

Dressing to the Nines



Mark Robinson
Infrastructure Engineering, Plaid

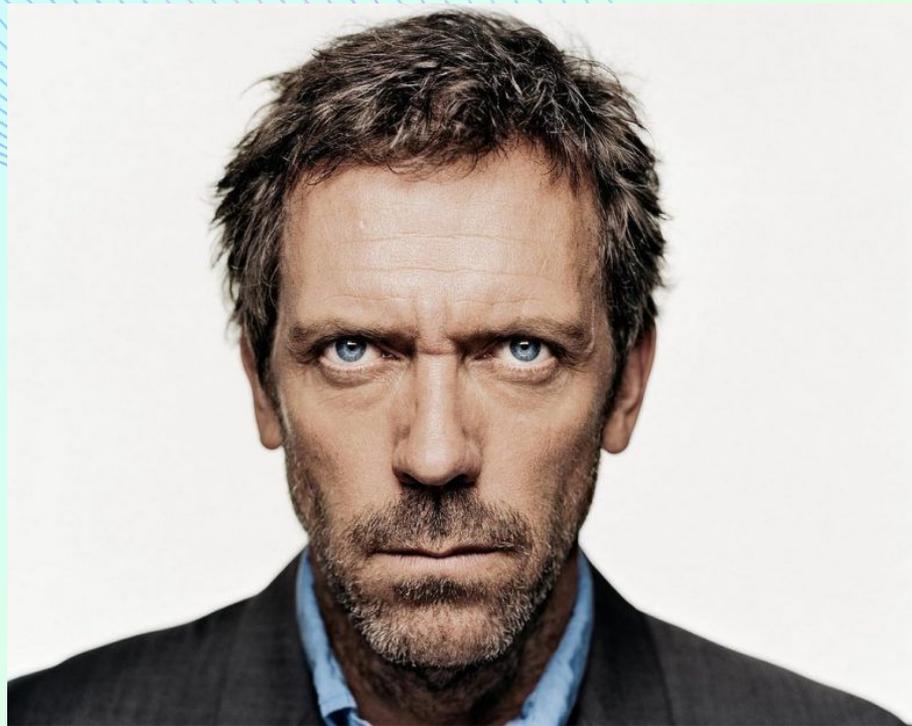
WE'RE HIRING TOO

What would you say you do here?



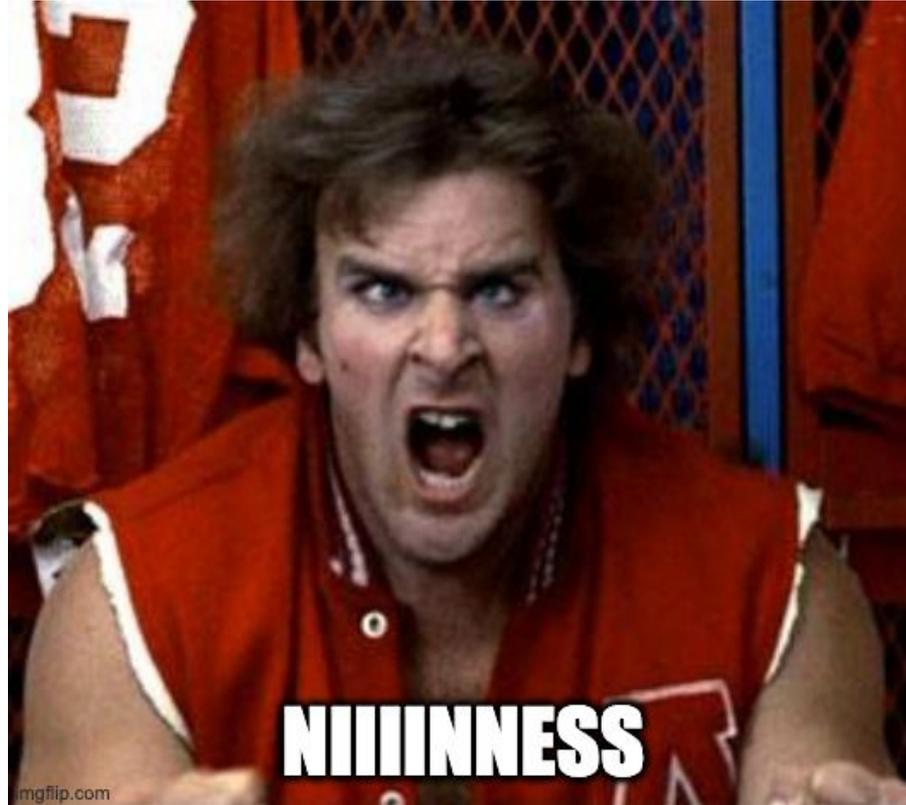


**Everybody
lies (about
reliability)**



WE SHOULD CHANGE THE MARKETING COPY

How do people talk about reliability?



