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A Critical Review of Silicon Valley Solutions for Smartphone Addiction

Fatemeh Rezaee[1], Annie Pedret[2]

1 Department of Design Research, Seoul National University, South Korea, rezaee.id@snu.ac.kr

2 Department of Design Research, Seoul National University, South Korea, anniepedret@gmail.com

ABSTRACT

Monetizing people's attention by Google, Apple, Microsoft and Facebook, among others, has led to wide-spread disruption of society as evidenced by smartphone addiction, increased mental health problems, deteriorating social relationships, and the attack on democracy by distortion of the truth. Referred to as the "attention economy", monetizing people's attention maximizes the profits of companies like Facebook, Google, Apple and Microsoft by maximizing the amount of time they keep the attention of users. Attention engineers at Facebook and Google continue to develop effective algorithms and designs that target a weakness in the human brain to keep users hooked to their devices, even when it is detrimental to their well-being. These companies have responded to the addictive and obsessive effects of their products by adding features to smartphones such as timers to make users aware of the amount of time they are spending on their devices, and providing a grayscale setting for their screens to make smartphones less appealing to use. These solutions however, have not been effective in addressing the problem, perhaps because at the root of these solutions there is a conflict of interest where reducing attention will impact their profit. This paper investigates the existing solutions proposed by above mentioned companies, and examines their effectiveness in addressing the problem of smartphone addiction.

Key Words: smartphones, addiction, attention economy, design

1. INTRODUCTION

Smartphone users interact with their phone 2,671 times a day on average and the average interaction for heavy users is double. Services and applications developed by Alphabet (Google's parent company) and Mark Zuckerberg get nearly half of all interactions (Winnick, 2016). These figures are indicative of smartphone addiction which is mentally and physically detrimental to users. Similar to substance abuse or harmful behaviors like gambling addiction, smartphone addiction causes an imbalance in the brain chemistry (Bergland, 2017). Researchers have also concluded that heavy usage of smartphones is associated with impaired attention, reduced numerical processing capacity, changes in social cognition, and reduced right prefrontal cortex excitability (Hadar, et al., 2017). The blue violet light emitted from phone screens is harmful to eyes, and hunching while staring at phones hurts, back, neck and shoulders (Agerholm, 2018). Smartphone addiction cannot easily be alleviated by putting away the phone since it is difficult for these addicts to control their brain impulses (Freyer, 2013). Putting smartphone addiction in the same category as drug addiction however, is inaccurate. People who are addicted to drug and gambling can survive without the substances they are addicted to. However, a food addict needs to eat to survive. Smartphone addiction is closer to food addiction because in today's society, one can hardly survive without smartphones. Thus, when it comes to treating smartphone addiction, like food addiction, consumption needs to be controlled and tempered, not eradicated.

The early days of the internet started with good intentions. Programmers and engineers envisioned a utopian future with huge decentralized network of connections and information accessible to everyone. To keep the internet free while expanding, Silicon Valley turned to digital advertising as a means for ensuring its presence/survival. The invention of portable devices with a shiny screen in everyone's hands meant more eyeballs for the tech industry, and the more time users spent looking at their devices the more ads could be shown to individuals, which generated more revenue. With this model the "attention economy" was born: to maximize profits by designing addictive features to keep users hooked to their devices as well as tracking users, collecting their data, and modifying their behavior through displaying personalized ad content. Facebook's success in creating a popular social network in particular, brought more companies to Silicon Valley. The attention economy business model worked too well, for the Silicon Valley and their customers— meaning advertisers. There was no attention paid to the well-being of the users (Kulwin, 2018).

In 2013, then Google employee Tristan Harris raised his concern about constant attention disturbance and the lack of respect for users' time. He shared his concerns with Google and was promoted to work as product ethicist. After three years of advocating for a more humane approach to technology, Harris left Google. His proposals were not heeded because his ideas were in conflict with the very business model of the company: maximizing user engagement time.

