaging with a particular discourse of health that is promoted through the Canadian education system and their continued engagement with fitness can in part be explained through governmentality. Although the runners use the apps to participate in a discourse of health, they are then called by the app to engage for other reasons. The *Nike +GPS* app does not give feedback on health, but does provide metrics such as NikeFuel that encourage the runner to engage for the sake of its competitive abstractions. This chapter continues to explain how running apps relate to the interviewee's fitness through governmentality and discourses of health by looking at the mechanisms by which the apps call us to quantify, measure, control and improve.

In the following paragraphs I outline the concepts of governmentality and biopower, as explained in the later works of French poststructuralist Michel Foucault, to help explain why and how citizens take fitness into their own hands. As mentioned in the introduction,

Foucault writes that in modern societies the maxim has changed to from 'take care of yourself' to 'know yourself.' I suggest that this maxim is taken to an extreme by the ability to capture and quantify data of the self through mobile technology that, in turn, is presented back to one as being the key to improving oneself. The apps assume a modern subject that is knowable and can be controlled and a body that is calculable. The result is that the discourse of apps such as *Nike+* and *MapMyRun* assumes a goal of a fitter, faster and a continually improving subject and a better self.

In Foucault's later years, he became increasingly interested in the 'self' as the site of power and coined the terms 'governmentality' and 'biopower.' Governmentality is a combination of the terms 'to govern' and 'rationality' – in other words 'government rationality.' Foucault scholar Nikolas Rose (1999) writes that government "refers to all endeavors to shape, guide, direct the conduct of others," yet "it also embraces the ways in which one might be urged and educated to bridle one's own passions, to control one's own instincts, to govern oneself" (p. 3). In the book *Governmentality, Biopower, and Everyday Life* (2008), Majia Nadesen explains that "Foucault used the idea of governmentality to explore the regularities of everyday existence that structure the 'conduct of conduct'" (p. 1). Nadesan explains that governmentality can also be used to theorize about questions such as "how do individuals engage in self-regulation across social contexts?" which is a topic of consideration in the second chapter (p. 1). The running apps are an example of a way in which the runner can self-regulate in an attempt to improve. With the conditions for governmentality set through the discourse of health, the integration of the running apps into the regime of fitness is normalized.

The apps can be seen as a tool of self-governance, what Foucault calls a 'technology of the self.' In *Technologies of the Self* (1988), Foucault lists four types of technologies which include: technologies of production, "which permit us to produce, transform, or manipulate things;" technologies of sign systems, "which permit us to use signs, meanings, symbols, or signification;" technologies of power, "which determine the conduct of individuals and submit them to certain ends or domination, an objectivizing of the subject;" and finally technologies of the self (p. 18). Technologies of the self are those which

> permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection or immortality (p. 18).

With digital technologies that have data generative capabilities, the examples of technologies of self used by modern neoliberal subjects are endless. Many of the runners used the apps in a process of governmentality as a tool of self-improvement.

Another way to see how the apps function is through Foucault's concept of 'biopower.' Biopower can be used to explain "technologies of power that address the management of, and control over, the life of the population" (Nadesan, 2008, p. 1). Biopower is "seductive because its logics, technologies, and experts offer, or at least purport to offer, tools for societal self-government" (Nadesan, p. 2). To operate and to instill an ethic of self-care in the populace requires "careful circumscription of space" (Millington, 2011, p. 119), such as a prison. An example, therefore, of biopower is exposed when the runners refer to their running as fulfilling '*x* per day' as it is part of the discourse of health that

they act within, as well as when they relate their current continuation of exercise and fitness to the habits they learned throughout high school. The apps are now a part of their practice, a technology of self, that the runners as citizens engage with for self-surveillance in the name of health (or fun, which is a later theme of this chapter), and therefore an example of biopower.

The implication of biopower is the creation of docile bodies. As Foucault writes in *Discipline and Punish* (1979), "a body is docile that may be subjected, used, transformed and improved" or in other words, it a body that is primed for being a modern subject (p. 136). The apps are used to improve one's own body: to transform and improve, but also to use. Pirkko Markula follows Foucault's interest in looking at how different modes of objectification create subjects. Markula (2004) writes that "the individual self is always a subject to power that shapes the individual's understanding of his or her identity" (p. 304). When runners such as Geoff mention that they never thought it was possible they would achieve what they did before using an app, it is evident that the technology has changed how they see themselves, and this contributes to their identification as a runner.

Identity is a focal point of the discussion of self. Foucault recognizes that the self is formed within discourse as a part of a process of identification that is discursive and always in progress. Stuart Hall (2000) explains that "identities are constructed through, not outside, difference," meaning that we identify who we are by differentiating against what we are not (p. 17). Identities are "points of temporary attachment to the subject positions which discursive practices construct for us" that, according to Althusser, may

hail and interpellate a subject into being (Hall, p. 19). The practice of the self is a kind of

performativity, or as Foucault would describe it as part of the 'aesthetics of existence,'

that may be governed by regulatory power, for example by governmentality (Hall). The

self is produced as an object in the world as the "practices of self-constitution,

recognition and reflection, the relation to the rule, alongside the scrupulous attention to

normative regulation, and the constraints of the rules without which no 'subjectification'

is produced" (Hall, p. 26). By recognizing identity and identification as a discursive

formation that is an articulation, one can recognize that the runner within the discourse of

health can use the app to create metrics with which to articulate and express their identity.

Additionally, it creates opportunities for attachments to subject positions that are created

by the apps.

Geoff, for example, did not identify as a runner before using the app and originally

started using *Nike+* to help lose weight. The app is not sold as a weight-loss tool, but it

does count calories, which can motivate exercise. By avoiding an emphasis on weight

loss, the app focuses on encouraging activity, and this was part of how Geoff was

interpellated to the subject position of a runner and healthy individual. "If you had asked

me two years ago [if I would ever run a half-marathon], I would have said *no way*.

[*Nike+*] helped me get there," explains Geoff. He started using *Nike+* to lose weight, and

later began using it to help him train for races. Without it, Geoff says,

> I'm a person, who would start out on a run, and would probably just run 2k and
> come back home. So when I started using *Nike+*, I could push myself further…I
> found if I started going on a 3-4 kilometer run, it helped me push the extra 5-6 k I
> wouldn't have regularly done. It gives you a better understanding… I'll set
> [goals] and try and obtain them.

The app helps Geoff push his limits. It calculates how he is doing and gives him tangible ways to improve by setting goals to achieve. He looks at the maps to see what sections he slowed down on, and looks at the post-run results to see how many calories he burned. Having the runs recorded holds him accountable to himself so that he is motivated to reach the distance he set out to run. In the next chapter, I explore how the networked and social features of the app make the runner accountable to others as well. By quantifying and understanding himself and his running through an interface, Geoff is able to push himself towards his fitness goals and he therefore found the app to be a very effective tool. It makes him calculable and helps him become a fit subject within the discourse and the metrics of the app.

The regulatory component of disciplinary power individualizes the subject and the discipline becomes a part of one's identification as it is articulated by the apps as the body is calculated. The apps have a defined set of metrics that are used as feedback for the runners; the apps design has the power to create new ways for people to understand themselves. By recognizing identity and identification as a discursive formation that is an articulation, one can recognize that the runner uses the metrics in the app to express their identity. As a result, the data is collected and organized (by institutions) and each individual is put under scrutiny and surveilled. It is these modes of "objectification which transform human beings into subjects" (Foucault in Markula, 2004, p. 304). The running apps create subjects by surveilling and breaking down the individuals into objects and into data that becomes recognizable information and part of one's identity through a discursive practice.

To clearly explain the connection between discourses of health to governmentality, which is articulated in particular products and technologies such as the apps, I refer to the term 'healthism.' Healthism was coined by Robert Crawford around three decades ago to "describe the 'striking moralization' of health" (Millington, 2011, p. 23). Healthism "seeks to reduce questions of health to matters of personal identity" not as something related to class or environment, but that which they can act upon (Millington, p. 23). Healthism is really just another term to describe a discourse of health. Discourses of health change, and what Crawford makes clear is that health has become an individual's concern and that by reducing it to a question of personal identity, one is prompted to self-govern. In the case of the runners, it is through an app and digital technology that they are encouraged to act and take responsibility. The users engage with the apps to track and take their fitness to mean different things. Interviewed runner Max explains that:

> On the vain side, I want to look good. I want to look like I am in really good shape. But on the psychological side, the mental side well obviously after a workout you feel good, you feel healthy; you feel motivated just doing your regular occupation... if I work out first thing in the morning…then mentally I just want to do as much as I can today. So it keeps me mentally focused and just a happier person.

The use of the *Nike+* app for health is taken on by the runner as the apps count the calories burned and reward the user with in-app 'awards' meanwhile not explicitly encouraging health. An 'award' or 'achievement' is a part of in-app feedback awarded for hitting milestones built into the app that may or may not be chosen by the user. Users such as Geoff, who use the app to help them lose weight, find their own way to use it as a technology of self, to discipline their bodies, as it is not an in-app achievement. In neoliberal society, the bio-citizen, who measures, controls and engages in disciplinary

activity, is in turn a consumer citizen, who finds commercial technologies to achieve

these measures. The concept helps explain the subject position in relation to the app, as

the runner finds reasons to use the running app in order to achieve desirable outcomes

such as weight-loss, feeling fit, and staying healthy.

Quantification: analog to digital

A few interviewed runners, such as Ella and Shannon described their pre-digital methods

of self-tracking. Before getting the *Nike+* app, Ella explains that,

> I would listen to music, and estimate how long I ran based on the songs. It was
> satisfying to know that 'okay, so I have done 10 songs so that is about 40 minutes
> of running' but I wouldn't know how far I had run, so I'd have to go to Google
> Maps to look at the track that I did.

Shannon had another creative way to track how far she ran before she got her

smartphone. During races she would write paces on her arm, allowing her to know

whether or not she was on track each time she passed a mile marker. When training,

Shannon would sometimes use a car odometer to calculate the distance she ran by

retracing the route with a car. Many of the other runners had used Google Maps to figure

out the distance they ran. Looking at the metrics the apps collect, however, it is easy to

see that there is a lot of information that these other methods do not allow. Ella explains

that,

> …in terms of my goals, [*Nike+*] is really good because I keep track of everything
> and I know I am running faster or longer distances. It is not as hard [to use] and
> you can easily see that. You can see your last 10 runs on the app and the rest of it
> is archived online, so I mean… my [current] goal is to speed up my time for a 10
> k, and then [the app] will tell you 'Oh, you have just run your fastest 10k, or you
> have run your fastest 5k' which is good.

The apps offer in-run feedback in addition to the end-of-run summaries. For example, one interviewee has it set up so that "every twenty minutes my phone tells me my pace, my speed, my distance and the time." The feedback is instantaneous, customizable and understandable.

Misia started using *MapMyRun* after her boyfriend suggested it was a good idea for her to carry her phone for safety while she ran alone. Since she was carrying her phone anyway, she decided to turn her safety device into a device for personal surveillance and data generation by downloading *MapMyRun* and later *Nike +*. Another runner, Sean continued to use the app after a friend suggested he download it because

> it is very easy to use…and [doesn't require much effort]... when I go for a run I usually take my phone anyways, so I just strap it to my arm band and I just press record and go. It is super easy because you just click a few buttons. It is kind of a mindless thing. And then you get all this data that you can look at and see 'Oh, I did this, and I burned this many calories.

The app use is a byproduct of Sean and Misia already carrying their phones. By using the app, they know how many calories they burned during the run, thereby changing how they may view their own health. This shows that when a technology is available, it can be used in a variety of ways, and that it is important to contextualize the runners and their use of the apps as a manifestation of a particular moment in history, where phones are used for safety and surveillance, and that this surveillance can serve a number of functions.

In a self-reflexive moment Shannon noted that for her the motivation "is a very visual thing, especially for MapMyRun when it is in a calendar setting" because "it puts

something in that space and that makes [her] feel good." She does not, however, believe

that it is due to the digitization that this works. Shannon explains that

> I feel I would get a similar feeling if I took a physical calendar and put an x or a
> sticker or something on there that was a visual queue that said 'good job you went
> running today'…[or] 'I did something good for my body today.' I think in a way
> it keeps me honest, like I am not going to lie and put something in that I didn't
> actually do, so it is an *incentive* to see something on the page (emphasis added).

