

# Tech Curiosity Session 2 of 6

Glen Maxson & Alan Freedman

Delaware Valley University

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# Welcome

Glen Maxson

[glenmaxson@gmail.com](mailto:glenmaxson@gmail.com)

267-866-7827

[seniortechadvisor.com](http://seniortechadvisor.com)

[Tech Curiosity Presentation Archive](#)

Alan Freedman

[alan@computerlanguage.com](mailto:alan@computerlanguage.com)

(215) 297-8082

[computerlanguage.com](http://computerlanguage.com)

# Technology in the News

- **Facebook [launched](#) its \$299 Ray-Ban Stories smart glasses.** Users can capture photos and video, answer phone calls, and listen to music.
  - 2012 [Google Glass](#) - fail, 2016 [Snap Spectacles](#) - fail (what's changed?)
- **Epic asked Apple to [reinstate](#) its Fortnite developer account in South Korea.** In August, South Korea [passed](#) a bill forcing Apple and Google to allow alternative payment systems in their app stores.
  - Google and Apple force developers to use their payment systems for in-app purchases, enabling them to take a 30% cut of revenues.
  - Apple and Google could face fines of up to 3% of their South Korean revenue if they fail to comply with the new bill.

# China's new gaming restrictions

- BEIJING, Aug 31 (Reuters)
  - China on Monday introduced new rules that limit the amount of time under-18s can spend on video games to three hours a week, a move it said was necessary to combat gaming addiction.
- The new rules place the onus on implementation on the gaming industry and are not laws per se that would punish individuals for infractions.
- Authorities in China, the world's largest video games market, have worried for years about addiction to gaming and the internet among young people, setting up clinics which combine therapy and military drills for those with so-called "gaming disorders".
- Rising rates of nearsightedness were also cited as a concern.

# Technology in the News

- **China's new gaming restrictions on young players will stifle esports development in the country, according to experts.** Rival developers in the U.S., Europe, and South Korea will have a significant advantage against Chinese firms.
  - China is the world's largest video gaming market, with 720M gamers and \$44B in revenues in 2020.
  - **China has the highest number of professional gamers worldwide, and some of its players train over 70 hours per week.**
  - The new restrictions will force all online games to link to China's anti-addiction and mean companies can't provide services to their users without real-name registrations.

# Technology in the News

- **China temporarily suspended approvals for all new online games.** The move was announced during a meeting with video gaming companies including Tencent and NetEase on Wednesday. In response, the market capitalization of Tencent and NetEase dropped by over \$60B.
- **Twitter is testing Communities, an invite-only topic-based public feed curated by moderators.** The new feature is intended to help Twitter users discover new topics and content and connect with people they're not actively seeking out.
  - Communities will initially be limited to a few topics, including dogs, sneakers, and skincare.

# Technology in the News

- **Microsoft [acquired](#) Clipchamp, the in-browser video editing software startup.** The firm had 17 million registered users across over 390K companies as of July. Deal terms were not disclosed.
  - Microsoft's deal follows Adobe's recent acquisition of video-editing collaboration app [Frame.io](#) for nearly [\\$1.3B](#).
  - Microsoft said the Clipchamp acquisition will help it offer the tools required for anyone to make great videos, including "a 10-second social media ad, a 2-minute pitch for a product, or a 20-minute instructional video."

# Technology in the News

- **Brazil President Jair Bolsonaro temporarily banned social media companies from removing some content that violates their rules.** Facebook, Twitter, and YouTube will only be able to remove content that contains topics outlined in a new measure, including nudity, drugs, violence, or if they violate copyright.
  - The move comes ahead of Brazil's October 2022 presidential election.
  - Bolsonaro has been accused of using social media platforms to "undermine the legitimacy of the vote."



# Technology in the News

- **Apple announced an iPhone 13 Pro with a 1TB option during its "California Streaming" virtual event on Sept. 14.**
  - An iPhone 13 mini, iPhone 13, iPhone 13 Pro, and iPhone 13 Pro Max were announced as well.
- **A study of 61,000 Microsoft employees showed remote work had hurt communication and collaboration.**
  - Microsoft said a long-term shift towards remote work would threaten long-term innovation and productivity.

