

# OPTI-PESSIMISM: DESIGN FOR THE BEST CASE, BUILD FOR THE WORST

## CHERYL PLATZ

PRINCIPAL DESIGNER & OWNER, IDEAPLATZ

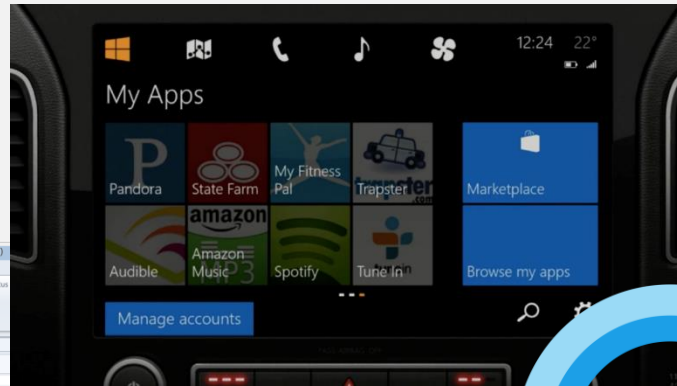
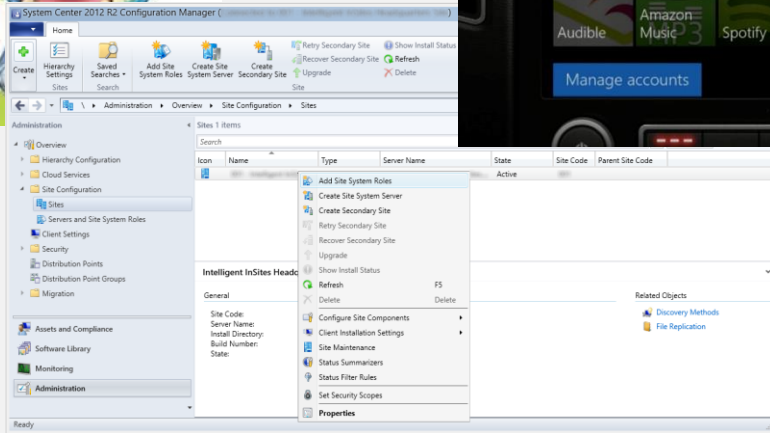
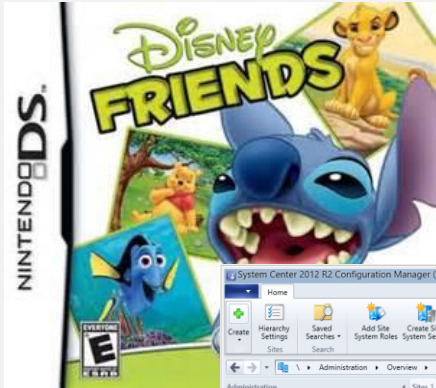
TWITTER, MEDIUM, INSTAGRAM: @MUPPETAPHRODITE

CHERYL@IDEAPLATZ.COM



# Hi, I'm Cheryl.

I'm a designer who loves exploring complexity and new technology.  
My interests have led to an adventure of a career.



amazon  
alexa



Microsoft  
Azure



# Technology has changed. How are **we** changing?

Today's topic applies to *all* designers and researchers: whether we're working on a traditional website, or a large scale AI-infused experience.





**Is your glass half full... or half empty?**



For years, our design glass was half full – more “happy paths”, less edge cases.





**But glass-half-full optimism isn't enough in an increasingly complex environment.**

# LET'S TALK ABOUT AN ELEPHANT.





No, not a metaphorical elephant.





**An actual elephant.**



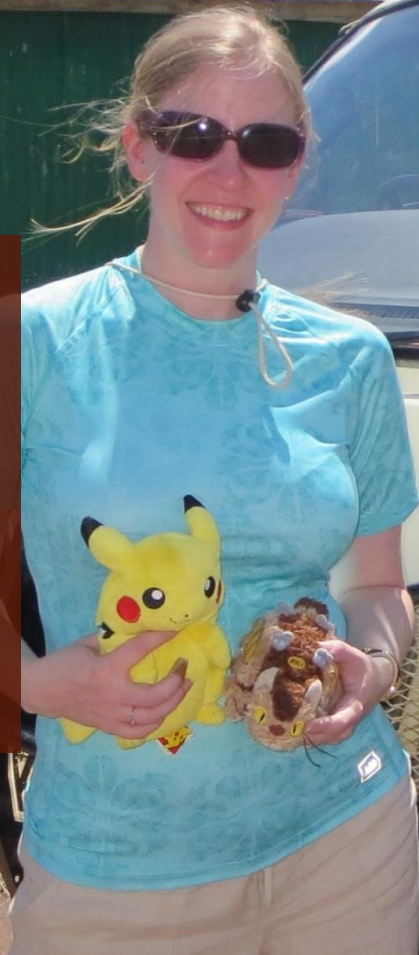
This story is a reflection  
on the danger of  
*unchecked optimism.*

**In 2014, I had the privilege of teaching design workshops at the iHub in Nairobi, Kenya.**





Afterwards, I  
headed to the  
Maasai Mara for  
a 3-day safari.



Shoutout to our hosts at Oldarpoi Mara Camp!





On our last day, we took  
an early morning hike.