Is it possible that she would feel the same with a physical calendar? Is it the same thing?

From a critical perspective, it clearly is not. A few runners spoke of moments when they

'put the app down,' especially at times of 'friction.' Friction refers to the times that the

technology makes itself present through interruptions or failures, in other words, the

moments when we remember that the technology exists, such as how we take electricity

for granted until there is a power outage. A way to reduce the friction is to have an app

that seamlessly uploads results online, rather than having to sit down and manually log

the run. This is a way that the digital becomes pervasive, through its ease of use. The

mobile app allows for seamless data collection, and the apps frame the data in specific

ways that impose expectations on the runner. With only a physical calendar, one may be

motivated to run, however, by having the metrics Shannon is compelled to improve as

she engages with the discourse presented and facilitated through the app.

Many of the runners commented on times when the apps made mistakes, such as maps

that show erratic zig-zagging due to GPS tracking errors, and this friction made them

pause to reconsider their use of the app. When there were no obvious points of friction,

the technology can fade into the background and become a part of the practice. The

interface 'disappears' as the practice becomes taken for granted, and the ubiquitous data

collection becomes part of the way that the runners understand their practice. When Shannon got a Garmin Forerunner, she said that "it made [her] much more aware of [her] tempo…and what [she was] doing." Therefore, unlike a calendar, the running watch made tempo important, as instead of calculating her tempo as distance/time after a run, she can have an in-run reading of her current pace by looking at her wrist. Many of the runners using the apps with headphones are able to get in-run audio feedback at regular intervals as well. Shannon continued to explain that while the tempo and the other feedback changed her practice, she sometimes prefers to 'put the watch down' so she does not 'obsess' over how fast she is going and instead run based on how it feels. In this instance, she tries to resist the technology's call to constantly measure and improve as it made her unable to enjoy the practice.

#MakeItCount

Digital technology has made quantifying everyday practices easy and we seek data to help us improve. Governmentality helps explain why neoliberal subjects self-regulate to improve. The running apps invite the user to engage as they are presented as playful, and present the quantification to make the running meaningful for self-regulation. For example, Nike's marketing of the app calls us to simultaneously #MakeLifeAGame and #MakeItCount (Twitter hashtag). By knowing one's in-run pace through audio feedback, one is called to push oneself. Fitness regimes have not always been thought of in terms of data, but for many it has become a naturalized part of the practice by use of the app. "I like statistics," explains Joan, "I like to know what I have been doing, how far I have

been running. I like to see how I have improved." The quantification becomes part of the

enjoyment she gains from running, as the apps claim to have 'motivation built-in' (Nike).

This relates back to the idea of the modern subject who tries to "plan, and control

ceaselessly, reducing everything, including ourselves, to resources and system

components" (Feenberg, 2005, p. 21). In 2007, Gary Wolf and Kevin Kelly, two editors

of *Wired Magazine* founded the Quantified Self (QS) movement, a community of

individuals who use technology to track, calculate and use tools to bring meaning to

personal data. The community is focused on finding new ways to quantify their everyday

activity in order to improve their lives, from spending habits to fitness.

The runners are part of a trend to quantify; although none of them identified themselves

as part of the QS movement, a few had tried out other quantification tools. Joan had also

used a sleeping app in order to improve her habits. She explains, however, that "with

sleep you get to a point where you are happy, but with running you can always improve"

(Joan). One always becomes better at running and one can aspire to improve, to self-

regulate within discourses of health; the apps help track the long-term improvements and

offer frequent positive feedback though their interactive features that interpellate one into

the discursive regime. I recognize that many casual runners do not care to improve their

times, but the apps can motivate them to continue running, and for some, like Geoff, it

had a side effect to challenge him to push himself. Two of the runners, Ella and Misia

had also tried out weight loss apps, but neither continued for a prolonged period. The

weight-loss apps were seen as unhealthy for promoting an obsession over the calories.

Ella used *LoseIt* for a few weeks to lose vacation weight and found herself making

unhealthy choices to forgo meals to stay under the calorie limit set by the app. Misia

found a dieting app's instructions of eating only a few hundred calories a day to be

terrible advice and quickly gave up on the app, reminding us that the apps do not

determine their use, and that users have agency. In this example, there is a tension

between identifying oneself through the app and agency.

#MakeLifeAGame: Disembodied information and gamification

When the runner quantifies their practice, it is significant for a number of reasons. The

first way is how it changes their relationship to their bodies, and in the second chapter, I

look at how the quantification changes a runner's relationship to others. As the apps

generate data through the runner's movement, the data is separated from the body and

can take on new meaning. The social nature of this disembodied data is discussed in

chapter two. In 1999, years before smart phones were on the market, Katherine Hayles

wrote that "a defining characteristic of the present cultural moment is the belief that

information can circulate unchanged among different material substrates" (p. 1). Hayles

looks at the history of cybernetics, which is related to three stories.

- The first "centers on how *information lost its body*, that is, how it came to be
  conceptualized as an entity separate from the material forms in which it is thought
  to be embedded"
- The second "concerns how *the cyborg was created as a technological artifact and
  cultural icon* in the years following World War II"
- The third "is the unfolding story of how a historically specific construction called
  the human is giving way to a different construction called the posthuman" (p. 2)

Hayles notes that what is "central to the construction of the cyborg are informational

pathways connecting the organic body to its prosthetic extensions" (p. 2). In this case, we

see the runner connecting themselves to their phones, their social networks and their own

bodies through the information and the data thereby becoming cyborgs – or *cyberrunners*

if you will. The focus of the apps is on the data, rather than the body.

As the information is separated from the body, it can be used by the runner in a multitude

of ways. The second chapter focuses on how the disembodied information is circulated

through different interfaces including a number of social networks, and how it enables

new ways of interacting with others, constructing our identities, and changing our

relationship to the spaces through which we move. Returning to a focus on the quantified

self and governmentality, another way the data is used is to engage in gamification. As

the self-metrics become easier and easier to generate, or are already available, more parts

of our daily routines are being gamified through technology, such as these running apps.

Gamification, as defined in the introduction, refers to the practice of applying "game

mechanics and techniques… to non-game processes in order to make them more

engaging and fun" (Whitson, 2012, p. 55). While gamification's premise is to make

activities fun and engaging, the dark side is pointed out by Wolf (2010), who would

categorize it as a form of participatory surveillance that attempts to harness the 'playful

aspect of surveillance.' Many of the apps integrate 'games' into their functionality, which

is at times central, but often peripheral. Some of the apps, such as *Nike+*, explicitly frame

the goals the runner sets out to achieve as a game; #MakeLifeAGame is one of Nike's

slogans that encourages interaction and use of their data tracking apps. Although locative

games are not new[1], digital games have a particular emphasis on surveillance.

A simple way that the apps are gamified is through 'awards' and 'achievements' that are

part of in-app feedback for hitting milestones built into the app that may or may not be

chosen by the user. For example, a user may be presented with the goals to run

frequently, further than ever before, or to beat one's fastest times. All of the apps studied

offered awards to users to encourage them to run. In his study of Foursquare, which also

presents users with in-app awards, Firth found that "even though people do not win

anything concrete, [his] data shows that earning the badge is often enough reward in itself

to encourage behaviors," which is an example of gamification (2013, p. 255). None of the

users admitted to working towards awards, but most were aware they existed and

described feeling good when presented by the apps' feedback.

Gamification is an example of how governmentality operates in digital technology and a

reason that we need to be critical of the apps. As Whitson (2012) explains

> gamification practices, while 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. (p. 82)

The process helps normalize the publicizing of once private information, and in order for

normalization to occur, an ideological shift must take place. The quantification of the self

through digital technologies, whether promoted by running organizations, or through

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[1] de Souza e Silva and Hjorth (2009) historicizes locative games within the 19th century flâneur to the 21st
century phoneur, to Guy Debord and the Situationists International, to 21st century parkour.

gamification can still be argued to be a part of neoliberal self-governance. While the function of the apps is to encourage exercise, their design operates through governmentality. The gamified metrics create specific subjects, as "only certain behaviours are worthy of notice and rewards" (Whitson, p. 80). Therefore, in the case of fitness apps, one should question how the body is formed through discourse as well as through the app. Whitson notes that, "on a technological level, it is much easier to measure and reward some behaviours in comparison to others," which is why we need to be critical of the feedback given by the apps' design (p. 81).

The feedback then becomes a part of the runner's discursive identification as they earn awards and become fit. "I guess it is kind of addicting to be able to prove that you are strong enough to do something you didn't think you could do," Misia explains, which is similar to Geoff's explanation of achieving more than he ever imagined by using the running app to train for a half-marathon. For example, Misia explains that through the app, she can "[see] what [her] last run was and then [she sets her] goal for the upcoming run" and then she would run and at the end look back to "see if [she] reached that goal or not." Did she win? As Anna explains, "when I was running by myself, I needed additional motivation I guess, and it let me keep track of how fast and how far I was going and that was definitely something I needed for motivation." For Anna, the motivation was to be able to see the data, and the result for her was she began to run more frequently.

According to Whitson's definition, all the running apps use gamification. For gamification to function, it does not have to be 'fun,' it just needs to give 'actionable feedback' that can be used to improve. The runners often get voice feedback throughout their run, or a screen to consult in order to regulate their pace. Furthermore, Wolf argues that we "tolerate the pathologies of quantification - a dry, abstract, mechanical type of knowledge - because the results are so powerful. Numbering things allows tests, comparisons, experiments. Numbers make problems less resonant emotionally but more tractable intellectually" (Wolf in Whitson, 2012, p. 79). It promises to makes things predictable and therefore controllable. Whitson argues that gamification goes beyond "disciplinary normalization" (p. 79). Therefore, while numbers can help us be normalized and be compared to the general population (ex. height, weight, intelligence), gamification in contrast makes one "strive *not* to be normal, but to be the best, to be supernormal" (Whitson, p. 79). The apps therefore can be explained to function through gamification, rather than just through governmentality.

The gamified feedback and the records provide the runners with specific goals and standards to improve. Misia trains for a number of races throughout the year and sets goals on how much she wants her times to improve. The act of recording and keeping a log allows the users to create regular goals whether or not they are racing. For example, Geoff says that he will "set goals - this many times this month, this far, this per km pace – I'll set those and try and obtain them" (Geoff). Ryan uses the *SportyPal* app during his run, which constantly increases the in-run goal as soon as you hit each milestone. For example, it sets a goal for two kilometers, and then when you reach it, it sets a new goal

for five kilometers and ten. This way, it also keeps you striving to improve and rewards you at the end with positive feedback. This striving towards constant improvement by using the apps, is an example of how everyday technology, such as a phone can become a technology of the self, and is a clear example of gamification in the context of governmentality.

Conclusion

The apps promise to let us know more about ourselves in order to improve, and through gamification we are presented with clear goals to achieve as set out by the app. The apps shift the focus from running, to the data, and provide us with a way to engage in discourses of health. To conclude the chapter, I include one last example. Joan regularly runs using Runtastic. She came to running as an adult as she found it boring as a child. She 'loves' data and she "got the app because I wanted to know how much and how far I run," but as a side effect she "got more motivated. I was not really planning at that time to run more" (Joan). She gets emotional over the feedback and feels good about the positive feedback from the app. The app tracks her running and quantifies it, turning it into a set of tangible metrics that are rewarded over the app's interface, she is motivated to run more. The data was generated through GPS surveillance, captured by a mobile phone, turned into a metric by a commercial app that gamified the training, which made it a useful tool of self-governance. The ubiquity and pervasiveness of the data generation can change how we use spaces, and can implicate our bodies and everyday practices. As our bodies are 'revealed' to us through the apps, we need to keep in mind how the data is

framed at the moment of its generation, that some behaviours are rewarded over others simply because they are easier to reward than others and that they are part of a broader shift of everything becoming digitized.

The use of ubiquitous digital technology is normalized and creates conditions for governmentality that normalizes this digital technology in fitness as runners are motivated to run and take health into their own hands. As shown through Foucault's concepts of biopower, governmentality and technologies of self, we can see how the technology can be woven into how the runners understand running. It is an example of how mobile media can reveal our relationship to the world in which we live, as it creates docile bodies that we see as a standing reserve of information that encourages us to discipline the body into becoming a better body.

