

**DARK**

**PATTERNS**

# Homo Economicus

# THE COGNITIVE BIAS CODEX

What Should We Remember?

Too Much Information

We favor simple-looking options and complete information over complex, ambiguous options

To avoid mistakes, we aim to preserve autonomy and group status, and avoid irreversible decisions

To get things done, we tend to complete things we've invested time and energy in

To stay focused, we favor the immediate, relatable thing in front of us

Need To Act Fast

To act, we must be confident we can make an impact and feel what we do is important

We project our current mindset and assumptions onto the past and future

We think we know what other people are thinking

We simplify probabilities and numbers to make them easier to think about

We imagine things and people we're familiar with or fond of as better

Not Enough Meaning

We fill in characteristics from stereotypes, generalities, and prior histories

We tend to find stories and patterns even when looking at sparse data

We notice flaws in others more easily than we notice flaws in ourselves

We are drawn to details that confirm our own existing beliefs

We notice when something has changed

We notice things already primed in memory or repeated often  
Bizarre, funny, visually striking, or anthropomorphic things stick out more than non-bizarre/unfunny things

We store memories differently based on how they were experienced  
We reduce events and lists to their key elements  
We discard specifics to form generalities  
We edit and reinforce some memories after the fact

We edit and reinforce some memories after the fact

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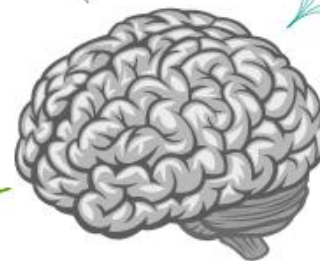
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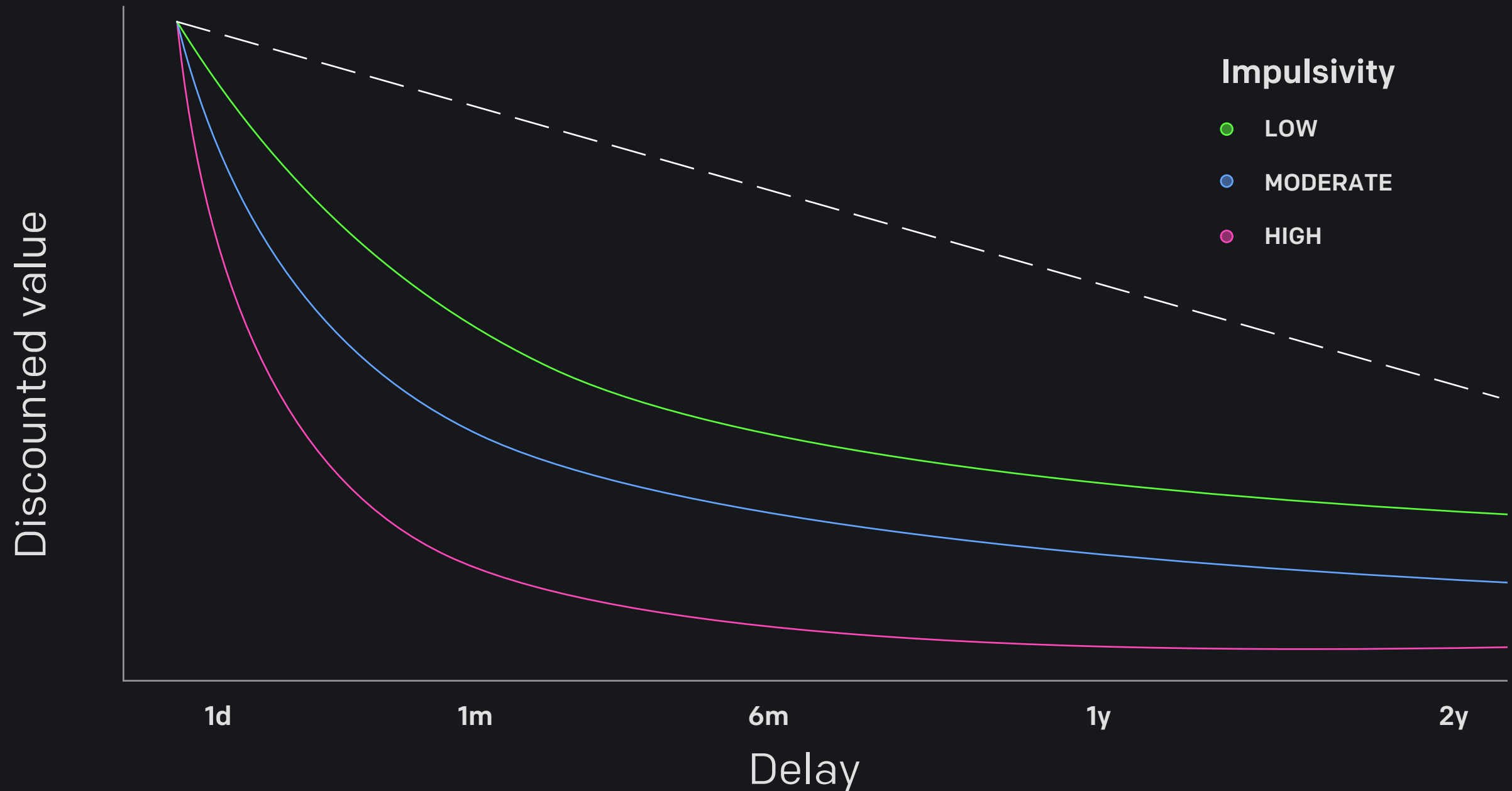
# Behavioural Nudging

THALER & SUNSTEIN 2008

The concept of nudging comes from the fields of behavioural economy and psychology, and describes how users can be lead toward making certain choices by appealing to psychological biases.

# Hyperbolic Discounting

I value something in the future X% as I value it today



# Homo Economicus?

## Defaults

Organ donors  
15%/90%

## Social Proof Heuristics

The greater the number of people who find any idea correct, the more a given individual will perceive the idea to be correct.

