

*Once Upon a Time...*



# A nice place to visit...



# What's the exit name?

<sheb>

# Rules and Exceptions



# Rules and Exceptions



# Find the “sheb” in this picture



# Technical Empathy

@LeonAdato

Principal Technical Evangelist



The network observability company



## Leon Adato

- Principal Technical Evangelist
  - *at Kentik*
- ~35 yrs in tech.
- ~25 yrs monitoring & observability.
- ~10 yrs as a Tech Evangelist, DevRel Advocate, and (ugh) “Head Geek.”
- Tivoli, BMC, OpenView, janky perl scripts, Nagios, SolarWinds, DOS batch files, Zabbix, Grafana, New Relic, and other assorted nightmare fuel.

@LeonAdato on almost all social media.

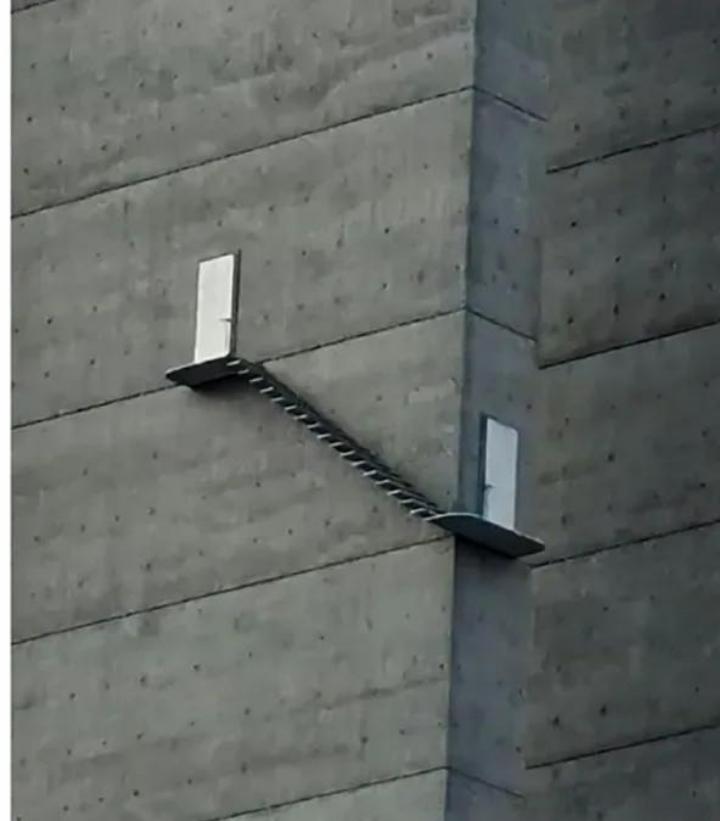
# This is an Oyster Talk™



# Go home, Otis, you're drunk.



# When you REALLY piss off the builder



# Microsoft Bob



# My Maserati Does 185... But Nobody Cares



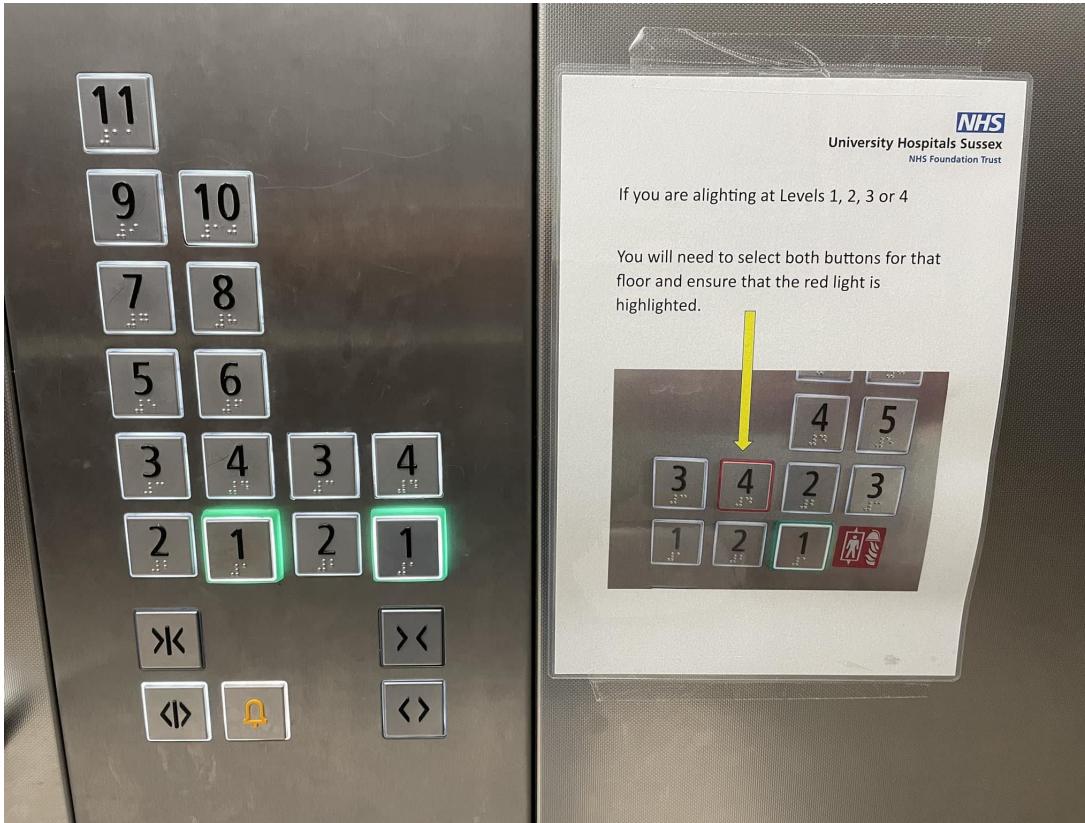
# The corner of “WTF” and “GetOutAndWalk”



# This couch doubles as a portal to Hell



# Sorry, my mistake. THIS is the portal to Hell.



# Design horror, redux



“Empathy” defined:

em·pa·thy

/'empəTHē/

*noun*

The ability to understand and share the feelings of another.