The runners, like the individuals in the quantified self movement, are "now willingly monitoring themselves in non-disciplinary spaces and making these details public" (Whitson, forthcoming). The public nature of the data is explored in the following chapter. The apps themselves are a neoliberal instance of self-monitoring, where the monitoring and abstractions it produces become the focus of the activity. Foucault discusses disciplinary spaces such as public institutions, the army, prisons and hospitals, but with the apps, as a technology of self, discipline is becoming a part of an increasing number of aspects of our everyday lives. This chapter aimed to show how the running apps are tools of governmentality. As a technology of self, they allow the user to quantify towards self-improvement. Gamification creates feedback on daily activities in order to

change a user's behaviour. The following chapter looks at the ways in which the

generated data can be used to build a user's identity in a virtual setting, as they present

themselves through the running app data to their social networks. The apps are an

effective tool of self-governance as the users strive towards bettering themselves through

the data.

Chapter 2: The Cyberrunner's (inter)Face: exploring locative media and identity

> "I hear every 'like' or every comment as a cheer. So it is kind of nice, when you are running, and you are running 'in the zone' and then you hear this cheering and you are like '*oh yea, I am still connected to people*;' because I like running by myself too. I don't like trying to keep pace with somebody, or if someone is far behind me and I have to slow down or catch up. So I guess that is how I keep it social too…Plus it's nice to see how many 'likes' and comments I get for every run." (Ella)

Ella has been using the *Nike+* application for a year and a half and it has become a staple on her Facebook Newsfeed. We have been Facebook friends since 2006, and 'real life' friends since high school. It was not until Ella started posting her *Nike+* results on Facebook that I recognized her as a runner. As a runner myself, I took notice as she started to post more and more online, and I saw that she always had a considerable number of 'likes' and comments after each run. Ella is also one of the only people that will regularly 'like' my status if I post that I am running using *Nike+*. Ella has figured out how to *keep it social* through the app, whether running alone or with a partner. For Ella, and many of the other runners I interviewed, the application and its connection to other platforms functions as a *social* interface: a medium that connects them to others. In this chapter I explore how a user's aspirational identity prompts them to circulate their running data through multiple interfaces. I analyze the effects of the interfaces, created through their function and design, as the user expresses themselves online through the interfaces and social networks; in other words, how they are a part of the discursive practice of identification. As the data is disembodied, what are the affordances for creating community? The chapter looks at how information is circulated through a number of networks, and considers how value is created in the process. It provides a

critique of participatory surveillance in ubiquitous data collection as we create our data doubles: the virtual self resulting from an accumulation of our digital activities. I look at how the information is circulated between interfaces and how each interface enables different ways of using the quantified running to change or build social relationships.

The interviewed runners exhibited a range of goals and reasons for using the apps which shows that, even though the apps attempt to regulate and normalize how the user interacts and quantifies their running by making available the same metrics to each user, the user still has agency. Whitson (2013) argues that agency is *evoked* by gamified self-improvement apps, such as the running apps. Whitson explains that this is the agency of

> an active subject choosing to expose and disclose their otherwise secret selves, selves that can only be made penetrable via the data streams 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 (Whitson, 2013, p. 173).

I generally agree with Whitson's analysis of the agency evoked by the apps recognizing that, while the apps make materialize a quantified self, the user can circumscribe and control how the data is used. This chapter considers how the data, once disembodied from the user, becomes a form of social capital for the neoliberal citizen that can be shared on a 'social marketplace' and used to compare with others. In what follows, I explore how value is generated by the apps as the information traverses different interfaces that each have different potentials for self-presentation and social interaction. I argue that the running apps are an example of how personal information can be manipulated or shared, and that this has the potential to build communities and strengthen ties in the articulation between self, other and the discourse in which the runners and apps take part.

The interfaces: from pervasive to social

An interface was originally defined in the 1880s as "a surface lying between two portions of matter or space, and forming their common boundary" (OED, 2013). An interface is simultaneously a boundary and a site of interaction. In their book *Mobile Interfaces in Public Spaces: Locational privacy, Control and Urban Sociability* (2012), de Souza e Silva and Firth explain that the term interface was popularized in the 1960s "to describe some types of filters," which are things that mediate (p. 1). Interfaces are present in all interactions with others as well as interactions with the spaces around us. They define an interface as "something that is between two parts or systems, and helps them communicate or interact with each other" (de Souza e Silva & Firth, p. 1-2) and the interface actually "*becomes part of the system*" (p. 2, emphasis added). In the 1980s, the graphical user interface (GUI) was developed with the advent of computers. The GUI *translates* information to a textual and visual language which a user can make sense of and use. In general, when one thinks of an interface, they think of a screen used to interact with digital information, but interfaces should be thought of as sites of interaction. By thinking of an interface as a filter, a boundary and site of interaction, one can think about what is on each side of the boundary and what actions are enabled by the interface, and question the effects of the interface.

In his book, *The Mobile Interface of Everyday Life: Technology, Embodiment, Culture*, Jason Farman (2012) uses interface as a point of departure to study how mobile media

"work in tandem with bodies and locales in a process of inscribing meaning into our contemporary social and spatial interactions" (p. 1). The tracking can then – as de Souza e Silva and Firth (2012) explain – construct new power networks, and change interpersonal relationships. Mobile media are interfaces to public spaces. Farman argues that "the essential idea behind locative social media is that by broadcasting my location to my network, I am communicating something about my identity and the fabric of my everyday life" (Farman, 2012, p. 14). With the running apps, one's location is shared online becoming a part of one's identity and online self-presentation. Hybrid space is generated through the locative apps as one is simultaneously acting in a digital social network, as well as moving their body through the city. For example, when Ella visited New York City, she turned on her *Nike+* app for that "part in Central park with the trees like from the movies," because she 'needed' to have it on her map. In what follows, I look at the different types of interfaces that the interviewed runners encounter, and how they use the generated information to build their identities online and interact with the spaces through which they run.

In his book, *The Interface Effect* (2012), Alexander Galloway, explains that "interfaces are not things, but rather processes that effect a result of whatever kind" (Galloway, 2012, vii), and it is thus more productive to talk about their effects, rather than to think of them as objects. An interface can turn data into information – it 'forms' it – and in this process of mediation it is ideological. A number of the runners referred to the information they were collecting as 'data.' In Latin, data means "the things having been given," something that is "ontologically raw" and empirically measurable that "enters into

presence" (Galloway, p. 81). In general, mediation is seen as either bringing one closer to perfect communication and understanding, or as what interferes, and the body is one of the first sites of the misunderstanding. Therefore by viewing the data as neutral, the user tries to approach their bodies, to overcome the body in a sense to find the root metrics of their being in order to control and improve. The information in a sense becomes ideological as it is taken for granted as being data, rather than mediated information.

Galloway's work shows that even algorithms, which we tend to consider neutral and objective, are often "rife with embedded value judgments" and are ideological (Whitson, 2013, p. 175). The term 'ideology' was coined in 1796, at the end of the early modern period, by the French aristocrat Destutt de Tracy, for the science of ideas; it had the goal of tracing "ideas, through sensations to their roots in matter" so as to destroy illusions of false ideas (Hawkes, 1996, p. 56). Since then, the term has been taken up by Marxists such as Louis Althusser who referred to ideology as an "imaginary relationship to real conditions" (Althusser in Galloway, 2012, p. 51). Foucault argues that all discourse is power laden, and therefore dismisses ideology as a critical tool (Zhao, 1993). However, I still find the concept of ideology a useful way to remember the material conditions of production, as well as how value can be expressed and generated through objects, and that these conditions become naturalized.

The user forgets the mode in which the app itself was produced, as well as that the secondary platforms and interfaces where the users share the information are designed and produced in order to extract value from the user. Galloway explains that interfaces

can veil how the information fits within a social totality behind pretty interfaces and their "candy-colored lines and nodes" (Galloway, 2012, p. 98-99). It is in this way that Galloway is able to politicize interfaces; it is not just the content that is political, but it can be the grammar of the form, the ideology of the aesthetic itself wherein one can "identify expressive connections between the formal construction of the medium and the socio-historical realities in which it is embedded" (p. 119). The interface effects contribute to shaping the discourse of fitness by signifying the runner in particular ways. Discourse can be a powerful ideological tool as it has the power to signify events and articulate them in specific ways that appear natural or as common sense. In terms of the running apps, it requires us to look at the effects of the interface in a broad context, where one can see how they express a number of naturalized relations, which are ideological.

Pervasive and Social interfaces

In mobile communication studies, we find two important categorizations of mobile interfaces that can help explain the connections they facilitate between ourselves, others and the space around us: pervasive interfaces and social interfaces. First, we can consider running apps to be pervasive interfaces. The term *pervasive interface* is used by Nicolas Gane and David Beer to describe "mobile and 'invisible' devices, such as mobile phones, RFID tags, and other location-based technologies" (de Souza e Silva & Firth, 2012, p. 3). These interfaces become invisible as they appear to seamlessly integrate with our movements. They are there when we need them, tracking us, and exchanging data with other entities. According to Gane and Beer, they have "important implications for our

sense of privacy, and influence surveillance, control, and power mechanisms in today's society" (de Souza e Silva & Firth, p. 3). A pervasive interface collects information from our environment, and can change our interactions with each other and the spaces through which we travel. The pervasive interface is closely related to ubiquitous computing, with the disappearance of the interface that promotes surveillance.

As a person moves around the city with their app, they are adding information to what could be called their 'data double.' These virtual selves are only "'virtual' to the extent that they are based on simulations in and by computers, and also because, while they are not physically real, they display many of the qualities of the real" (Whitson & Haggarty, 2008, p. 574). Once the virtual self is brought through different filters, or interfaces, the qualities can be altered or enhanced. The data double is generated as people go about their lives, and one may or may not be active or conscious that they are producing "information about their behaviours which institutions store, analyse and sell" (Whitson & Haggarty, p. 574). The runner is aware they are generating information, as it is not hidden, but likely unaware of all the ways in which it may be used. The runner also must go on an actual run in order to have that be a part of their virtual self – to be a part of their data double online – which therefore has qualities of the real. The experience, however, is enhanced by an app that decides the metrics to filter for, suggests what should be posted to Facebook, and enables particular ways of asking one's friends to engage. The runner generates a particular conception of self as well as social capital through the apps pervasive and social interface, and then the apps' enable new ways to interact with others.

The second category, *social interfaces*, are interfaces that are more 'human like.' Social

computing is the broad group of digital platforms that "enroll the social participation of

users into computational processes that support the goals of a platform," for example the

'Like' button that so many of the *Nike+* users engage with to like the running updates on

Facebook (Thomas, 2013, p. 2). One way that social interfaces are created is by actually

having other humans also interacting on the same interface, such as on Facebook. de

Souza e Silva and Firth take this idea of the social interface and argue that "applying the

idea of social interface to personal mobile technologies allows us to think of these

devices as more than simple technologies, or material devices, and rather as filters,

control devices, organizers of social networks, locative technologies, and information

access platforms" (de Souza e Silva & Firth, 2012, p. 4). de Souza e Silva and Firth then

explain that we need to include the people, devices and spaces into our analysis of

interfaces. As the interfaces change and become mobile, pervasive and social, they

require a "reconceptualization of the type of social relationships and spaces [they

mediate]" (de Souza e Silva in de Souza e Silva & Firth, p. 4). This is an interesting way

to premise the runners and the use of applications during their exercise routines, as the

immediate change to their routine is their inclusion of a mobile device that is a pervasive

and social interface. In turn, this is directly involved in new forms of social interaction

and identity creation.

The runner is interacting at a boundary, at an interface, and as a social being one

constantly performs themself in these interactions. In the mid-1950s, sociologist Erving

Goffman wrote the influential book *The Presentation of Self in Everyday Life* (1959). In his book, Goffman likens social interactions to those of an actor on stage where one is able to choose a number of factors, such as their costume, in order to try and have the other interpret them as they prefer. Individuals use available technologies in order to realize their aspirational identities and to communicate this to others. The interfaces each afford ways to present oneself to others, whether it is one's friends, strangers, or communities built through the apps. I use aspirational identity to describe the 'better' self that one hopes to become, that one tries to govern themself toward, and this person may exist for the user through the presentation of this self online.

