Battling your Biased Brain

Peter Wessels

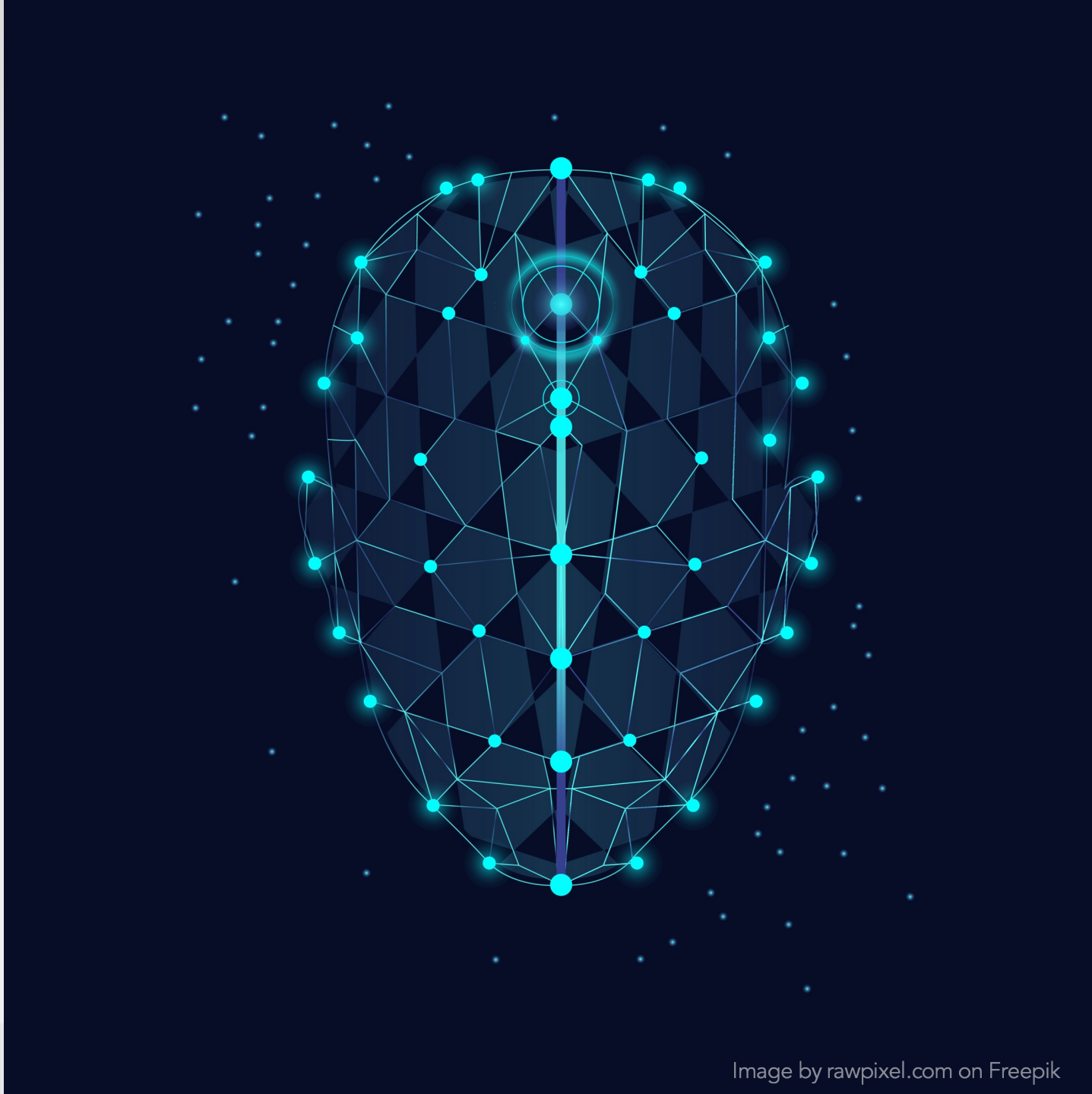


Image by rawpixel.com on Freepik

Image by rawpixel.com on Freepik

Scan the code to participate,
or go to **bit.ly/biasedbrain**

Please raise your hand when you are done.

1. Was **Mahatma Gandhi** older or younger than

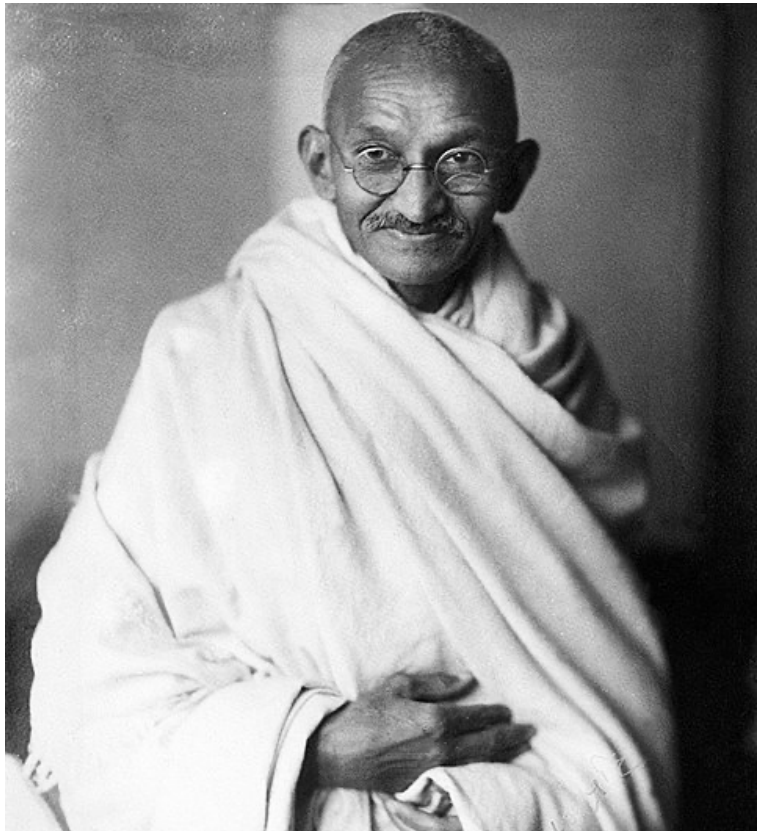
9 years old when he died?

A

1. Was Mahatma Gandhi older or younger than **140 years** old when he died?

B

2. At what age did **Mahatma Gandhi** die?



Mahatma Gandhi
1869 – 1948

How old was Gandhi when he died?

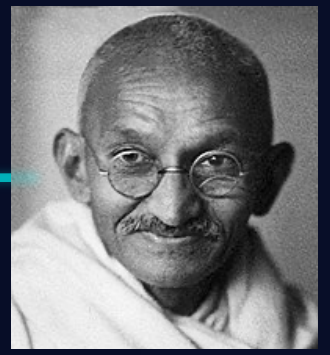
A (>9 y)

B (<140 y)

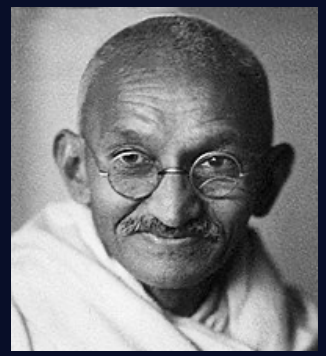
Image by rawpixel.com on Freepik

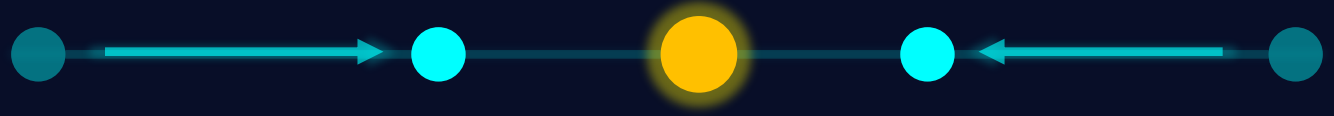
This difference can be explained by the **anchoring effect**.