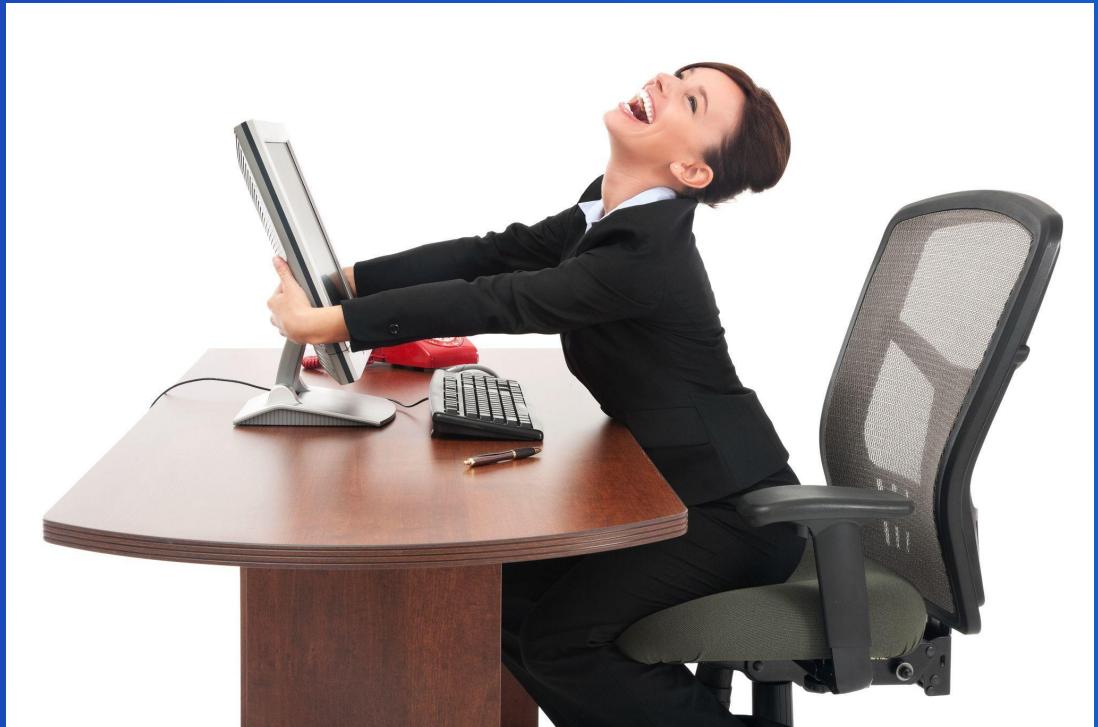


# “Empathy” explained:



# Technical Empathy is NOT:

*“Does this  
sorting algorithm  
fill you with joy?”*

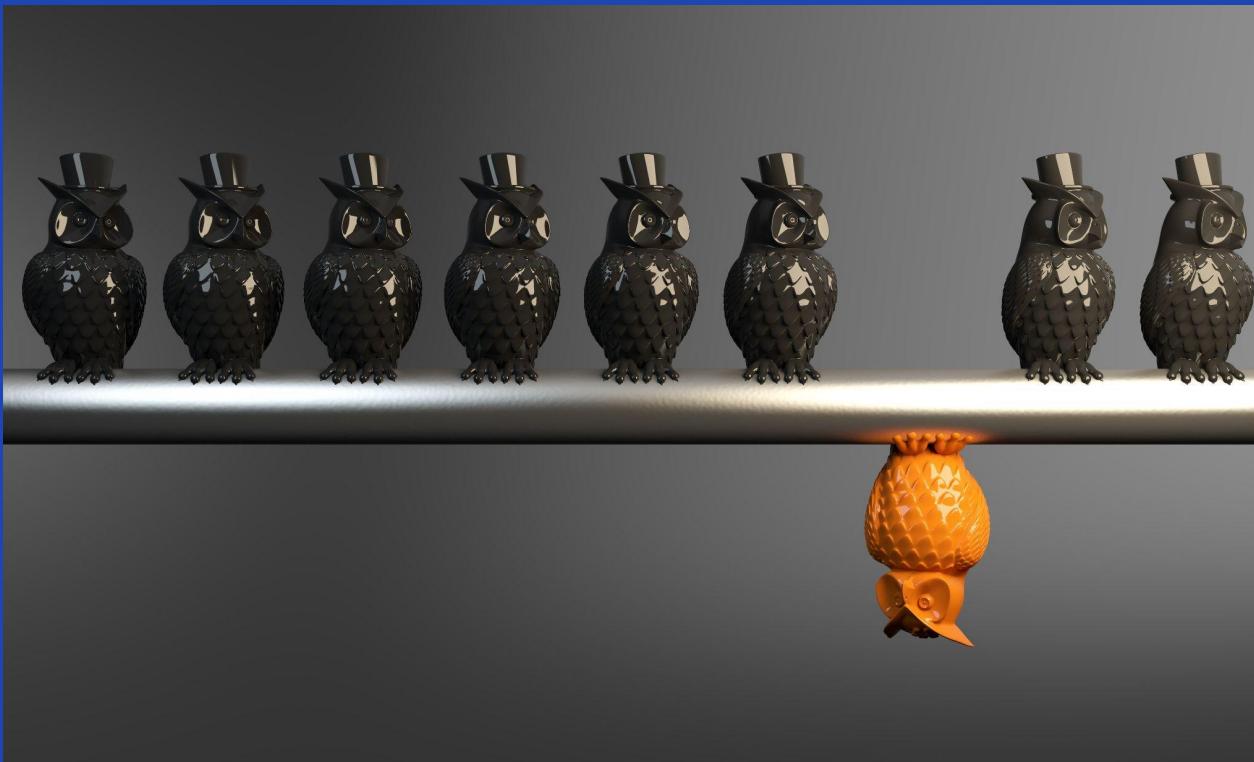


# Technical Empathy is NOT:

*“I’m sure your data  
is in a better place now.”*



# Technical Empathy, explained:



# **Part 1:** **Accessibility**



# The bare minimum

- Screen readers
- Alt-text
- Closed captions
- Customizable colors
- Language ~~localization~~ localisation
- Checking for accessibility

Web Accessibility Checklist

A checklist for creating accessible websites and web applications.

Share:

Want a custom audit for your site or webpage?

