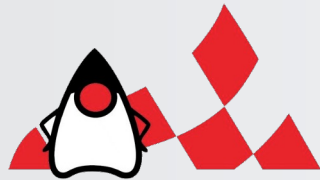


# Battling your Biased Brain

Peter Wessels @ BrabantJUG





Scan the code to participate..

or go to **[bit.ly/biasedbrain](https://bit.ly/biasedbrain)**

Please raise your hand when you are done.

Was Mahatma Gandhi older or younger than 9 years old when he died?

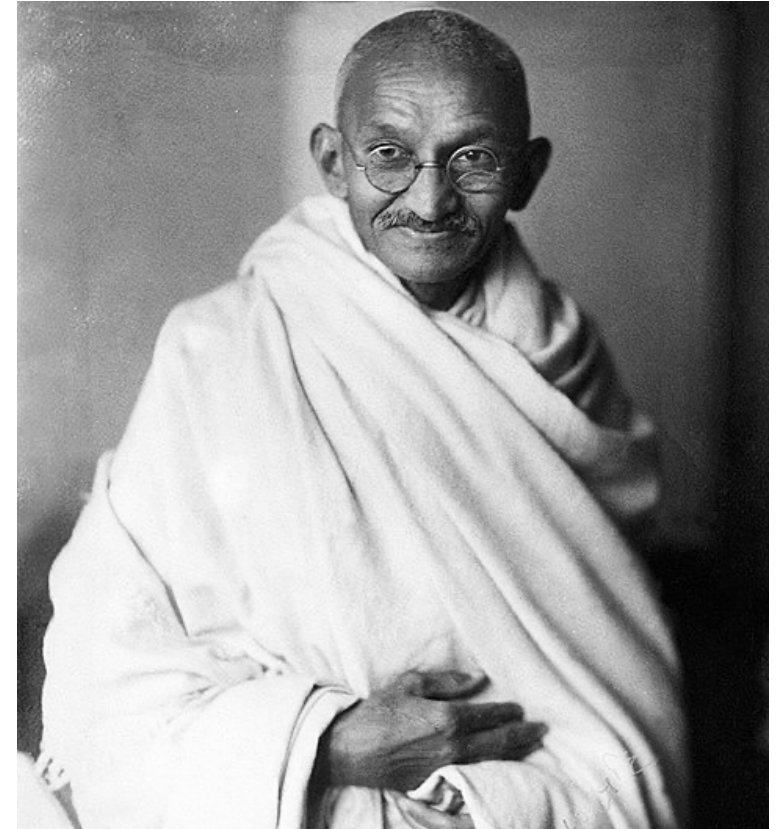
A



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

B

At what age did  
Mahatma Gandhi die?



**Mahatma Gandhi**

1869 – 1948 - 78 years





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

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



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	1608	1301	1052	-300
<b>Gandhi: age</b>	<b>78</b>	<b>79</b>	<b>64</b>	<b>140</b>	<b>9</b>
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

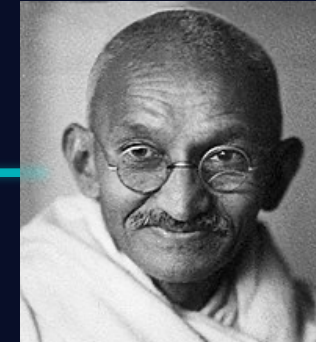
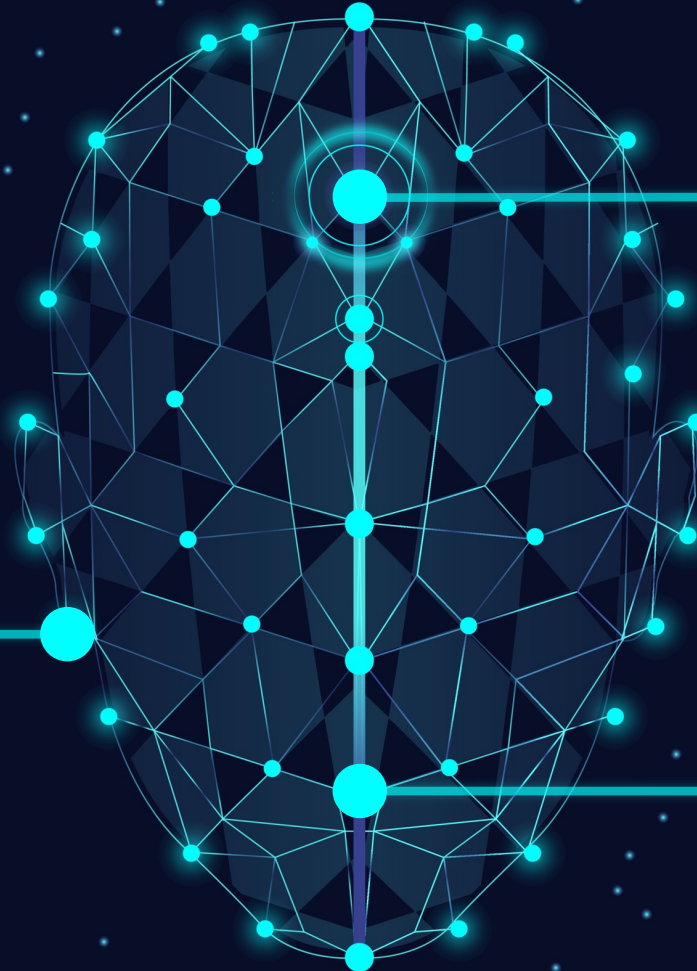


