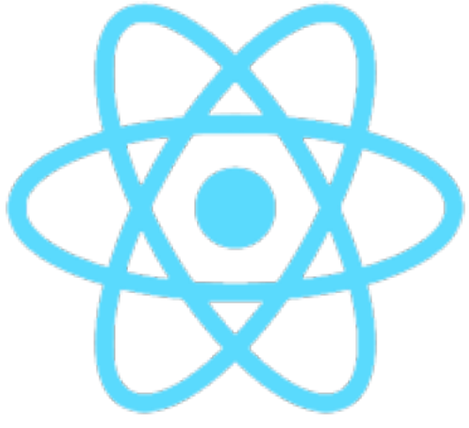

React

IoT architecture with React and ~~Flux~~ Redux

Peter Kowalczyk

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PeterKow

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Agenda

1. Get the repo: **git clone**

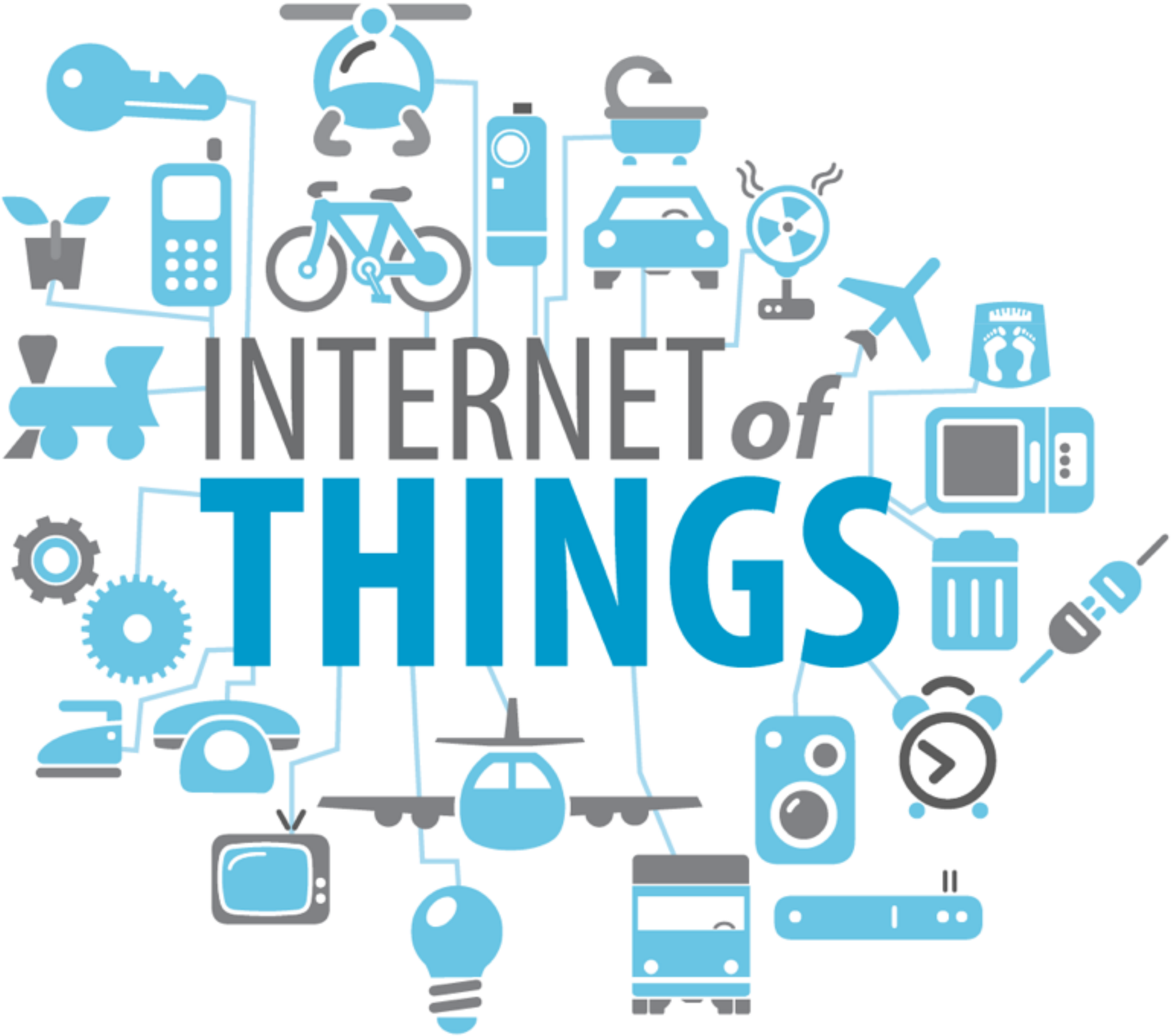
https://github.com/PeterKow/react-redux-devtools-training