After leaving Google, Harris founded the non-for-profit organization Center for Humane Technology where he continues to raise awareness about the Silicon Valley's attention monopoly and proposing more humane designs, based on the premise of respecting users and caring more about the quality of the time spent on devices rather than the amount of time (Harris, n.d.).

In his book, *Ten Arguments for Deleting Your Social Media Accounts Right Now* (2018) pioneer of virtual reality, Jaron Lanier argues about the harmful effect of behavior modification caused by social media. His response to this problem is to urge users to delete their accounts until a humane business model replaces the current attention economy-based business model of Silicon Valley (Lanier, 2018).

2. RESPONSES TO SMARTPHONE ADDICTION

Organizations and individuals are attempting to address the issue of smartphone addiction through organizing movements, creating services and designing devices and applications. Movements to address this issue include a response to the growing concern of the contribution of social media to increasing mental health issues in young people by the Royal Society for Public Health (RSPH) in UK. They have announced the first Scroll Free September in 2018 aimed at encouraging young people to take a break at different levels, from completely cutting themselves off from social media to limiting the use of it to certain hours for the month of September (Nagesh, 2018).

The "National Day of Unplugging" movement, a project by the Jewish organization Reboot, distributes Cellphone Sleeping Bags as a means for stopping cell phone use one day a year. In 2018 they have already sent 35,000 bags to people who want to put their phones to sleep for a day so as to "start living a different life" (https://www.nationaldayofunplugging.com).

Another movement to address the attendant problems of smartphone addiction is for individuals to choose to take a break from their devices to achieve a better tech-life balance by going on a "digital detox." During the detox period, smartphones and other gadgets are removed to minimize being distracted by the siren call of the phone and be more present in the moment. A 2016 survey in the UK concluded that nearly 15 million people that have tried digital detox at least once to be able to concentrate and pay attention to other matters (Jackson, 2016). There are also digital detox services where people are encouraged to give up their phones by experiencing living in nature and communicating with other people for a short period of time (http://digitaldetox.org).

Changing the purpose and design of the phone itself is another kind of initiative that has been launched to meet the desire in the market for less addictive, overwhelming and distracting phones. "Dumb phones," which are antithetical to smartphones, are conceived as having communication as their core function. Dumb phones are among successful responses that help people minimize distraction while staying connected. Punkt Mp01 designed by Jasper

Morrison is a phone only provides the basic function of making and receiving calls, messaging, an alarm and calendar. Punkt sells 100,000 pieces every year and is popular with celebrities (Rubinstein, 2018). Users have found Punkt a helpful device for digital detox. Its simple appearance and monotone screen have made the phone less enticing , and the minimum number of functions has encouraged bored users to make calls to their loved ones instead of texting or scrolling through pages (Chun, 2017).

The Light Phone by Joe Hollier and Kaiwei Tang is another successful project. Initiated on Kickstarter, the Light Phone two versions: Light Phone1 with only the capacity to make and receive calls; and a second version with added functions such as alarm and texting. The Light phone is not however, an alternative to smartphone, it communicates with smartphone, but encourages users to leave the smartphone at home (Rubinstein, 2018).

2.3. Applications

Developers and designers are trying to fight fire with fire, meaning they use smartphone to help controlling smartphone addiction by developing applications. Among many apps created with such purpose, notable ones (in terms of creativity to address the problem, not popularity), are Moment, Hold, Space and Siempo. Moment tracks the amount of time spent on each app, and suggests a break (Wan, 2018). Hold is a local application, developed by Norwegian students. It uses rewarding system and encourages students to put away their phone. The longer they do not touch the phone the more points they get, which they can exchange for food and drink (Godwin, 2018). Space, creates 10 seconds waiting time in front of apps to make users use certain apps less impulsively, and Siempo provides a new home screen by eliminates colorful logos, and batches notification to be delivered on time sat by users (Wan, 2018).