**Table 6**  
*Overall z Values, Study 3*

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

*Note.*  $n = 67$  for all cells.





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



We can also experience this effect when we make software.

Planning poker



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

And there are more than 100 ways how 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.



June 2023

@PeterWessels - BrabantJUG



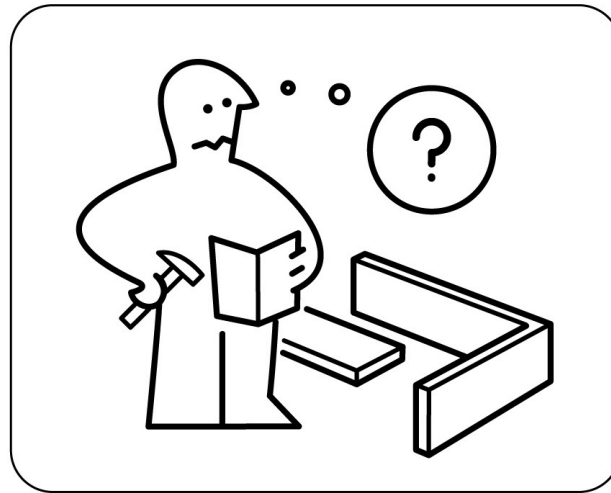
Today, I want to talk about 3  
common ways you can be influenced.



# #1 When labour leads to love.





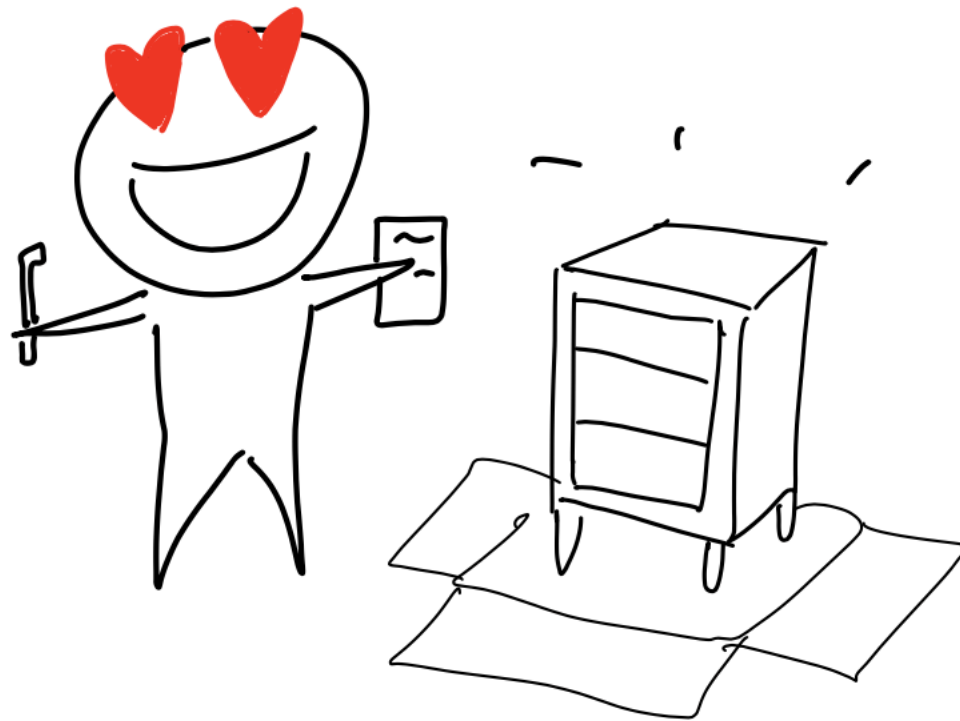








# "THE EFFECT"



MANHOWIE.COM



# 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

Measure	Builders 🧑🏰🧑🏰🧑🏰 (Self-assemble)	Non-Builders 🧑🏻🧑🏼🧑🏽 (Inspect pre-assembled)	% Difference
Willingness To Pay (0-100 cents scale)	78	48	63% ▲
Liking of Box (1-7 scale)	3.8	2.5	52% ▲



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



# Well, I definitely am.

And you probably too..