http://bit.do/peter-training

2. What is IoT
3. IoT powered by SAM Labs
4. IoT Problems
5. React - exercise
6. Redux - exercise

Constraints

- We have only 2 hours
- Brief introduction to IoT
- Basics of React
- Focus on Flux and Redux implementation



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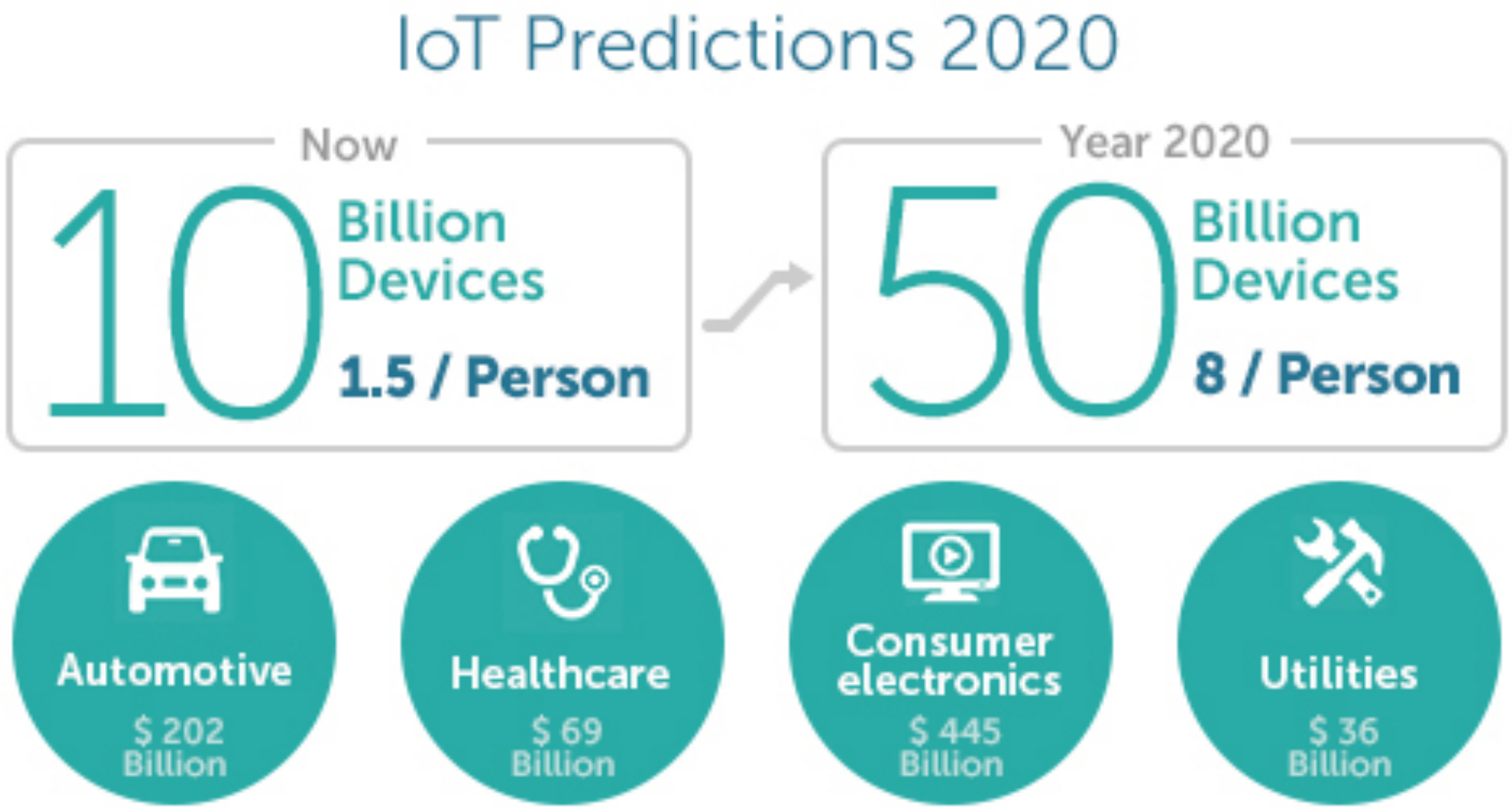


