

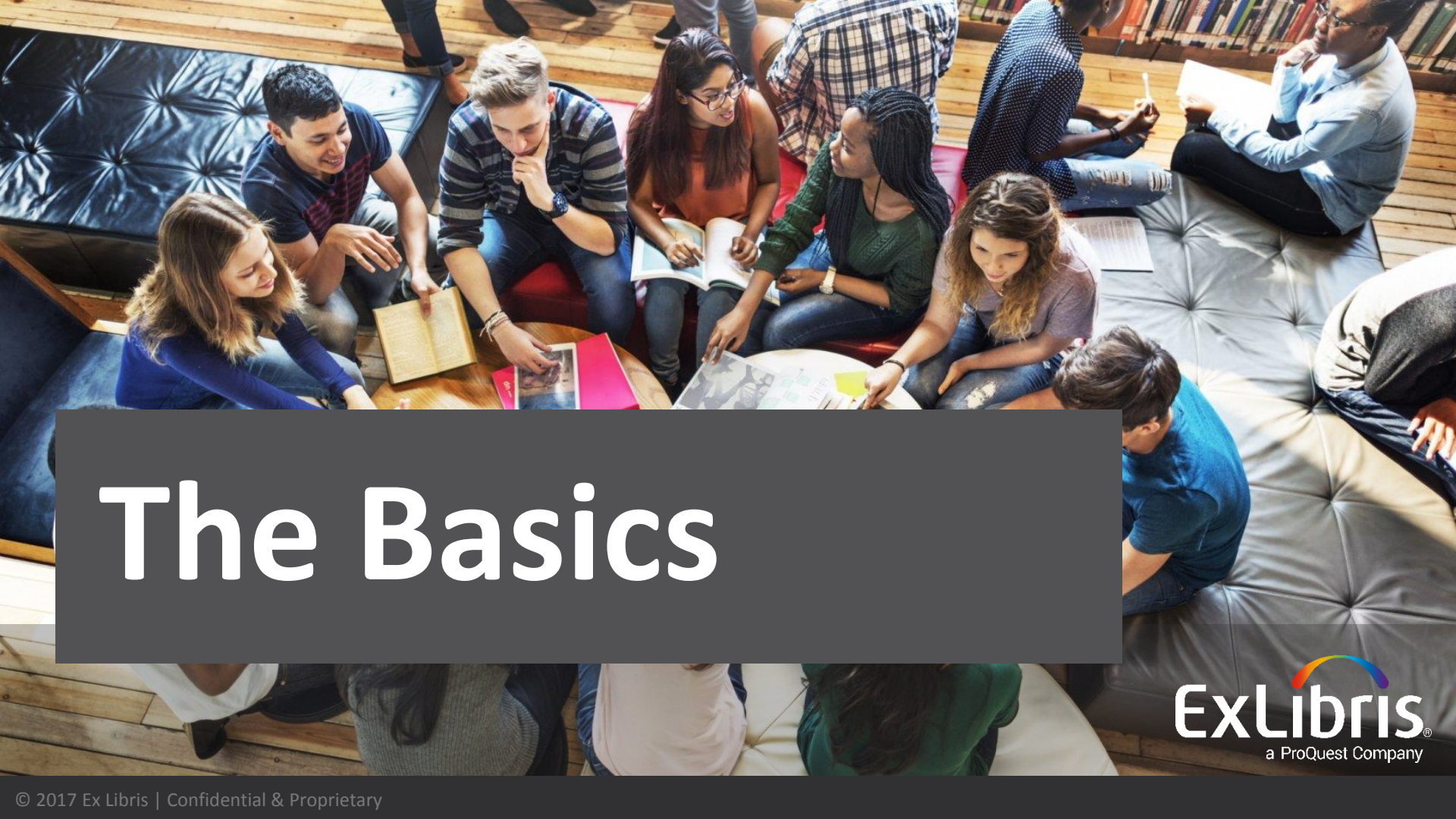


Debugging the AEK

Tools and tricks to detect errors

Liam Bennett – Mobile Solutions Architect

ExLibris
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The Basics


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~~Linting~~ ~~Console~~

React Developer Tools Visualisation Tools

React Developer Tools

A browser plugin built by Facebook

<https://chrome.google.com/webstore/detail/react-developer-tools/fmkadmapgofadopljbjfkapdkoienihi>