**Before & during the work**  
To build or not to build it  
(completely) yourself?

**After the work**  
Asses your ~~baby~~ product





## After the work

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

Does it sometimes hurt when someone doesn't value your code?



After the work

**Building upon a messy foundation ended up in long nights making up for it.**

Major refactoring and rework was required to address the problems we introduced at the start.





# When building things from yourself..

- Investment
- Time to market
- Other problems may arise



**Before the work**

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

Do you weight your options objectively?



# Does this sounds familiar?

Who of you can relate to the IKEA effect?



# Why are we subjected to this bias?



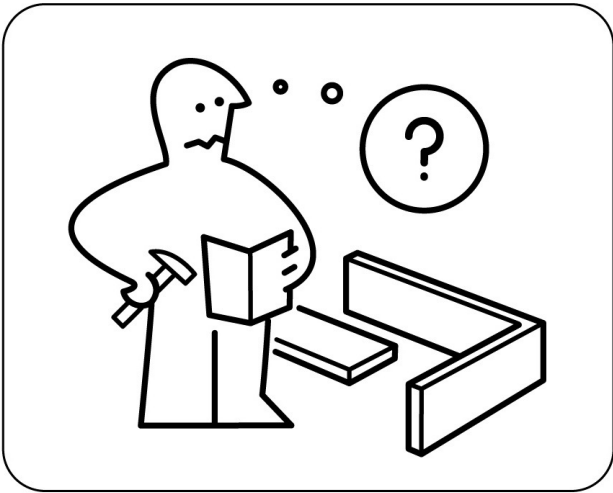




# Why we subjected to this bias?

- Self-efficacy
- Cognitive dissonance





# How can we prevent the IKEA-effect?



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



# is-odd

npm v3.0.1

downloads 1.9M/month

downloads 33M

Travis no longer available

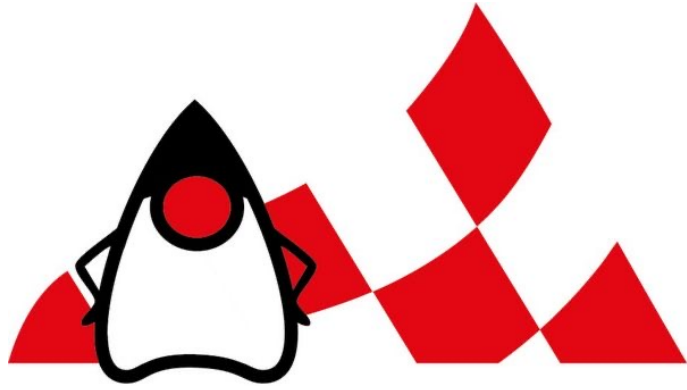
Returns true if the given number is odd, and is an integer that does not exceed the JavaScript `MAXIMUM_SAFE_INTEGER`.

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**





**foojay.io**



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

You can review, store and re-evaluate them.





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



**We can be more effective and efficient if we prevent the IKEA-effect**



# #2 Joining the majority





# Ooh, a green-field project.







AUTENTICO MARRON  
FRANCES EN ALMIBAR  
52,00 €/Kg | 13,00 €/¼Kg  
1.10 €/Unidades