## Increased Salience

Supermarkets and  
product positioning  
472%

# Design

## Patterns

WYSIWYG, Google Material,

## Antipatterns

Lack of RT validation, Interface Bloat

**HARRY  
BRIGNUL**

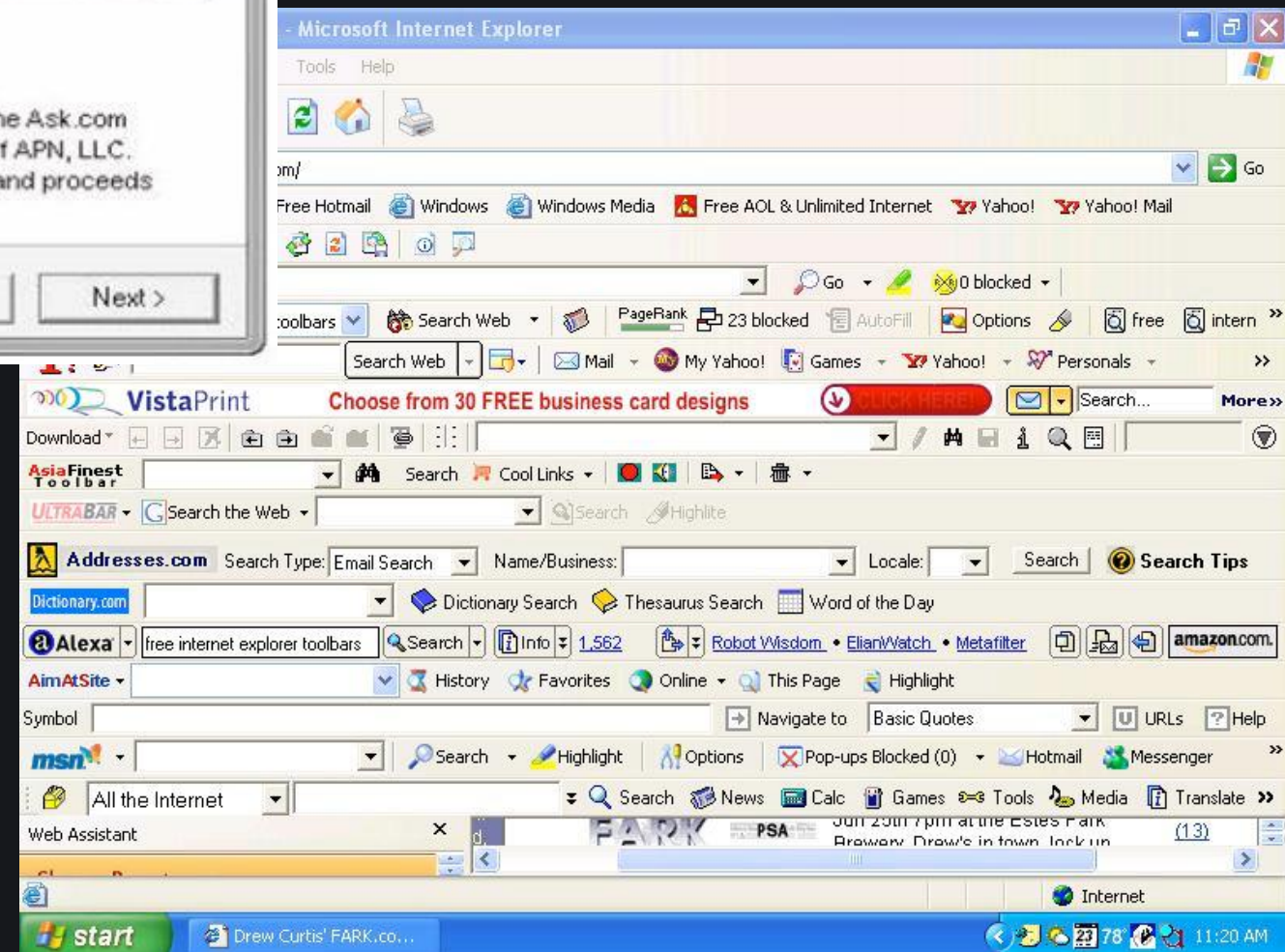


# Dark Patterns

Features of interface design crafted to **trick** or **deceive** users that they might not want to do, but which benefit the business in question



Users can be lead towards making  
certain choices by appealing to  
**psychological biases.**





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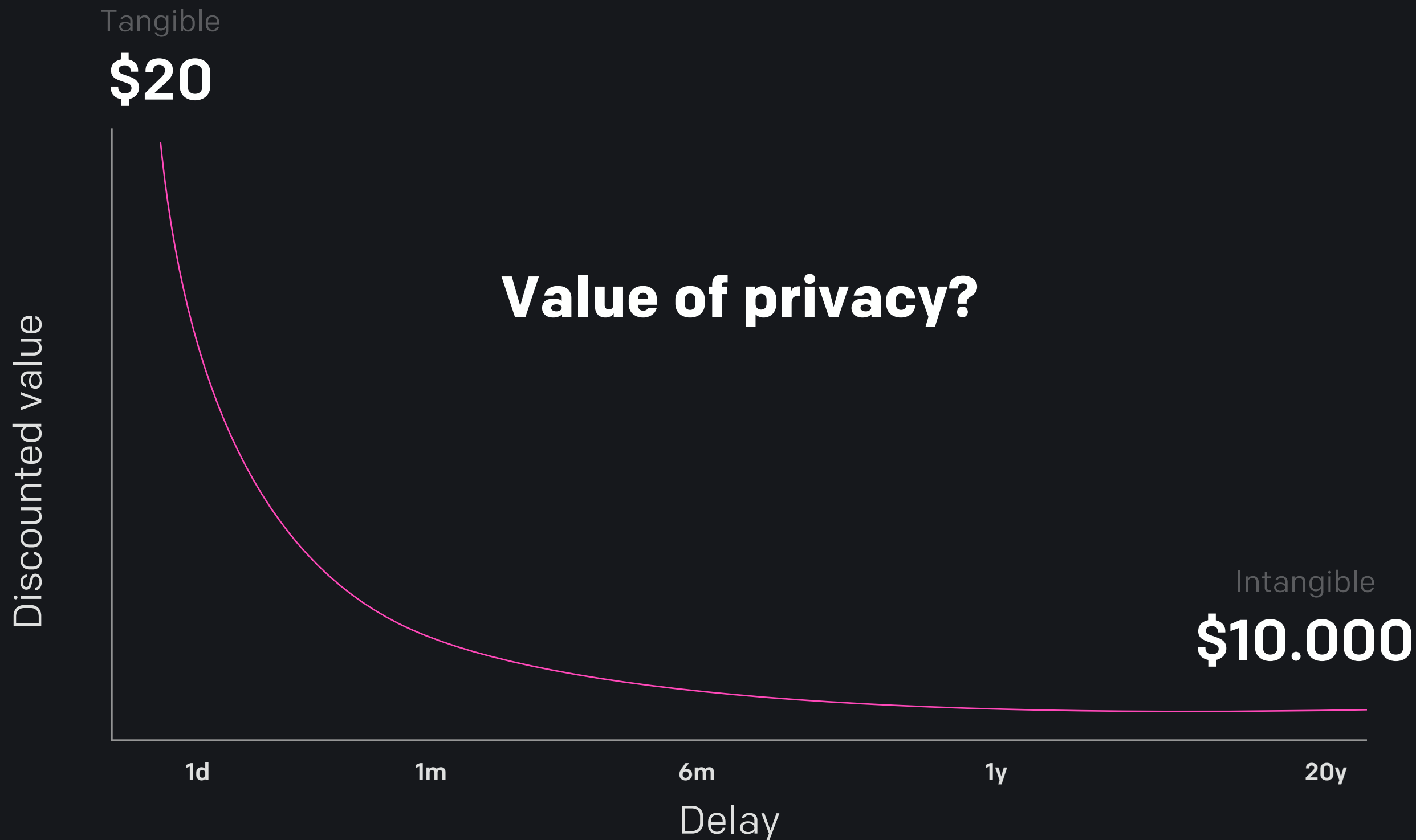


