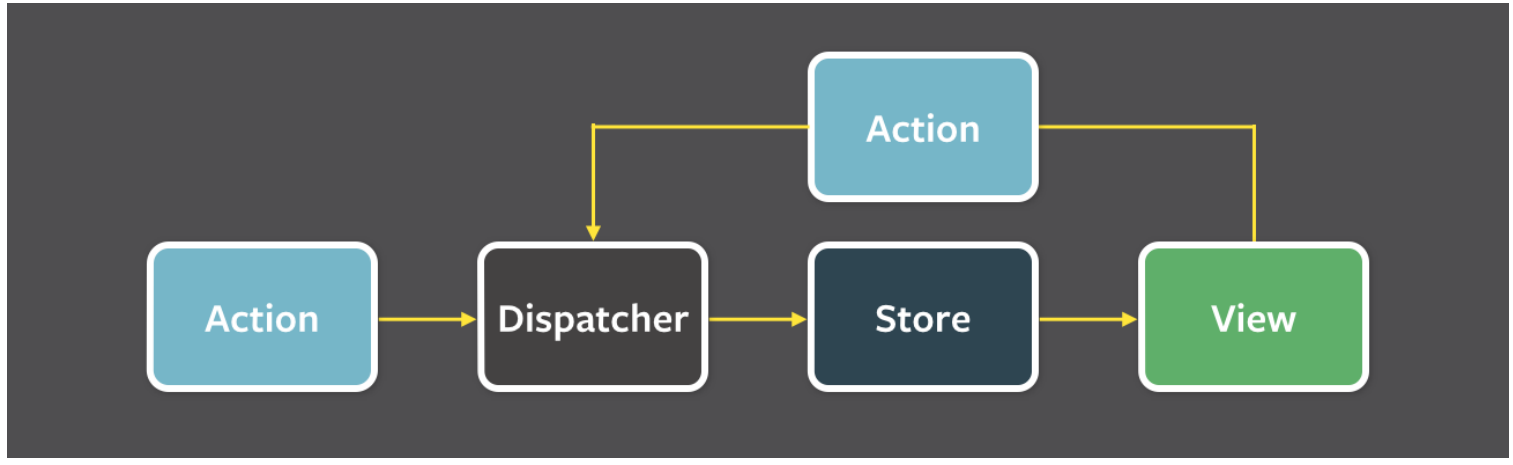
choo

TDAH Talks S01E04 - São Carlos, Agosto 2016

Fabricio C Zuardi

Front-end hoje

- Single Page Applications
- Composable view components
- Unidirectional data flow
    - State -> View -> Action



React

the good parts

- JSX
- testable/reusable pieces
- help bringing functional programming to mainstream / hype
- redux

the bad parts

- JSX, boilerplates, overhead
- People think Webpack is necessary
    - Webpack sucks hard

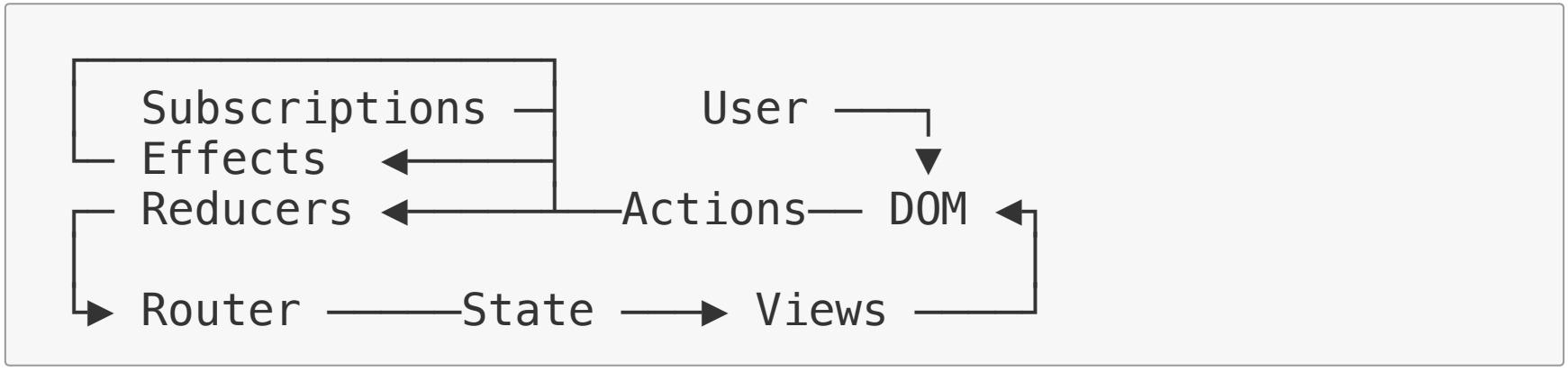
Thanks React!

now let's take a step back

choo

- DOM the lowest common denominator
- Plain Javascript
    - Tagged template literals
- Useful concepts from flux/elm-architecture/redux/react-router organized in a small API (6 methods)
- transparent side-effects
- minimal tooling (browserify)

choo (ascii-art)



é um tremzinho!