MACARONS FRANCES  
AUTENTICO  
52,00 €/Kg | 13,00 €/¼Kg  
100€/Unidades









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





# Bandwagon effect



# 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



# 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



# 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?



# Going against the bandwagon requires bravery

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



# Some bandwagons lead you somewhere.

Subversion to GIT,  
SOAP to REST,  
XML to JSON



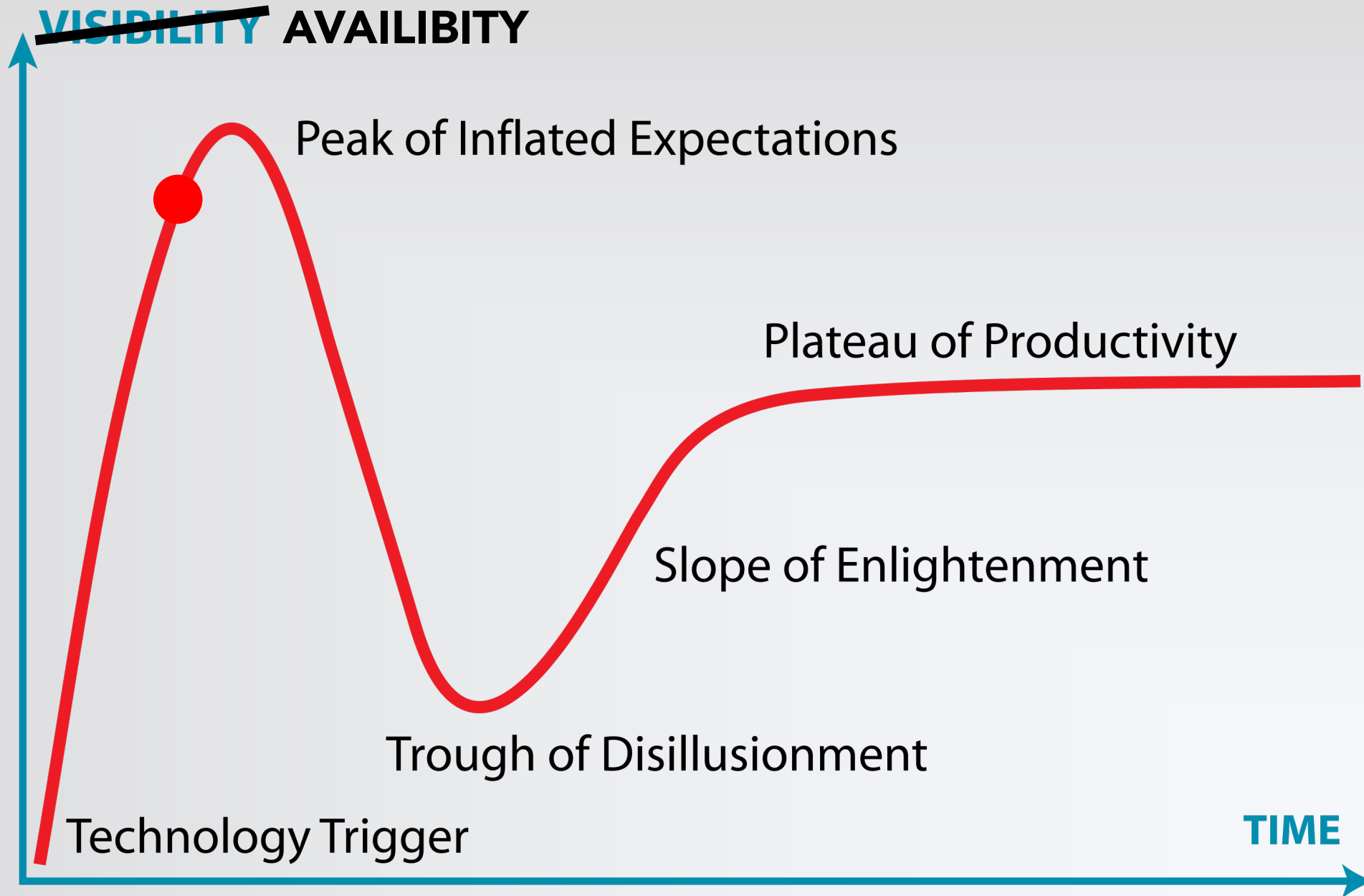
# Why are we subjected to this bias?

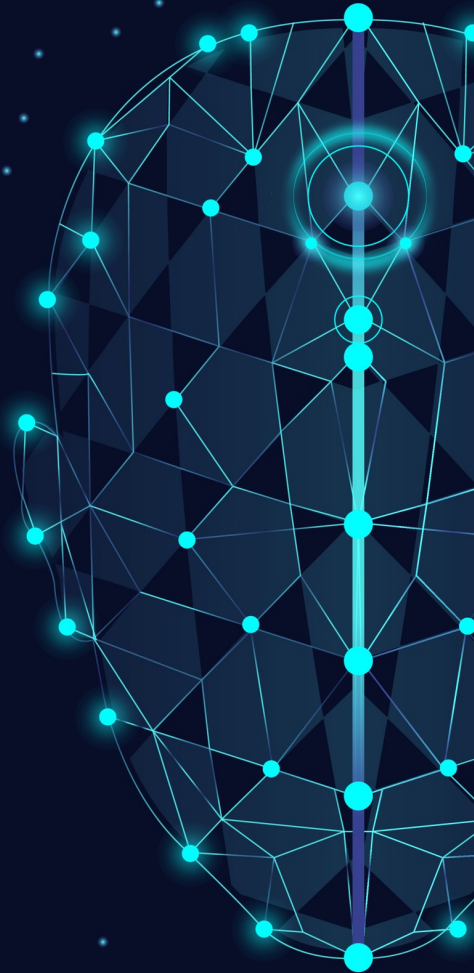


# The availability heuristic, what you see is what you get.

Tversky & Kahneman (1973)







## Other causes..

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



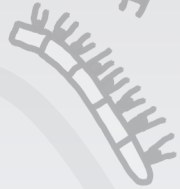
# How can we prevent the **bandwagon-effect**?