https://github.com/PeterKow/react-redux-devtools-training

or

bit.do/peter-training

Example of IoT:

Tak Tran

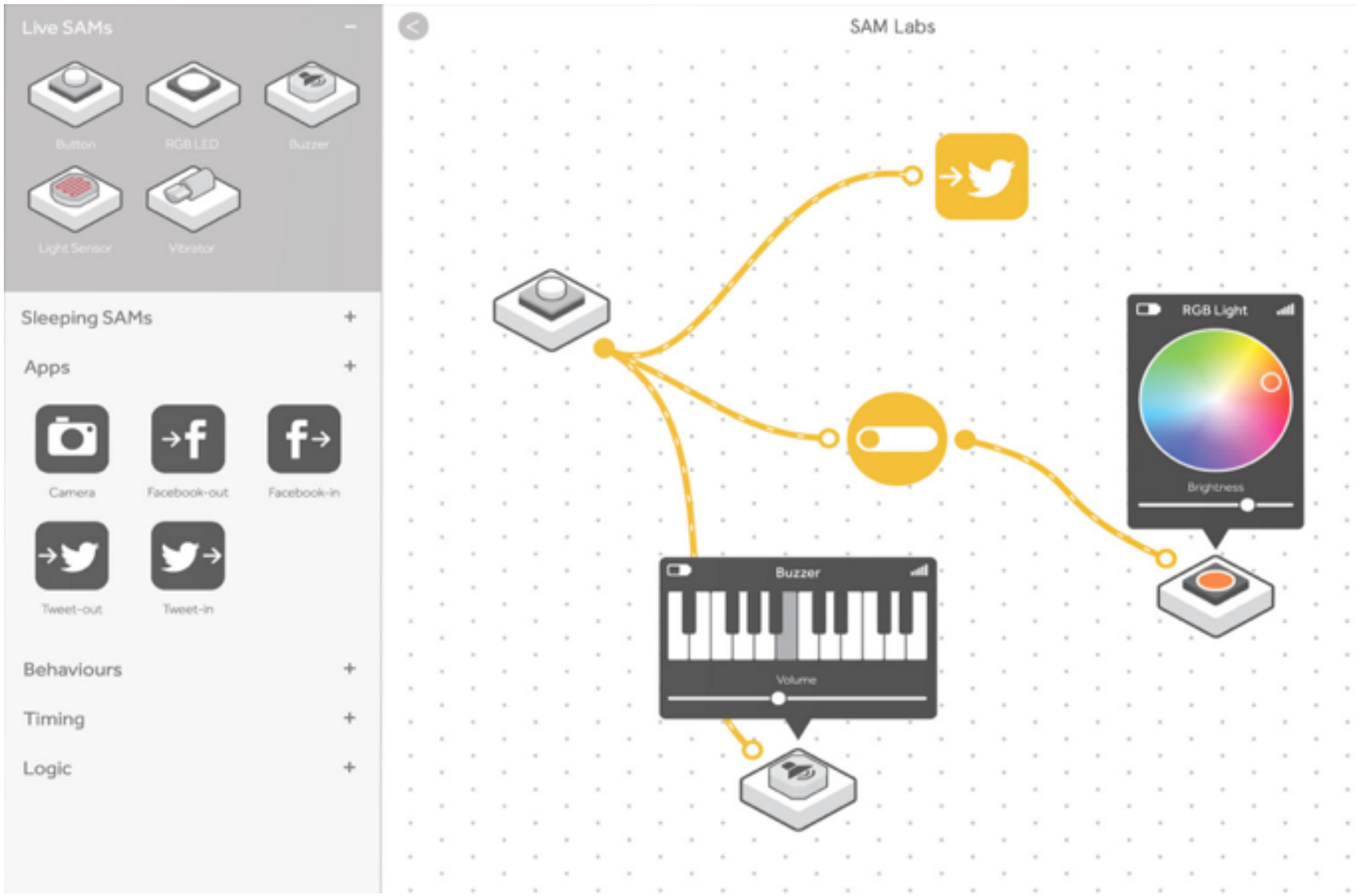
Senior Fullstack JavaScript developer

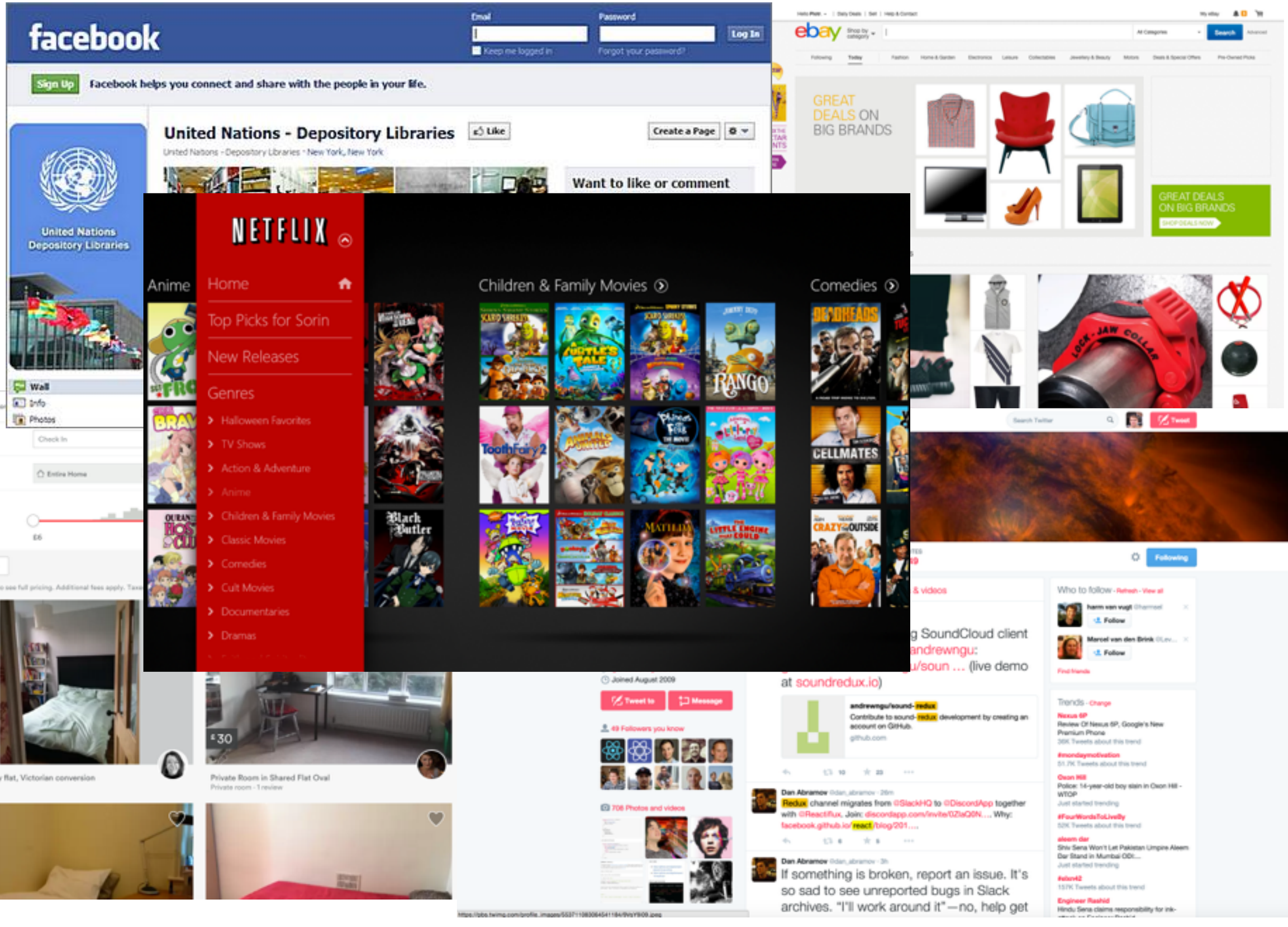
TakTran

zlog

tak@samlabs.me

This is JavaScript!




facebook
Email
Password
Log In
Keep me logged in
Forgot your password?
Sign Up
Facebook helps you connect and share with the people in your life.
United Nations - Depository Libraries
Like
Create a Page
United Nations - Depository Libraries · New York, New York
Want to like or comment
United Nations Depository Libraries
Wall
Info
Photos
ebay
GREAT DEALS ON BIG BRANDS
GREAT DEALS ON BIG BRANDS
SHOP DEALS NOW
NETFLIX
Anime
Home
Top Picks for Sorin
New Releases
Genres
Halloween Favorites
TV Shows
Action & Adventure
Anime
Children & Family Movies
Classic Movies
Comedies
Cult Movies
Documentaries
Dramas
Children & Family Movies
Comedies
