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Mobile App Development

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Discussing The Addictive Components of Mobile Applications

Mobile applications often include features which entice the user to stay on the app for as long as possible. For instance, apps such as Instagram and Facebook provide users with an infinitely-scrollable screen of images, text, and videos which are recommended to the user based on an algorithm informed by the user's data and previous interactions with the app. This practice of keeping users' eyes on their screens for as long as possible is a known problem in the smartphone era, and one which has only recently been talked about in a serious way.

"Smartphone addiction" is a real issue human society now faces, and one which researchers have been grappling with. In this paper, the concept of smartphone addiction will be explored, as well as exactly how people are affected by it, what leads to addictive behavior, and what can be done to address smartphone addiction.

Understanding smartphone addiction is important if any measures are to be taken against it, and the first note about smartphone addiction is that the term is not widely understood. While not an official disorder as per the DSM-5, it is worth noting that this problem is reasonably new within the greater historical context of this manual, and as such requires attention regardless of its official status. In short, while "smartphone addiction" is not a properly categorized term at this time, it is a problem that has been repeatedly observed, and thus deserves scrutiny. But what is the problem? "Owing to the convenience and multiple functions of smartphones, users tend to become overattached and preoccupied with their devices, and excessive or problematic

smartphone use is twice as prevalent among teenagers as among adults.” (Ting). Excessive use of the device is the problem. Something worth note about the term “smartphone addiction” is that people are not exactly addicted to smartphones themselves, but rather the software that runs on them. Applications are generally to blame for high amounts of screen time, and many apps quite noticeably seem designed to maintain those high levels of screen time. The more an app can keep a user scrolling on it, the more advertisements and recommendations can be fed to the user, and the more data the app will be able to harvest. This results in an unhealthy lifestyle for the smartphone owner, as “Excessive use of smartphone potentially affects our physical and psychological well-being and can give rise to social dysfunction.” (Ting). It should be the goal of the app developer to decrease social dysfunction with their app, which likely was created to solve an existing problem anyway. Social dysfunction as a result of overuse of smartphones is a measurable problem, which informs that some apps may be more detrimental than helpful.

From a naive perspective, the apps that many people use daily, such as Instagram, Snapchat, Facebook, YouTube, etc., might seem to serve an innocent and useful purpose. After all, it is an incredible feat to be able to connect with people far away and view peoples’ videos from around the world. However true this may be, if these apps can find a way to keep you using them, they will look for a way to do so. Most of these social media apps are free, and as such the company’s desired revenue will come directly from your existence on their platform. The user is the value to a social media company, as they have the data that can be sold and a brain that can be advertised to. In the film *The Social Dilemma* produced by Larissa Rhodes, people who worked on some of the aforementioned services speak out about how the companies behind these apps and services are aware of what is going on. However, it is said that none of these problems began with the express intention of getting people to fall prey to some sort of

feedback loop. The important thing to remember is that regardless of the intent of any of these platforms, the user's time is valuable to these companies, and self control over the amount of time spent on the smartphone is a key combatant to this trap.

It is crucial to ask what components of smartphone apps are the points of entry for addictive behaviors. Due to the sheer number of app genres and niches, it is impossible to cover all possible components that could make an app addictive. There are, however, specific common ones worth talking about. In a research paper by Christian Montag, Bernd Lachmann, Marc Herrlich, and Katharina Zweig, they list six main “psychological mechanisms built-in social media/messenger apps and/or freemium games”, which are: “endless scrolling/streaming”, “endowment effect/mere-exposure effect”, “social pressure”, “show users of an app what they like”, “social comparison and social reward”, and “Zeigarnik effect/Ovsiankina effect”. Endless scrolling and streaming refers to when apps which present text and video content feed the user a never ending stream of said content as they scroll and watch videos. The endowment or mere-exposure effect is simple in that the more a user spends time on an app, the more time they will want to continue using it. Social pressure refers to the built-in social queues for apps such as the sent/read receipts in a texting or messaging app. Showing users of an app what they like is self explanatory: the less there is to dislike, the more someone will want to stay around. Social comparison and reward are the approval systems built into apps, where users effectively “rate” other peoples' content. The Zeigarnik effect/Ovsiankina effect refers to the internal desire to return to that which you were interrupted from. Some apps will intentionally interrupt you from doing something quite desirable simply so that you have an even higher desire to accomplish your goal (sometimes with the intention of getting the user to pay to speed some process up). These six concepts are some of the more noticeable “traps” that can be picked up on with enough

time analyzing these kinds of apps. TikTok, Snapchat, YouTube, Twitch, Facebook, Twitter, Reddit, Instagram, Snapchat, and Pinterest, all incredibly popular apps in the west, have at least one of these features, if not most.

There are several ideas that could thus be postulated as preventative measures to smartphone addiction. The first is that on an individual level, one can become aware of how much time they spend on their phone. One can also become active and look for ways to prevent themselves from reaching for their phone or staring at social media for too long, such as setting up lock-out features on apps with high screen time. It would be a mistake to not mention that app developers themselves have a responsibility to minimize the amount of damaging time they engage users with their service for. Removing common features such as infinite scrolling and visible like and dislike ratios might encourage people to scroll less in their apps and remove the desire to follow a collective crowd. Furthermore, conducting research on the habits of the people who use your applications is likely to lead to a better understanding of how to engage users in a healthy manner. Developing apps with the intent of them being tools rather than all-in-one packages of content might help to mitigate some of the societal problems that come with the overuse of smartphones. One final point is that the law needs to catch up with technology if the world is ever to see wide scale change happen. Many, perhaps most lawmakers do not know enough about technology and computers to make informed decisions about the way they should be implemented in society. As such, few new ideas are challenged by people who care about health and safety, and thus a lack of responsibility being placed in the hands of developers to create apps that are safe for people to use.

Smartphone addiction is a term used for the observed addictive behavior of smartphone users and a result of the success of mobile phones as a platform for full scale computer

applications. The goal of many app developers is to get as much screen time from the user as possible by creating experiences that result in unhealthy user behaviors. Because of this, it should be the responsibility of developers to configure their apps to function in non-addictive ways, whenever possible. It seems as though a comprehensive list of predatory app features could be useful in engaging developer awareness and proper implementation. Awareness of this issue is important, and while there is more and more research being done, there is still much that smartphone users do not understand about their habits. Seeing as phones are tools of communication and organization, the approach to developing apps for them could perhaps be shifted more towards this line of thinking. Many apps today feel like experiences rather than tools that solve a problem. Asking the question, “why would someone need to open my app in the first place?” is what an app developer might do repeatedly throughout the process of creating the tool. In conclusion, smartphone addiction is an important concept for developers to have an understanding of given how large of an audience they have the potential to entertain.

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