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



AAAAAH



# Educate yourself with the hype-cycle







## 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?



# “Be aware about the survivorship bias.”

By Hanno Embregts & Maarten Mulders



# #3 Love the ceremony









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



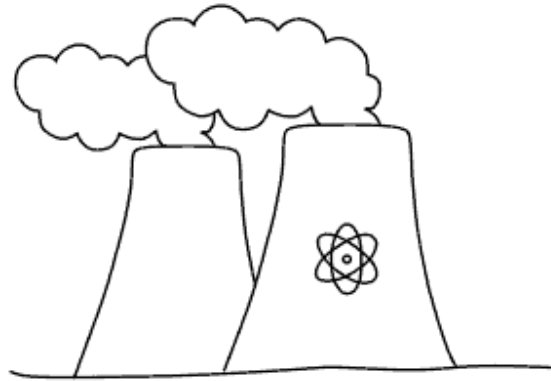


**ACCEPT JOB AS SENIOR ENGINEER**

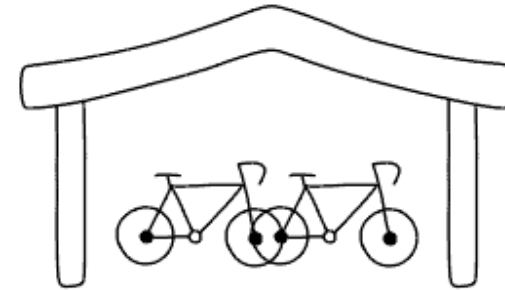


**8 HOURS OF MEETINGS A DAY**

# 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...](https://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	<b>0.88</b>	.12	t(356) = 0.98, p > 0.05
	Low	<b>0.88</b>	.11	
Sequence Duration (secs)	High	<b>72.87</b>	38.05	t(356) = 1.97, p < 0.05
	Low	<b>66.07</b>	26.64	
# Operations	High	<b>3.69</b>	1.46	t(356) = 2.17, p < 0.05
	Low	<b>4.16</b>	2.50	