# Technology in the News

- **Jeff Bezos' most significant legacy could be "Bezosism," according to the Wall Street Journal.** **Bezosism culture entails using surveillance, algorithms, and data to supercharge outdated management systems and "squeeze" workers to perform better.**
  - Amazon IPO'ed on May 15, 1997, at \$18 per share

AMZN · NASDAQ

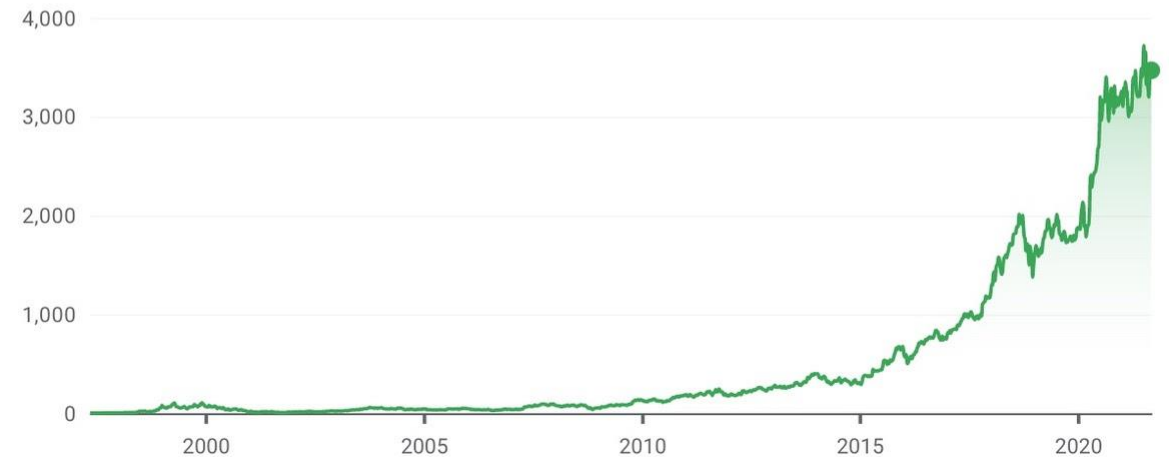
Amazon.com, Inc.

**\$3,469.15** ↑ 200,428.90% +3,467.42 MAX

Pre-market: \$3,472.00 (↑ 0.082%) +2.85

Closed: 13 Sept, 04:41:44 UTC-4 · USD · NASDAQ · Disclaimer

1D 5D 1M 6M YTD 1Y 5Y **MAX**



# And then a problem looking for a ‘technical solution’ – any ideas?

## [Free rides: Pennsylvania Turnpike losing out on \\$104M in uncollected tolls](#)

- More than \$104 million in Pennsylvania Turnpike tolls went uncollected last year as the agency fully converted to all-electronic tolling. Turnpike records show the millions of motorists who don't use E-ZPass have a nearly 1 in 2 chance of riding without paying under the “toll-by-plate” license plate reader system.

Editorial comment: Who ever thought license plate readers would work in the first place?

Ex. [Photo Blocker License Plate Lens](#) (eBay \$16)



# Technology in politics (without getting political)

- **2008**

- [Obama campaign's novel integration](#) of e-mail, cell phones, and websites enabled supporters to connect and self-organize
- The Obama [campaign](#) integrated [social-networking features](#) into [My.BarackObama.com](#)

- **2012**

- By [August 2012](#), a majority of US adults were on Facebook
- Again, the Obama campaign built a [dream team of nerds to create the software](#) that drove many aspects of the campaign. The Republican side, too, tried to create smarter tools, but it botched them.

- **2016**

- The Democratic Party, trying to optimize and improve little things instead of developing a new “killer app.”
- Trump’s campaign chose off-the-shelf tools and everyday vendors and used social-media platforms and relatively simple websites to [target voters, with data acquired from Facebook apps](#)
- Cambridge Analytica used “psychographic profiles” which contained as many as 5,000 data points on each of 220 million Americans
- And then maybe the [\\$100,000 or so in “dark ads” that Facebook confirmed](#) Russia ran on its platform in 2016 had some impact – who knows?