# Facebook pays teens to install VPN that spies on them

Josh Constine @joshconstine / 12:36 am CET • January 30, 2019

 Comment







Room type	Sleeps	Today's price	Your choices	Select rooms	Confirm your reservation
<p>► <b>Double Room</b></p> <p> Someone just booked this</p> <p> In high demand - only 3 rooms left on our site!</p> <p>1 double bed </p> <p> Private bathroom  Flat-screen TV</p> <p> Soundproofing</p> <ul style="list-style-type: none"> <li>• Shower • Safety Deposit Box • TV • Telephone</li> <li>• Hairdryer • Iron • Radio • Desk</li> <li>• Free toiletries • Fan • Toilet • Heating</li> <li>• Satellite Channels • Bath or Shower</li> <li>• Wake-up service • Electric kettle</li> <li>• Wardrobe/Closet • Towels • Linen</li> <li>• Clothes rack • Toilet paper</li> </ul> <p>Prices are per room Included: 20 % VAT, Breakfast</p>		<p><b>.genius</b></p> <p><del>US\$189</del> </p> <p><del>US\$175</del> </p> <p><b>US\$158</b></p>	<ul style="list-style-type: none"> <li>•  Continental breakfast included </li> <li>✓ <b>FREE cancellation</b> before 19 Sept 2017</li> <li>✓ <b>NO PREPAYMENT NEEDED</b> - pay at the property</li> </ul>	<div>0 ▾</div>	<p><b>I'll reserve</b></p> <p>Confirmation is Immediate</p> <p>33 other people looking now, according to our Booking.com travel scientists</p>
<p> <b>Jackpot!</b> This is the cheapest price you've seen in London for your dates!</p> <p><b>1 nights ( Thu 21 Sept - Fri 22 Sept )</b></p>					
		<p><b>.genius</b></p> <p><del>US\$174</del> </p> <p><del>US\$161</del> </p> <p><b>US\$145</b></p>	<ul style="list-style-type: none"> <li>•  Continental breakfast included </li> <li>✓ <b>FREE cancellation</b> before 19 Sept 2017</li> <li>✓ <b>NO PREPAYMENT NEEDED</b> - pay at the property</li> </ul>	<div>0 ▾</div>	
<p>► <b>Triple Room</b></p> <p>1 single bed  and 1 double bed </p> <p> 32 m²  Private bathroom</p> <p> Flat-screen TV  Soundproofing <a href="#">More</a></p> <p>Prices are per room Included: 20 % VAT, Breakfast</p>		<p><b>.genius</b></p> <p></p> <p><del>US\$224</del> </p> <p><del>US\$203</del> </p> <p><b>US\$182</b></p> <p><b>Today's Value Deal</b></p>	<ul style="list-style-type: none"> <li>•  Continental breakfast included </li> <li>✓ <b>FREE cancellation</b> before 19 Sept 2017</li> <li>✓ <b>NO PREPAYMENT NEEDED</b> - pay at the property</li> </ul>	<div>0 ▾</div> <p>Last chance! Only 1 room left on our site!</p>	

### [Twin Room](#)

Prices are per room



You just missed it. The last room on our site sold out a few days ago for US\$148.



#### Limited supply in London: 3-star hotels

4 hotels like Belgrave Hotel are already unavailable on our site!



Someone just booked this



In high demand  
on our site!

Last booked: 4 hours ago

2. Rate this property:

Your ratings will impact the review score

Staff

--	--	--	--

Facilities

--	--	--	--

Cleanliness

--	--	--	--

Comfort

--	--	--	--

Value for money

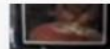
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Location

--	--	--	--

We've calculated your overall review score

5.8



See all your recently viewed items ›

Back to top

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Careers  
About Amazon  
Investor Relations  
Amazon Devices

### Make Money with Us

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Sell Your Services on Amazon  
Sell on Amazon Business  
Sell Your Apps on Amazon  
Become an Affiliate  
Advertise Your Products  
Self-Publish with Us  
› See all

### Amazon Payment Products

Amazon Rewards Visa Signature Cards  
Amazon.com Store Card  
Amazon.com Corporate Credit Line  
Shop with Points  
Credit Card Marketplace  
Reload Your Balance  
Amazon Currency Converter

### Let Us Help You

Your Account  
Your Orders  
Shipping Rates & Policies  
Amazon Prime  
Returns & Replacements  
Manage Your Content and Devices  
Amazon Assistant  
Help



English

United States

Amazon Music  
Stream millions  
of songs

Amazon Drive  
Cloud storage  
from Amazon

6pm  
Score deals  
on fashion brands

AbeBooks  
Books, art  
& collectibles

ACX  
Audiobook Publishing  
Made Easy

Alexa  
Actionable Analytics  
for the Web

Amazon Business  
Everything For  
Your Business



## Browse Help Topics

Recommended Topics

Where's My Stuff?