The Rule of 9's

- You need one more 9 from your dependencies than your SLA
- This obviously can't scale
 - Doubly so because the power grid is only 99.97%

Let's talk about bicycles and airplanes

- Bicycles are reliable
- Airplanes are resilient
- Next time, you're on a plane ask for the Tech Log

The background features a white central area with a grid pattern that curves around it from the left and right sides. The grid lines are thin and colored with a rainbow gradient, transitioning from purple on the left to yellow in the center and back to purple on the right. The text is centered in the white space.

**Think Resiliency
Not Reliability**

IT'S 2AM LET ME PLAY YOU THE SONG OF MY PEOPLE

Why is reliability wrong?

- All systems break
- Reliable systems are repaired
- Resilient systems recover

Focusing on reliability encourages poor decision making

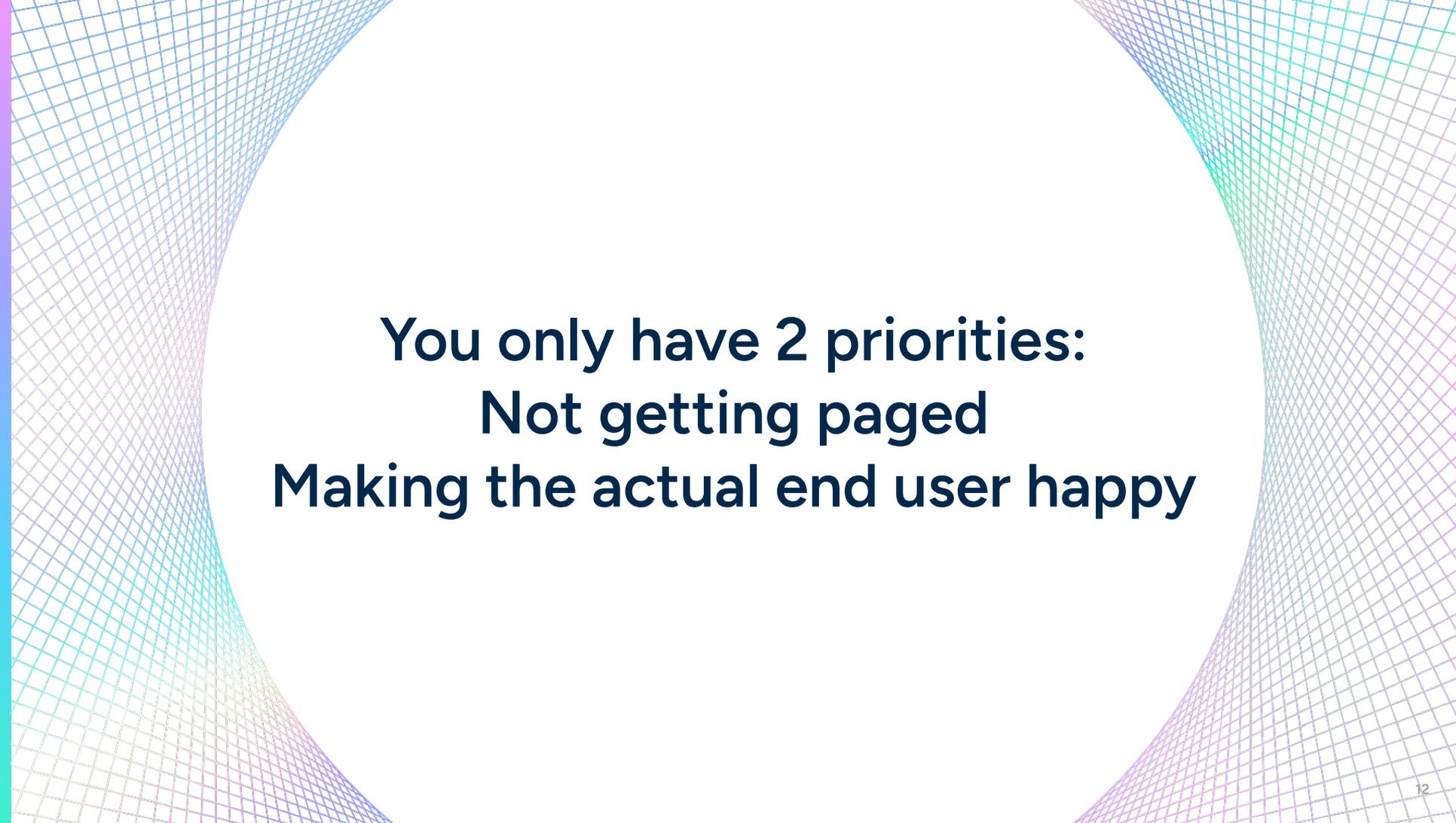
- Skip upgrades to reduce downtime
- Don't restart this machines because it has to run for weeks
- Just don't deploy code



