

# Secrets to a successful design system

React Day Berlin 2018

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Lead Frontend Engineer at SumUp





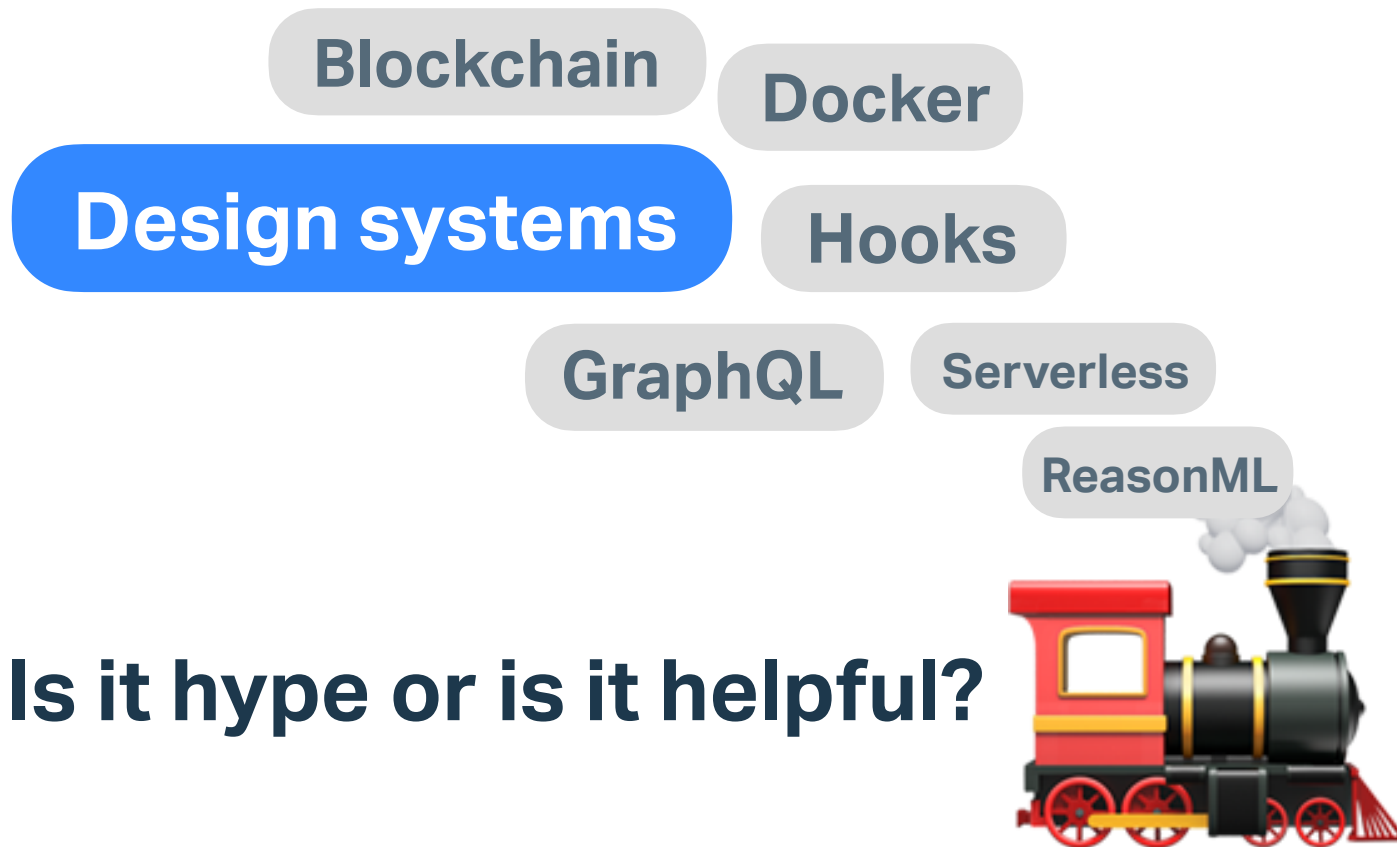
**Defining success**



**Why & What?**



**Secrets to a successful design system**



Is it hype or is it helpful?