# Technology in politics (without getting political)

- **2016**

- In reality, from June to November of 2016, Clinton's campaign tested 66,000 distinct ads while Trump's tested 5.9 million, AND his capacity for regularly provoking outrage won him [\\$5.9 billion worth of free attention](#) from the mainstream media – it's really hard to compete with that!

- **2018**

- Campaigns again deployed a broad range of technological tools to find and communicate with voters, and the targeting is becoming ever more effective as more data on voters becomes available and tools for using it get better and more numerous.

- **2020 and beyond**

- Expect the campaigns in the next presidential race to use not radically new sorts of tools but more of the same: more data, better algorithms, and, consequently, more fine-grained targeting of voters, especially those judged to be crucial to tipping a district or a state in a candidate's favor
- If the 2016 presidential race brought "fake news" into the lexicon, in 2020 the struggle to distinguish it from reality will reach a new level...

# Android vs Apple (without getting political)

- <https://www.tutorialspoint.com/how-are-ios-and-android-similar-how-are-they-different>
- <https://money.cnn.com/interactive/technology/iphone-android-comparison/index.html>
- <https://www.tomsguide.com/face-off/iphone-vs-android>

# Android vs Apple (which is better?)

- Apple is better!
  - You're invested in Apple's ecosystem.
  - The third-party apps are just better.
  - There's a bigger selection of accessories.
  - There are enhanced privacy controls with app tracking notifications.
  - There's no bloatware.
  - You get quicker software updates.
  - It has better retail support.

# Android vs Apple (which is better?)

- Android is better!
  - **There are phones at every price.**
  - **It's more customizable.**
  - **You can (sometimes) expand the storage.**
  - **USB-C is universal.**
  - **There's an actual file system (with drag-and-drop support on PC).**
  - **Innovative features usually land on Android phones first.**



# Android vs Apple (which is better?)

- So now it's time to choose

- Owning an iPhone is a simpler, more convenient experience. There's less to think about, and because Apple's iPhone represents the single most popular brand of smartphone, there's an abundance of support everywhere you go.
- Android ownership is a bit harder in those respects. Yet it's simultaneously more freeing, because it offers more choice — choice of how much you want to spend, choice of hardware and software features, and choice in how you organize and personalize your experience. If you're extremely particular about the technology you use, you might find Android more liberating — dare I say, fun.

# Wallets will go away, as will passwords, and the role of the smartphone

- <https://www.usatoday.com/story/tech/2019/03/06/can-ditch-my-wallet-smart-wallet-my-phone/3032297002/>
- <https://www.wsj.com/articles/wallets-are-over-your-phone-is-your-everything-now-11630846800>
- <https://www.f5.com/labs/articles/cisotociso/when-will-we-get-rid-of-passwords->
- <https://www.zdnet.com/article/microsoft-2020-was-the-year-we-almost-said-goodbye-to-passwords/>
- <https://www.theverge.com/2019/4/24/18514225/passwords-fido2-authentication-webauthn-security-key-cybersecurity-online-browser-web>

# Wallets will go away, as will passwords

- Tiffany Conway - “We’re nearing the point where that pendulum is shifting to the preference for digital forms of payment and identity.”
- 68 percent of 1,218 smartphone owners surveyed by [SurveyMonkey Audience](#) on USA TODAY’s behalf last month, say it is likely that smartphones will eventually replace the need for wallets entirely. Nearly half (45 percent) think wallets will be obsolete in five years or less.
- Concerns about security are one key reason people don’t feel comfortable ditching their wallets.
- Question: Who uses Apple Pay, Google Pay, Samsung Pay, Cash App, Venmo, Zelle, PayPal – any others?

# Wallets will go away, as will passwords

**Fact:** up to half of all help desk calls are for password resets

- Microsoft, Google, Apple and others have been trying to design 'passwordless' authentication under the Fast Identity Online (FIDO) Alliance.
- In 2020, 84.7% of people opted for Windows Hello to sign in to Windows 10 PCs instead of a password, up from 69.4% in 2019.

