

Glue Work Makes the Dream Work

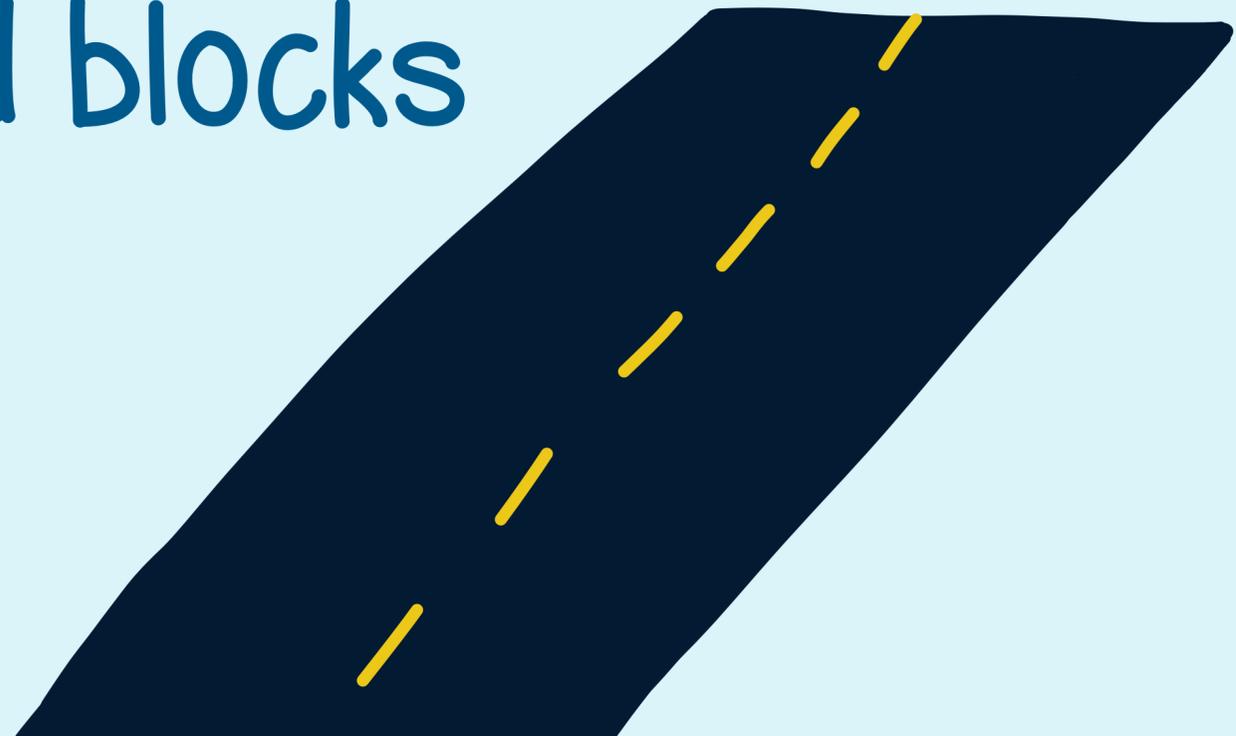
Taylor Barnett (@taylor_atx)



Hypothesis:
People dislike glue work
because of bad, past
experiences



The road to improving our experience of glue work has been narrow, slow, and with many road blocks



What is Glue?



Glue (verb): To integrate different parts of a system together that would otherwise be incompatible

“...the less glamorous - and often less-promotable - work that needs to happen to make a team successful.”