Alignment

Efficiency

Cross-platform UI

Consistency

Scalability

Maintainability

Single source of truth

# Design systems **solve a real problem**

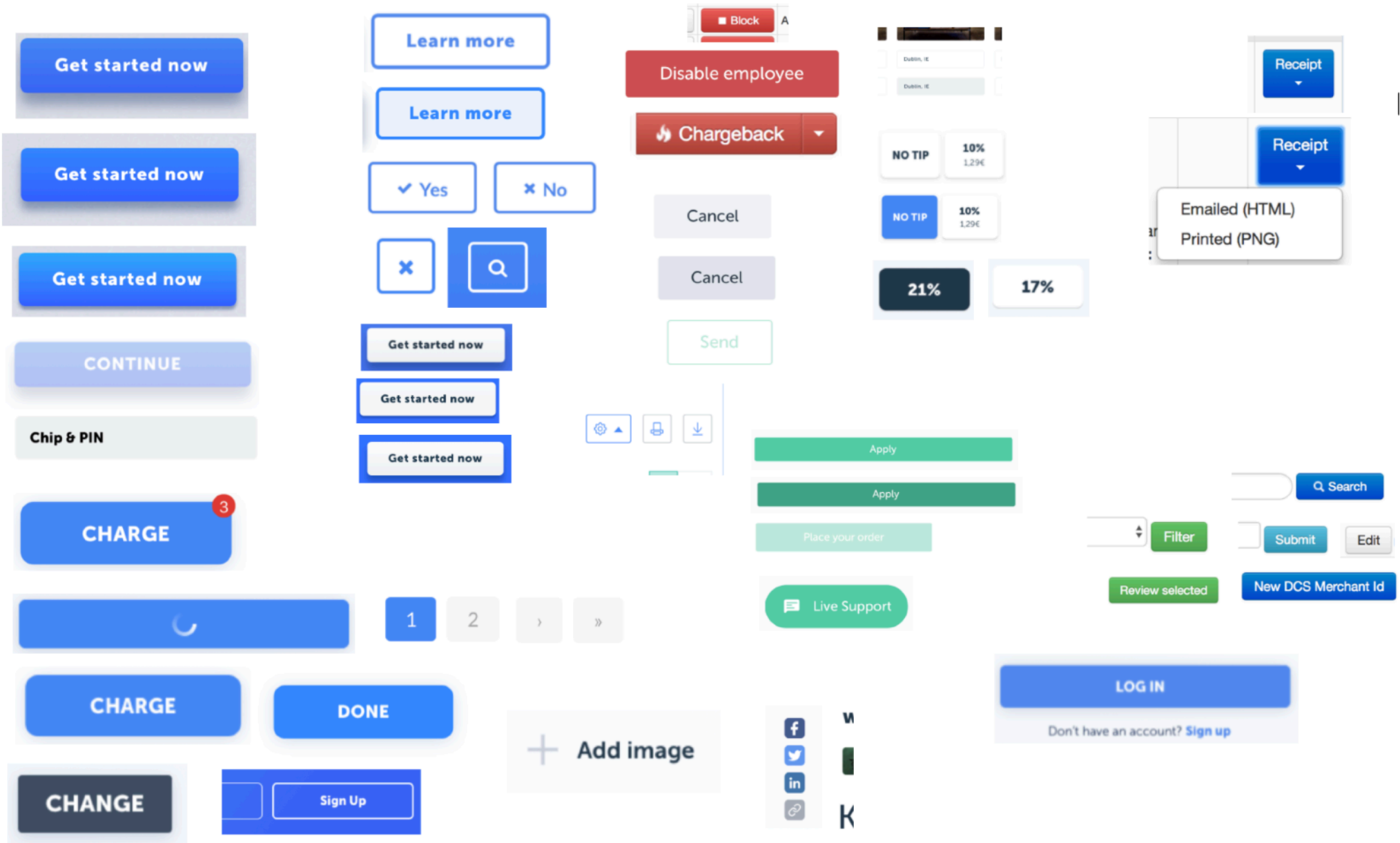
Re-inventing the wheel

Change process

Accessibility

Clear standards

Governance



KILO

Primary

Hover

Active

Focus

Disabled

PADDING: MEGA (16) / BIT (4)

MEGA

Primary

Hover

Active

Focus

Disabled

PADDING: GIGA (24) / BYTE (8)

MEGA

Primary

Hover

Active

Focus

Disabled

PADDING: GIGA (24) / BYTE (8)

GIGA

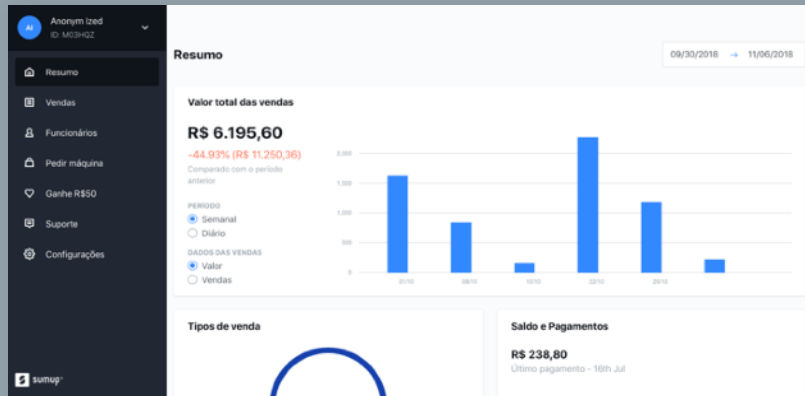
Primary

Manage Permissions

Settings

[Disable Employee](#)

PADDING: TERRA (32) / KILO (12)



Merchant application

**Vendas online**

outubro de 2018

Nome do cliente

Buscar

**Você vendeu 14 máquinas em outubro de 2018.**

Dessas, 6 máquinas foram TOP, 6 máquinas foram Super, 2 máquinas foram Total.