React - A JavaScript | x

Secure | <https://facebook.github.io/react/>

React GitHub v15.5.4

Docs Tutorial Community Blog

React

A JAVASCRIPT LIBRARY FOR BUILDING USER INTERFACES

Get Started Take the Tutorial

Declarative

React makes it painless to create interactive UIs. Design simple views for each state in your application, and React will efficiently update and render just the right components when your data changes.

Elements Console **React** Redux Sources Network Timeline Profiles Application Security

Highlight Updates Highlight Search

Search (text or /regex)

```
<ReactPlayground codeText="class HelloMessage extends React.Component {
  render() {
    return <div>Hello {this.props.name}</div>;
  }
}" />
<HelloMessage name="Jane"></HelloMessage>
<ReactPlayground codeText="class Timer extends React.Component {
  render() {
    return <div>Timer</div>;
  }
}" />
<Timer></Timer>
<ReactPlayground codeText="class TodoApp extends React.Component {
  render() {
    return <div>TodoApp</div>;
  }
}" />
<TodoApp></TodoApp>
<ReactPlayground codeText="class MarkdownEditor extends React.Component {
  render() {
    return <div>MarkdownEditor</div>;
  }
}" />
<MarkdownEditor></MarkdownEditor>
```

Props

```
codeText: "class HelloMessage extends
  React.Component {\n  render() {\n
  return <div>Hello
  {this.props.name}</div>;\n
  }\n}\n\nReactDOM.render(<HelloMes
  sage name='Jane' />,
  mountNode);"
editorTabTitle: "Live JSX Editor"
showCompiledJSTab: true
showLineNumbers: false
transformer: transformer()
```

State

```
code: "class HelloMessage extends
  React.Component {\n  render() {\n
  return <div>Hello {this.props.name}
  </div>;\n
  }\n}\n\nReactDOM.render(<HelloMessage
  name='Jane' />, mountNode);"
mode: "JSX"
```

ReactPlayground

Console

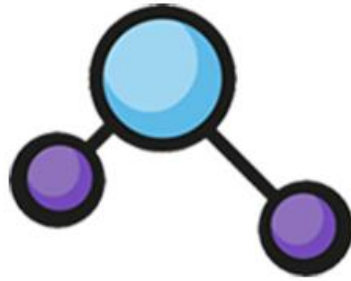
top Preserve log

Using the new “**React**” tab you can inspect all your components visually.

You can expand the router, container and components.

For each component you can see the props, state, key and ref values.

Visualisation



React Sight

A React visualization tool with a live state and prop tree viewer that complements React devtools.

<https://github.com/React-Sight/React-Sight>





React Monocle

A developer tool for generating visual representations of your React app's component hierarchy.

<https://github.com/team-gryff/react-monocle>

```
insta-clone — -bash — 157x60  
...react-monocle — -bash ...  
...ocle-spectacle — -bash ...  
...ourter-example — -bash ...  
node · rpm...ple_Terminal ...  
...ent/insta-clone — -bash  
...th/art/stree v2 — -bash ...  
+  
Jerrys-MacBook-Air:insta-clone jerrymao$ monocle -c build/index.html -b main -d src -j js
```

I

A complex network diagram with numerous nodes and connecting lines in various colors (blue, red, yellow, green, black) on a light blue background. The lines radiate from several central nodes, creating a dense web of connections.

The Advanced

A small logo consisting of a multi-colored arc (red, orange, yellow, green, blue) above the text.

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Performance

Rendering is expensive

How can we minimise render cycles?

Why did you update?

why-did-you-update is a library that hooks into React and detects potentially unnecessary component renders.

It detects when a component's render method is called despite its props not having changed.

