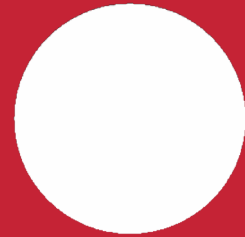
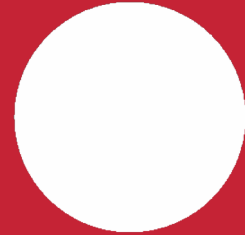


Governance to Guidance to Awesome Product

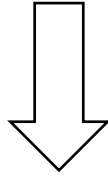
Levi Geinert @levi_online
Dan Cundiff @pmotch
Luke Rettig @LukeRettig



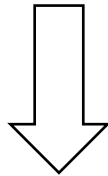
Levi Geinert
Director Engineering
@levi_online



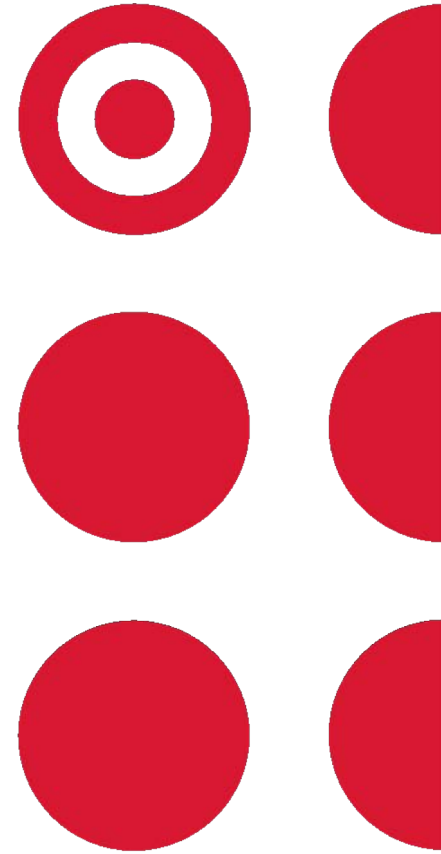
governance to guidance



real example



awesome products





TARGET

tech.target.com

350,000+ team members

1,835 stores

39 distribution centers

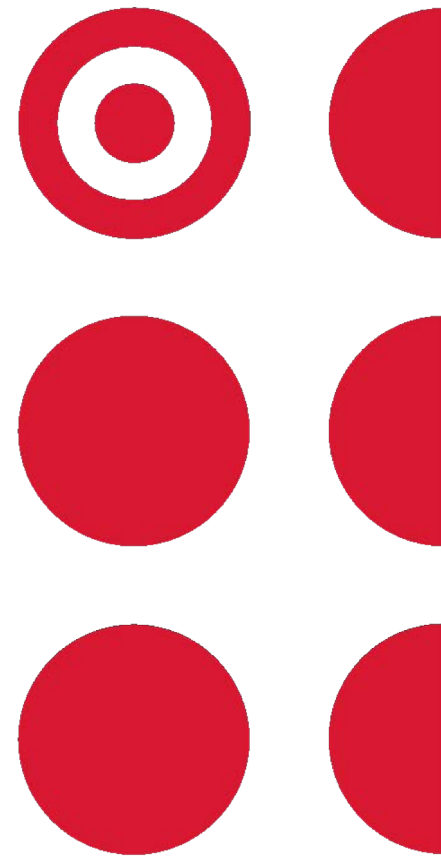
6 HQ locations

5% Target profit goes to communities

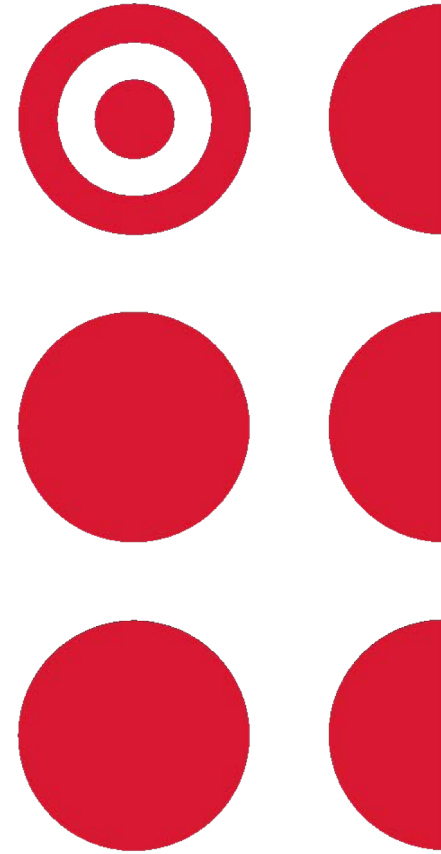
56 years of service

300+ product teams

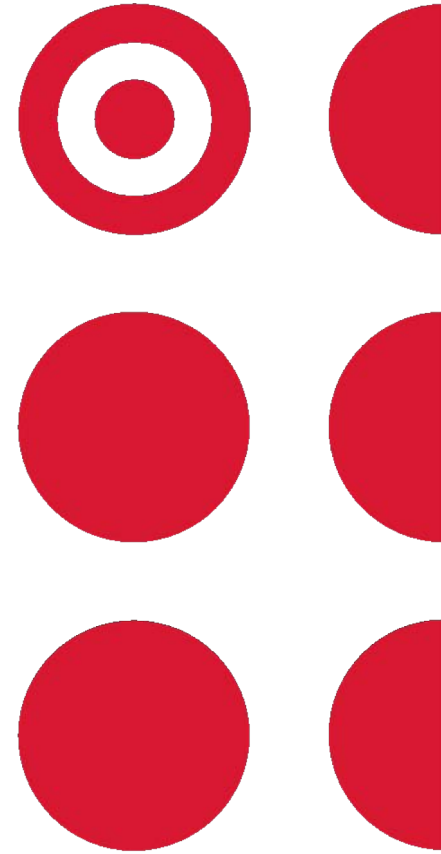
4500+ people in technology



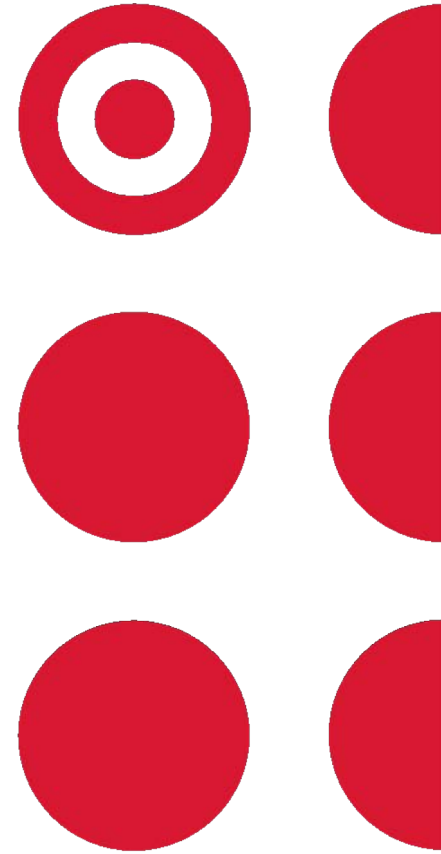
our evolution



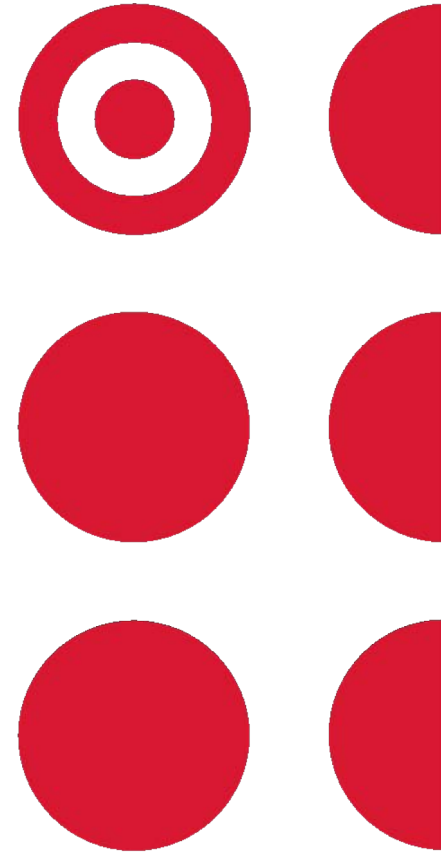
(re)building an engineering culture



**changing the way
we work**



**customer centric
products**





Katelyn Bourgoin

@KateBour

Following



It sucks when you've got a new product idea and your customer research proves that your assumptions were wrong and no one really wants your product.

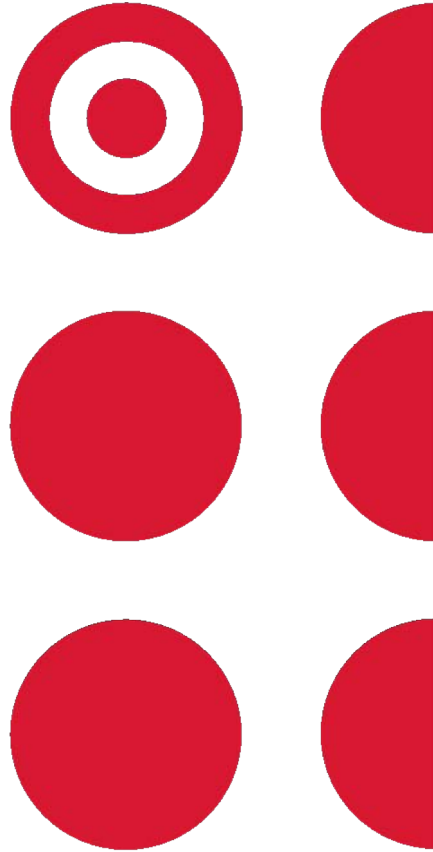
It sucks way more when you don't do any research and spend months (or years) building the wrong thing.