Fritz Strack and Mussweile, Thomas. *Considering the Impossible: Explaining the Effects of Implausible Anchors.* Social Cognition, Vol. 19, No. 2, 2001, pp. 145-160”



..older or younger
than (9 OR 140) years..





9 years

140 years

Question	Actual value	Plausible anchors		Implausible anchors	
		High	Low	High	Low
Antarctic: mean temperature in winter (°C)	−68	−17	−43	45	−210
Einstein: year of first visit to United States	1921	1939	1905	1992	1215
Da Vinci: year of birth	1452	1698	1391	1952	−300
Gandhi: age	78	79	64	140	9
Ulm: altitude (m)	478	320	150	10,500	1,700
Aristotle: year of birth	−322	−220	−490	1832	−25,000
Whale: length (m)	33.0	49.0	21.0	900.0	0.2
Elbe: length (km)	1,165	890	550	45,000	25

Table 6

Overall z Values, Study 3

Anchor	Plausible	Implausible	
High	.04 (79)	.25	(140?)
Low	−.13 (64)	−.17	(9?)

Note. $n = 67$ for all cells.

Image by rawpixel.com on Freepik

We can also experience this effect when **we make software.**

Planning poker

Image by rawpixel.com on Freepik

These patterns are identified as **cognitive biases.**

There are more than 100 ways in which you can be influenced!

Who am I?

- IT Consultant @ Info Support
- Software engineer, teacher, leader of the Java Community @ Info Support
- Disclaimer: claims are based on research and empirical evidence.

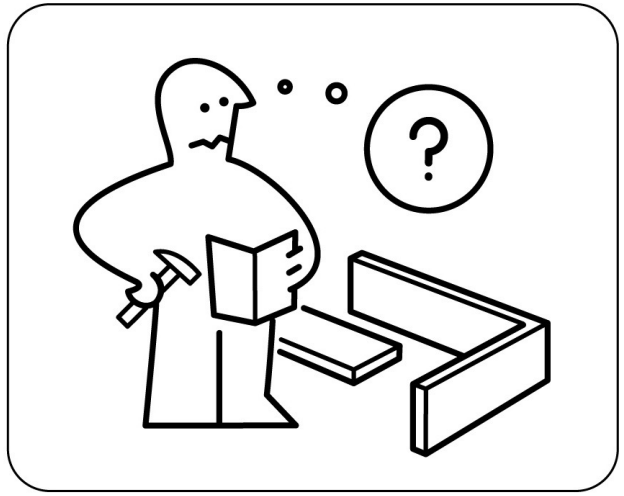
Image by rawpixel.com on Freepik

Today, I want to talk about **3 common ways** you can be influenced.

.. such that we can increase our productivity!

Image by rawpixel.com on Freepik

#1 When labor leads to love.



"THE IKEA EFFECT"

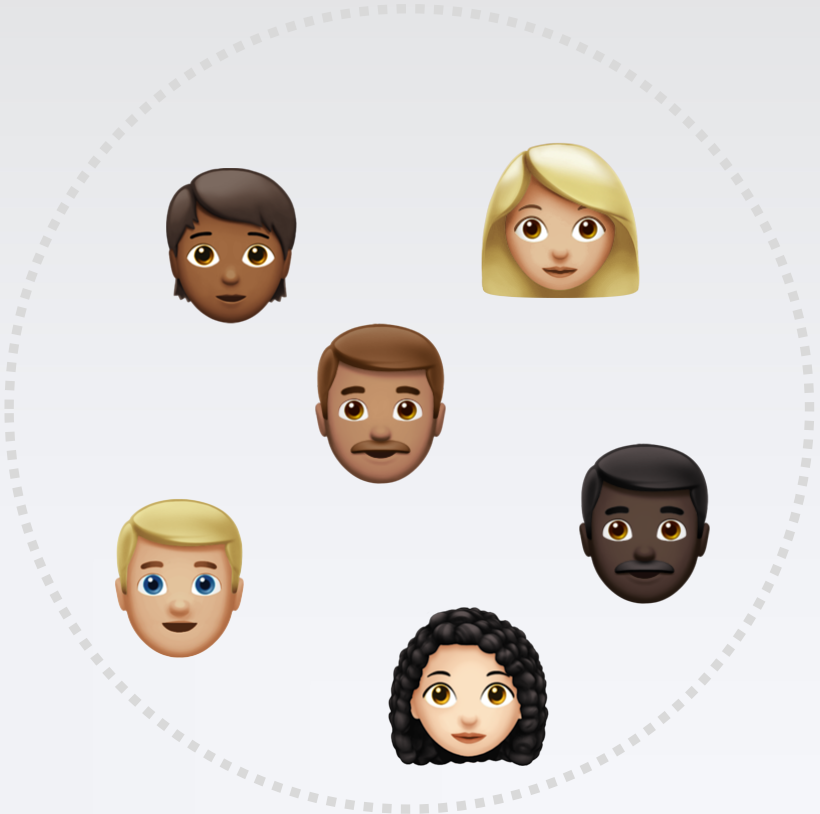
MANNHOWIE.COM

Image by rawpixel.com on Freepik

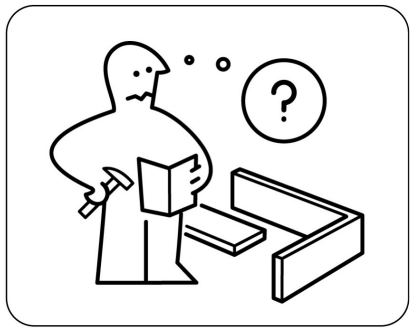
Including **labor** in the building process **increases the perceived value** of the product for **the builder**.

Research by Michael Norton, Daniel Mochon, and Dan Ariely

Builders



Non-Builders



Builders

Non-Builders

Image by rawpixel.com on Freepik

Do you like the product?

52% ▲

Non-builders: 2.5
Builders: 3.8

Image by rawpixel.com on Freepik

How much do you want to pay for this product?

63% ▲

Non-builders: M= $0.48
Builders: M= $0.78

We make stuff. Are we also subject to the IKEA effect?

Image by rawpixel.com on Freepik

Well, I definitely am.

And you probably too..

Image by rawpixel.com on Freepik

Where it starts..

When opening up a pull request, are you able to **objectively** evaluate your work?

Does it sometimes hurt when someone does not value your code?

Image by rawpixel.com on Freepik

.. where it takes you

Ignorance can lead to serious **technical debt** and **missed learning opportunities**

Image by rawpixel.com on Freepik

Does this sounds familiar?

Who of you can relate to the IKEA effect?

Image by rawpixel.com on Freepik

Why are we subjected to this bias?

Psychological need for competency

Justifying your efforts

Image by rawpixel.com on Freepik

How can we **prevent** the IKEA-effect?

Before & during the work

To build or not to build it (completely) yourself?

After the work

Asses your ~~baby~~ product

Image by rawpixel.com on Freepik

Do you really consider tapping into **external solutions or knowledge** when you can build it yourself?

Do you weight your options objectively?

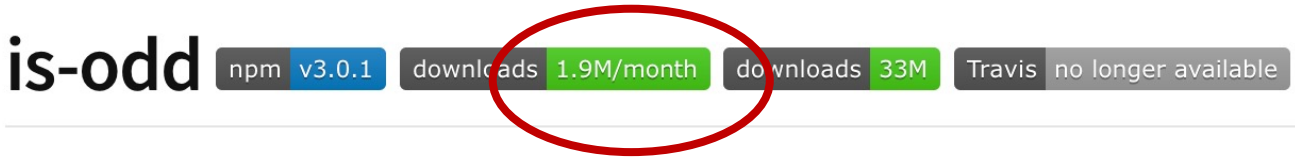
Image by rawpixel.com on Freepik

When building things from yourself..

- Investment
- Time to market
- Other problems may arise

Consider **third-party products**:
stand on the shoulder of giants.