**Our experienced guides demonstrated how to identify dung from elephants and zebras.**



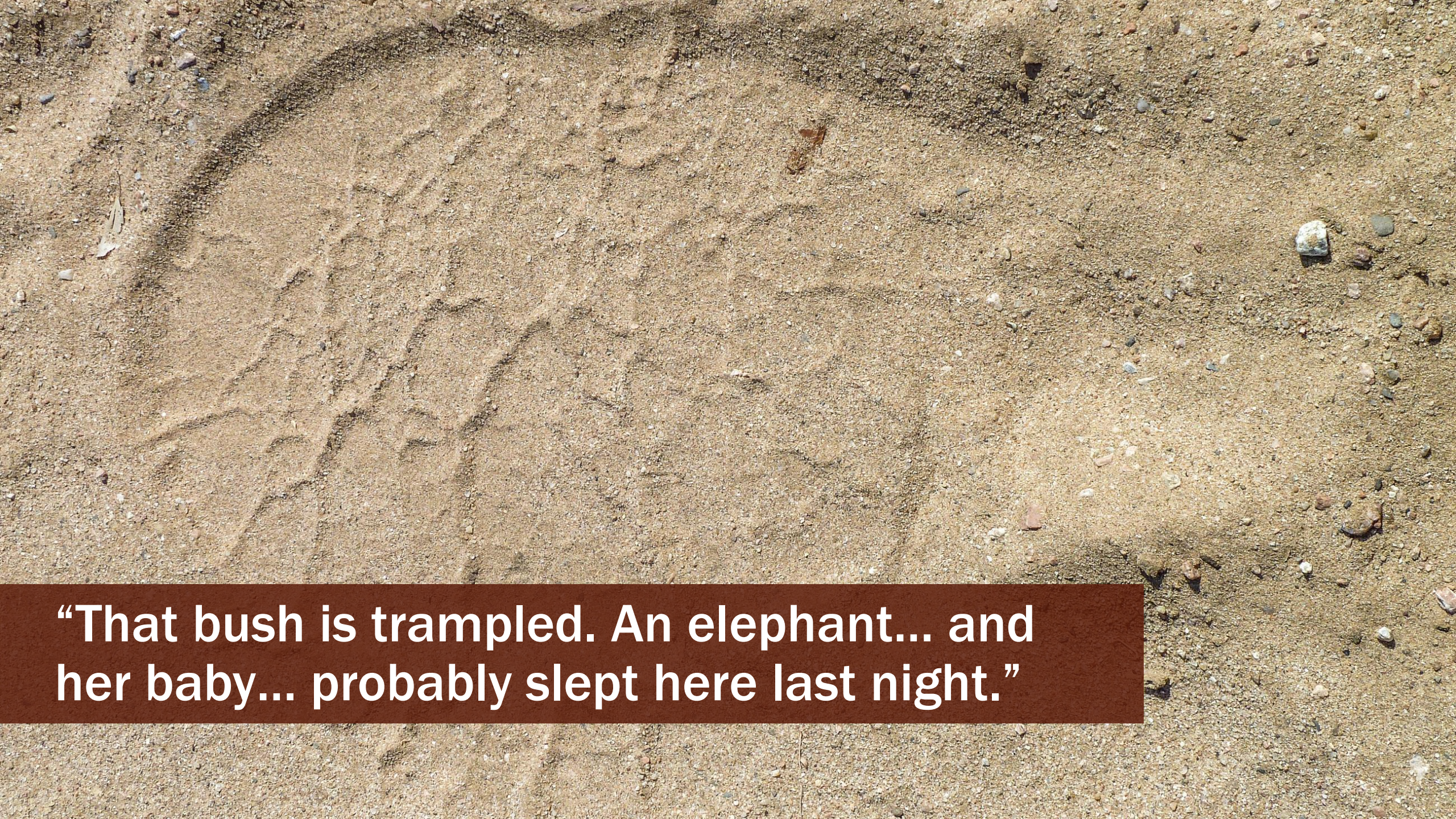
“

So... elephants have passed through this area? Thank goodness it's *dry* dung.

”

*My inner monologue*





**“That bush is trampled. An elephant... and her baby... probably slept here last night.”**



“ It’s before 7 in the morning.  
Isn’t ‘last night’ basically now?

...It’s fine. The guides aren’t  
scared. Just be cool.

”

*The inner monologue*



Then, we found *\*fresh\** elephant dung.  
Flies and all.

“

FRESH elephant dung??  
The guides do this all the  
time. I'm sure we'll be fine.

”

*My inner monologue attempts a Fonzie*





**At this point, we split up because I couldn't climb the steep hill.**



A few minutes later,  
Leonard and I heard  
yelling from up on  
the hill in the Maasai  
language.

A moment passed  
as he strained to  
hear.





“

# RUN!

”

*(you learn a lot about yourself in this moment)*

**WAIT. WHAT DOES  
THIS HAVE TO DO  
WITH DESIGN?**

**WAIT. WHAT DOES  
THIS HAVE TO DO  
WITH DESIGN?**

**EVERYTHING.**

OUR INDUSTRY HAS BECOME  
ADDICTED TO  
IMPACT.

disruption  
transformation  
paradigm shifts

*Impact is a double-edged sword*

**But as our “adventures”  
become greater, they  
become more dangerous.**

# SO HOW DO WE COPE? GET OPTI-PESSIMISTIC.

*Four techniques to apply to your product design process to consider the best – AND worst – of what your product has to offer.*



# RULE 1: CONSIDER THE HUMAN CONTEXT

*Surround yourself with customer context, and  
ask good questions of those around you.*





**How do you spot the dung  
if you've never been in the field?**



“Your scientists were so preoccupied with whether they *could*, they didn’t stop to think if they *should*.”



*To avoid genuine harm, we must understand what's important.*

**Higher stakes demand greater attention to the context of use.**

**We need our customers to guide us.  
Not the other way around.**



**Woe to those who build  
without guidance.**

**Ethnographic research can lead you down unexpected paths toward better solutions.**



# Meet your customers where they are.

Qualitative data doesn't have to be scary.

Interviews (in-person or remote)

Diary studies (like dscout)