<https://github.com/maicki/why-did-you-update>

```
import React from 'react'

if (process.env.NODE_ENV !== 'production') {
  const {whyDidYouUpdate} = require('why-did-you-update')
  whyDidYouUpdate(React)
}
```

⚠ ▶ Value did not change. Avoidable re-render! [deepDiff.js:38](#)

before [deepDiff.js:43](#)

▶ Object {newTodo: true, placeholder: "What needs to be done?", onSave: function}

after [deepDiff.js:44](#)

▶ Object {newTodo: true, placeholder: "What needs to be done?", onSave: function}

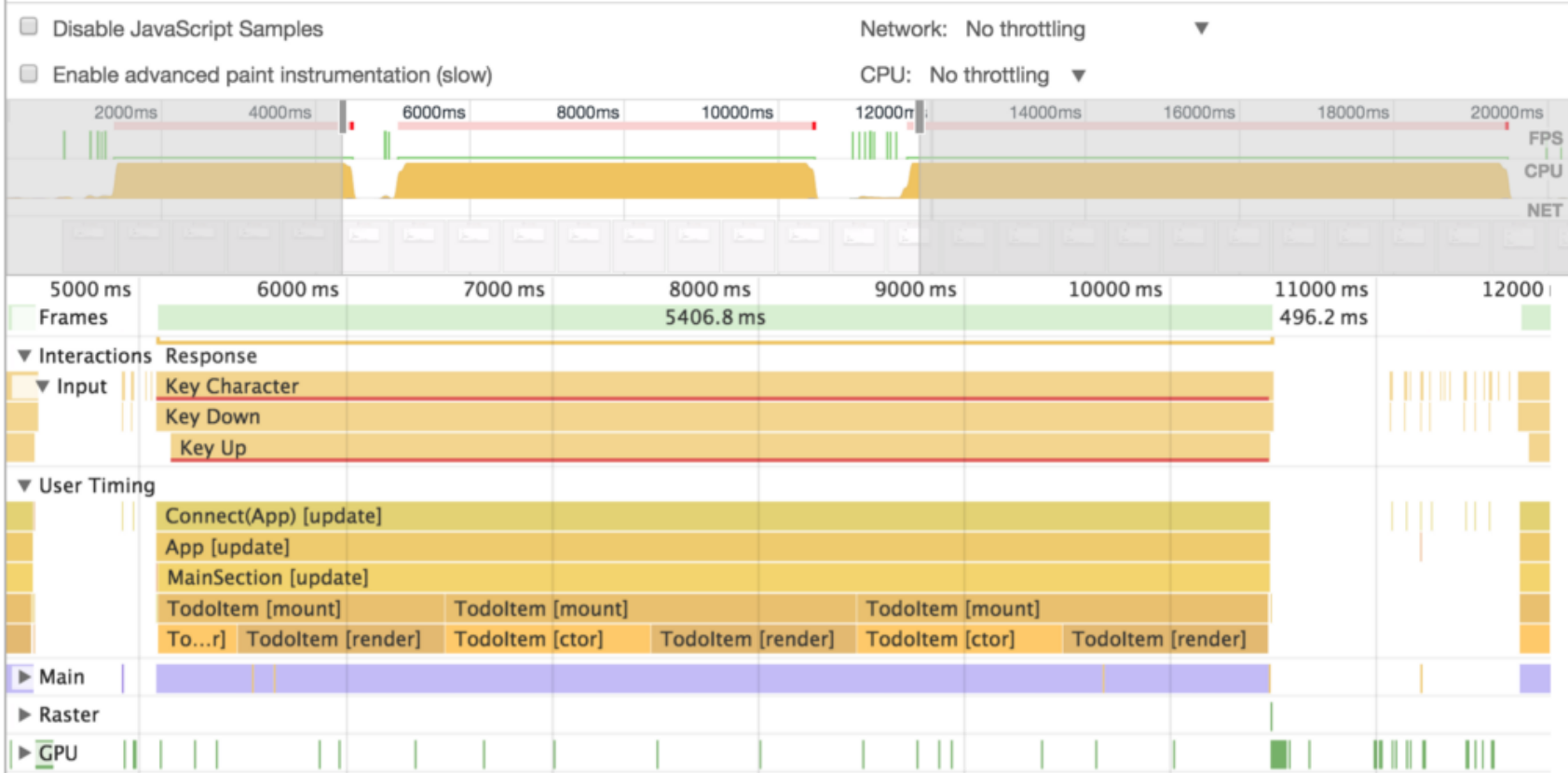
▼ Header.props [deepDiff.js:35](#)

