



# Over-Reliance on Technology... and its Consequences

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Be honest...

How much screen  
time do you  
*actually* use  
per day?

This is merely one aspect of  
a larger series of concerns.

# What keeps us hooked?

Several smart design elements are implemented in software and hardware that keep users coming back:

## Social media:

- Autoplay
- Infinite scroll
- Well-timed notifications
- Swiping on dating apps

## Video games:

- Immersion/escape from reality
- Rewards & progression
- Loot boxes
- Balanced difficulty

Sources: Brooks, J. (2017) *7 specific tactics social media companies use to keep you hooked*, KQED. Available at: <https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked> (Accessed: May 2, 2023).

Staff, T. (2023) *5 psychological tricks video games use to keep you playing*, Techopedia. Available at: <https://www.techopedia.com/2/27749/personal-tech/5-psychological-tricks-video-games-use-to-keep-you-playing> (Accessed: May 2, 2023).

# *Automation Bias and Complacency are major issues as well:*

Automation Bias - Inclination to give credence to info supplied by technology when manual sources provide contradictory information

Automation Complacency - Monitoring technology with less frequency due to low suspicion of error by the technology

# Medical Example of Automation Bias and Complacency

## Incident Description

Go to: ►

An elderly patient was admitted to the hospital with new-onset seizures. Admission orders included the anticonvulsant phenytoin (handwritten with the brand name **DILANTIN**) 300 mg orally every evening. Before the pharmacy closed, a staff member entered the order into the computer so the medication could be obtained overnight from an ADC in the patient care unit. Medication selection for order entry was performed by typing the first three letters of the drug's name ("dil," in this case) then choosing the desired name from a drop-down list, comprised of both generic and brand names. The staff member was interrupted while entering the order and, upon resuming the task, selected dil**TIAZ**em 300 mg instead of Dilantin 300 mg.

On the patient-care unit, the order for Dilantin had been correctly transcribed by hand onto a daily computer-generated medication administration record (MAR), which was verified against the prescriber's order and co-signed by a nurse. The nurse who obtained the medication from the unit's ADC noticed the discrepancy between the MAR and the ADC display, but accepted the information on the ADC screen as correct. Thus, the patient received a dose of long-acting dil**TIAZ**em 300 mg instead of the Dilantin 300 mg as ordered. The error was caught the next morning when the patient exhibited significant hypotension and bradycardia.

Source: Grissinger, M. (2019) *Understanding human over-reliance on technology*, PubMed Central, U.S. National Library of Medicine. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6534180/> (Accessed: May 2, 2023).

Another consequence of over-reliance on technology  
: Social Isolation

Another consequence of over-reliance on technology  
: Reduced Creativity

Another consequence of over-reliance on technology  
: Reduced ability to focus





# Self-diagnosis test for over-reliance on Internet

How it affects on our  
attention.

Sources: Korean official e-government website. [https://www.djjanggu.go.kr/mental/sub04\\_01\\_03.do](https://www.djjanggu.go.kr/mental/sub04_01_03.do)

## *Total score:*

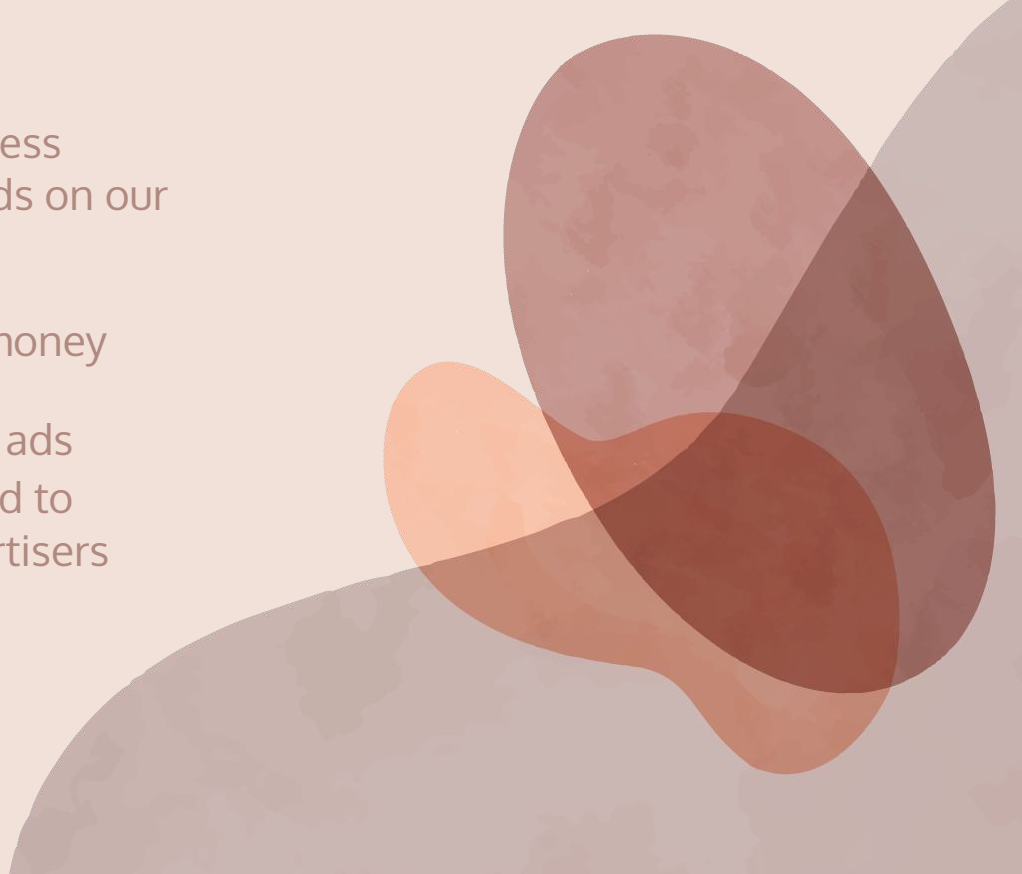
- **0 - 39** : You are an average Internet user. You sometimes use for longer hours, but you can moderate your usage.
- **40 - 69** : You often experience problems with the Internet usage. You need to look at the overall impact it has on your life.
- **Above 70** : Your Internet use is causing serious problems in your life. You need to address those issues right now.