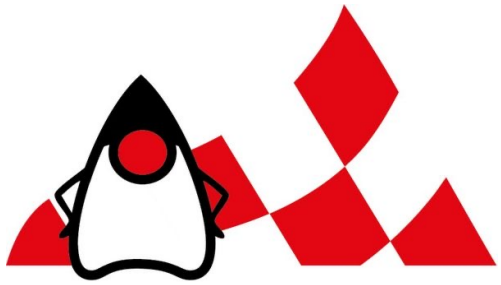
is-odd



> Returns true if the given number is odd, and is an integer that does not exceed the JavaScript MAXIMUM_SAFE_INTEGER.

Please consider following this project's author, **Jon Schlinkert**, and consider starring the project to show your ❤️ and support.

You are not **the first** to a problem..
..even in **new technologies**



bitbash

foojay.io

DEVNEXUS™

DEVOXX™

Image by rawpixel.com on Freepik

Make your choices **explicit** (with **Architectural Decision Records**).

You can review, store and re-evaluate them.

Image by rawpixel.com on Freepik

Problem: Do you know the problem well enough?
Options: Do you also consider external solutions?
Considerations: Did you really consider all the options?

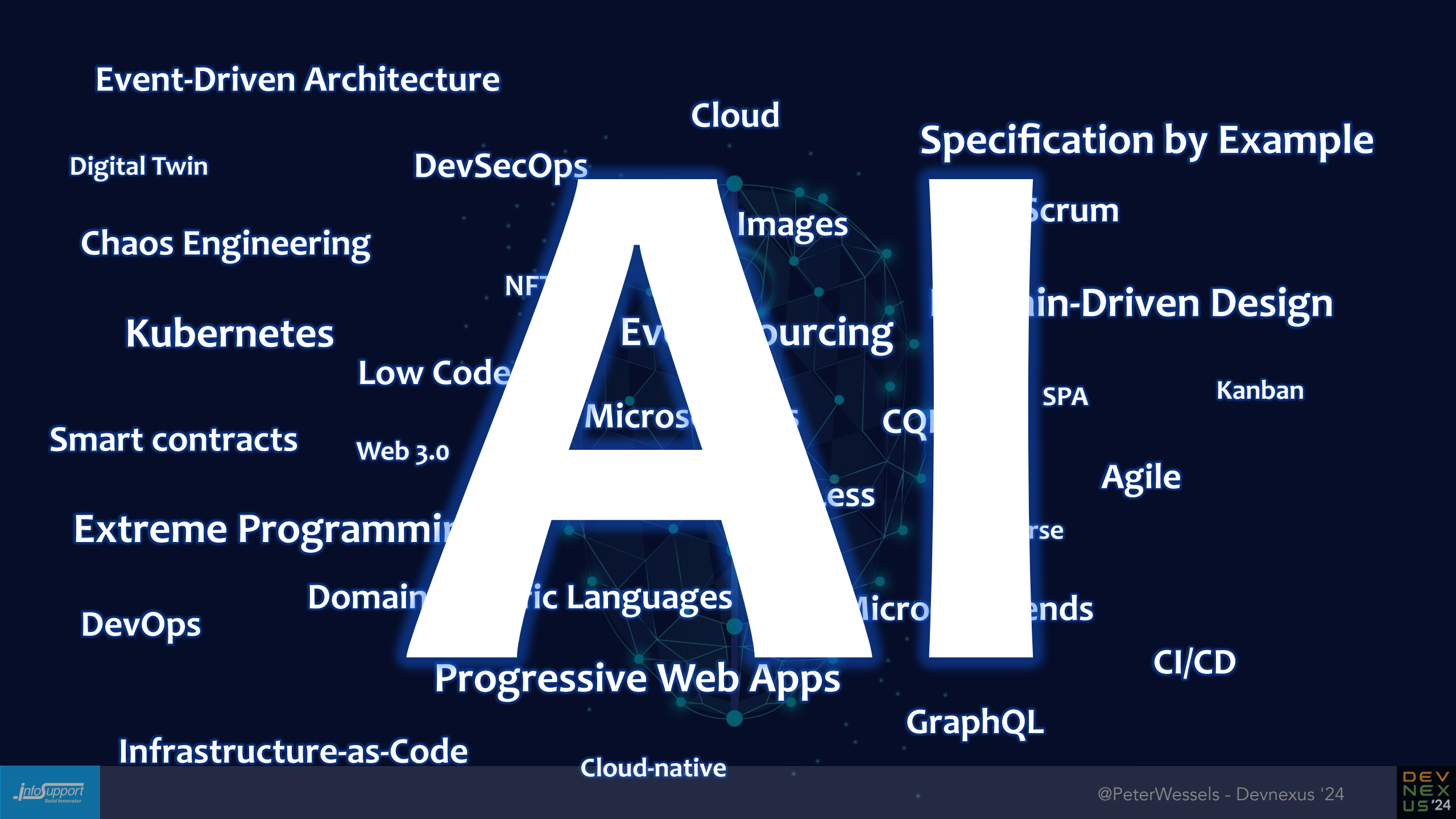
Be aware of your bias: Admit to yourself that you love it because you built it

Image by rawpixel.com on Freepik

Being more **honest** about the value of your work leads to **better products**.

Image by rawpixel.com on Freepik

#2 Joining the majority


Event-Driven Architecture
Cloud
Specification by Example
Digital Twin
DevSecOps
Images
Scrum
Chaos Engineering
NFT
Kubernetes
Low Code
SPA
Kanban
Smart contracts
Web 3.0
Agile
Extreme Programmin
DevOps
Progressive Web Apps
CI/CD
GraphQL
Infrastructure-as-Code
Cloud-native

Ooh, a green-field project.

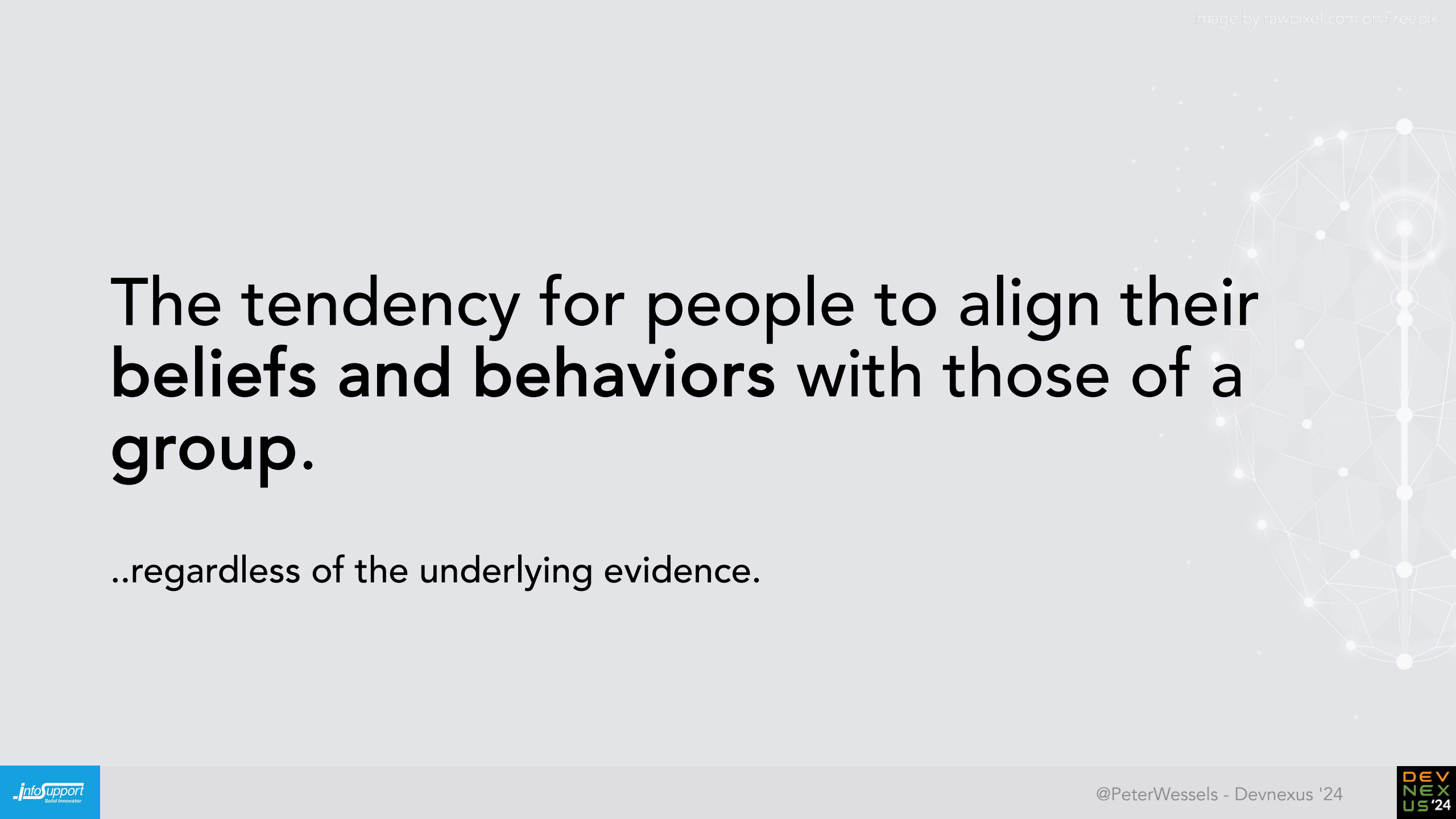
Event-Driven Architecture
Cloud
Specification by Example
Digital Twin
DevSecOps
Scrum
Native Images
Chaos Engineering
NFT
Domain-Driven Design
Kubernetes
Event Sourcing
Low Code
SPA
Kanban
Microservices
CQRS
Smart contracts
Web 3.0
Agile
Blockchain
Less
Extreme Programming
Metaverse
Domain Specific Languages
Micro-frontends
DevOps
CI/CD
Progressive Web Apps
GraphQL
Infrastructure-as-Code
Cloud-native