# Wallets will go away, as will passwords

- All Android devices running on version 7.0 and higher are now FIDO2 certified for password-free logins.
  - Under the FIDO2 standard, rather than having to type in a string of characters you authenticate through a security key or a biometric device like a fingerprint reader.
- The standard has the potential to replace passwords entirely, and Google is actively working toward that future.
- But most companies aren't yet ready to replace passwords entirely.
- There's also **the iPhone problem**. FIDO2 authentication has no hope of going mainstream unless Apple's phones can be used as security keys alongside their Android counterparts, but **Apple has resisted embracing an industry-wide standard like FIDO2** – **bad Apple!**

# GDPR vs privacy US laws

- <https://www.ispartnersllc.com/blog/us-nationwide-data-privacy-law-gdpr/>
- <https://edaa.eu/a-legislative-comparison-us-vs-eu-on-data-privacy/>
- <https://www.forbes.com/sites/forbestechcouncil/2020/07/29/the-privacy-mindset-of-the-eu-vs-the-us/?sh=57bff0597d01>

# The Privacy Mindset Of The EU Vs. The US

- The norm in the U.S. that online behavior gets tracked and used for a slew of subsequent manipulation. **U.S. legislation isn't even close to providing adequate protection of consumer privacy** interests.
- Americans choose to believe that their online behavior being tracked happens in their best interests or is a price to pay for getting free or discounted products.
- GDPR was adopted on April 14, 2016, and before it became enforceable on May 25, 2018, the U.S. Congress enacted the Clarifying Lawful Overseas Use of Data (CLOUD) Act on March 23, 2018. Rather than being compatible with the GDPR, the U.S. CLOUD Act overrules it.

# The Privacy Mindset Of The EU Vs. The US

- Federal law requires U.S.-based software companies and IT service providers to ensure that authorities can have access to all stored data, including data stored on foreign servers. Furthermore, it guards U.S. service providers from having to tell customers whether authorities have requested their data.
- One lobbying group that represents internet companies is striving for a [federal privacy law](#) that would preempt more state regulations like the [California Consumer Privacy Act](#) (CCPA), which actually makes real progress. Its ideal federal privacy law would undermine the CCPA to essentially let companies return to business as normal and also make it impossible for other states to set the bar even higher.



# What is GDPR, the EU's new data protection law?

- In May 2018, the EU implemented the General Data Protection Regulation (GDPR) which became the new legal backbone on data protection and privacy in the EU.
  - It imposes obligations onto organizations anywhere, so long as they target or collect data related to people in the EU.
    - **The GDPR applies to you even if you're not in the EU**
    - **Fines for violating the GDPR are very high**

# What is GDPR, the EU's new data protection law?

- If you process data, you have to do so according to seven protection and accountability principles outlined in [Article 5.1-2](#):
  - 1. Lawfulness, fairness and transparency** — Processing must be lawful, fair, and transparent to the data subject.
  - 2. Purpose limitation** — You must process data for the legitimate purposes specified explicitly to the data subject when you collected it.
  - 3. Data minimization** — You should collect and process only as much data as absolutely necessary for the purposes specified.
  - 4. Accuracy** — You must keep personal data accurate and up to date.
  - 5. Storage limitation** — You may only store personally identifying data for as long as necessary for the specified purpose.
  - 6. Integrity and confidentiality** — Processing must be done in such a way as to ensure appropriate security, integrity, and confidentiality (e.g. by using encryption).
  - 7. Accountability** — The data controller is responsible for being able to demonstrate GDPR compliance with all of these principles.

# What is GDPR, the EU's new data protection law?

- GDPR recognizes a litany of new privacy rights for data subjects, which aim to give individuals more control over the data they loan to organizations. Data subjects' privacy rights:
  - 1.The right to be informed
  - 2.The right of access
  - 3.The right to rectification
  - 4.The right to erasure
  - 5.The right to restrict processing
  - 6.The right to data portability
  - 7.The right to object
  - 8.Rights in relation to automated decision making and profiling.