7:44 PM - 19 Aug 2018

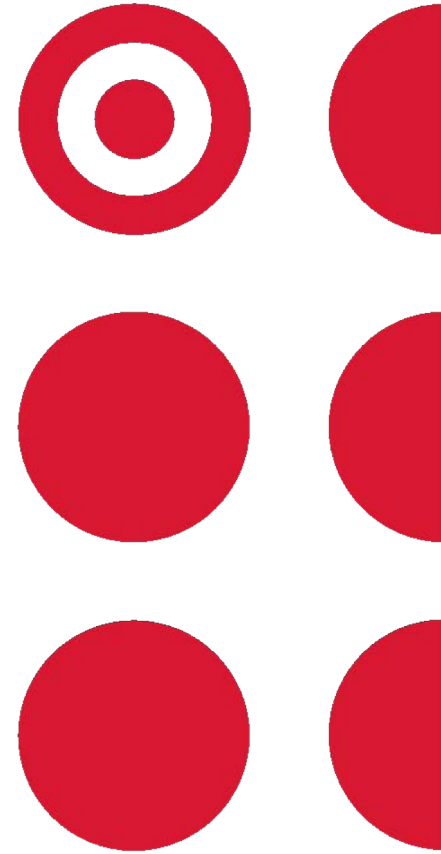
3,202 Retweets 11,860 Likes



215 3.2K 12K

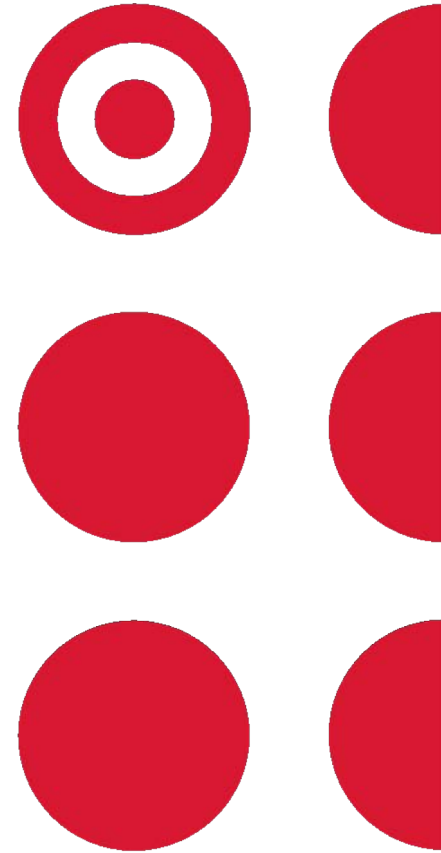


**governance to
guidance**

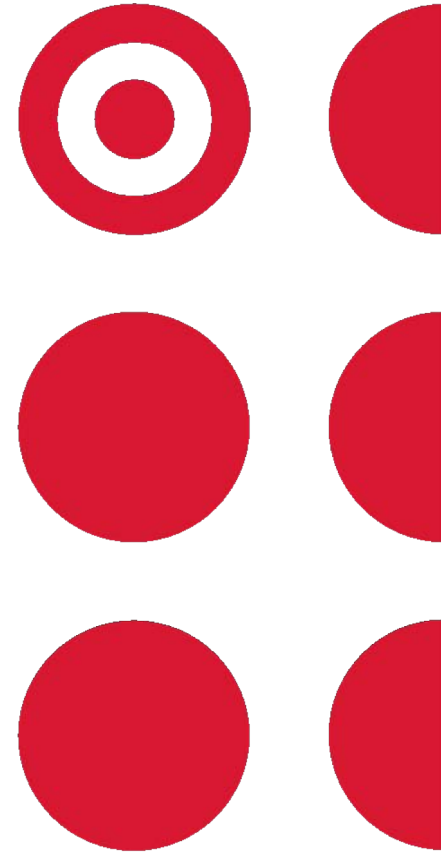


“When teams can decide which tools they use, it contributes to software delivery performance and, in turn, to organizational performance.”

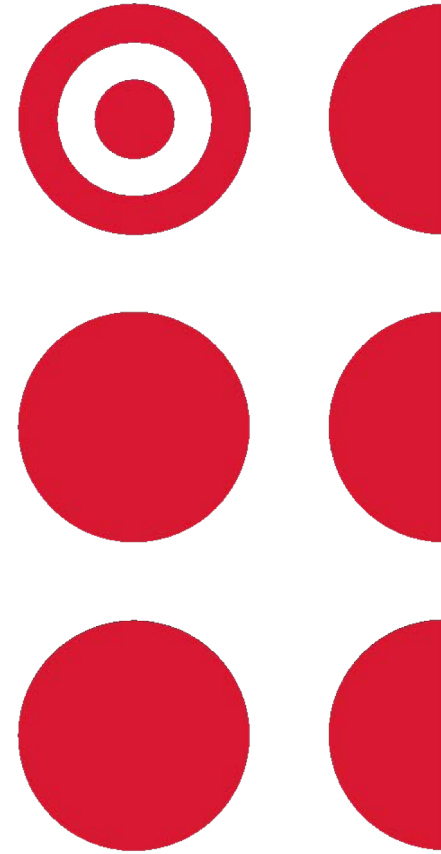
--Accelerate, Chapter 5,
Forsgren et al., 2016

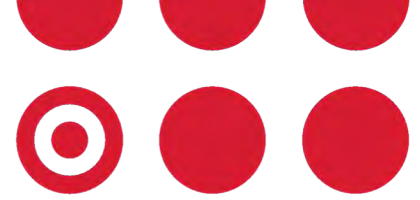


**too many tools in your
toolbox makes it hard
to carry**



what does **guidance**
look like?





accessible - everyone can contribute

transparent - everyone should be able to see

flexible - easy to change

cultural - community driven

dojo.target.com

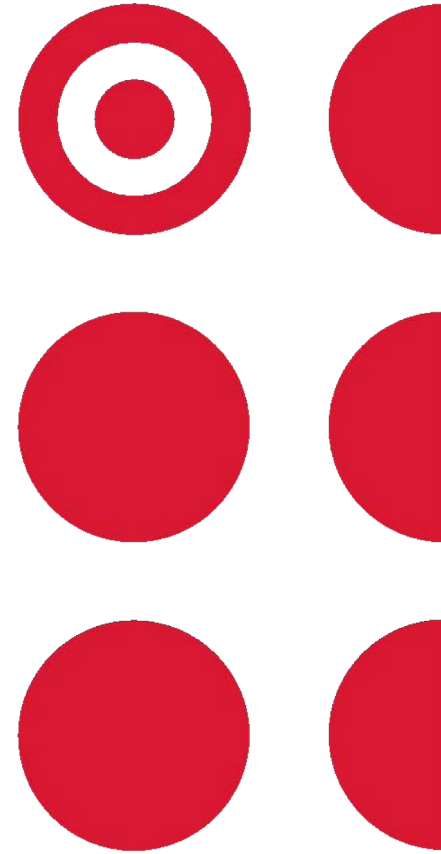


changing the way we work

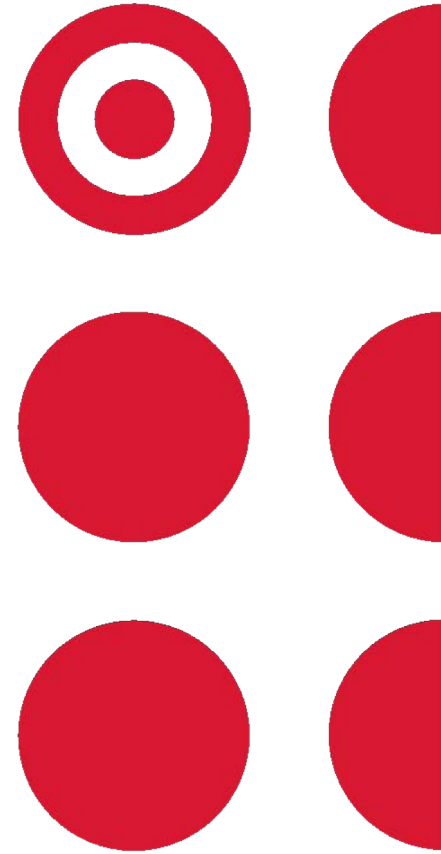
Dan Cundiff
Principal Engineer
@pmotch



**how we used to choose
technologies**

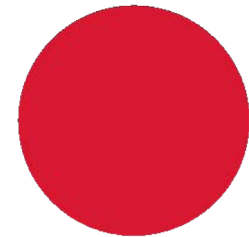
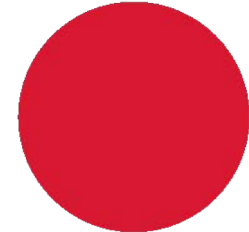


`recommended_technologies`



MarcusManley Merge pull request #383 from BobbyStockstead/master ... Latest commit b89126d 2 days ago

.drone.yml	Automate the technologies index file (index_alpha.md)	6 days ago
.gitignore	read me links	2 years ago
CONTRIBUTING.md	Additional instructions for changes	a year ago
PULL_REQUEST_TEMPLATE.md	Revised per comments.	a year ago
README.md	Update badge to drone6	6 months ago
api_gateway.md	Updated api gateway page	15 days ago
application_frameworks.md	Update application_frameworks.md	16 days ago
caching.md	added caffeine	7 days ago
category-prototype.md	updating spelling errors, adding compliance status category	10 months ago
ci_cd.md	#358 - correct copy/paste error	14 days ago
cloud_and_compute.md	Clarified that it applies to Java 11 and above	4 days ago
collaboration.md		8 months ago
containers.md	Readded Image Versioning & removed supervisord link	a year ago
couscous.yml	Update couscous.yml	7 months ago
datastores.md	Merge branch 'master' into bigdata	2 days ago
developer_tools.md	Update developer_tools.md	7 days ago



MarcusManley Merge branch 'master' into bigdata

c48309b 2 days ago

10 contributors

127 lines (92 sloc) 11.7 KB

Raw

Blame

History



Datastores

Introduction

The purpose of this document is outline the main use cases for datastores at Target and recommend appropriate technologies for each use case. See the [related issues](#).