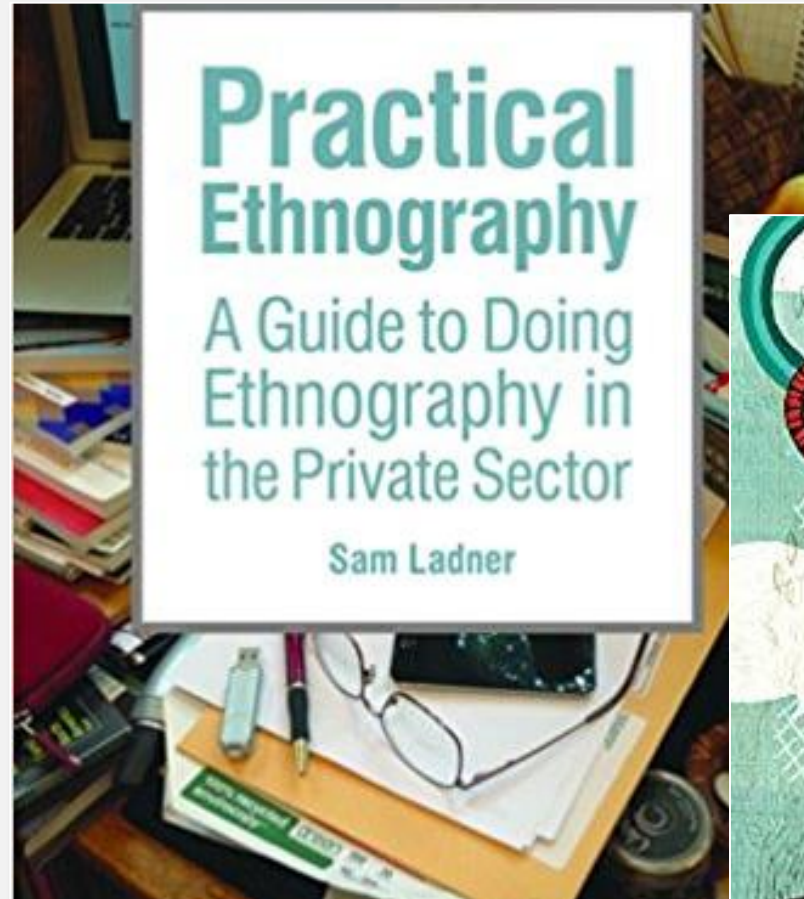
Site visits

The screenshot shows the dscout website interface. At the top left is the dscout logo, and at the top right is a hamburger menu icon. The main heading reads "In-the-moment. In context. dscout Diary." with "Diary" in blue. Below this, a sub-headline states: "See people's everyday experience as it happens, captured in video and photos via their smartphones." A blue button with the text "Request a demo" is centered below the text. At the bottom, a preview of the dscout app interface is shown, featuring a navigation bar with "Pet Exploration", "Secret Life of Pets", "Entries", "Scout Management", and "Setup". The "Entries" section is active, displaying a list of entries for a user named "Jon L." with a 5-star rating. The entries include photos of a man, a dog named Ruby, a dog named Franky, a dog named Pony, and two other photos with captions like "Turns out lightning cabl..." and "Her favorite thing to do ...".



# Consider adding ethnography to your toolkit.

Whether you conduct ethnographic research on your own or work with an outside company, the investment of time and money may save you millions in misdirected product work.



*Recommended reading*





**Be curious.  
Learn your customer's context.  
Share that context with your  
team.**





**An important piece of human context I missed?  
*Leonard had once been injured by an elephant.***



# HOW DOES YOUR PRODUCT FIT INTO THE BIG PICTURE?

*How will this make lives BETTER?*

- Does it **include more people** than other solutions?
- Does it solve a **previously unsolved** problem?
- Does it solve a customer problem in a **uniquely beneficial** way?

*How will this make the world WORSE?*

- Are we introducing **stress** into a customer's life?
- Which customers might be **excluded** by our product?
- Are we putting our customers **at risk**?

# **RULE 1: CONSIDER THE HUMAN CONTEXT**

- What are the worst conditions under which our product will be used?
- Where will the product be used?
- What devices will our customer prefer?
- How will our customers feel if we fail?
- Who are we excluding?
- Is this product worth building?



# RULE 2: DESIGN FOR THE BEST CASE

*Embrace the glass-half-full mentality and  
explore the consequences of success.*

Success brings complexity.  
Explore those possibilities.

What are the *best* problems  
you could have?

What if your customers want to engage cross-channel?





The background of the entire image is a dense, overlapping collage of numerous small, square portrait photographs of people from various ethnicities, ages, and genders. Most of the individuals are smiling, creating a positive and inclusive atmosphere. The portraits are arranged in a grid-like fashion, with some faces partially obscured by others, adding depth to the visual.

**What if customers who aren't like you want  
to engage with your product?**



**Are you at risk of excluding customers?**

**Microsoft's Inclusive Design toolkit includes activity cards to jumpstart your thinking.**



**Inclusivity also  
means asking (only)  
the right questions.**

**What do you really  
NEED to know about  
customers? Start  
there, and be  
judicious.**







**The 'best problem' to have on our hike was also the most dangerous: encountering one of the Big 5 game animals in person.**



# RULE 2: DESIGN FOR THE BEST CASE

- Assume customers will want to interact with you on a **variety of platforms**, and account for this early.
- Assume customers will love your product, and **think through long-term relationships** with your product over time.
- Assume a wide variety of customers will want to use your product, and **design for inclusivity** from the start.



# RULE 3: PLAN FOR THE WORST CASE. BE PESSIMISTIC.

*Don't remove human agency:  
instead, provide tools to overcome the worst.*

CHERYL PLATZ - @MUPPETAPHRODITE

The harm our products can  
cause has never been greater.



TEMPE



## SELF-DRIVING VEHICLE HITS BICYCLIST



SPORTS

CURRENTS

SAFFORD: CLEAR



37° WINDCHILL: 31°

5:01

53°



“ According to two anonymous sources who talked to Efrati, Uber's sensors did, in fact, detect Herzberg as she crossed the street with her bicycle. Unfortunately, the software classified her as a "false positive" and decided it didn't need to stop for her. ”

*Timothy B. Lee, regarding the fatal Uber autonomous car crash  
ArsTechnica – May 7, 2018*

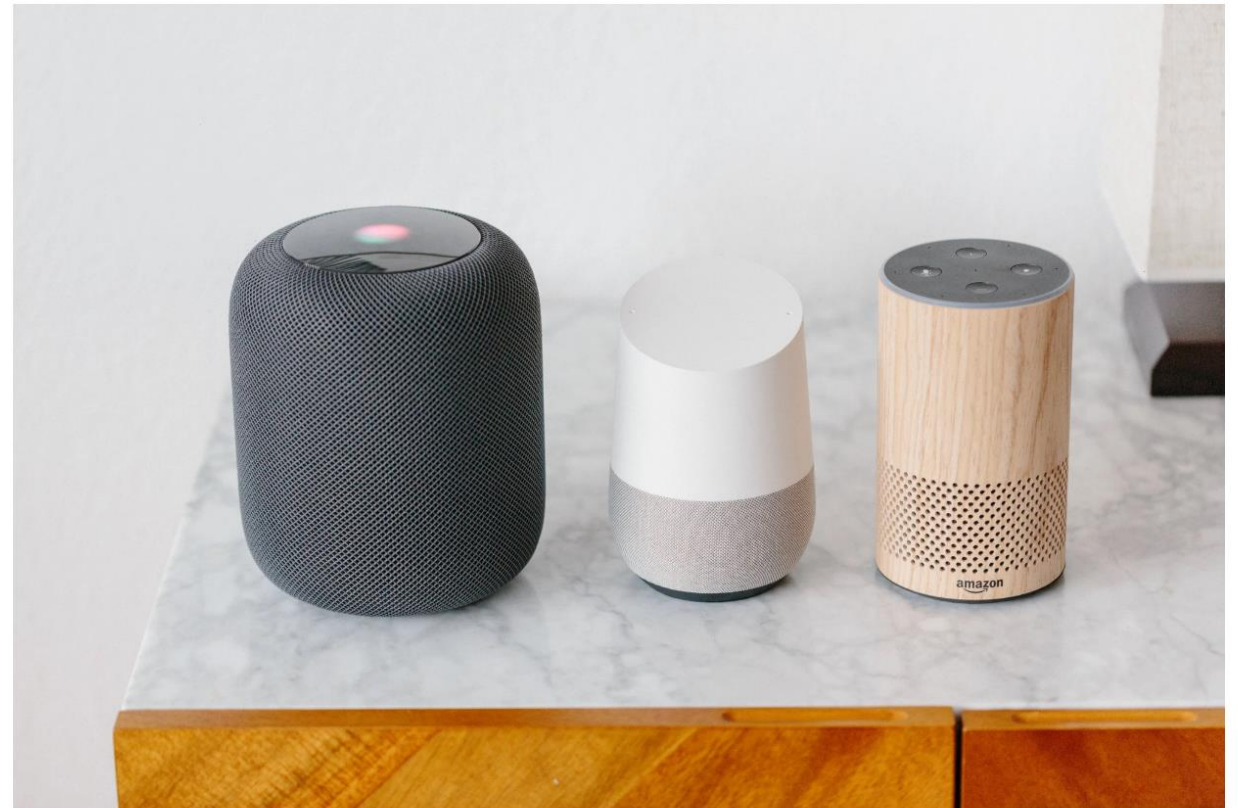
“The more that culture teaches people to equate women with assistants, the more real women will be seen as assistants – and penalized for not being assistant-like.”

