

EMBER 2.0

OUT-OF-THE-BOX

PRODUCTIVITY





@tomdale

The thinnest, lightest,
most powerful Ember ever.



WHY JAVASCRIPT?

CONSISTENCY & COHERENCE

DATABASE

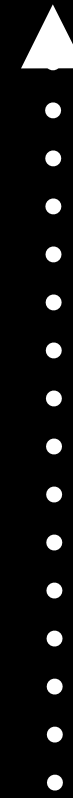
Model

AUTHORIZATION

Controller

HTML

View



DATABASE

Model

AUTHORIZATION

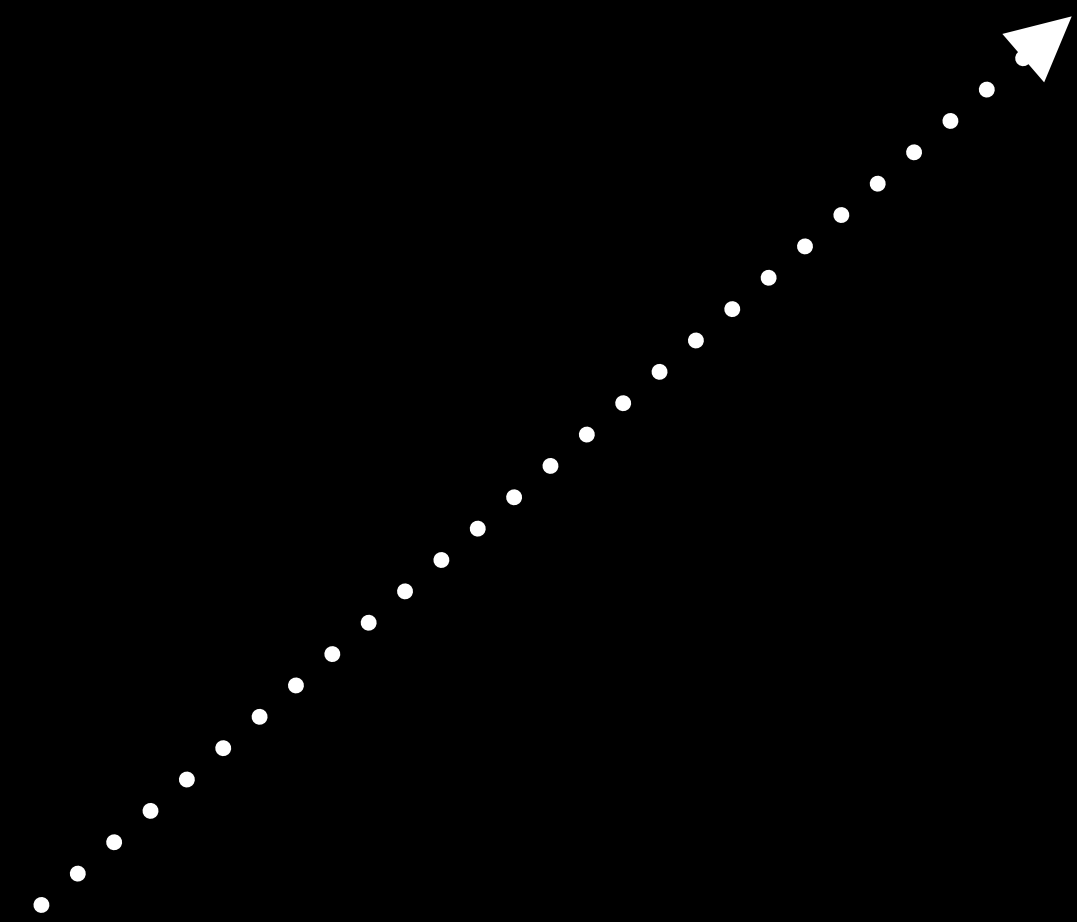
Controller

HTML

View

?

API



DATABASE

Model

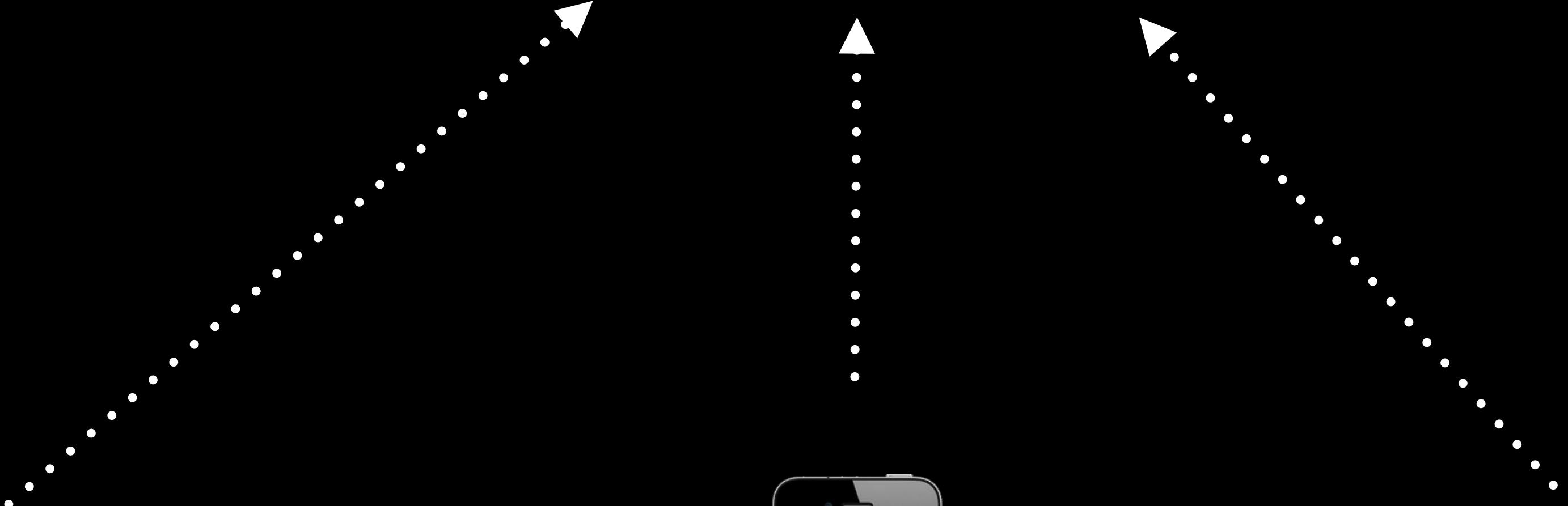
AUTHORIZATION

Controller

API

View

HTML



RESPONSIVENESS



200+ ms



DATABASE

AUTHORIZATION

HTML

Server-Side



0

Client-Side



0

THE SAME PRINCIPLE APPLIES
EVERYWHERE

ROUTING

OFFLINE APPS



WHY EMBER?