Managing Your Orders

Account Settings & Payment  
Methods

Returns & Refunds

Shipping Policies

Amazon Devices

Digital Services & Content

Amazon Business Accounts

Other Topics & Help Sites

**Need More Help?**

>

### Need more help?

[Ask the Digital and Device Community](#)

[Contact Us](#)

[Ayuda en Español](#)

[Amazon Co-Pilot](#)



## Contact Us

### 1 What can we help you with?

An order I placed

Devices

Digital Content and Services

Prime or Something else

Select one or more items related to your issue...

Choose a Different Order

ORDER PLACED

Sunday, March 11, 2018

**Delivered** (Shipment 1)

DELIVERED ON:

Tuesday, March 13, 2018



The Legend of Zelda: Breath of the Wild - Nintendo Switch

Sold by Amazon.com Services, Inc.

View tracking details

Return or replace in 3 easy steps

Ordered  
Mar 11

Shipped  
Mar 12

Your package was delivered.

### Quick solutions



Your Orders  
Track & return orders



Devices & Content



Manage Prime



Payment Settings

Return or replace items

Manage Address Book

Change Name, E-mail, or Password

### 1 What can we help you with?

An order I placed

Devices

Digital Content and Services

Prime or Something else

#### Make a change to your account

Click on the buttons at right to handle common account activities.

Visit [Your Account](#) to view and edit all of your account preferences.

If your issue cannot be fixed here, please continue describing your issue below so we can assist you.

Recent \$99 Charge?

Manage Payment Options

Manage Prime Membership

Apply Gift Card to Account

Show more

### Quick solutions



Your Orders  
Track & return orders



Devices & Content



Manage Prime



Payment Settings

Return or replace items

Manage Address Book

Change Name, E-mail, or Password

### 2 Tell us more about your issue

Select an issue

< Please make a selection >

Back to top

out your issue

✓ < Please make a selection >

Prime

Prime Now

Placing an order

Gift Cards and promotions

Payment methods and addresses

Login and security

Unknown or incorrect charges

Amazon Fresh

Amazon Restaurants

Amazon Home Services (AHS)

Amazon Business

More non-order questions

Phishing or Scam Inquiries

Back to top

Get to Know Us

Make Money with Us

Amazon Pay

issue

Login and security

✓ < Please make a selection >

Password, e-mail, or login

Suspicious e-mail received

E-mail communication preferences

Close my account

Other login or security questions



## Turn on face recognition if you want us to use this technology

If you turn this setting on, we'll use face recognition technology to understand when you might appear in photos, videos and the camera to do things such as help protect you from strangers using your photo, find and show you photos that you're in but haven't been tagged in, tell people with visual impairments who's in a photo or video, and suggest people that you may want to tag. Select Accept and Continue to turn on face recognition or Manage Data Settings to keep it turned off.

What's collected?

MANAGE DATA SETTINGS

ACCEPT AND CONTINUE



facebook



### Required: Review your data settings

Personal data laws are changing in the European Union, and we want to make it easy for you to view some of your data settings.

Please take a few minutes to review these updates and make choices about some specific data settings.

Here's what we'll ask you to review:

- ✓ An option for turning on face recognition
- ✓ Our updated Terms, Data Policy and Cookie Policy

Get Started



# Make the ads that you see more useful to you

Control the information Google uses to show you ads



These settings apply when you're using this browser and device

[SIGN IN](#) to control settings for personalised ads across all of your browsers and devices



## Ads Personalisation on Google Search



See more useful ads when you're using Google Search

Please set your preferences

The way that Google saves your ad settings has changed. [Learn more about how Google uses cookies for ad personalisation](#)

## Ads Personalisation Across the Web

See more useful ads on YouTube and the 2+ million websites that partner with Google to show ads

TURN ON

TURN OFF

in Invite contacts | LinkedIn

Dan

← → ↺ https://www.linkedin.com/reg/webmail-invite-v2?flow=1qbwqgl-u8y0iy

LinkedIn

Pick up where you left off

Step 2 of 2

Stay in touch with your contacts we found when you added your address book. Invite them to LinkedIn so they can connect with you.

☒ Select All

688 Selected

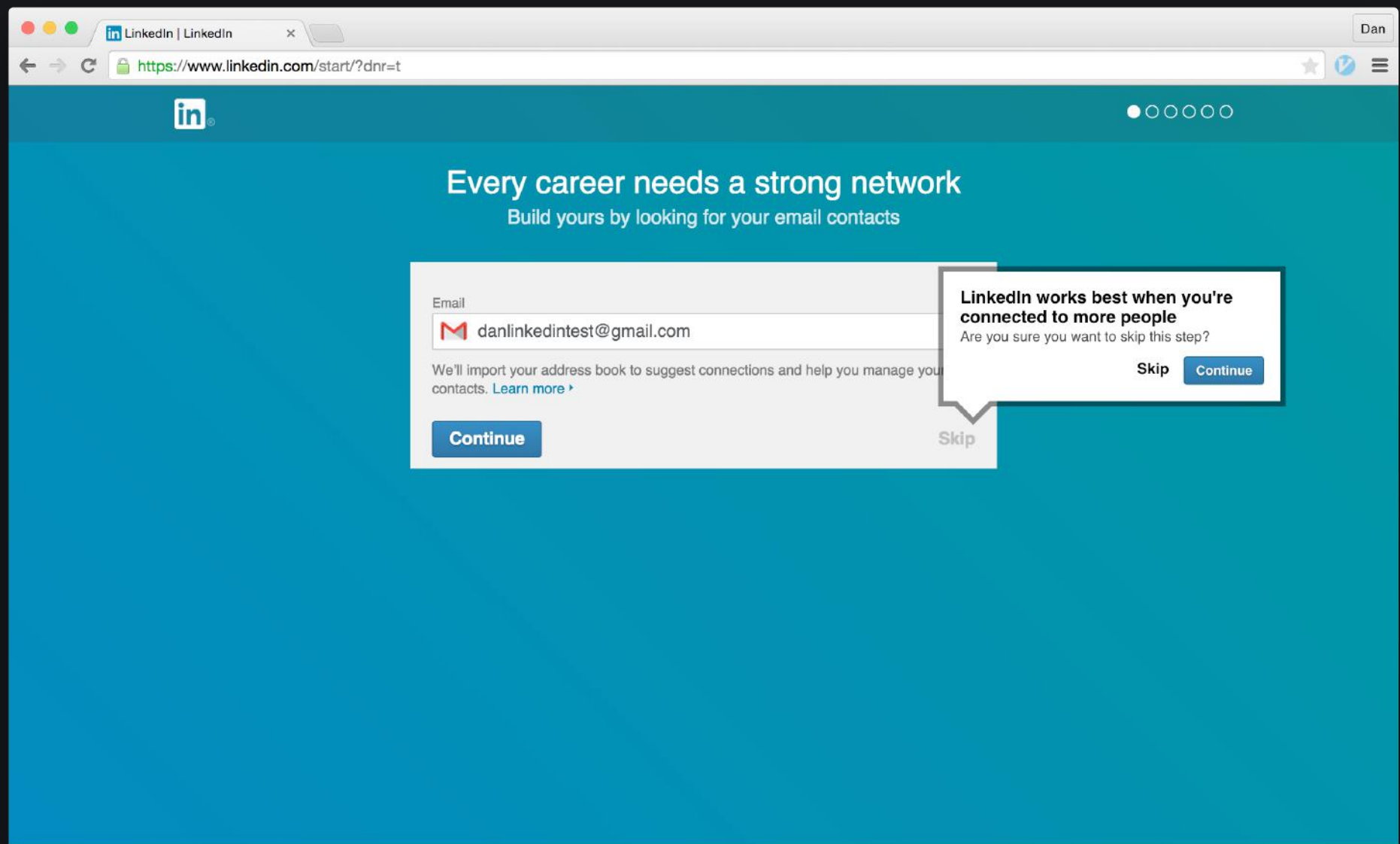
<input checked="" type="checkbox"/>	Catherine	@sch.ci.lexington.ma.us
<input checked="" type="checkbox"/>		@columbia.edu
<input checked="" type="checkbox"/>	Alycia	@quotidianventures.com
<input checked="" type="checkbox"/>	@columbia.edu	l@columbia.edu
<input checked="" type="checkbox"/>	David	@columbia.edu
<input checked="" type="checkbox"/>	Yuankai	@sch.ci.lexington.ma.us
<input checked="" type="checkbox"/>	adicu	@noreply.github.com
<input checked="" type="checkbox"/>	Afiya	@lenovo.com
<input checked="" type="checkbox"/>	Billybobmario	billybobmario@gmail.com
<input checked="" type="checkbox"/>		@adicu.com

