

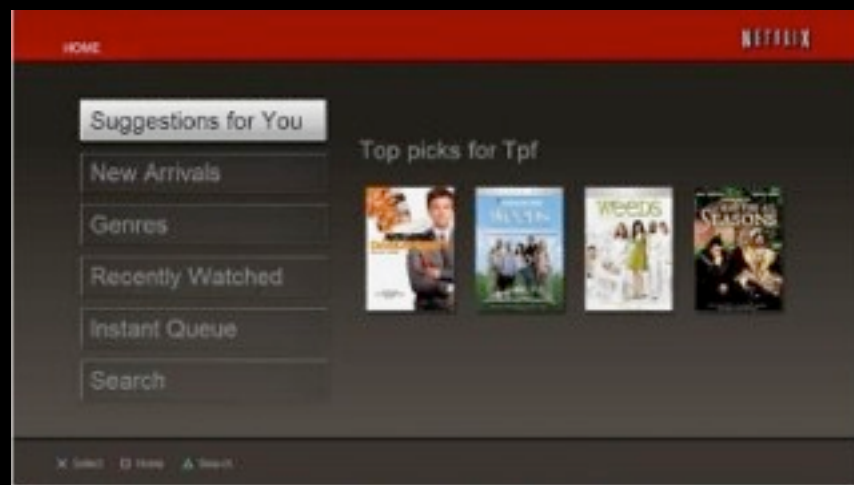


enabling lean with tech

lessons learned applying lean at paypal

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sr. director, user interface engineering, paypal

Lean Startup in the Enterprise. The Lean Startup Conference with Jeff Gothelf.
Dec. 4, 2012. San Francisco, CA



at Netflix 90% or more of the “ui bits” were thrown away every year.



doesn't take too many tests to result in lots of throw away code.



