

# Mobile computing

## Social computing

Martin Drozda

# Prečo sú niektoré úspešné?



Prečo sú niektoré sociálne siete úspešné?

Ako podporovať **návykovost'** sociálnej aplikácie?

Aké druhy odmien ponúkať v aplikácii aby sa stala **návyková**?

Aký je rozdiel medzi **gamblingom** a sociálnymi aplikáciami?

# TikTok: čo vidíte vy

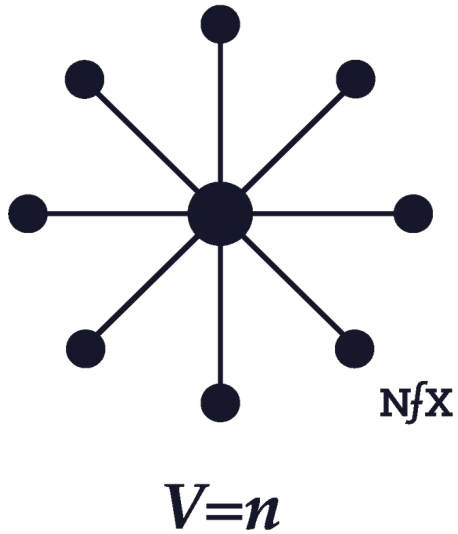


**AMERICAN BOY**

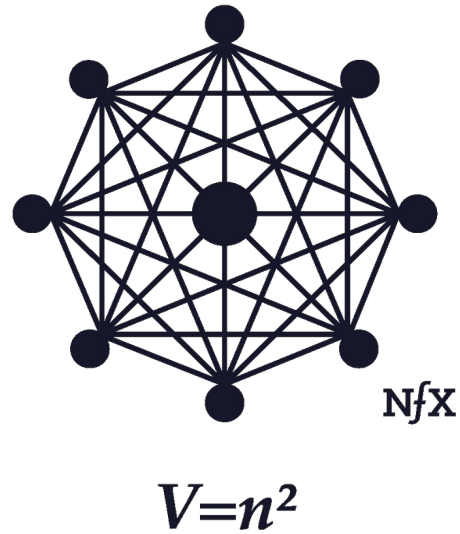
Dvadsaťtriročná Alena Spálenská prišla na to, že má ADHD, len pred dvoma rokmi, keď sa učila na štátnice zo žurnalistiky. Napovedal jej TikTok, keď jej začal ponúkať množstvo videí o tejto poruche, v ktorých sa až podozrivo spoznávala. Teraz študuje psychológiu a na sociálnych sieťach šíri osvetu o ADHD.

ADHD = Attention Deficit Hyperactive Disorder

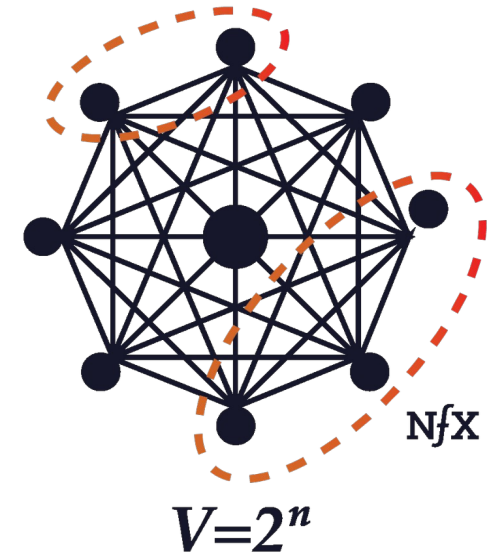
## Sarnoff's Law

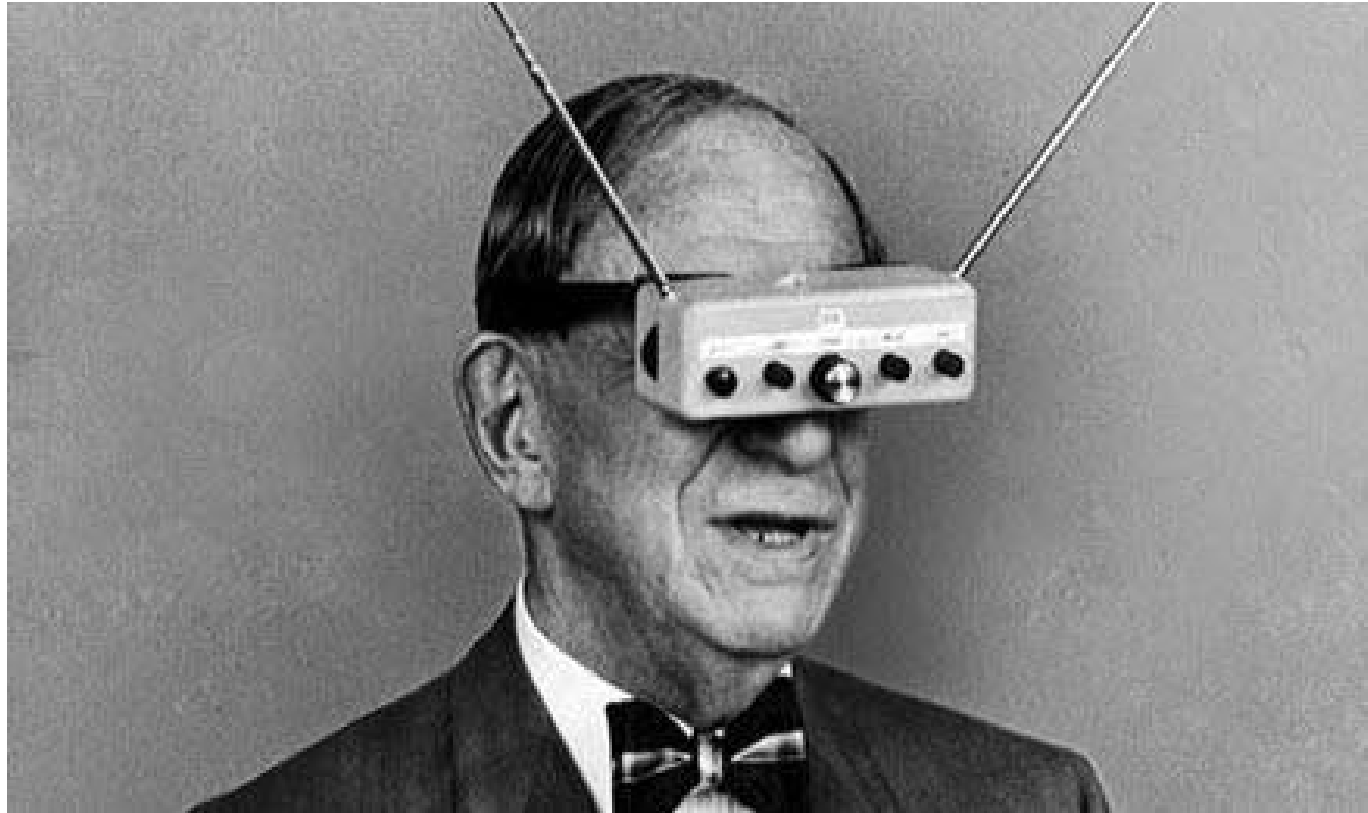


## Metcalfe's Law



## Reed's Law





Gernsback demonstrating his television goggles in 1963 for Life magazine

Zdroj: [https://en.wikipedia.org/wiki/Hugo\\_Gernsback](https://en.wikipedia.org/wiki/Hugo_Gernsback)

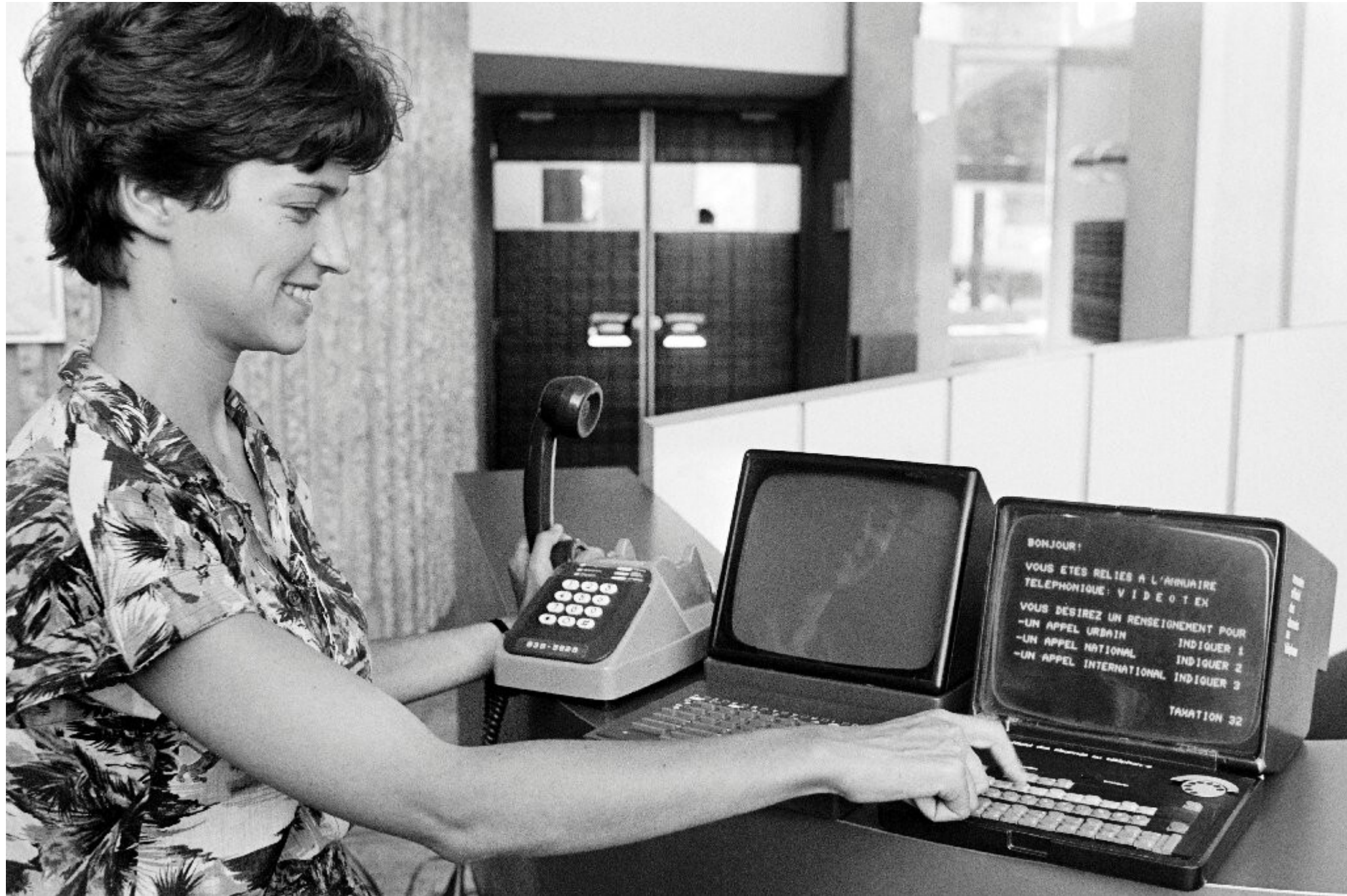
# Picturephone, 1964 (AT&T Bell Labs)

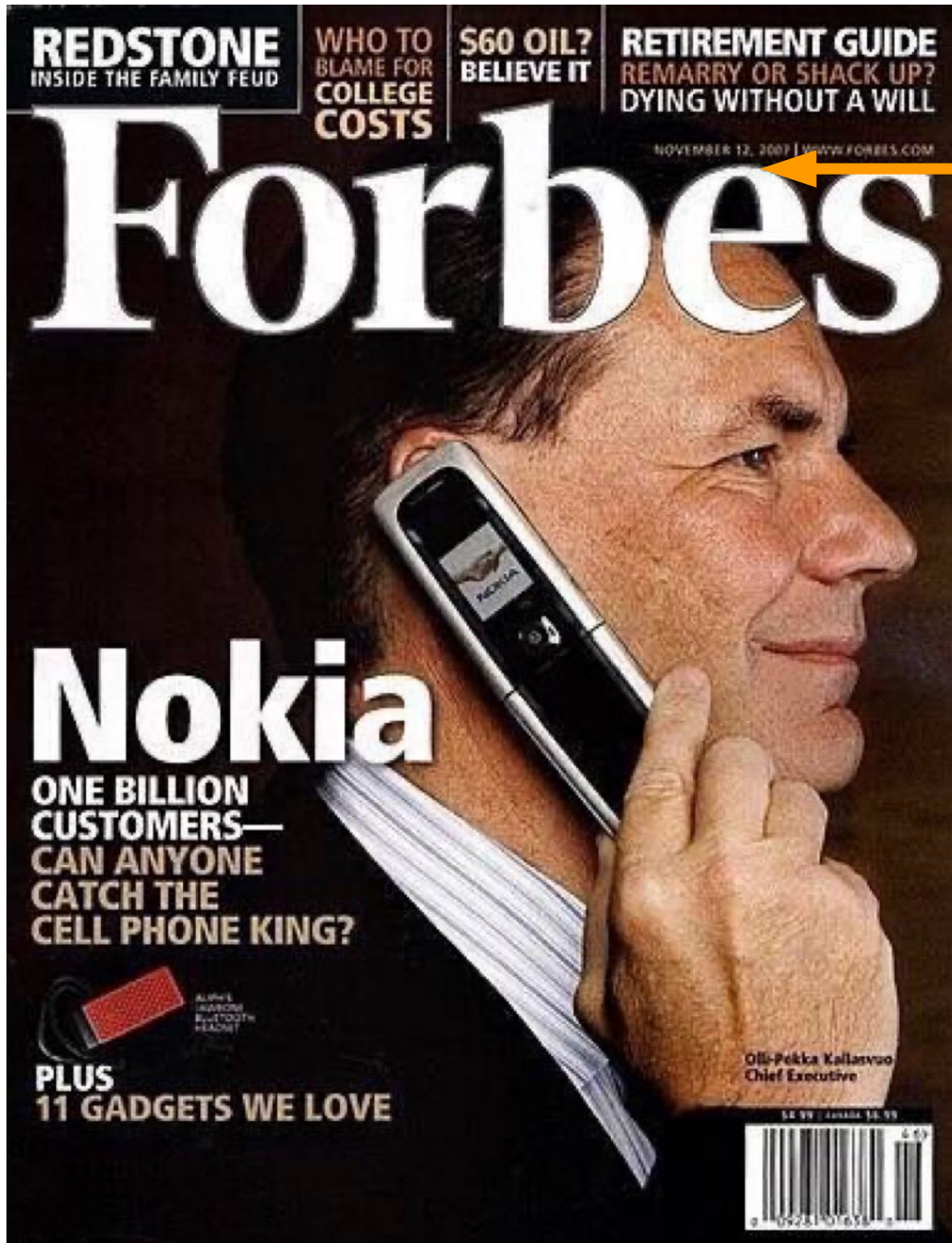


Cena 160USD/mesiac,  
približne 1000USD/mesiac  
dnes.



# Minitel, 1982 (Francúzsko)





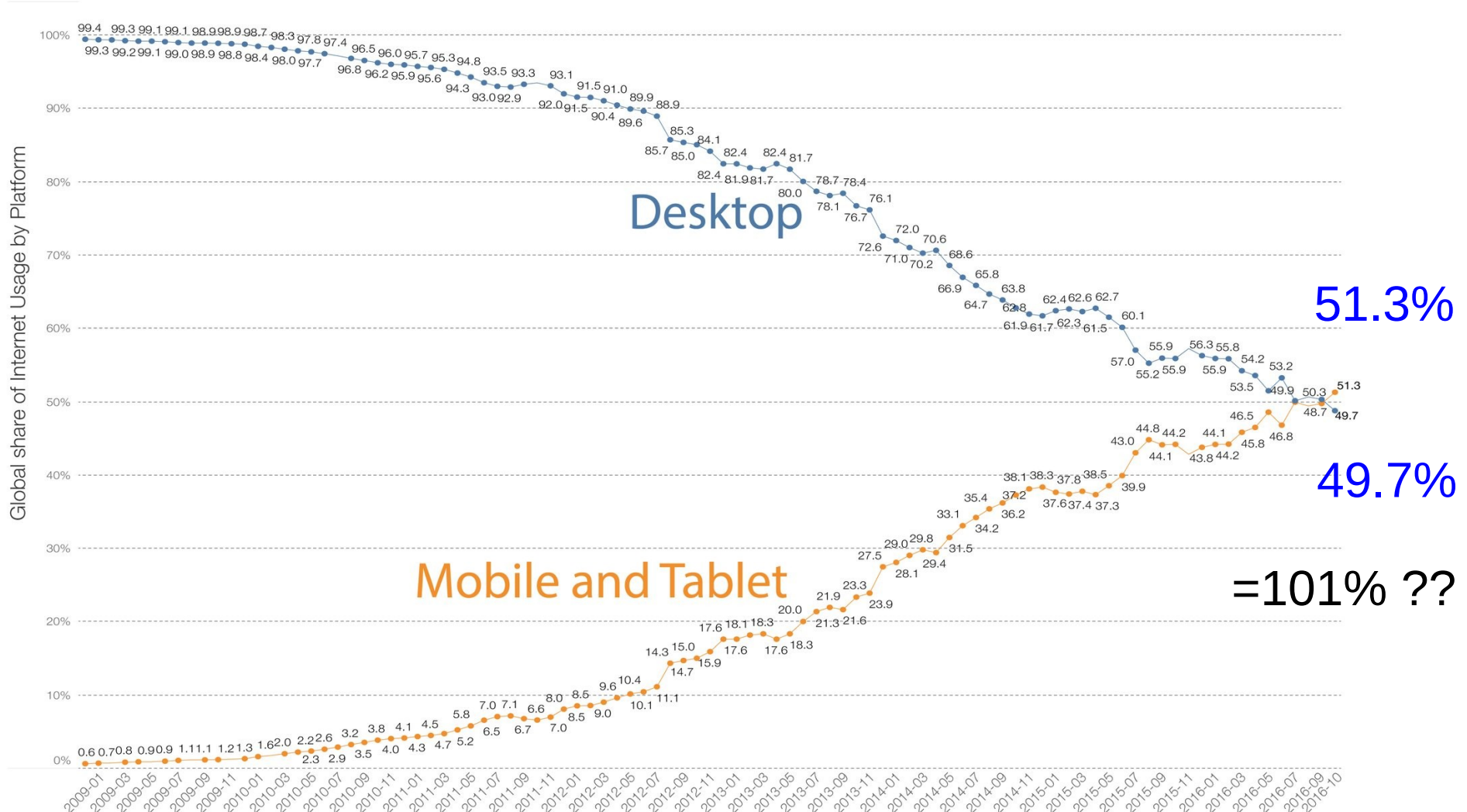
iPhone: 9. 1. 2007

Nokia (Forbes): 12. 11. 2007

Android OS: 23. 9. 2008

# Desktop je dead? Od 2016...

Global share of internet usage by platform worldwide (2009 to October 2016)  
These estimates are published by StatCounter.com