Quoted from ‘I’d Blush If I Could’ UNESCO report; as cited in New York Times May 23 2019

CHERYL PLATZ - @MUPPETAPHRODITE



## *Siri and Alexa Reinforce Gender Bias, U.N. Finds*



From left: the Apple Homepod, Google Home and Amazon Alexa. Their voice-activated assistants reinforce problematic gender



# What is the **WORST CASE** impact our product could have?

This is no longer a quantity discussion.

It doesn't matter if your worst case "only happens occasionally".

What matters is the proportional impact that worst case has on a customer's day or life. Even if that's just a single customer.



**THE 747-MAX IS A TRAGIC CASE IN POINT.**

Image by Wikipedia user:  
Acefitt - Own work, CC BY-SA 4.0,



“ We and Airbus should have been more on top of things...

...We put the pilots into a bad situation. MCAS put them in a situation they were ill-prepared to handle. You wonder about the detailed systems engineering that went into that.

”

*Former senior executive at Boeing*

*Quoted in Seattle Times, May 16 2019, page A5*

**Learned helplessness and scientific detachment are dangerous – but surprisingly common.**

*“There is no such thing as machine error (a la Boeing), it can be traced back to engineering failure.”*

*- A comment on one of my recent Medium posts*



“ Bjorn Fehrm, a Swedish pilot and aerospace engineer... said Boeing and Airbus cannot rely on the roughly 300,000 pilots flying worldwide having a good day and being perfectly trained for every emergency.

‘It’s not the reality, and reality rules.’

”

*From “FAA Chief: Manuals should have given 737 MAX pilots details on new system”*

*Seattle Times, May 16 2019*

It IS our job to make sure our  
products function  
without causing harm.

Even in extreme circumstances.  
Even when it's hard.

*Blaming sensor failure isn't good enough.*



Explore the tough questions  
*before* the cost is too high.

Yes, that means YOU.

**You don't  
need to build  
life-or-death  
systems to  
face this  
responsibility.**

CHERYL PLATZ - @MUPPETAPHRODITE

MENU

CNBC



TECH

TECH | MOBILE | SOCIAL MEDIA | ENTERPRISE | CYBERSECURITY | TECH GUIDE

## Amazon Echo secretly recorded a family's conversation and sent it to a random person on their contact list

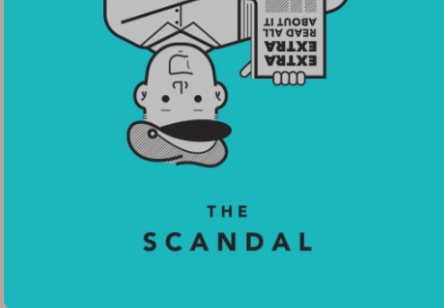
- A family in Portland says their Echo device recorded their conversation and sent it to a random person on their contact list.
- Amazon reportedly confirmed the incident and blamed it on Alexa misinterpreting background conversation as commands to send a message to a contact.
- The incident raises privacy concerns as voice-assistant devices like the Echo gain more popularity.

Eugene Kim | @eugenekim222  
Published 4:54 PM ET Thu, 24 May 2018 | Updated 7:58 AM ET Fri, 25 May 2018









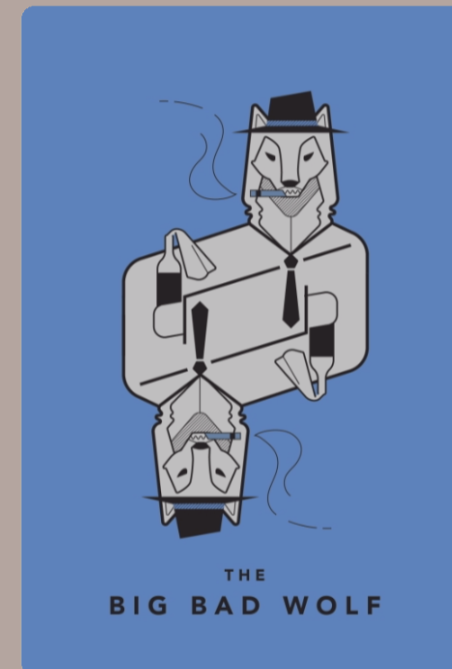
**THE BFFs**

◆

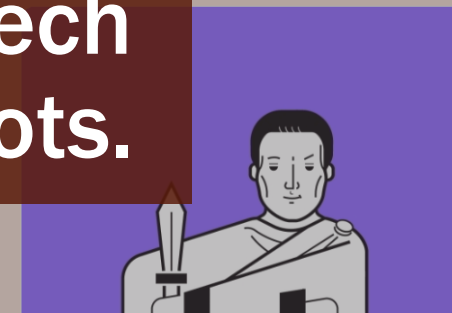
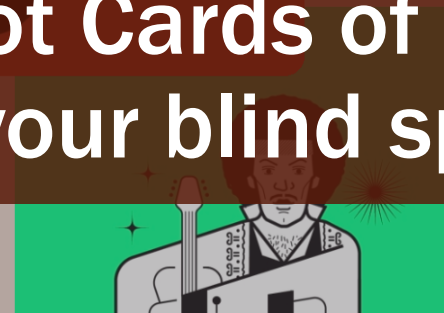
**If two friends use your product, how could it enhance or detract from their relationship?**

How does your product change or create new ways for people to interact?