Motivation

The goal of data stores or databases is to provide a solution for persisting data that survives system restarts, application upgrades, and manages access to the data (i.e. a filesystem isn't a data store).

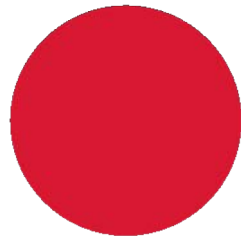
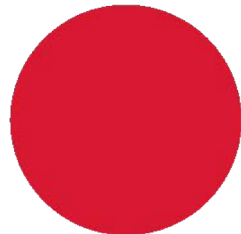
Additionally, Target has the following goals for data stores:

- Balance **consistency** in the environment with **product team needs**, ultimately reducing the number of technologies
- Maximize use of open source database/data store solutions where available and appropriate
- Reduce license and maintenance costs associated with databases/data stores
- Provide a recommended technology choice associated with each data store type discussed in the specification section below

Specification

This specification covers the various data store use cases.

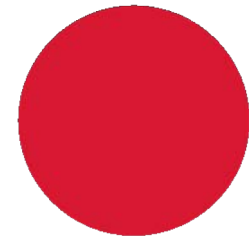
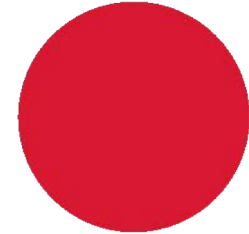
A persisted datastore is used to store stateful information outside of a worker node. There are a number of different kinds of data problems, such as relational, doc stores, columnar, or graphs. The recommended datastore depends first on the kind of data problem that you have, and then by the collective opinion of the community. Data stores are stateful and thus aren't deployed on stateless infrastructure (i.e. containers). Generally, there's a long tail to datastore selection (especially



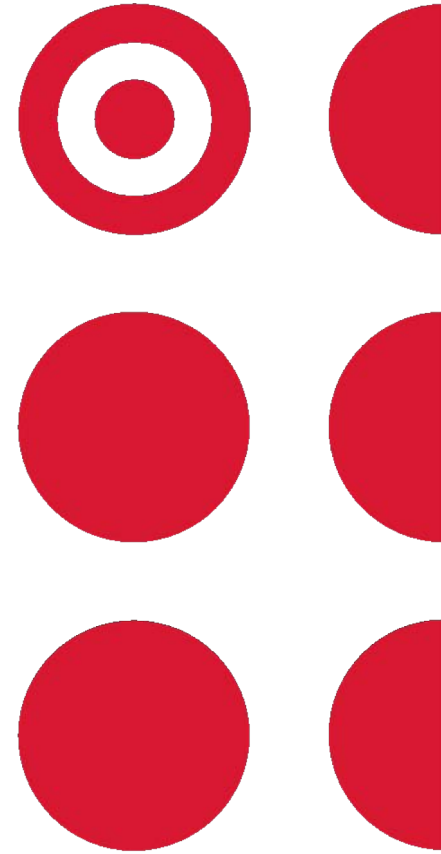
Technologies

Type: Relational Datastore
Classification: Foundational

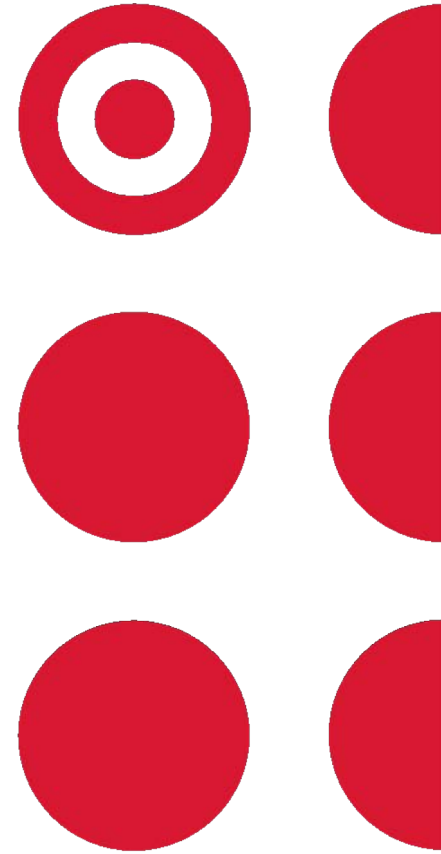
Name	Status	Use Case/Rationale	Compliance Status	Link(s)
PostgreSQL	Recommended	Default choice. Open source, no license costs. Good for small to medium applications.		PostgreSQL Managed Service or request via DaaS Portal
	Limited Use		All	
	Do Not Use	Do not use for new applications, is being sunset across all portfolios. Existing applications should actively search for replacement.		



developer focused

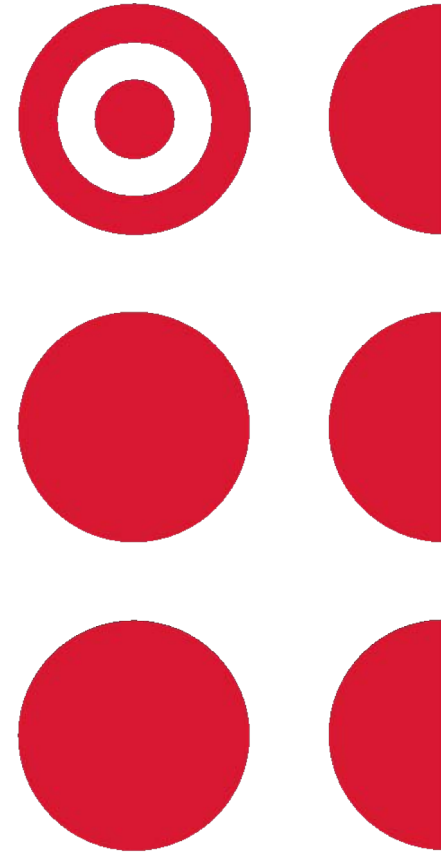


pull request workflow



git blame

```
using kafka stream as data store and streaming service 22 days ago
V2 a year ago
60 | Apache Storm | Recommended
61 | Apache Spark | Recommended
62 | Kafka Streams | Recommended
63
64 .
65 Type: **Data Integration (ETL/ELT)
```



Provide recommendations for CockroachDB #344

Edit New Issue

Open DanMaas opened this issue on Sep 4 · 16 comments



DanMaas commented on Sep 4

In order to provide better fault tolerance in stores k8s environments and in the cloud, I would like to recommend CockroachDB as a viable alternative database.