My first interview was with Veronika, 25, who lives in Prague. I met her while in France and we have kept in touch over Facebook for the past five years; this is how I became aware that she is a runner as she frequently posts her *Nike+* results on her profile. When asked why she posts online she replies, "The reason why? I don't know, to share that I am not lazy (laughs). I think it is also a part of this identity creation on social media sites." Veronika was the only interviewee to explicitly acknowledge that the posting was part of how she created her identity; later analysis in this chapter looks at how the runners use these data doubles to work towards the person they aspire to. Identity is continually made and remade through the interfaces, and each interface has affordances and instructs the user about what becomes knowable, what is important, and what they should make public. The apps each set up the conditions for the presentation of self and performance of identity.

Anders Albrechtslund explains that, "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" (as cited in Whitson, 2013, p. 172). Therefore, an affordance of network media is its ability to create community (Banister, 2004). As the apps are interactive, you have some agency to choose how you will engage; it is only through its network capabilities that a community can be created. It is through our associations or disassociations with others that we define ourselves (Banister, 2004). It compels a person to create themselves within the community, and under the surveillance promoted by gamification, they also become calculable and accountable.

The sub-communities of runners created through the apps and social networks allow a runner to differentiate themselves from the others, as well as to perform their identity and exert agency. Veronika, for example, does not have a regular running community that she engages with, and she explains how the app can enable 'real' connections. Veronika always posts her runs online – they are usually simple posts that include no map, distance or time. She explains that her Facebook friends see her post about running "so, in real life people are the aware of the fact that I am sort of a runner. So that is what I like" (Veronika). By posting, she creates an opportunity to connect with other runners who may be hiding within her social network. "For example," she continues, "a friend may be running but not posting on Facebook, but then may come up me and say 'Hey! I see you are running, maybe we can go for a run together?' So that is sort of like letting people know that I am a runner." The social interface and her ability to share helps make her

running a part of her identity creation, and the social posting is very important for her. Arguably, Veronica's identity as a runner is more poignantly established through the posting of her runs than it is by the act of running itself.

***Nike+* + Facebook**

To explain some of the social connections the apps enable, I give the example of the *Nike+* app's integration with Facebook. Eight of the twelve users I interviewed used the *Nike+* app and of those users, all at least occasionally post to Facebook. Their posting habits went from posting all the time, like Ella and Veronika, to only posting if the run was "really fucking amazing," like Joan. There are a number of different screens the runners encounter when they use the app. First, there is the 'Run Setup' screen (fig. 3.1), where you have the options to enable music, indicate if it is an indoor or outdoor run, and to turn 'on' or 'off' the Facebook cheers. You also have the option to set it up for a distance run, a timed run, or to beat one of your previous personal records.
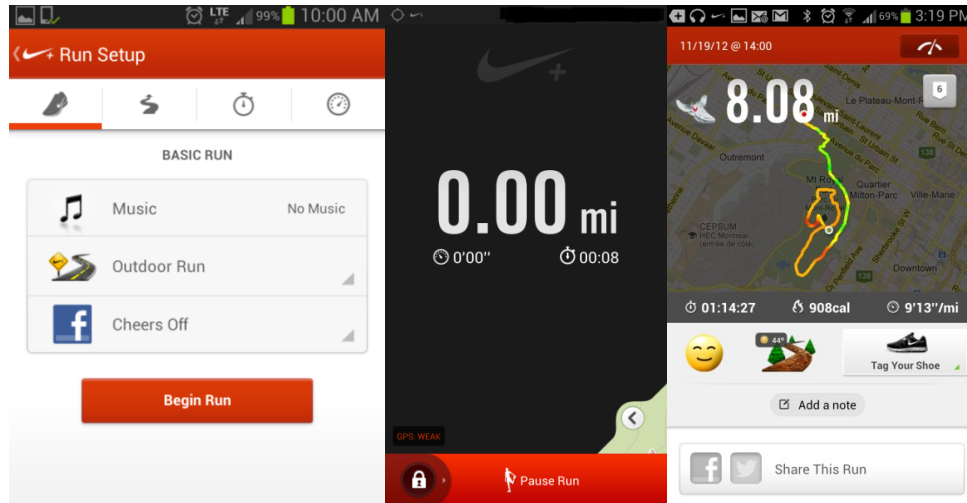
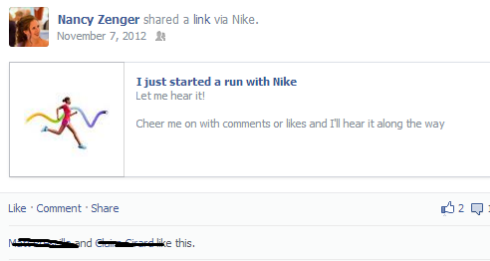*figure 3.1- Pre-Run   figure 3.2 – Run Screen   figure 3.3- Post Run*

figure 3.4- Facebook Post

There is then an in-run screen (fig 3.2) where you can pause and end the run, as well as

see your in-run stats. The third screen (fig.3.3) appears post-run map and stats. If you

choose to post to Facebook, as you run, it appears as in the third screenshot (fig.3.3). On

this run, I received two 'likes,' which would be heard as 'cheers' if I wore headphones.

By looking at the post-run map, it shows that I went on a long, slow-run up Mont Royal. I

ran for an hour and fourteen minutes with an average pace of nine minutes and thirteen

seconds per mile and burned 908 calories. I felt happy, ran on a trail, and earned six

achievements. An achievement is awarded in the *Nike+* when you beat your fastest times

for a number of distances, when you go on your longest run, as well as when you run frequently. For example, an achievement I earned on this run said 'You're 4 for 4. Keep it going. You were active 4 weeks in a row.' Achievements reward 'good' behaviour and are part of how the app uses gamification in the operation of governmentality. The 'heat map' shows where I ran the fastest and slowest; it indicates that I started and ended slower than my mid-run pace. The next step the app suggests I take is to share the run on Facebook or Twitter. From the map, you can guess where I live and see where I run; the concern of sharing this location information was brought up in many of the interviews and discussed later in the chapter. If I share the run, the data continues to circulate and becomes a post in my Facebook profile and in my Facebook friends' Newsfeed. The *Nike+* app's interface encourages social sharing multiple times when you engage with it for a run.

What one chooses to share on Facebook can be very basic. For example, figure 3.5 is Ella's post from July 7th, 2013, that only indicates she went on a run and nothing more. Fourteen people liked her status, one friend inquired where she ran, and she thanked her friends for their encouragement. At other times, she will post more information, such as on July 19th, 2013, where she included a link to her *Nike+* profile, as well as the distance she ran. On this run, she received 16 cheers and a comment.

figure 3.5 – Simple Facebook post   *figure 3.6 – Facebook cheer post*

Ella received a similar number of cheers on each run as her Facebook friends know what is demanded of them when she posts a run to Facebook. When I click on the '13' or '14 others' that 'like' her update, I can see which friends have cheered her on and this shows that it is a very similar group that liked it both times. This leads to another observation that Facebook algorithms, such as those which highlight the friends you interact with more and whose activity you are more likely to 'like,' can help to create a sense of community.

After interviewing Ella, she put me in contact with a number of other runners that use *Nike+*, three of whom I interviewed: Sean, Ryan and Nick. These runners are part of the community that Ella has online, and who regularly cheer each other on as they run. As Ryan explains, "even to post [a run] on Facebook, there is a small community there where we encourage each other. I am not saying a small community like a hundred, but there are probably a handful of us that are supporting each other. So it is always nice to have that support." For many, such as Ryan, the community support motivates him to keep running, to improve, and make running a part of who he is.

Ryan returned to running last year and became more consistent once he got the application, "so [he] is a big fan of it" (Ryan). He particularly likes the visual representation and the app's interface. Galloway warns that interfaces can be ideological when they hide reality with "candy-colored lines and nodes" (2012, p. 98-99). In this case, the interface does not disappear, but it is attractive to the user and is thus able to detract from material reality of its production. For Ryan, his use of the app and running goals are mainly to publicize his running and to achieve a self he has aspired to. He recently increased his use of *Nike+* when he started training for an upcoming marathon. He explained that "I just want the bragging rights that I did a marathon (laughs). Like, I haven't even done a half-marathon race… So this is a ridiculous next step." Ryan wanted to do a marathon because

> obviously like anyone else, it was something on the bucket list and probably a far-fetched dream, but I guess I am a little spontaneous that way. A buddy of mine was like 'hey I am going to do a marathon, you guys in?' and I started to think about it and was like 'fine, let's do it' and that was probably about a month and a half ago. So it was one of those spur of the moment things. And anyways I am accountable now. *I have pretty much told all of my buddies here now, so I can't back down now right.*

By using *Nike+* and sharing his plans training on Facebook, Ryan is motivated to earn bragging rights and be held accountable by keeping a consistent identity. The app and social network made it possible for him to think of himself as someone who can run a marathon, and is motivated by achieving 'bragging rights' rather than a attaining a fitness or health goal, or sculpting an ideal body. Ryan is an example of a different type of neoliberal subject produced through the apps than the quantified subject of the first chapter. By announcing that he will run the marathon, he feels he cannot back down. He

made a public declaration that when fulfilled will give him a boost toward his aspirational

identity, and therefore engaging with the participatory surveillance of the apps will help

him achieve his goal. If he did not have a virtual self to build, and an interface capable of

creating this identity through by recording and publicizing his actual embodied activities,

his motivation to run 42 kilometers would likely be less strong.

For many of the runners, Facebook was the social network they used to build their

aspirational identities; as an interface, it has a lot of affordances for reciprocity between

runners. For example, by using the *Nike+* app, wearing headphones and then sharing the

run on Facebook, the runner can be cheered on throughout their workout. "I like the

cheers – emphasize that – *love the cheers*," Ryan explains. Ryan was not the only user to

gush over the cheers. "It really does give you a boost," Ryan continued, "you will be

running, you know, one mile left in your run and you get that boost and it really does

drive you to finish the run strong." As Ella explains, you hear every 'like' or comment on

Facebook as a cheer and this helps you feel connected and she finds it fun to see how

many 'likes' and comments she has after a run. In this case, the ear bud and the sounds

are the interface between her as a runner and her Facebook friends that enables her to

receive feedback as she runs. She gets to feel connected, and yet maintain the benefits of

running alone, where she is in control of her pace and not liable to others. This is

something that a GPS watch cannot do.

On an average run, Ella gets about five 'likes' and two to three comments, which are

along the lines of "Go Ella" or "faster." The comments are heard only as cheers and she

can read the full text when she later checks Facebook. In return, she actively comments on her friends' *Nike+* Facebook posts, so that they also hear cheers. She enjoys interacting with her friends as they run. As she explains "whenever I see it [people posting on Facebook] on my newsfeed I 'like' it. And I feel really good when I am able to like it one minute into their run" (Ella). So, for Ella, her engagement with the app is a very social experience, as it affects how she interacts with her friends. She and her friends also use it as a means to talk about their running, to do the same route, or compare routes. They can see where each person went faster or slower by comparing their heat maps if they did the same route. The way Ella and Ryan engage with their friends has changed, and it is the social sharing that is an important motivator for their quantification.

Figure 3.7- Lululemon Swag

The creation of communities for running is not particular to the apps, and can be seen as yet another example of neoliberal brand engagement. Misia and Ella are both part of

Lululemon running clubs. "I started the run club in May," Misia explained, "so now that I have joined I don't feel I need the phone motivation cheering me on as much anymore because I have people with me." In Montreal, there are running clubs run by Mountain Equipment Co-op, Lululemon, The Running Room, and Cycle Technique to name a few. Figure 3.7 is a post Ella made of the Lululemon running clothes she bought for a Lululemon sponsored race, this promotion and surplus value created through the brands is discussed at the end of the chapter. Through the clubs and races the brands are able to build their communities and most have an online presence. For now Misia only posts when she feels it was a really great workout, or when engaging on her run club's Facebook page. While she started to use the app because she already had her phone on her for safety, the combination of a running club and a GPS watch made her app redundant. This example shows how the apps are part of current running community and culture, but the online identity sharing is less important for some than community.

