Addictive Design of Social Media Apps

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Introduction

The proliferation of social media mobile apps has ushered in an era of unprecedented connectivity and information sharing. According to a 2019 study conducted by Hootsuite, out of 3.48 billion social media users, 3.26 billion people use social media on mobile devices (Kemp, 2019). Even though social media mobile apps have only been around for less than a decade, within a short span of time they have come to cast such a spell on its users that it is probably unparalleled in the annals of personal technology. There has been a steady increase in the number of users, and people have been spending more time on Facebook, Instagram, Snapchat, and Twitter than ever before. It has been predicted that the average time American users spend on social media apps "will climb this year to one hour and 14 minutes a day with nearly 90% of that time being spent on Facebook and Instagram" (Forman, 2019).

Many scholars as well as UX practitioners believe that users spend time on social media apps because they are deliberately designed to be addictive (Alter, 2017; Andersson, 2018). Various studies (Andreassen, Pallesen, and Griffiths, 2017; Donnelly, 2019) have drawn attention to the fact that some Internet users appear to be addicted to social media apps just like people are

addicted to drugs or alcohol. Andreassen, et al. (2017) have defined social media addiction as spending too much time on social networking sites due to an uncontrollable urge, in which excessive use leads to negative consequences in real life. Some common symptoms of social media addiction include: a general feeling of anxiety at not being able to check one's social media account at frequent intervals, sacrificing work and personal time to engage on social media, an uncontrollable urge to check notifications, feeling happy or sad in real life in response to how other people react to one's virtual posts, and performing badly on tasks if withdrawn from social media apps.

This paper begins with a brief description of social media mobile apps and the definition of social media addiction. It then discusses the reasons why social media mobile apps like Facebook, Instagram, etc., are designed to be addictive. It also explores some design features that keep users hooked. The last part of the paper examines the implications of such addictive mobile apps in our daily lives and proposes the way ahead with an emphasis on what UX designers and researchers can do to alleviate this problem.

Why Social Media Mobile Apps Are Designed to Be Addictive?

Social media apps allow mentally pathological traits such as anxiety, narcissism, voyeurism, paranoia, and anti-social tendencies to take root. Before exploring the implications of the addictive nature of social media, we need to understand the business model of social media companies and how it incentivizes them to design their mobile apps in a way that actively, and often inconspicuously, encourages addictive user behavior. Social media companies are built on the idea of engaging the attention of users for as long

and as frequently as possible. This user attention is then sold to advertisers for revenue. Since most social media platforms are free, they make profit by primarily relying on the revenue generated from advertisers (Haynes, 2019). Thus, it is imperative for social media apps to be designed in such a way that users remain hooked to their screens. To do so, social media platforms have leveraged a number of design techniques and exploited some fundamental psychological and neurological principles to turn vulnerable users into addicts or junkies. Dopamine, a neurochemical that is created in various parts of the brain is one of the key reasons why users get addicted to mobile phones and social media apps.

According to Weinschenk (2012), dopamine is critical to different brain functions like "thinking, moving, sleeping, mood, attention, and motivation." It controls the pleasure system of the brain and increases "goal-directed behavior" (Weinschenk, 2012; Dillard-Wright, 2018). Although dopamine provides instant gratification, this feeling does not last for long and it gives users a false sense of achievement. Social media apps are designed to exploit human psychology and neural system in a way that strong, short-term dopamine-driven feedback loops are created. Users seek rewards, and once rewarded their desire for more rewards increases. Companies tap into this behavior to lure users in and to create compulsion loops through irregularly timed rewards. Users constantly and "compulsively check" these apps on their mobile phones because they never know when the "delicious ting of social affirmation may sound" (Parkin, 2018). This is how social media apps like Facebook, Twitter, and Instagram have millions of users hooked (Robertson, 2019).

Nir Eyal (2014) proposed the Hook Model, a four-phase process used by companies to build habit-forming products. Social media companies, too, use these four phases—trigger, action, variable reward, and investment—to keep users hooked to their mobile apps. While trigger drives user behavior and can be seen as a "spark plug", action is the "behavior done in anticipation of a reward" (Eyal, 2014). Variable reward is used to create a feeling of craving as dopamine levels surge when the brain is expecting a reward, and investment happens when a user puts time, effort, money, or social capital in a service. These four phases of the Hook Model can also be used to understand the design features that keep users hooked to social media mobile apps.

Design Features That Keep Users Hooked

Muldrew (2019) talks about several social media mobile app design features that keep users hooked. One of the most popular addictive aspects of Facebook or Instagram users is likes, which can come in the form of a little blue thumbs up button or a heart-shaped love icon. Due to mob mentality, people have the tendency to engage more with posts that have been liked by many people or a large number of peers. Moreover, the action of liking or loving someone else's post, story, feed, or photo can raise a user's expectations. She might end up anticipating that the people whose post she has liked, too, will reciprocate and reward her with likes when she posts something on social media. For any user, the allure of an increase in number of such "likes" (reward) can make her use a social media app again and again. This is the trigger that creates a positive feedback loop through validation and the feeling of constant approval.

Another crucial mobile design feature that engages users and keeps them hooked is push notifications. These short but engaging messages constantly alert users and create psychological cravings, luring them to their phone screens. Uncertainty, approval, and the fear of missing out (FOMO) increases the user's motivation to view these notifications. For example, when a user receives a push notification (trigger) that they have been tagged by a friend in a Facebook photo, they immediately open the app (investment) and view the photo (action) because they want to make sure that they are looking okay (reward). Likewise, Snapchat uses design features like gamification to hook users. Snapchat rewards its users with special emojis when they snap or communicate back and forth with someone for several, consecutive days.