26 DE OUTUBRO DE 2018

Cadastro não finalizado	1 un.	Total
Cadastro não finalizado	1 un.	TOP
Cadastro não finalizado	1 un.	TOP
Cadastro não finalizado	1 un.	TOP
Cadastro não finalizado	1 un.	TOP

**Cadastro não finalizado**

NOME COMPLETO

Cadastro não finalizado

CNPJ

Não informado

ENTRA NA CATEGORIA

Sim

EMAIL

luciana.br.20181008@sumup.com

TELEFONE

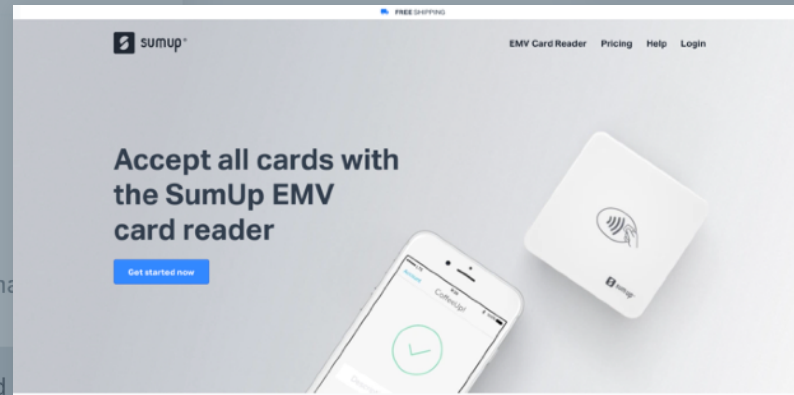
Não informado

HISTÓRICO

26/10/2018

PAID

Partner Portal



Marketing Website

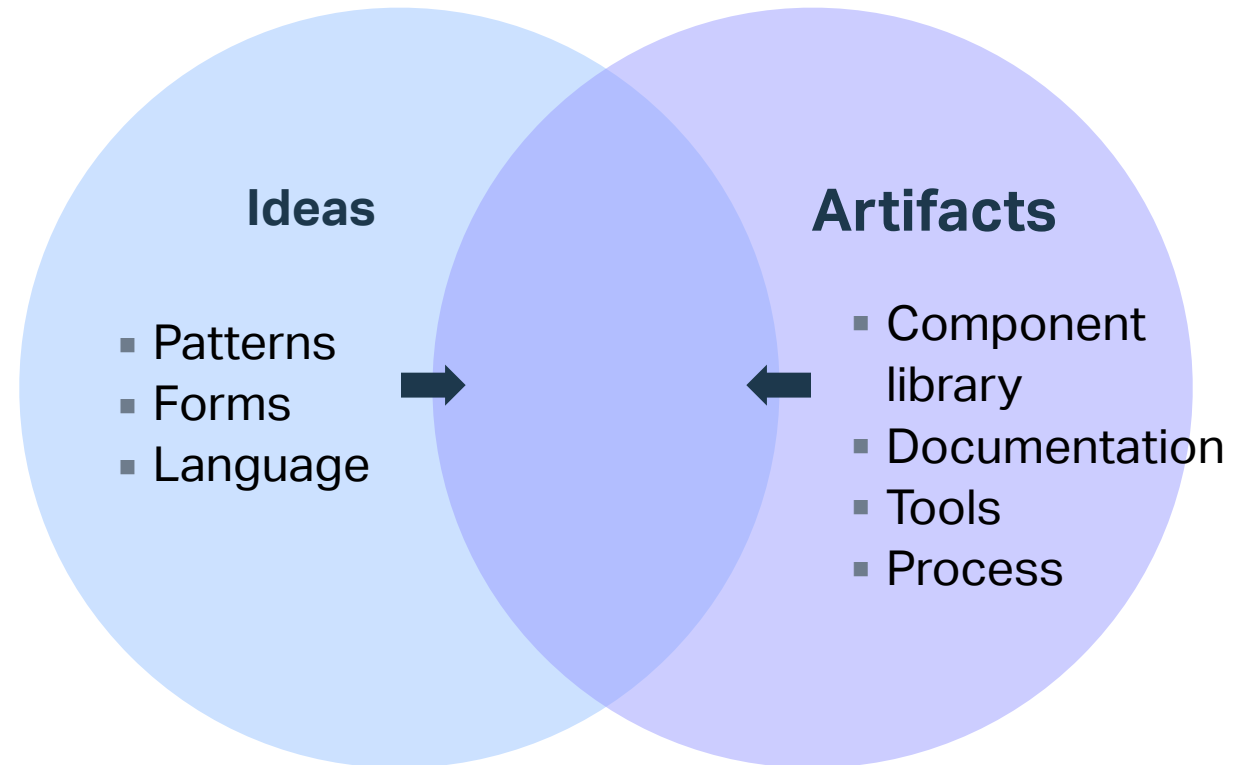
<https://github.com/sumup/circuit-ui>

“ A design system is a collection of **reusable components**, guided by **clear standards**, that can be assembled together to build **any number of applications**. ”

- Will Fanguy, Invision



# Elements of a design system



# Elements of a design system

## Design System

Design ideas &  
artifacts that can  
**evolve together** over  
time

# Secrets to a successful design system

Responsibility & ownership

Sheer time investment

What goes in it?

Component APIs

Change management

# Design systems **are hard**

Communication

Documentation

Testing

Long-term maintenance

Releasing

Impact of regression

Production support

Deprecation

# Lifecycle of a design system



**Idea**



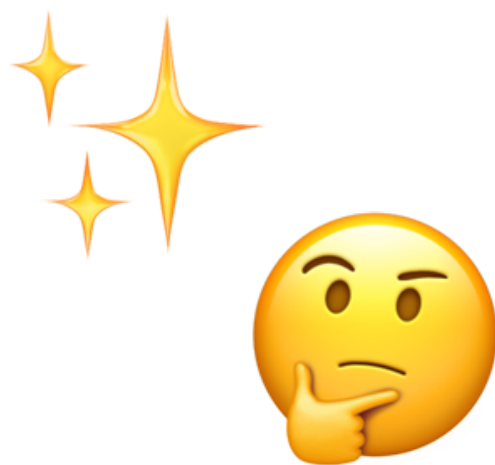
**Prototype**



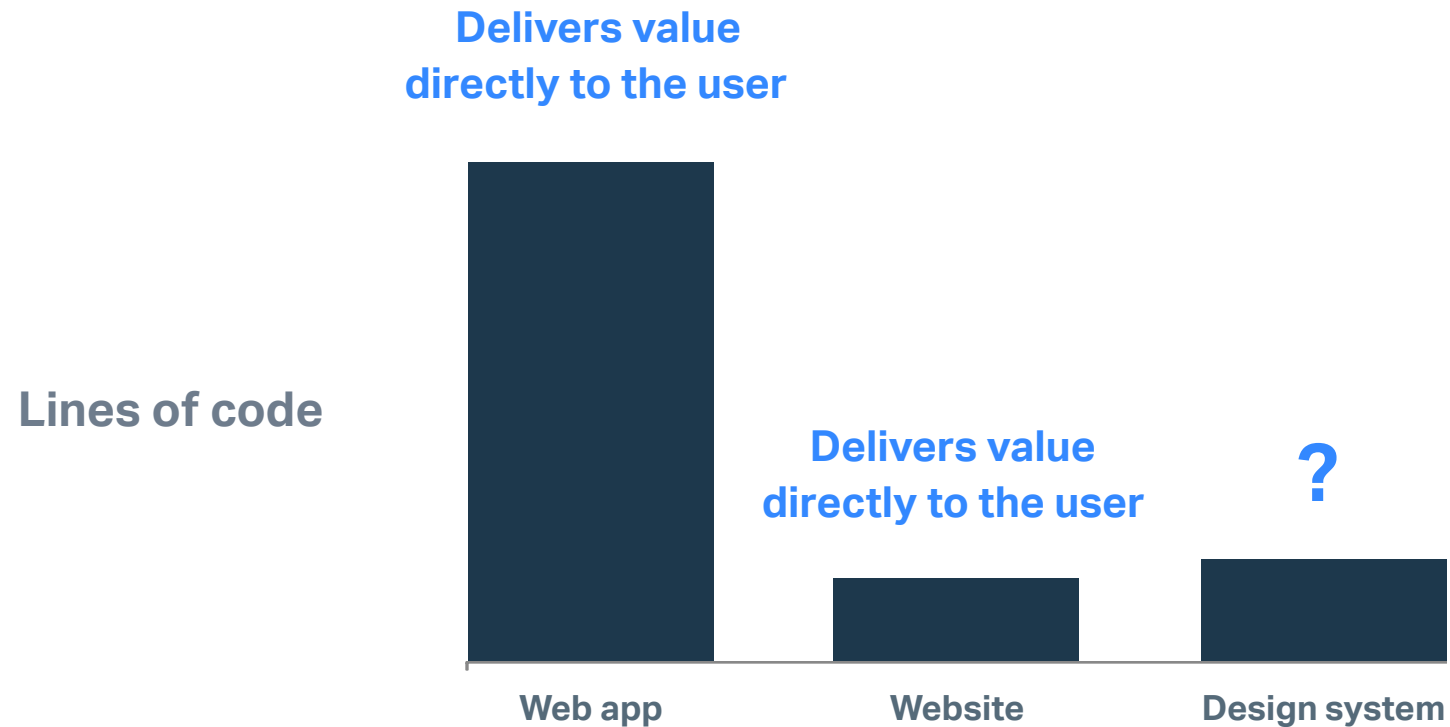
**Prod**



**Maturity**



# What's the value proposition of a design system?



**What are our  
challenges?  
How can developers  
help?**



**Thinking like a CEO**

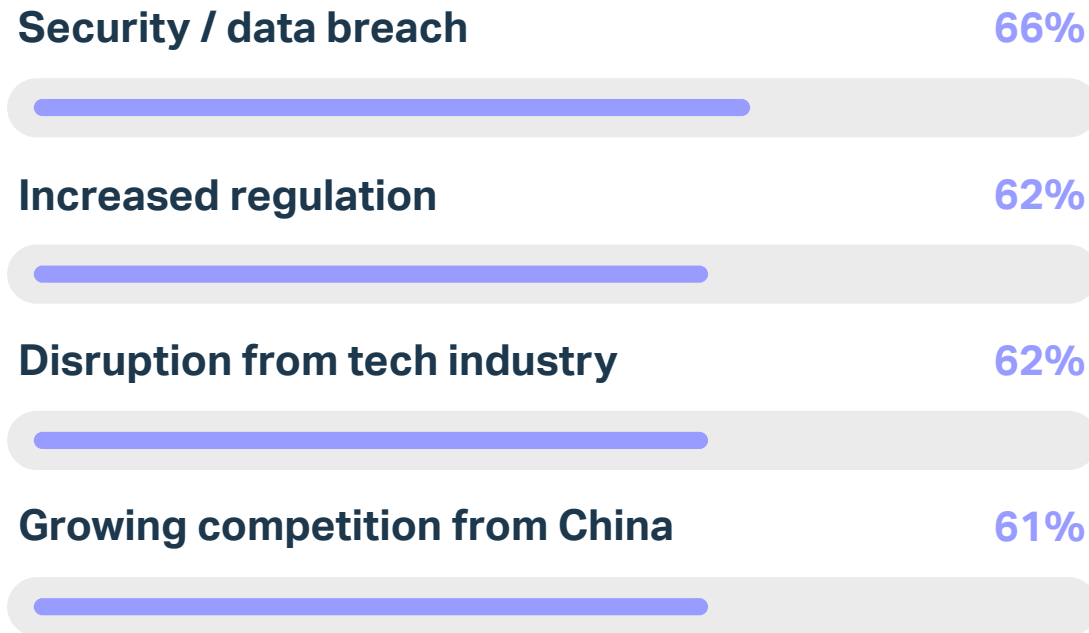


**2,000+**  
**CEOs and developers**

**6**  
**countries**



# How threatening are the following factors to the success of your business?



Inconsistent UI  
suspiciously missing





# How much of an impact can developers have to help your company with each of the following challenges?

Bring products to market faster

71%

Increasing sales

70%

Differentiating products / services

69%

Internal reporting / visibility

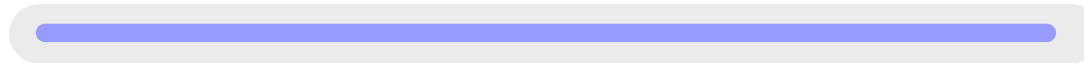
65%



**How much of a priority is it for upper management to increase the productivity of its developers?**

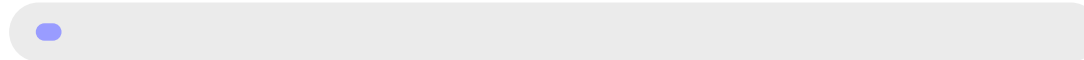
High / medium

96%



Not at all / low priority

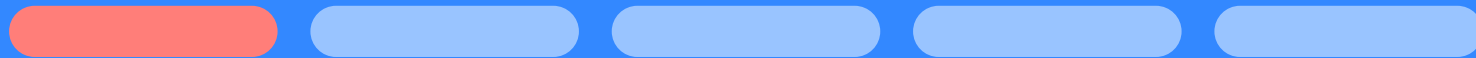
3%



SECRET #1

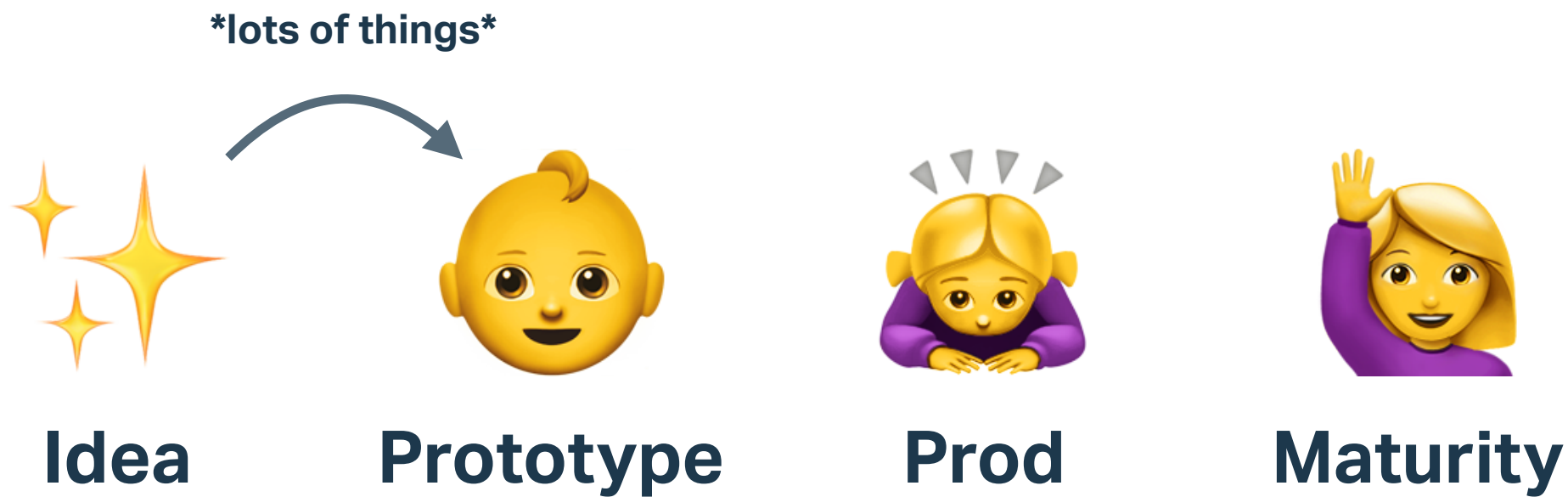
**Design systems are  
about productivity**

Consistency is a side effect



# Let's imagine you have buy-in

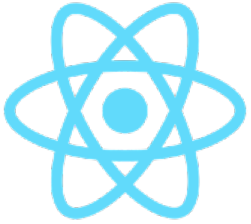




# Picking your tech stack



# Look at what you already have



## React JS

Javascript view library



## Next JS

React server-side rendering framework



## Elm

Compiles to Javascript



## Jekyll

Static-site generator



## Riot JS

React-like microframework



## Ruby on Rails

Traditional web app



marketing cloud

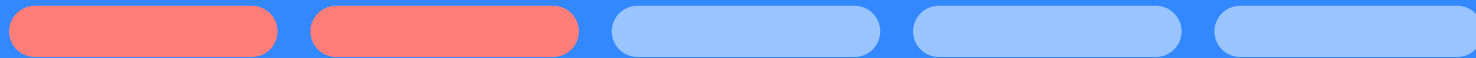
## Marketing cloud

Emails & landing pages

SECRET #2

# The world is bigger than React

You have to plan for it

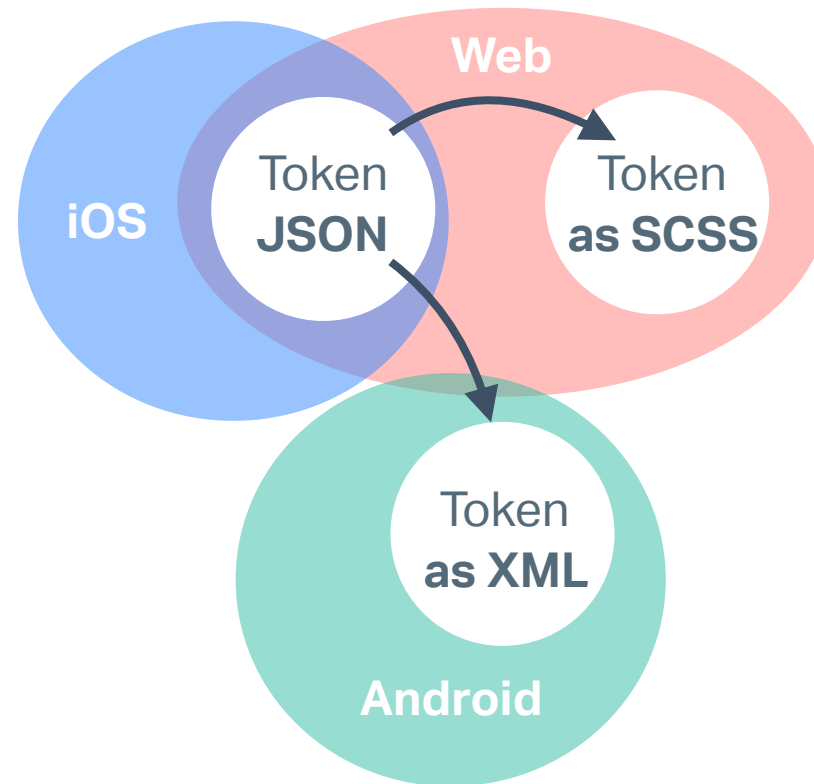


# Design tokens

Platform-agnostic data that store visual data attributes

TOKEN DATA (JSON)

```
{  
  "color": {  
    "b100": "#DAEAEFF",  
    "b300": "#7FB5FF",  
    "b500": "#3388FF",  
    "b700": "#2567D8",  
    "b900": "#1641AC",  
    ...  
  }  
}
```



# Static CSS library

Compatibility layer between "React Utopia" and the rest of the world

React apps

```
import { Tag } from '@sumup/circuit-ui';  
  
<Tag selected onRemove={fn}>  
  Transactions  
</Tag>
```

Plain CSS

```
<link rel="stylesheet" href="https://static.sumup.com/  
circuit-ui.1.0.css">  
  
<span class="tag tag--selected" onclick="myFn">  
  <span class="tag__content">  
    Transactions  
  </span>  
</span>
```

Transactions X



**Idea**



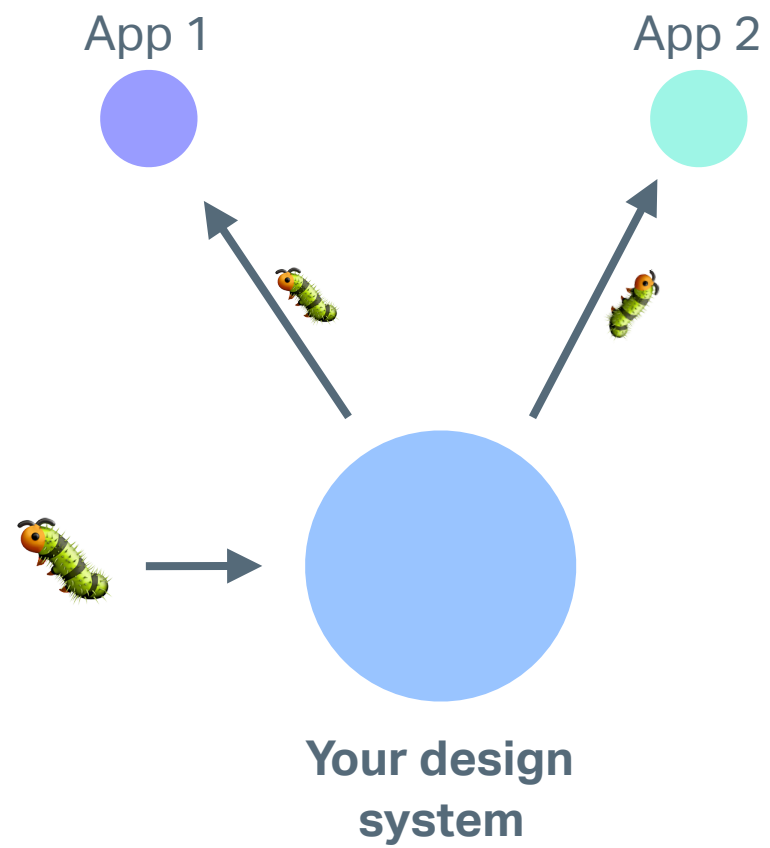
**Prototype**




**Prod**



**Maturity**



 **sumup / circuit-ui**

Watch 59

Star 223

Fork 18

<> Code

Issues 13

**Pull requests 3**

Projects 0

Wiki

Insights

Settings

# Add [type=button] default to Button #222

Edit

Merged

ashketchum merged 1 commit into master from feature/button-type on 7 Jul


Conversation 4

Commits 1

Checks 0

Files changed 8

+161 -288



ashketchum commented on 3 Jul • edited

Member + 😊 ...

Not having `type=button` for `<button>` can lead to easy to implement bugs in ze d.

Changes

- Adds `type=button` as default prop for Button when container is `<button>`
- Add logic test to ensure type can still be changed from the user.
- Changed `PlainButton` tests to test the plain variant as they were redundantly checking the `RegularButton` again.

Reviewers

- brock ✓
- misty ●

Assignees

- No one—assign yourself


Labels

- None yet

Projects

-

👁️

 ashketchum requested a review from brock on 3 Jul

# What happened?





## SECRET #3

**A design system is a  
dependency**

Even if you control it



# Change management in design systems



Deprecate gradually and **communicate in code and docs**



Define and test (ideally automate) **the critical path** in your apps



**Use canary builds** to release in a shared env before production



**Idea**



**Prototype**



**Prod**



**Maturity**

# There be bugs in that code

sumup / circuit-ui

Watch 58 Star 241 Fork 21

Code Issues 10 Pull requests 3 Projects 0 Wiki Insights Settings

Filters is:issue is:open Labels Milestones New Issue

10 Open 55 Closed Author Labels Projects Milestones Assignee Sort

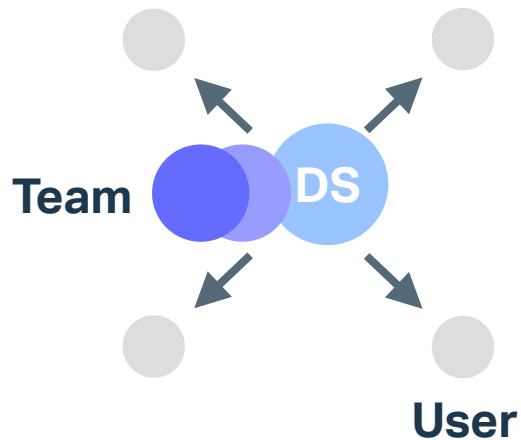
- Drop down menu with phone number's country code and country flag  
#289 opened on 31 Aug by vpenkoff
- Inconsistent Button size bug  
#277 opened on 13 Aug by herberthenriove
- [Modal] Background content is scrollable when modal is open bug good first issue hacktoberfest help wanted  
#211 opened on 25 Jun by connor-baer
- Use new card icon components in CardNumberInput enhancement good first issue hacktoberfest  
#209 opened on 20 Jun by fel
- masked input erroring  
#174 opened on 16 May by nic
- Tag Visual Tweak: Rerender tags hacktoberfest help wanted  
#156 opened on 7 May by melmdesign
- [Card] additional margin right on mobile view  
#141 opened on 17 Apr by u gobiasco
- Roadmap to v1 help wanted in progress

```
1 @import '../shared';  
2  
3 // TODO design provided these weird numbers, but maybe we can clean them up?
```

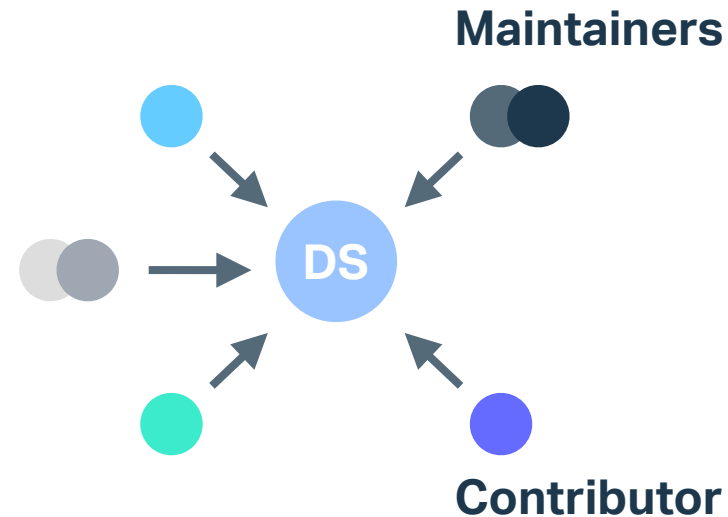
The **real cost** of software  
is not the initial development,  
but **maintenance over time**

# Team models for design systems

## SERVICE TEAM



## INNER SOURCE



## SECRET #4

# Collaboration is key to long-term quality

Organize in a way that scales



design systems are  
about **productivity**



treat a design system  
like a **dependency**

# What we've learned so far

the world is  
**bigger than React**



**collaboration** is key  
to long-term quality





How will we know we've  
succeeded?

Just ask!

# Pick your KPIs



**Speed**



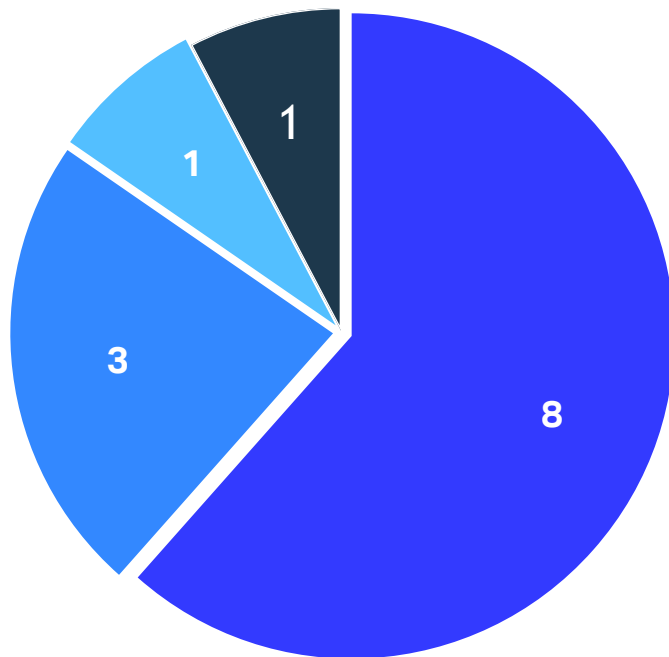
**Quality**



**Ease of  
Contribution**



**Completeness**

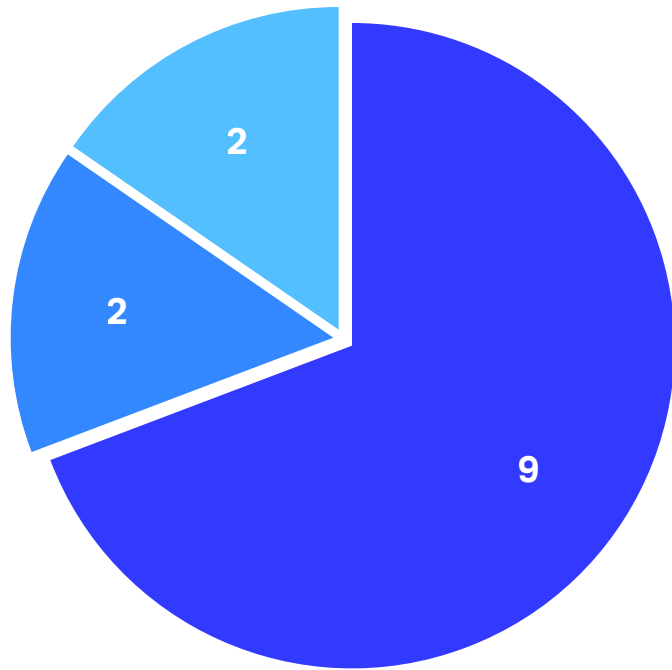


- Strongly agree
- Agree
- Neutral
- Disagree
- Strong disagree

## MEASURING QUALITY



"**Circuit makes it easier** for me to implement or design a **high-quality** user interface"



- Strongly agree
- Agree
- Neutral
- Disagree
- Strong disagree

## MEASURING SPEED



**"Circuit helps me implement or design features more quickly"**

SECRET #5

**Design systems are  
about people**

Their success is the  
system's success



# Progress over perfection



# Thank you!

@monicalent