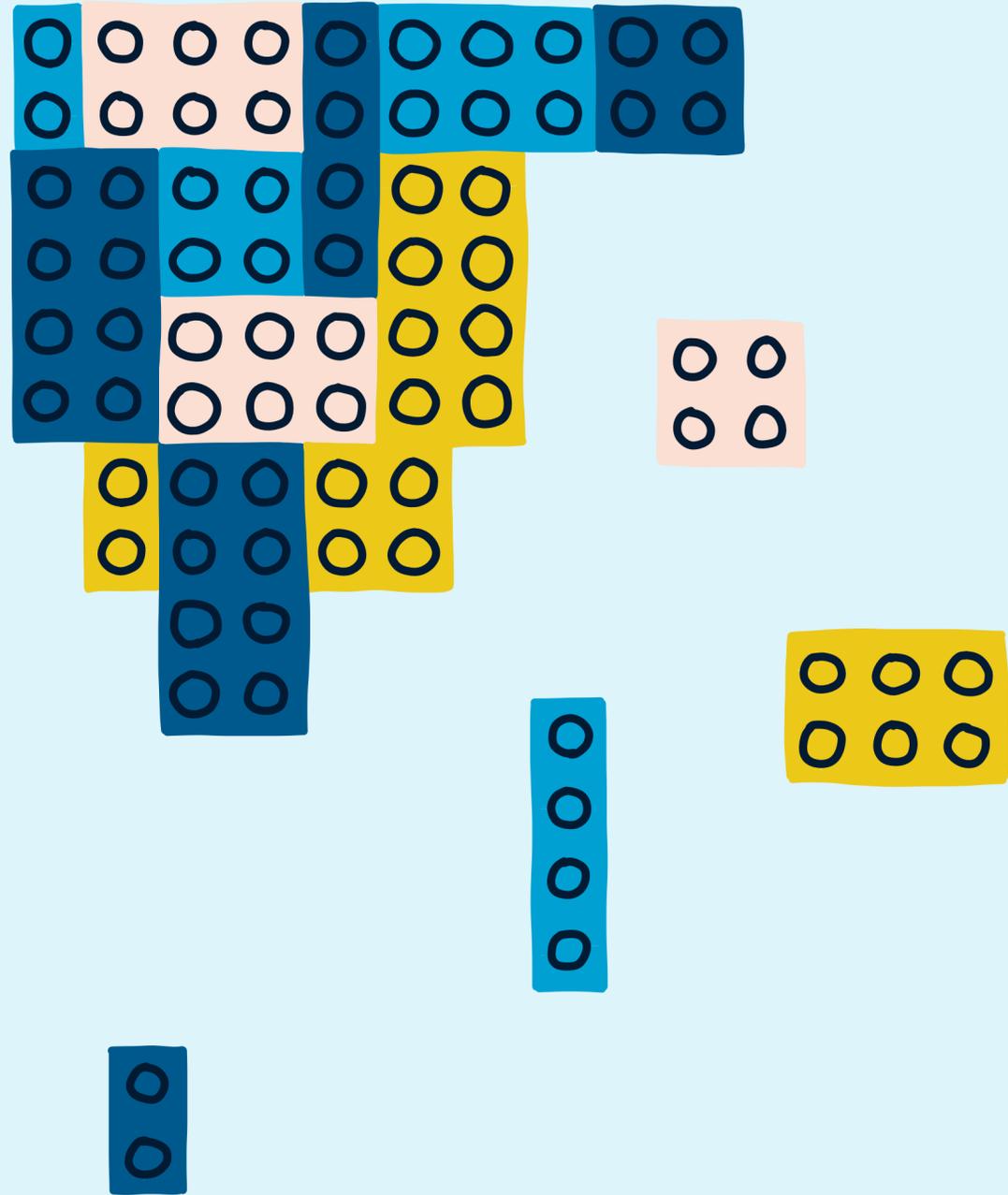
-Tanya Reilly

Glue can be a lot of different activities

Human

Design

Code



Patchwork of tools and services

Glue is complex