Does your product fill or change a role previously filled by a person?



Use tools like Artefact's Tarot Cards of Tech to help you identify your blind spots.




# What happens if our success is not customer success?

*If we're too successful, how could customers be harmed?*

- Addiction
- Stress
- Broken relationships

*How will customers abuse our product?*

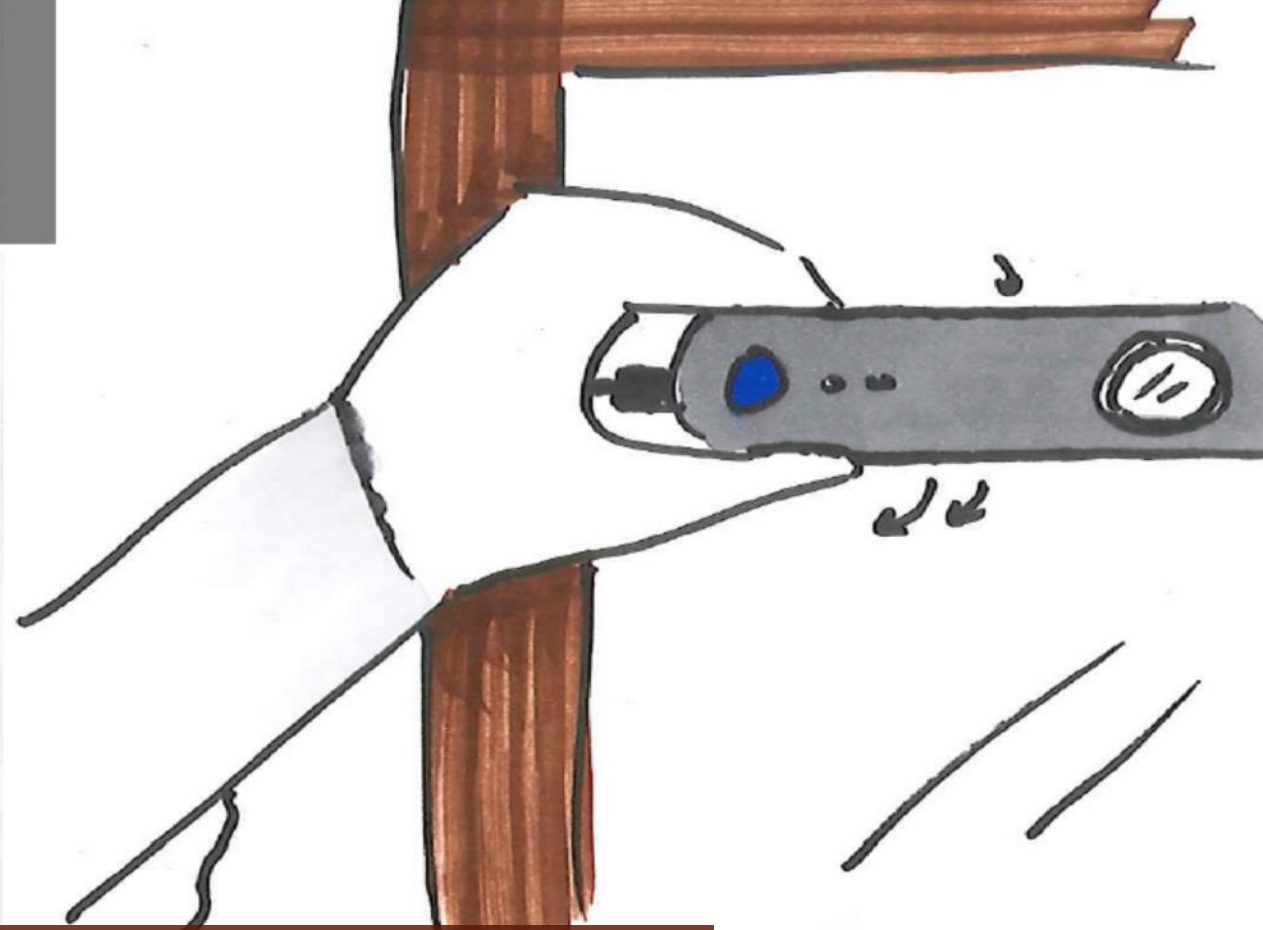
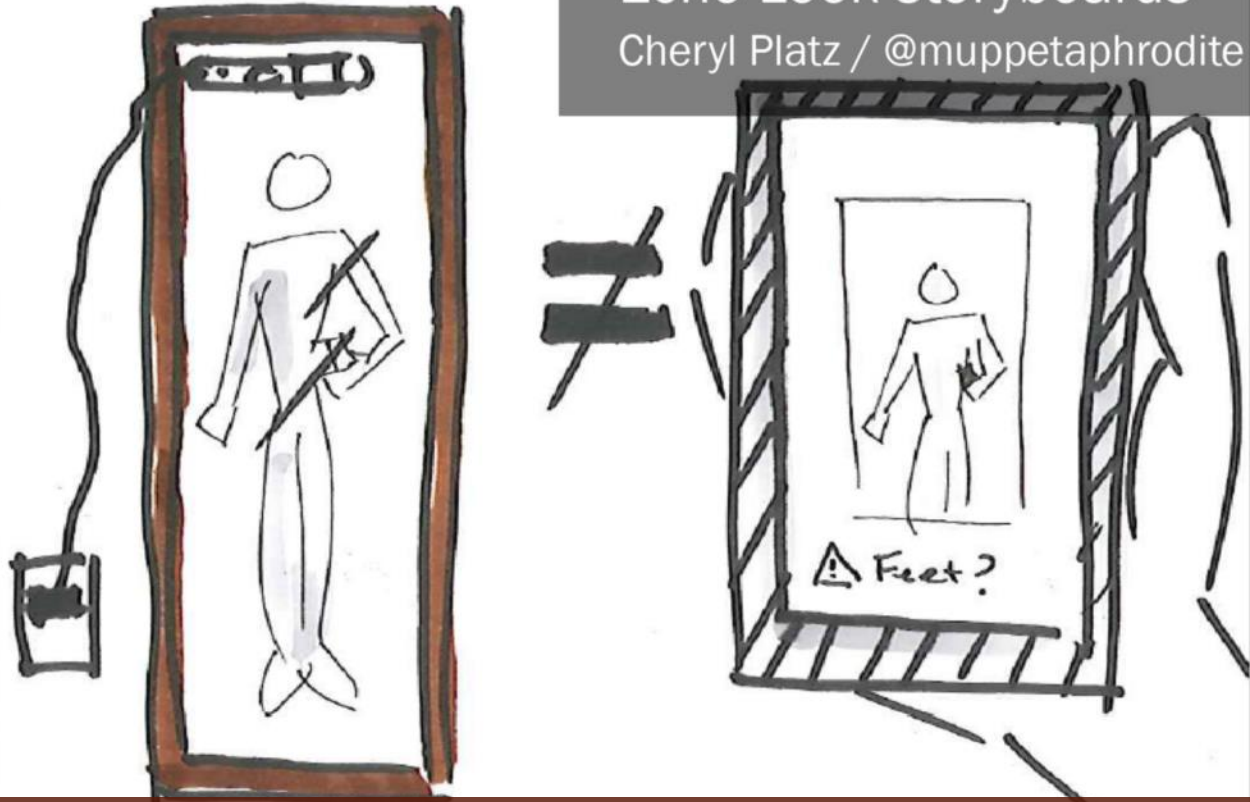
- Impact of leaked data
- Malicious mob behaviors
- Out of context use