2:26 PM · Nov 5, 2020

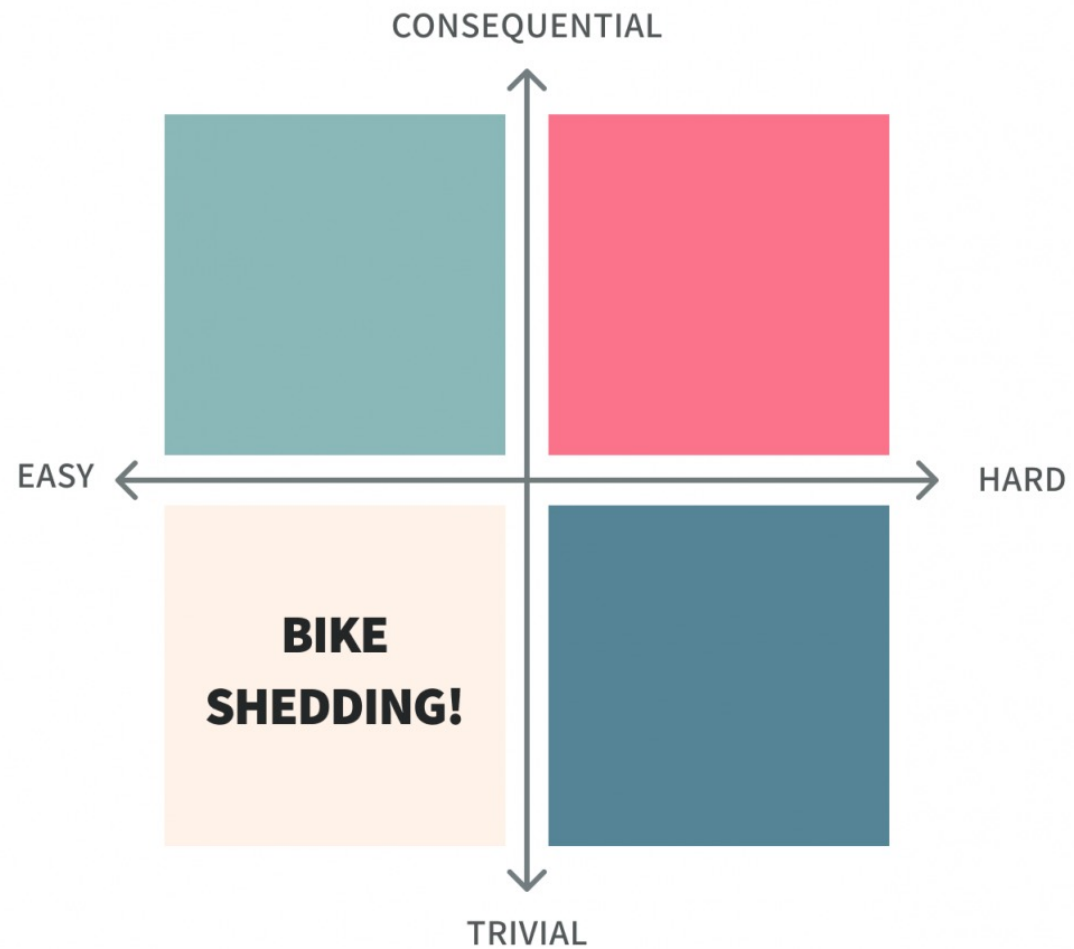




# We tend to **allocate** disproportionally amount of time on **easier tasks**.

Research by C. Northcote Parkinson





**RADREADS.CO**





**“...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/>



# Why are we subjected to this bias?



# We feel more comfortable with these tasks.



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