Request Audit

<input type="checkbox"/> Images should have meaningful alternative text	+
<input type="checkbox"/> Links should be visually identifiable	+
<input type="checkbox"/> Use descriptive section headings	+
<input type="checkbox"/> Use correct semantic HTML element structure for your content	+
<input type="checkbox"/> Forms have descriptive labels	+
<input type="checkbox"/> Information should not depend on color, sound, shape, size, or visual location	+

# Not enough demand?!?

- Deaf / hard of hearing - 430 million worldwide (3.5 million in CA)
- Receptive language disorders - ~2 million adults in the US (100k in CA)
- Visual impairment - 245 million worldwide (1.5 million in CA)
- Colorblind - 350 million people worldwide (2.6 million in CA)
- Neurodiverse - 1.2 billion (6.2 million in CA)

15% of the world population - 1.17 billion people - have a disability

# Aren't we doing enough already?



## **Part 2: Assumptions**







## anchoring

The first thing you judge influences your judgment of all that follows.

Human minds are associative in nature, so the order in which we receive new information helps determine the course of our judgment and perception.

We're especially mindful of this bias during financial negotiations such as houses, cars, and salaries. The initial price offered is proven to have a significant effect.



## sunk cost fallacy

You irrationally cling to things that have already cost you something.

When we've invested our time, money, or emotion into something, it's hard to let go of it, even if it's better to move on and make better judgments and decisions.

To regain objectivity, ask yourself: had I not already invested something, would I still do it now? What would I counsel a friend to do if they were in the same situation?



## confirmation bias

You look for ways to justify your existing beliefs.

We are primed to see and agree with ideas that fit our preconceptions, and to ignore or dismiss information that conflicts with them.

Think of your ideas and beliefs as software you're actively trying to find problems with rather than things to be defended.

"The first principle is that you must not fool yourself – and you are the easiest person to fool."

– Richard Feynman



## dunning-kruger effect

The less you know about something, the more confident you'll be.

Because experts know just how much they don't know, they tend to underestimate their own knowledge, while those who are over-confident when you have only a simple idea of how things are.

"The whole problem with the world is that fools and fanatics are so certain of themselves, yet wiser people so full of doubts."

– Bertrand Russell



## backfire effect

When core beliefs are challenged, it can cause you to believe even more strongly.

We can experience being wrong on some issue as an attack upon our selves, or our belief identity. This can lead to motivated reasoning, which causes us to double-down, despite disconfirming evidence.

"It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so."

– Mark Twain



## barnum effect

You see personal specifics in vague statements by flattery in the gaps.

Because our minds are wired to make connections, it's easy for us to take nebulous statements and find ways to interpret them so that they seem specific and personal.

Psychics, astrologers and others use this bias to make it seem like they have special powers of prediction. Consider how things might be interpreted to apply to anyone, not just you.



## declinism

You see the past as better than it was, and expect the future to be worse than it likely.

Despite living in the most peaceful and prosperous time in history, many people believe things are getting worse. The 24-hour news cycle, with its reporting of overtly negative and violent events, may lead us to believe that the world is getting worse.

Instead of relying on nostalgic impressions of how great things used to be, use measurable metrics such as life expectancy, levels of crime and violence, and prosperity statistics.



## framing effect

You allow yourself to be unduly influenced by context and delivery.

We all do to think that we think independently, but the truth is that all of us are, in fact, influenced by delivery, framing and subtle cues.

This is why the ad industry is a thing, despite almost everyone knowing that ads are manipulative and misleading.

Only when we have the intellectual humility to accept the fact that we can be manipulated, can we hope to limit how much we are.

Try to be mindful of how things are being put to you.



## fundamental attribution error

You judge others on their character, but yourself on the situation.

If you haven't had a good night's sleep, you know why you're being a bit slow, but if you observe someone else being slow you don't have such knowledge and so might presume them to just be a slow person. This is especially important in a professional setting.

If you notice that you're giving consistently high or low marks across the board, it's worth considering that your judgment may be suffering from the halo effect.



## halo effect

How much you like someone influences your other judgments of them.

Our judgments are associative and automatic, and so if we want to be objective we need to consciously control for relevant influences. This is especially important in a professional setting.

If you notice that you're giving consistently high or low marks across the board, it's worth considering that your judgment may be suffering from the halo effect.