⚠ ▶ Value did not change. Avoidable re-render! [deepDiff.js:38](#)

before ▶ Object {addTodo: function} [deepDiff.js:43](#)

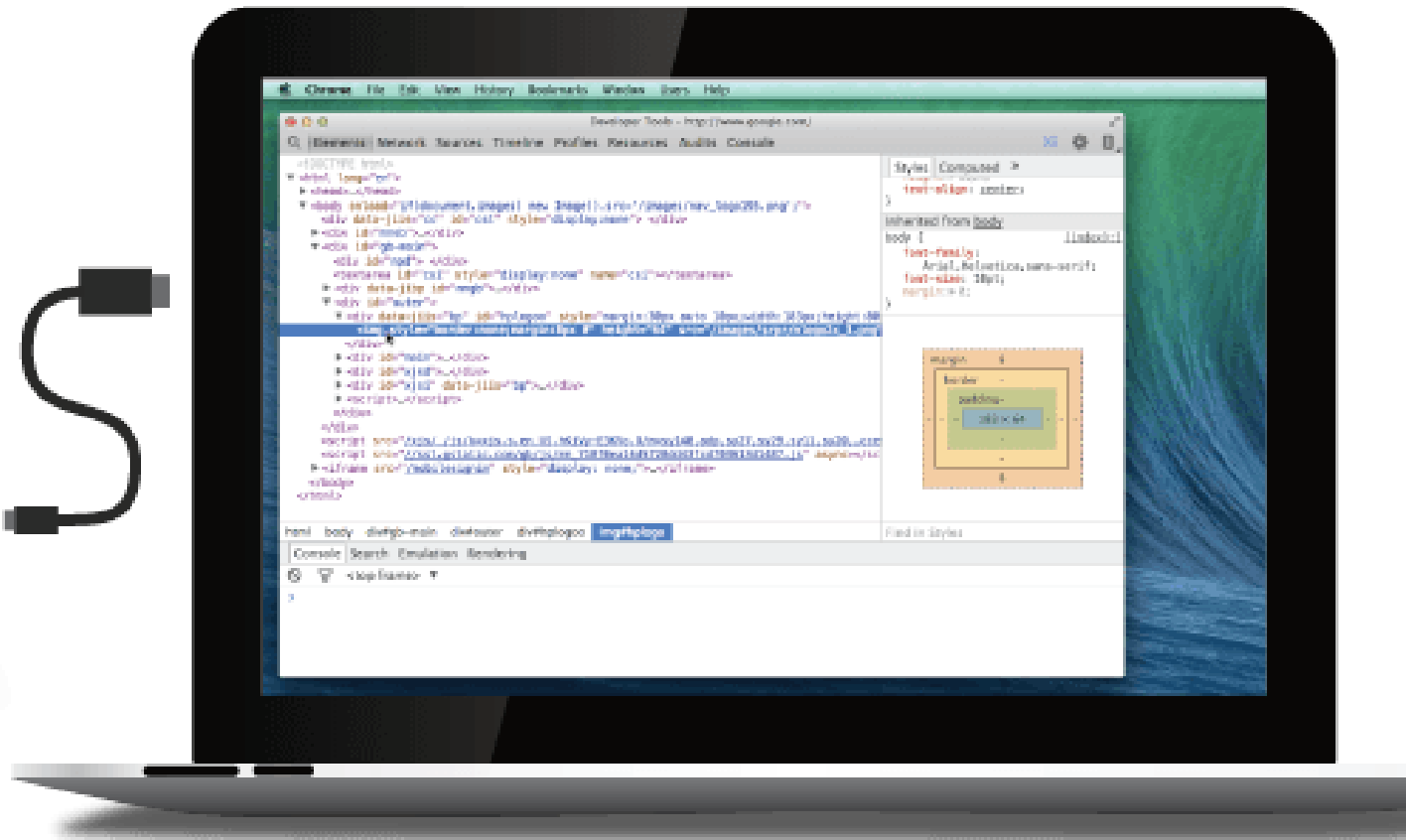
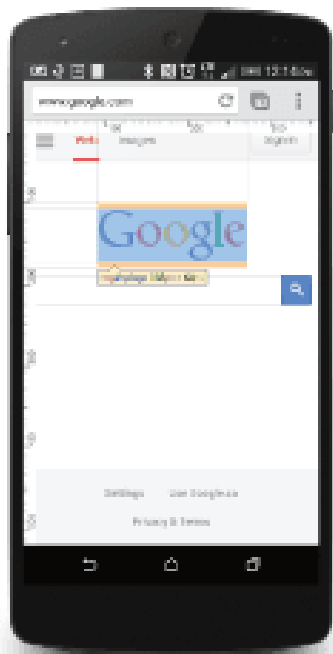
after ▶ Object {addTodo: function} [deepDiff.js:44](#)