Image by rawpixel.com on Freepik

- The struggle was real
- Being productive and learning new stuff
- Rework was inevitable

Bandwagon effect

Image by rawpixel.com on Freepik



The tendency for people to align their **beliefs and behaviors** with those of a **group**.

..regardless of the underlying evidence.

You can see it everywhere: stock, (social) media & **politics**

Image by rawpixel.com on Freepik

Political polls **captures** and potentially **influences** decisions: voters tend to change their vote to **the winning party**

Research by Áron Kiss & Gábor Simonovits

Joining the majority in a meeting

Image by rawpixel.com on Freepik

When you base your technology decisions on **popularity** instead of the **eligibility**..

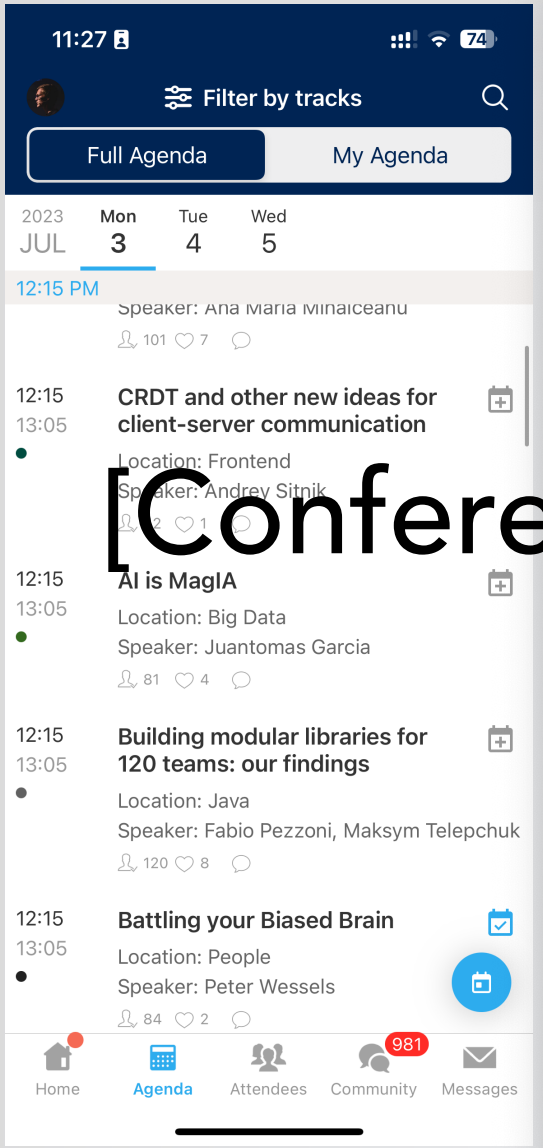
You might not have the best fit-for-purpose..

Are you working on a monolith?

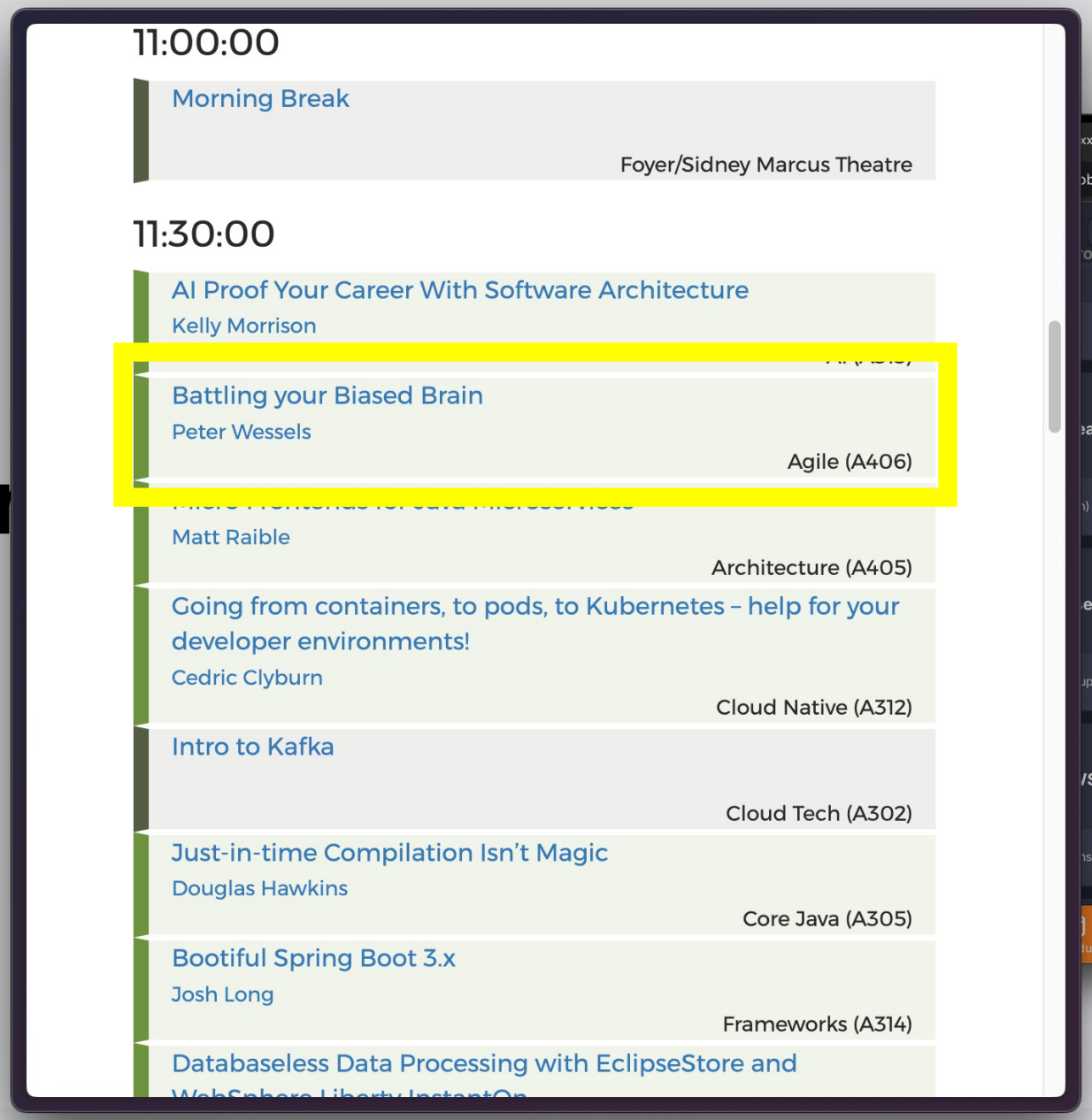
Image by rawpixel.com on Freepik

Going against the bandwagon requires **bravery** ⚔️

Do you dare to challenge decisions and stand-by your views?