# The problem is not the tech, it's the business model.

One of the main problems is the business model of technology industry that feeds on our distraction

How big tech companies are making money

- They make money as you see the ads
- Everything you do is being tracked to make a profile to sell to the advertisers

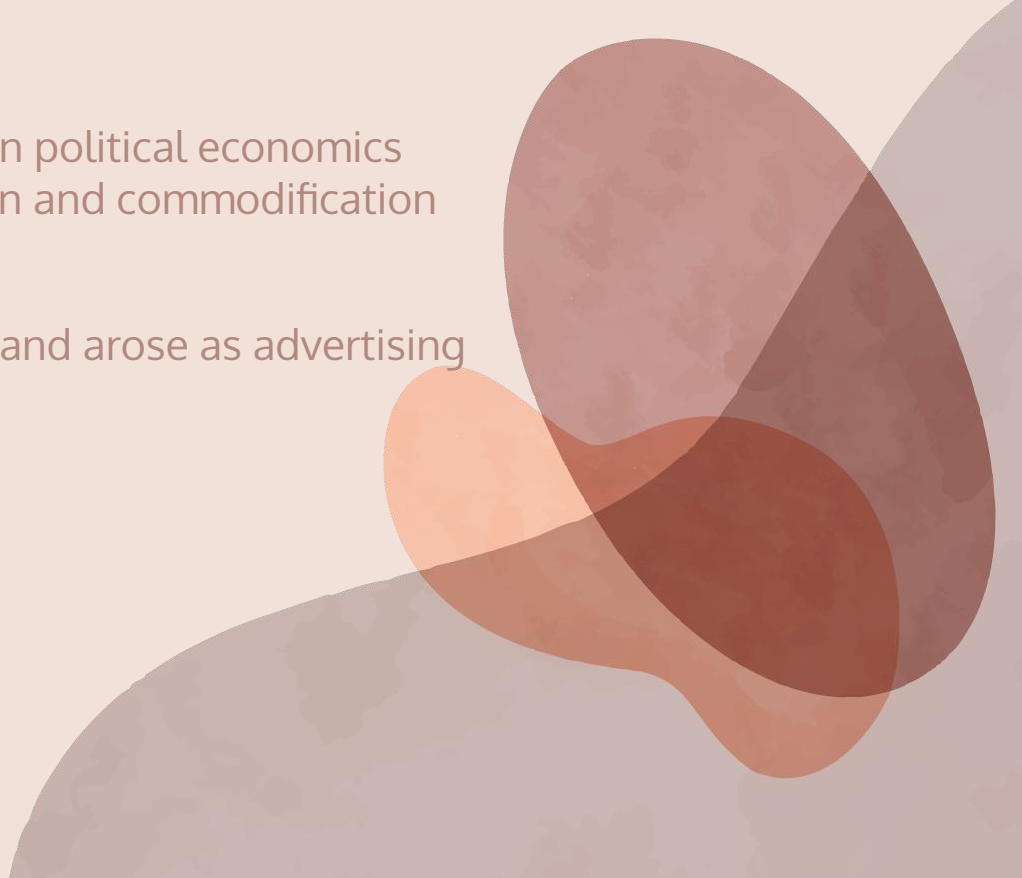


# Surveillance capitalism

**Surveillance capitalism** is a concept in political economics which means the widespread collection and commodification of personal data by corporations.

It is driven by profit-making incentive, and arose as advertising companies, led by Google's Adwords.

Sources: [https://en.wikipedia.org/wiki/Surveillance\\_capitalism](https://en.wikipedia.org/wiki/Surveillance_capitalism)





Our attention didn't collapse. It was stolen.

**Don't blame yourself!**

# Solution for surveillance capitalism

## Digital detox?

- Regulations on surveillance capitalism
- Ethical business models for tech companies
- Find a balance between appealing UX/UI and user health
- Consult more users/information regarding negative health effects of current practices

# Alternative business models

- Subscription model
- A generally more balanced model between ethics and revenue
- Whatever would survive the regulations

Our attention should no longer be the product they sell to the advertiser. We are the real customers.

Sources: Problems with Surveillance Capitalism and Possible Alternatives for IT Infrastructure by Landwehr M, Borning A., Wulf V.(2021), Available at : <https://homes.cs.washington.edu/~borning/papers/landwehr-ics-2022.pdf>

# Conclusion.....

- Tech products, especially software, have been curated to capture and retain as much attention as possible
- Keeping in mind how this happens is key in avoiding the problems it entails
- If awareness is raised about these issues, *maybe* practices will become more ethical going forward...
  - ...even if not, wider recognition of these issues is a starting point