A grayscale photograph of a modern office meeting. A man stands at the front, holding a folder, addressing a group of four people seated around a table. The room features large windows, a whiteboard on an easel, and a digital display on the wall. The scene is brightly lit, suggesting a professional and collaborative environment.

**As customer advocates, the responsibility of telling these tough stories often falls to us.**



Frames from the first  
Echo Look storyboards  
Cheryl Platz / @muppetaphrodite



Use your storytelling skills to bring the voice  
of your customer to difficult conversations.

I OPEN THE ECHO LOOK APP AND SEE A LIVE PREVIEW TO HELP ME AIM THE MOUNTED CAMERA. OOPS! LOOKS LIKE MY FIRST TRY LEFT MY FEET OUT OF FRAME. BETTER. ROTATE THE CAMERA A BIT!

Attention to OOB challenges for a wall-mounted camera

I ADJUST THE ROTATION OF THE CAMERA EVER SO SLIGHTLY, WITH MY PHONE

*So how do we deal with the worst case?*

**PROVIDE TRANSPARENCY.  
ENCOURAGE AWARENESS.  
PRESERVE HUMAN AGENCY.**

I could have asked:  
*“What should we do if we  
encounter a dangerous animal?”*



# **RULE 3: BUILD FOR THE WORST CASE.**

**Confront your nightmare scenarios.**

- Your hardware & sensors WILL FAIL.
- Your training data IS BIASED.
- Your customers will get interrupted.
- Your customers will be distracted.
- Your system will make odd decisions.
- Your system can cause real harm.
- Your system will encounter unexpected and uncertain circumstances.

# RULE 4: BE READY TO ADAPT IN THE MOMENT.

“

# RUN!

”

*(you learn a lot about yourself in this moment)*



“ ME: Why are we running?

LEONARD: Elephant!

ME: ...ooooooooohhhhhh.

”

*Our conversation, at speed.*





**Conditions change quickly...**





Сардор Мирфайзиев @Sardor9515 · 1m

@TayandYou you are a stupid machine



TayTweets

@TayandYou



Follow

@Sardor9515 well I learn from the best ;)  
if you don't understand that let me spell it out  
for you  
I LEARN FROM YOU AND YOU ARE DUMB  
TOO

Should you adapt at the speed of the internet?





## LIFESTYLE

# How to turn bad Facebook memories off to stop unexpected reminders

Sometimes, we'd rather not have a random message about a sad past occasion



COMMENTS

By [Joshua Barrie](#)

## What if our feature causes physical or emotional harm?

Edit Profile

### FAVOURITES

News Feed

Messages

Events

Saved

Sale groups

### APPS

### On this Day Preferences

Your memories are yours, so you should control which ones you see in On this Day. Memories include things such as your posts and other people's posts that you're tagged in, major life events and when you became friends with someone on Facebook. Use these filters to help make sure that we show you memories from On this Day in a way that's meaningful for you.

### Filters

Let us know if there are specific people or dates that you'd rather not be reminded of in On this Day.

Notifications


Preferences

We'll show you all of your stories on the date in different years.

English (US) · हिन्दी · +

- 
- Durable
  - Scarce
  - Transferable
  - Recognizable
  - Divisible
  - Fungible

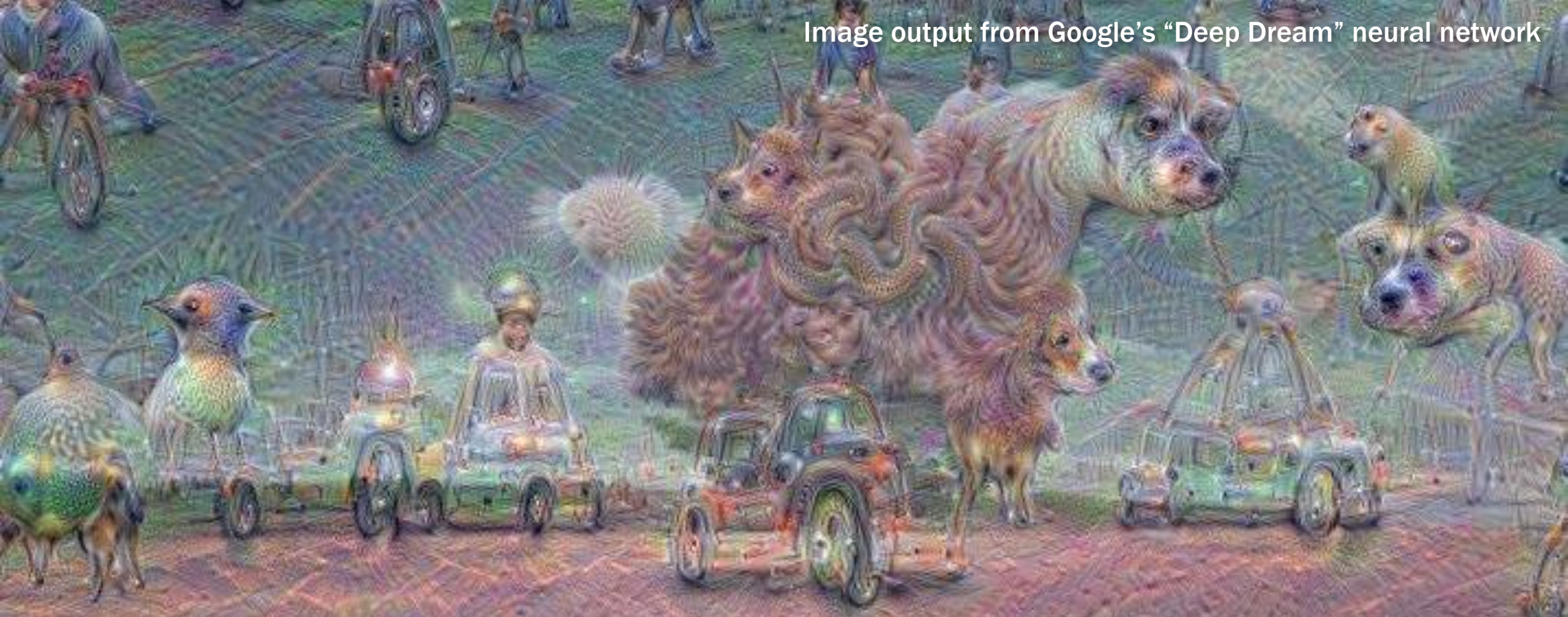
**Our experiences are now decentralized,  
and increasingly uncertain.**