11:27
Filter by tracks
Full Agenda
My Agenda
2023 JUL
Mon 3
Tue 4
Wed 5
12:15 PM
Speaker: Ana Maria Mihalceanu
101 7
12:15
13:05
CRDT and other new ideas for client-server communication
Location: Frontend
Speaker: Andrey Sitnik
12:15
13:05
AI is MagIA
Location: Big Data
Speaker: Juantomas Garcia
81 4
12:15
13:05
Building modular libraries for 120 teams: our findings
Location: Java
Speaker: Fabio Pezzoni, Maksym Telepchuk
120 8
12:15
13:05
Battling your Biased Brain
Location: People
Speaker: Peter Wessels
84 2
981
Home
Agenda
Attendees
Community
Messages

[Conferen


11:00:00
Morning Break
Foyer/Sidney Marcus Theatre
11:30:00
AI Proof Your Career With Software Architecture
Kelly Morrison
Battling your Biased Brain
Peter Wessels
Agile (A406)
Matt Raible
Architecture (A405)
Going from containers, to pods, to Kubernetes – help for your developer environments!
Cedric Clyburn
Cloud Native (A312)
Intro to Kafka
Cloud Tech (A302)
Just-in-time Compilation Isn't Magic
Douglas Hawkins
Core Java (A305)
Bootiful Spring Boot 3.x
Josh Long
Frameworks (A314)
Databaseless Data Processing with EclipseStore and

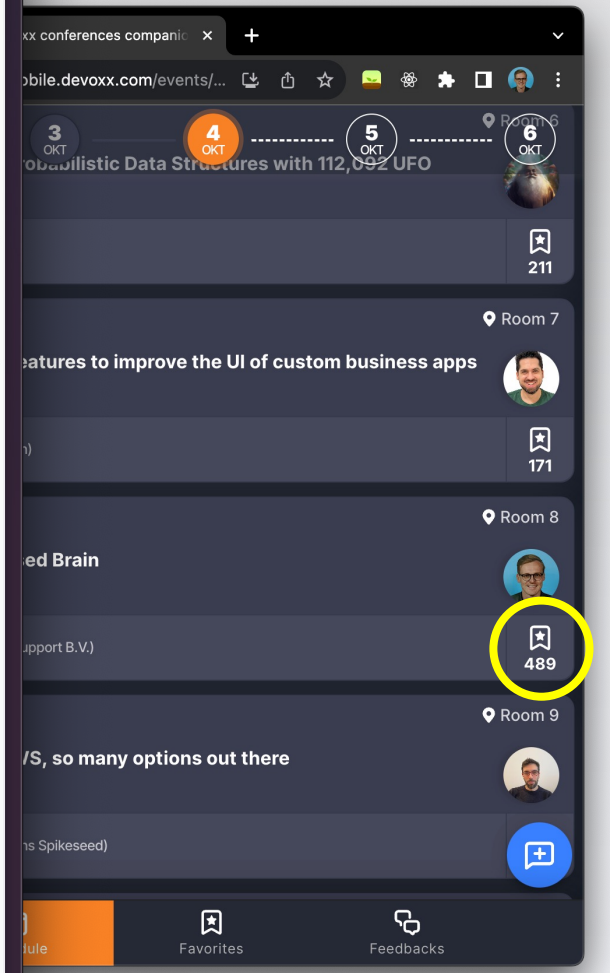

3 OKT
4 OKT
5 OKT
6 OKT
211
Room 7
171
Room 8
489
Room 9
Favorites
Feedbacks

Image by rawpixel.com on Freepik

Why are we subjected to this bias?

Image by rawpixel.com on Freepik

The **availability heuristic**, what you see is **what you get**.

Tversky & Kahneman (1973)

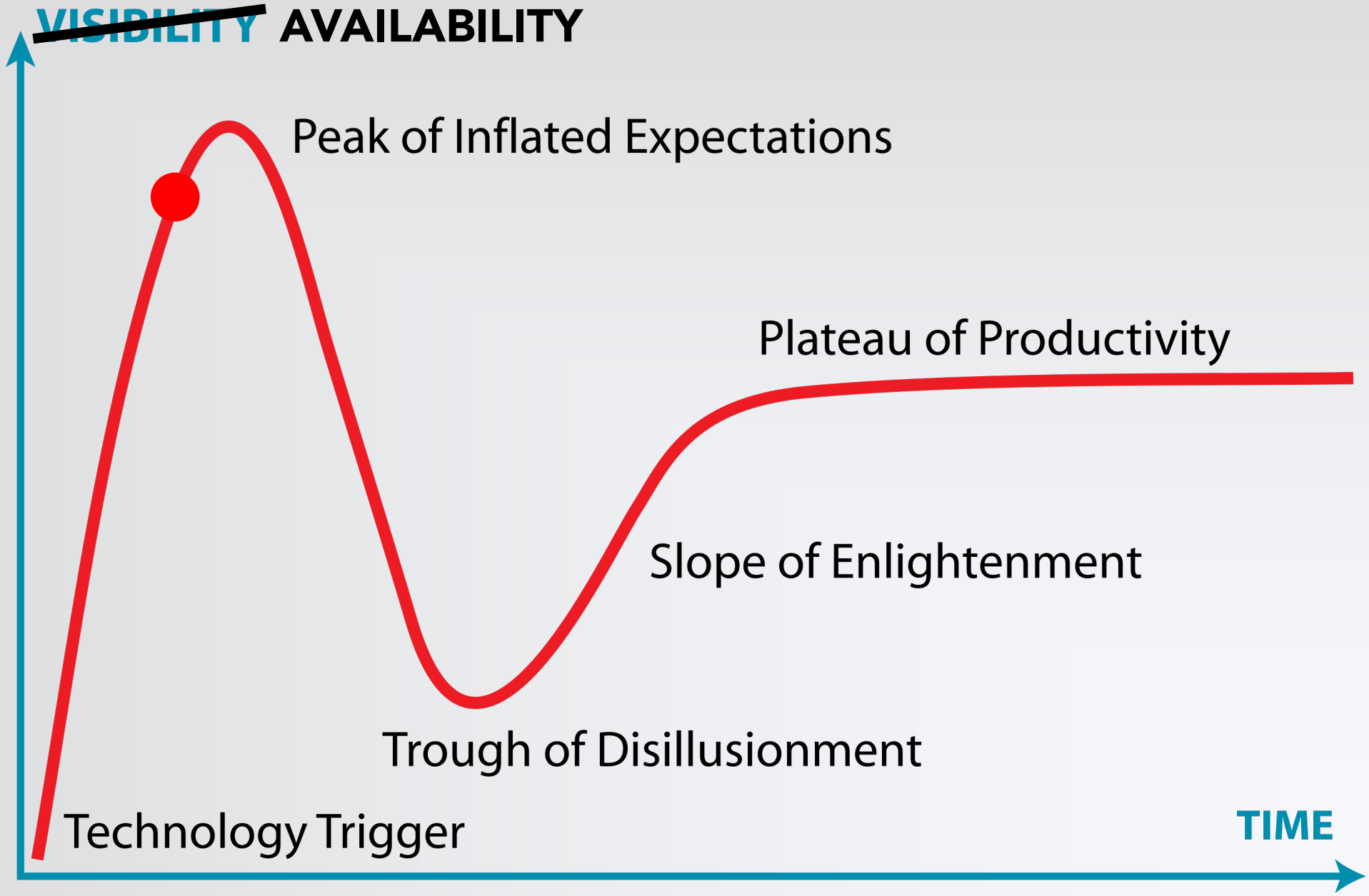

~~VISIBILITY~~ AVAILABILITY
Peak of Inflated Expectations
Plateau of Productivity
Slope of Enlightenment
Trough of Disillusionment
Technology Trigger
TIME

Image by rawpixel.com on Freepik

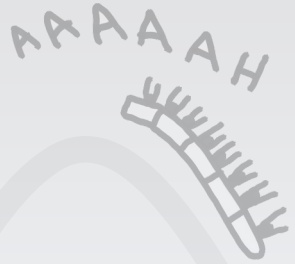
Other causes..