We often to have to solve
for glue ourselves

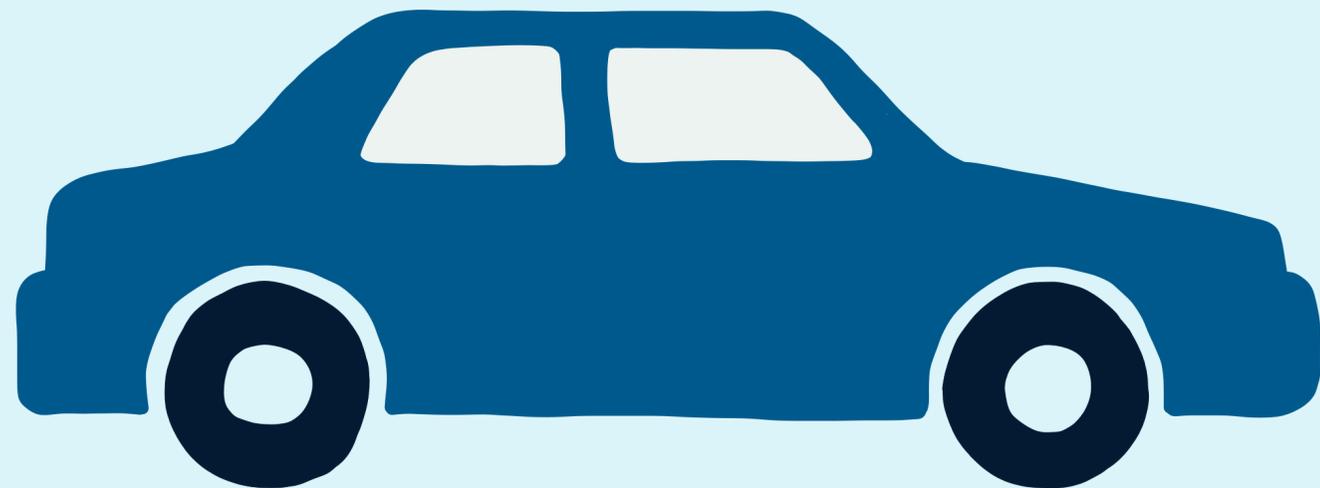
“And you may ask yourself,
“Well... how did [we] get here?”

-Talking Heads



First there was AWS...