## availability heuristic

Your judgments are influenced by what springs most easily to mind.

How common, emotionally powerful, or unusual your memories are can make them more memorable. This, in turn, can cause you to apply them too readily.

To try to gain different perspectives and relevant statistical information rather than relying purely on first judgments and emotive influences.



## curse of knowledge

Once you understand something you presume it to be obvious to everyone.

Things remain simple once you understand them, so it can be tempting to assume that others will understand them too.

To build comprehensive understandings and forget how intricate the path to our available knowledge really is. When teaching someone something new, go slow and explain like they are ten years old (without being patronizing). Repeat key points and facilitate active practice to help embed knowledge.



## just world hypothesis

Your preference for a just world makes you presume that it exists.

A world in which people don't always get what they deserve, but people don't always get away with what they do is an uncomfortable one, and thus threaten our preexisting narrative. However, it is also the reality.

A more just world requires understanding rather than blame.

Remember that everyone has their own life story; we're all fallible, and bad things happen to good people.



## in-group bias

You unfairly favor those who belong to your group.

We presume that we're fair and impartial, but that is not true; we unfairly favor those who are most like us, or belong to our group, and unfairly discriminate against those who are not.

To try to imagine yourself in the position of those in out-groups, whilst also attempting to be dispassionate when judging those who belong to your in-groups.



## placebo effect

If you believe you're taking medicine it can sometimes 'work' even if it's fake.

The placebo effect can work for stuff that our mind influences (such as pain) but not so much for things like viruses or broken bones.

Homoeopathy, acupuncture, and many other forms of medical treatments have been shown to be no more effective than placebo. Keep a healthy body and bank balance by using evidence-based medicine from a qualified doctor.



## bystander effect

You presume someone else is going to do something in an emergency situation.

When something terrible is happening in a public setting we can experience a kind of shock and mental paralysis that distracts us from a sense of responsibility to help. We might think that everyone else will help or call for help. Be the change you want to see in the world.



## reactance

You'd rather do the opposite of what someone is trying to make you do.

When we feel our liberty is being constrained, our inclination is to resist, however in doing so we can over-compensate.

Be careful not to lose objectivity when someone is being controlling or threatening, as trying to do what they say something instead of worrying about how you're being judged, consider how you make others feel. They'll remember this much more, and you'll make the world a better place.



## spotlight effect

You overestimate how much people notice how you look and act.

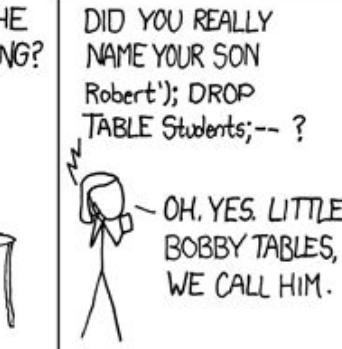
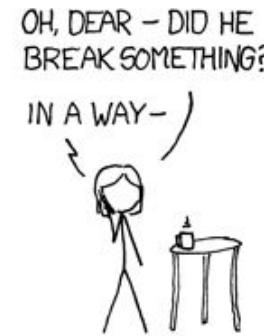
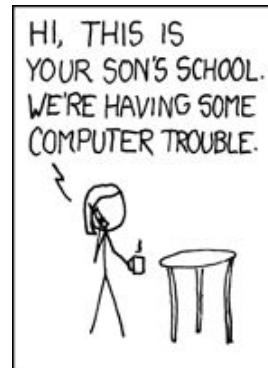
Most people are much more concerned about themselves than they are about you. Absent overconfidence, people generally want to be liked and get noticed. If given the chance, people will.

Instead of worrying about how you're being judged, consider how you make others feel. They'll remember this much more, and you'll make the world a better place.