*"Please use `List.emptyList()` instead of `List.of()`"*

*Make sure you use the 'Final' keyword*



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



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

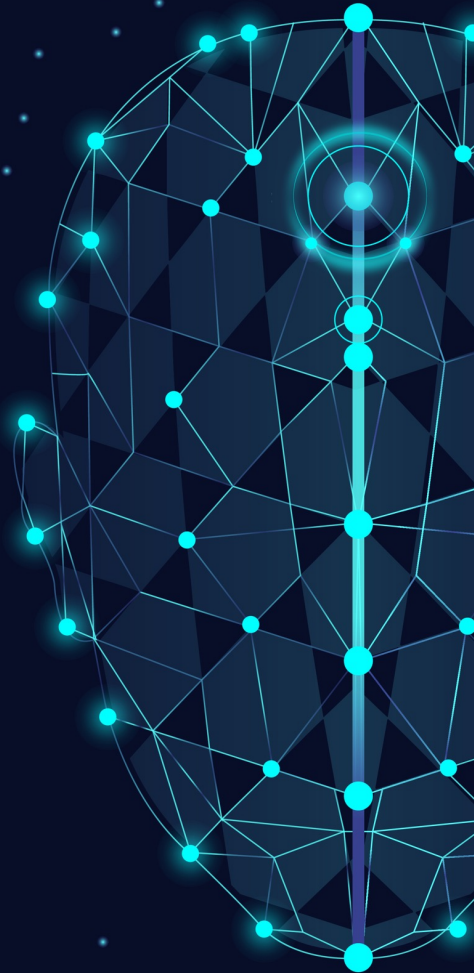




# Automate your trivial matters

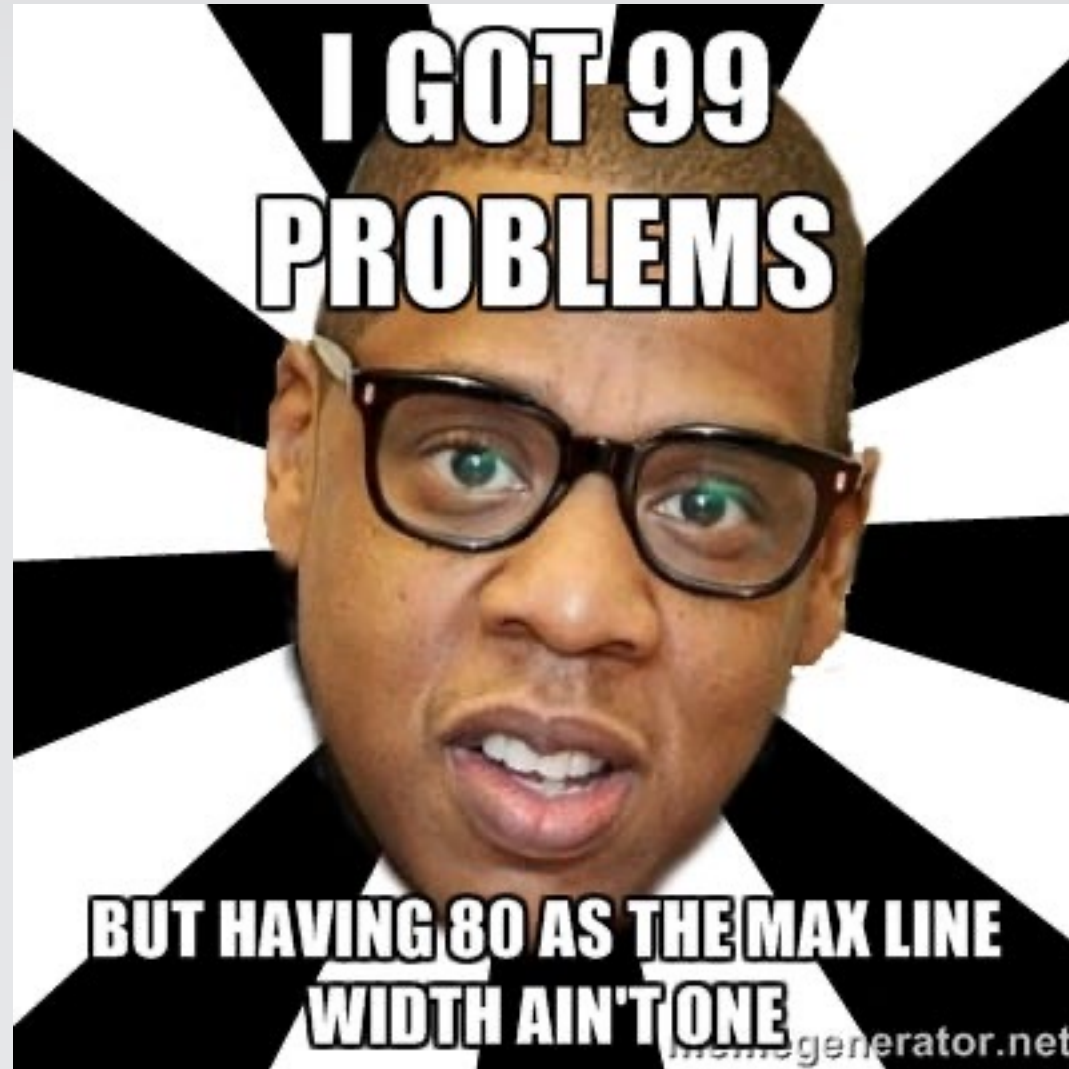
We are in the business of automation, right?