Benefits:

- 100% compatibility with postgres - in theory, little/no impact to our existing microservices
- horizontal scaling
- fault-tolerant

Questions:

1. little/no impact to our existing microservices - is this true? What app changes would be required?

@EthanSommer @DannyParker @PeterGuidarelli

👍 3



MarcusManley commented on Sep 4

Member + 😊 ✎ ✕

Thanks @DanMaas, this is timely.

@balajibalasubramanian Can you weigh in with some of the rationale your team had when considering adding cockroachdb support?



EthanSommer commented on Sep 4

+ 😊 ✎ ✕

FWIW, we looked into cockroachdb for stores. We had it working, I believe, but when we started talking to the DRaaS team, they wanted to use netroni

Assignees

No one—assign yourself

Labels

CIO Forum Inputs

Projects

None yet

Milestone

No milestone

Notifications

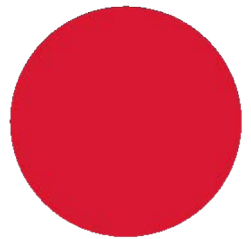
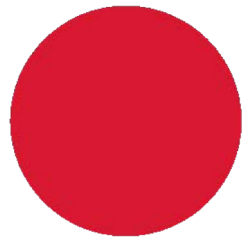
🔊 Unsubscribe

You're receiving notifications because you're watching this repository.