Participatory Surveillance and Playful Interfaces

Though it has been mentioned throughout the chapter, I now address the role of surveillance in the social interactions of the runners online. The runners are engaging in a form of *participatory* surveillance. The interfaces encourage surveillance, as exemplified through the call to 'share' the running on Facebook. With the increase of personal quantification, we are encouraged to give up privacy. Rita Raley (2012) argues that "there has been a general acquiescence to the notion that the distinctions between private and public and personal and non-personal when it comes to data are at best tenuous and

that it is in our economic interests to regard them as such" (p. 4). This 'dataveillance' could be using a credit card to collect points, or using *Google Maps* to wander through the city, or to use the *Nike+* app to track your run. Surveillance is often done, as Raley points out, under the name of 'enhanced user experience;' the tracking allows the computer to know you better and thereby increase its ability to serve you. I continue this thought to argue that it also increases your ability to engage in the online communities and build your aspirational identity through the reciprocity of the interfaces.

In general, "locative media are often described as 'participatory media' that are built out of our interactions with one another" and these interactions usually involve multiple levels of reciprocity: "the reciprocity of the interface, the reciprocity of the surrounding infrastructures, the reciprocity of other participants, and so on" (Farman, 2012, p. 74). The reciprocity is enabled through the interfaces as moments of feedback. Farman continues that there are also "multiple forms of reciprocity: positive/symmetrical reciprocity and negative/asymmetrical reciprocity" and that "inscribed into each of these forms are our choices about how we engage practices of visibility, how we define public and private, and how these practices engage us with 'the ethical other'" (Farman, p. 74). Location becomes meaningful in locative media, as our devices capture and triangulate GPS signal. Location, in turn, becomes a part of identity construction as the devices we use allow us to broadcast to our friends, followers and the public.

The sharing through the apps can be empowering as users exert their agency in their choice of what and how to share (Whitson, 2013). In Jennifer Whitson's recent paper

"Gaming the Quantified Self" (2013), she explains that a user's sharing is "structuring how they appear to others in these spaces, and building their own subjectivity" (p. 172). She argues that in this sense, surveillance enables social engagement. Others, such as Anders Albrechtslund, would use the term participatory surveillance to explain the "'social and playful aspects of surveillance' that are otherwise ignored in hierarchical models of surveillance" (Whitson, 2013, p. 172) and it is more useful than 'lateral surveillance' (Andrejevic, 2005), which implies spying, rather than a positive, playful engagement. "Participatory surveillance is rooted in the act of sharing yourself—or your constructed identity—with others" for example through the app and the related social interfaces (Whitson, 2013, p. 172). The surveillance is also enabled by understandable metrics that can be compared.

Beyond the *Nike+ Running* app, Nike has other products, such as NikeFuel, that enable quantification, generate a 'global metric,' and can be used to interact across sports. The *Nike+* application also generates NikeFuel for the user. Fuel is a made up metric. The basic way it works is that "the more you move, the more you earn," (Nike, 2013), and that it is "the only standard that lets you compare yourself to everyone else, no matter who they are" (Nike, n.d.). Through this standardization, it *connects* everyone, or as Olander puts it, it is a "connection to everyone you know and care about;"[2] from runners to basketball players, it is one metric that can be used to compare across the board. It is a standardized measurement, it is communal and takes away difference and puts people on the same level. NikeFuel is supposed to be the 'essence' of fitness, the raw data that therefore it can be compared and shared with *everyone* regardless of the sport. As it is a

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[2] This is from the same talk as Nike (n.d.), however this portion of the video is no longer online.

way to compare individuals, it allows people to interact as subjects in a community and it promotes interaction and surveillance.

While the focus of the chapter has been on the interfaces and communities, remembering the ways in which the apps are gamified reminds us of the reciprocity that the interfaces enable. Whitson (2013) argues that the agency evoked by gamified self-improvement apps is

> 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. (p. 173)

This in turn leads to participatory surveillance that is motivating for the users, as well as a way for them to build their identities. The apps create playful frames, that Whitson argues "may enable the smoothing over of potentially contentious data-gathering practices (such as sending *Nike+* a running record of [her] geo-positional data)" (2013, p. 174). While the interviewees were not concerned that Nike has their information, they were concerned about some being shared publicly.

The interviewed runners' primary privacy concerns were in regards to the disclosure of locational information such as the maps that rooted the runners through GPS data in time and space, making them possible to track down. The fear was that this might lead to being stalked or physically harmed. At the end of their book, *Mobile Interfaces in Public Spaces* (2012) de Souza e Silva and Firth, have a fictional anecdote about a boy surprising a girl he is interested in during her run. He uses a live tracking option on

MapMyRun to intersect her a few blocks from her house; "I'll catch her…" are the final words in their book (p. 199). While they romanticize the scenario, this is the scenario most of the runners were most fearful of.

> I just don't like people to know where I am, what if there is some creep and they find me? I guess it's a privacy thing; I try to not show pictures of my house for example, like take pictures in my house. Or like not of my apartment building, so people don't know where I live. It's just (laughs) *my thing*. (Ella)

This concern however, was *not just her thing* as it was echoed by other runners as well. So while many expressed that the information was not personal, they did not want to publicly share where they lived, or their running habits, for fear of being stalked. One friend who uses the *Strava* cycling app had assumed his data was private until I mentioned all the things I could learn by looking at his public *Strava* profile. For example: when he commutes to work, where he lives and works, and what time he usually arrives and leaves work. The sharing of the running, distance and pace were all seen as fair game to share, but the map more than anything was taken as a violation of privacy. Whitson argues that "gamifying this quantified self…breaks down oppositions between private space, including the intimate details of one's life, and public space by uploading this data to databases of thousands of other users to compare and normalize" (Whitson, forthcoming), but when it comes to the physical space, there is still something to be resisted by the runners.

In contrast to the runners, many *Strava* cycling app users willingly publicize their location, which would back up Whitson's thesis more than the example of the runners. The cycling app *Strava* encourages users to make much of their information public in

order to compete on 'segments'. *Nike+* has attempted to create similar mechanisms such as 'King of the Route' awards, however this has not been met with great success.
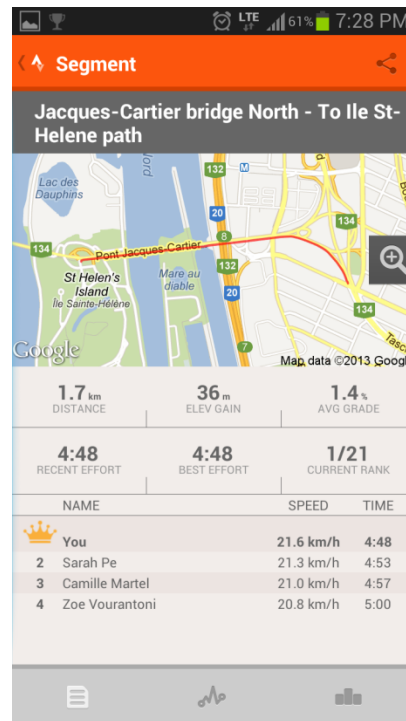

figure 3.8 - Strava

In figure 3.8, a screenshot of the *Strava* cycling application, I am placed on a leader board. In this case, I beat out 20 other cyclists on a 1.7 km hill climb to earn a 'Queen of the Mountain' title. I can see the users' real names, and when I go onto the *Strava* online platform I can look at their profiles. By making your results public, you are able to compete and win titles. Unlike a bike ride, which can easily include a brief segment sprint, running workouts are usually more structured, so a sprint could be disruptive to the training, and since the routes and segments on the *Nike+* app are few and far between, it is less likely as well that a user would seek one out. Therefore, while *Nike+* wants the runners to engage with their community, the way the app gamifies the running is not

enough for a strong and defined community to be created on their online platform, although it thrives on Facebook and Twitter. A friend suggests renaming *Strava* to 'Egoboost' and to create physical markers to denote Queen or Kings on routes. I believe, however, that it is the mix of anonymity and publicity that makes the application fun. Is the cyclist next to you a competitor? Will they steal your title? The community and public nature of the results creates the game and can change how we see segments of the city as we move around; one is aware of when they are in a 'segment' or just a 'regular' street. Enabling the app may encourage a cyclist to run a red light to beat a time, or be conscious when biking the wrong way down a one-way street. The surveillance for now is fun, but the potential for it to feel limiting is imminent. This is again an example of a hybrid space created through digital surveillance. By contrasting the running apps to this cycling app, we see that even in terms of fitness, each activity may lend itself to different types of quantification and community, and that digital gamification finds different metrics easier than others to compare for any given activity, making what appears public ideological.

The data lives on

The information that is generated through the app is often circulated beyond the app and Facebook. For example, most of the apps have their own online platforms that include searchable user profiles and data. It is often through platforms such as Twitter, however, that I publicly see running activity. In general I browse Twitter once or twice a day. A few of the people I follow use *Nike+*. For example, Ella, Ryan, as well as Nick Law, the

Global Chief Creative Officer at RG/A, who always posts his run results onto Twitter. Since he is largely responsible for the creation of the NikePlus online platform, it makes sense that he uses it and makes his use public.

figure 3.9 – Nick Law, Tweet

In the Tweet example in figure 3.8, Law publicizes the distance of his run, a note about the weather, the approximate location, his pace, as well as a searchable #hashtag. Hashtags were popularized by Twitter to make topics of conversation searchable and promote community. If this is not enough information and you want to know more, he has included a link to his *Nike+* profile, where you can view an interactive map of his run.
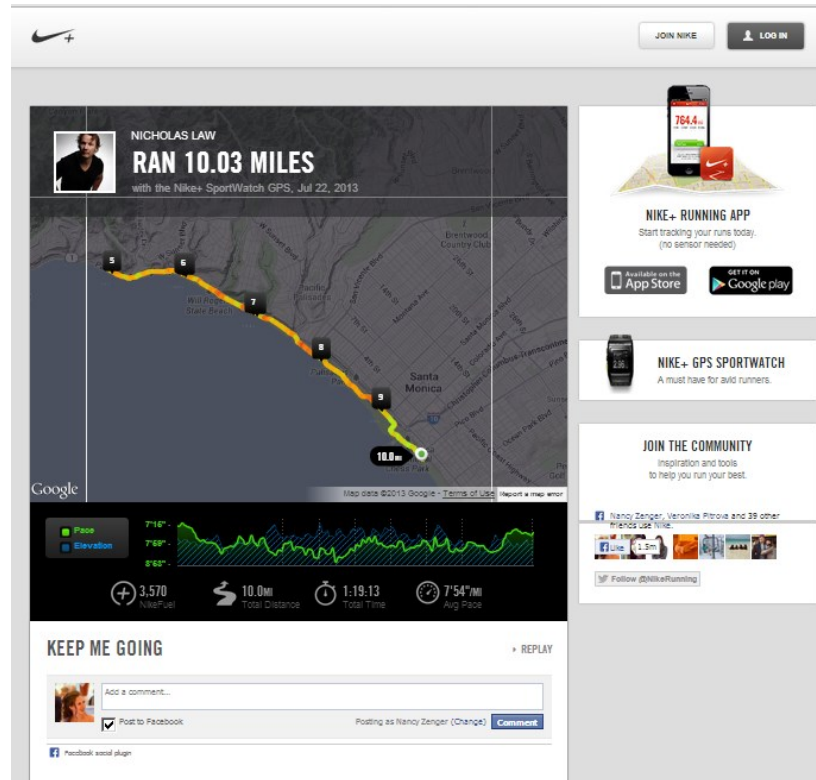
figure 3.10 – Nick Law on Nike Plus (nikeplus.nike.com)

Figure 3.10 is a detailed interactive Google map of where Law ran. His pace and elevation are overlaid to help explain changes in pace. It shows the total distance, total time, average pace, and NikeFuel earned, along with the data, and device used to track the run. It encourages me, the viewer, to engage, to 'keep me going' by posting comments through my Facebook profile. I am also encouraged to join the community on Facebook where I can get 'Inspiration and tools to help you run your best' and it conveniently shows me which of my friends 'like' *Nike* on Facebook. I am then presented with few advertisements about the app and the Nike watch, and encouraged to log into the site. For such a simple page, it encourages a lot of action and engagement. I found the

map after clicking a link promoted by a less-than-140-character Tweet by a stranger who seemed interesting enough for me to decide to virtually 'follow.'