PRODUCTIVITY
OUT-OF-THE-BOX

PRODUCTIVITY OUT-OF-THE-BOX

- Sophisticated tools
- Declarative animations
- Rapidly growing ecosystem

SOPHISTICATED TOOLS

EMBER INSPECTOR

UNDERSTAND & DEBUG
ANY EMBER APP

BUSTLE

NEWS

ENTERTAINMENT

FASHION & BEAUTY

LIFESTYLE

BOOKS

EXPLORE



7 Reasons Grilled Cheese Sandwiches Are The Best

Chrissa Hardy

Lifestyle



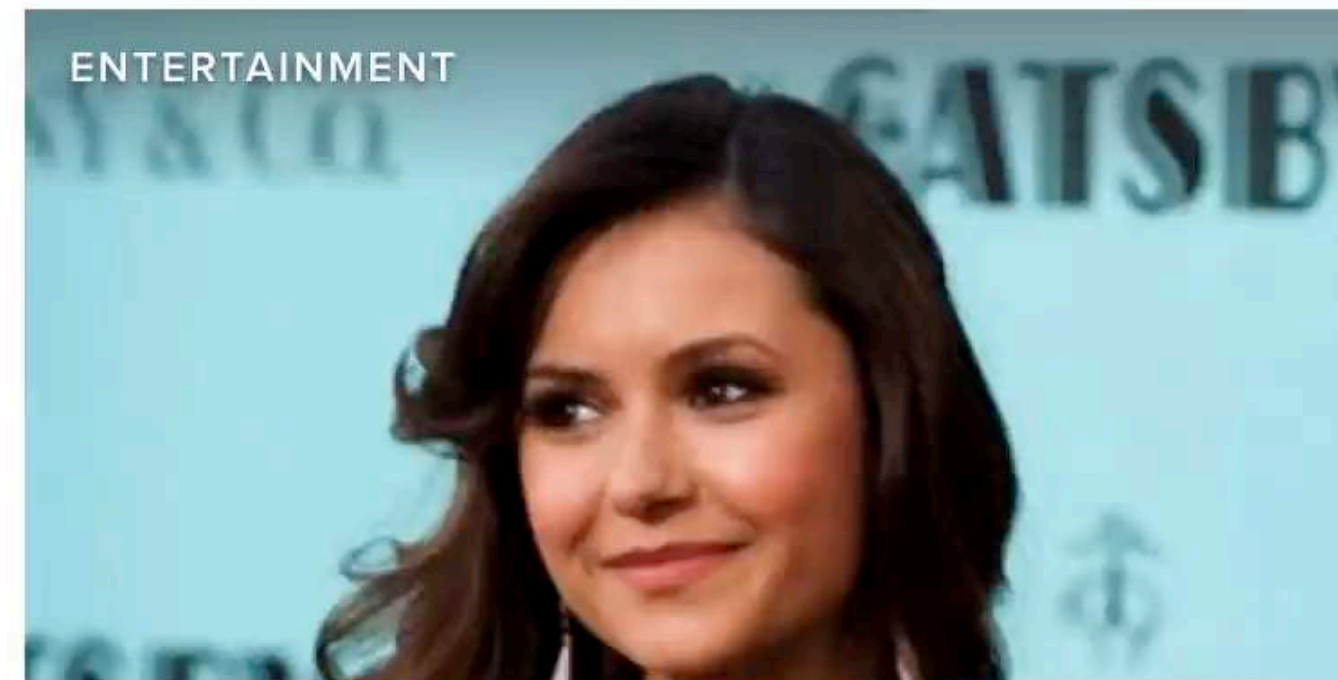
How To Make A Flower Crown In 7 Steps Or Less

Morgan Olsen

Fashion & Beauty



LIFESTYLE



ENTERTAINMENT

Neiman Marcus

SHOP NOW

FREE SHIPPING!

ONLINE AND IN STORES

MODEL+TEMPLATE+COMPONENTS

→ application

MODEL+TEMPLATE+COMPONENTS

→ nav

MODEL+TEMPLATE+COMPONENTS

→ settings

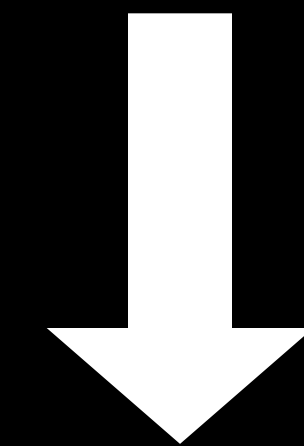
MODEL+TEMPLATE+COMPONENTS

→ settings.billing

COMPONENT

COMPONENT

COMPONENT



/app/settings/billing

Your Account

Billing

Referrals

MY APPLICATIONS

Fake Direwolf

Usage March 11 to April 9



YOUR TIER

Name	Template	Model	Controller	View / Component	Duration
application	application	<me::ember760:9CEDFoAW... >\$E	application >\$E	toplevel >\$E	149.07ms
nav	nav	--	nav >\$E	--	81.99ms
settings	settings	--	settings >\$E	--	53.60ms
settings.billing	settings.billing	<organization::ember738:9... >\$E	settings/billing >\$E	--	15.95ms
settings/billing/total-re (inline)		<customer::ember739:9CE... >\$E	settings/billing/total-reque... >\$E	--	53.37ms

- View Tree
- /# Routes
- Data
- Deprecations 0
- Info
- ADVANCED
- Promises

Your Account

Billing

Referrals

MY APPLICATIONS

Fake Direwolf

Usage March 11 to April 9



YOUR TIER

Name	Template	Model	Controller	View / Component	Duration
application	application	<me::ember760:9CEDFoAW... >\$E	application >\$E	toplevel >\$E	149.07ms
nav	nav	--	nav >\$E	--	81.99ms
settings	settings	--	settings >\$E	--	53.60ms
settings.billing	settings.billing	<organization::ember738:9... >\$E	settings/billing >\$E	--	15.95ms
settings/billing/total-re (inline)		<customer::ember739:9CE... >\$E	settings/billing/total-reque... >\$E	--	53.37ms

- View Tree
- /# Routes
- Data
- Deprecations 0
- Info
- ADVANCED
- Promises
- Submit an Issue

Select App



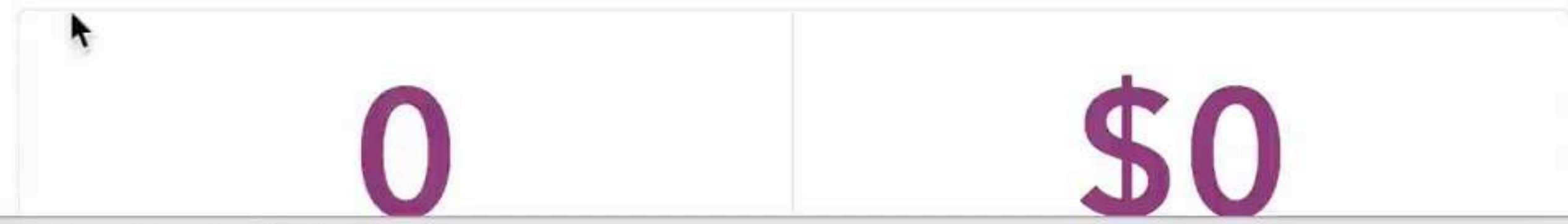
Tom Dale

Your Account

Billing

Referrals

Usage March 11 to May 29



- View Tree
- Routes
- Data
- Deprecations 0
- Info
- ADVANCED
- Promises
- Container
- Render Performance

Label	State	Fulfillment / Rejection value	Time to settle
▶ Router: 'application.settings.settings.billing': Start transition	Fulfilled	null > \$E	1.00ms
Ember: DeferredMixin - app	Fulfilled	{ _id: 11, _label: Ember: Defe... > \$E	
▶ Router: 'application' Start handler	Fulfilled	--	
<Unknown Promise>	Fulfilled	--	
<Unknown Promise>	Fulfilled	--	
▶ Router: 'application.settings.settings.billing': Check if should continue	Fulfilled	--	
Router: 'application' Resolve value returned from one of the model hooks	Fulfilled	--	
▶ Router: 'application.settings.settings.billing': Check if should continue	Fulfilled	--	
Router: 'application' Resolve value returned from one of the model hooks	Fulfilled	<app@model:me::ember760... > \$E	1,315.00ms
▶ DS: Store#findByRecord undefined with id: 9CEDFoAWUNXT	Fulfilled	<app@model:me::ember760... > \$E	2.00ms
▶ Router: 'application.settings.settings.billing': Check if should continue	Fulfilled	--	
▶ Router: 'application' Resolve value returned from one of the model hooks	Fulfilled	--	



Nest Learning Thermostat

\$249

ADD TO CART

Fast, free shipping.

[Make sure it'll work in your home >](#)

The only

https://store.nest.com/proc

Search

All New Modified Clean

View Tree

Routes

Data

Deprecations 0

Info

ADVANCED

Promises

Container

Render Performance

MODEL TYPES

NLS.Address (0)

NLS.BaseModel (0)

NLS.Cart (1)

NLS.Category (0)

NLS.Consignment (0)

NLS.ConsignmentEntry (0)

NLS.Customer (0)

NLS.DeliveryMode (0)

NLS.Entry (0)

NLS.Gift (0)

NLS.Homeserve (0)

NLS.HomeserveAppointme...

NLS.HomeserveBoiler (0)

NLS.Order (0)

NLS.PaymentMethod (0)

NLS.Price (1)

NLS.Product (0)

NLS.ShippingSpeed (0)

NLS.Status (0)

NLS.StockLevelStatus (0)

Id

Available for_pickup

Base options

Classifica



EMBER CLI

ONE COMMAND GIVES YOU:

- ES6/ES7+ syntax
- Automatic rebuilds & reloads
- Conventional file structure
- Built-in unit & integration tests
- Minification & concatenation

tomdale — tomdale@Toms-MacBook-Pro: ~ — ~ — zsh — Solarized Dark...

Last login: Tue Apr 7 07:35:15 on ttys003

→ **tomdale** █

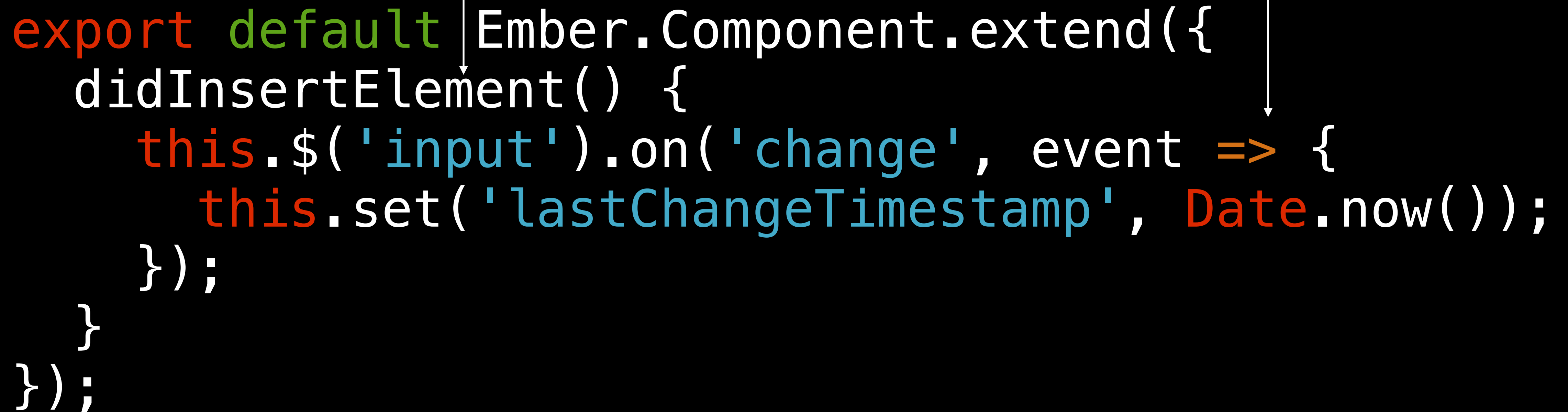
```
export default Ember.Component.extend({
  didInsertElement() {
    this.$('input').on('change', event => {
      this.set('lastChangeTimestamp', Date.now());
    });
  }
});
```

modules

concise methods

arrow functions

```
export default Ember.Component.extend({
  didInsertElement() {
    this.$('input').on('change', event => {
      this.set('lastChangeTimestamp', Date.now());
    });
  }
});
```



SUPPORTED BY







CORE TEAM & COMMUNITY

Ember Addons

Listing 842 packages that extend ember-cli.

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Filter addons

NAME	OWNER	DOWNLOADS	UPDATED
ember-timetree Visualize hierarchical timeline data. Built with Ember.js and D3.js	 john-kurkowski	46	an hour ago
ember-api-store Ember API Store =====	 vincent99	482	2 hours ago
ember-i18n Internationalization for Ember	 jamesarosen	877	2 hours ago
ember-cli-pace NEW Pace.js load progress bar for Ember apps	 vectart	0	2 hours ago
torii-fire A torii provider for firebase authentication	 mattsumner	267	2 hours ago
ivy-videojs NEW	 omghay	0	2 hours ago

NOT JUST JAVASCRIPT

- Enhance builds (ESNext, linters, CSS preprocessors)
- Add deployment targets (Parse, Firebase, Divshot)
- CSS (Bootstrap, Foundation, Pure)

CONVENTION

OVER CONFIGURATION

EXPERIMENTATION

EXPERIMENTATION

EXPERIMENTATION

EXPERIMENTATION



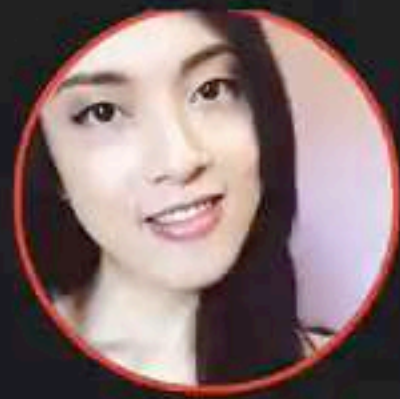
STABILIZATION

ANIMATION

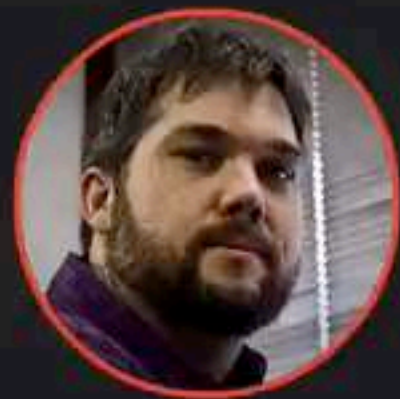
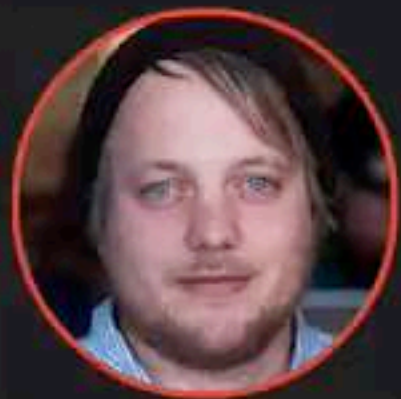
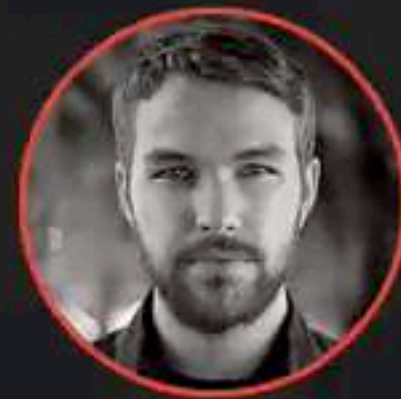
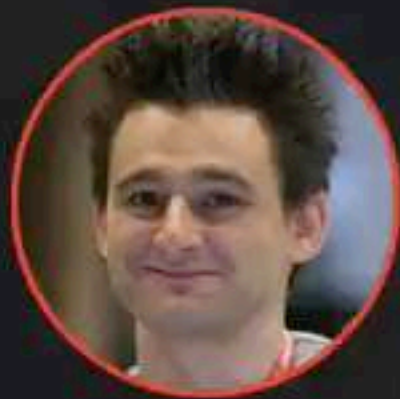
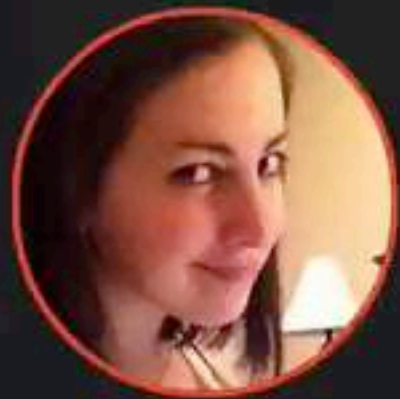
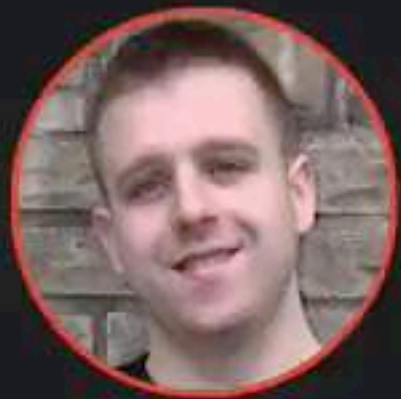
LIQUID FIRE

2015 ember CONF

MARCH 3-4 | PORTLAND, OR
SPEAKERS



SHUFFLE



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[Previous years](#)

2014

```
var duration = 500;

this.transition(
  this.fromRoute('emberconf.speakers'),
  this.toRoute('emberconf.speaker'),
  this.use('explode', {
    matchBy: 'data-speaker-id',
    use: ['flyTo', { duration } ]
  }, {
    use: ['toLeft', { duration } ]
  })
);
```

PERFORMANCE

cluster1	7	12.06	9.54	8.95
cluster1slave	3	11.28	5.84	1.11
cluster2	SELECT blah FROM something	12.29	11.32	10.21
cluster2slave		14.71	12.55	10.77
cluster3	4	13.76	11.92	10.34
cluster3slave	1	0.59		
cluster4	9	14.12	14.06	13.16
cluster4slave	6	14.58	9.47	5.94
cluster5	6	13.75	13.27	9.49
cluster5slave	8	14.68	14.14	10.04
cluster6	1	12.93		
cluster6slave	3	5.89	5.04	2.58
cluster7	6	14.03	7.65	7.38
cluster7slave	7	12.22	9.80	9.64
cluster8	9	14.96	14.47	8.19

cluster1	8	13.84	11.76	9.62
cluster10	SELECT blah FROM something	12.21	9.49	2.95
cluster100		14.90	11.05	9.37
cluster100slave	8	14.59	14.45	13.88
cluster10slave	10	12.05	10.65	7.79
cluster11	7	14.02	12.75	9.57
cluster11slave	10	14.79	13.47	10.51
cluster12	9	14.65	14.34	14.22
cluster12slave	2	11.54	1.81	
cluster13	10	14.21	12.76	11.02
cluster13slave	6	11.72	7.59	3.28
cluster14	11	13.34	11.50	8.32
cluster14slave	7	13.06	12.21	10.79
cluster15	7	8.03	7.31	6.85
cluster15slave	5	14.85	13.97	10.43

cluster1	8	13.84	11.76
cluster10	12	12.21	9.49
cluster100	14.90	11.05	
cluster100slave	8	14.59	14.45
cluster10slave	10	12.05	10.65
cluster11	7	14.02	12.75
cluster11slave	10	14.79	13.47
cluster12	9	14.65	14.34
cluster12slave	2	11.54	1.81
cluster13	10	14.21	12.76
cluster13slave	6	11.72	7.59
cluster14	11	13.34	11.50
cluster14slave	7	13.06	12.21
cluster15	7	8.03	7.31
cluster15slave	5	14.85	13.97
cluster16	5	14.35	14.30
cluster16slave	11	14.95	13.73
cluster17	11	13.00	11.03
cluster17slave	8	9.11	8.77
cluster18	8	13.30	12.81

SELECT blah FROM something

cluster1	7	12.06	9.54
cluster1slave	3	11.28	5.84
cluster2	12.29	11.32	
cluster2slave	14.71	12.55	
cluster3	4	13.76	11.92
cluster3slave	1	0.59	
cluster4	9	14.12	14.06
cluster4slave	8	14.58	9.47
cluster5	6	13.75	13.27
cluster5slave	8	14.68	14.14
cluster6	1	12.93	
cluster6slave	3	5.89	5.04
cluster7	6	14.03	7.65
cluster7slave	7	12.22	9.80
cluster8	9	14.96	14.47
cluster8slave	8	14.92	14.90
cluster9	8	13.71	12.83
cluster9slave	5	12.77	10.29
cluster10	10	13.98	13.61
cluster10slave	6	10.69	5.67

SELECT blah FROM something



Glimmer

2	11.53	5.16			
6	14.42	14.31	13.47	11.32	
<IDLE> in transaction	12.19	7.54	7.46	6.24	
	9.23				
5	13.31	12.44	9.86	7.58	
10	14.85	12.27	10.04	8.04	
10	14.92	12.88	12.84	9.42	
8	14.47	13.50	9.44	8.81	
9	14.55	9.56	9.34	7.54	
1	2.02				
8	13.72	10.53	6.60	6.60	
3	12.38	11.61	11.20		
3	5.52	0.72	0.71		
6	8.96	7.94	5.53	4.34	
7	12.92	11.32	8.60	8.07	

Cluster Name	Value	Cluster Name	Value	Cluster Name	Value				
cluster1	8	13.84	cluster1	7	12.06	cluster1	6	13.19	13.17
cluster10	8	12.21	cluster1slave	3	11.28	cluster1slave	1	0.57	
cluster100	8	14.90	cluster2	3	12.29	cluster2	1	14.30	13.54
cluster100slave	8	14.59	cluster2slave	3	14.71	cluster2slave	1	14.97	13.29
cluster10slave	10	12.05	cluster3	4	13.76	cluster3	4	9.24	9.15
cluster11	7	14.02	cluster3slave	1	0.59	cluster3slave	1	10.34	
cluster11slave	10	14.79	cluster4	9	14.12	cluster4	6	13.60	11.37
cluster12	9	14.65	cluster4slave	6	14.58	cluster4slave	1	4.10	
cluster12slave	2	11.54	cluster5	6	13.75	cluster5	5	14.42	10.96
cluster13	10	14.21	cluster5slave	8	14.68	cluster5slave	3	13.56	12.81
cluster13slave	6	11.72	cluster6	1	12.93	cluster6	1	1.65	
cluster14	11	13.34	cluster6slave	3	5.89	cluster6slave	9	12.48	10.93
cluster14slave	7	13.06	cluster7	6	14.03	cluster7	8	13.86	13.54
cluster15	7	8.03	cluster7slave	7	12.22	cluster7slave	10	12.72	12.57
cluster15slave	5	14.85	cluster8	9	14.96	cluster8	10	14.58	13.57
cluster16	5	14.35	cluster8slave	6	14.92	cluster8slave	6	13.62	12.95
cluster16slave	11	14.95	cluster9	6	13.71	cluster9	1	7.27	
cluster17	11	13.00	cluster9slave	5	12.77	cluster9slave	6	14.82	8.48
cluster17slave	8	9.11	cluster10	10	13.98	cluster10	8	12.78	12.45
cluster18	8	13.30	cluster10slave	6	10.69	cluster10slave	2	3.67	0.06

Ember

React

Glimmer

```
var UserInfo = React.createClass({
  render: function() {
    return (
      <div>
        <h2>User Info</h2>
        <p>Check out more about this user:</p>
        <p>{this.props.username}</p>
        <a href={'http://example.com/' +
          this.props.username + '/message'}>Send a Message</a>
      </div>
    );
  }
});
```

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var UserInfo = React.createClass({
  render: function() {
    return (
      <div>
        <h2>User Info</h2>
        <p>Check out more about this user:</p>
        <p>{this.props.username}</p>
        <a href={'http://example.com/' +
          this.props.username + '/message'}>Send a Message</a>
      </div>
    );
  }
});
```

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        <p>Check out more about this user:</p>
        <p>{this.props.username}</p>
        <a href={'http://example.com/' +
          this.props.username + '/message'}>Send a Message</a>
      </div>
    );
  }
});
```

```
<div>
  <h2>User Info</h2>
  <p>Check out more about this user:</p>
  <p>{{attrs.username}}</p>
  <a href="http://example.com/{{attrs.username}}/message"></a>
</div>
```

```
<div>
  <h2>User Info</h2>
  <p>Check out more about this user:</p>
  <p>{{attrs.username}}</p>
  <a href="http://example.com/{{attrs.username}}/message"></a>
</div>
```

```
<div>
  <h2>User Info</h2>
  <p>Check out more about this user:</p>
  <p>{{attrs.username}}</p>
  <a href="http://example.com/{{attrs.username}}/message"></a>
</div>
```



{
}
}

username: "wycats"

RENDER NODE

RENDER NODE

```
<div>  
  <h2></h2>  
  <p></p>  
  <p></p>  
  <a href=""></a>  
</div>
```

{
}
}

username: "wycats"

RENDER NODE

RENDER NODE

```
<div>  
  <h2></h2>  
  <p></p>  
  <p></p>  
  <a href=""></a>  
</div>
```

{
username: "wycats"
}

last value
wycats

RENDER NODE

RENDER NODE

```
<div>  
  <h2></h2>  
  <p></p>  
  <p>wycats</p>  
  <a href=""></a>  
</div>
```

{
username: "wycats"
}

last value
wycats

RENDER NODE

RENDER NODE

wycats
last value

```
<div>  
  <h2></h2>  
  <p></p>  
  <p>wycats</p>  
  <a href="wycats/message">  
  </a>  
</div>
```

{
username: "wycats"
}

last value
wycats

RENDER NODE

RENDER NODE

wycats
last value

```
<div>  
  <h2></h2>  
  <p></p>  
  <p>wycats</p>  
  <a href="wycats/message">  
  </a>  
</div>
```

{
username: "wycats"
}

last value
wycats

●
RENDER NODE

●
RENDER NODE

wycats
last value

```
<div>  
  <h2></h2>  
  <p></p>  
  <p>wycats</p>  
  <a href="wycats/message">  
  </a>  
</div>
```

equality check

last value
wycats

RENDER NODE

RENDER NODE

{
username: "wycats"
}

wycats
last value

```
<div>  
  <h2></h2>  
  <p></p>  
  <p>wycats</p>  
  <a href="wycats/message">  
  </a>  
</div>
```

equality check

last value
wycats

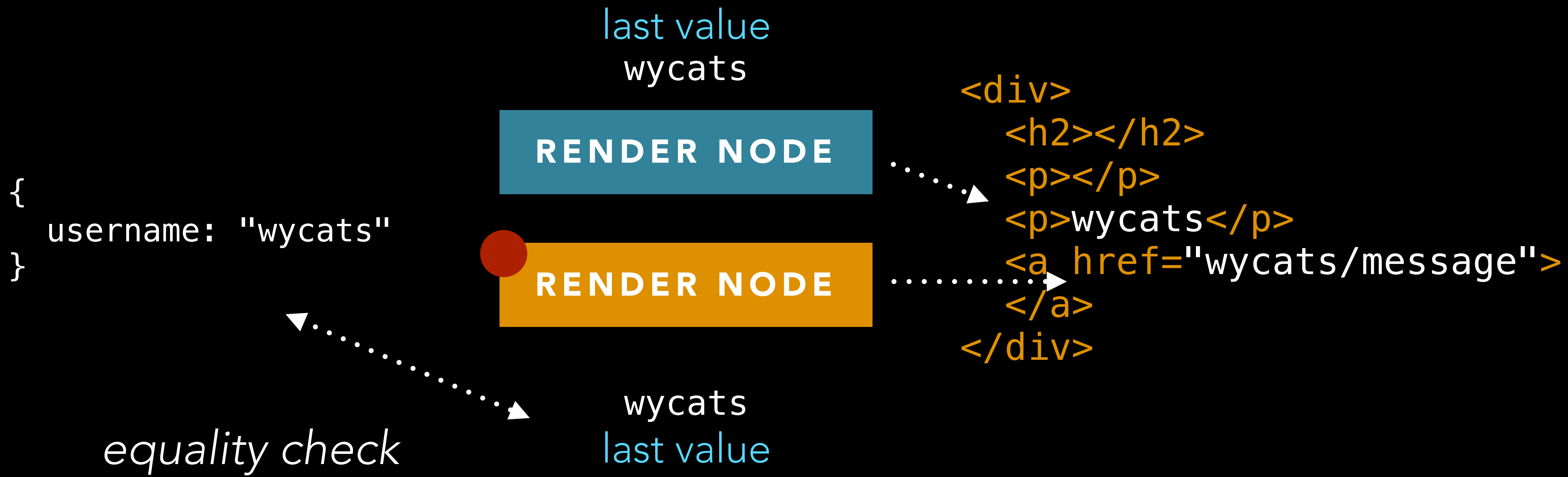
RENDER NODE

RENDER NODE

{
username: "wycats"
}

wycats
last value

```
<div>  
  <h2></h2>  
  <p></p>  
  <p>wycats</p>  
  <a href="wycats/message">  
  </a>  
</div>
```



{
username: "wycats"
}

last value
wycats

RENDER NODE

RENDER NODE

wycats
last value

```
<div>  
  <h2></h2>  
  <p></p>  
  <p>wycats</p>  
  <a href="wycats/message">  
  </a>  
</div>
```

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

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RENDER NODE

RENDER NODE

RENDER NODE



RENDER NODE

RENDER NODE

RENDER NODE

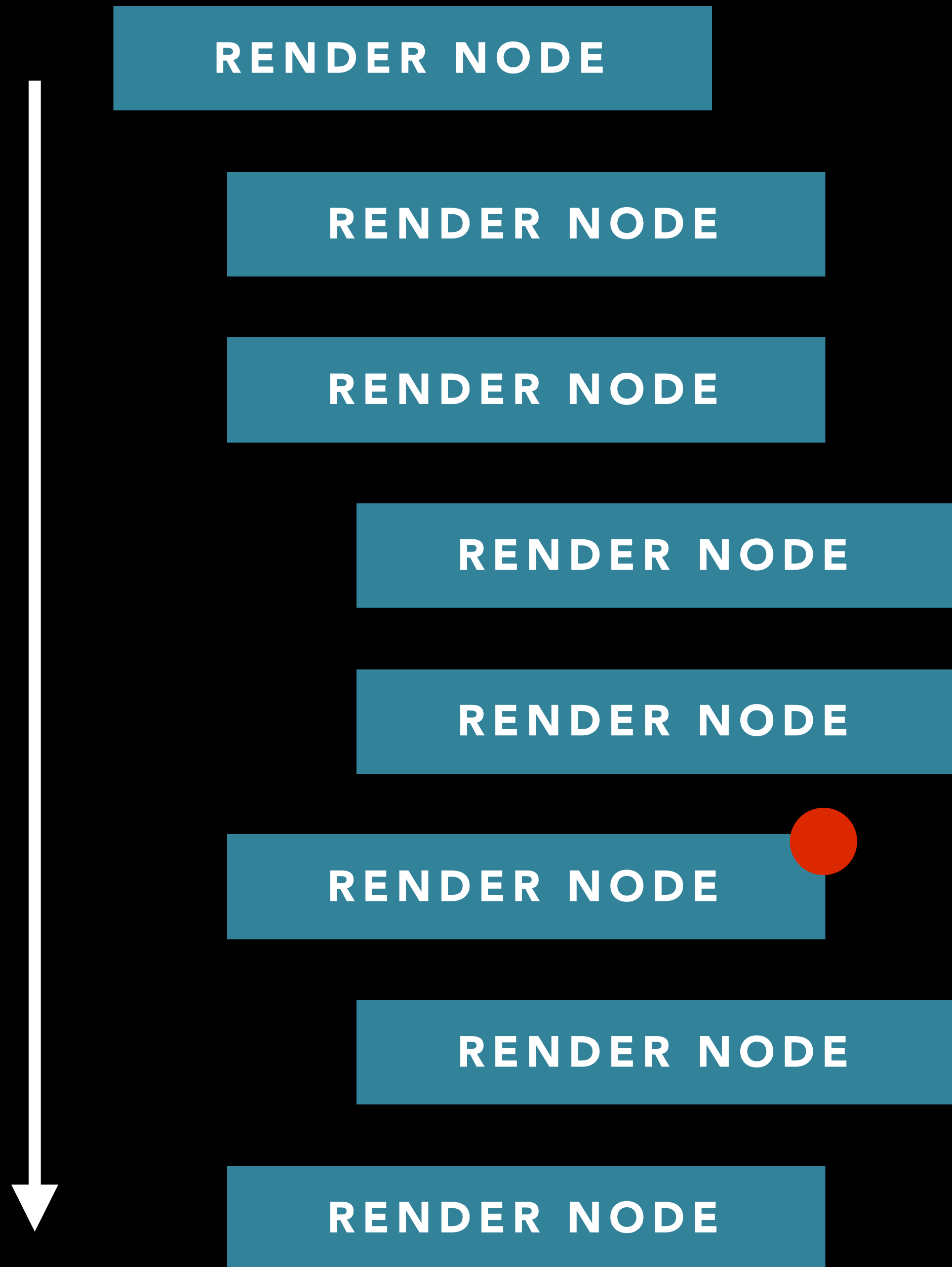
RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE

RENDER NODE



For each node:

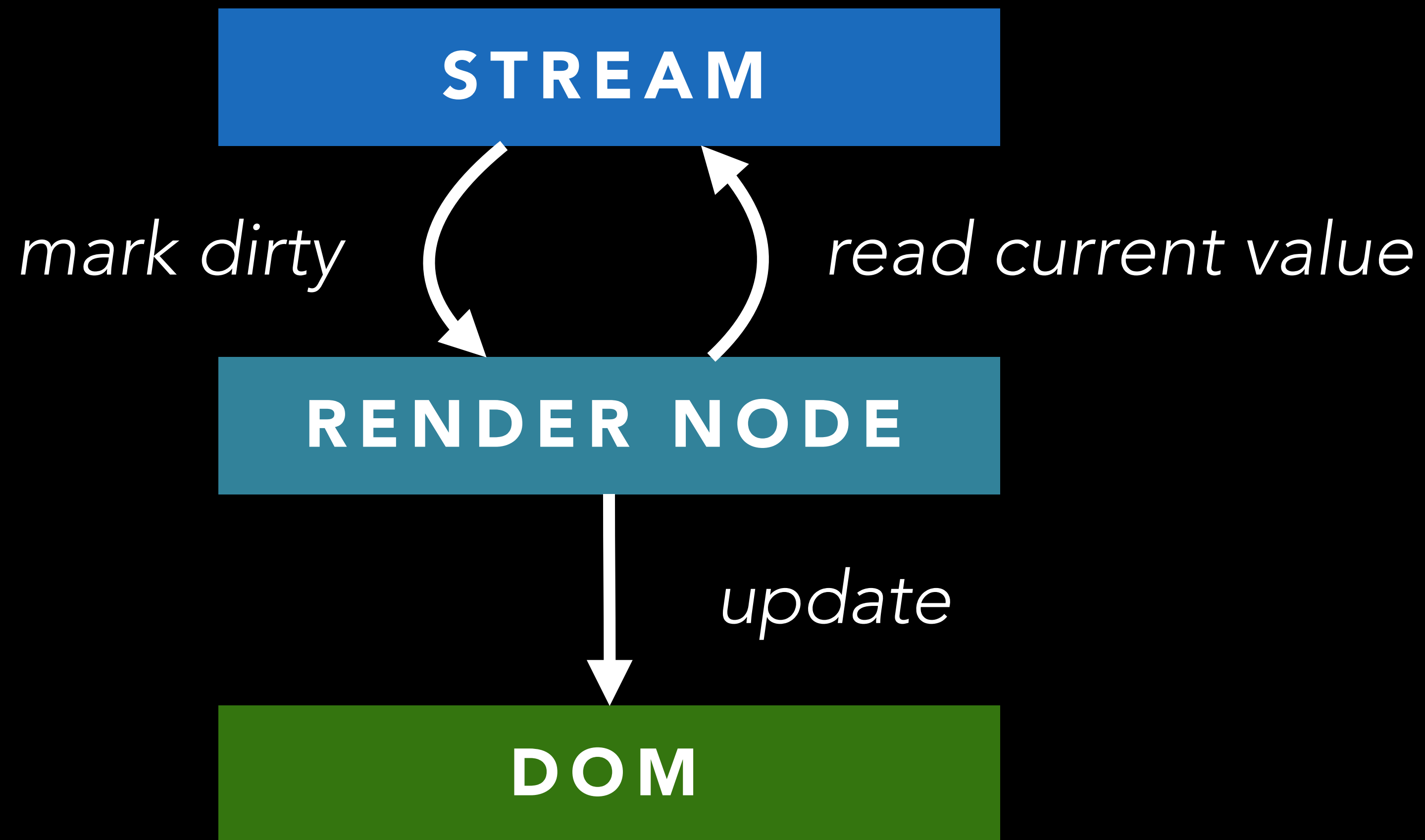
1. Is it dirty?
2. Has the value changed?

REACT

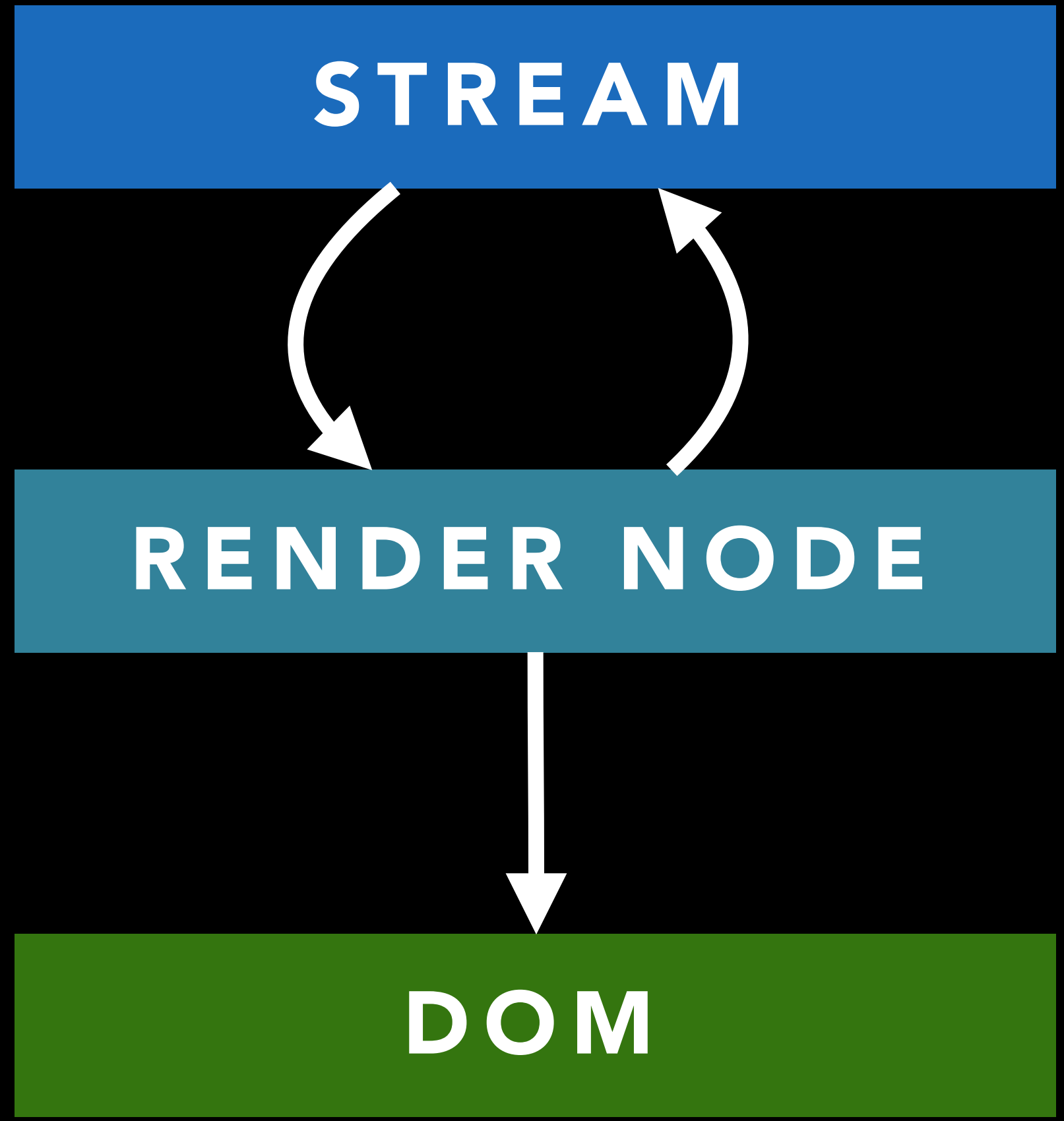
diffs a tree of virtual DOM

GLIMMER

diffs a tree of values

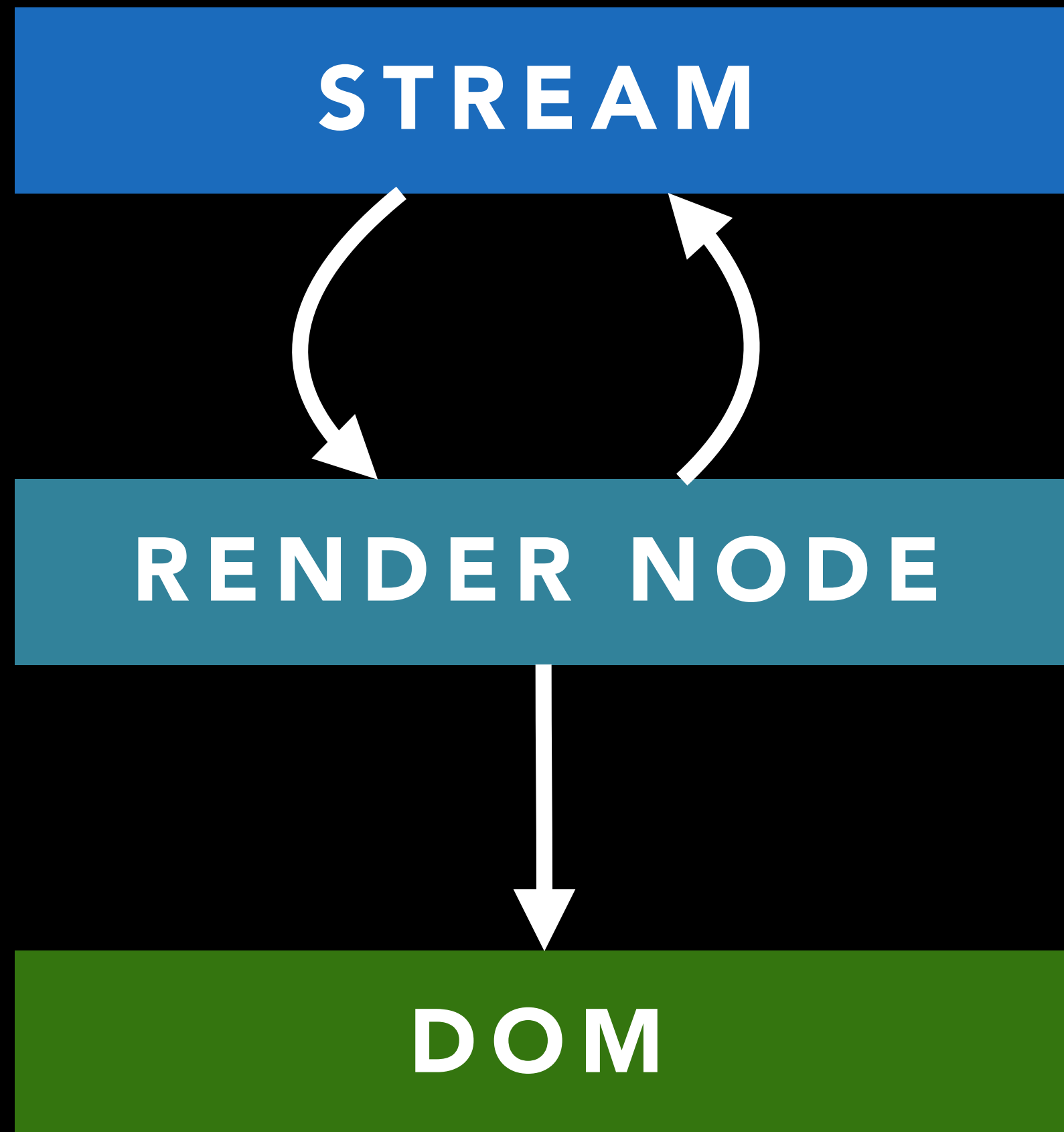


Ember 1.x



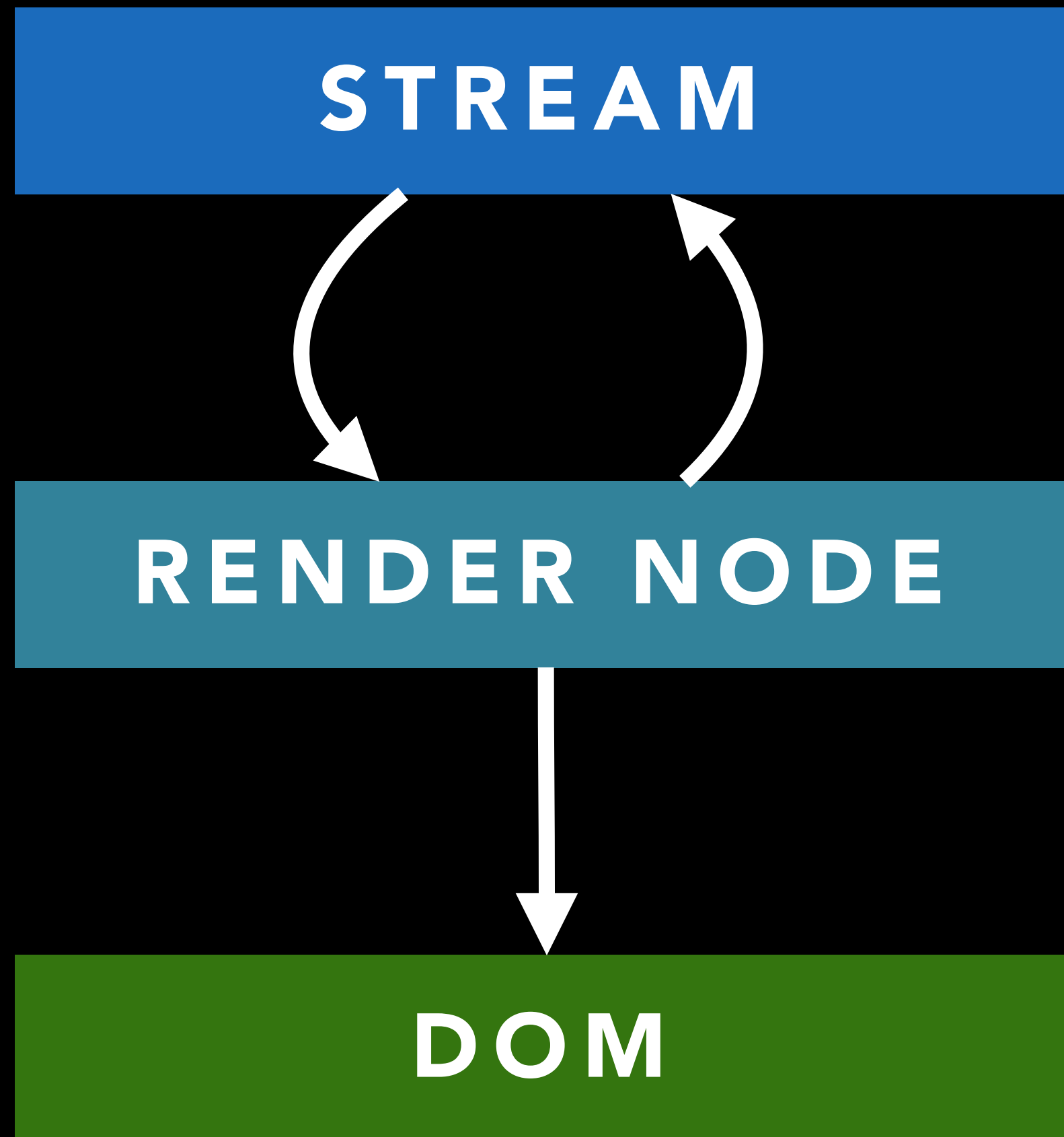
1. Set up observer
2. Dirty single node on property change

Angular (Dirty Checking)



1. Dirty entire tree every event

React (Explicit Rerendering)



1. Wait for user to call `setState()`
2. Dirty component's render node + all children

DOM STABILITY

100% BACKWARDS-COMPATIBLE

ISEMBERFASTYET.COM

FastBoot

WHY SERVER-RENDER?

- Consistent Performance
- Fast Initial Render
- Web Crawlers/cURL/Lynx

“PROGRESSIVE ENHANCEMENT”

“PROGRESSIVE ENHANCEMENT”

- Server render, then add behavior using JavaScript
- No client-side routing
- Complexity increases over time

COMPLEXITY GROWS EXPONENTIALLY
WITH EACH NEW FEATURE.

PROGRESSIVE ENHANCEMENT
(AS A TECHNIQUE) IS DEAD.

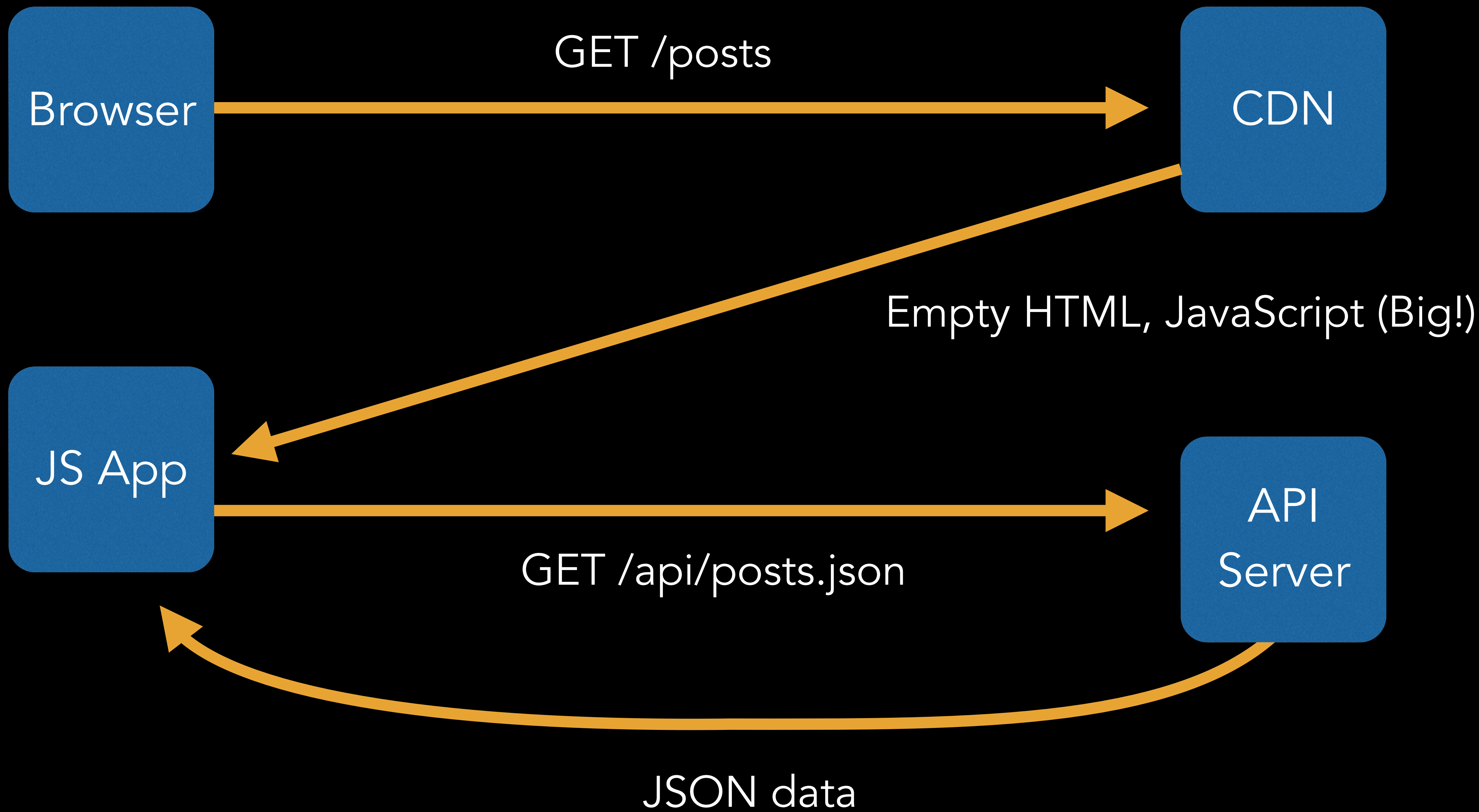
BUT WHAT IF WE COULD GET THE BENEFITS OF
PROGRESSIVE ENHANCEMENT AS A
BY-PRODUCT OF MODERN DEVELOPMENT?

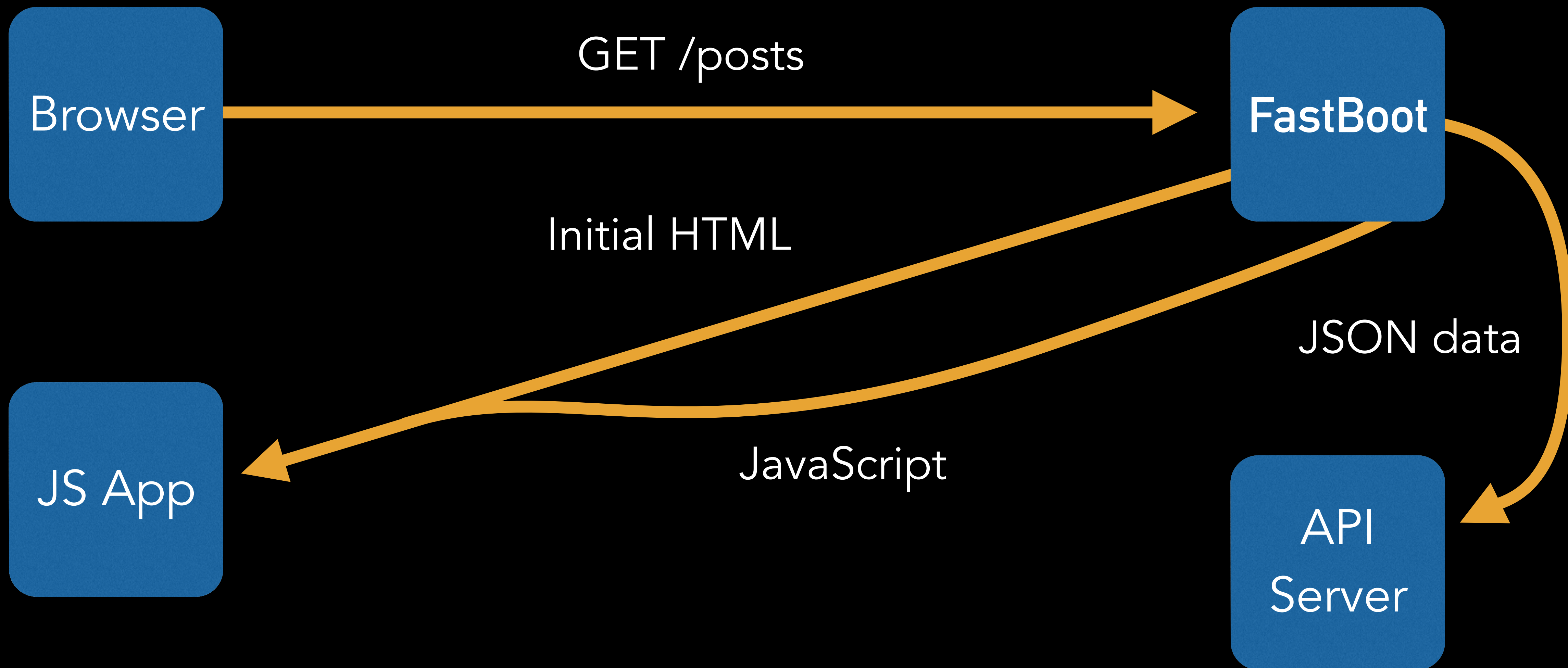
CAN YOU GET THE BEST OF
BOTH WORLDS?

FastBoot

CLARIFICATION

IT DOESN'T REPLACE YOUR
EXISTING SERVER.





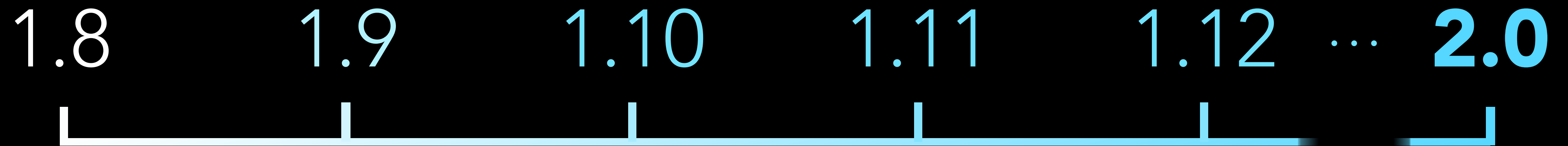
THIS CHANGES THE WAY WE
BUILD APPS

BUSTLE × LABS

EMBER 2.0

MOST FEATURES
AVAILABLE TODAY

All new features developed on `master`. No big-bang rewrite.



Perhaps counterintuitively, 2.0 doesn't add new features.
Instead, it only removes deprecated ones.



Stable



Beta



Canary

2.0 BETA JUNE 12

Linked  [®]

STABILITY

WITHOUT STAGNATION



Jeremy Rowe @jeremy_w_rowe

05 Feb

Going down the path of upgrading a biggish ember app from 1.6.1 to 1.9.1.

Wasn't that bad at all.

nice work [#EmberJS](#) team.



Robin Demuth

@rdemuth91

 Follow

[@jeremy_w_rowe](#) [@js_digest](#) we just upgraded a product in our company from ember 1.0 rc5 all the way up to 1.9.1.

worked also just fine!

8:31 AM - 5 Feb 2015

1 FAVORITE



THANK YOU

QUESTIONS?