Software supply chain



We've solved old
problems, but discovered
new problems



APIs, APIs, APIs

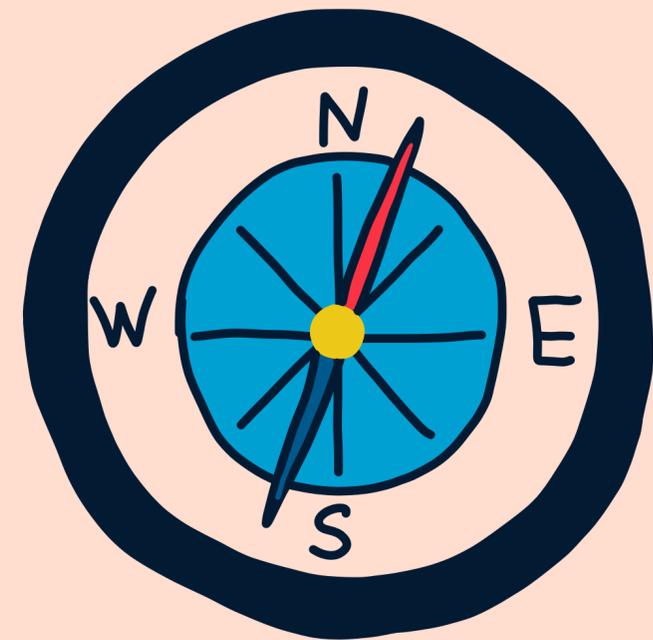


Transposit



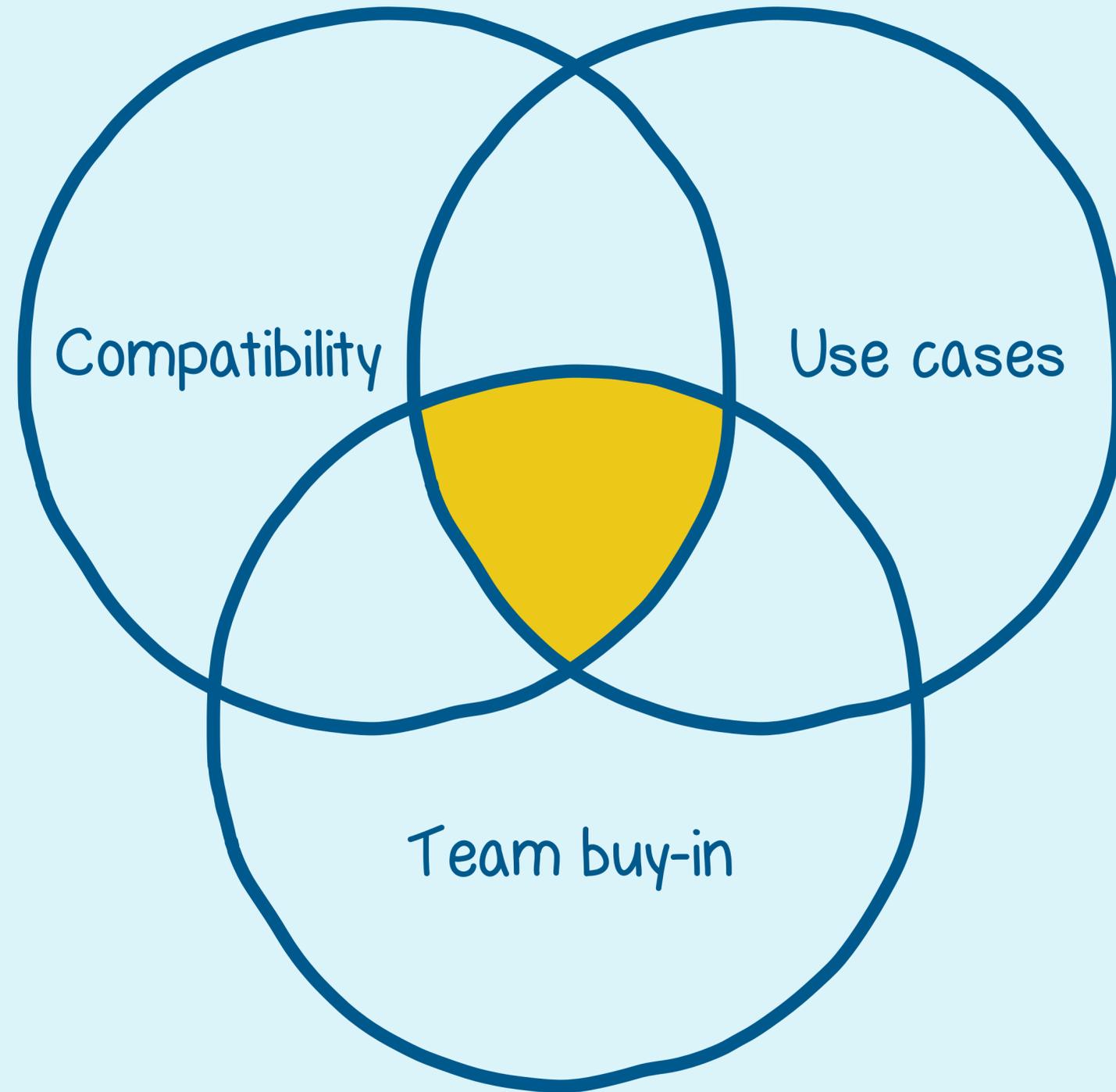
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Where do we go from here?