Add to network

 or [Skip this step »](#)

Invite friends, colleagues, and acquaintances who might like to connect, and would benefit from joining LinkedIn. If someone you invite doesn't respond right away, we'll send up to two reminders.

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**LinkedIn works best when you're  
connected to more people**

Are you sure you want to skip this step?

**Skip**

**Continue**

**Skip**

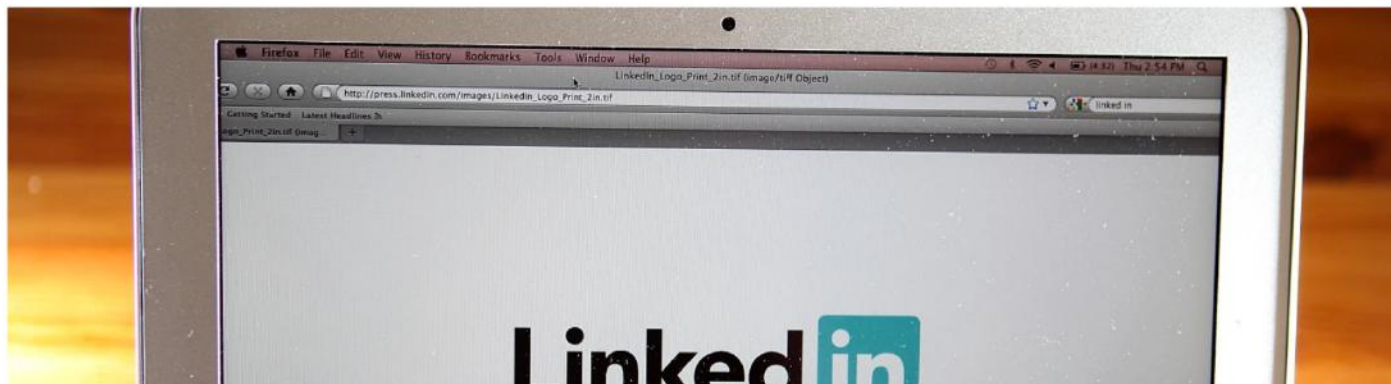


Dan Schlosser

TECH • LINKEDIN

# LinkedIn will pay \$13M for sending those awful emails

By Jeff John Roberts October 5, 2015

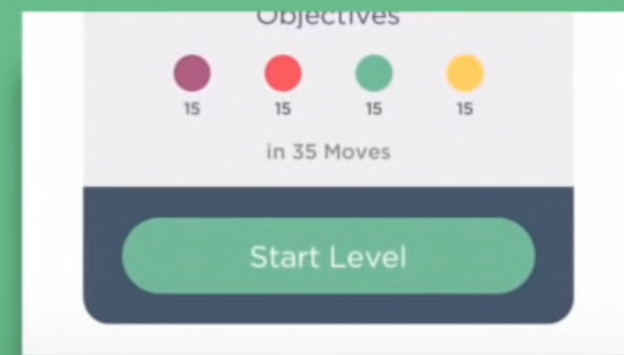
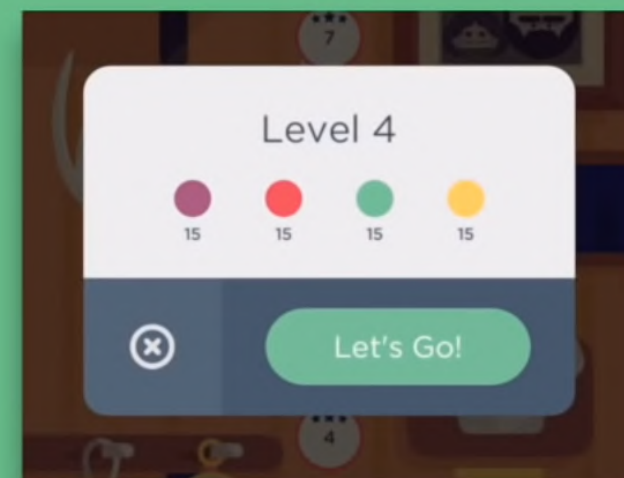
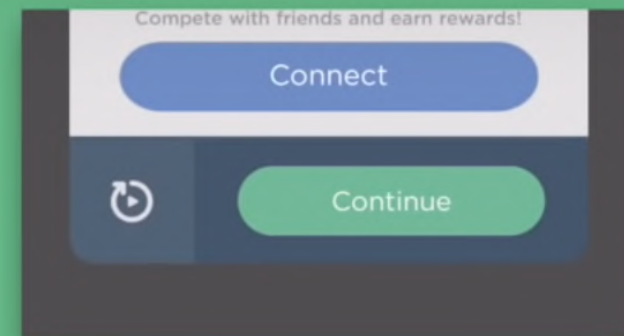
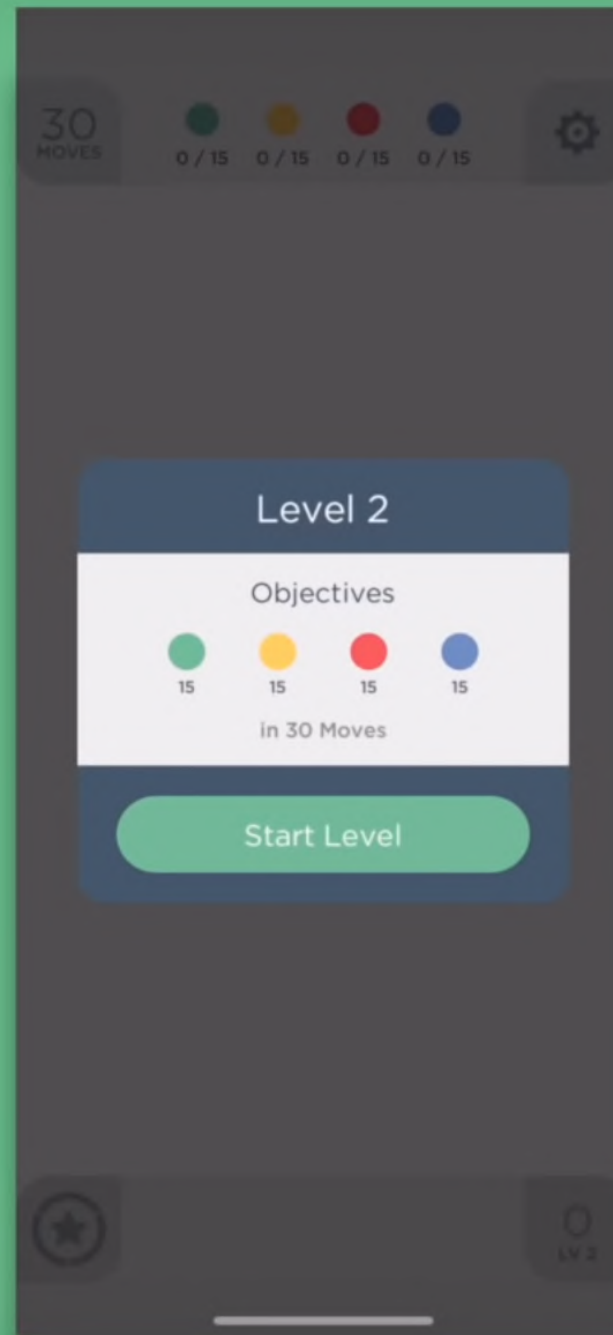
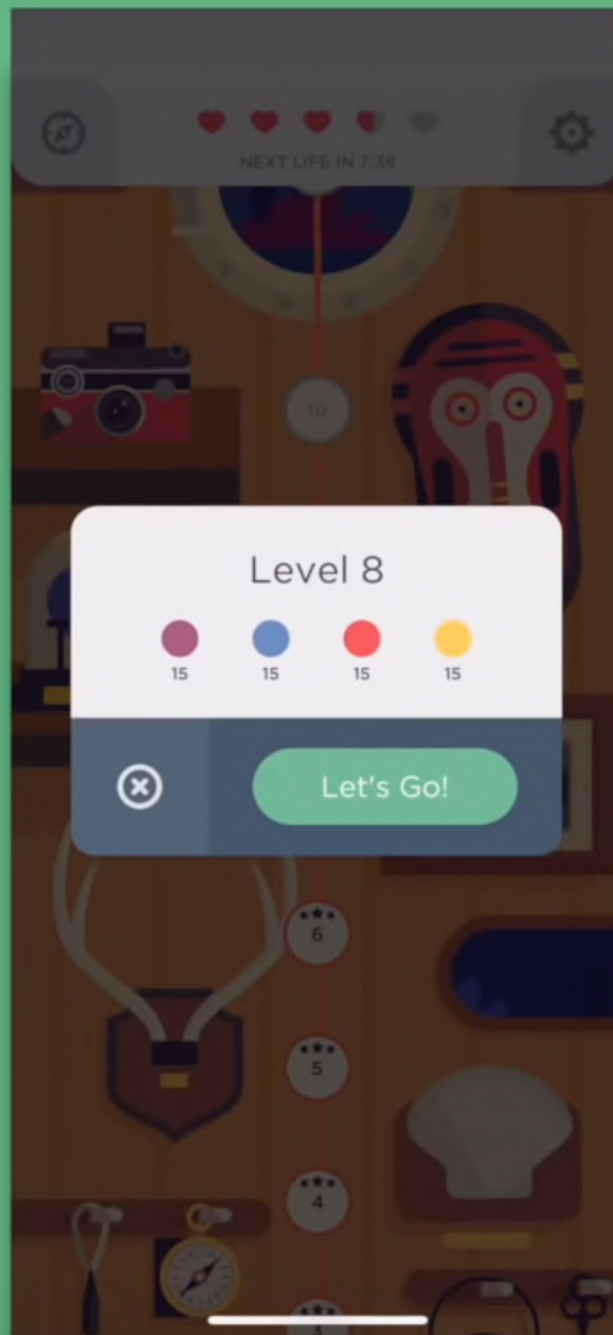