- Social proof
- Desire to be liked and accepted
- The majority is right

Image by rawpixel.com on Freepik

How can we prevent the **bandwagon-effect?**

Be aware of your bias: Identify when you join a majority



Educate yourself with the **hype-cycle**

Gartner®

/thoughtworks

Image by rawpixel.com on Freepik

In case of new technologies..

- What problem does it solve? (better than before)?
- Do I have that problem?
- Do I (fully) understand the trade-off?
- What complexity does it add?

Image by rawpixel.com on Freepik

Be aware about the **survivorship bias**

By Hanno Embregts & Maarten Mulders

Image by rawpixel.com on Freepik

We make **better software** when we don't jump on bandwagons.

Image by rawpixel.com on Freepik

#3 Love the ceremony

Stand-ups, refinements, retrospectives, planning, reviews, ‘1-on-1’s, scrum-of-scrums, architecture review, business meeting, change-board’s

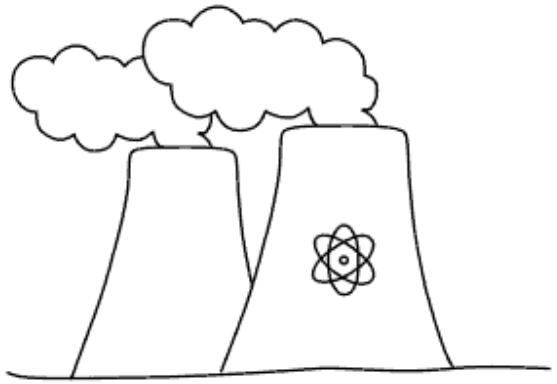
ACCEPT JOB AS SENIOR ENGINEER
8 HOURS OF MEETINGS A DAY
Posted in r/ProgrammerHumor
reddit

Image by rawpixel.com on Freepik

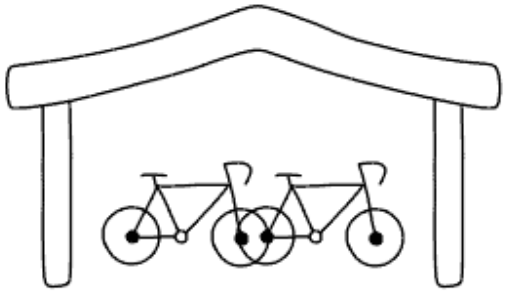
People tend to **focus** on the trivial tasks and overlook the significant — Parkinson's Law of Triviality

C. Northcote Parkinson' (1957)

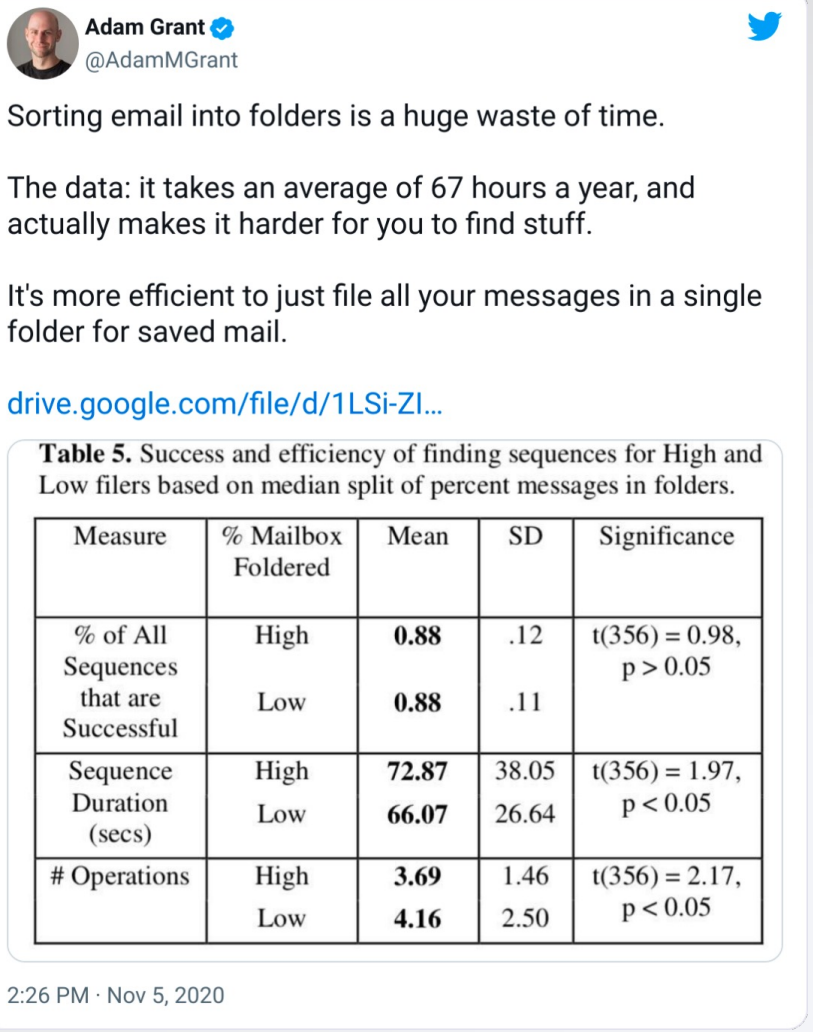
Bike Shed Effect – a/k/a Parkinson's Law of Triviality



Nuclear plant
cost: $28,000,000
discussion: 2,5 minutes



Bike shed
cost: $1000
discussion: 45 minutes



Adam Grant
@AdamMGrant

Sorting email into folders is a huge waste of time.

The data: it takes an average of 67 hours a year, and actually makes it harder for you to find stuff.

It's more efficient to just file all your messages in a single folder for saved mail.

drive.google.com/file/d/1LSi-ZI...

Table 5. Success and efficiency of finding sequences for High and Low filers based on median split of percent messages in folders.

Measure	% Mailbox Foldered	Mean	SD	Significance
% of All Sequences that are Successful	High	**0.88**	.12	t(356) = 0.98, p > 0.05
	Low	**0.88**	.11	
Sequence Duration (secs)	High	**72.87**	38.05	t(356) = 1.97, p < 0.05
	Low	**66.07**	26.64	
# Operations	High	**3.69**	1.46	t(356) = 2.17, p < 0.05
	Low	**4.16**	2.50	