# Our brains on technology

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7366948/#:~:text=Potential%20harmful%20effects%20of%20extensive,brain%20development%2C%20and%20disrupted%20sleep.>
- <https://wexnermedical.osu.edu/blog/how-internet-affects-your-brain>
- <https://www.scientificamerican.com/article/are-digital-devices-altering-our-brains/>

# Our brains on technology

- Some say our gadgets and computers can help improve intelligence. Others say they make us stupid and violent. Which is it?
  - **Research shows that by constantly distracting us, the Internet affects cognitive performance but does not radically alter our brains.**
  - **The findings also suggest that although video games and brain training influence aggression and cognitive performance, respectively, the extent of that influence is much less than many would think.**
  - **The risks of digital devices might be minimized by educating people in ways to enhance concentration, self-control and critical-thinking skills.**

# Our brains on technology

- Discussion:
  - Are we becoming 'stupid'?
  - Have we become (better) multitaskers?
  - What about our 'attention span'?
  - Do video games increase aggression?
  - Is gaming better for our brains?

Fact: young people must be taught to develop their concentration, self-control and critical-thinking skills!

# Our brains on technology

- More on this topic can be found in this series of book reviews I taught in 2017:
  - [Born Digital](#) by Urs Gasser & John Palfrey
  - [Alone Together](#) by Sherry Turkle
  - [Reclaiming Conversation](#) by Sherry Turkle
  - [The Shallows](#) by Nicholas Carr
  - [The Glass Cage](#) by Nicholas Carr
  - [What Technology Wants](#) by Kevin Kelly
  - [The Inevitable](#) by Kevin Kelly
  - [Irresistible](#) by Adam Alter

What's on your mind for next week?



Extra Credit

Some slides from my [2017 class](#)

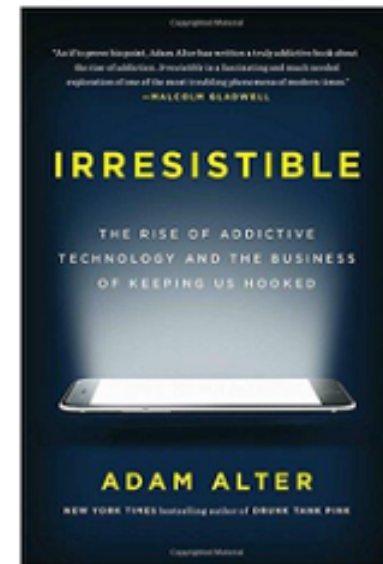
# Tech Talks: Tech for Seniors

Addiction by Adam Alter

Center for Learning in Retirement - Fall 2017

Glen Maxson

[seniortechadvisor.com](http://seniortechadvisor.com)



# Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked

Review of a book by Adam Alter

# Introduction

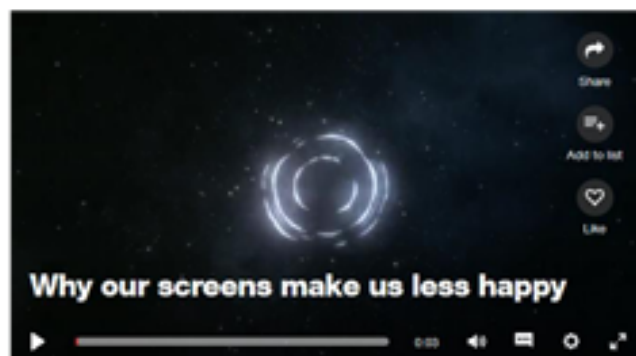
Adam Alter is an Associate Professor of Marketing at New York University's Stern School of Business, with an affiliated appointment in the New York University Psychology Department.



Adam is the *New York Times* bestselling author of two books: *Irresistible* (March, 2017), which considers why so many people today are addicted to so many behaviors, from incessant smart phone and internet use to video game playing and online shopping.



## [2017 TED Talk](#)



What are our screens and devices doing to us? Psychologist Adam Alter studies how much time screens steal from us and how they're getting away with it. He shares why all those hours you spend staring at your smartphone, tablet or computer might be making you miserable -- and what you can do about it.

# NPR Interview (Mar. 13, 2017)

'Irresistible' By Design: It's No Accident You Can't Stop Looking At The Screen (30:20)

## **Adam's definition of "addiction"?**

It is something you enjoy doing in the short term, that undermines your well-being in the long term — but that you do compulsively anyway.