**How do you actually improve
resiliency?**

Be careful around incentives

- Engineers actually like doing the right thing
- Before you roll out any incentives, test them against the smart-alec in your organization
- Lots of small steps are easier than fewer big ones



**You only have 2 priorities:
Not getting paged
Making the actual end user happy**

IN THAT THEY DON'T WISH YOU SPECIFIC HARM

Making Friends

- You want your teams to come to you for advice
- This means coming to them with solutions rather than demands
- Sometimes you have to let them touch the stove

Other Players



Cost

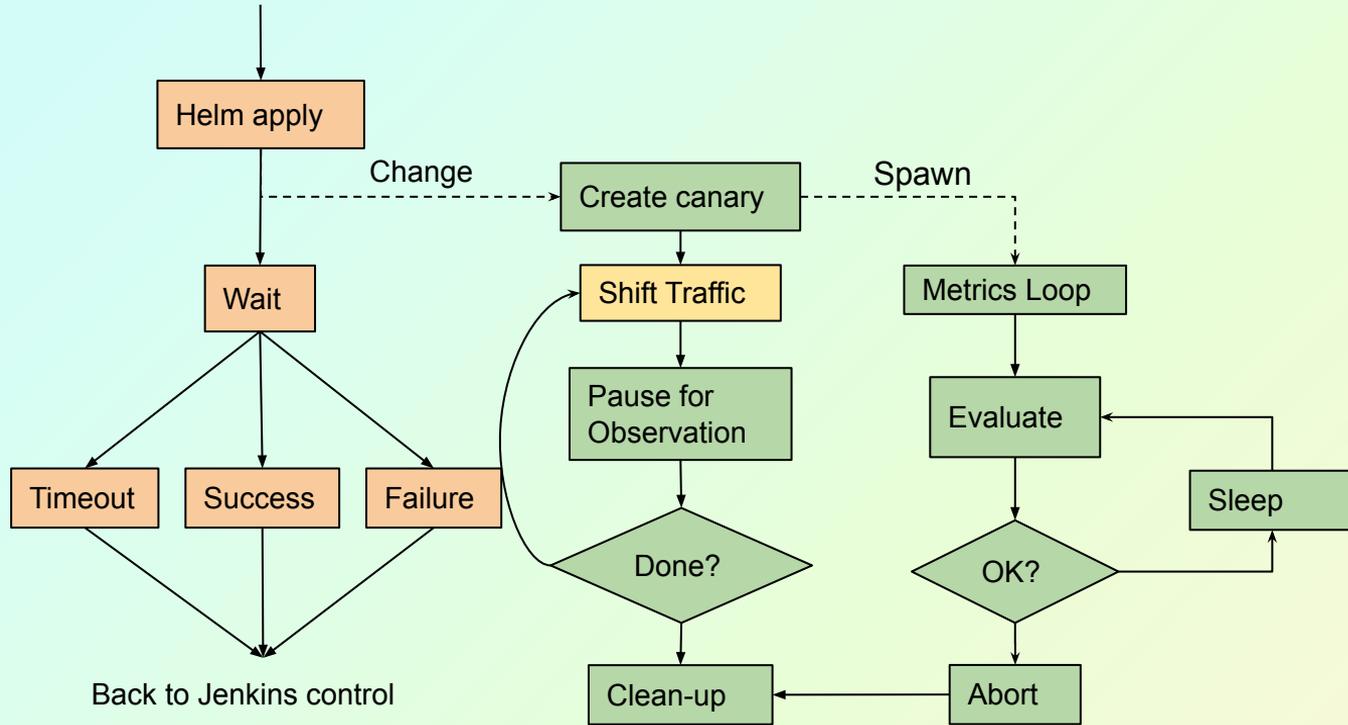


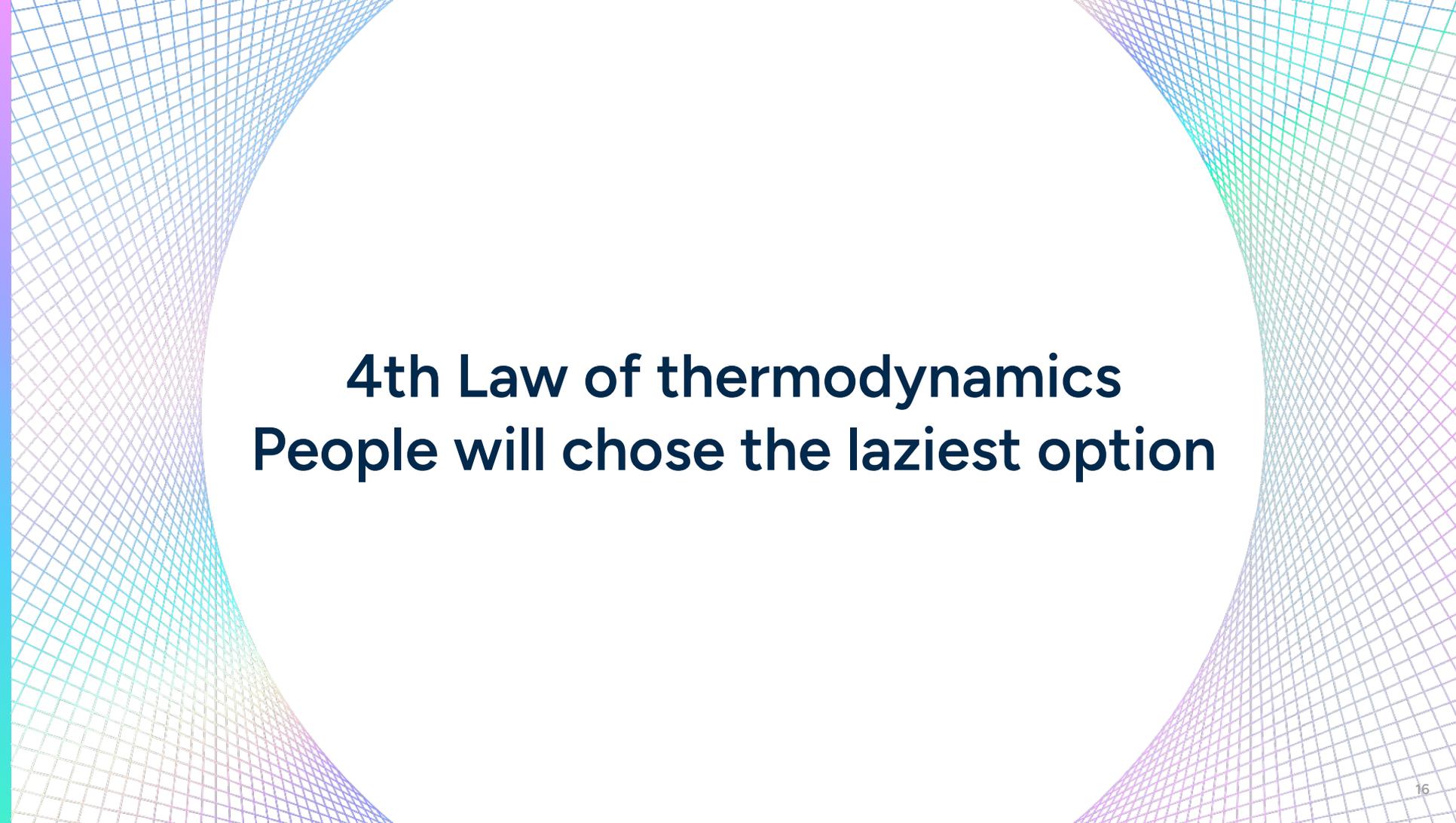
Security



Developer Velocity

Automation





4th Law of thermodynamics
People will chose the laziest option