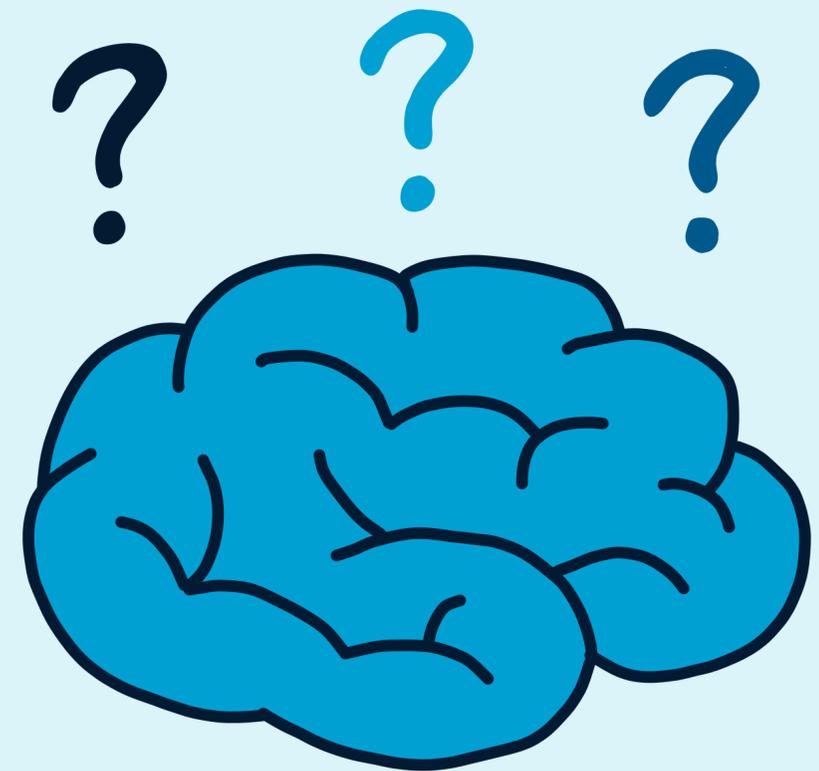
1 Learn how to “outsource” well

Vendor Engineering



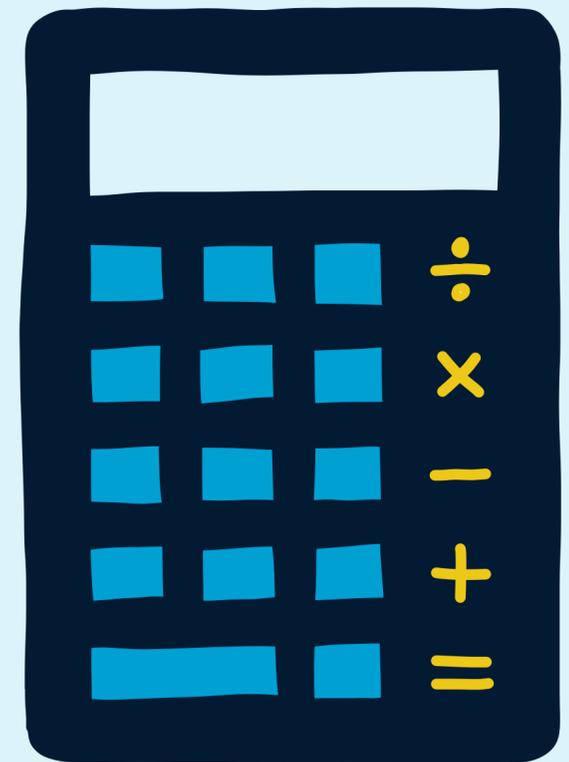
Ask good questions to gauge
compatibility and fit

What friction you can deal with
and what is a dealbreaker?