RANGO
ToothFairy 2
CELLMATES
CRAZY on the OUTSIDE
Black Butler
Dates
Check In
Room Type
Entire Home
Price Range
£6
More Filters
£49
NEW Balcony flat, Victorian conversion
Private room
£30
Private Room in Shared Flat Oval
Private room · 1 review
Joined August 2009
Tweet to
Message
49 Followers you know
708 Photos and videos
Tweet
Following
Who to follow · Refresh · View all
harm van vugt
Marcel van den Brink
Follow
Find friends
Trends · Change
Nexus 6P
Review Of Nexus 6P, Google's New Premium Phone
36K Tweets about this trend
#mondaymotivation
51.7K Tweets about this trend
Oxon Hill
Police: 14-year-old boy slain in Oxon Hill - WTOP
Just started trending
#FourWordsToLiveBy
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Shiv Sena Won't Let Pakistan Umpire Aleem Dar Stand in Mumbai ODI:...
Just started trending
#elon42
157K Tweets about this trend
Engineer Rashid
Hindu Sena claims responsibility for ink-
g SoundCloud client
andrewngu:
u/soun ... (live demo
at soundredux.io)
andrewngu/sound-redux
Contribute to sound-redux development by creating an account on GitHub.
github.com
Dan Abramov
Redux channel migrates from @SlackHQ to @DiscordApp together with @Reactiflux. Join: discordapp.com/invite/0ZlaQ0N.... Why: facebook.github.io/react/blog/201....
Dan Abramov
If something is broken, report an issue. It's so sad to see unreported bugs in Slack archives. "I'll work around it"—no, help get

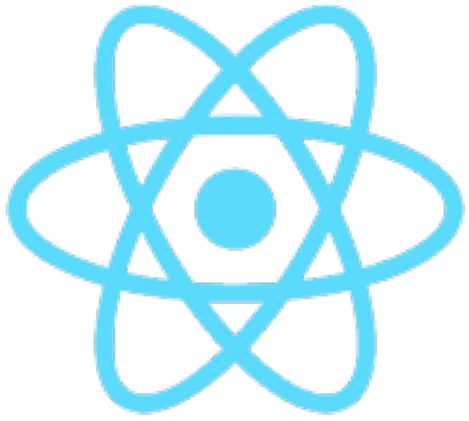
IoT challenges

1. <u>High expectations to the user interfaces and speed</u>

   50 Billion devices ready to connect to your app

2. <u>Event-based environment</u>

   50 Billion devices triggered every 5 sec
   = 600 Billion events / minutes



React

- Fast… by default
- Components
- Testing
- It’s JavaScript

Components

- Components are reusable
- Components are compossible
- Components are unit testable