followed build/test/learn



designed for volatility

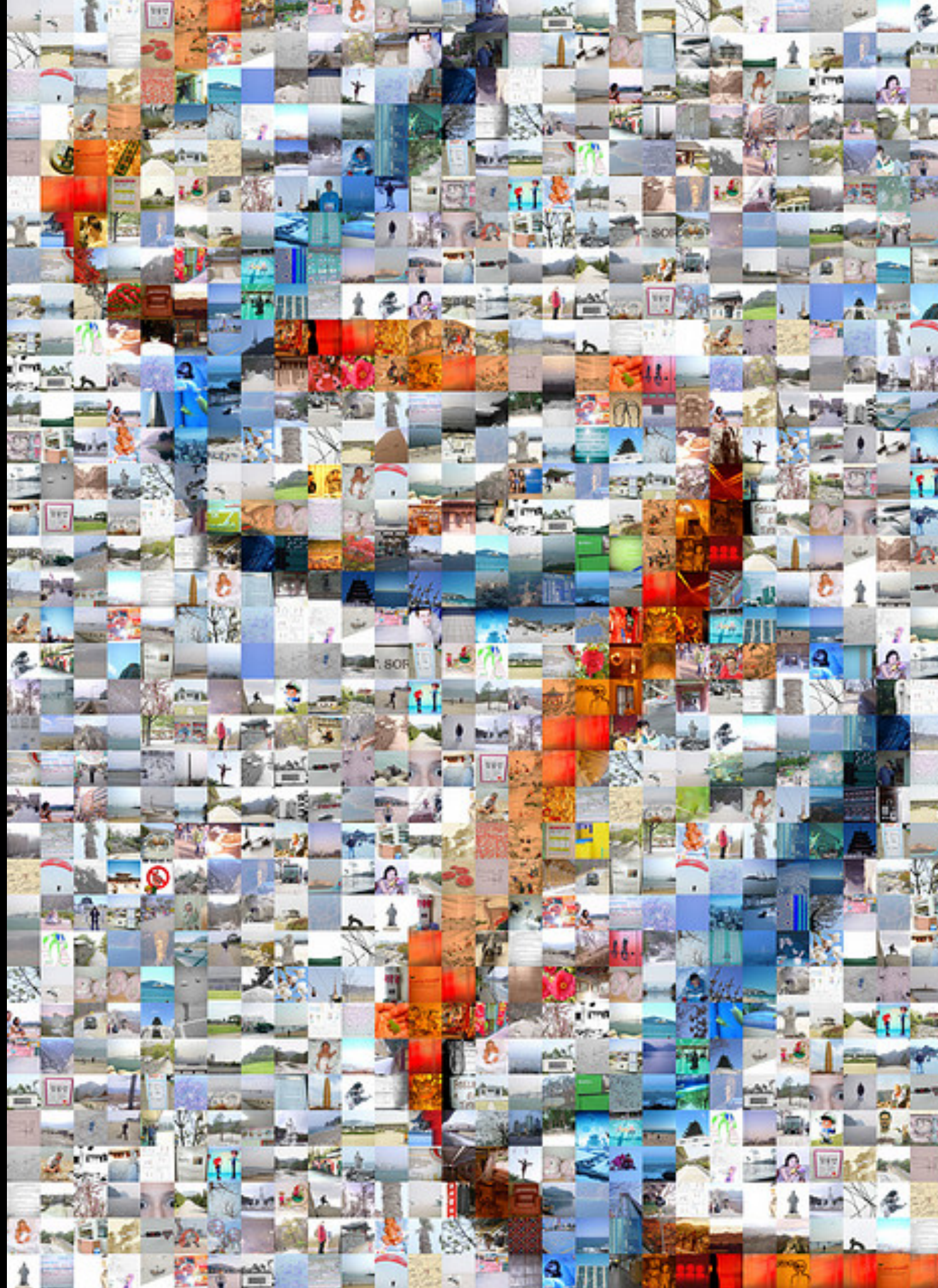
new dna @paypal

march 2012

david Marcus becomes
president of PayPal

april 2012

we form lean startup team to
reinvent checkout experience



customers – and increase sales.

updated automatically in late October.

new ones. Log in, click the Merchant Services tab, now you're a business that currently uses PayPal. This is coming back.

ML changes required.

in the midst of transformation

New button

[Buy Now](#)

[Add to Cart](#)

[Donate](#)

[Subscribe](#)

[Buy Gift Certificate](#)

Three little helpers...

- Price Matching
- Return Shipping on Us
- Give Now, Pay Later*

Finish your shopping with us

[Learn About Holiday Exclusives](#)

[See Terms & Conditions](#)

*Bill Me Later is subject to credit approval.



Buy into being safer

No matter where you shop, we'll keep your financial information private and protected.

[More about buying](#)

Sell in fewer

Gone are the days... can request a sec

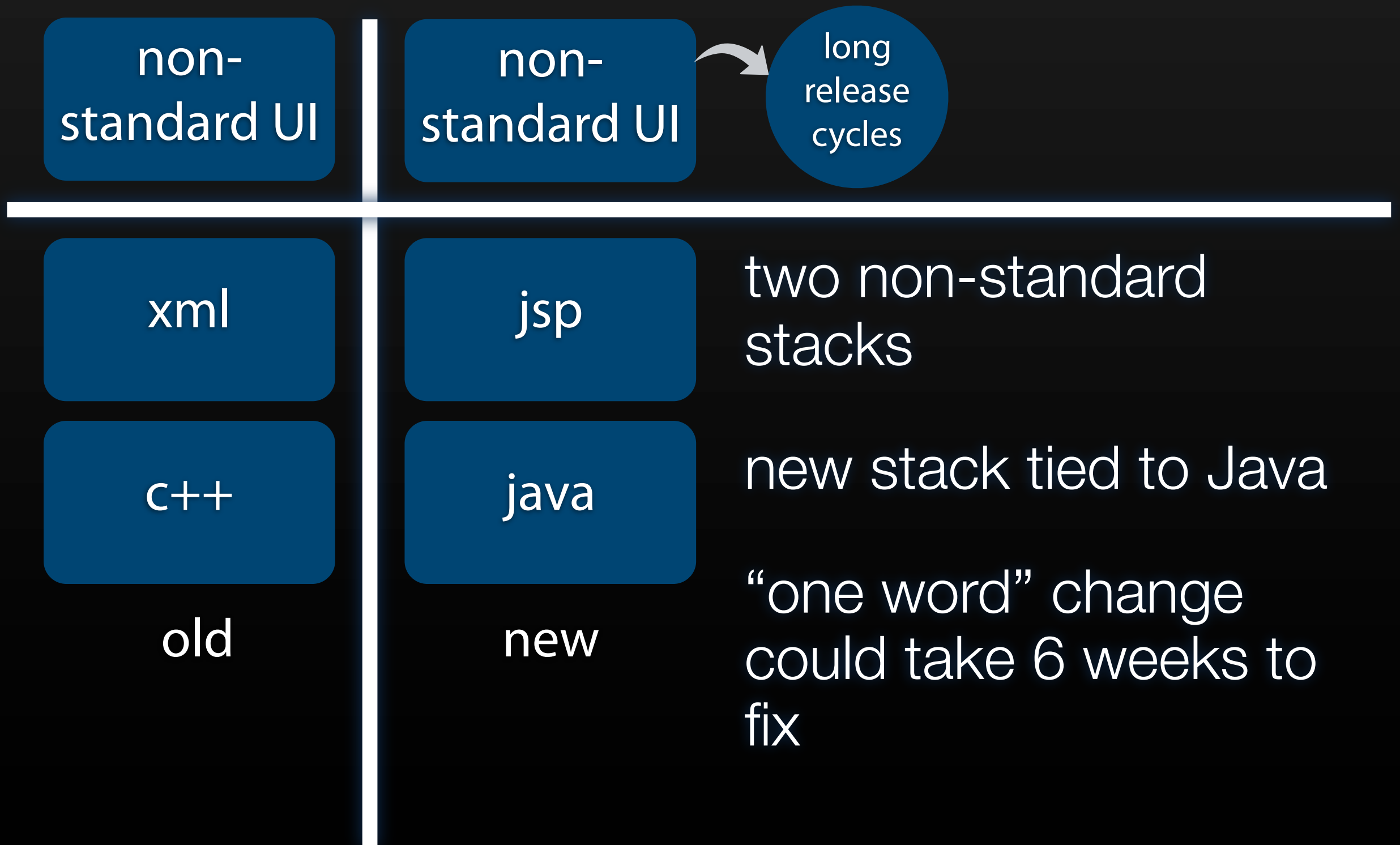
[More about selling](#)



tangled up technology

big problem. technology and
processes not geared to
build/test/learn.

a tale of two stacks



leave the old behind



need to design for volatility

prototyping
is hard

non-
standard UI

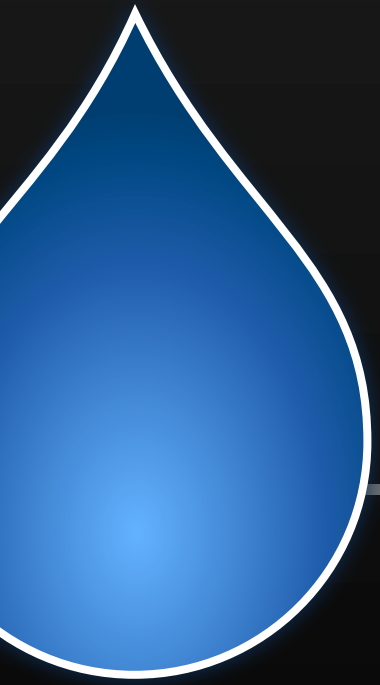
“ui bits”
could only
live here

jsp

but still the new stack is
not conducive to
prototyping

java

follows an “enterprise
application” model. ui
gets built into the “app”



1. set the ui bits free

separate the ui bits

templates = JS

code = JS

style = CSS

images

engineered the user interface stack so that the only artifacts are:

- javascript
- CSS
- images

separate the ui bits

templates = JS

code = JS

style = CSS

images

templates get converted
to javascript

`<p>Hello {name}</p>`

`{dust}`

JavaScript

we use dust.js

separate the ui bits

templates = JS

code = JS

style = CSS

images

language independent

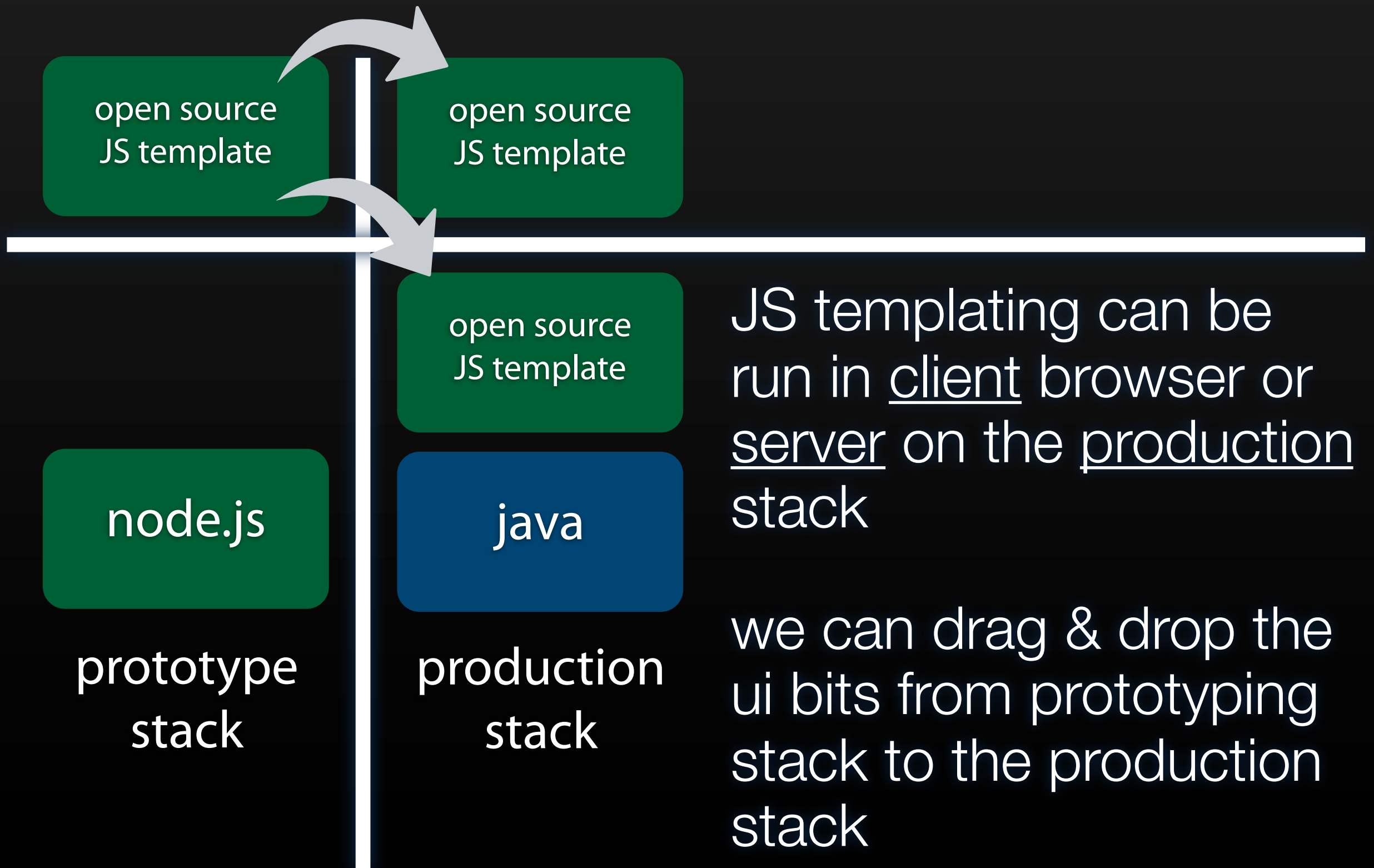
server/client agnostic

CDN ready

cacheable

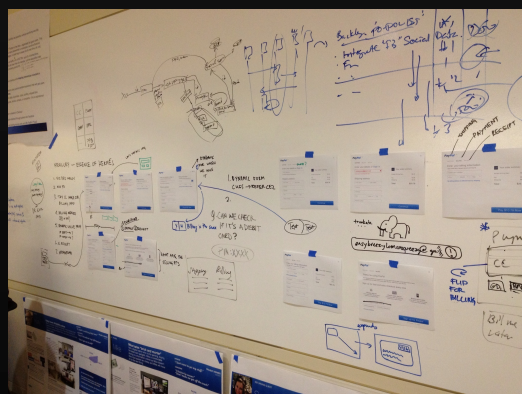
rapid to create

make the ui bits portable

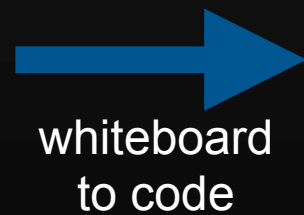


free to work together

co-located lean ux team



product/design
team



whiteboard
to code



user interface
engineers



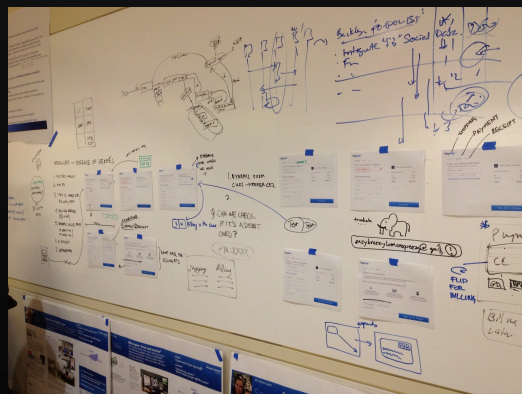
code to usability



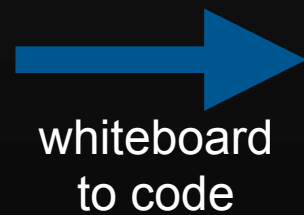
usability/customers

free to work together

co-located lean ux team



product/design
team



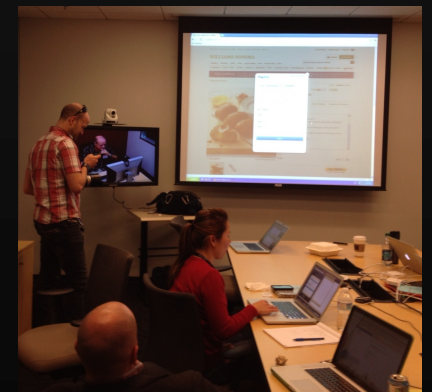
whiteboard
to code



user interface
engineers



code to usability



usability/customers

templates = JS

code = JS

style = CSS

images

node.js

free to turn sketch to code

forcing function.

it brings about a close collaboration between engineering and design

it creates a bridge for shared understanding

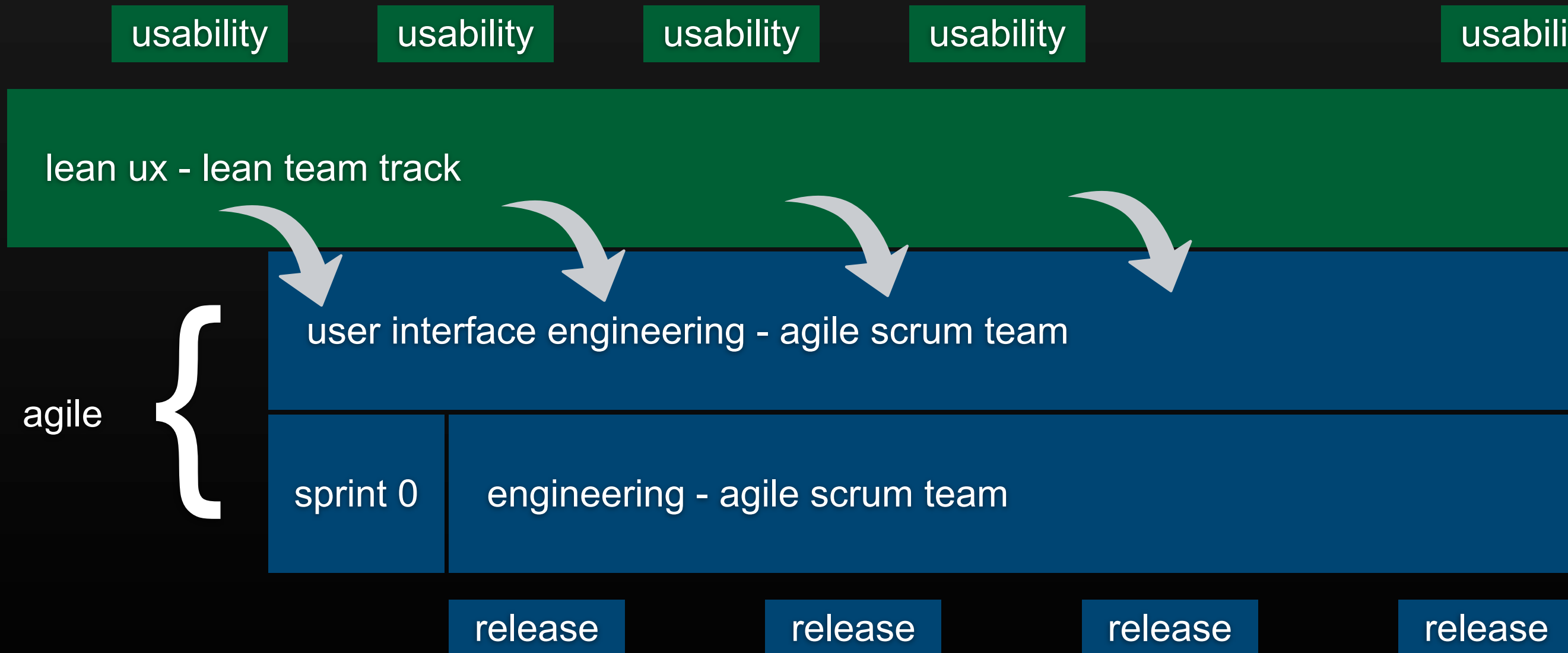
requires a lot of confidence and transparency



free to test frequently with users

| * DO NOT ERASE * | | | | | |
|----------------------------|--|--|---|-----------------------------|---|
| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
| Co-located in ASTUTE | (all day) - Design - Content - Iterative Coding | (all day) Design Content - Iterative Coding Hand-off | Feedback + Iterative Coding ----- 4pm Usability Delivery | 9am Usability Session | 1pm - 2:30pm Usability Review ----- 3pm What to build next week |
| | | | | | |
| INVOLVED | UED UIG PO | * DO NOT ERASE * | * DO NOT ERASE * | | |

free to iterate independent of agile





2. embrace open source

use open source religiously

Bootstrap, from Twitter

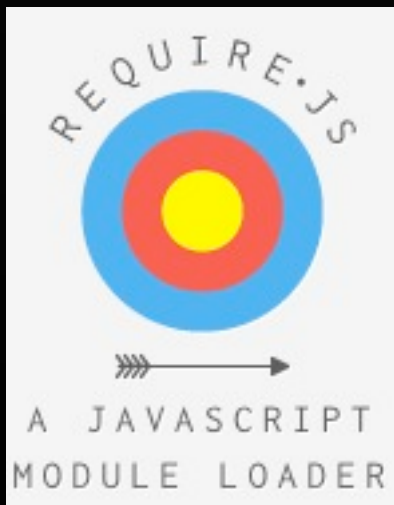


BACKBONE.JS

UNDERSCORE.JS



{dust}



jQuery
mobile framework



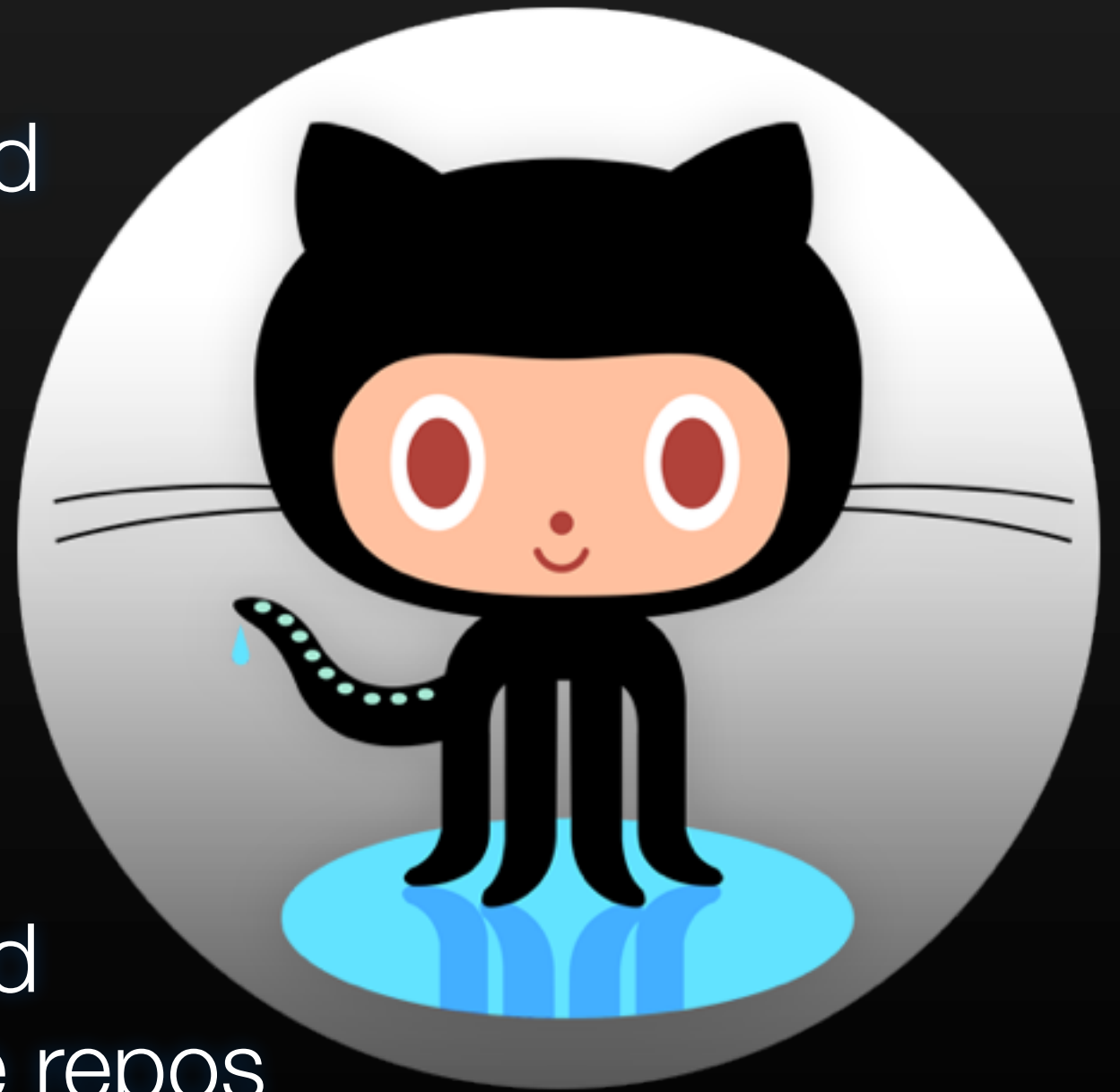
work in open source model

internal github revolutionized
our internal development

rapidly replaced centralized
platform teams

innovation democratized

every developer encouraged
to experiment and generate repos
to share as well as to fork/pull request



give back to open source

we have a string of projects that will be open sourced

- node bootstrap (similar to yeoman)

- contributions to bootstrap (for accessibility)

- contributions to bootstrap (for internationalization)

- component repository framework for github (similar to bower)

- and more...



1. set the ui bits free

2. embrace open source