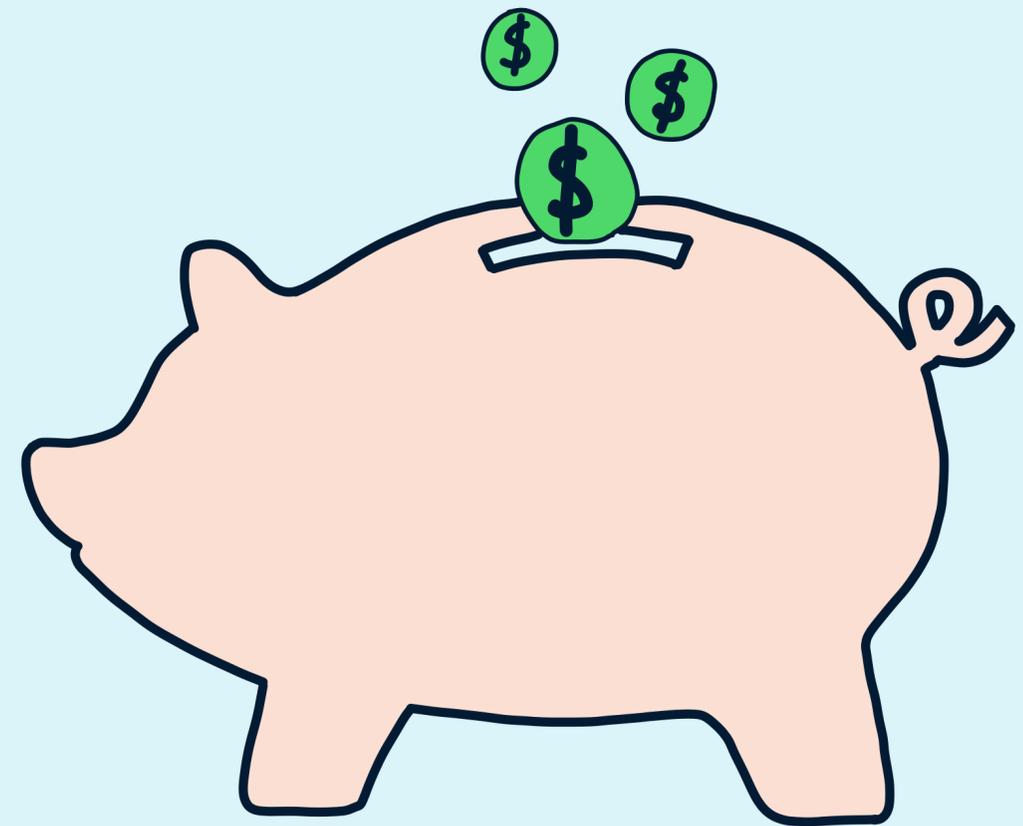
Calculate and qualify the cost to
develop and operate