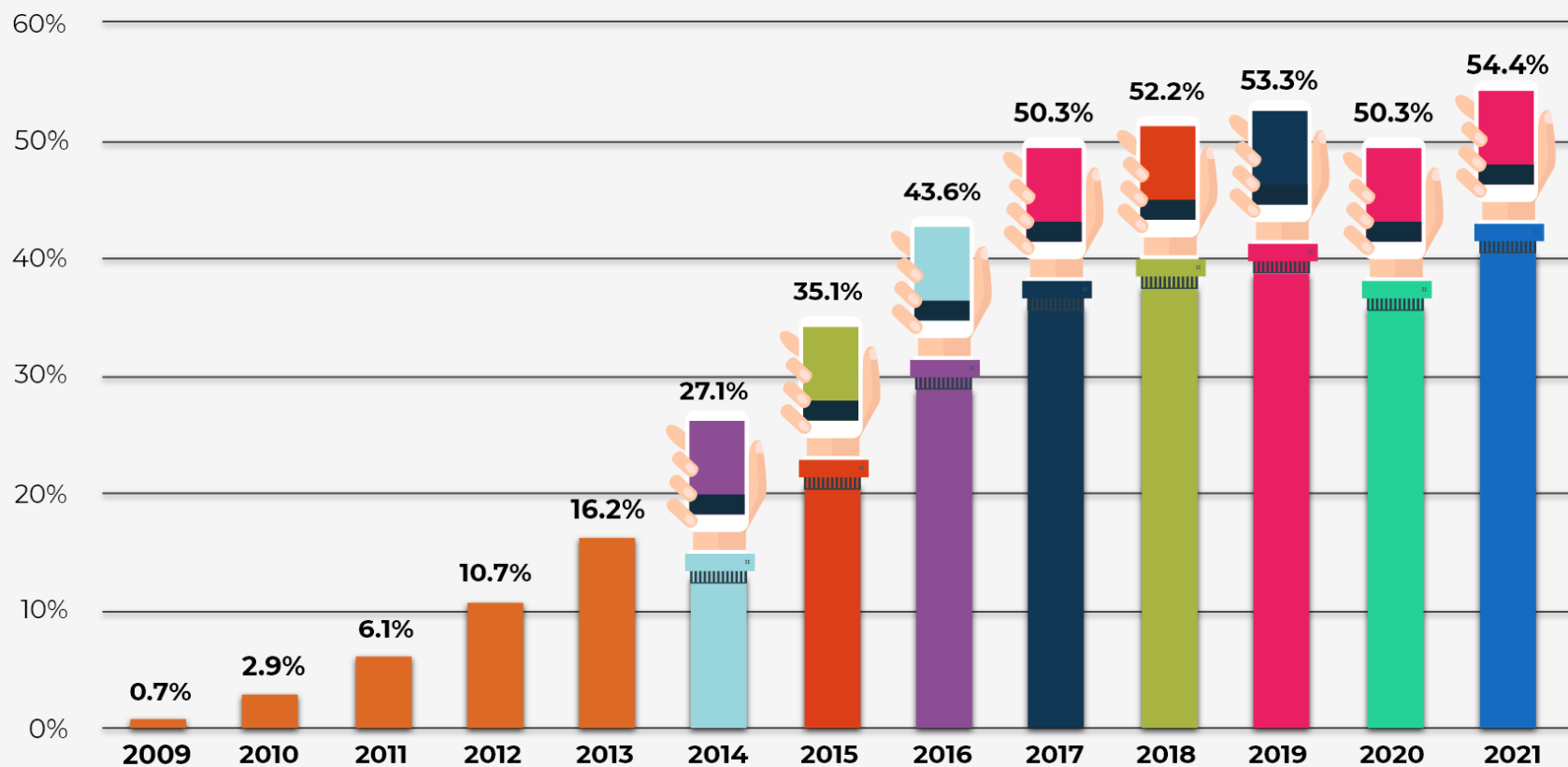


Data source: StatCounter (accessed 1 November 2016)

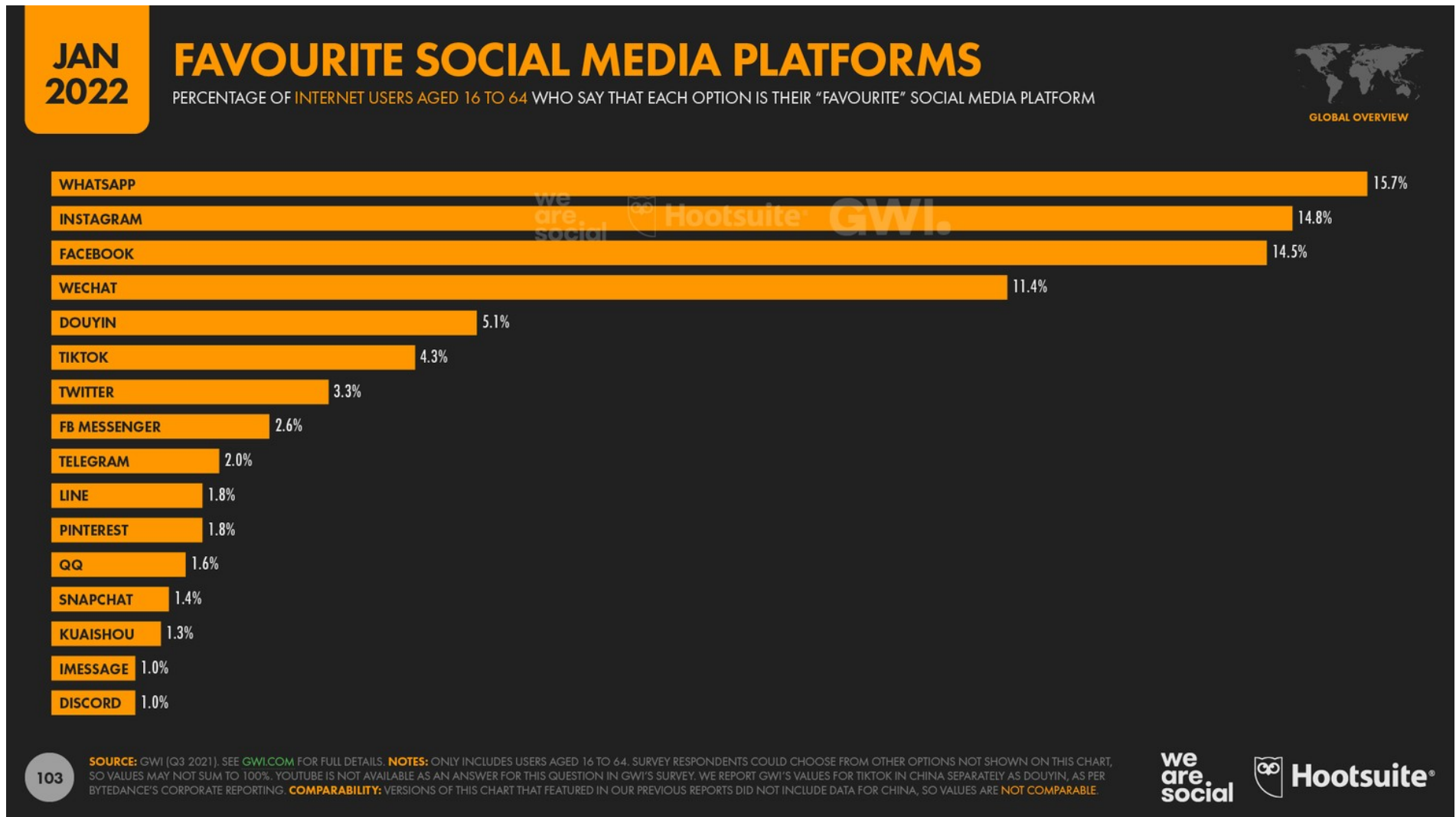
The interactive data visualization is available at [OurWorldinData.org](http://OurWorldinData.org). There you find the raw data and more visualizations on this topic.

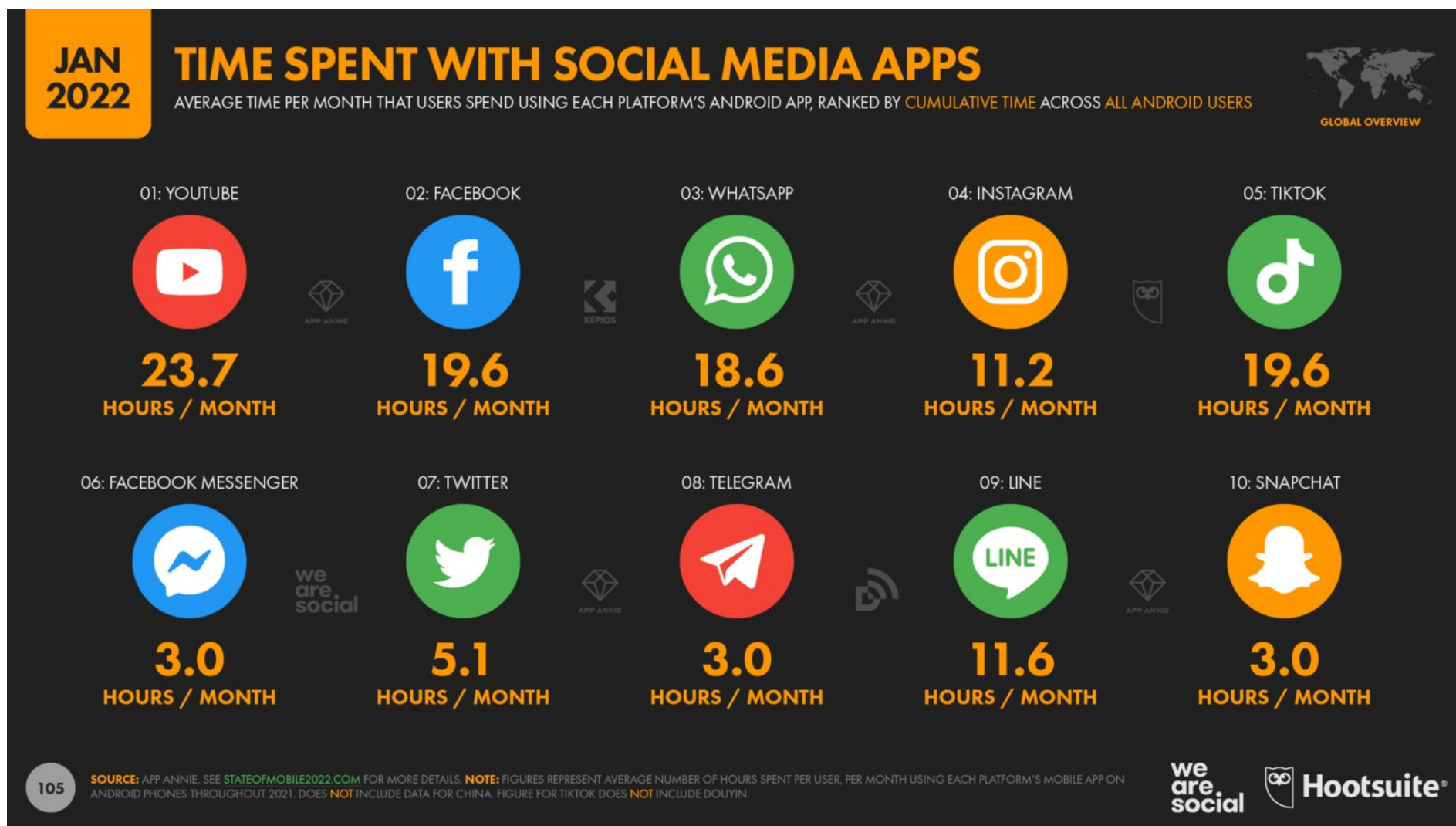
Licensed under CC-BY-SA by the author Max Roser.

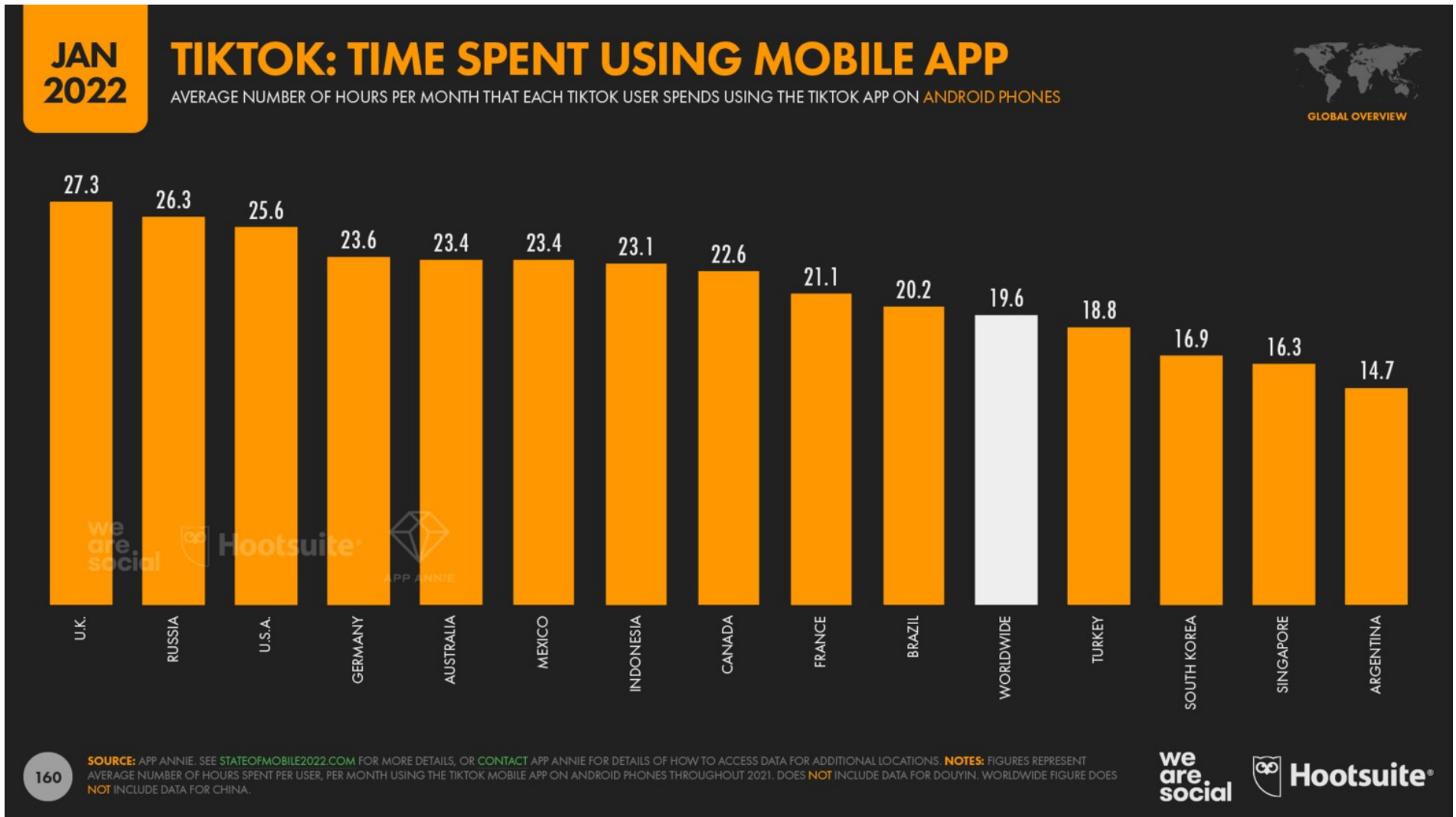
## The Rise of Mobile Traffic and Current Mobile Traffic Share



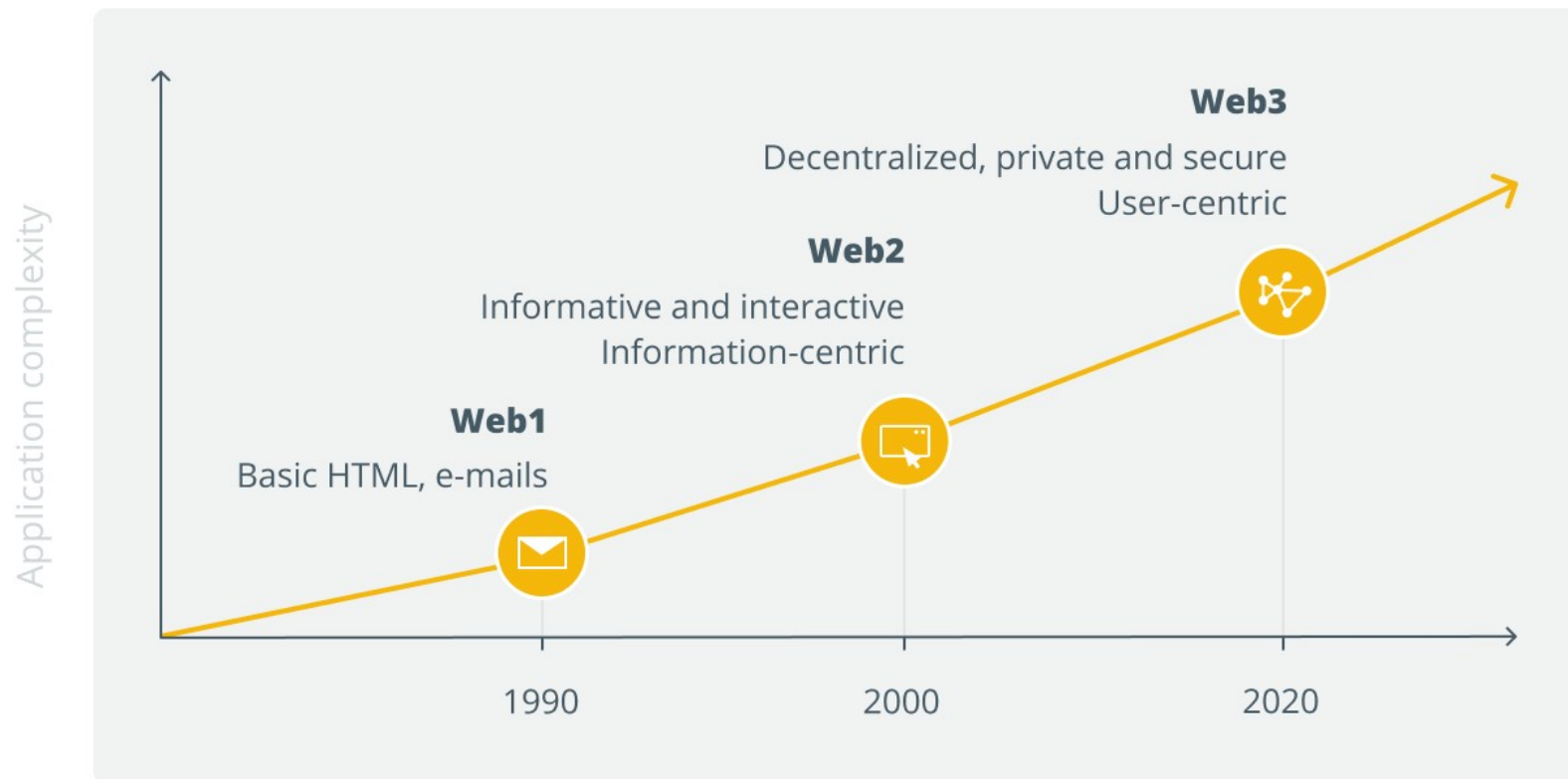
V roku 2020 bolo 50.3% používania Internetu (objem dát v GB) cez mobilné zariadenia. Pokles 2019-20 môže byť spôsobený pandémiou Covid19.