3. 2016 US ELECTION AND CONCEREND SILICON VALLEY

The 2016 Donald Trump presidential campaign powered largely by social media shed light on how easy it is for Facebook – the company run by advertidsing-survillance scheme- to contribute to mass manipulation and spread of fake news. Huge numbers of social media users are hooked to their devices without having control over what they are being shown (Kulwin, 2018). In an open letter to Apple, four investors warned Apple of the "potential long-term consequences of new technologies" (Rosenstein, Mastagni, Penner, & Hanson, 2018) and demanded changes in company's design and polices. This raise of awareness motivated Silicon Valley to act and response to concerns regarding smartphone addiction. On June 2018 Apple added new features named Screen Time in iOS 12, to help reduce the amount of time spent on smartphones.

Features include detailed Activity Reports which show the time spent on each app in various categories, the amount of received notifications and how many times the phone has been unlocked. Do Not Disturb mode silences the phone and do not show notifications until the mode is turned off, and App Limit enables users to define limitation for any app they think needs limitation. There is also a grayscale feature that takes away the colourful screen of the phone (Wyman & Kelly, 2018). On July 2018, Google announced similar features for Android Pie named Digital Wellbeing. Features are Time Dashboard (time spent on every app statistics), Do Not Disturb mode, App Timer (limitation set on desired apps). And Wind Down that turns the phone display into grayscale, which is easier to find and use than Apple's grayscale feature (Stolyar, 2018). Facebook and Instagram (owned by Fakebook) have also added features showing time spent on each app, and a self-designated limitation feature that reminds users to stop using the app (Wagner, 2018). Microsoft has added Focus Assist to Windows 10 that minimizes or completely stops notifications from interrupting productivity (Huculak, 2018).

4. WHAT IS WRONG WITH THEIR DESIGN?

4.1. The Conflict of Interests

For Google, Facebook and Apple time equals money, meaning they have made, and continue to make profit through getting people to look at advertisements as longer as possible. As of now, there is no service (except YouTube Premium) by these companies that charges subscription fee. The fact that their entire business model is in odds with using their services less, makes the recent attempt to add screen time features controversial. Google in particular, demands constant attention of users for improvement of its services through displaying notifications (Google Map, Google Image…). To trust that these companies have sincerely tried to solve the problem is very naïve. It is more likely that the recent added features are a quick "lip service" to their investors who have expressed their concerns on the issue of smartphone addiction (Stern, 2018).

4.2. The Design Is Superficial

Timers, self-designated app limits and Do Not Disturb mode, and grayscale mode seem to be the very first and easiest solutions to propose for such a complex issue of addiction. A user who is aware of his/her bad smart phones habits is able to modify the phone without the help of such features. For instance, airplane mode, or turning off the phone is an alternative to Do Not Disturb mode. The grayscale mode is a tasteless quick response to make the phone uglier, while there has been enormous amount of engineering and design dedicated to make the icons, menus and notifications look as alluring and attractive as possible

(Widrich, 2017). Facebook is the largest client of Thomas Z. Ramsoy, the chief executive of Neurons whose company measures "the electrical activity of the brain while a consumer is interacting with a phone" (Bowles, 2018), but when it comes to tackling the complicated problem of addiction, easiest solutions are implemented. The App Limit feature with its constant reminders makes tapping on the Ignore Limit or modify the limit more of a routine for people who cannot control their impulses (Stern, 2018).

4.3. Addicts Do Not Have Self-Control

Smartphone addiction, similar to substance addiction, rewards the brain with dopamine (Haynes, 2018). Addicts cannot easily give up on their addiction because controlling impulses stimulated by dopamine requires taking life-changing major actions. Silicon Valley solutions to smartphone addiction relies solely on addicts to activate the optional limitations and stick to them through self-discipline, which they often lack. Simply reminding addicts their problem through negative reinforcement (blocking their favorite apps when they can still see the app icon, making the phone screen look ugly by grayscale which affects photographs as well…) and expecting them to solve their problem through self-assigned limitations may only result in giving up after a while (Stern, 2018).

5. CONCLUSION

Smartphone addiction is a serious problem of our time which was created by neglecting the negative aspects of technology while making the most profit. Deep negative psychological effects of this neglection on the human brain and society needs to be profoundly studied before jumping to a hasty conclusion, proposing shallow solutions and expecting things to get better.

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