Remove as much as labor as
possible



Consider the true cost of
ownership and advocate internally

Manage up to executive and
finance teams



Reward team members
for doing this work well



@transposit

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503 Service Unavailable

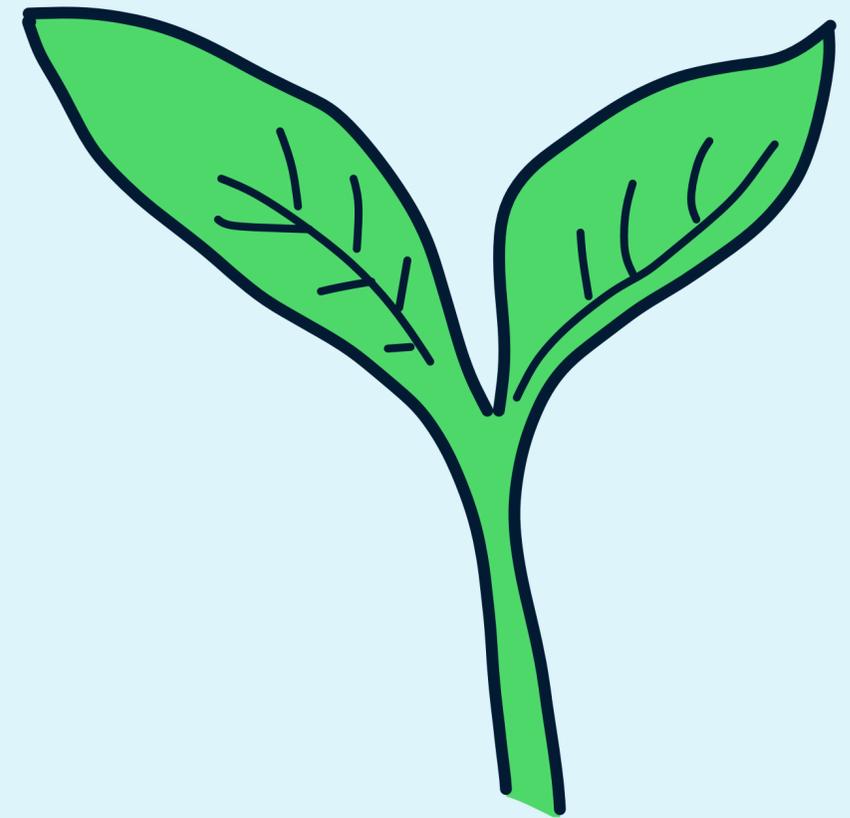
S3 Outage in 2017

When they break, we **could** break



Failure will happen, learn
to handle it gracefully

Things will go down,
but how do we
handle it and grow?



This is where the interesting
problems live!

Problems like:

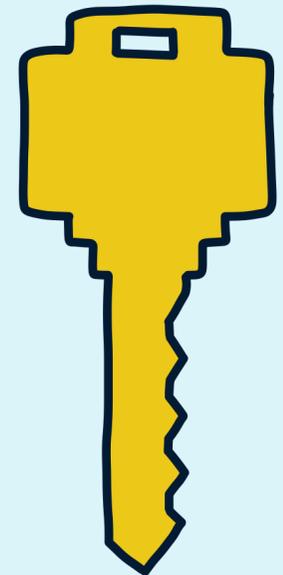
- Connections
 - Rate limiting
 - Internet connectivity
 - Retry mechanisms
- Error codes and messages
- SDK quality
- Authentication
- Progressive data presentation
- Versioning
- Caching
- Validation
- Service outages
- Testing

Some services or endpoints are offline:

- Don't disable everything!
- Frontend circuit breakers
- Non-critical services should fail silently, disable others intelligently
- Don't lead users down a broken path, disable what you can
- Set expectations

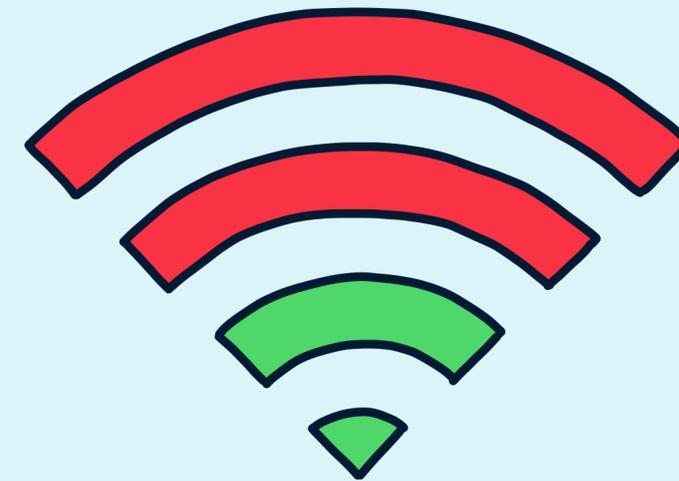
Authentication:

- 6+ different common authentication types
- How are they all being handled safely?



Connections:

- What if someone has a slower data connection?
- How do things load or fail?
- Progressive data presentation



Rate limiting:

- API retry issues
- Requires some restraint and strategy
- When do you tell the user?



429 Too Many Requests

Decoupling:

- Decoupling services from vendors
- Important that your glue code isn't so tightly glued
- API calls directly to an API without a thin wrapper make it hard to switch vendors



3 Find ways to abstract
the glue code

SDKs, libraries

HashiCorp Terraform, Waypoint

Netlify

Comprehensive
Developer Native
Elegant
Multi-runtime
Multi-vendor

-Stephen O'Grady, Redmonk

This is the future of Glue with better
developer and operator experiences

Focus



We get to reach for the Dream

- 1 Learn how to “outsource” well
- 2 Failure will happen, learn to handle it gracefully
- 3 Find ways to abstract the glue code

Thanks, y'all!

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See you in Discord for
Q&A, and in #transposit!