# thou shalt not suffer cognitive biases

# Say my name, say my name

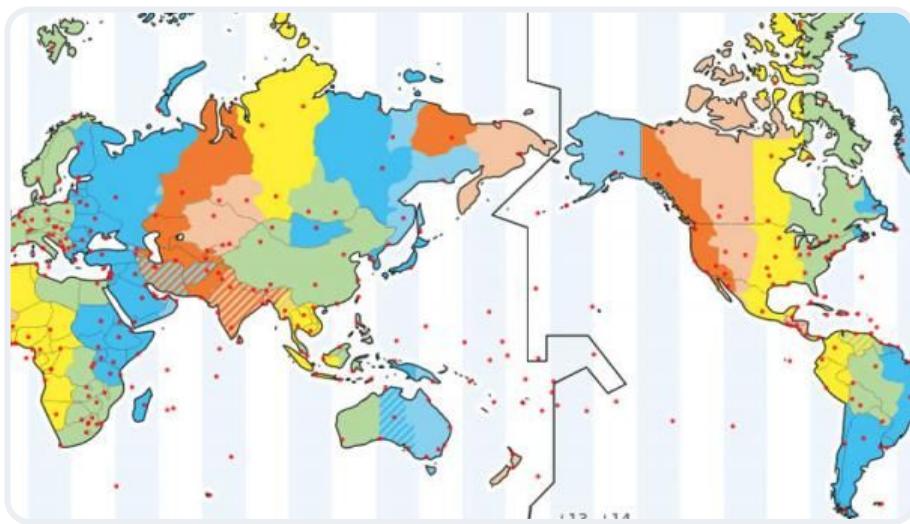
- William Test
- Christopher Null
- John Wyndham Parkes Lucas Beynon Harris
  - John Beynon
  - Lucas Parkes
  - John Wyndham
- J R R Tolkien
- Pieter van der Meer
- יהודָה עַמְּדָה



Obligatory XKCD reference

# Wibbly, wobbly, timey-wimey... stuff

- Samoa, 2011: Thursday, December 29
  - IMMEDIATELY followed by Saturday, Dec 31
- A day in Unix epoch time is always 86,400 seconds.
  - Except for "leap seconds"
  - And "negative leap seconds"
- India std time is UTC +5 ½



The int'l dateline people are drunk.  
Obviously.

# Why your mail carrier cries themselves to sleep

- 0 Egmont Road
- -1 Priory Road
- Ten Post Office Sq
- Apartment 001
  - Apartment 1 is in the same building, on a different floor
- Gondel 2695
  - which is “The town of Gondel, street 26, building 95”

# Assumptions beyond the tech

- If I know it, it must be simple and everyone knows it.
- We can learn everything we need to know by looking at the data.
- My experience is both complete and definitive.
- The senior dev \*must\* know something I don't.
- If we solve 10% of the problem we can work out the other stuff as we build.
- Users know our jargon, internal code words, or special definitions for industry-standard terms.
- The blessed MTI (mean time to innocence) of *git blame*

# **Part 3:** **Asking questions.** **The RIGHT questions.**

Or: “Don’t sit in a room  
smelling your own farts.”



# Interview technique

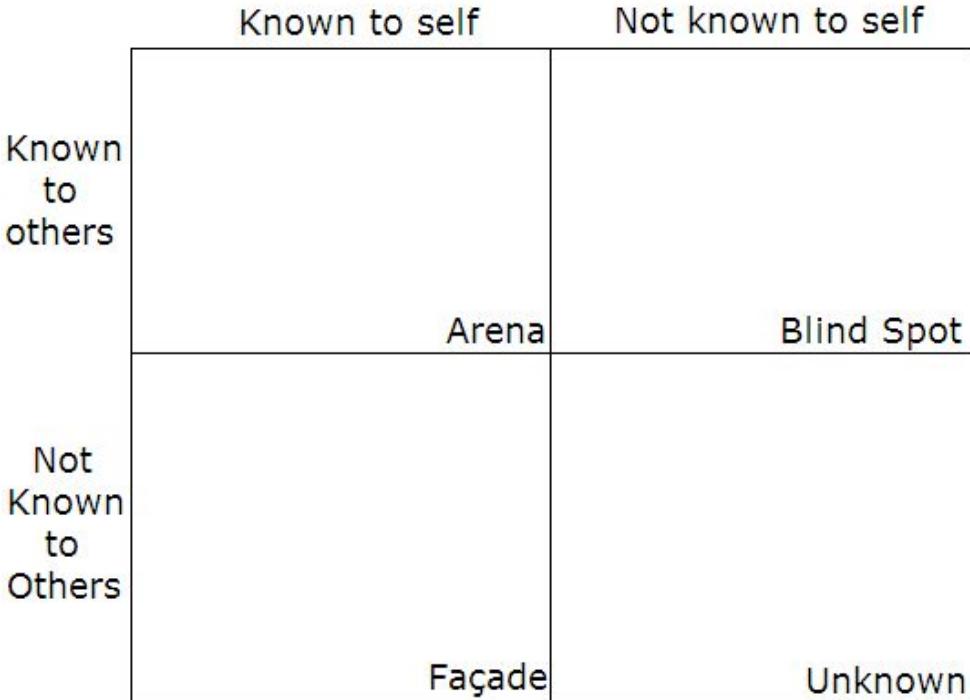
- Multiple staff on the call. One leads, everyone else takes notes.
- Write exact statements. No summarization.
- Start with a list of questions (script).
- Prioritize it because you will run out of time.
- More listening, less talking.
- “Before I share what that is supposed to do, I'd first like to hear what you'd expect to happen.”
- Debrief immediately after the call.