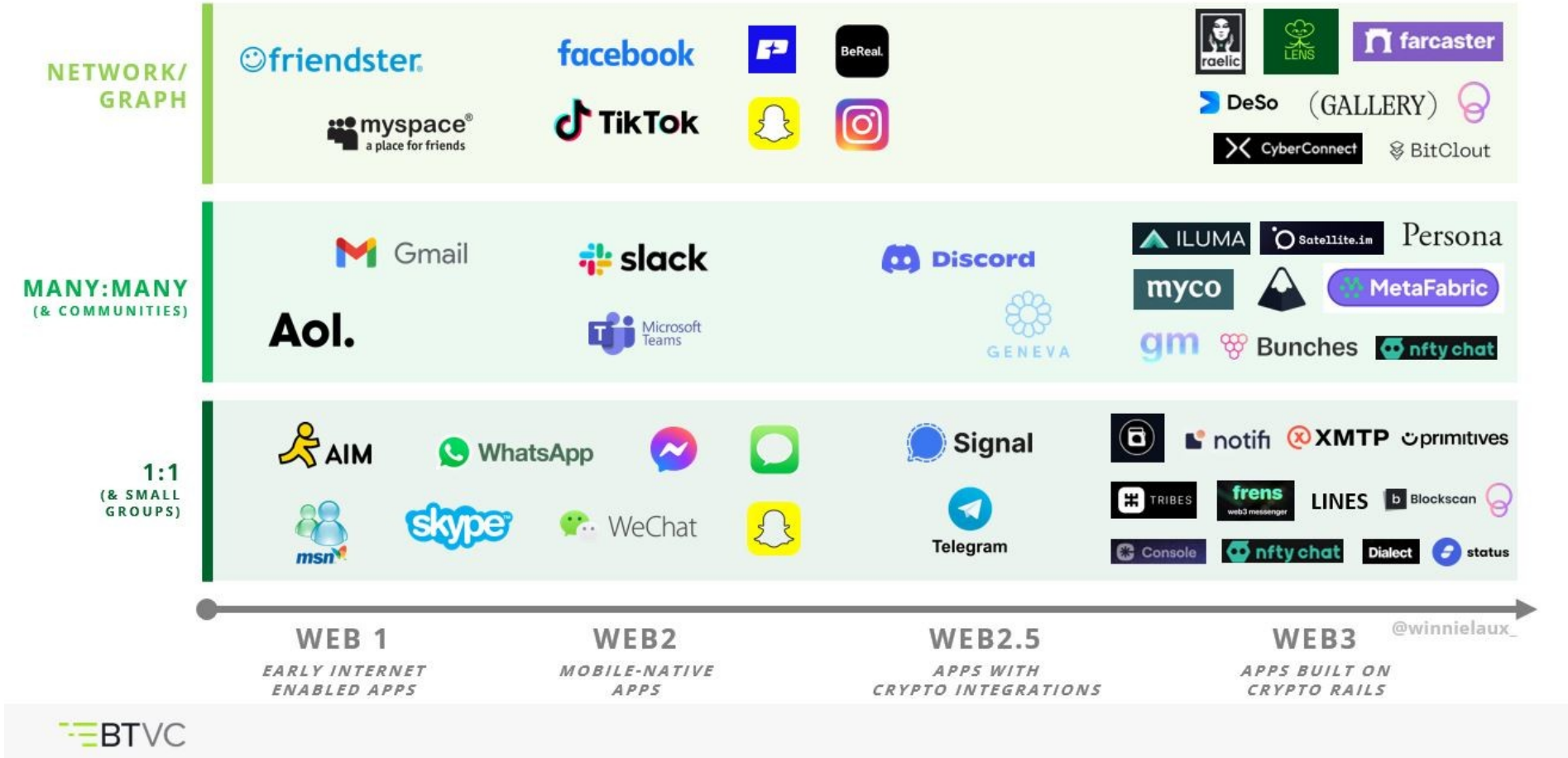


## The history of the internet





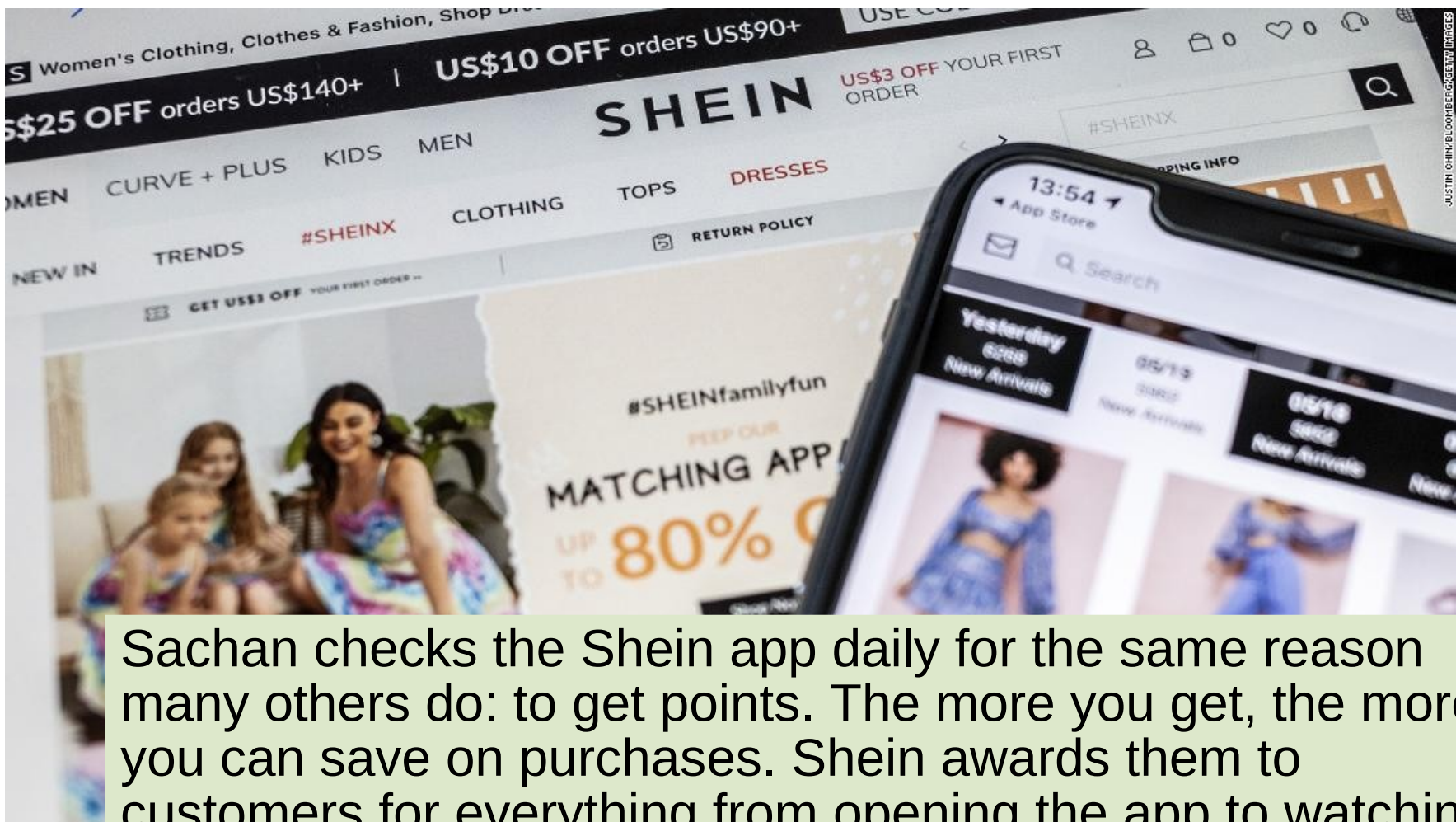
## EVOLVING CONSUMER SOCIAL LANDSCAPE





Chat app Line makes over \$270 million a year from selling stickers

Zdroj: <https://techcrunch.com/2016/06/13/chat-app-line-makes-over-270-million-a-year-from-selling-stickers/>



Sachan checks the Shein app daily for the same reason many others do: to get points. The more you get, the more you can save on purchases. Shein awards them to customers for everything from opening the app to watching live streams and entering outfit design contests. "It is pretty addictive," said Sachan, describing the experience as similar to playing a mobile game.

## Investing for Everyone

Commission-free investing, plus the tools you need to put your money in motion. Sign up and get your first stock for free. Certain limitations and fees apply.



Robinhood Markets Inc will discard its signature confetti animation that used to mark first trades for users on its trading app, following criticism from politicians and regulators.

Starting next week, users will see new features marking milestone moments, including first-time money deposits, first investments or for sign-ups for Robinhood Gold, its premium membership offering...

"A must-read for everyone who cares about driving customer engagement."

—ERIC RIES, author of *The Lean Startup*

# HOOKED



How to Build  
Habit-Forming Products

**NIR EYAL**

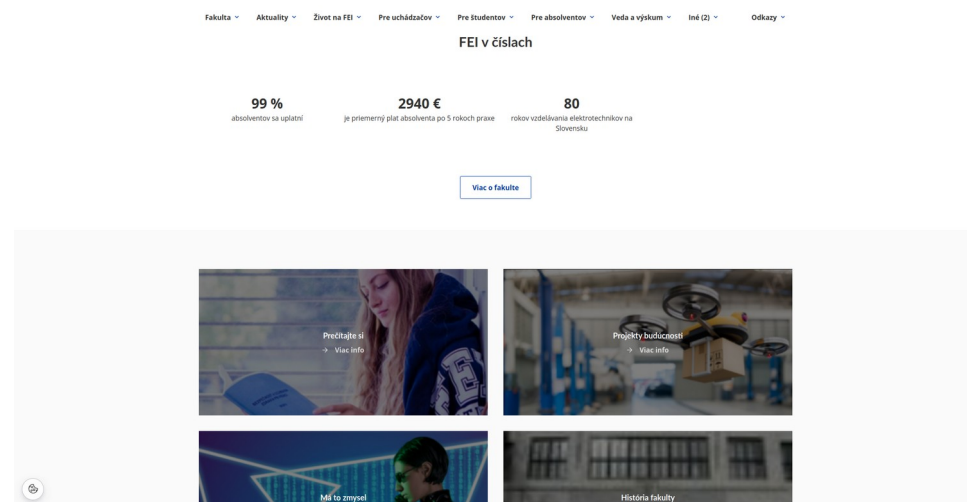
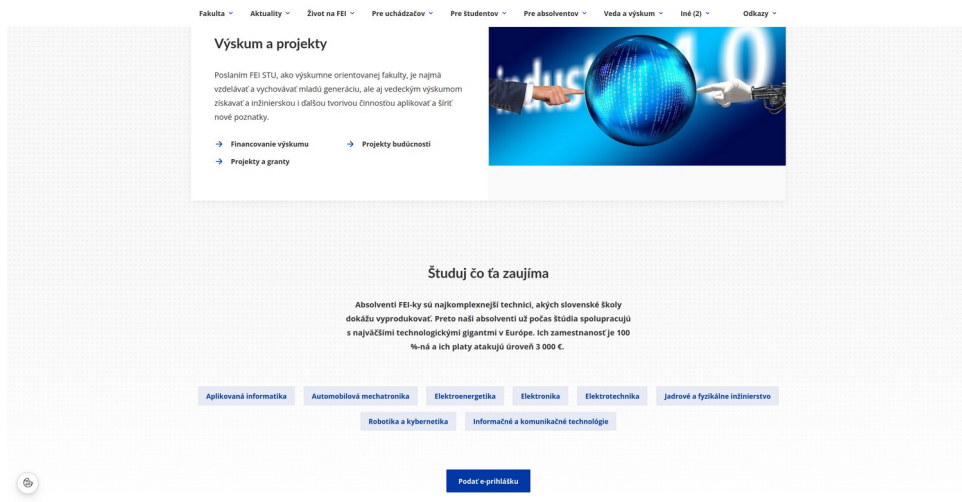
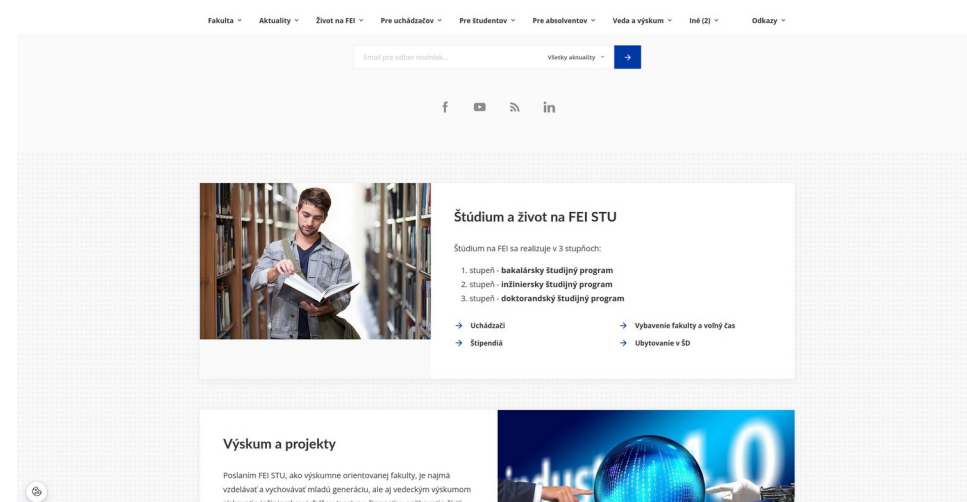
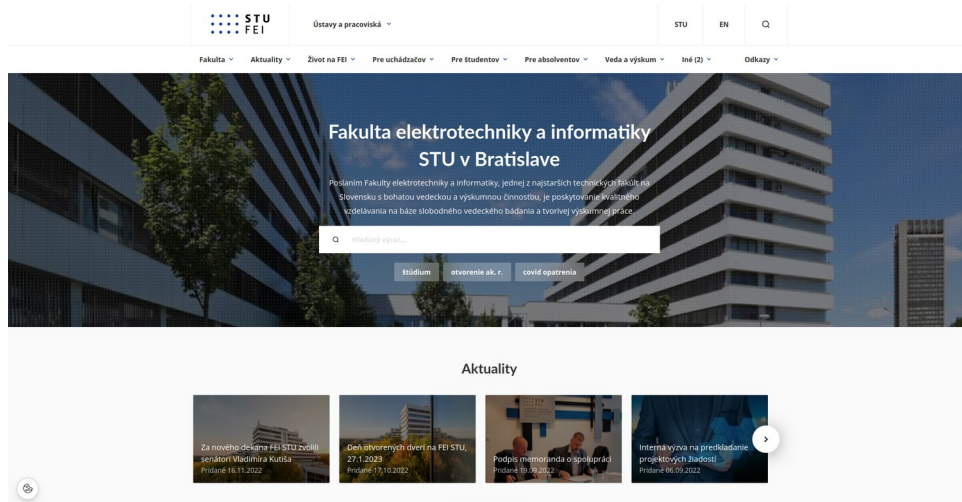
WITH RYAN HOOVER

- Trigger: ako spustiť používateľovu akciu
  - Interný trigger: nuda, strach, sociálna exklúzia
  - Externý trigger: email, správa, sms
- Action: trigger vedie k akcii, ktorá musí byť **jednoznačne** definovaná
  - login
  - upload obrázku, videa
  - povolenie sledovania polohy
- Reward: (nepravidelná, nepredvídateľná) odmena za akciu
- Investment: používateľ investuje čas a námahu

- Trigger:
  - Interný trigger: nuda, strach, sociálna exklúzia
  - Externý trigger: email, správa, sms
- Action: trigger vedie k akcii, ktorá musí byť **jednoznačne** definovaná
  - login
  - tweet
- Reward: získanie nasledovníka za tweet
- Investment: nasledovníkov je ťažké previesť na inú službu

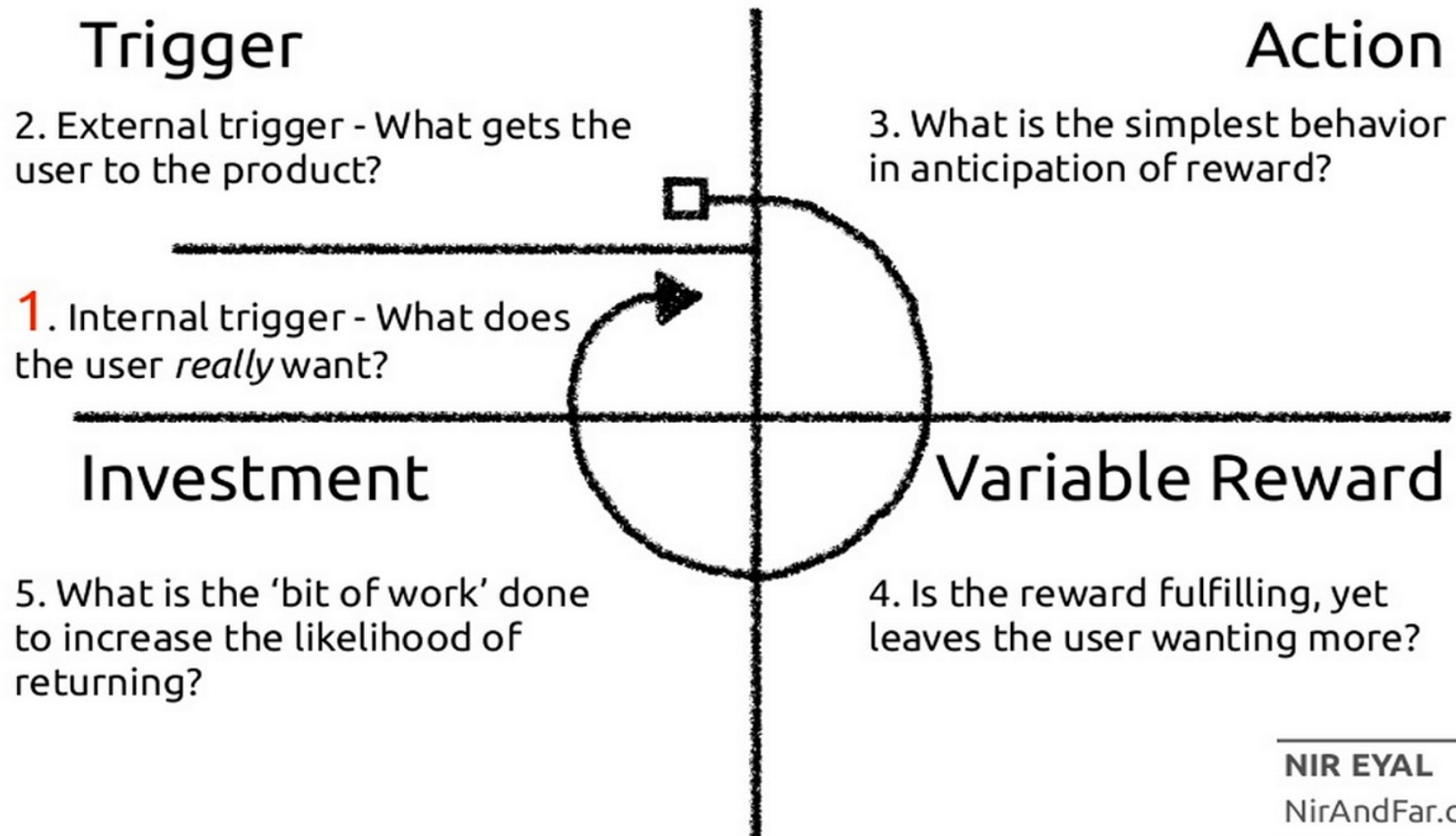






Web stránka FEI STU (11/2022): čo je jednoznačná akcia?  
 Hľadanie, prezeranie aktualít, info pre študentov, prihlášky na štúdium? Alebo niečo iné?

# The hook canvas



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**NIR EYAL**

NirAndFar.com

@nireyal

Čo je to zvyk?

Merriam Webster:

- *a usual way of behaving : something that a person does often in a regular and repeated way*
- *a strong need to use a drug, to smoke cigarettes, etc.*

*Dickinson&Balleine. The Role of Learning in the Operation of Motivational Systems, John Wiley & Sons, 2002:*

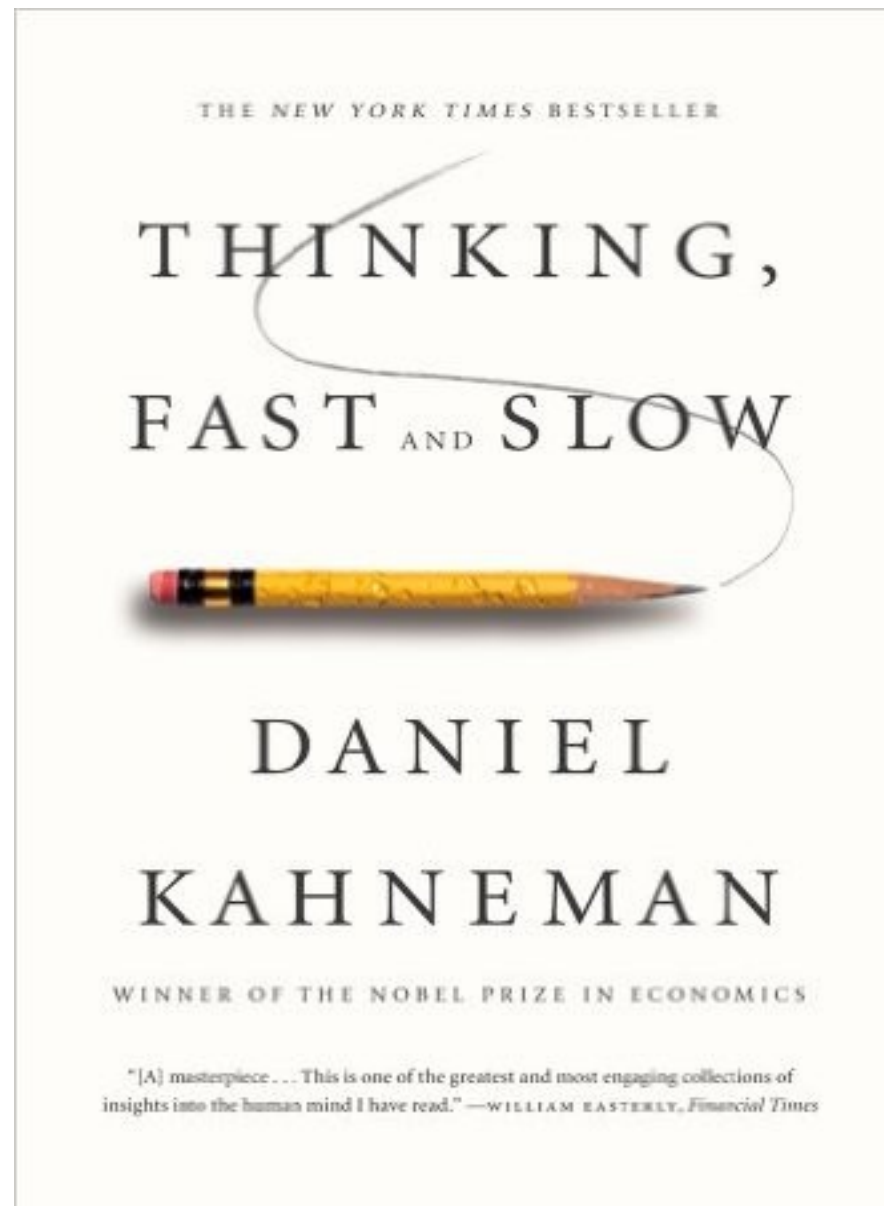
- *Habits form when the brain takes a shortcut and stops actively deliberating over what to do next.*

Zvyk: ak bolo rozhodnutie dobré v minulosti, tak bude dobré aj teraz

Kahneman: thinking, fast and slow

Fast thinking: tak ako predtým (zvyk)

Slow thinking: rozhodnutie pri prvom riešení problému



# Sila zvyku: Smile graph



Libin (Evernote CEO): after the first month, only 0.5 percent of users paid for the service; however, this rate gradually increased. By month 33, 11 percent of users had started paying. At month 42, a remarkable 26 percent of customers were paying for something they had previously used for free.

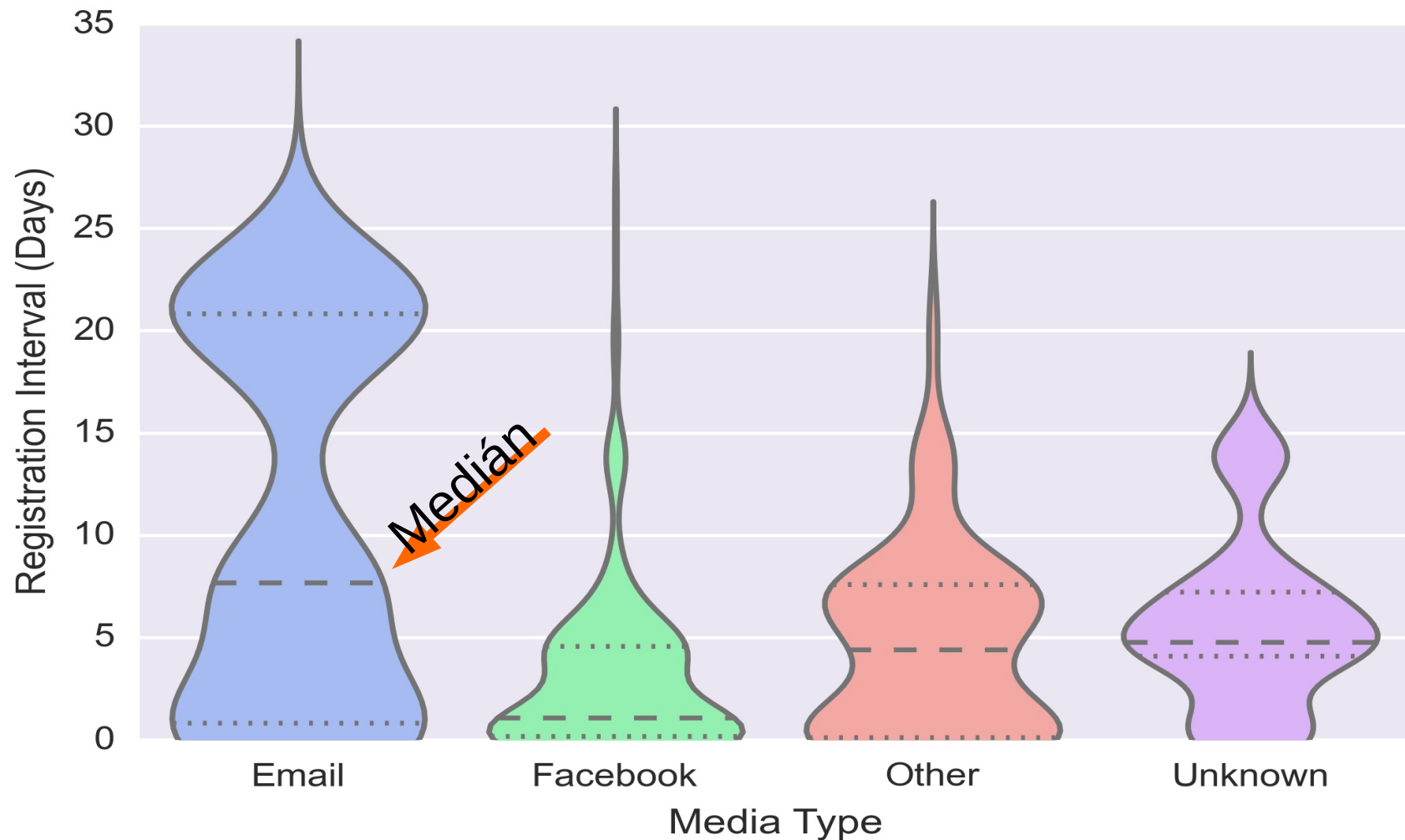
# Viral Cycle Time

Viral Cycle Time is the amount of time it takes a user to invite another user.

David Skok, Lessons Learned – Viral Marketing:

- *After 20 days with a cycle time of two days, you will have 20,470 users (for example).*
- *But if you halved that cycle time to one day, you would have over 20 million users! It is logical that it would be better to have more cycles occur, but it is less obvious just how much better.*

# Mobilizačná schopnosť Facebook-u



Jing Wang, Stuart Madnick, Xitong Li, Jeff Alstott, Chander Velu,  
Effect of Media Usage Selection on Social Mobilization Speed:  
Facebook vs E-Mail, 2005.



# Nový produkt musí být 9x lepší

John Gourville, Eager Sellers and Stony Buyers:  
Understanding the Psychology of New-Product Adoption:

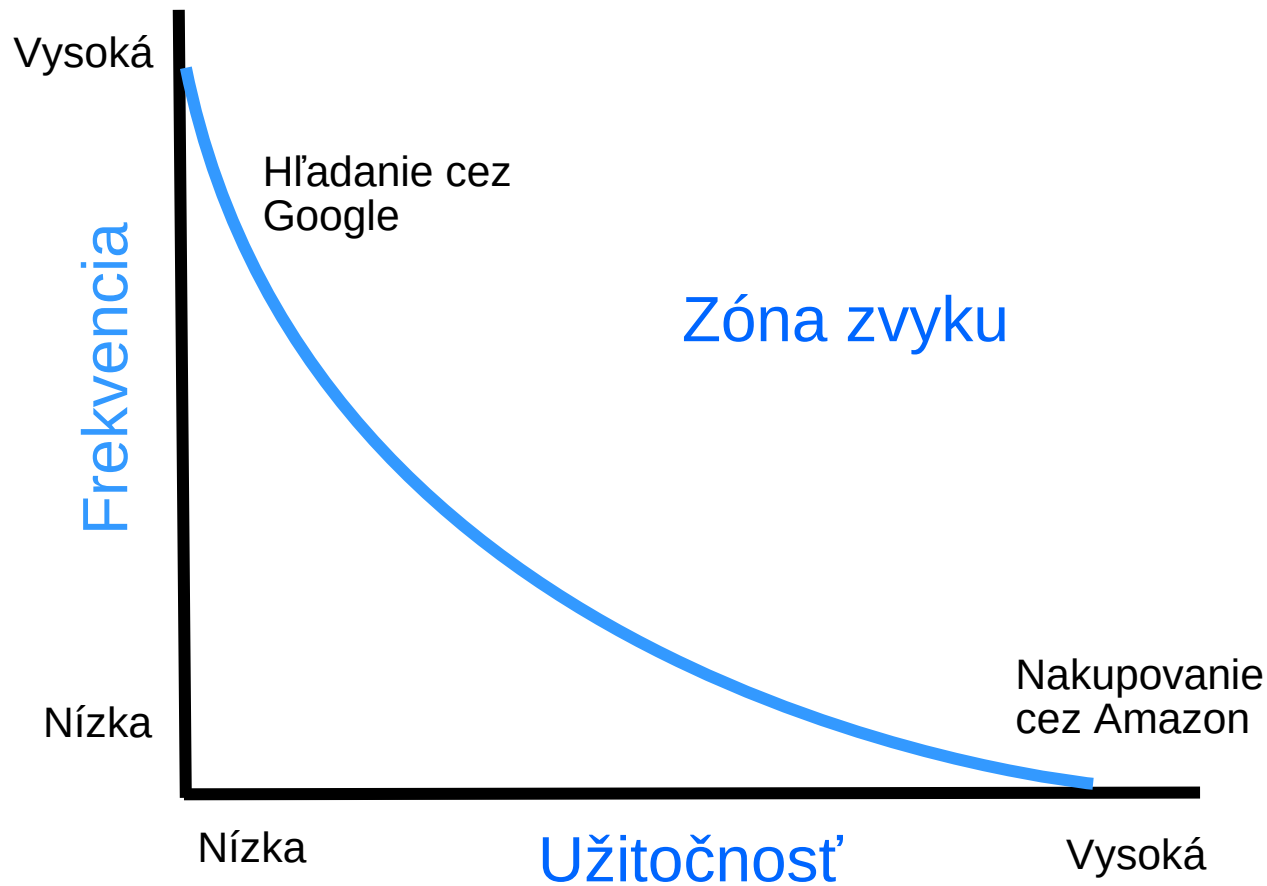
- *...consumers overvalue the existing benefits of an entrenched product by a factor of three, while developers overvalue the new benefits of their innovation by a factor of three. The result is a mismatch of nine to one, or 9x, between what innovators think consumers desire and what consumers really want.*
- *Most innovative products—those that create new product categories or revolutionize old ones—are also unsuccessful. According to one study, 47% of first movers have failed, meaning that approximately half the companies that pioneered new product categories later pulled out of those businesses.*

# Zvyk je ťažko prekonať

~	!	"	£	\$	%	^	&	*	(	)	{	}	←
`	1	2	3	4 €	5	6	7	8	9	0	[	]	Backspace
Tab	@	<	>	P	Y	F	G	C	R	L	?	+	Enter
↔	'	,	.								/	=	↵
Caps Lock	A	O	E	U	I	D	H	T	N	S	-	~	
⬆	Á	Ó	É	Ú	Í						-	#	
Shift		:	Q	J	K	X	B	M	W	V	Z	Shift	
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Ctrl	Win Key	Alt							Alt Gr	Win Key	Menu	Ctrl	

Dvorakova klávesnica : lepšia ako qwerty, ale je ťažké si zvyknúť na používanie

# Zóna zvyku



Amazon – porovnávacie nákupy (comparison shopping) sú veľkou výhodou Amazonu; zobrazuje aj nižšie ceny konkurencie.

Aké zvyky vyžaduje vaša aplikácia?

Ktoré používateľovo správanie chcete pretransformovať do zvyku?

Aké zvyky podporuje Amazon?

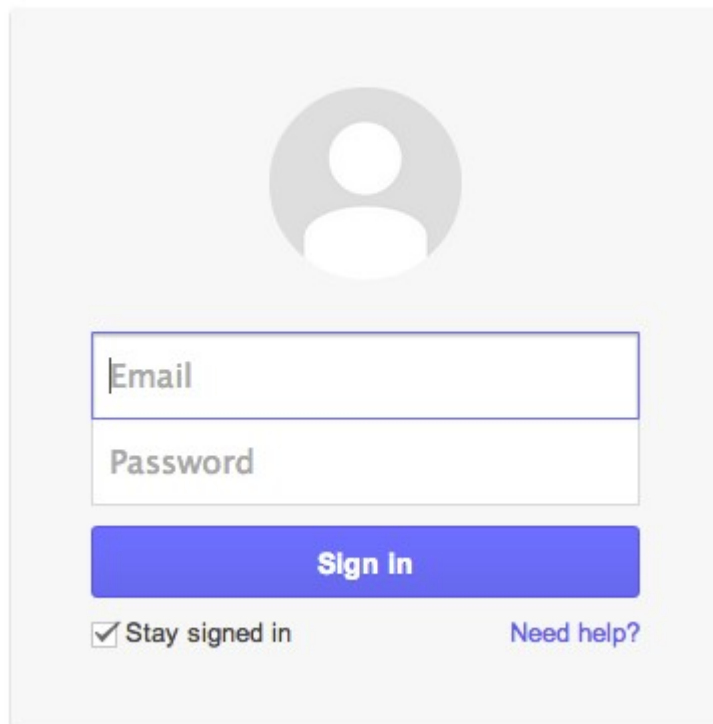
Je riešenie „habit by design“ možné?

Externý:

- Spolu s inštrukciami (informáciou) o tom, čo má používateľ spraviť



Sign in with your Google Account



The image shows a screenshot of the Google sign-in interface. At the top, there is a large, light gray circular icon representing a user profile. Below this icon are two input fields: the first is labeled 'Email' and the second is labeled 'Password'. Below the input fields is a prominent blue button with the text 'Sign In' in white. At the bottom left of the form, there is a checked checkbox followed by the text 'Stay signed in'. At the bottom right, there is a blue link that says 'Need help?'.

Externý trigger pre akciu  
„nalogovanie cez GMail“



The screenshot shows the original Thefacebook website. At the top left is a pixelated profile picture of Mark Zuckerberg. The top right features the site's logo "[ thefacebook ]" in blue, with links for "login", "register", and "about" below it. On the left side, there is a registration form with fields for "Email:" and "Password:", and buttons for "register" and "login". The main content area has a blue header "Welcome to Thefacebook!" and a large heading "[ Welcome to Thefacebook ]". Below this, the text reads: "Thefacebook is an online directory that connects people through social networks at colleges. We have opened up Thefacebook for popular consumption at **Harvard University**." A list of features follows: "You can use Thefacebook to:" followed by a bulleted list: "• Search for people at your school", "• Find out who are in your classes", "• Look up your friends' friends", and "• See a visualization of your social network". Below the list, it says "To get started, click below to register. If you have already registered, you can log in." At the bottom of this section are "Register" and "Login" buttons. An orange arrow points from the text "If you have already registered" to the "Login" button. The footer contains links for "about", "contact", "faq", "terms", and "privacy", followed by "a Mark Zuckerberg production" and "Thefacebook © 2004".

Email:

Password:

register  
login

Welcome to Thefacebook!

[ Welcome to Thefacebook ]

Thefacebook is an online directory that connects people through social networks at colleges.  
We have opened up Thefacebook for popular consumption at **Harvard University**.

You can use Thefacebook to:

- Search for people at your school
- Find out who are in your classes
- Look up your friends' friends
- See a visualization of your social network

To get started, click below to register. If you have already registered, you can log in.

Register Login

about contact faq terms privacy  
a Mark Zuckerberg production  
Thefacebook © 2004

- **Kúpený:** reklama a marketing – v prípade sociálnych sietí je to neudržateľný model
- **Zarobený:** zadarmo, ale veľmi náročný model, napr. pozitívne ohlasy v tlači.
- **Vzťahový:** email poslaný príbuznému alebo priateľovi.
  - PayPal 1998 : neodolateľné neotvoriť email v ktorom píše priateľ, že poslal peniaze
- **Vlastnený:** keď sa ikona aplikácie dostane na homescreen vášho mobilu, čím častejší update aplikácie, tým častejší externý trigger – a úplne zdarma

- Emócie, vrátane negatívnych emócií
  - Nuda
  - Samota
  - Frustrácia
  - Nerozhodnosť
  - Strach stratit' „precious moment“ - Instagram
  - Pozitívne emócie – dobrá skúsenosť so zakúpenou službou
- Sriram Chellappan: *Ľudia, ktorí majú depresie používajú Internet viacej. Prečo?*
- Interný trigger pre email: overenie vlastnej dôležitosti, čím viacej správ dostanem, tým som dôležitejší



# Externý vs interný trigger

- Externý: používateľovi presne poviem, čo má spraviť
- Interný: to čo má používateľ spraviť je **naučená asociácia**
  - Nuda = Facebook
  - Strata neopakovateľného momentu = Instagram  
FOMO = fear of missing out
  - Čo robí celebrita = Instagram, Twitter
  - Osobná dôležitosť = Email

# User narrative : používateľov príbeh

- Jack Dorsey: *[If] you want to build a product that is relevant to folks, you need to put yourself in their shoes and you need to write a story from their side. So, we spend a lot of time writing what's called user narratives.*

<https://youtu.be/acMXhhdWylQ>



*Úloha: napíš používateľov príbeh pre svoju aplikáciu*

Príklad Nir Eyal, Hooked:

- *Prečo chce Julie používať email?  
Aby mohla prijímať a posielat' správy.*
- *A prečo to chce?  
Pretože chce zdieľať a prijímať informácie rýchle.*
- *A prečo to chce?  
Aby vedela ako žijú a čo robia jej priatelia, príbuzní a kolegovia.*
- *A prečo to potrebuje vedieť?  
Aby vedela, či ju niekto potrebuje.*
- *A prečo to chce vedieť?  
Aby vedela, či na ňu nezabudli.*

**Julie má strach, že bude mimo spoločenské dianie**

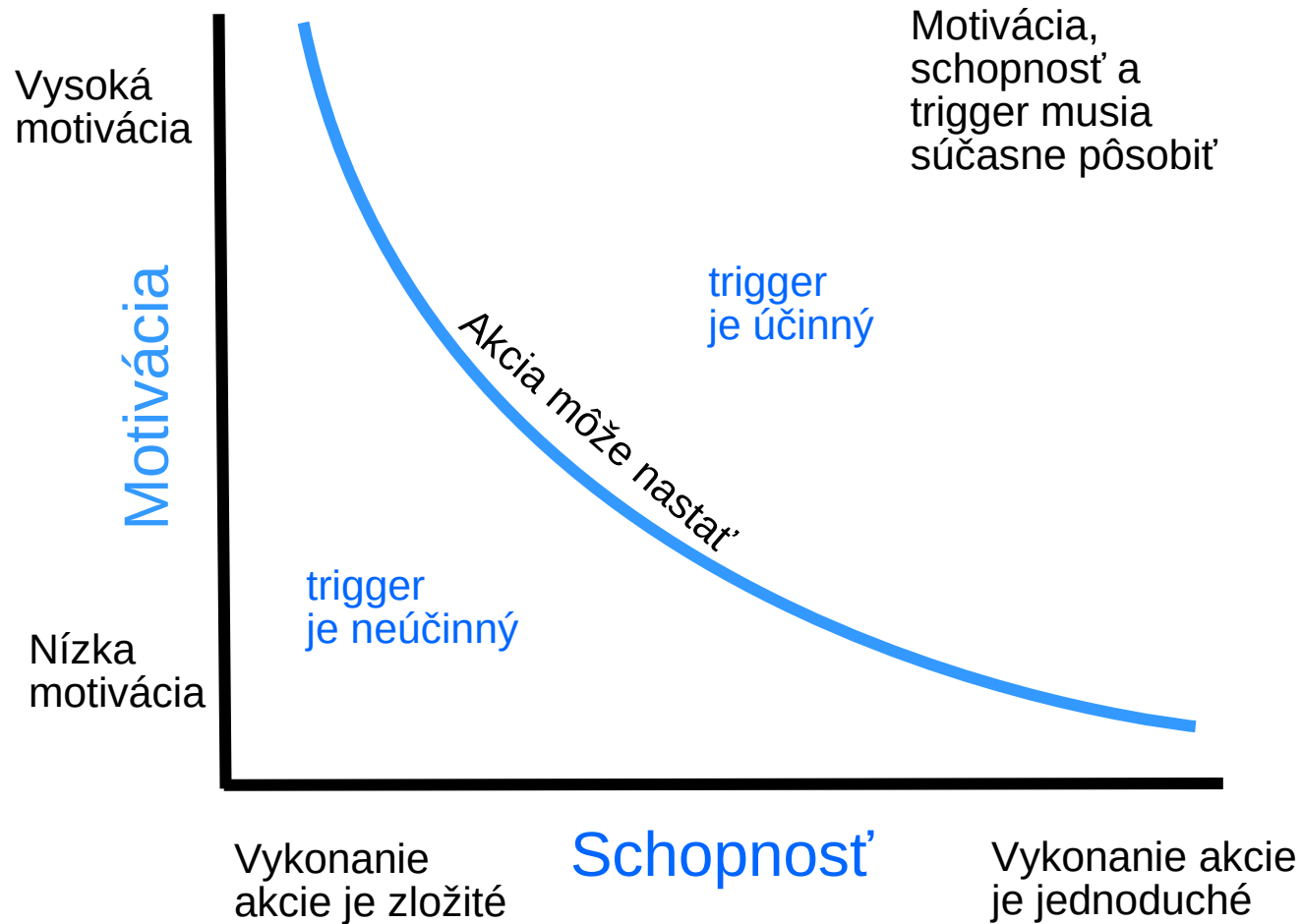
BJ Fogg, [What Causes Behavior Change?](#)

Akcia vyžaduje:

- Motiváciu (M): energiu pre akciu
- Schopnosť vykonať akciu (A = ability)
- Aktivujúci trigger (T)

**B = MAT** definuje krivku, ktorú treba prekročiť pre vykonanie akcie; všetky tri podmienky musia byť splnené, t.j. motivácia, schopnosť a trigger musia existovať v tom istom čase.

# Akcia: Foggov model






# Negatívne emócie tiež motivujú

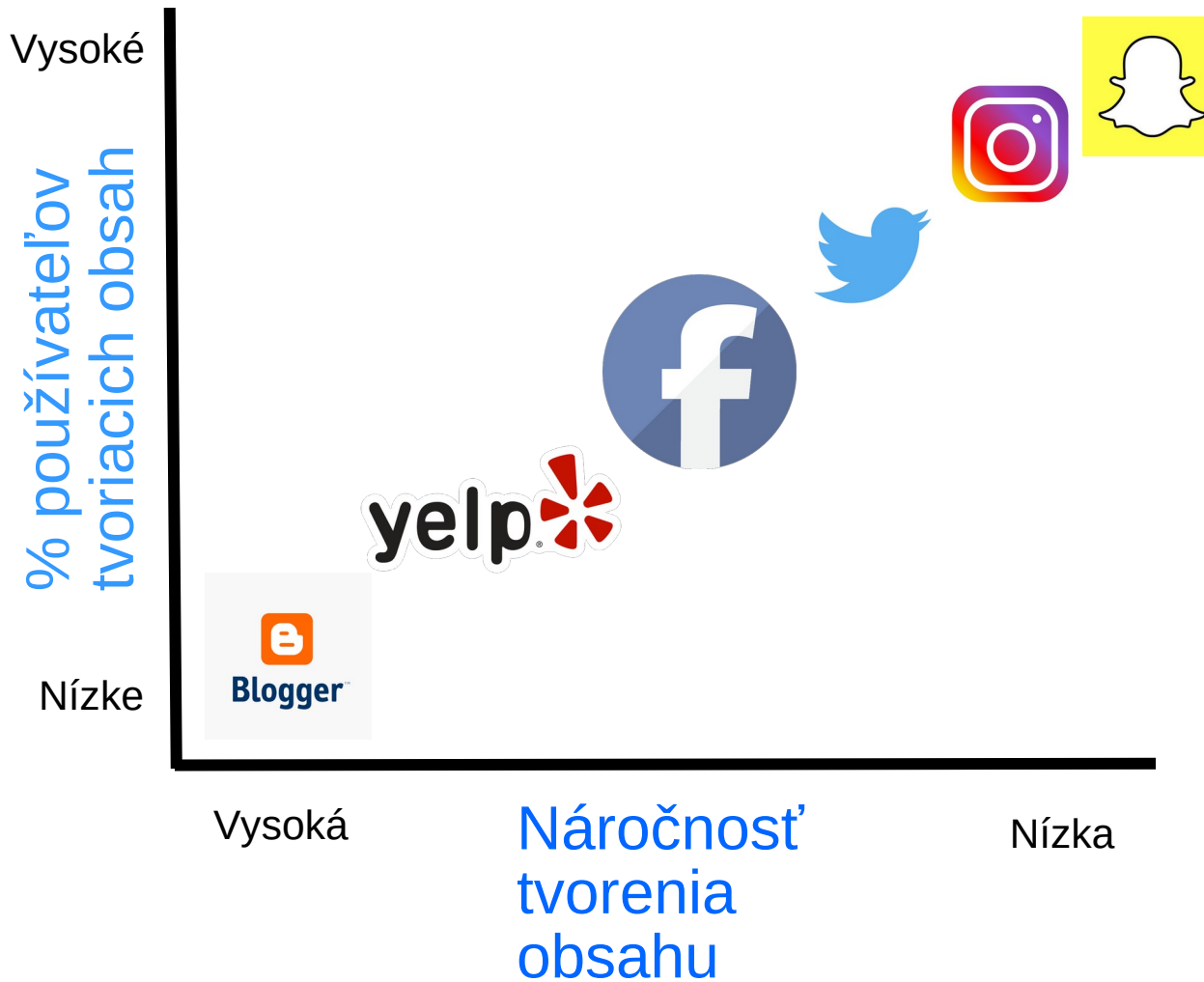
"I WON'T WEAR A **HELMET**  
(FRAN 2004) - MENTAL 402 2004

IT MAKES ME LOOK STUPID"

EVERY YEAR OVER 11,000 PEOPLE DIE ON OUR ROADS AND 30,000 ARE SERIOUSLY INJURED. THAT MEANS THOUSANDS OF FAMILIES LEFT PICKING UP THE PIECES. FAMILIES TORTURED BY THE LOSS OF A LOVED ONE. CRIPPLED BY REDUCED INCOME OR THE SUDDEN NEED TO CARE FOR A DEPENDENT WITH PERMANENT BRAIN DAMAGE. THE SAD TRUTH IS THAT 40% OF THESE CASES COULD HAVE BEEN PREVENTED BY SIMPLY WEARING A HELMET. WHEN YOU THINK ABOUT IT, THERE ARE NO EXCUSES.

SPONSORED BY    WEAR A HELMET. NOT JUST FOR YOUR OWN SAFETY.

# Zložitosť vykonať akciu



Nir Eyal, <http://www.nirandfar.com/2012/01/where-is-web-going.html>

# Fogg: 6 elementov jednoduchosti

- Čas: koľko času treba na vykonanie akcie
- Peniaze: koľko akcia stojí
- Fyzická náročnosť: koľko práce treba vykonať
- Mentálna námaha: koľko treba pritom rozmýšľať
- Sociálna deviácia: ako je akcia akceptovaná spoločnosťou
- Nerutinnosť: ako sa akcia podobá alebo nepodobá existujúcim rutinám

Hannibal Lecter: „*First principles, Clarice. Simplicity. Read Marcus Aurelius. Of each particular thing ask: what is it in itself? What is its nature? What does he do, this man you seek?*“

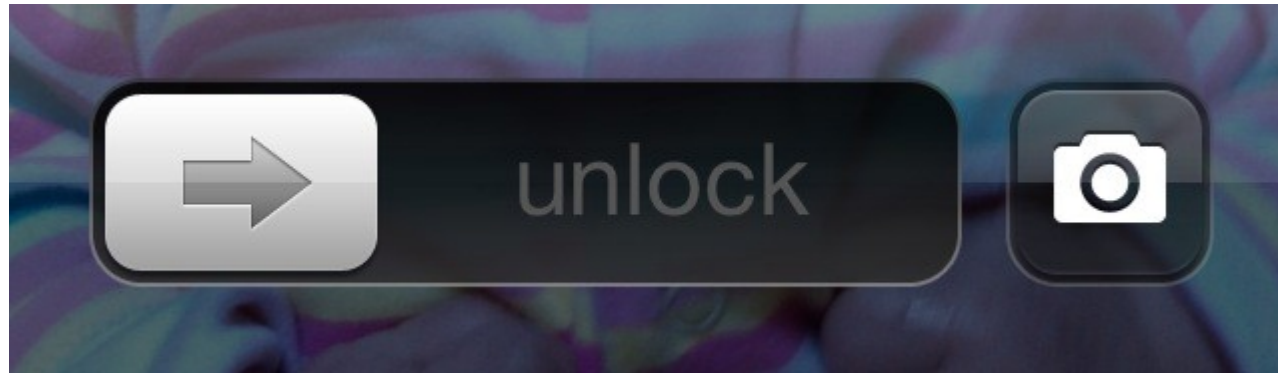


# Twitter tweet button



- Čas: 10 sekúnd
- Peniaze: žiadne
- Fyzická náročnosť: 2x kliknúť
- Mentálna námaha: nízka, treba sa rozhodnúť pre tweet
- Sociálna deviácia: akceptované spoločnosťou
- Nerutinnosť: podobné všetkých ostatným buttonom

# iPhone: kamera dostupná na lockscreen



- Čas: 1 sekunda
- Peniaze: žiadne
- Fyzická náročnosť: 1x stlačiť
- Mentálna námaha: nízka, treba sa rozhodnúť pre foto
- Sociálna deviácia: akceptované spoločnosťou
- Nerutinnosť: podobné všetkých ostatným buttonom

# Twitter home page 2009

The image shows the Twitter home page from 2009. The page has a light blue background. At the top left is the Twitter logo. At the top right is a language selection dropdown. Below the logo is a section titled "What is Twitter?" with three buttons: "What?", "Why?", and "How?". To the right of these buttons is a "Watch a video!" button. Below the "What is Twitter?" section is a graphic of a yellow bird on a branch, with a list of tweets to its right. Below the graphic is a paragraph of text: "Twitter is a service for friends, family, and co-workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: What are you doing?". Below this text is a "Get Started—Join!" button. To the right of the main content is a "Please sign in" form with fields for "user name or email address" and "password", a "Remember me" checkbox, and a "Sign In" button. Below the sign-in form is a link: "Already using Twitter from your phone? Click here." Red boxes and numbers 1 through 7 highlight the following elements: 1. "What?" button, 2. "Why?" button, 3. "How?" button, 4. "Watch a video!" button, 5. "Please sign in" form, 6. "Already using Twitter from your phone? Click here." link, 7. "Get Started—Join!" button.

Akcia jednoznačne definovaná? 7 možností ako ďalej pokračovať.

# Twitter home page 2009-10

Twitter

Have an account? [Sign in](#)

twitter™ Share and discover what's happening right now, anywhere in the world.

See what people are saying about...

Join the conversation

Search [Sign up now](#)

POPULAR TOPICS BY THE MINUTE, DAY, AND WEEK (?)

Grammys iPad Haiti Lakers New ATL Track #90stweet #picofmycock #Proud

Haiti iPad Apple iPad SHINee Shorty Award Follow Friday Leo Full Moon Serena Williams

Haiti Shorty Award SOTU RIP Johnny Depp Hope for Haiti Now iPad Union Dear Internet Apple iPad Follow Friday Apple

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Hľadaj!  
Je hľadanie  
zvyk?

# Twitter home page 2013

Language: English ▾

**Welcome to Twitter.**  
Find out what's happening, right now, with the people and organizations you care about.

Username or email

Password

Remember me · [Forgot password?](#)

New to Twitter? Sign up

Full name

Email

Password

[About](#) [Help](#) [Blog](#) [Status](#) [Jobs](#) [Terms](#) [Privacy](#) [Advertisers](#) [Businesses](#) [Media](#) [Developers](#) [Resources](#) [Directory](#) © 2013 Twitter

Twitter. It's what's ... x +

Twitter, Inc. (US) | https://twitter.com

Home About Language: English

## Welcome to Twitter.

Connect with your friends — and other fascinating people. Get in-the-moment updates on the things that interest you. And watch events unfold, in real time, from every angle.

Phone, email or username

Password [Log in](#)

Remember me - [Forgot password?](#)

New to Twitter? Sign up

Full name

Email

Password

[Sign up for Twitter](#)

AHA!

Tweet and photo by [@Podolski10](#)

10:11 PM - 13 July 2014

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# Twitter home page 2020

The screenshot shows the Twitter homepage in a web browser. The browser's address bar displays 'https://twitter.com'. The page is split into two main sections: a large blue area on the left and a white area on the right.

**Left Section (Blue background):**

- Follow your interests.
- Hear what people are talking about.
- Join the conversation.

**Right Section (White background):**

Phone, email, or username

Password

Log in

Forgot password?

See what's happening in the world right now

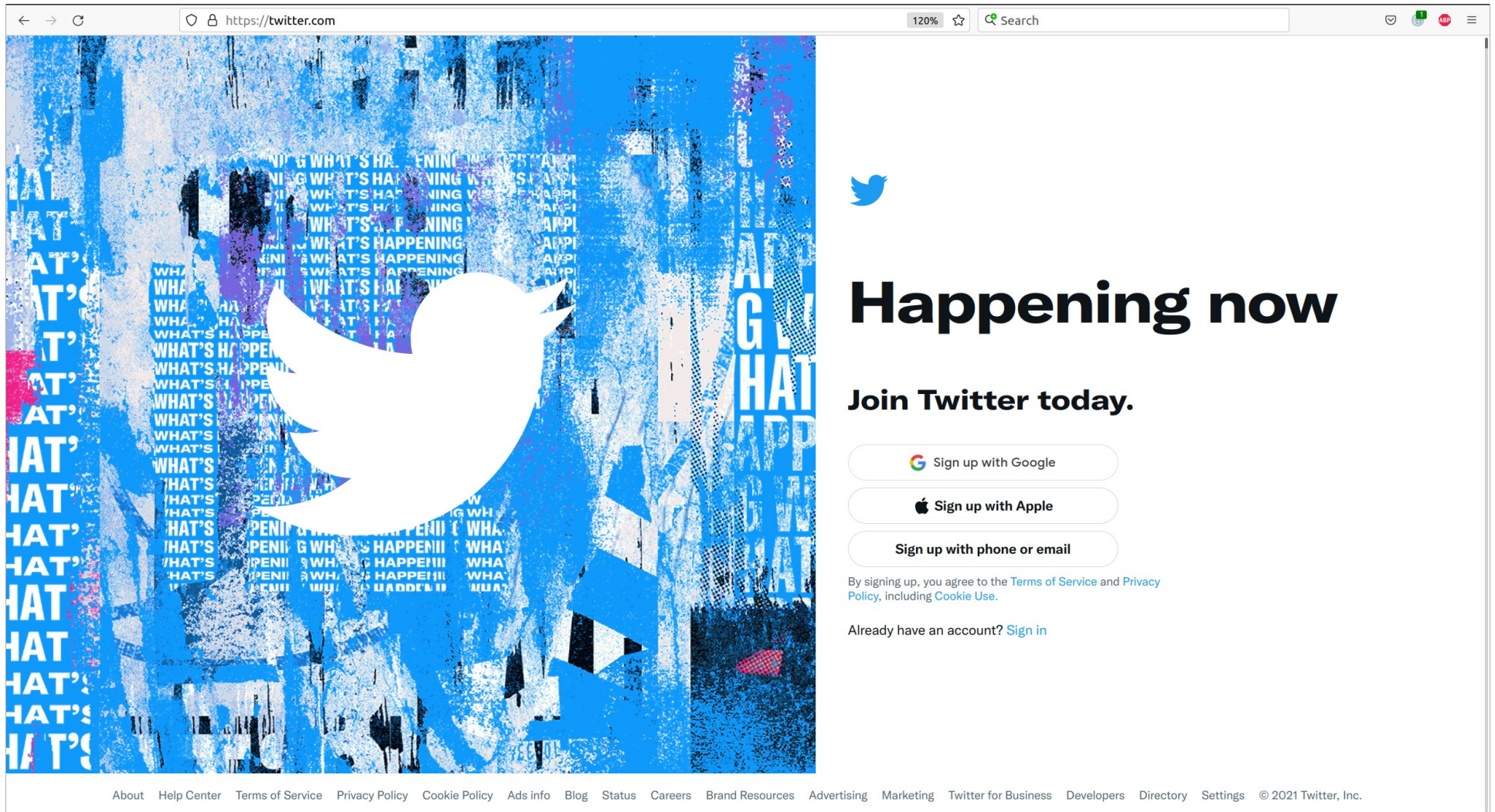
Join Twitter today.

Sign up

Log in

By using Twitter's services you agree to our [Cookies Use](#). We and our partners operate globally and use cookies, including for analytics, personalisation, and ads. Close

About Help Center Terms of Service Privacy Policy Cookie Policy Ads info Blog Status Careers Brand Resources Advertising Marketing Twitter for Business Developers Directory Settings © 2020 Twitter, Inc.





# Twitter home page 2022



# Explore

Settings

Search Twitter

## Trends for you

Music · Trending

**Takeoff**

1.78M Tweets

Only on Twitter · Trending

**#YarınZilçalmayacak**

94.7K Tweets

Politics · Trending

**JAIR FROUXONARO**

63.3K Tweets

Sports · Trending

**Magallanes**

7,731 Tweets

Sports · Trending

**Harit**

4,582 Tweets

Show more

## New to Twitter?

Sign up now to get your own personalized timeline!

 Sign up with Google

 Sign up with Apple

Sign up with phone or email

By signing up, you agree to the [Terms of Service](#) and [Privacy Policy](#), including [Cookie Use](#).

[Terms of Service](#) [Privacy Policy](#) [Cookie Policy](#)

[Accessibility](#) [Ads info](#) [More ...](#)

© 2022 Twitter, Inc.

Don't miss what's happening

People on Twitter are the first to know.

Log in

Sign up

# Guy Kawasaki: Don't Write a Mission Statement, Write a Mantra

- Facebook: Be Connected. Be Discovered. Be on Facebook.
- Dropbox: Get to all your files from anywhere, on any device, and share them with anyone.
- Coursera: Take the world's best courses, online.
- YouTube: Broadcast Yourself (do 2012)

[https://youtu.be/2A2-7\\_nujtA](https://youtu.be/2A2-7_nujtA)



# Twitter mantra

- 2009: Twitter is a service for friends, family, and co-workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: What are you doing?
- Neskorošie v 2009: Share and discover what's happening right now, anywhere in the world
- 2013: Find out what's happening, right now, with the people and organizations you care about
- 2020: See what's happening in the world right now
- 2021: Happening now
- 2022: Don't miss what's happening. People on Twitter are the first to know.

## **Snap Inc. is a camera company.**

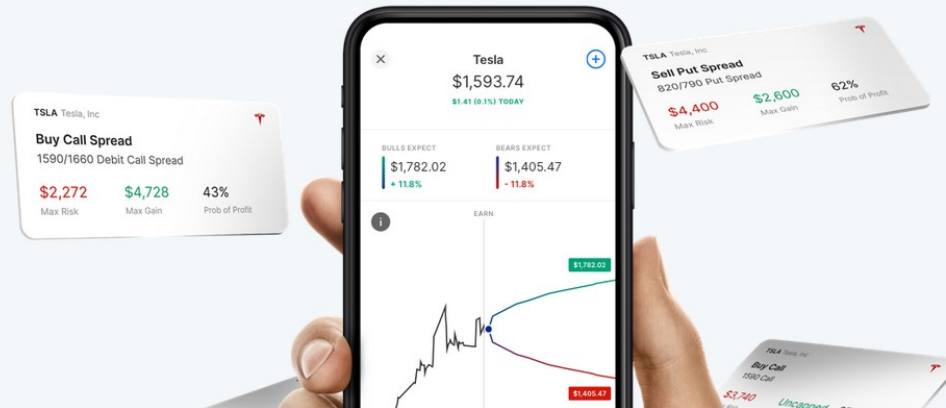
We believe that reinventing the camera represents our greatest opportunity to improve the way people live and communicate.

We contribute to human progress by empowering people to express themselves, live in the moment, learn about the world, and have fun together.

## Turn great ideas into smarter trades.

The freedom to choose between stock, options and spreads, all from one chart. Set an informed price target and instantly find the trade that's right for you. **No user manual required.**

Open an account



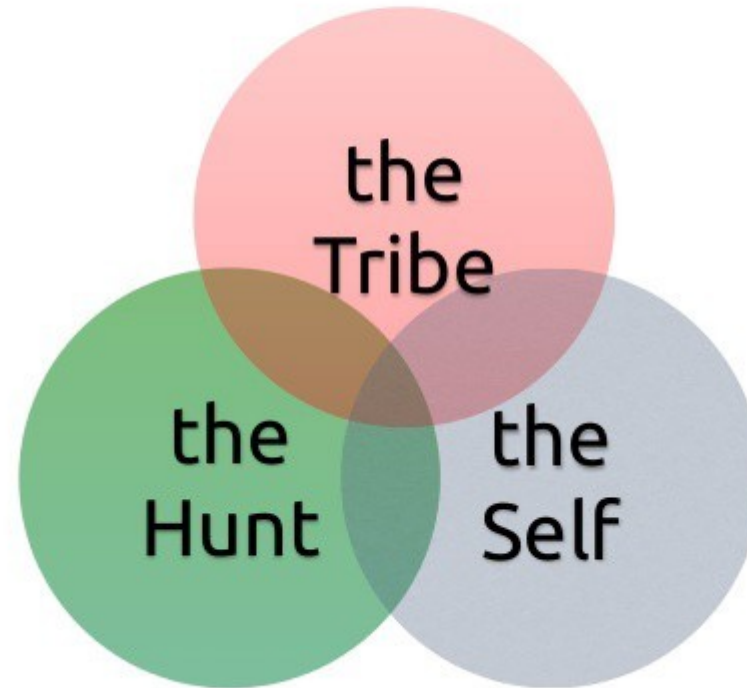
# Nepredvídateľná odmena

- Akcia je vykonaná v očakávaní odmeny
- Odmena musí byť nepredvídateľná, ináč používateľ stratí záujem a nevykoná akciu

„Like“ (akcia) na jednej strane, je nepredvídateľná odmena pre druhú stranu. Nie každá akcia vedie k „like“.

- Kmeňová
- Lovecká
- Samo-odmena

## Variable rewards



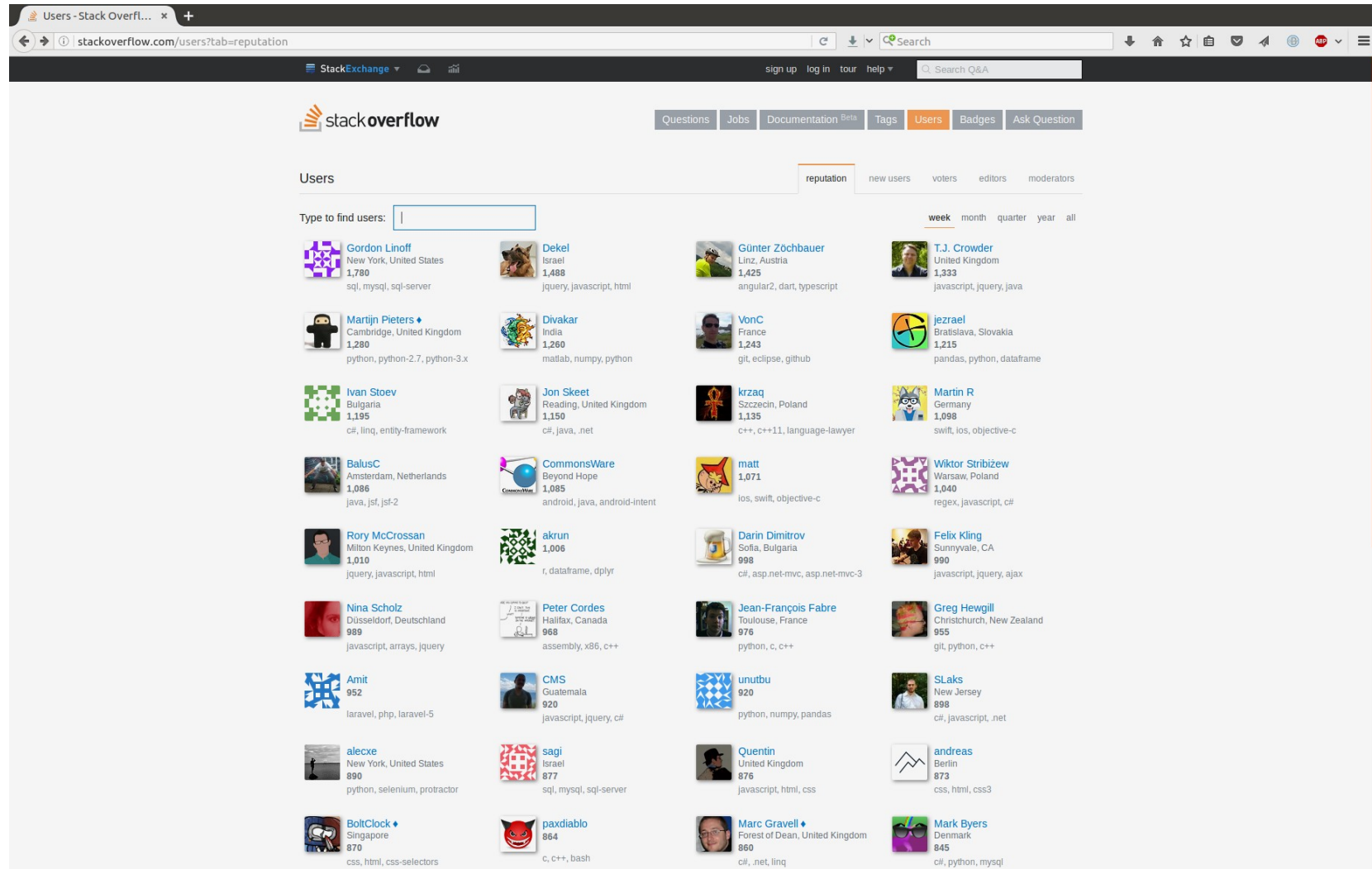
NIR EYAL  
NirAndFar.com  
@nireyal

- Facebook: Like je potvrdenie skupiny ľudí s ktorou cítim prepojenosť, že môj komentár bol zaujímavý
- Twitter: potvrdenie, že môj tweet bol zaujímavý



- Stackoverflow: komplexný systém odznakov a levelov. Môj kmeň potvrdí moje programátorské schopnosti.

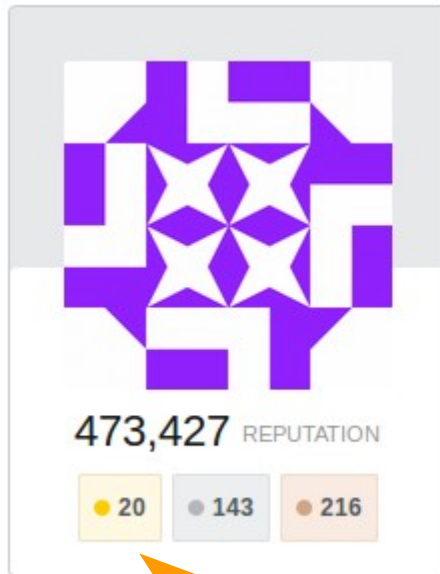




The screenshot shows the Stack Overflow website interface. The browser address bar displays "stackoverflow.com/users?tab=reputation". The page title is "Users" and the sub-tab is "reputation". A search bar is present at the top. The main content area displays a grid of user profiles, each with a profile picture, name, location, reputation score, and a list of tags. The users are sorted by reputation in descending order.

Name	Location	Reputation	Tags
Gordon Linoff	New York, United States	1,780	sql, mysql, sql-server
Martijn Pieters	Cambridge, United Kingdom	1,280	python, python-2.7, python-3.x
Ivan Stoev	Bulgaria	1,195	c#, linq, entity-framework
BalusC	Amsterdam, Netherlands	1,086	java, jsf, jsf-2
Rory McCrossan	Milton Keynes, United Kingdom	1,010	jquery, javascript, html
Nina Scholz	Düsseldorf, Deutschland	989	javascript, arrays, jquery
Amit		952	laravel, php, laravel-5
alecxe	New York, United States	890	python, selenium, protractor
BoltClock	Singapore	870	css, html, css-selectors
Dekel	Israel	1,488	jquery, javascript, html
Divakar	India	1,260	matlab, numpy, python
Jon Skeet	Reading, United Kingdom	1,150	c#, java, .net
CommonsWare	Beyond Hope	1,085	android, java, android-intent
akrun		1,006	r, dataframe, dplyr
Peter Cordes	Halifax, Canada	968	assembly, x86, c++
CMS	Guatemala	920	javascript, jquery, c#
sagi	Israel	877	sql, mysql, sql-server
paxdiablo		864	c, c++, bash
Günter Zöchbauer	Linz, Austria	1,425	angular2, dart, typescript
VonC	France	1,243	git, eclipse, github
krzaq	Szczecin, Poland	1,135	c++, c++11, language-lawyer
matt		1,071	ios, swift, objective-c
Darin Dimitrov	Sofia, Bulgaria	998	c#, asp.net-mvc, asp.net-mvc-3
Jean-François Fabre	Toulouse, France	976	python, c, c++
unutbu		920	python, numpy, pandas
Quentin	United Kingdom	876	javascript, html, css
Marc Gravell	Forest of Dean, United Kingdom	860	c#, .net, linq
T.J. Crowder	United Kingdom	1,333	javascript, jquery, java
jezrael	Bratislava, Slovakia	1,215	pandas, python, dataframe
Martin R	Germany	1,098	swift, ios, objective-c
Wiktor Stribiżew	Warsaw, Poland	1,040	regex, javascript, c#
Felix Kling	Sunnyvale, CA	990	javascript, jquery, ajax
Greg Hewgill	Christchurch, New Zealand	955	git, python, c++
SLaks	New Jersey	898	c#, javascript, .net
andreas	Berlin	873	css, html, css3
Mark Byers	Denmark	845	c#, python, mysql

Aký interný trigger využíva stackoverflow?  
Odmena od kmeňa programátorov je nepredvídateľná!



**Gordon Linoff** top 0.01% this year

Principal at Data Miners, Inc.

Check out my book *Data Analysis Using SQL and Excel*".

I have a blog with periodic posts about data analysis and SQL here at [blog.data-miners.com](http://blog.data-miners.com).

Gamification

# Mahalo.com (2007)

- Používateľ zadá otázku na odpoveď a ponúkne cenu
  - Najlepšia odpoveď získa ponúknutú peňažnú odmenu (táto odmena je nepredvídateľná)
  - Mahalo.com nemalo úspech, pretože používatelia vedeli ľahšie zarábať peniaze mimo Mahalo.com.
- 
- Quora implementovala hodnotenie odpovedí, čo si používatelia cenili ako kmeňovú (nepredvídateľnú) odmenu

- Nekonečné hľadanie novej informácie: čo ak narazím na niečo zaujímavé
- Twitter, Pinterest: nekonečná zásoba informácií (aj pomocou infinite scroll)
- Infinite scroll: Aza Raskin 2007 (= vtedy keď bol uvedený iPhone a Nokia bola na vrchole)
- Why is infinite scroll so addictive?  
<https://uxdesign.cc/why-the-infinite-scroll-is-so-addictive-9928367019c5>

Poznáte ten pocit, keď hľadáte zaujímavý TV program a prepínate medzi 30 kanálmi?

Čo ak by TV kanálov bolo 10,000 alebo ešte oveľa viac?

Ako by ste našli pre diváka relevantný program?

Pomohol by psychologický profil diváka zostrojený pomocou umelej inteligencie?

# Infinite scroll

For you Today Following

23.8k Monthly views  
Promote  
Create Pin

You've got early access to Story Pins!  
Learn more

20+ Modern shelf inspiration - This Minimal House

Brie Stuffed Crispy Baby...  
The Novice Chef | Easy F...

0:13  
Cute Half Up Half Down...  
Shinecoco  
2.1k

patagonia  
A New Fleece on Life  
Explore  
Every make recycle

Electronics, Cars, Fashion, Collectibles & More | eBay

The Houndstooth Winter Trend That's Blowing Up

WARBY PARKER  
Find your new pair

Take this quiz & find your perfect frames!  
Promoted by Warby Parker

Use code PINTEREST12 for 12 free meals including free shipping!

easy sesame noodles  
gimme some oven

Sesame Noodles | Gimme Some Oven

0:01  
Instant Pot Wild Rice Soup...  
Pinch of Yum  
561

Interactive Personal Training at Home  
NordicTrack

NordicTrack X32i Incline Treadmill  
Promoted by NordicTrack

Image about beauty in makeup by melaniemiaaa on We Heart It

creamy vegan MUSHROOM BROCCOLI RIGATONI  
with lemon garlic cream sauce

Mushroom Broccoli Pasta with...  
Another Music in a Differ...

SHOP STYLISH Showers

MELANIE CASEY  
FINE JEWELRY

VEGGIE CHEESE STROMBOLI

0:42 OK  
HOW TO MAKE

snoo  
"People said we'd never sleep with triplets, they didn't have SNOO!"  
- Jill in Oakland, CA


SNOO Smart Sleeper Bassinet


Grilled Mushroom

- Prekonávanie prekážok, ktoré pokladám za dôležité
- 100% splnenie úlohy (task completion)
- Hry: dosiahnutie nového levelu, získanie nových zázračných schopností
- Email: počet neprečítaných emailov  $> 0$ , magická úloha je dosiahnuť „inbox zero“.

Fun fact: k dnešnému dňu 23/11/2022 mám 25,071 neprečítaných emailov :(

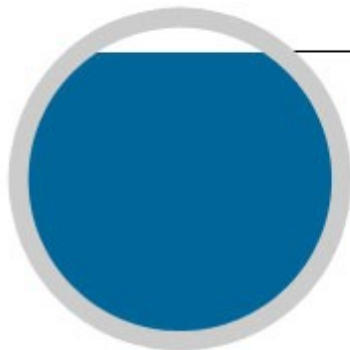
Profile Strength: **Intermediate** ^



 **Which university or school did you attend?**  
Add your school so that classmates and alumni can easily find you

[Does not apply](#) [Add education](#)

**LinkedIn**  PROFILE STRENGTH



All-Star



- Investícia = eskalácia záväzku
- Čím viacej času venujeme (spolu)vývoju služby alebo tovaru, tým viacej si ho ceníme (to čo sami vytvárame si iracionálne viacej ceníme ako niečo porovnateľné vytvorené niekym iným):
  - Čím viacej času venujeme získaniu nasledovníkov v Twitteri, tým viac si Twitter ceníme a tým menej je pravdepodobné, že odídeme
  - Čím viacej emailov mám v email cloude, tým si tú službu viacej cením a tým menej je pravdepodobné, že zmením poskytovateľa
  - Čím viacej komentárov napíšem na stackoverflow, tým viacej odmeny dostanem od kmeňa, tým viacej si tú službu cením a tým menej ...

- Hra, ktorá využíva informáciu o mojich priateľoch – stanú sa účastníkmi hry
  - A keď zaplatím 20USD, tak budem postupovať v hre rýchlejšie, a keďže som už strávil veľa času, tak sa to oplatí, ináč celá predchádzajúca námaha bola zbytočná – znova iracionálne cenenie vlastnej námahy
- Kognitívna disonancia – ak som do niečoho vložil veľa času, tak to musí byť správne. Ľudia sa snažia vyhnúť „sebazapretiu“.

- Investícia pri budovaní skupiny nasledovníkov je dlhodobá, **okamžitá odmena nie je pritom cieľom**
- Investícia je ako dobré priateľstvo – čím viac času investujete, tým bude lepšie
- Používatelia vkladajú do služby hodnotu
- Zmeniť službu je možné, ale vytvoriť veľkú skupinu nasledovníkov je investícia, ktorá už raz bola vykonaná
- Zbierka pamätí a skúseností má väčšiu hodnotu, ako cena jednotlivých komponentov

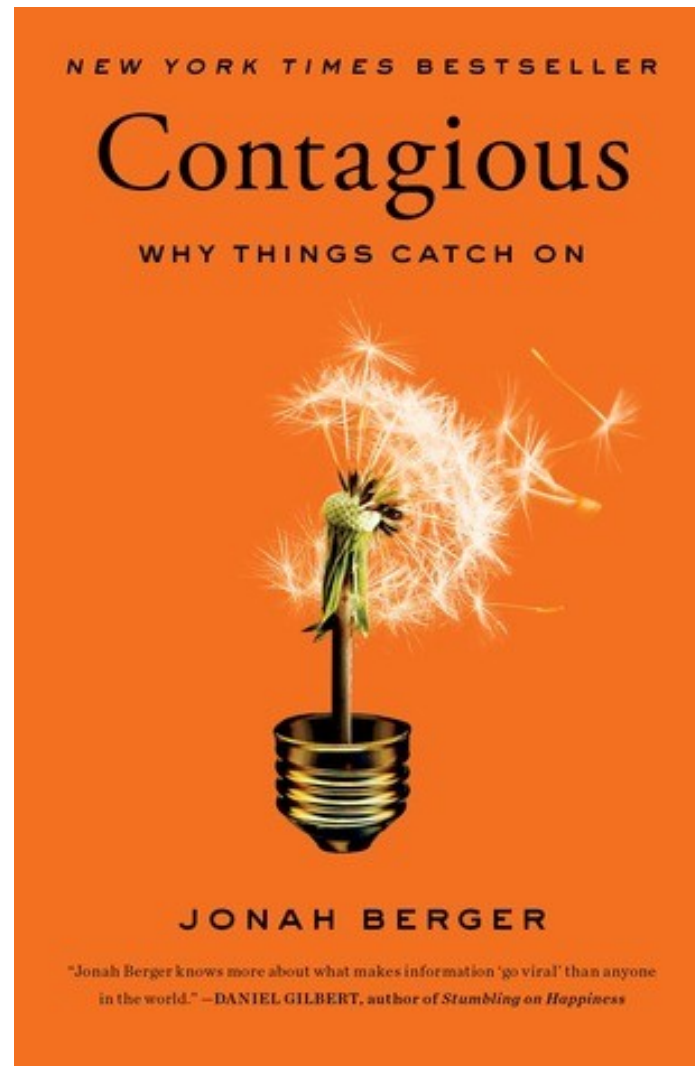
- Priemerný Snapchat používateľ pošle denne viac ako 30 obrázkov

Zdroj: <https://www.omnicoreagency.com/snapchat-statistics/>

- Samodeštrukcia obrázkov je trigger, ktorý zabezpečuje ich prezeranie a prípadné odpovedanie

# Social currency (sociálna mena)

- Ľudia používajú peniaze na nákup tovaru a služieb, ale ... nie všetko sa dá kúpiť (ani s MasterCard)
- Ľudia používajú sociálnu menu na „nákup“ pozitívneho dojmu zo strany priateľov, rodiny a známych
  - Ale chváliť sa dá len tým čo má určitú význačnosť, čo vzbudzuje závisť...napr. Tesla (auto) je sociálna mena, ale Škoda nie je
  - Ďalšie príklady sociálnej meny: iPhone, luxusné oblečenie...



# Mitchell a Tamir (2012)

Zdieľanie osobných názorov (verbálny spam) je rovnako stimulujúce ako jedlo a peniaze

“Humans devote 30–40% of speech output solely to informing others of their own subjective experiences.”

“Self-disclosure was strongly associated with increased activation in brain regions that form the mesolimbic dopamine system, including the nucleus accumbens and ventral tegmental area. Moreover, individuals were willing to forgo money to disclose about the self.

Zdroj: <https://www.pnas.org/content/109/21/8038>

# Mitchell a Tamir (2012)

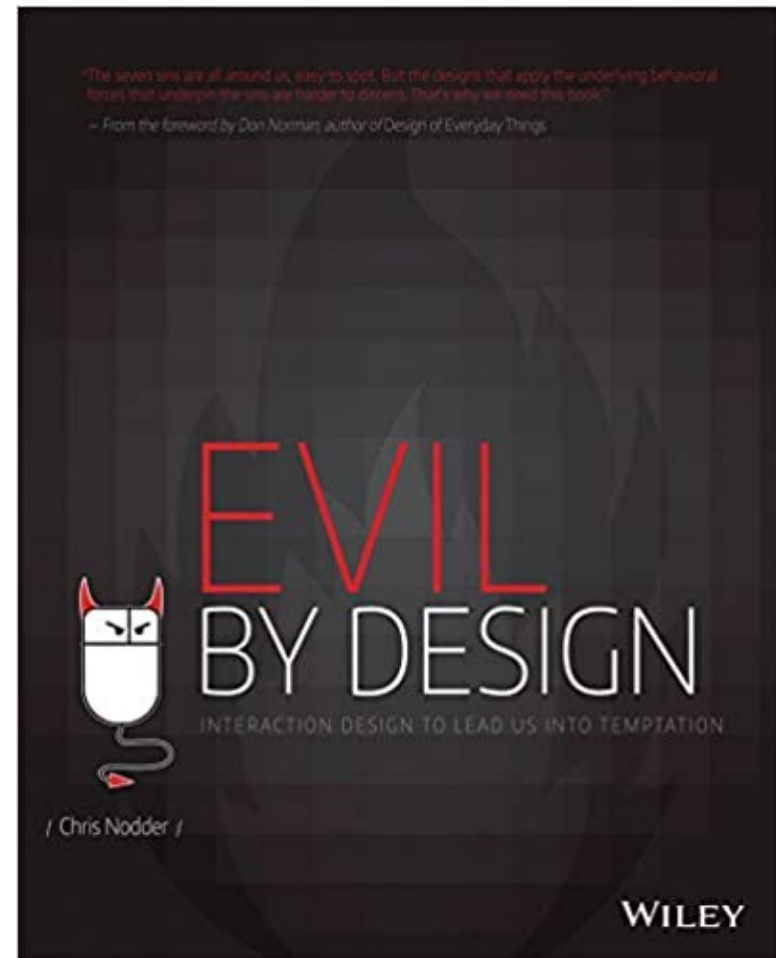
- Zdieľanie osobných názorov (verbálny spam) je rovnako stimulujúce ako jedlo a peniaze
- Ľudia sa radšej vzdajú peňažnej odmeny ako by sa mali vzdať možnosti zdieľať osobné názory
- Appka, ktorá zabezpečí zdieľanie názorov môže byť vnímaná ako viac užitočná ako appka, ktorá umožňuje platbu za názory



- *it's OK to deceive people if it's in their best interests, or they've give an implicit consent to be deceived as part of a persuasive strategy*
- <http://evilbydesign.info/>
- Je „gamification“ t.j. používanie bodov, odznakov a levelov tiež neetické?

7 kapitol:

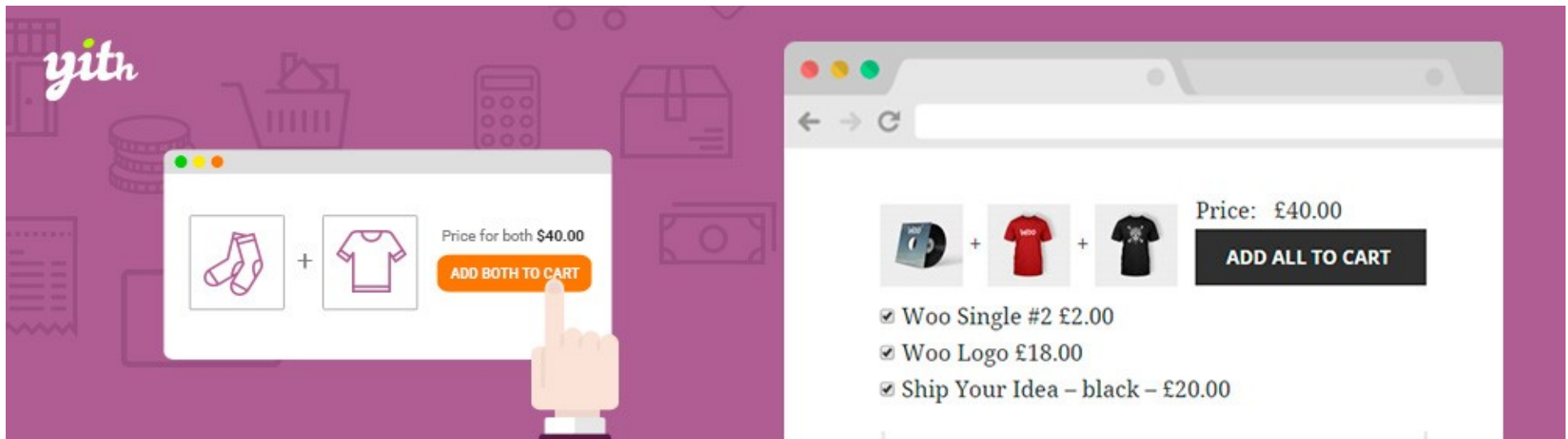
- Pride: pýcha
- Sloth: záhaľka
- Gluttony: nenásytnosť
- Anger: hnev
- Envy: závist'
- Lust: chtivosť
- Greed: chamtivosť



„Want to know how people really behave? Just read the law books. Start with one of the most famous set of laws of all, the Ten Commandments. Every one of those commandments is about something that people actually did, and then prohibiting it. All laws are intended to stop or otherwise control human behavior. So, if you want to understand real human behavior, just see what the laws try to stop.“

„Social proof: Using messages from friends to make it personal and emotional“

Vztáhový trigger??



**alza.sk**

TOP Najpredávanejšie Najdrahšie Najlacnejšie Podľa recenzií Diskusia

**Ludová voľba** **Zlatá stredná cesta** **Zlatá stredná cesta** **Pre náročných**

**Xiaomi Redmi Note 9 Pro LTE 128 GB sivý**  
 Mobilný telefón – 6.67" IPS 2340 × 1080, procesor Qualcomm Snapdragon 720G, 8-jadrový, RAM 6GB, interná pamäť 128GB, MicroSD až 512 GB, zadný fotoaparát 64Mpx (f/1.8)+8Mpx (f/2.2)+5Mpx (f/2.4)+2Mpx (f/2.4), predný fotoaparát 16Mpx, elektronická stabilizácia, GPS, Glonass, IrDA, NFC, LTE, Jack (3.5mm) a USB-C, čítačka odtlačkov prstov, dual SIM + pamäťová karta, neblokovaný, rýchle nabíjanie 30W, batéria 5020mAh, Android 10  
**+ ZADARMO** SIM karta Radosť – Prvú Nekonečnú Radosť si vyskúšaj na týždeň zadarmo!  
 -18% ~~279,90 €~~  
**230,90 €**  
 bez DPH 192,42 €

**iPhone Xr 128GB čierna**  
 Mobilný telefón – 6.1" IPS 1792 × 828, procesor Apple A12 Bionic 6-jadrový, RAM 3GB, interná pamäť 128GB, zadný fotoaparát 12Mpx (f/1.8), predný fotoaparát 7Mpx, optická stabilizácia, GPS, Glonass, NFC, LTE, Lightning port, vodoodolný podľa IP67, single SIM + eSIM, neblokovaný, rýchle nabíjanie 15W, bezdrôtové nabíjanie, batéria 2942mAh, iOS 12  
**+ ZADARMO** SIM karta Radosť – Prvú Nekonečnú Radosť si vyskúšaj na týždeň zadarmo!  
**588,90 €**  
 bez DPH 490,75 €

**iPhone SE 128GB čierny 2020**  
 Mobilný telefón – 4.7" IPS 1334 × 750, procesor Apple A13 Bionic 6-jadrový, RAM 3GB, interná pamäť 128GB, zadný fotoaparát 12Mpx (f/1.8), predný fotoaparát 7Mpx, optická stabilizácia, GPS, Glonass, NFC, LTE, Lightning port, čítačka odtlačkov prstov, vodoodolný podľa IP67, single SIM + eSIM, neblokovaný, rýchle nabíjanie 18W, bezdrôtové nabíjanie, iOS 13  
**+ ZADARMO** SIM karta Radosť – Prvú Nekonečnú Radosť si vyskúšaj na týždeň zadarmo!  
**549,90 €**  
 bez DPH 458,25 €

**iPhone 12 Pro 128GB sivý**  
 Mobilný telefón – 6.1" OLED 2532 × 1170, procesor Apple A14 Bionic 6-jadrový, interná pamäť 128GB, zadný fotoaparát s optickým zoomom 12Mpx (f/1.6)+12Mpx (f/2)+12Mpx (f/2.4), predný fotoaparát 12Mpx, optická stabilizácia, GPS, Glonass, NFC, LTE, 5G, UWB, Lightning port, vodoodolný podľa IP68, single SIM + eSIM, neblokovaný, rýchle nabíjanie 20W, bezdrôtové nabíjanie 15W, batéria 2815mAh, iOS 14  
**+ ZADARMO** SIM karta Radosť – Prvú Nekonečnú Radosť si vyskúšaj na týždeň zadarmo!  
**1 019 €**  
 bez DPH 849,17 €

**Veľkosť displeja**

- 4,4" a menej (289)
- 4,5" až 5,4" (78)
- 5,5" až 5,9" (117)
- 6" až 6,4" (306)
- 6,5" a viac (453)

**Operačná pamäť**

- 16 GB a viac (12)
- 12 GB (52)
- 8 GB (208)
- 6 GB (182)
- 4 GB (274)

**Vnútoraná pamäť**

- 16 GB a menej (122)
- 32 GB (87)

Ďalšie 3

## Google Pixel Phone 32GB - 5 inch display ( Factory Unlocked US Version ) (Very Silver)

by Pixel

★★★★☆ | 12 customer reviews | 18 answered questions

Price: **\$880.00** + \$4.49 shipping

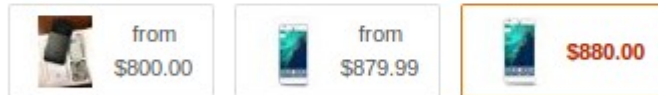
**Only 1 left in stock.**



**Get it as soon as Nov. 9 - 15** when you choose **Standard Shipping** at checkout.

Ships from and sold by [Voltage Converter Store](#).

Color: **Very Silver**



- 5 inch 1080P display
- 2770 mah battery
- FDD LTE: B 1/2/3/4/5/7/8/12/13/17/20/25/26/28/29/30 TDD LTE: B 41, CDMA: BC0/BC1/BC10
- Snapdragon 821, 4GB ram
- 32GB storage. Google store edition

Netflix and **third parties** use **cookies and similar technologies** on this website to collect information about your browsing activities which we use to analyse your use of the website, to personalise our services and to customise our online advertisements. When your consent is required, you can accept, refuse or personalise your choices. You can also change your preferences at any time by clicking on "Cookie Preferences" in the footer of each page. Netflix supports the Digital Advertising Alliance Principles. [Learn more about our use of cookies and information.](#)

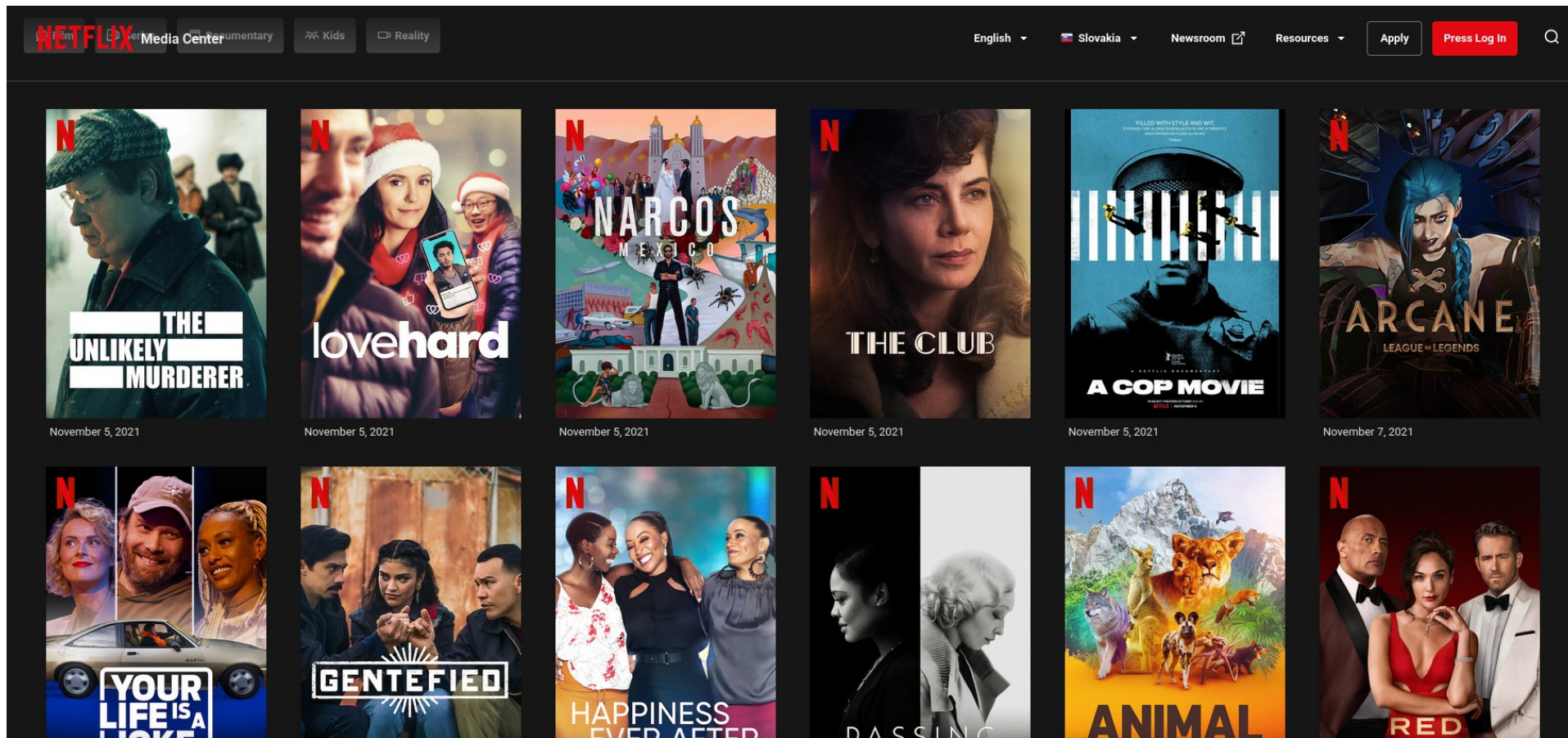
Accept Reject Personalise my choices

## Enjoy on your TV.

Watch on Smart TVs, Playstation, Xbox, Chromecast, Apple TV, Blu-ray players, and more.



Download your shows to watch offline.



Netflix uses [cookies and similar technologies](#) on this website for the website to function and to collect information about your browsing activities which we use to analyse your use of the website.

Personalise my choices

Personalizácia limituje ponúkaný obsah.





Microsoft  
**Windows<sup>XP</sup>**

## Help protect your PC

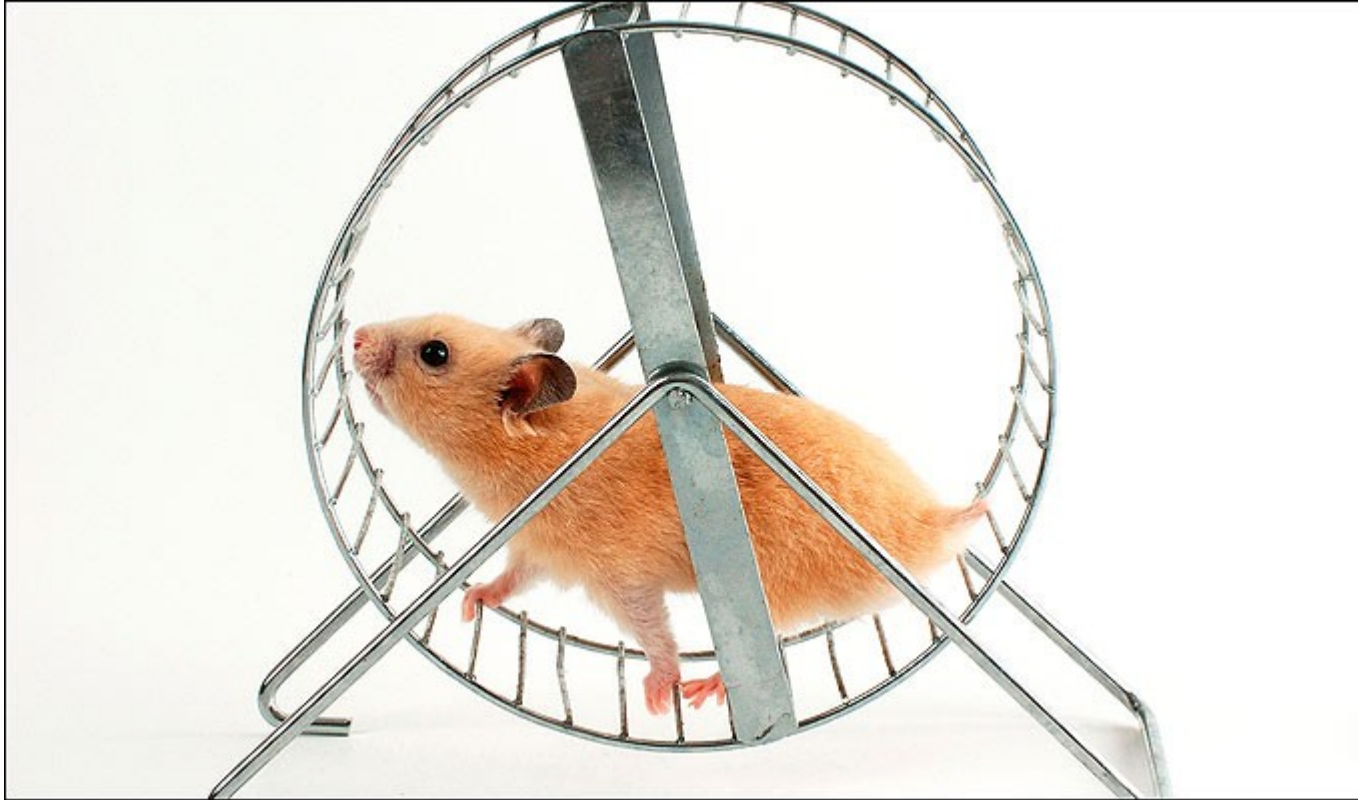
With Automatic Updates, Windows can routinely check for the latest important updates for your computer and install them automatically. These updates can include security updates, critical updates, and service packs.