I'VE MADE A HUGE MISTAKE

Make the right choice, the easy choice

- Make the default the correct choice
- Make people turn off backups and alerting
 - Don't require they figure out how to turn them on
- Make a golden path, but let people leave it
 - At their own peril

SEE MARGE, BECAUSE OF ME THEY ADDED A LINTER

Use tools to encourage quality

- Linters are the perfect villain
- Have examples that show ideal behaviour
 - People will copy whatever you demonstrate

Design for Failure

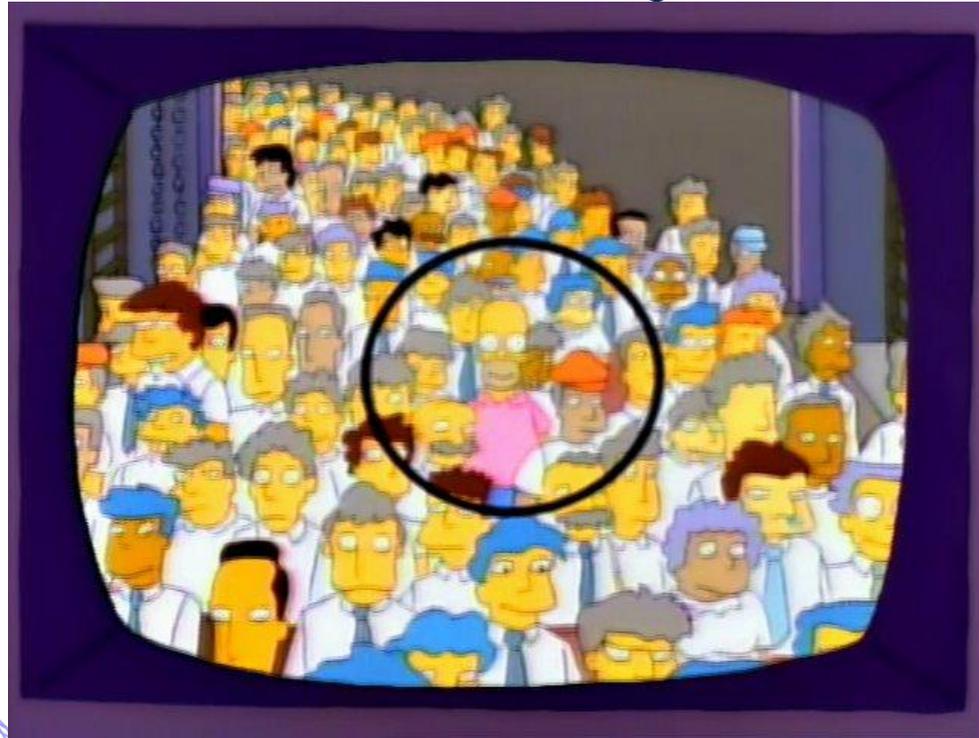
- Think about how your system will fail beforehand
- Decide how you will handle it ahead of time
 - Crash
 - Degrade
 - Alternative path

I WANNA PUSH THE BUTTON

What happens if the self-healing breaks



Resiliency at scale means uniformity



When things break

- It's not a person who screwed up, it's a system that allowed them to screw up
- You need to establish learnings
 - That are actually implementable
- And then follow through

You can't page yourself to high reliability

- The road to resiliency doesn't go there
- There is an absolute maximum of reliability that you can achieve with a human in the loop

Read-only Fridays

- In life, there are three ways to deal with the regular needs of life
 - Get good (enough) at it
 - Hire someone else to do it
 - Structure your life around avoiding the problem

THEY LIVE IN MEETING, OF COURSE THEY KNOW BEST

Management sign off

- Asking for permission to deploy generally doesn't work
- Your defects are still there
- But you find them less quickly

OH HALLELUJAH IT'S OVER

The final word - Flexibility