The second example I use is how the information is circulated on Instagram and how that also can create new spaces for social interaction as people can build their aspirational identities through this secondary application. When I go on a run, I occasionally upload a photo or result screenshot to Instagram. For example, in figure 3.11, I posted the *Nike+* result for my 'Fastest 1K', which is a record breaking zero minutes and zero seconds. On the left are the results of searching the #Fastest1K hashtag on Instagram, images of other users who have uploaded their own result to share. When you search #NikeRunning, there are over 100,000 photos uploaded by Instagram users and a majority of the pictures are screenshots and maps from the *Nike+* running application. The visualized data and other mobile applications create new ways to share. They are the interfaces between you and other runners, between you and a community that also finds validation and motivation in the act of sharing, as the achievement is able to circulate and you engage with others within specific discourses of health, as enabled through the app and Instagram.
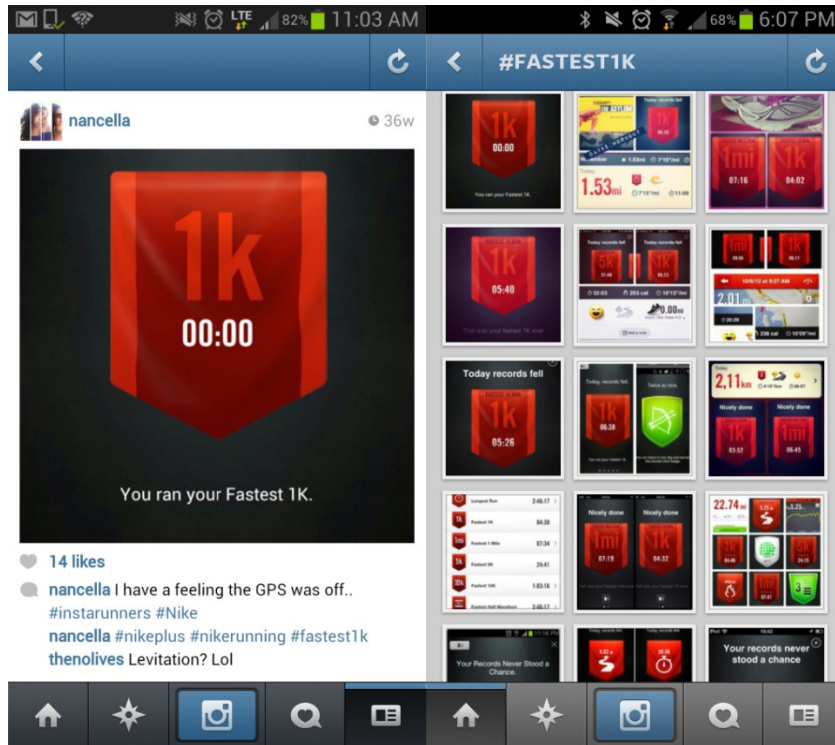
figure 3.11 – Award on Instagram   figure 3.12 - #Fastest1K

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On Twitter, there is more direct brand engagement than on Instagram. On Twitter the

brands engage users directly. By rewarding the user with a badge that says 'Fastest 1K,'

the user can then brag about it on Twitter. For example, Twitter user @willalphasig posts

about his run on Twitter, with a link to his Instagram profile, where it also circulates.
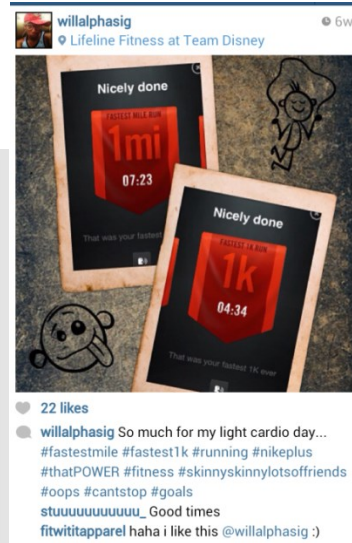
figure 3.13 – Twitter Post   *figure 3.14 – Instagram Post*

Nike can also retweet the posts or directly congratulate the runners. This can be more effective than the NikePlus online platform, where the brand is less active. On the platform the user navigates the space, but on Twitter, the brand is personified in an account that can reciprocate immediately.

Figure 3.15 – Nike Twitter runner engagement

Figure 3.15 shows Twitter user @sip320 share her results with @NikeRunning who encourages through a response. Without the app, the user would not have this data to share, and if it were not for the integrated nature of the brand and the networks to facilitate sharing, they would not share it with Nike. The apps encourage specific kinds of social interactions; they encourage you to spread the information and make it public, to encourage each other and to brag about your activity. The circulation of the information across a number of social networks and through a variety of interfaces shows that while users exert agency on the data, each interface still has an effect and the information is constituted in specific ways that encourage certain kinds of sociability. As the subjects in this discourse are reduced to their data, they are encouraged to interact with each other in specific ways.

Political Economy of the Cyberrunner

As a last point of analysis, I return to the idea of the neoliberal subject, who finds technologies of self available in the market that they can buy in order to improve themselves. Political economy is a realist and materialist approach to studying power relations, generally of capitalist media systems. As a Marxist approach that addresses monopoly capitalism and the role of the markets in creating products, it looks at how ownership, power relations and government relations influence the production of cultural goods as a point of critique. Many of the apps are free to download, but there is no such thing as a free lunch; so following a political economy approach, one must question how the user is paying or what value is being generated. The user interacts with the interfaces,

but the data can be put to other uses, also referred to as function creep (Whitson, 2013).

For instance, Van Dijck (2013) argues that "the need for a multiple, composite self has

only increased since public communication moved to an online space," which makes it

increasingly interesting to employ Erving Goffman's thesis from the late 1950s that

theorizes "self-presentation as a performance" (p. 200). The performance, as explained

earlier, is made possible through the use of the interface; so while we construct profiles,

platform owners and investors simultaneously collect the information. This information is

then used by advertisers for marketing purposes. So while "personal and behavioral data,

once a mere byproduct of connectedness and online sociality, has now become a valuable

resource in the exploitation of platforms" (van Dijck, p. 202). The users generate social

capital, which is then used to create economic capital as promotion and "branding the self

has also become a normalized, accepted phenomenon in ordinary people's lives," which

is especially evident with the *Nike+* users as they display their branded run updates on

social networks (van Dijck, p. 203).

Stefan Olander, the Vice President of Digital Sport at Nike explains that "the purchase of

any Nike product needs to be the beginning of the relationship," and this could include

the downloading of the free *Nike+* app (as cited in Nudd, 2012). The brand and

ecosystem played a role for Sean who explains that,

> I had to buy new running shoes, and I did my research on Nike FreeRun… and it
> all kind of made sense to get the Nike FreeRun shoes and get the Nike app on my
> iPhone. It all kind of works out. I think that what pushed me was the whole brand
> and seeing it all fit nicely together (Sean).

Then, once he had it, he was more determined to run. "It is 'cool' that I can share this

with everyone and I get a record of everything," Sean explains, "it made me run more

frequently I would say." This explanation fits into the model of the neoliberal society where capitalism is rampant and the generation of new data to commodify fits into Jeremy Rifkin's (2000) analysis of the commodification of everyday experience.

Social networks also serve to amplify promotional culture. Promotion is defined by Wernick (1991) as communication which has the objective of value exchange, and this extends far beyond just advertisements. The user is able to self-promote through the apps, and in-doing so, have associated cultural capital become a part of their identification. A useful way to explain this is by looking at the ethical surplus that is generated through the apps as they are shared with one's peers online. The term 'ethical surplus' was coined by the postmodernist and Marxist theorist Maurizio Lazzarato. Ethical surplus is "a social relation, a shared meaning, an emotional involvement that was not there before" (Arvidsson, 2005, p. 237). Ethical surplus can create brand value where the "social world is exploited as a source of surplus value" (Arvidsson, p. 235). This can be created by institutions as well as by individuals. Brands can insert themselves into the 'lifeworld' in which they are able to gain an ethical surplus. As such, a brand is able to associate an ethical conjuncture with its brand. Ethical surplus is created by immaterial labour. Ethical surplus creates "social relation[s], a shared meaning or a sense of belonging" (Arvidsson, p. 237) which is part of the surplus value that fetishizes brands. This helps to explain the ideological effect of the running app interfaces, as it recognizes the value that is generated through the apps.

None of the interviewed runners worried about the companies that were collecting the information. "If they really want to do studies of how I am running and where....go ahead! I don't care. It is not that private that information. It is what I am *giving* away" says Geoff, when asked if he has concerns over how Nike could be using his running data. The more users that engage and produce data and content, the larger the apps' online communities grow. The data is shared on Facebook, the brand value increases, and more apps, shoes, advertising dollars, and so on are sold. Whitson (2013) explains that

> *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 (p. 175)

In gamification, users are sometimes referred to as "productive players" (Humphreys, 2005) and engagement as "playbour" (Külich, 2005). The playful interfaces are ideological as the user performs free labour as they interact for 'fun' or for purposes of identity creation.

Conclusion

The runners I interviewed all engaged with the apps and in some way made their training public. Each interface affects the ways in which the runner presents themselves online. The interfaces can be ideological, as they naturalize particular discourses by limiting the scope of self-presentation. This chapter shows how there is a tension between how the apps' interfaces encourage a specific use and understanding of the data and the agency of the user. The users are able to connect and communicate themselves through the app and engage in communities that the networked platforms enable. The data, disembodied and

then enframed by the interfaces, has ideological effects. The information is circulated between interfaces and each interface enables different ways of using the quantified running to change or build social relationships. Agency is evoked by the data as one chooses what to share, yet within the context of an interface. The runners I interviewed show the potential for ubiquitous data collection to become a part of their identities, and by looking at the political economic considerations, it becomes clear how value is generated through the exchanges and online communities created through the apps. As identity is created through discourse, we can see the running apps as contributing to the neoliberal runners' identification within a promotional culture.

By observing how the runners use running apps to create their identities, how the companies generate value through the runners' use of the app, and thinking of the potential for the data when taken as a collective, one can see the sites of interaction enabled by the app: from gaining insights about their bodies, to sharing their activity with friends for encouragement, as well as gaining social capital. The apps are interfaces in that they are filters and boundaries. They become a part of the system, and as runners generate and share data they do so with the app and in turn help build a brand. The runner is embodied through the app, and their virtual selves use the data in creative ways. From sharing on Facebook to hearing friends cheer us on as we traverse the city to putting results on Instagram and Twitter to publicizing a cross-continental adventure, the Cyberrunner inhabits hybrid spaces.

Thesis Conclusion: the data lives on

As I conclude the thesis, I remember being inspired to do this project to look at the ways in which mobile media can collect data and change how we interact with space, others and our bodies. There is a tension between the agency we exert through the apps and interfaces, as we are able to take action and act on ourselves based on data that is individualized, but by using the app we contribute to our data becoming a part of a mass collective collected by the app. The data collected through the apps is stored on databases, but as we use the apps it is easy to ignore the possible implications and potentials of the collection. To understand what massive ubiquitous data collection can look like, I present two images created through *Nike+* data.