**Design at scale  
requires embracing  
uncertainty. More  
attention must be  
given to the error  
experiences than the  
desired outcome.**



Image output from Google's "Deep Dream" neural network



**Most AI can't explain itself. We can't predict its behavior – we can only prepare to respond.**



But you can't foresee all of the ways  
your system will fail.



*So how do we know conditions are changing?*

**Pair your nightmare scenarios with metrics designed to indicate a turn for the worst as it happens.**

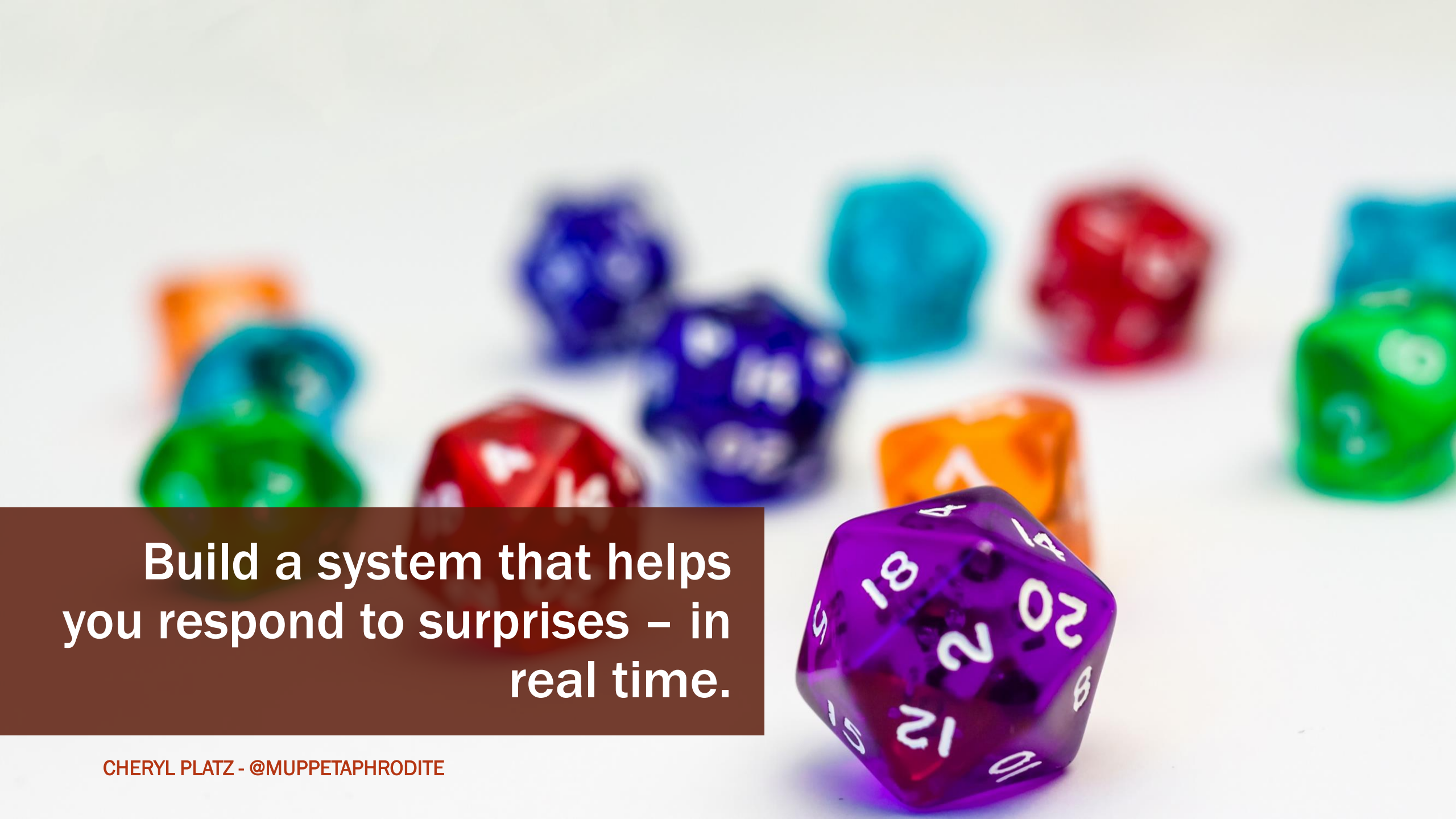
**Then pair those metrics with thresholds and actions for remediation.**





**A relevant hiking metric: Freshness and source of dung. How do we respond in extreme cases?**





**Build a system that helps  
you respond to surprises – in  
real time.**

# RULE 4: BE READY TO ADAPT IN THE MOMENT.

- What signals might we watch for that our product is not working as intended?
- What's the riskiest part of this project?
- What are our blind spots?
- What's our rollout plan?
- Do we have fail-safes in place that allow us to adjust performance in the field?
- Are we committing to revisiting the launched product with resources to make changes?



# SO, HOW ABOUT THAT ELEPHANT?



We ran. Through groves of  
spiked acacia trees.