2:26 PM · Nov 5, 2020

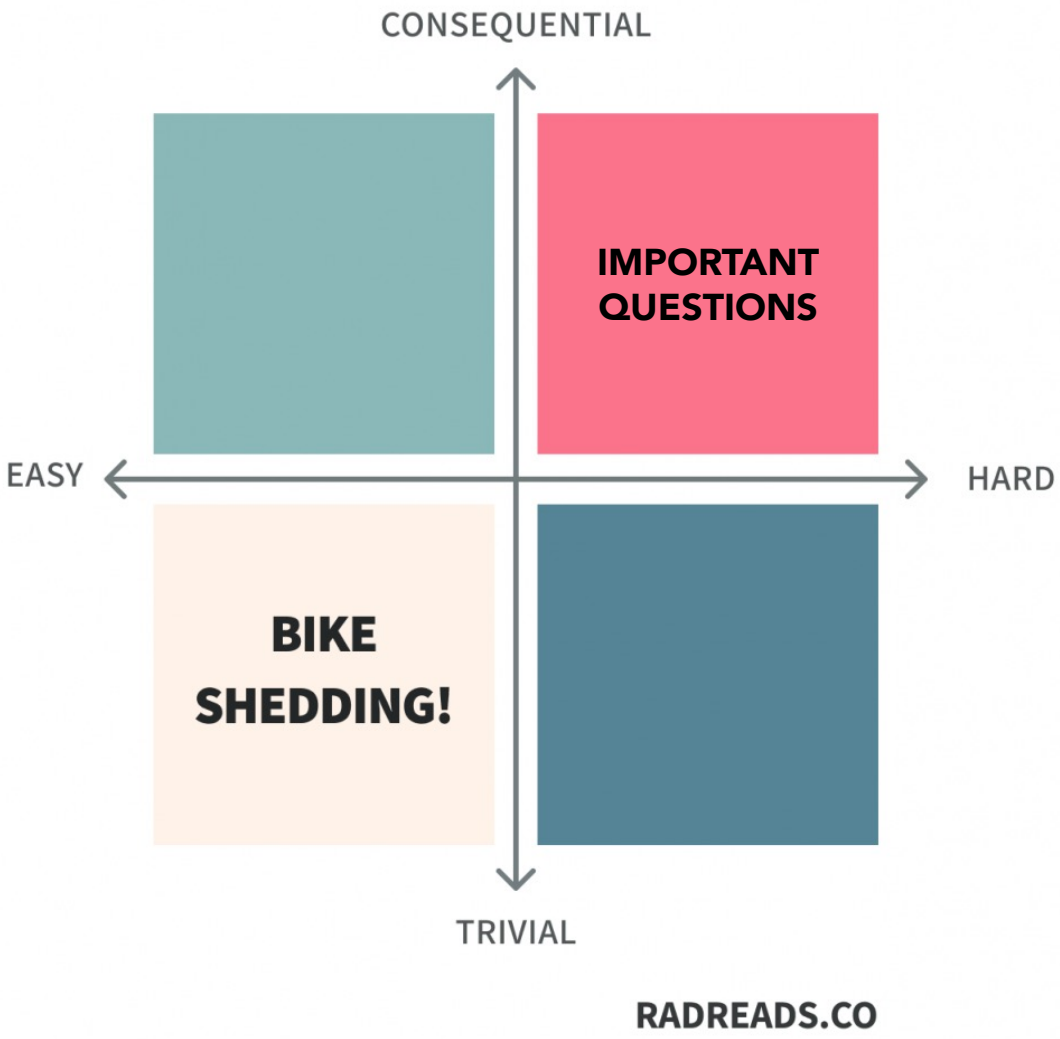

CONSEQUENTIAL
IMPORTANT QUESTIONS
EASY
HARD
BIKE SHEDDING!
TRIVIAL
RADREADS.CO

Image by rawpixel.com on Freepik

FreeBSD

"...just because you are capable of building a bikeshed [..] you not need to argue about every little feature just because you know enough to do so."

http://phk.freebsd.dk/sagas/bikeshed/

Image by rawpixel.com on Freepik

Why are we subjected to this bias?

Image by rawpixel.com on Freepik

"It's fun!" – everyone?
"It's important: The devil is in the details" - everyone?

Image by rawpixel.com on Freepik

We feel more comfortable with these tasks

Tabs vs Spaces
Single quotes and double quotes
Flame wars about tools

”Please use Collections.emptyList() instead of List.of()”

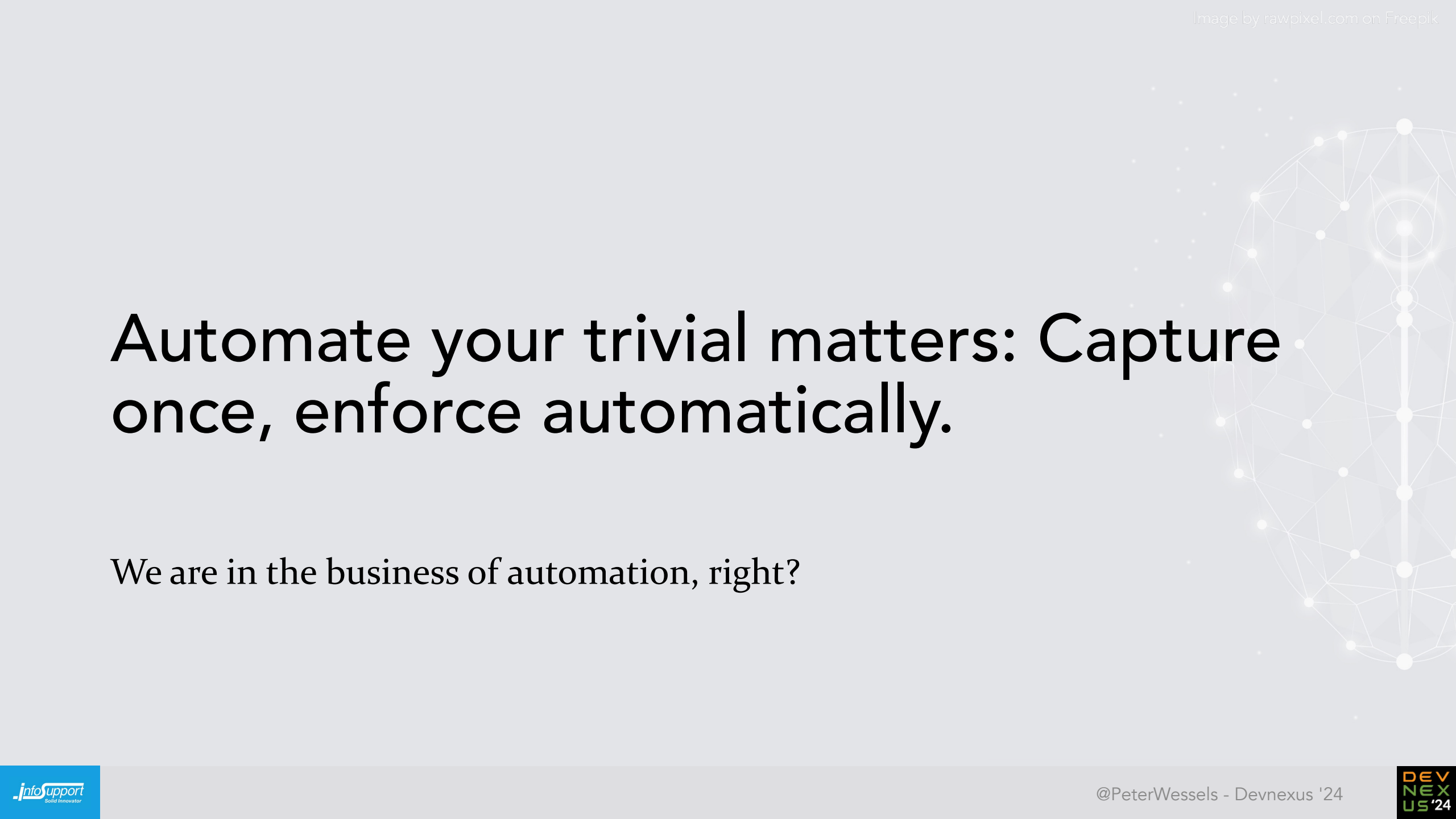
Make sure you use the ’Final’ keyword

Please use the Stream-API, it will be much faster..

Image by rawpixel.com on Freepik

How can we prevent the **bike shedding effect?**

Image by rawpixel.com on Freepik



Automate your trivial matters: Capture once, enforce automatically.

We are in the business of automation, right?