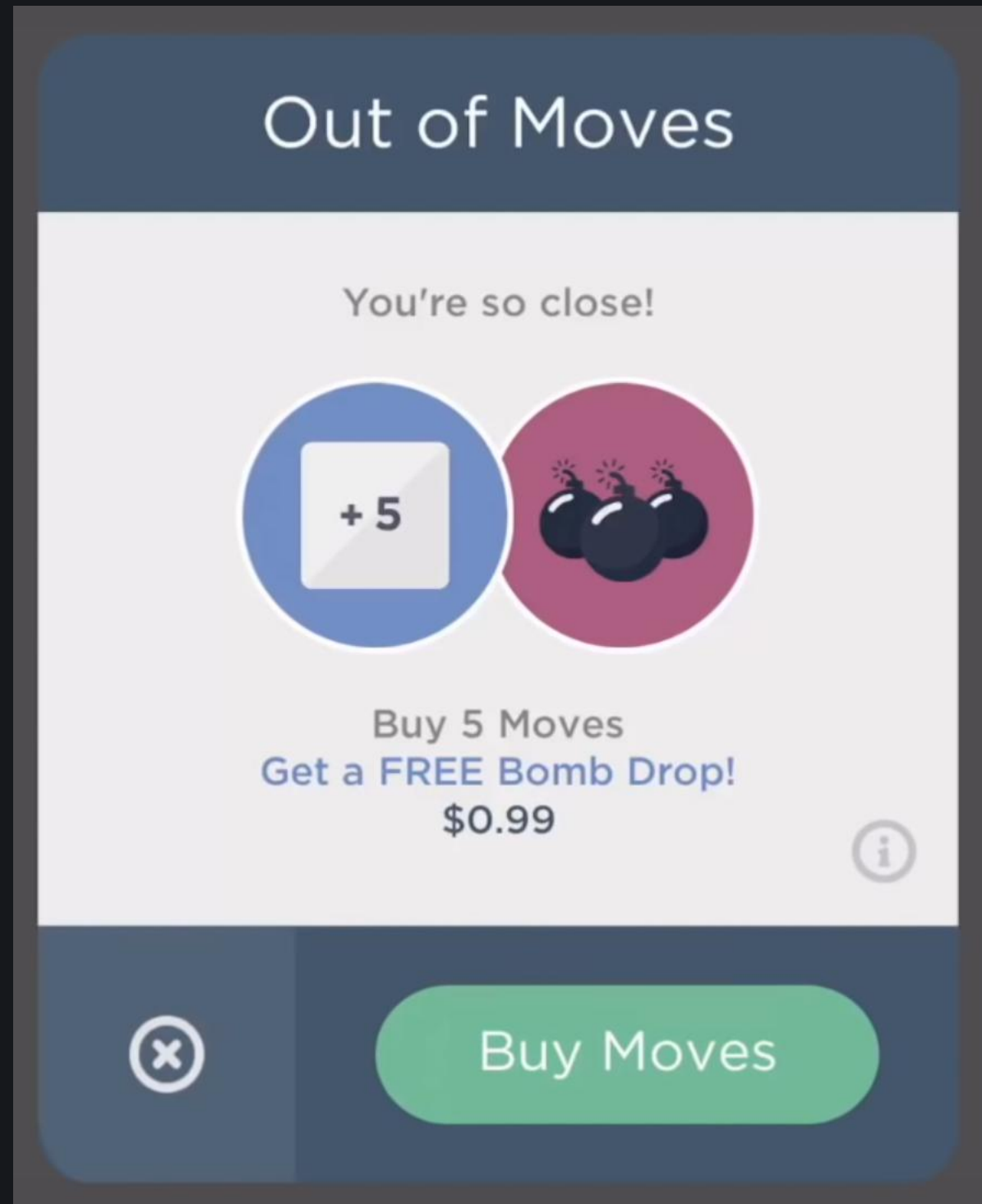
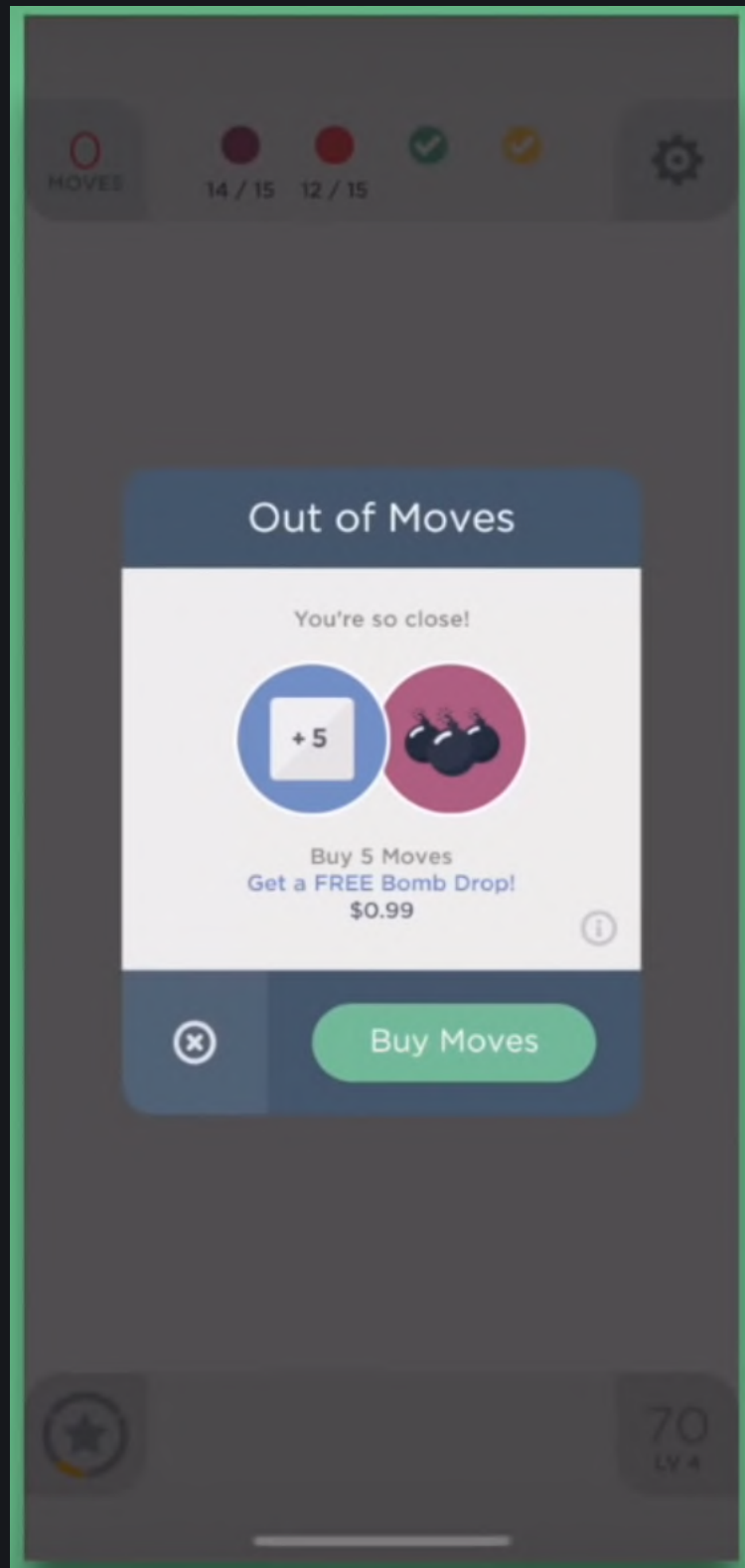
## Most Popular Posts