[Play Intro](#)

## The Addicted Brain (Sept. 17 National Geography)

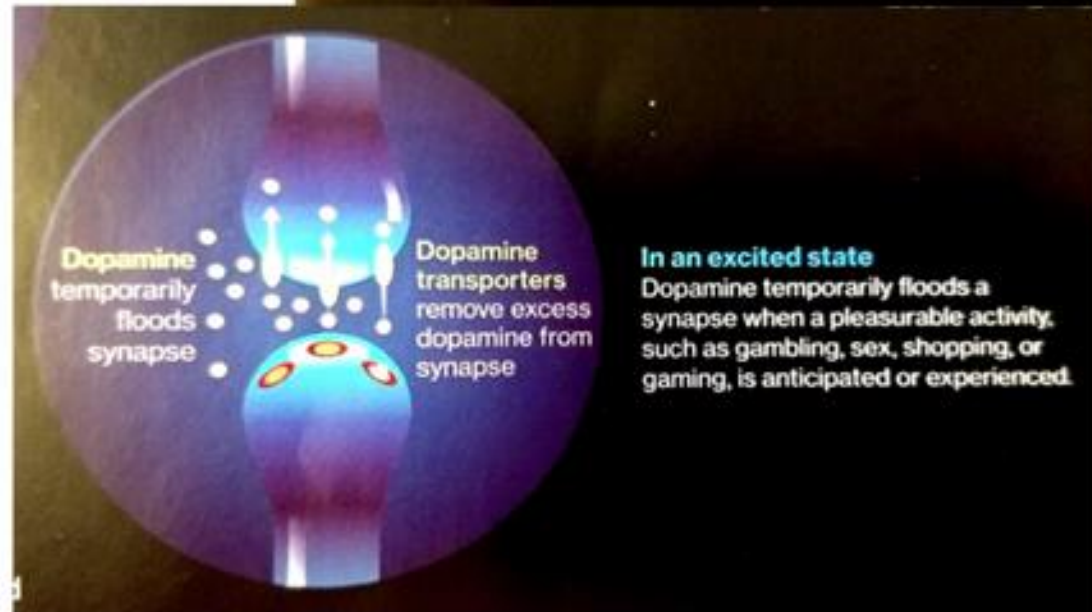
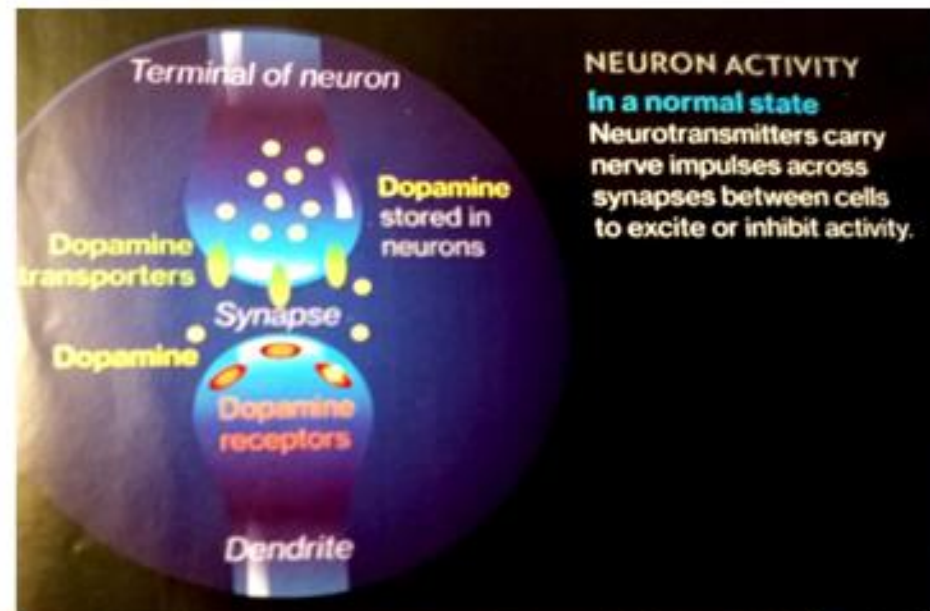
p. 41 – In the Grip of Gaming

In Seoul, e-stadiums and game parlors charge about a dollar an hour, and some venues are open around the clock. Soon after South Korea made super-high-speed Internet cheap and widely available, it became clear that some people were ruining their lives through obsessive game playing. The government now pays for treatment. The American Psychiatric Association hasn't recognized compulsive gaming as an addiction, but it lists Internet game disorder as 'requiring more study'.