Image by rawpixel.com on Freepik

- Error-prone by Google
- Checkstyle
- Sonar
- Spotless
- OpenRewrite

Make your meetings worth **your time.**

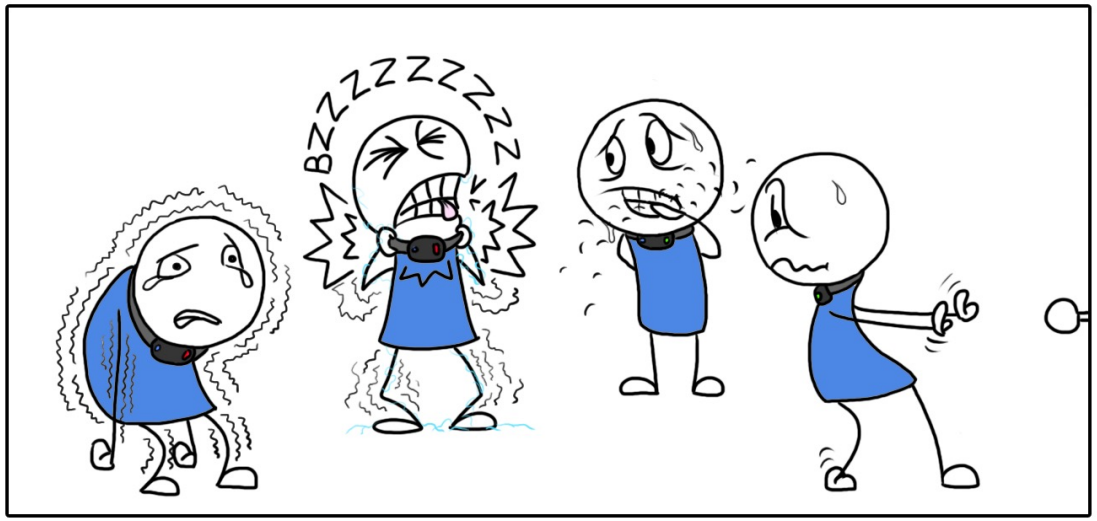
By structurizing your meetings

Image by rawpixel.com on Freepik

Add structure to your meetings

1. Set a goal for each meeting
2. Keep on-topic: focus on outcomes
3. Use feedback loops
4. Dedicate time for complex matters.

PRODUCTIVE SCRUM MEETINGS



IN ORDER TO REDUCE STANDUP TIME WE INSTALLED SHOCK COLLARS ON EACH TEAM MEMBER

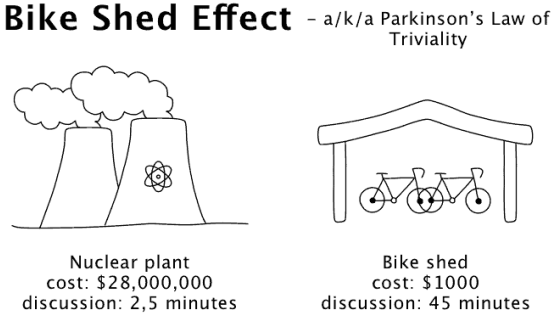
MONKEYUSER.COM

Image by rawpixel.com on Freepik

Minimizing Bike Shedding leads to higher productivity

And the important matters get done!

Image by rawpixel.com on Freepik

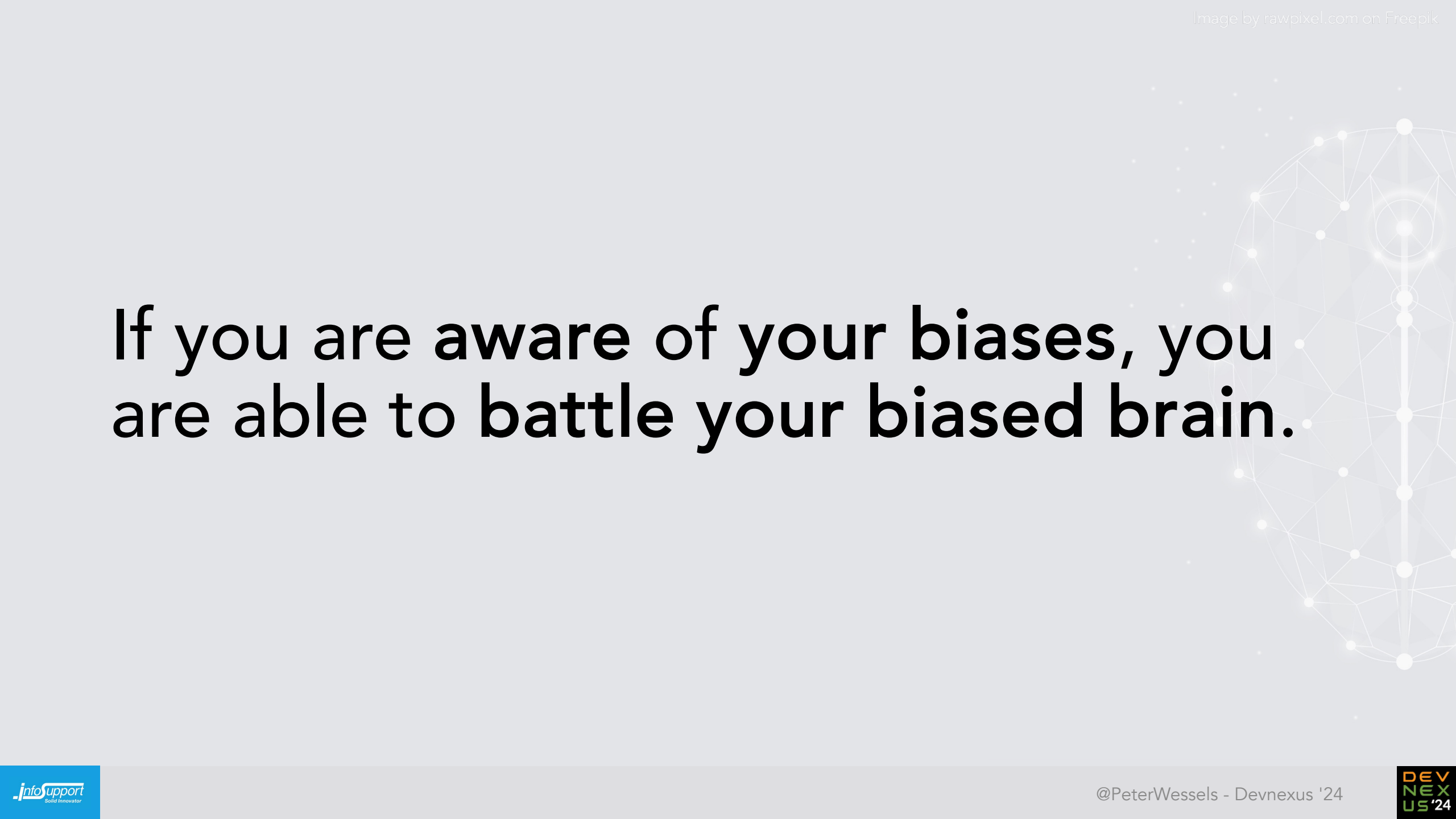


IKEA effect: When labor leads to love

Bandwagon Effect: Jump on the hype train

Bike Shedding Effect: Wasting your time on trivial tasks

Image by rawpixel.com on Freepik



If you are **aware** of **your biases**, you are able to **battle your biased brain**.

Image by rawpixel.com on Freepik

In hindsight, I should have done things differently..

Image by rawpixel.com on Freepik

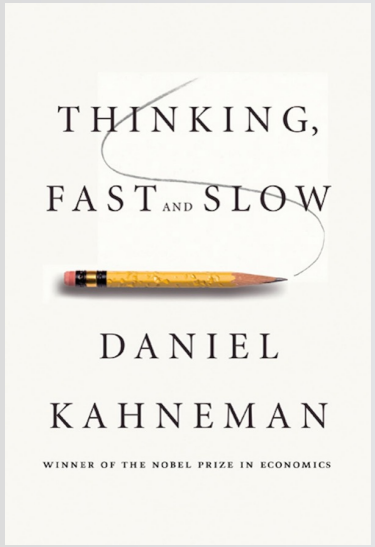
Hindsight Bias: people convince themselves that a past event was predictable or inevitable

Thanks, Captain Hindsight!

Image by rawpixel.com on Freepik

"The future depends on what you do today"

— **Mahatma Gandhi**



Thanks for your attention!

Follow me **@PeterWessels** or
www.peterwessels.nl

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