Figure 4.1 shows a heatmap of Montreal from *Nikeplus.com* in July 2013. It represents an aggregation of all the *Nike+* data in the city to show where people run. The mountain is by far the most popular place to run, but there is also a big concentration around Parc Lafontaine, and other small parks around the city. In this instance, the interface shows the mass of runners over the city. The maps can be used by *Nike+* users to find routes and places to run in the city. One could imagine that this data could be used by public administration in the future, city planning as well as by Nike for marketing purposes.
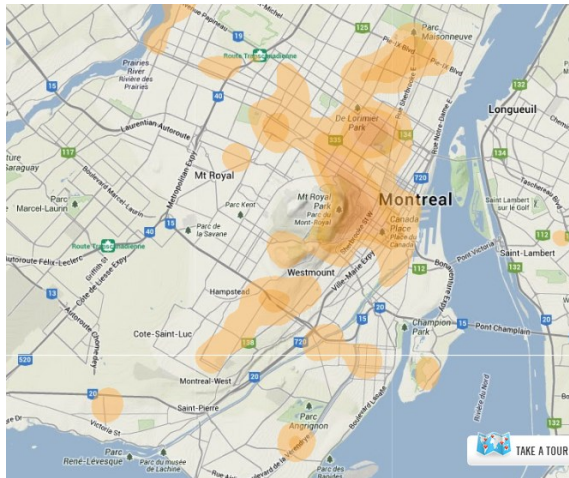
Figure 4.1- Nike Heatmap (nikeplus.nike.com)

The second example is a project by artist Cooper Smith who used the mass of *Nike+* data

from New York City to question, "What does it look like when an entire city goes

running? And how can we use that data to improve the experience of runners in different

cities?" (Smith). Smith shows through his art how the collective data generation has the

potential to change the city. The data can generate maps that correlate directly to the city.

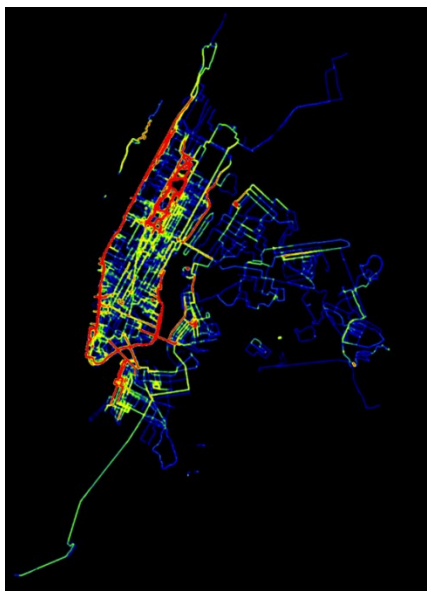He did a series of visualizations of runners in New York City using *Nike+* data.

Figure 4.2- NYC Runners (Smith, 2011)

Figure 4.2 is one of the maps Smith created. It represents the most frequent routes run by *Nike+* users in New York City. Smith explains that the simplest visualization being just the location, the routes run. Using the data however, he is also able to learn the direction most runners moved in around Central Park, the most popular times of day, where the interruptions are, where people move the fastest, etc. Smith uses the data, to show how collectively the data generated through the app has the potential for a multitude of uses beyond a tool of self. Nike has a program that lets people use the *Nike+* API and database for projects, and this summer had a pilot accelerator program for start-ups to create games that put NikeFuel to use. As the communities of cyberruners grow and the data continues to migrate from the app to social networks and other platforms, the possibilities are enormous for how the data can be used by runners, companies and public administration.

By interviewing the sample of thirteen runners, I was able to observe how they imagined their relationship to the apps, to running, and to their social networks. I found they were each motivated by different mechanisms of the apps, from the feedback, to the ability to connect to each other and to perform aspirational identities. While I did not go into detail of each interview, I tried to pick out interesting and representational excerpts. In the future it would also be interesting to engage more with the runners and not only interview them, but also see how they use the apps offline. I followed a few of the runners on Facebook and Twitter, but did not follow their use in a formal manner. The use of the interviews, in conjunction with critically looking at identity creation through the apps and within discourse, I was able to provide an analysis of the implications of ubiquitous data

collection of an everyday activity to observe how modern neoliberal subjects use technologies of self, such as the apps to guide themselves towards fitness.

As discussed in the first chapter, the runners receive individualized data through the apps, but it can still be subject to regulatory power, such as governmentality that operates as a way for individuals to self-regulate through technologies of self. Recognizing the tension between one's ability to be an individual through an app and the app's regulatory power, I used an instrumental approach when analyzing technology. The technology at once allows the subject to 'know' themself and improve, but at the same time this knowledge is discursive, and discourse at once enables and limits the way we think. As we take health into our own hands as neoliberal subjects, technology, such as mobile technology, becomes articulated within the discourse of health. Neoliberalism is premised on the assumption that markets should self-regulate in order for society to improve. This means that everyday experiences and activities are commodified, such as running, first by companies producing shoes and gear, and now also through the apps.

I then looked at the concept of gamification to understand how the cyberrunner is called to engage through the metrics and feedback. We are encouraged by the interfaces to "broadcast our personal data as the price of participation," and this becomes a way that the quantified body becomes a part of our identity creation (Whitson, forthcoming). Nike's call to #MakeLifeAGame and to #MakeItCount encourages citizens to engage in technologized and branded activity. The apps promise to make the 'mundane' activity of running exciting. The apps are an articulation of discourses of health and mobile

technology, and articulations are not fixed connections. This is evident when one compares how Defaux and Koenig described consumer technology in their 1960s film as contributing to an easy life, making us weaker and contributing to obesity to the discourse around how mobile technology can be used for self-improvement through quantification and therefore regulation. The feedback displayed through interfaces of the apps motivates the user to engage with the technology in ideological ways, and encourages the runner to incorporate the data into their identity that they present online. The cyberrunner occupies the hybrid space created by the app and the interfaces, which are at once physical and virtual.

The second chapter focused on the process of identification, a discursive practice that in the case of the interviewed runners is in part informed by the interfaces of the apps. Looking at the effects of the interface as part of a process, rather than just as a point of intersection, brings to light how the apps can shape discourse, as well as work in the process of identification. The limitations and affordances of the running app interfaces, as well as the interfaces of the different social networks, make possible the sharing of specific metrics that circulate within different communities. Each interface allows for a guided presentation of self, from runners like Ella and Ryan, who mainly circulate the information within their circle of friends in order to encourage each other, to runners like Veronika who use the app to share that they are fit and want to be recognized as a runner.

Running is only one example of how we digitize everyday life, and how we engage with technology as modern subjects with positivist goals to know, predict, and control. Mobile

media, with the ability for ubiquitous data collection can become a part of everyday practices without users giving it much thought. While some users were concerned about strangers knowing details such as where they lived, they allowed the gaze of the app's location tracking help them improve their fitness. The move to making everything digital and mobile, changes how we become subjects with our technologies. For example, Nike markets the FuelBand as "a device you wear that tracks everything you do" (Nike, n.d), which appeals to modern subjects as they strive to know themselves and are consequently interpellated into a new subject position by the metrics that quantify their bodies for their own benefit in uses of self-care.

The apps at once use metrics to help one understand the data that they generate and thereby at the same time shift our attention through their interface to read the information and use it in particular ways. Discourses of health and self-care drive neoliberal subjects to seek technologies of self and engage with them through the logic of governmentality. As the apps regulate our conduct through their logic the user is brought under its regime, and simultaneously encouraged by the gamified aspects to improve and become faster, more social, and more active than before. The analysis of the apps shows that while the apps may seem like simple technologies to encourage running, they are nonetheless an interesting thread in the fabric of everyday life that expose our relationship to mobile media as articulated within changing discourses of fitness and health.

Bibliography

Agre, P. (2003). Surveillance and Capture: Two Models of Privacy, in *The NewMediaReader*. Ed. Wardrip-Fruin & Montfort. Cambridge, MA: MIT Press.

Albrechtslund, A. (March 3, 2008) "Online Social Networking as Participatory Surveillance," *First Monday* 13:3. http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2142/1949#6

Andrejevic, M. (2005). "The Work of Watching One Another: Lateral Surveillance, Risk, and Governance," *Surveillance & Society* 2:4, 479-497.

Banister, J. (2004). *Word of Mouse: The New Age of Networked Media*. Chicago: Agate.

Barney, D. (2004). *The Network Society*. Malden: Polity Press.

Caillois, R. (1961). *Man, Play, and Games*. New York City, N.Y.: Free Press of Glencoe.

Castells, M. (2000). *The Rise of the Network Society*. Oxford; Malden, MA: Blackwell Publishers.

Clark, R. (2012, April 10). Putting Our Best Brain Forward - Kill Screen. *Kill Screen*. Retrieved April 13, 2012, from http://killscreendaily.com/articles/reviews/putting-our-best-brain-forward/

Details | Running USA. (2013, July 28). Retrieved September 12, 2013, from http://www.runningusa.org/state-of-sport-2013-part-III?returnTo=annual-reports

Drucker, J. (2011). Humanities Approaches to Interface Theory. *Culture Machine, 12*(0). Retrieved 2013-02-17, from http://www.culturemachine.net/index.php/cm/article/view/434

Farman, J. (2011). *The Mobile Interface of Everyday Life : Technology, Embodiment, and Culture*. The Mobile Interface of Everyday Life: Routledge.

Feenberg, A. (2005) "The Question Concerning *Technē*: Heidegger‟s Aristotle," *Heidegger and Marcuse: The Catastrophe and Redemption of History*. Routledge. pp. 21-45.

Feenberg, A. (2004) "Critical Theory of Technology" Lecture presented at Northeast China University, Shenyang.

Fernandez, L., & Huey, L. (2009). Is Resistance Futile? Thoughts on Resisting Surveillance. *Surveillance & Society, 6*(3). Retrieved March 28, 2010, from http://www.surveillance-and-society.org/ojs/index.php/journal/article/view/res_editorial

Firth, J. (2013). Turning life into a game: Foursquare, gamification, and personal mobility. *Mobile Media & Communication* 1(2) pp. 248-262.

Foucault, M. (1979). *Discipline and punish: the birth of the prison*. New York: Vintage Books.

Foucault, M., Burchell, G., Gordon, C., & Miller, P. (1991). *The Foucault effect : studies in governmentality : with two lectures by and an interview with Michel Foucault*. Chicago: University of Chicago Press.

Foucault, M., & Gordon, C. (1980). *Power/knowledge: selected interviews and other writings, 1972-1977*. New York: Pantheon Books.

Foucault, M., Martin, L. H., Gutman, H., & Hutton, P. H. (1988). *Technologies of the self : a seminar with Michel Foucault*. Amherst: University of Massachusetts Press.

Franklin, U. M. (1999). *The real world of technology*. Toronto, Ont.: Anansi.

Frizzo-Barker, J. & Chow-White, P.A. (2012). There's an App for That" Mediating mobile moms and connected careerists through smartphones and networked individualism. *Feminist Media Studies* 12 (4).

Galloway, A. R. (2012). *The interface effect*. Cambridge, UK; Malden, MA: Polity.

Giddings, S., & Lister, M. (2011). *The new media and technocultures reader*. Abingdon, Oxon; New York: Routledge.

Gillum, S. (2013, April 10). gyroVoice: Why Do People Run? *Forbes*. Retrieved September 12, 2013, from http://www.forbes.com/sites/gyro/2013/04/10/why-do-people-run/

Goffman, E. (1959). *The presentation of self in everyday life*. New York: Doubleday.

Grimes, S. M. & A.Feenberg. (2009). "Rationalizing Play: A critical theory of digital gaming." *The Information Society* 25:105 – 118.

Hall, S. (1997). "The Work of Representation," in *Representation: Cultural Representation and Signifiying Practices*. Ed. Stuart Hall. Sage: London.

Hall, S.,(2000) "Who needs 'identity'?" from Gay, P., Evancs, J. and Redman, P (eds.), *Identity: a reader* pp.15-30, 155.2 IDE: Sage Publications Inc.

Hawkes, David (1996). Ideology. USA: Routledge.

Hayles, K. (1999). *How we became posthuman: virtual bodies in cybernetics, literature, and informatics*. Chicago, Ill.: University of Chicago Press. pp. 16-39.

Heidegger, M (1977, origs 1955) "The Question Concerning Technology" in The *Question Concerning Technology and Other Essays*. Harper.

Hermes, J. 1995. "The Research (as) Process: a Methodological Account," in *Reading Women's Magazines*. Polity: Cambridge. pp. 176-208

Hjorth, L. (2013). The place of the emplaced mobile: A case study into gendered locative media practices. *Mobile Media & Communication*, *1*(1), 110–115. doi:10.1177/2050157912459738

Hotz, R.L. (2011, April 22). The Really Smart Phone. *The Wall Street Journal*. Retrieved from http://online.wsj.com.

Huizinga, J. H. (1950). *Homo ludens : a study of the play-element in culture*. Boston: Beacon Press.