Exemplo

Próximo TDAH

- data
- temas

State

```
const exampleState = {
    day: '09 de Setembro de 2016',
    talks: [
        {
            title: 'Pokémon Go é Vida',
            author: 'Frederico Marques'
        },
        {
            title: 'Drinks a base de Mountain Dew',
            author: 'Luiz Marquetti'
        }
    ]
}
```

Components

```
const dayLabel = day => html`<h2>dia ${day}</h2>`;
```

```
const talkItem = talk => html`
 <li>
    <span>${talk.title}</span> –
    <span>${talk.author}</span>
</li>`;
```

```
const talkList = talks => html`
<ul>
    ${talks.map(talkItem)}
</ul>`;
```

View

```
const nextTDAH = (state, prev, send) => html`
<div>
    <h1>Próximo TDAH</h1>
    ${dayLabel(state.day)}
    <h3>Temas</h3>
    ${talkList(state.talks)}
</div>`;
```

Routes

```
const routes = [
    ['/', nextTDAH]
];
```

Model

```
const tdahModel = {
    state: exampleState,
    reducers: {},
    effects: {},
    subscriptions: {}
}
```

App

```
const choo = require('choo');
const app = choo();
app.model(tdahModel);
app.router(routes);
const tree = app.start();
document.body.appendChild(tree)
```

Reducers

```
const addTalk = (data, state) => ({
    ...state,
    talks: [
        ...state.talks,
        {
            title: data.title,
            author: data.author
        }
    ]
});
```

```
const removeTalk = (data, state) => ({
    ...state,
    talks: [
        ...state.talks.slice(0, data.index),
        ...state.talks.slice(data.index + 1)
    ]
});
```

Main model with reducers

```
const tdahModel = {
    state: exampleState,
    reducers: {
        addTalk,
        removeTalk
    },
    effects: {},
    subscriptions: {}
}
```

Add talk component

```
const addTalkForm = submitHandler => html`
<form onsubmit=${submitHandler}>
    <input
        name="title"
        placeholder="Tema"
    />
    <input
        name="author"
        placeholder="Autor"
    />
    <input
        type="submit"
        value="Reservar meu lugar na fila"
    />
</form>`;
```

Main view with add talk form

```
const nextTDAH = (state, prev, send) => html`
<div>
    <h1>Próximo TDAH</h1>
    ${dayLabel(state.day)}
    <h3>Temas</h3>
    ${talkList(state.talks)}
    <h3>Add a new Talk</h3>
    ${addTalkForm(e => {
        e.preventDefault();
        send('addTalk', {
            title: e.target.title.value,
            author: e.target.author.value
        });
    )}
</div>`;
```

a função `send` é usada para enviar **action** de nome `addTalk`

Obrigado

Referências:

- https://github.com/yoshuawuyts/choo
- https://facebook.github.io/react/index.html
- http://redux.js.org/
- http://guide.elm-lang.org/architecture/

(remove, effects e subscription ficam como exercício)

Remove talk component

```
const removeTalkForm = submitHandler => html`
    <form onsubmit=${submitHandler}>
        <input
            name="index"
            placeholder="index 0 é o do topo"
        />
        <input
            type="submit"
            value="Remover Talk"
        />
    </form>
`;
```

Main view

```
const nextTDAH = (state, prev, send) => html`
<div>
    <h1>Próximo TDAH</h1>
    ${dayLabel(state.day)}
    <h3>Temas</h3>
    ${talkList(state.talks)}
    <h3>Add a new Talk</h3>
    ${addTalkForm(e => {
        e.preventDefault();
        send('addTalk', {
            title: e.target.title.value,
            author: e.target.author.value
        });
    )}
    <h3>Remove a Talk</h3>
    ${removeTalkForm(e => {
        e.preventDefault();
        send('removeTalk', {
            index: parseInt(e.target.index.value)
        });
    )}
</div>`;
```

Effects

```
const saveList = (data, state, send, done) =>
    fetch('/talks', {
        method: 'POST',
        headers: {
        'Accept': 'application/json',
        'Content-Type': 'application/json'
        },
        body: JSON.stringify({talks: state.talks})
    })
    .then(done)
    .catch(done);
```

Subscriptions

```
const loadList = (send, done) =>
    fetch('/talks')
    .then(data =>
        send('replaceTalks', {talks: data.talks}, done))
    .catch(done);
```