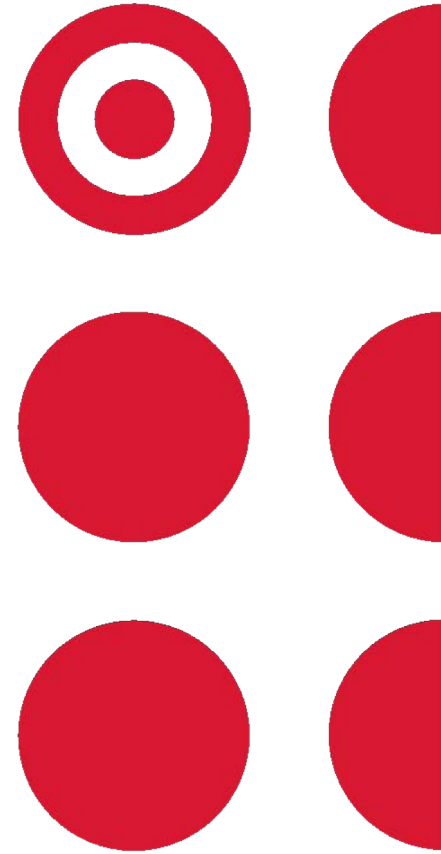
5 participants



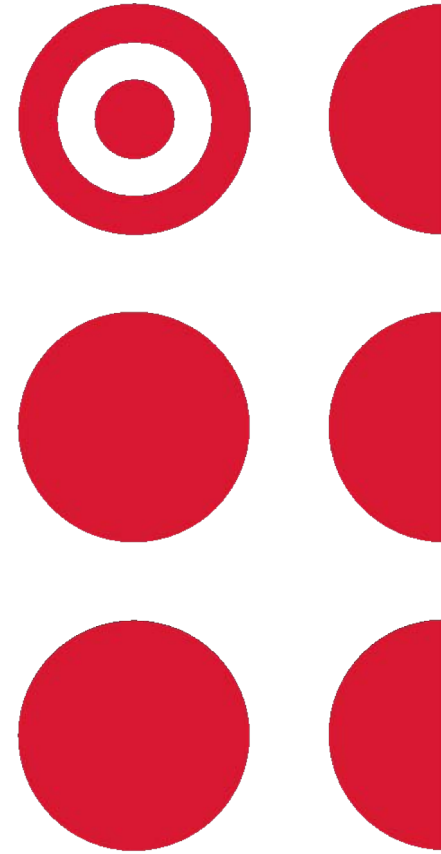
🔒 Lock conversation



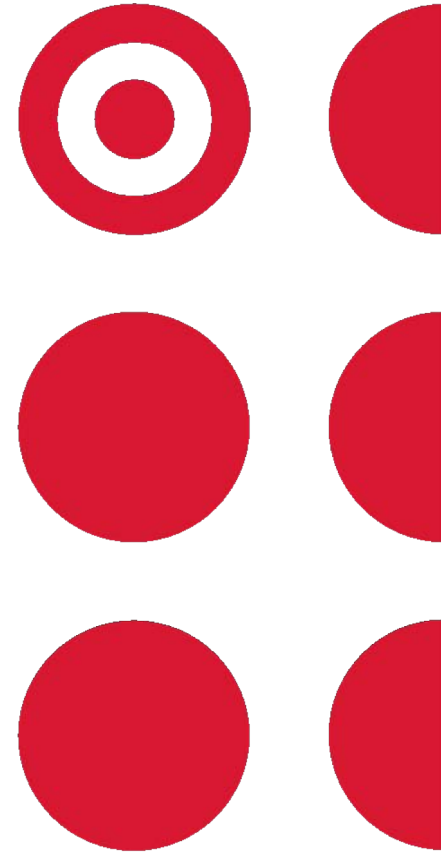
automate workflows



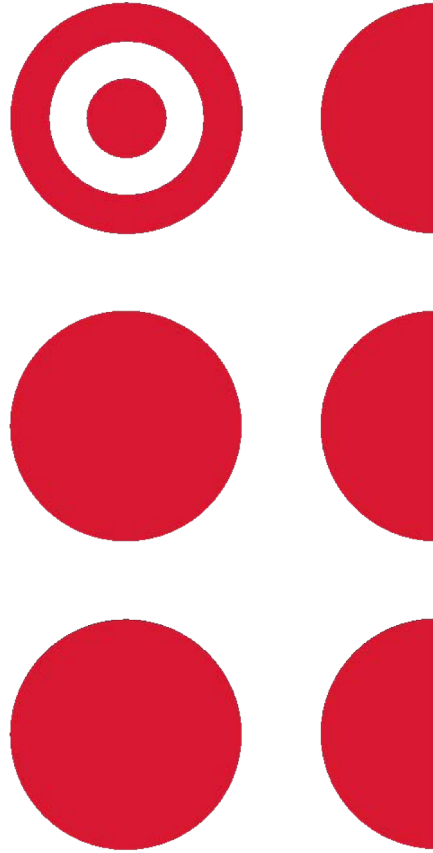
resist complexity



rotating volunteers




**big change?
take it to the top.**



 Unwatch ▾

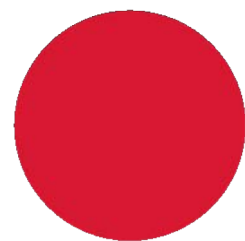
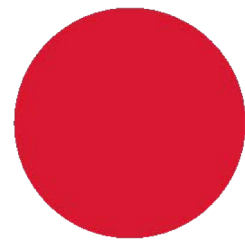
324

 Star

176

Fork

154



September 10, 2018 – October 10, 2018

Period: 1 month ▾

Overview



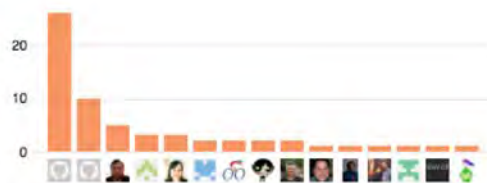
26
Merged Pull Requests

1
Proposed Pull Request

14
Closed Issues

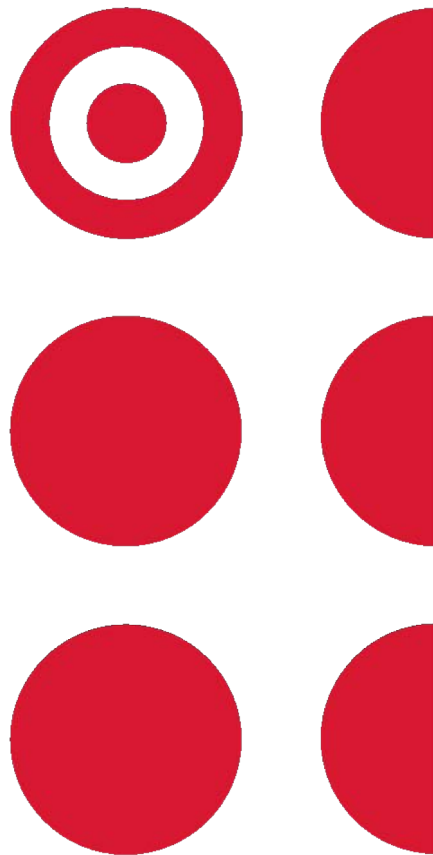
9
New Issues