Humphreys, S. (2005). "Productive Players: Online computer games' challenge to conventional media forms." *Communication and Critical/Cultural Studies* 2(1):37.

Illich, I. (1973). *Tools for Conviviality*. Toronto: Fitzhenry &Whiteside Limited.

Koenig, W., & Dufaux, G. (1960). *I Was a Ninety-Pound Weakling*. Documentary, National Film Board of Canada. Retrieved from http://www.nfb.ca/film/i_was_a_ninety_pound_weakling/

Kücklich, J. (2005). "Precarious Playbour: Modders and the digital games industry." *fibreculture* (5). Retrieved Sept. 20, 2012 (http://journal.fibreculture.org/issue5/kucklich.html).

Latour, B. (2005). *Reassembling the social : an introduction to actor-network-theory*. Oxford; New York: Oxford University Press.

Lewis, J. (1991). "Gathering Evidence" in *The Ideological Octopus*. Routledge: New York. pp. 73-95.

Li, I. (2012). Personal Informatics in Practice: Enabling People to Capture, Manage and Control Information for Lifelong Goals | Quantified Self. *Quanitfied Self*. May 22, 2012. Retrieved May 27, 2012, from http://quantifiedself.com/2012/05/personal-informatics-in-practice-enabling-people-to-capture-manage-and-control-information-for-lifelong-goals/

Manovich, L. (2007). "Database as Symbolic Form" in *Database Aesthetics: Art in the Age of Information Overflow*. Ed, Victoria Vesna. Minneapolis: University of Minnesota Press. 39-60.

Markula, P. (2004). "Tuning into One's Self:" Foucault's Technologies of the Self and Mindful Fitness. *Sociology of Sport Journal*, *21*(3), 302–321.

Marvasti, A. B. (2004). *Qualitative research in sociology an introduction*. London; Thousand Oaks, Calif.: SAGE Publications. Retrieved from http://SRMO.sagepub.com/view/qualitative-research-in-sociology/SAGE.xml

Millington, B. (2011). Amusing Ourselves to Life: New media and the politics of interactivity. Vancouver: University of British Columbia.

Nadesan, M. H. (2008). *Governmentality, biopower, and everyday life*. New York: Routledge.

Nike+. (2012). Retrieved April 13, 2012, from http://nikeplus.nike.com/plus/

Nike. (n.d.) "Nike+ FuelBand" | Inspiration | Cannes Lions International Festival of Creativity. *Cannes Lions International Festival of Creativity*. [video]. Retrieved July 17, 2013, from http://www.canneslions.com/inspiration/past_grands_prix_advert.cfm?sub_chann el_id=317

Nike (2013) *Nike+ FuelBand*. Website. Visited July 17, 2013. http://nikeplus.nike.com/plus/

Nudd, T. (2012, May 20). How Nike+ Made "Just Do It" Obsolete. *AdWeek*. Retrieved May 17, 2013, from http://www.adweek.com/news/advertising-branding/how-nike-made-just-do-it-obsolete-141252

OED Online (2013). Interface, n. Oxford University Press. Retrieved from www.oed.com.

Oliver, P. (2006). Snowball Sampling. in V. Jupp (Ed.), *The SAGE Dictionary of Social Research Methods*.(pp. 282-283). SAGE Publications, Ltd. Retrieved from http://0-srmo.sagepub.com.mercury.concordia.ca/view/the-sage-dictionary-of-social-research-methods/SAGE.xml

Paltridge, B. (2007). "What is discourse analysis?," in *Discourse Analysis: An Introduction*. CA: Continuum International Publishing Group.

Rail, G., & Harvey, J. (1995). Body at Work: Michel Foucault and the Sociology of Sport. *Sociology of Sport Journal*, *12*(2), 164–179.

Raley, R. (unpublished, draft Feb. 2012) "Dataveillance and Countervailance"

Rapley, T. J. (2001). The art(fulness) of open-ended interviewing: some considerations on analysing interviews. *Qualitative Research*, *1*(3), 303–323. doi:10.1177/146879410100100303

Rifkin, J. (2000). *The Age of Access : the new culture of hypercapitalism, where all of life is a paid-for experience*. New York: J.P. Tarcher/Putnam.

Rose, G. (2007). "Discourse Analysis 1" and "Discourse Analysis 2," in *Visual Methodologies: An Introduction to the Interpretation of Visual Materials*, 2nd edition. Sage: London.

Rose, N. S. (1999). *Powers of freedom reframing political thought*. Cambridge, United Kingdom; New York: Cambridge University Press. Retrieved from http://site.ebrary.com/id/2000829

Rowland, W. (1997). *Spirit of the Web*. Toronto: Sommerville House Publishing.

Salen, K., & Zimmerman, E. (2003). *Rules of play : game design fundamentals*. Cambridge, Mass.: MIT Press.

Sauers, J. (2013). MAC Put A Female Bodybuilder In A Makeup Ad And It's Beautiful. *Jezebel.* Retrieved from http://jezebel.com/5973202/mac-put-a-female-bodybuilder-in-a-makeup-ad-and-its-beautiful.

Schwartz, A. (2012, December 18). The top 13 health stories of 2012. *Co.Exist*. Retrieved from http://www.fastcoexist.com/1681093/the-top-13-health-stories-of-2012.

Shields, M., Tremblay, M.S., Laviolette, M., Crair, C. L., Janssen, I., Gorber, S.C. (2010). Fitness of Canadian adults. *Health Reports 21* (1). Component of Statistics Canada Catalogue no. 82-003-X. Statistics Canada.

Six to Start. (n.d.). ZOMBIES, RUN! Running game & audio adventure for iOS/Android by Six to Start and Naomi Alderman — Kickstarter. Retrieved April 12, 2012, from http://www.kickstarter.com/projects/sixtostart/zombies-run-a-running-game-and-audio-adventure-for

Slack, J.D. (1989) "Contextualizing Technology" in *Rethinking Communication Volume 2*. CA: Sage Publications.

Smith, C. (2011). New York City Runners Visualized. *Cooper Smith*. http://cargocollective.com/coopersmith/Nike-Plus-Visualization

Smith, R. (2013). So what? Why study mobile media and communication? *Mobile Media & Communication*, *1*(1), 38–41. doi:10.1177/2050157912459498

Smythe, Dallas W. (1981) "The Audience Commodity and its Work," in *Dependency Road: Communication, Capitalism, Consciousness and Canada*, Norwood, N.J.: Ablex; ix-xvi, 22-51.

de Souza e Silva, A. (2013). Location-aware mobile technologies: Historical, social and spatial approaches. *Mobile Media & Communication*, *1*(1), 116–121.

de Souza e Silva, A., & Frith, J. (2012). *Mobile interfaces in public spaces: locational privacy, control, and urban sociability*. New York: Routledge.

de Souza e Silva, A., & Hjorth, L. (2009). Playful Urban Spaces: A Historical Approach to Mobile Games. *Simulation & Gaming*, *40*(5), 602–625. doi:10.1177/1046878109333723

Tedeschi, B. (2012, March 14). New Apps for Distance Workouts. *The New York Times*. Retrieved from http://www.nytimes.com/2012/03/15/technology/personaltech/new-apps-for-distance-workouts.html

Terranova, T. (2011). Free Labour, in *The New Media and Technocultures Reader*. Ed. Giddings & Lister. New York: Routledge.

Thomas, N. (2013). Social Computing as a Platform for Memory. Culture Machine, 14(0). Retrieved 2013-08-06, from http://www.culturemachine.net/index.php/cm/article/view/506/521

Thornborrow, T., & Brown, A. D. (2009). "Being regimented": Aspiration, discipline and identity work in the British parachute regiment. *Organization Studies (01708406)*, *30*(4), 355–376.

Turkle, S. (1995). *Life on the Screen: Identity in the Age of the Internet.* (New York: Simon and Schuster.

van Dijck, J. (2013). "You have one identity": performing the self on Facebook and LinkedIn. *Media, Culture & Society*, *35*(2), 199–215. doi:10.1177/0163443712468605

Wernick, A. (1991). *Promotional Culture: Advertising, Ideology and Symbolic Expression*. Sage.

Whitson, J. R. (2012). *Game Design by Numbers: Instrumental Play and the Quantitative Shift in the Digital Game Industry*. Ottawa: Carleton University.

Whitson, J. R. (forthcoming). "Foucault, Governmentality, and Games as Technologies of the Self and Domination." In S. Walz and S. Deterding (Eds.), *The Gameful World*. Boston MA: MIT Press.

Whitson, J. R. (2013). Gaming the Quantified Self. *Surveillance & Society* 11(1/2): 163-176. http://www.surveillance-and-society.org

Whitson, J.R., Haggarty, K.D. (2008). Identity theft and the care of the virtual self. *Economy and Society* 37 (4).

Winner, L. (1986). *The Whale and the Reactor*. Chicago. pp. 3-39.

Wodak, R., & Meyer, M. (2001). *Methods of critical discourse analysis*. London: SAGE. Retrieved from http://SRMO.sagepub.com/view/methods-of-critical-discourse-analysis-1st-edition/SAGE.xml

Wolf, G. (2010). "The Data-Driven Life." *New York Times*. Retrieved September 15, 2012 (http://www.nytimes.com/2010/05/02/magazine/02self-measurement-t.html?_r=1&pagewanted=all).

Zhao, Yuezhi, (1993). The "end of ideology" again? The concept of ideology in the era of post-modern Theory. *Canadian Journal of Sociology 18*(1).

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CERTIFICATION OF ETHICAL ACCEPTABILITY

FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant: Nancy Zenger

Department: Communication Studies

Agency: N/A

Title of Project: APPropriate Fitness: Governing the fit body

through mobile media

Certification Number: 30000308

Valid From: October 29, 2012   to: October 29, 2013

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

_____

Dr. James Pfaus, Chair, University Human Research Ethics Committee

<u>Appendix II – Interview Questions</u>

General information:

- Name

- Age

- Gender

- Occupation

1. App info

    a. What running apps do you use?

    b. How long have you been using each one (if there are more than 1)?

    c. How often do you run, and how often do you use the apps?

    d. How far/long do you usually run?

    e. What is the determining factor for whether or not you track the run with the app? (If you don't use the app, then do you still time yourself? Use another GPS, or track it in any other way?)

2. In your opinion, why do you think it is important to be active? What role does fitness play in your life?

App specific (go through for each if there are multiple…)

3. Can you please describe how you use the app, what functions you use?

4. What led you to first start using the app?

5. What is the goal of the app (is it marketed for fitness, weightloss, fun, etc.)? What is your goal using the app?

6. Do you use the app to track other fitness activities? Or, do you use other apps to track other activities?

7. Do you have friends who use the same app? (Or different?)

8. Can you please describe your use of the online or social components of the apps? Do you post your results on Facebook/Twitter/etc?

9. If you engage in the online community, do you 'friend' people on the app? Why? Do you look at their profiles? What are you interested in?

    a. If you don't, then do you still ever browse other users? (ex. To compare yourself)

10. In your view, what are the advantages of using the running application(s)?

    a. Do you complete set goals?

    b. Do you look for anything in specific in the information that is collected?

11. In your experience, what are some limitations of the application(s)? What would you do to improve the app?

More general

12. Have your running habits changed since you started using the apps?

    a. (Were you running before you started using the app?)

13. Do you engage with any of the gaming aspects of app? (for example, TAG on Nike +)

14. Do you try and achieve awards, or reach goals laid out by the apps?

15. What is the reason you continue using the app (as in, you started for one reason… what do you like most that keeps you using it)?

History

16. Before you started using the app, did you track your runs (formally, informally)? Did you run with friends or with a coach?

Commodity:

17. Describe some recent fitness related purchases. (ie. Gym membership, equipment, etc.).

18. What websites do you visit for running/fitness advice (if any)? Do you subscribe to any running/fitness magazines?

Data:

19. Do you know how it records the data?

20. Are you concerned with the privacy of the information you display?

21. Do you ever think about how the information is used by the company? (or your Facebook information that they can access through certain apps?)

Other:

22. Are there any norms of feminity or masculinity that you are aware of in the app? (ex. Do you think it is different for men and women, or parts are more directed towards either gender)

23. Has using the app ever made you feel good/bad about yourself? (ex. do you react to the information on an emotional level?)