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

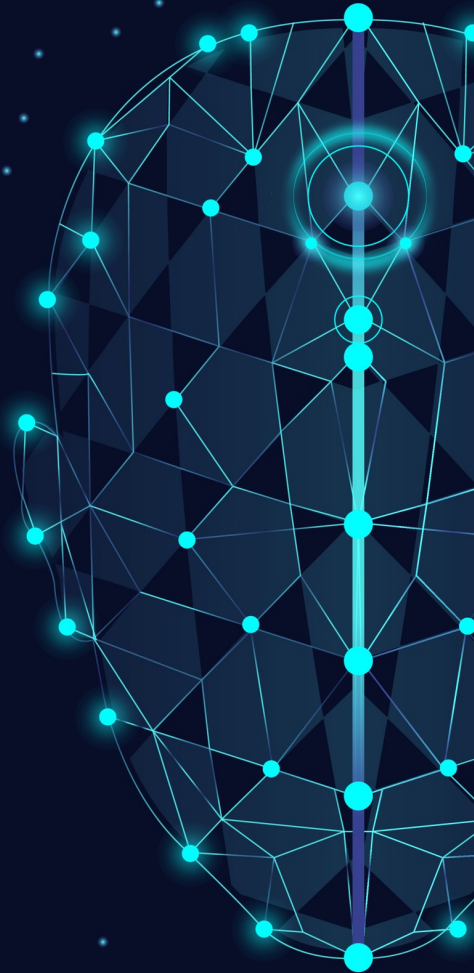




# Make your meetings worth your time.

By structurizing your meetings



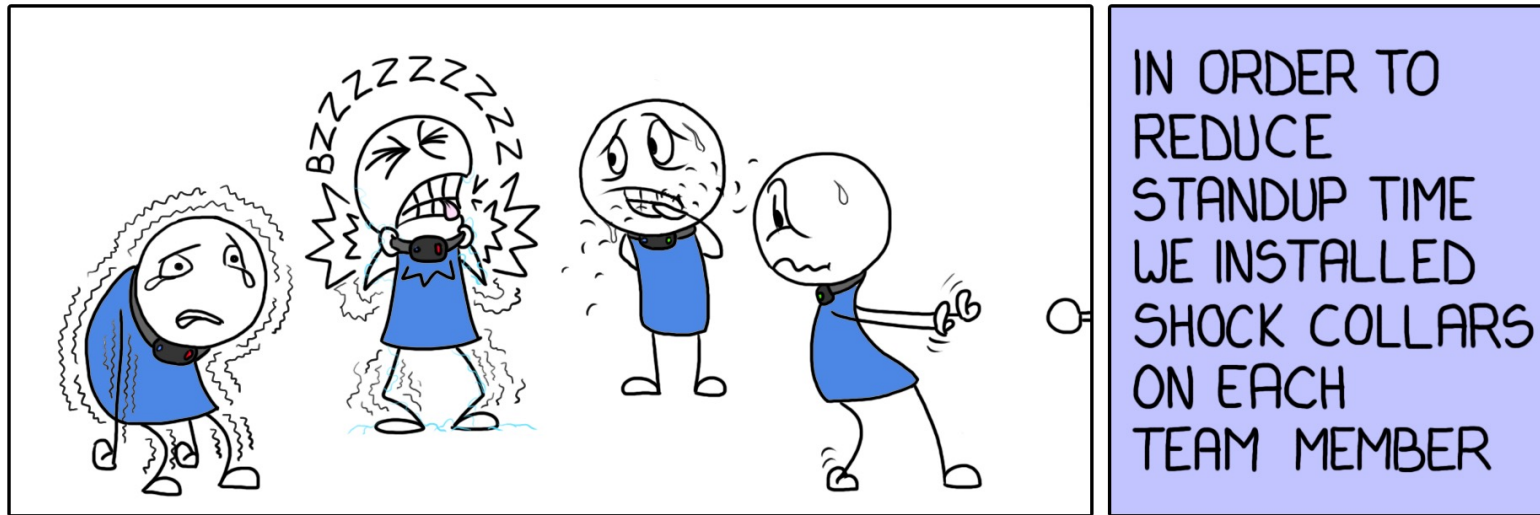


## Structurize your meetings

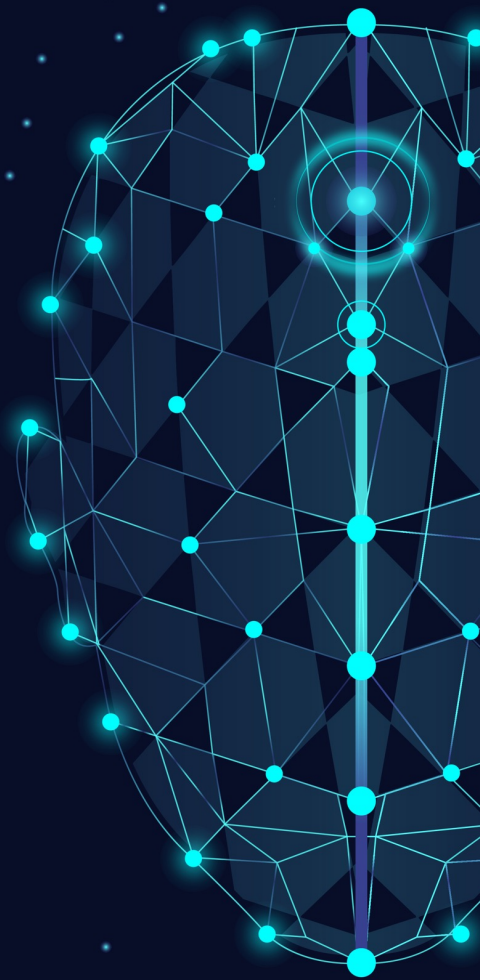
1. Set a goal for each meeting
2. Keep on-topic: focus on outcomes
3. Use feedback loops
4. Dedicate time for complex matters.



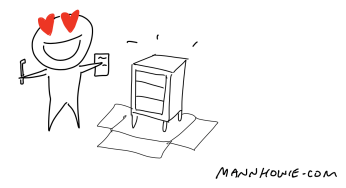
## PRODUCTIVE SCRUM MEETINGS



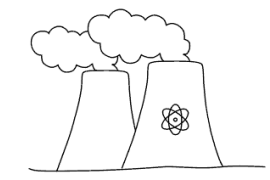
MONKEYUSER.COM



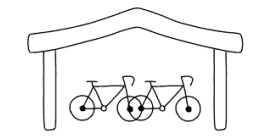
"THE **IKEA** EFFECT"



**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

**IKEA effect:** When labour leads to love  
**Bandwagon Effect:** Jump on the hype train  
**Bike Shedding Effect:** Wasting your time on trivial tasks



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





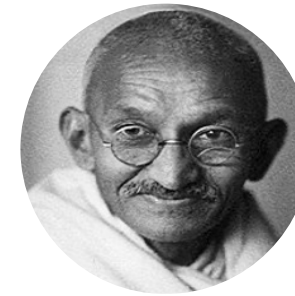
In hindsight, we should have done things differently..



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

Thanks, Captain Hindsight!





*“The future depends on what  
you do today”*

— **Mahatma Gandhi**



Thank you for your attention!

 @PeterWessels  
[www.peterwessels.nl](http://www.peterwessels.nl)