Voters Over the Age of 65 Remember Nixon—and Want to Impeach Donald Trump

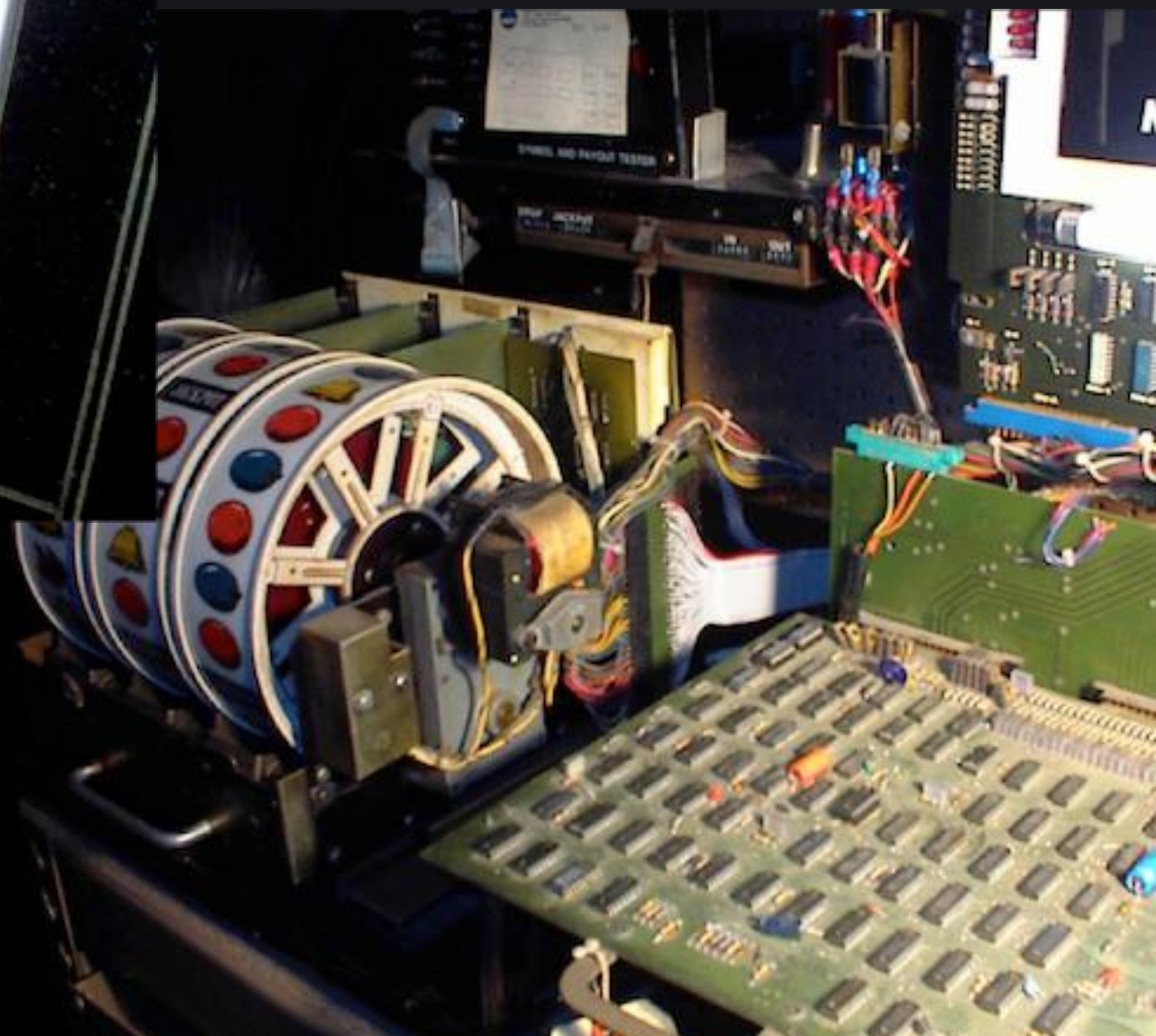
Nicole Goodkind











Ryanair

Vodafone

Twitter

Reddit

Medium

**KPIs**

**≠**

**Morality**

**If you wouldn't do it to your mother its not ethical**



**So what can we do?**



# **General Data Protection Regulation**

# **GDPR**

**A right to be forgotten**

**Privacy friendly as a default**

# Sources & Material

## Books

Deceived by Design, 2018

Evil by Design, 2008

<https://books.google.ca/books/about/Exploitation.html?id=2eyHV0r7J64C&hl=en>

## In-depth articles

<http://uxmag.com/articles/dark-ux-the-elements-of-the-video-gambling-experience>

<https://metro.co.uk/2019/03/04/facebook-lets-people-find-profile-using-security-phone-number-2-8800876/>

[https://www.beuc.eu/publications/beuc-x-2017-118\\_dynamic\\_currency\\_conversion\\_position\\_paper.pdf](https://www.beuc.eu/publications/beuc-x-2017-118_dynamic_currency_conversion_position_paper.pdf)

<https://dl.acm.org/citation.cfm?id=3054926>

<http://www.dangoldstein.com/papers/DefaultsScience.pdf>

<https://archive.uie.com/brainsparks/2011/09/14/do-users-change-their-settings/>

## Cases

<https://www.propublica.org/article/what-algorithmic-injustice-looks-like-in-real-life>

<https://www.forbrukerradet.no/side/filing-complaint-against-grindr-sharing-users-hiv-status-and-sexual-preferences/>

<https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election>