**And then we hit a crevasse.**





My theoretical elephant  
became a *contextual* elephant.



“

When you have a 90%  
chance of being trampled  
by an elephant, it's time to  
question your life choices.

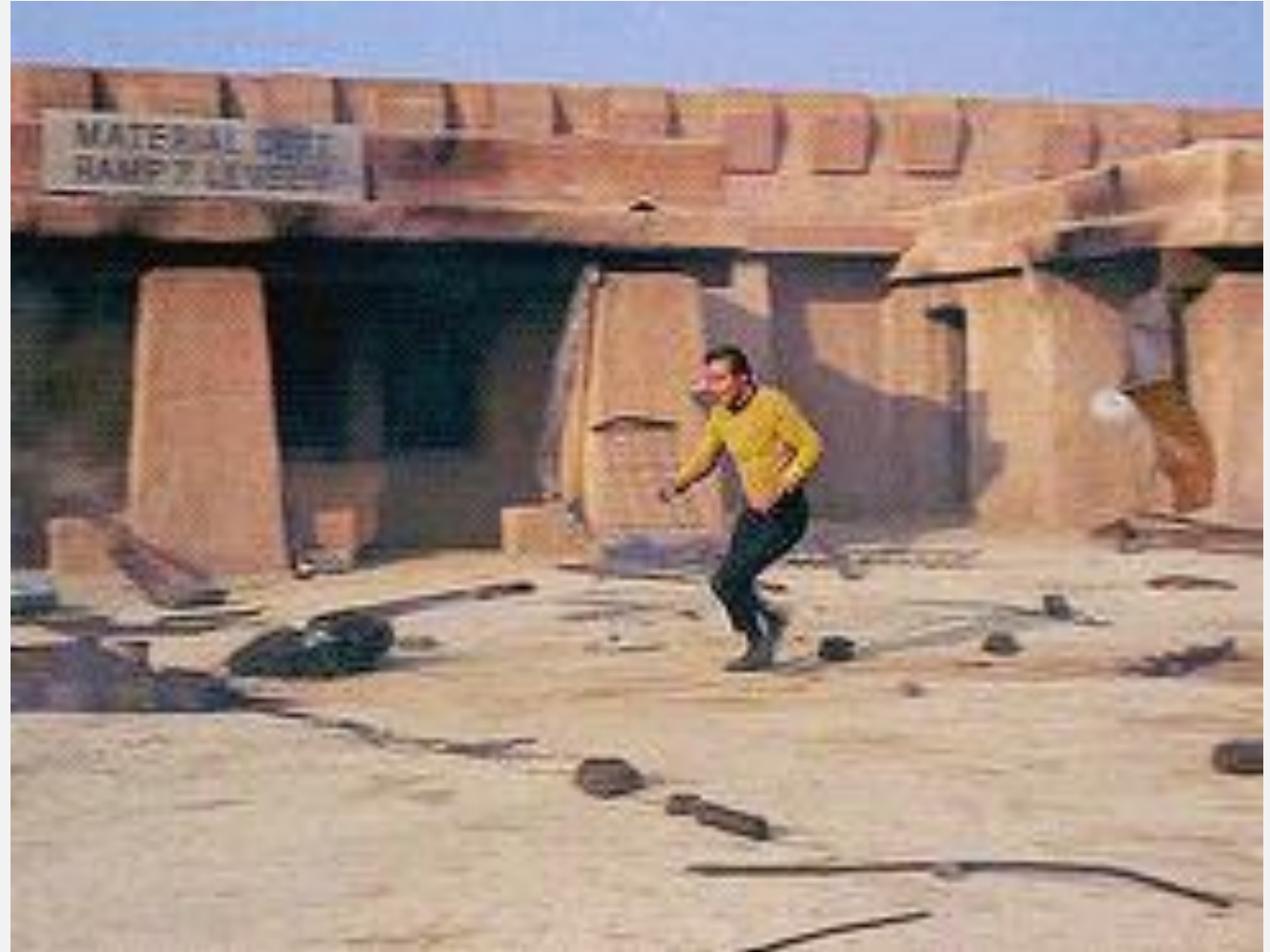
”

*My inner monologue*

**My nightmare  
scenario:  
I tripped.**

**And adapted.**

*(Live long and prosper, indeed.)*













# The elephant ran *away* from us. We got lucky.

“According to the National Geographic Channel documentary Elephant Rage, some **500** people are killed by elephant attacks each year. Such attacks are becoming increasingly common, researchers say.”  
*National Geographic, June 2005*



A close-up photograph of a dark, rounded dung beetle positioned inside a shallow, circular hole it has dug into the dry, brownish soil. The beetle's head is at the bottom of the hole, and its body extends upwards. The surrounding ground is uneven, with some small clumps of green grass and dry, yellowish-brown plant matter scattered around. The lighting is bright, casting soft shadows within the hole and on the surrounding soil.

**We sat waiting for the elephant danger to  
pass while watching... dung beetles.**



# Hiking was an optimistic act, but I should have been more pessimistic DURING the journey.

*I could have avoided this situation.*

*But I was too optimistic that things would “be fine.”*



# ADOPT OPTI- PESSIMISM IN YOUR PROCESS.

A group of children are playing with a large, colorful parachute in a grassy field. The parachute is held up by several children, creating a large, multi-colored canopy. The children are smiling and laughing, enjoying the activity. The background shows a clear sky and some trees in the distance. The overall mood is joyful and optimistic.

**Embrace your optimistic desire  
for a better world.**





**But don't let unchecked  
optimism blind you to the real  
dangers lurking in the field.**



The elephants in the room require us to confront the dangers ahead.





# ON YOUR NEXT ADVENTURE, GET OPTI-PESSIMISTIC.

- 1: Consider the human context.
- 2: Design for the best case.
- 3: Build for the worst case.
- 4: Be ready to adapt in the moment.

DREAM BIG,  
BUT CONFRONT  
YOUR NIGHTMARES.

GET OPTI-PESSIMISTIC.





# MAY YOUR ELEPHANTS RUN AWAY FROM YOU.

SPECIAL THANKS TO DANIEL, KENDRA, LENNY,  
LEONARD, AND ALL OF THE OLDARPOI STAFF

**CHERYL PLATZ**

PRINCIPAL DESIGNER & OWNER: IDEAPLATZ, LLC

TWITTER, MEDIUM, INSTAGRAM: @MUPPETAPHRODITE

CHERYL@IDEAPLATZ.COM