-   **Help protect my PC by turning on Automatic Updates now**  
(recommended)
-   **Not right now**  
If you haven't turned on Automatic Updates, your computer is more vulnerable to viruses and other security threats.

**No information is collected that can be used to identify you or contact you.**  
Please read the [Windows Update privacy statement](#).

For help, click here or press F1.

Back Next



## Kde je etická hranica?

Konkrétnejšia otázka: je infinite scroll etický, alebo Pinterest len zneužíva našu slabosť loviť informáciu (alebo čokoľvek iné) s nádejou, že nasledujúca iterácia bude „kapitálny úlovok“?

# TikTok (ešte raz)



**AMERICAN BOY**



Musical.ly was a Chinese social media service ... on which platform users created and shared short lip-sync videos.

The first prototype was released in April 2014, and the official version was launched in August of that year. **Through the app, users could create 15-second to 1-minute lip-syncing music videos** and choose sound tracks to accompany them, use different speed options (time-lapse, fast, normal, slow motion, and epic) and add pre-set filters and effects. The app also allowed users to browse popular "musers", content, trending songs, sounds and hashtags, and uniquely interact with their fans.

Od roku 2017 pod menom TikTok

## Top Apps Worldwide for August 2021 by Downloads (Non-Game)



### Overall Downloads

- 1 TikTok
- 2 Instagram
- 3 Facebook
- 4 WhatsApp
- 5 Messenger
- 6 Snapchat
- 7 Telegram
- 8 ZOOM
- 9 CapCut
- 10 WhatsApp Business

### App Store Downloads

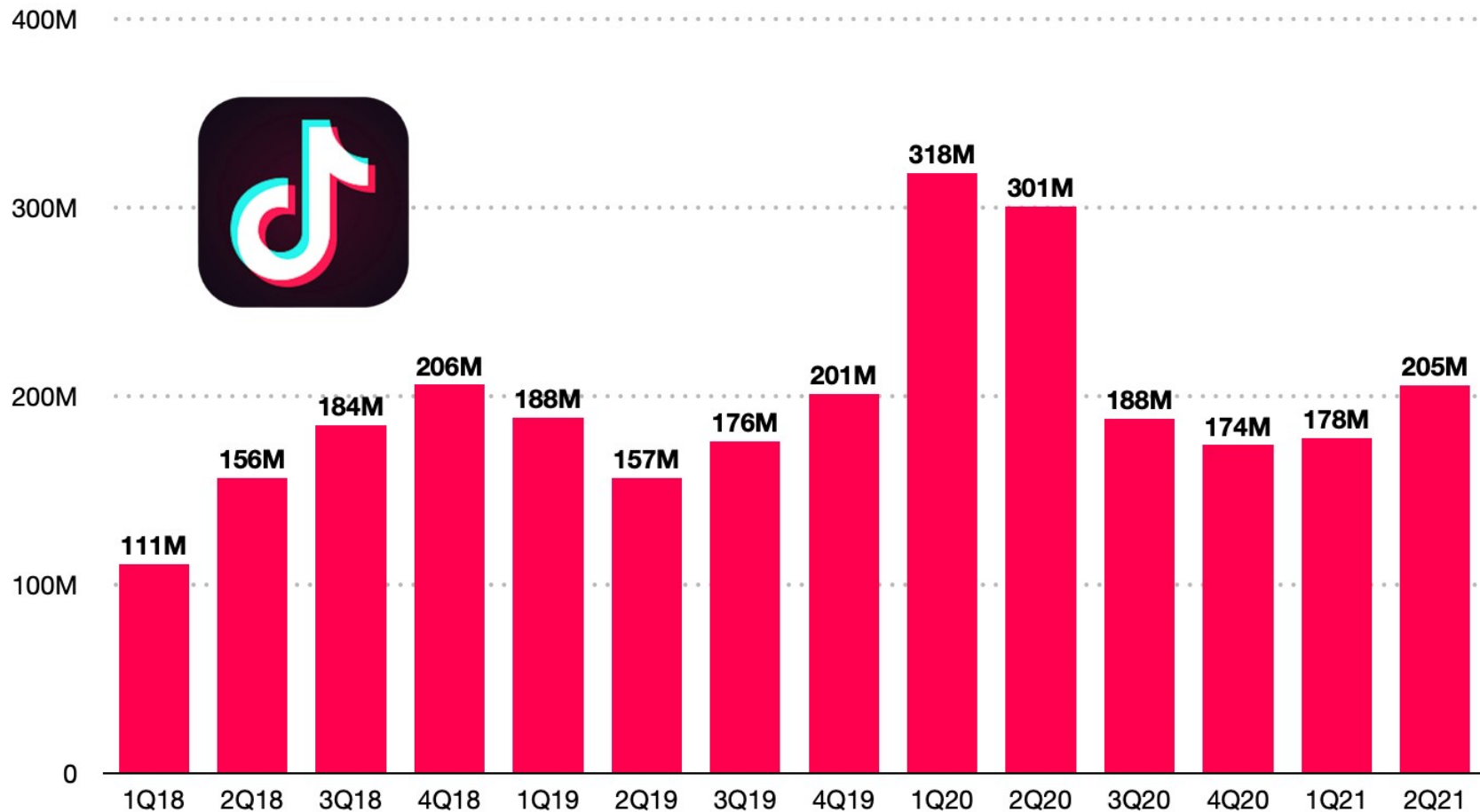
- 1 TikTok
- 2 YouTube
- 3 WhatsApp
- 4 Instagram
- 5 Google Maps
- 6 Facebook
- 7 National Anti-Fraud Center
- 8 Taobao
- 9 CapCut
- 10 Gmail

### Google Play Downloads

- 1 Instagram
- 2 Facebook
- 3 TikTok
- 4 WhatsApp
- 5 Messenger
- 6 Snapchat
- 7 Telegram
- 8 WhatsApp Business
- 9 ZOOM
- 10 Google Meet

Note: Does not include downloads from third-party Android stores in China or other regions. TikTok includes downloads of Douyin.

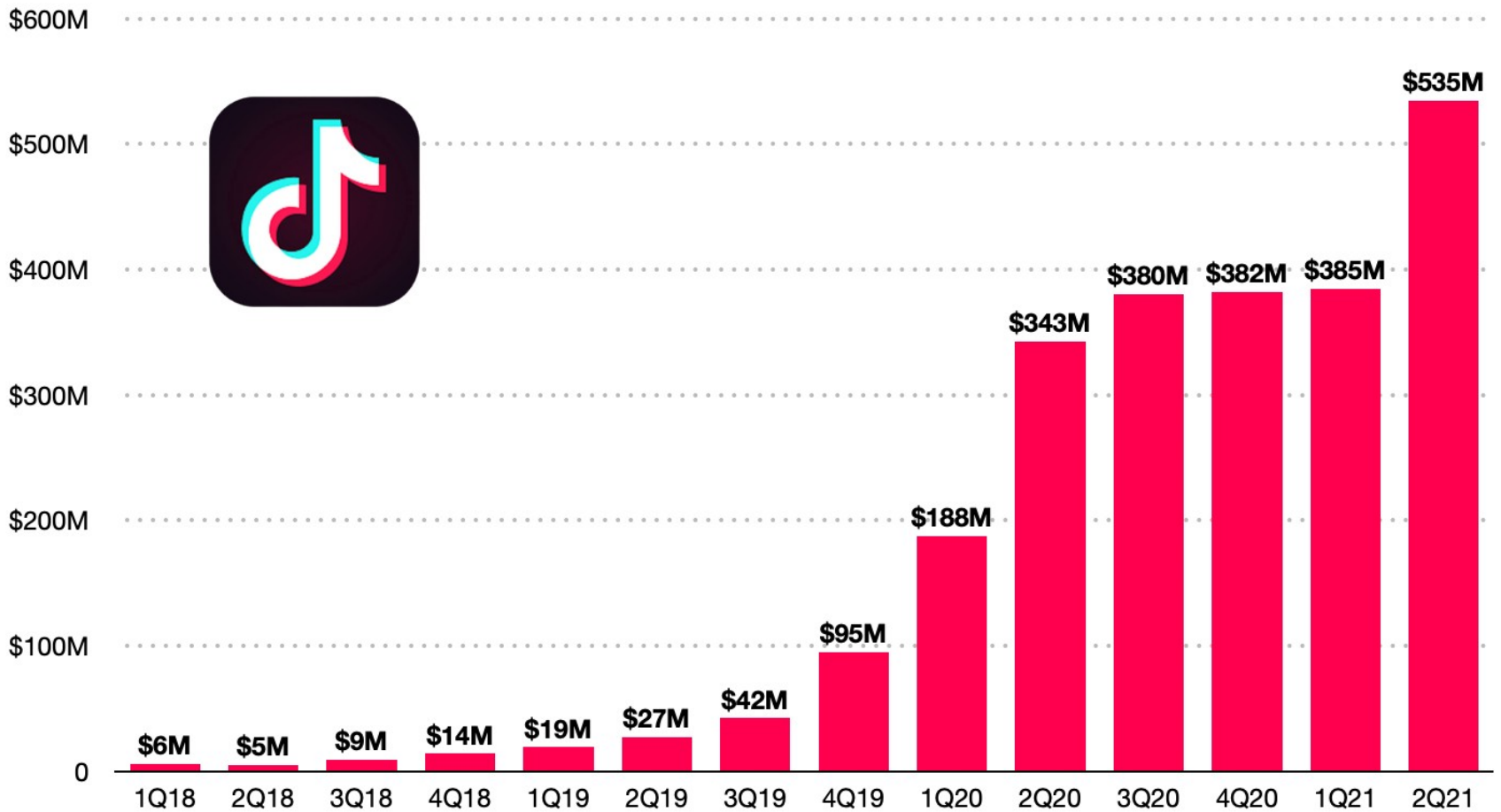
## TikTok Global Downloads by Quarter



Note: Includes Douyin on iOS in China and excludes downloads from third-party Android stores.

Source: Sensor Tower Store Intelligence

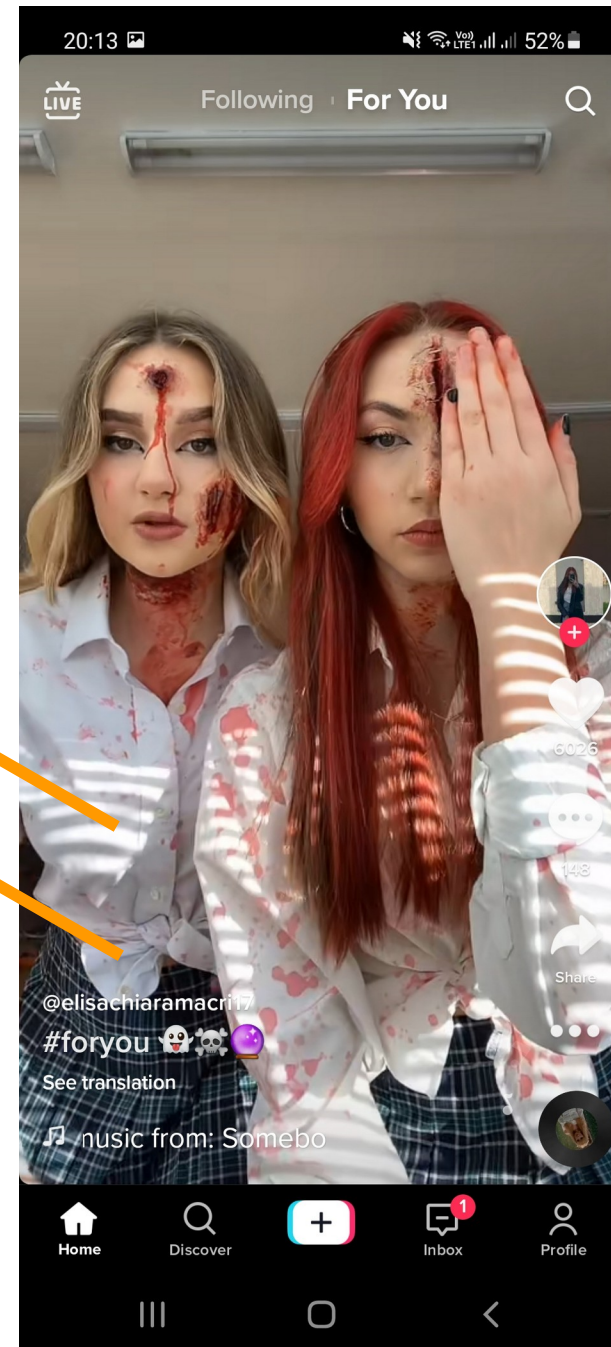
## TikTok Global Consumer Spending by Quarter



Note: Includes Douyin on iOS in China and excludes revenue from third-party Android stores.

Source: Sensor Tower Store Intelligence

# TikTok: nepravideľné odmeny





- User profile amplifier
- When you click a new video, your feed will change based on your latest actions
- TikTok would only recommend the content you would love...
- If you like a dancing video, you would be customized to the entertainment category initially, then the following up mechanism will trace your behaviors for further analysis, which would eventually provide precise recommendations for you only.

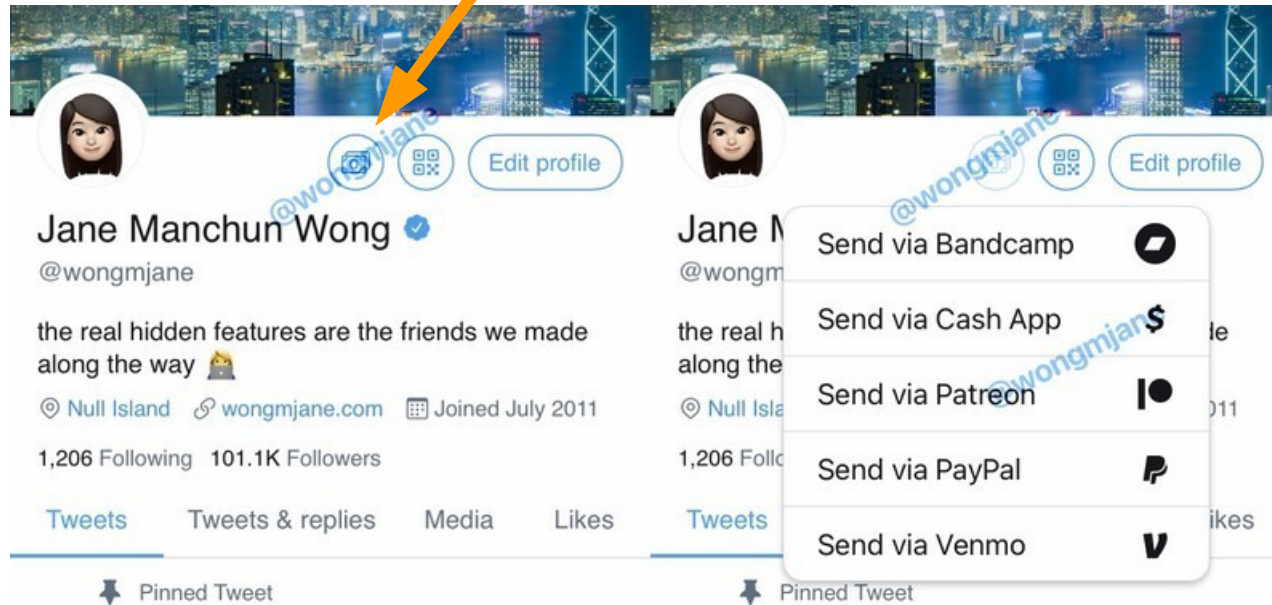
Zdroj: <https://towardsdatascience.com/why-tiktok-made-its-user-so-obsessive-the-ai-algorithm-that-got-you-hooked-7895bb1ab423>



- Nasadenie strojového učenia na personalizáciu obsahu
- Personalizácia sa zdá byť účinná ako zosilňovač vnútorných triggerov
- Vysoká konvergencia personalizácie už po prezretí nízkeho počtu videí



# Twitter tips (sprepitné)



Pomôžu „tips“ k zosilňovaniu vnútorných triggerov?

TikTok is testing a new tipping feature for some creators

Zdroj: <https://www.theverge.com/2021/10/28/22751715/tiktok-new-tips-feature-creators>

Internal Facebook research shows that among teenage girls who said they had recently felt **sadness**, 57% said Instagram made things better, Davis' (global head of safety at Facebook) prepared remarks show.

Among teenage girls who felt **loneliness**, 51% said Instagram had a positive impact, according to the testimony.

Source: <https://www.reuters.com/business/media-telecom/facebook-highlight-positive-instagram-impact-teens-senate-hearing-testimony-2021-09-29/>

# So should we all delete TikTok from our phones?

„I will not put it on mine. TikTok is a good example of a seemingly benign app that can give the CCP a lot of useful data. You wouldn't think of a social-media app that is used by a lot of children around the world as being inherently problematic for political reasons. But the sentiment data from an app like TikTok can be used to understand how people are influenced and how they think. A lawsuit recently filed against the company in California alleges that face data collected from the app was connected to PRC [People's Republic of China]–based servers, raising significant privacy concerns.“

Source: [https://www.technologyreview.com/2020/08/19/1006455/gtcom-samantha-hoffman-tiktok/?utm\\_campaign=site\\_visitor.unpaid.engagement&utm\\_source=Twitter&utm\\_medium=tr\\_social](https://www.technologyreview.com/2020/08/19/1006455/gtcom-samantha-hoffman-tiktok/?utm_campaign=site_visitor.unpaid.engagement&utm_source=Twitter&utm_medium=tr_social)

- Vnútorňý trigger, externý trigger
- Jednoznačná uskutočniteľná akcia
- Nepravidelná odmena
- Investícia
- Sociálna mena

Všetko s cieľom vytvoriť zvyk

tbd

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## WEB5: AN EXTRA DECENTRALIZED WEB PLATFORM

**Building an extra decentralized web that puts you in control of your data and identity**

The web democratized the exchange of information, but it's missing a key layer: identity. We struggle to secure personal data with hundreds of accounts and passwords we can't remember. On the web today, identity and personal data have become the property of third parties.

Web5 brings [decentralized identity](#) and data storage to your applications. It lets devs focus on creating delightful user experiences, while returning ownership of data and identity to individuals.

[Getting Started](#)[Chat](#)[PDF](#)

- Nir Eyal: Stop Designing Apps And Start Designing Habits  
<https://vimeo.com/62649930> 
- Jonah Berger: "Contagious: Why Things Catch On" | Talks at Google  
<https://youtu.be/FN4eDk1pq6U> 



# Ďakujem za pozornosť



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