Among other design elements that have been singled out to contributing to addictive social media usage is the famous "infinite scroll" (Muldrew, 2019). With the flick of a finger, a Facebook or Instagram user can keep scrolling through endless streams of content. Since scrolling is much easier than clicking, infinite scrolling allows users to endlessly swipe through content without making active decisions. It thus keeps them hooked to their phones far longer than necessary. Additionally, in apps like Instagram and Twitter, the slight delay of response when a user pulls the screen to refresh it builds anticipation and releases dopamine. This experience is similar to using a slot machine, which locks users in a cycle of addiction. However, addiction of any kind is bad and comes with its own set of repercussions.

Implications of Addictive Social Media Apps

In today's world, social media has become fundamental to the way millions of people get information and connect with one another. It keeps us in touch with our friends and family, who may be separated by miles or time zones. Social media apps also help users find and connect with people they have not been in touch with for a long time. However, having a great online social media does not necessarily mean having a good life in reality. Users who are addicted to apps like Facebook and Instagram tend to create a virtual world of friends and acquaintances, and they can find it really difficult to keep up with real-life relationships. Social media can be a fantastic communication tool when used in moderation, however, using social media mindlessly can lead to a feeling of loneliness and being left out. It can also cause several health problems.

Over the past few years, there has been a renewed interest in studies that look at social media apps as the source of smartphone addiction and mental health issues among users. Many studies have linked the frequency of social media use to poor psychological well-being (Twenge, Joiner, Rogers, & Martin, 2018; Lin, Sidani, Shensa, Radovic, Miller, Colditz, & Primack, 2016), and researchers have found a positive correlation between mental health issues and the rise in social media screen time (Twenge et al, 2018). One of the main reasons why many Facebook users feel socially alienated is because they fall into the trap of comparing themselves with others. Posts of other people's picture-perfect lives can induce jealousy and envy in users. These factors, in the long run, can lead to depression.

Although apps like Snapchat and Instagram are immensely popular among young adults, there has been a steadyincrease in the rates of depression and

suicide, especially among young people who use social media apps (Lin et al., 2016). Young girls are particularly at risk as their suicide rate has risen over the last few years. Recently, a teenage girl from Malaysia killed herself after posting a poll on Instagram, where a majority of users voted that she should die (Cheung, 2019). Oftentimes, people thoughtlessly participate in such polls, never once thinking about the consequences.

Although many people who use social media apps think it makes them feel happier, in most cases, it actually makes them feel worse. Walton (2018) calls it "classic addiction" and a "forecast error that keeps us coming back even though it often has a negative effect on our mental health." Chamath Palihapitiya, Facebook's former Vice President of User Growth, feels guilty of the way social media is impacting our society. While addressing a group of Stanford students, he confessed that "the short-term, dopamine-driven feedback loops" created by social media apps is "destroying how society works" (Haynes, 2019).

The Way Ahead

Smartphones and social media apps have become such an important part of our lives that it is almost impossible to imagine a world without them. However, as we have seen above, addictive social media apps can cause more harm than good. At its core, these shortcomings are primarily due to these companies' basic business models and failures of design. Many of these social media giants earn profit through an advertisement-based profit model that encourages users to stay glued to their phones. Unless social media companies change their mindset, or designers and researchers work towards

creating more ethical design decisions, or users become more mindful of how they use such apps, nothing much will change.

While it is a given that companies cannot really upturn their business model all at once, it is important for UX designers and researchers to make ethical design decisions. To this end, Facebook and Instagram seem to be paying attention to criticisms around issues like mental health awareness. They recently introduced a tool that can help users track and manage how they spend time on social media. Last year, in a press release (Ranadive, 2018), Facebook mentioned that they designed these activity-tracking "tools based on collaboration and inspiration from leading mental health experts and organizations" and "extensive research and feedback" from their community. Tim Wu, Columbia Law School's preeminent technology scholar, says "design creates the way you exercise choices" and he believes that these activity-tracking apps are a step in the right direction (Schwab, 2018).

While it might be almost impossible to change the business model of social media companies, ethical design may be the answer to many of social media's problems. UX designers and researchers can lead social media to a brighter and healthier future. To do so, when designing a social media app, they can follow three simple steps of ethical design as enumerated by Tim Wu (Schwab, 2018): 1) Take into account how and when a user uses the app; 2) Keep it simple and understand how users feel when they use the app; and, most importantly, 3) Put users first, and design tools that work for them and not against them. Keeping the user in mind while designing social media apps is crucial and it is equally important to create a simple design that is not meant to trick the user.

In case of users, the way out of addiction is to either unsubscribe social media notifications or keep their phones on silent mode for most part of the day. Another way of dealing with this problem is by interacting more with real people rather than virtual friends. People need to ask themselves if spending hours on social media is really worth their time. Following a daily, fixed schedule where only a few minutes are devoted to social media can ensure that users don't fall prey to the never-ending dopamine-induced feedback loop.

Conclusion

Social media is here to stay just like any other communication technology that preceded it, and most probably it will be a while before the corporates behind these businesses rise up to the dysfunctional aspects of their business models. The power to fight addiction caused by social media mobile app design lies in the hand of UX professionals. Just like an engineer or biomedical researcher, UX designers and researchers are bound by a sense of greater good that should prevent them from doing something just because they can, without any consideration for far-reaching ethical implications. This is a great responsibility that should prod designers towards adopting a code of professional ethics that lays emphasis on not just creating social media mobile apps with good design but also ethical design.

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