Components are functions

Components are state machines

Data

Component

Render

Components structure

```
import React, { Component } from 'react'

export default class HelloWorld extends Component {


  render() {
    return <div>Hello World<div>
  }
}
```

Components structure with props

```
import React, { Component } from 'react'

class ComponentMe extends Component {
  render() {
    const { name } = this.props
    return <h1>Hello World {name}</h1>
  }
}
```

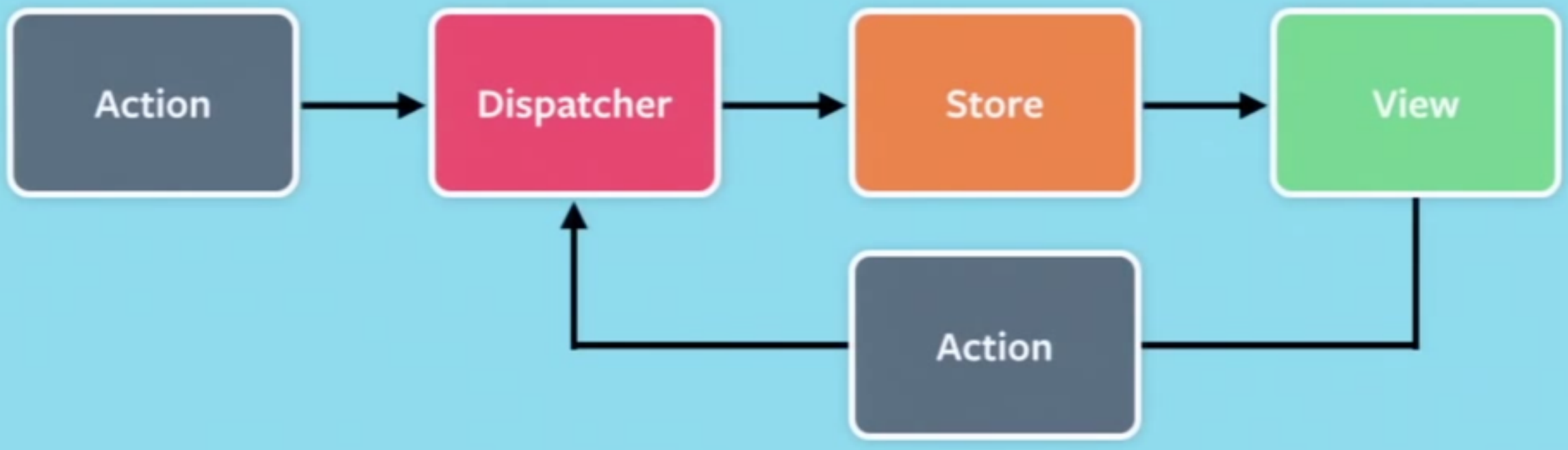
Components structure with state

```
import React, { Component } from 'react'

export default class HelloMario extends Component {
  constructor(props){
    super(props)

    this.state = {
      text: 'hello',
    }
  }
  render() {
    return <HelloMario text={this.state.text} />
  }
}
```

To set state use .setState!

```
this.setState({text: 'new text'})
```

Flux



Action Type

```
import Keymirror from 'keymirror'

const marioActionTypes = Keymirror({
  ‘ACTION_NAME1': null,
  'ACTION_NAME1': null
})

Object.freeze(marioActionTypes)

export default marioActionTypes
```

Actions

```
import { ACTION_TYPE1} from './mario.action.type.js'

export function actionType(){
  return { type: ACTION_TYPE1 }
}
```

Reducer

```
import Immutable from 'immutable'
import { ACTION_TYPE1} from './mario.action.type.js'

const initialStore = Immutable.Map({
  text: 'Hello',})
```

```
export default function marioReducer(state =
initialStore, action = { type: undefined }){
  switch (action.type){
    case ACTION_TYPE1:
      return state.merge({text: ‘new Hello'})
    default:
      return state
  }
}
```

Summary

- With the Redux approach, your components can be responsible for just rendering not state handling
- You can use devtools for free, for a more pleasant coding experience:)
- Flux introduces a pattern which is easy to follow
- Support for new features