You  
know  
nothing.

**Get to the  
good stuff:**

**Down and  
to the right**

### **Johari Window**



# Remain unbiased

Instead of	Ask
Is that helpful?	"How do you use that today?" "How is that working for you today?"
Was that easy to do?	"How do you feel about what you just did?"
Did you like ABC better than XYZ?	"Compare ABC and XYZ."
Do you think that is good?	"So when you think about that process . . . "
It would work like XYZ.	"How would you expect it to work?" ...and later... "It would actually work like... What are your thoughts?"

# How to understand

Situation	Ask
If you're trying to understand something a user said.	“Can you give me a specific example?”
When you expected the user to say something different.	“I didn’t know that. Thanks for sharing that and helping me understand.”
When user talks about a specific solution, need, or desire.	“Why do you want that?” “How would that help you?”

# Other types of questions

Instead of	Ask
Tasks	“Can you show me how you determine what devices are on which ports of your Cisco switch?”
Specific example	“Tell me about the most recent time your network went down.”
Sequence	“Walk me through the steps you take to find the root cause for an alert storm.”
Peer comparison	“Do the other sys admins do it that way?”
Clarification	“And when you say ‘it seems odd,’ what do you mean?”
Exhaustive list	“What are all of the tools you use to troubleshoot a problem?”

# Do you take requests?

NEWEST FEATURE REQUESTS

All Feature Requests ▾ With any open status ▾ By highest score ▾ Descending ▾

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**Granular Node Management Rights.** 13 Aug 2012 8:47 PM

967 FormerIdeaCreator Open for Voting on 20 Feb 2020 142 Comments

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**EIGRP support** 23 May 2012 10:45 AM

625 FormerIdeaCreator Open for Voting on 20 Feb 2020 29 Comments

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**Calendar's for maintenance windows, SLA's, and production monitoring windows** 14 Aug 2012 10:45 AM

520 FormerIdeaCreator Open for Voting on 20 Feb 2020 308 Comments



# Final thoughts



# **Users are not “stupid.” They:**

# Users are not “stupid.” They:

**...don't really care about your product.**

It's the 37<sup>th</sup> UI they use in their job.

If you make it difficult,  
it's not worth their time to learn your product.

# Users are not “stupid.” They:

**...are working in a situation of high cognitive load.**

95% of their mental capacity is holding an intricate model of a work-related problem.

You get the remaining 5% whether you like it or not.

# Users are not “stupid.” They:

**...are exhausted and just trying to complete a task**

as quickly as possible so they can go home,  
or go to lunch,  
or go do things that matter to them.

# Technical Empathy is:

**Getting out of the user's way when  
they're trying to accomplish a task.**



# **Technical Empathy is:**

**Identifying and removing friction  
to make a challenging process easier.**



# How?

**Assume the user is the expert  
and we know absolutely nothing.**



# The alternative... well, it kind of sucks



YOU MADE IT!!!

Get our famous  
TCP/IP cap by  
scanning the  
QR code below:



Are you ~~IRRITATED~~ ?

I'm ready for your  
questions!

@LeonAdato



YOU MADE IT!!!

Get our famous  
TCP/IP cap by  
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QR code below:

