

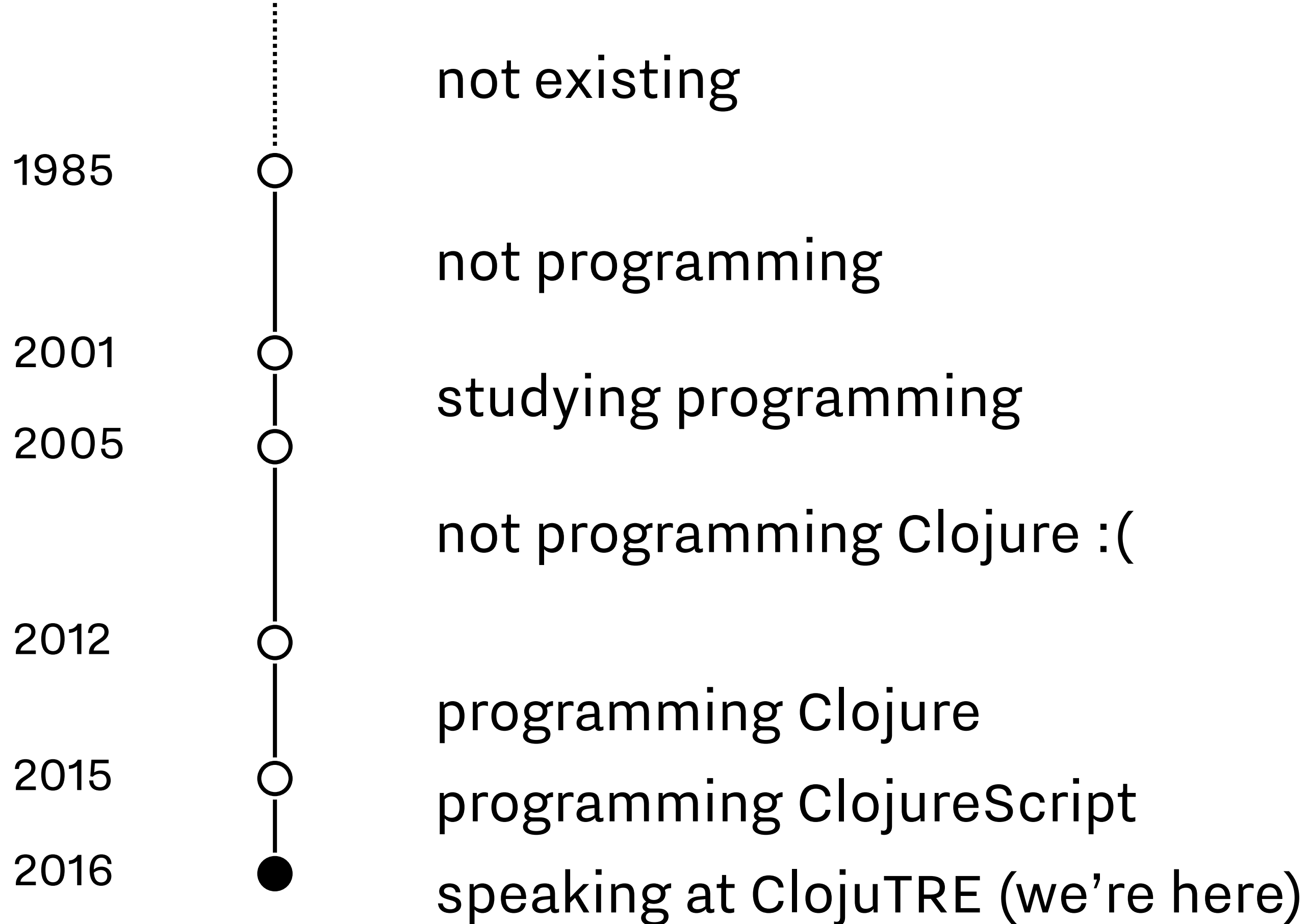
Isomorphic web apps with Rum

by Nikita Prokopov



★ MOSCOW

✱ NOVOSIBIRSK



◀ (RUM) ▶

HISTORY

React



May
2013

React

Om



May
2013

Dec
2013



Om

Centralized state atom

Asynchronous rendering

Leveraged immutability

React

Om

Reagent



May
2013

Jan
2014



Reagent

Reactive atoms

Hiccup syntax

React

Om

Reagent

Quiescent



May
2013

Feb
2014

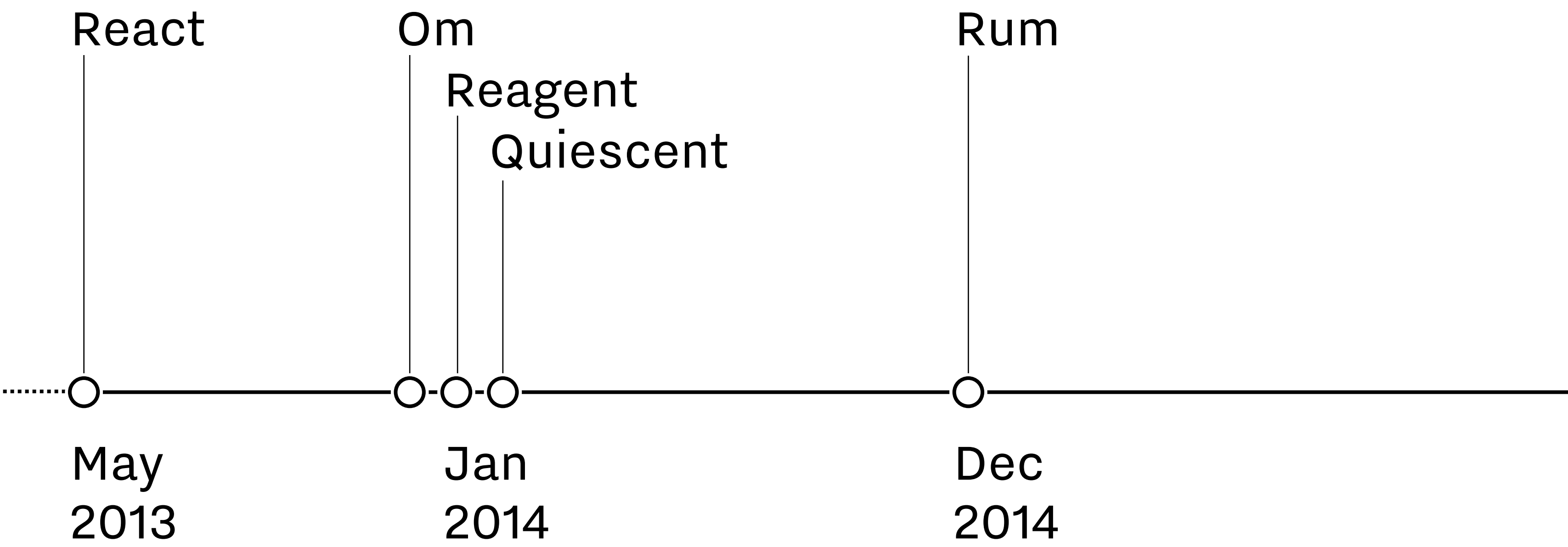


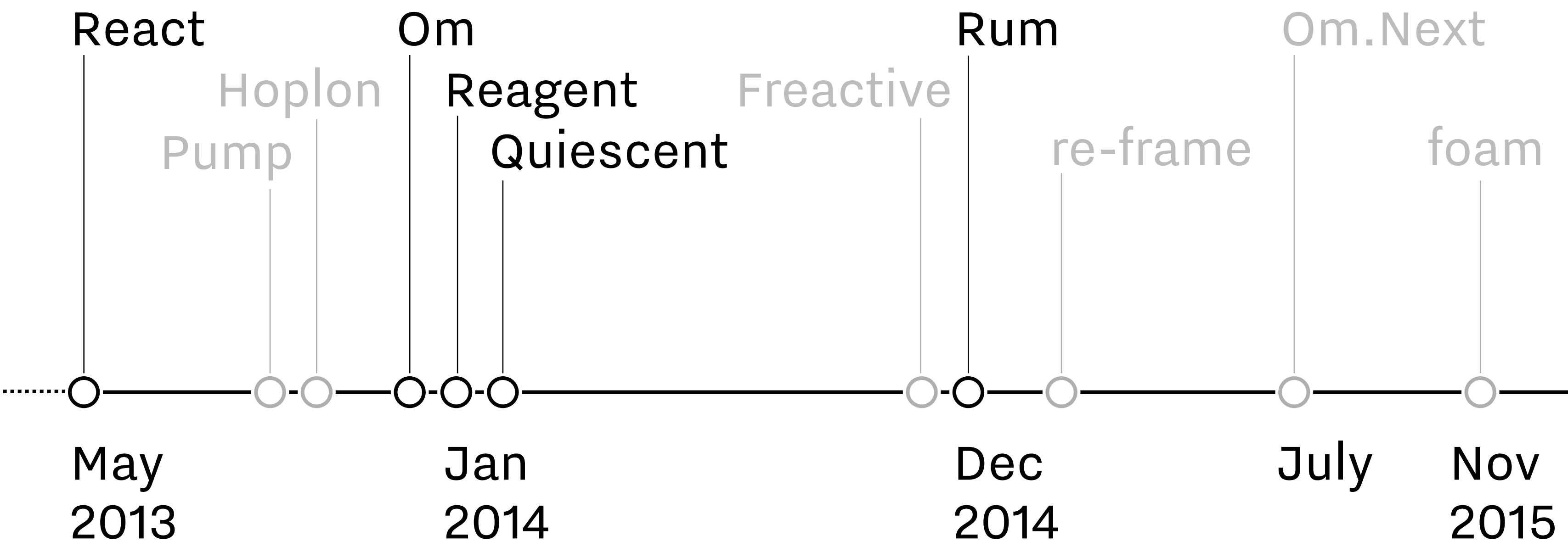
Quiescent

Minimal

No state model

Pure functional, no OOP





IDEA

Rum motivation

Borrow all the good stuff

Mix Om, Reagent, Quiescent models

Be compatible with DataScript

Rum motivation

Borrow all the good stuff

Mix Om, Reagent, Quiescent and other models

Be compatible with ~~DataScript~~ any storage

Be future-proof

Solution

Not opinionated

Don't commit to anything

Build for extension

Library, not a framework

No mandatory state model

Open, decomplexed architecture

Well-defined internals are treated as API

Clear Rum/React mapping, escape hatches

Minimal code base (~900 LOC)

IMPLEMENTATION

```
(rum/defc label [text class]
  [:div.lbl {:class class} text])
```

```
(rum/mount (label "Hello" "header")
  js/document.body)
```

Simpler than React

functions, not classes

arguments, not props

no `this` (duh)

DOM as data

```
(def mixin
  { :will-mount
    (fn [state]
      (assoc state :key (atom nil))) })
```

```
(rum/defc label < mixin [text class]
  [:div.label {:class class} text])
```

State

is immutable

lifecycle methods are pure

can't update component directly

can't close over a thing that will later change

Mixins

Pure, composable, no methods

Powerful & decomplexed:

- Update logic defined per-component
- Emulate Reagent, Quiescent/PureComponent, Om
- Local state is a mixin

SERVER-SIDE

rum/defc Hiccup



Ŝablono

React.createElement VDOM



React.js

DOM

```
(run/defc label [text]
  [:.label text])
```

```
React.createClass({
  render: function() {
    return React.createElement("div",
      { class: "label" },
      this.props.text);
  }
});
```

rum/defc Hiccup



Ŝablono

React.createElement VDOM



React.js

DOM

rum/defc Hiccup



Rum

Markup HTML

```
(run/defc label [text]
  [:.label text])
```

```
(defn label [text]
  (str "<div class='label'>"
    text
    "</div>"))
```

Server-side rendering

Renders to a string

Use same components via CLJC

3× faster than Hiccup in interpreting mode

No state, no lifecycle

Compatible with React.js server-side renderer

CONCLUSION

What's Rum good for?

Complex single-page apps with fine control

Custom/mixed state models

Server-side rendering and templating

What's Rum bad for?

Doesn't teach you how to write apps

Contacts

github.com/tonsky/rum

#tonsky/rum at gitter.im

#rum at clojurians.slack.com

[@nikitonsky](https://twitter.com/nikitonsky)