Excluding merges, **15 authors** have pushed **35 commits** to master and **61 commits** to all branches. On master, **14 files** have changed and there have been **113 additions** and **383 deletions**.



26 Pull requests merged by **14** people

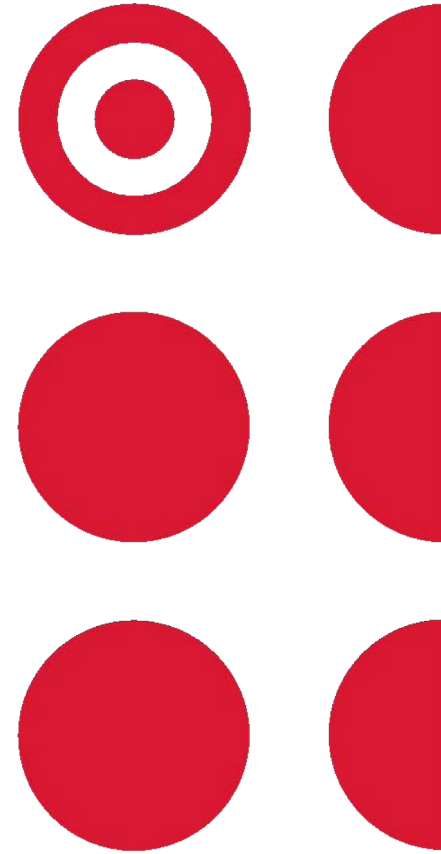
- Merged** #383 [Update notes on Cucumber and Spock](#) 2 days ago
- Merged** #382 [Clarified that it applies to Java 11 and above](#) 2 days ago
- Merged** #381 [Automate the technologies index file \(index_alpha.md\)](#) 2 days ago
- Merged** #380 [Adding Security Testing](#) 2 days ago
- Merged** #375 [added K8s cron jobs as do not use](#) 2 days ago



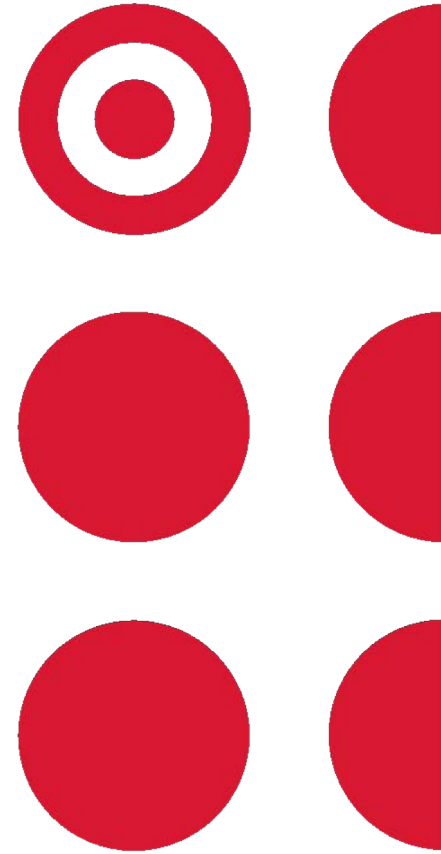
Luke Rettig
Principal Product Owner
@LukeRettig



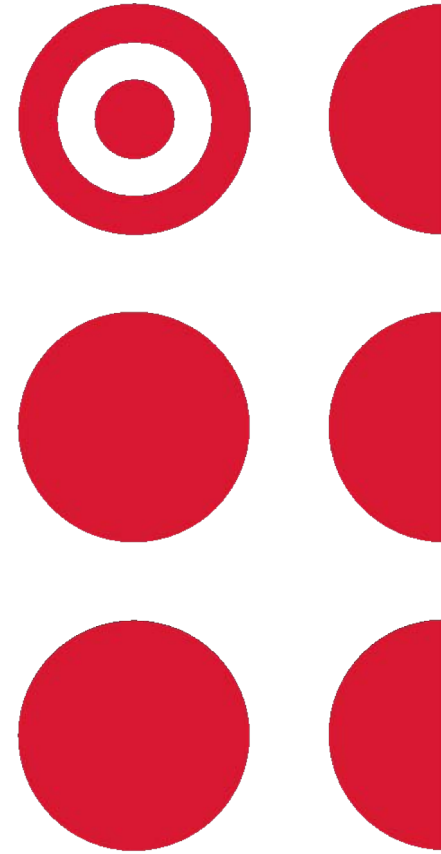
**view from a
product manager**

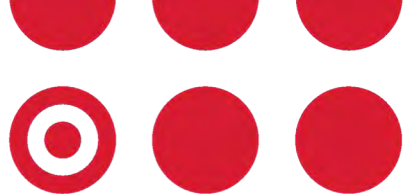


survey



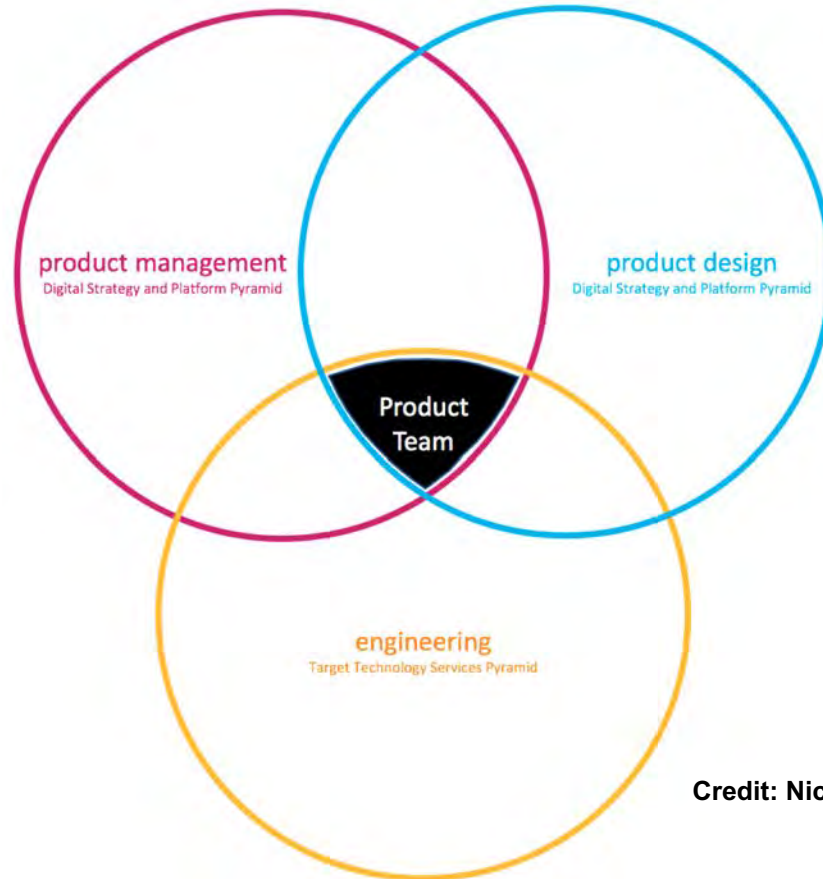
**building the wrong
thing is a nightmare**



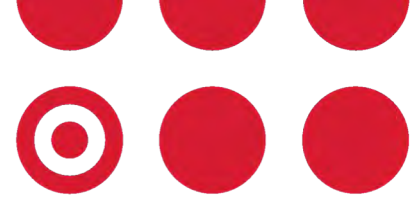


```
if (engineers == "constrained") {  
    system.out.println("This is going to be bad.");  
}  
else {  
    system.out.println("We have a chance!");  
}
```

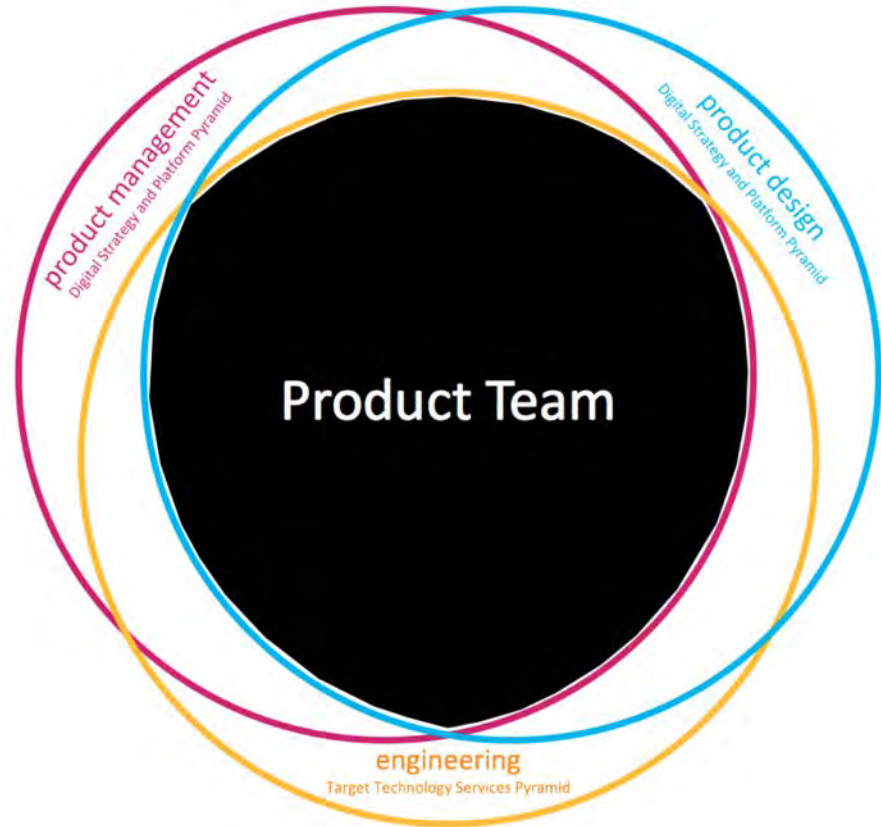
silos



Credit: Nicole Forsythe @NicoLibrarian

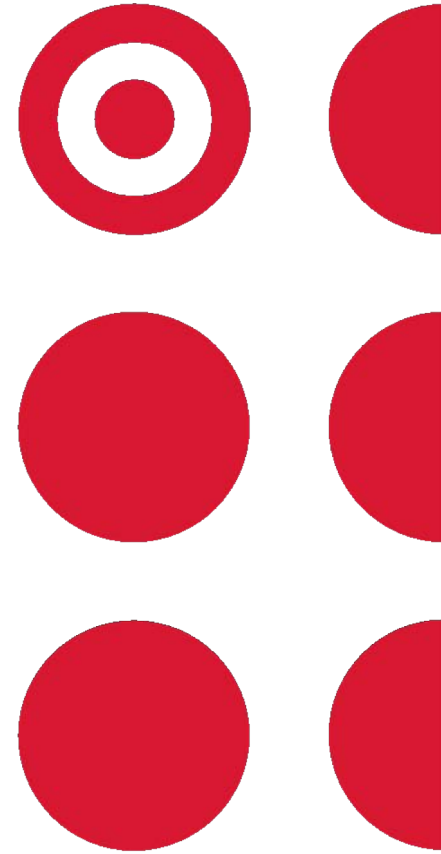


awesome products

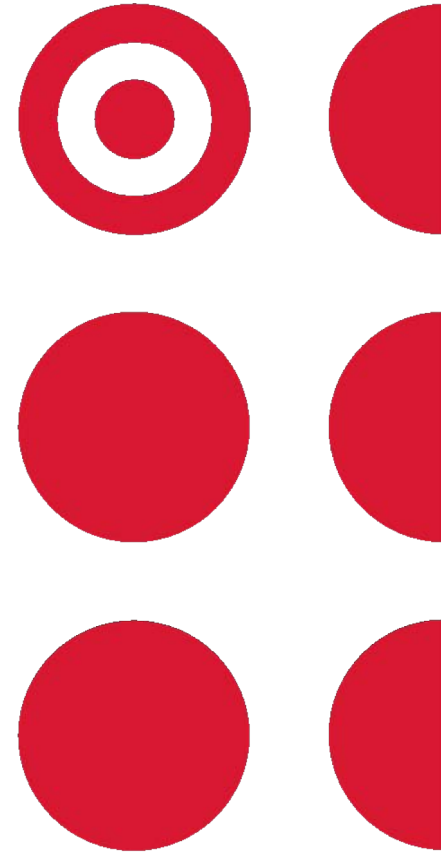


Credit: Nicole Forsythe @NicoLibrarian

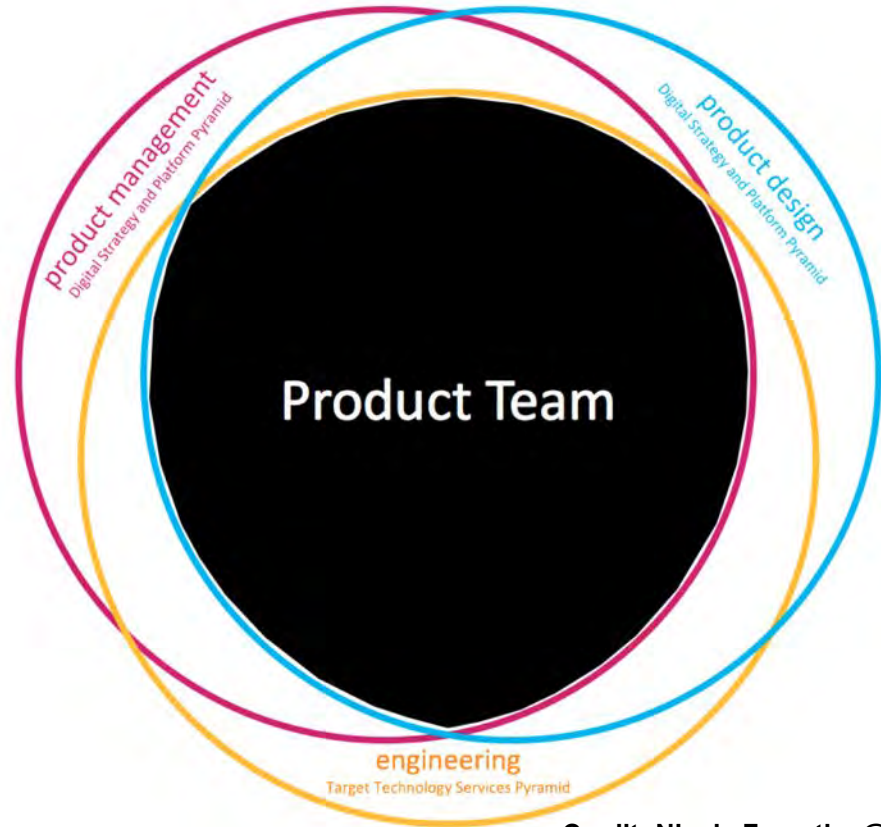
role of the product manager



**advice to engineers
w/ skeptical product
managers**

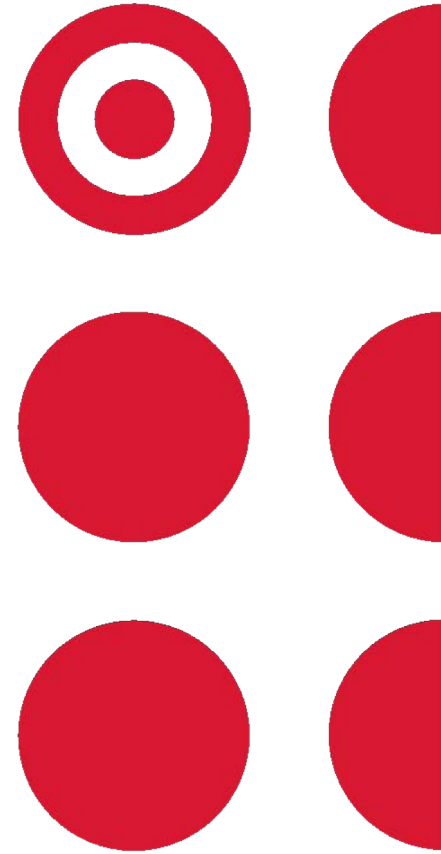


awesome product symptoms



Credit: Nicole Forsythe @NicoLibrarian

**obstacles that still
remain**



thank you.