# Hijacking the Brain (continued)

## A NATURAL HIGH

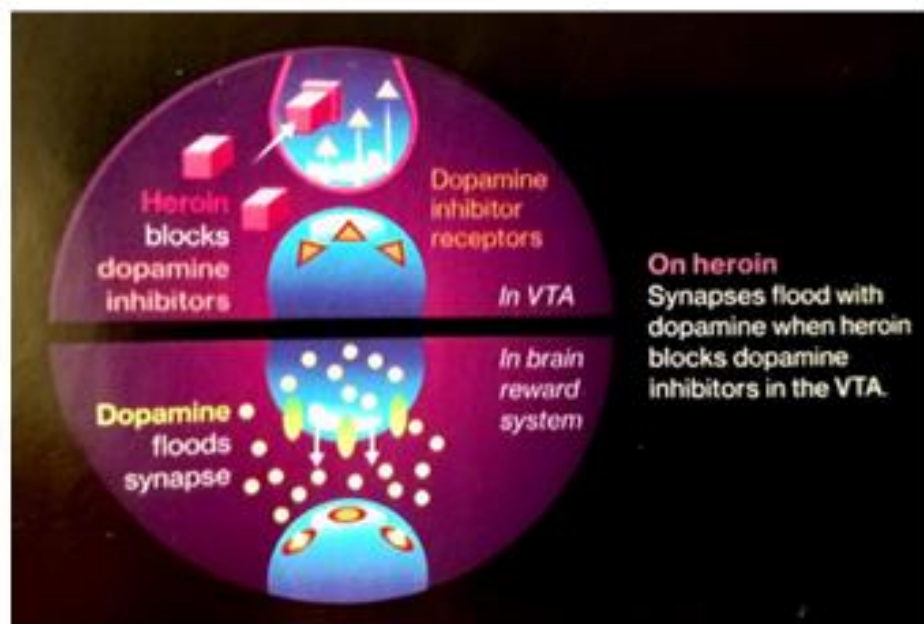
Our brains evolved a dopamine-based reward system to encourage behaviors that help us survive, such as eating, procreating, and interacting socially.



# Hijacking the Brain (continued)

## A CHEMICAL RUSH

Different drugs interact with the reward system in unique ways to keep synapses artificially flooded with dopamine. That dopamine rush can rewire your brain to want more drugs, leading to addiction.





## Common 'behavioral addictions':

- Exercise
- Video games
- Gambling
- Work
- E-mail (p 109)
- Social media
- Binge watching
- Hoarding
- ...

## What do these have in common?

- Behavioral addiction is rooted in environment + circumstance
- Might fulfill a psychological need, obsession, compulsion
- May be detrimental to work, health, hygiene, social interaction...
- Often becomes something we 'want' versus something we 'like'

# What makes tech so 'irresistible'?

By design,

- Goal setting, perfectionism – time and numbers (e.g. FitBit)
- Classic reinforcement – provide small doses of positive feedback (work)
- Uncertainty - Facebook, Instagram... (social media)
- 'Loss as motivation' – the gambler's paradox (slots)
- Mobile access – iPad and iPhone enabled (mobile devices)
- Ludic loops – complete one challenging element, then the next... (video games)
- 'Flow' - proximal (skill) development – skill vs. challenge (video games)
- Zeigarnik effect – incomplete experiences (e.g. cliff-hangers) (TV shows)
- MUDs & MMOs - immersion, achievement, social (connection) (video games)
- Absence of Stopping rules (all)

Bottomline: Every technique in the book is used to get and keep us hooked!