React and User Timing API



React 15.4.0 introduced a performance timeline that lets you record component performance.

Remote Debugging?



VorlonJS?



A platform-agnostic tool for remotely debugging and testing your JavaScript.

Browser window showing the VORLON.JS application interface. The address bar displays `http://vorlonjs.azurewebsite...`. The application header includes "VORLON.JS" and "Session ID: default Client ID: undefined". A prominent teal button is labeled "Identify a client". Below this, a section titled "CLIENT LIST" contains a "Reset Dashboard" button. The interface also features a "DOM Explorer" and "Modernizr" tab at the top, and a "Console" area at the bottom.



Windows taskbar and system tray area. The taskbar includes the Start button, a search bar with the text "Search the web and Windows", and several application icons. The system tray on the right shows the date and time as "FRA 7:51 PM 4/27/2015".

* Windows 10 Enterprise Technical Preview
Evaluation copy. Build 10061

Why?

Easy setup

Install Vorlon.JS and add a single line of JavaScript to your web app. Run your server and start the Vorlon.JS dashboard.

Extensible

Debug JavaScript on nearly any platform with a web environment. Plugins allow you to add new features and resources.

Multi-device

Remotely connect up to 50 devices simultaneously. Run your code on each or all of them with a single click.

Easy with AEK... yes!

@ombiel/remote-debug-plugin - v0.0.8



AEK Remote Debug

In combination with an http proxy tool, this plugin can be used to route a native (AppStore) CampusM app to your local devserver/runserver environment, to test AEK screens in development prior to deployment.

In addition the plugin also provides a bundled version of [Voron](#) which offers developer tools such as a DOM inspector and interactive console.

<https://npm.campusm.net/-/docs/@ombiel/remote-debug-plugin/0.0.8/>

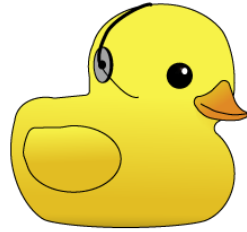
Demo

A photograph of a student in a library with her hands raised. She is wearing glasses and a red top. In the background, there are bookshelves filled with books. To the right, another student in a plaid shirt is also raising their hand while holding a book. A laptop with a world map is visible in the foreground.

Additional


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Rubber Duck Debugging



Explaining code to a rubber duck in hopes of finding a bug.

<https://blog.wsol.com/how-a-rubber-duck-taught-me-to-be-a-better-programmer>

A hand is shown holding a network of white clouds connected by thin white lines. The background is a blurred blue and white scene with a network of nodes and lines. A colorful, wavy ribbon of light (red, orange, yellow, green, blue) flows across the middle of the image. A dark grey horizontal band is positioned below the ribbon, containing the text "Thank you".

Thank you