CHROME DEV TOOLS
FRONT

CHROME DEV TOOLS
TO BACK

Follow Along!

@katie_fenn

http://tiny.cc/cdt-ftb

Debug:

verb [T] (REMOVE MISTAKES)
to remove bugs (= mistakes) from a computer program:
to debug a program

Cambridge Dictionaries Online

Early debugging:

```
alert(“Debug”);
```

Early debugging:

```
console.log(“Debug”);
```

Early debugging:

- Monitoring program flow and state
- Debug messages are not interactive

Script Debugging

The Sources tab

Debugging Scripts:

```
console.log(“debug”);
```

Debugging Scripts:

```
debugger;
```

Chrome File Edit View History Bookmarks People Window Help 20:03

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Sour... Con... Snip... main.js

- (no domain)
- ajax.googleapis.com
- hello.myfonts.net
- localhost:9001
  - css
  - js
  - (index)
- www.google-analyti

```
1  $('.select-navigation select').selectNavigation();
2
3  var scrollMax = $(document).height() - window.innerHeight,
4      windowScroll = getWindowScroll(),
5      ticking = false;
6
7  $(window).on('scroll', function onScroll () {
8      windowScroll = getWindowScroll();
9      updateFrame(windowScroll);
10 });
11
12 /*function updateFrame(windowScroll) {
13     animateCloud(windowScroll);
14 }
15
16 function getWindowScroll() {
17     return (1 / ($(document).height() - window.innerHeight)) * w
18 }*/
19
20 function updateFrame(windowScroll) {
21     debugger;
22     if (!ticking) {
23         window.requestAnimationFrame(function animateFrame () {
24             ticking = false;
25             animateCloud(getWindowScroll);
26         });
27     }
28
29     ticking = true;
30 }
31
32 function getWindowScroll () {
33     return 1 / (scrollMax * window.pageYOffset);
34 }
```

{} Line 21, Column 2

Watch Expressions

```
window.pageYOffset: 269
$('h1').first().text(): "Katie F…
```

Call Stack Async

2 stack frames are hidden (black-boxed). Show

updateFrame	main.js:21
onScroll	main.js:9

Scope Variables

```
Local
  ▶ this: Window
    windowScroll: 0.00000188991973…
Global                                Window
    Infinity: Infinity
  ▶ $: function (e,t){return new b…
  ▶ AnalyserNode: function Analyse…
  ▶ ApplicationCache: function App…
  ▶ ApplicationCacheErrorEvent: fu…
  ▶ Array: function Array() { [nat…
  ▶ ArrayBuffer: function ArrayBuf…
  ▶ Attr: function Attr() { [nativ…
  ▶ Audio: function HTMLAudioEleme…
  ▶ AudioBuffer: function AudioBuf…
  ▶ AudioBufferSourceNode: functio…
  ▶ AudioContext: function AudioCo…
  ▶ AudioDestinationNode: function…
  ▶ AudioListener: function AudioL…
```

```
height() - window.innerHeight)) * w

roll) {

onFrame(function animateFrame () {

indowScroll);


indow.pageYOffset);
```

Scope Variables

Local

- this: Window
- windowScroll: 0.00000188991973…

Global Window

- Infinity: Infinity
- $: function (e,t){return new b…
- AnalyserNode: function Analyse…
- ApplicationCache: function App…
- ApplicationCacheErrorEvent: fu…
- Array: function Array() { [nat…
- ArrayBuffer: function ArrayBuf…
- Attr: function Attr() { [nativ…
- Audio: function HTMLAudioEleme…
- AudioBuffer: function AudioBuf…
- AudioBufferSourceNode: functio…
- AudioContext: function AudioCo…
- AudioDestinationNode: function…

```
).selectNavigation();

eight() - window.innerHeight,
croll(),


on onScroll () {
croll();
;


Scroll) {
);


height() - window.innerHeight)) * w
```

Watch Expressions

```
window.pageYOffset: 269
$('h1').first().text(): "Katie F…
```

Call Stack

Async

2 stack frames are hidden (black-boxed). Show

updateFrame	main.js:21
onScroll	main.js:9

Scope Variables

Local

```
▶ this: Window
  windowScroll: 0.00000188991973…
```

elp 20:03

er Tools - http://localhost:9001/

ources Audits Console

```
).selectNavigation();

eight() - window.innerHeight,
croll(),

on onScroll () {
croll();
;

Scroll) {
);
```

Watch Expressions

```
window.pageYOffset: 269
$('h1').first().text(): "Katie F…
```

Call Stack Async

2 stack frames are hidden (black-boxed). Show

updateFrame	main.js:21
onScroll	main.js:9

Resume script execution

```
this.get(‘model').save(options);
```

```
this.save = function (options) {
    this.status = this.get(‘willPublish’)
    return get(this, keyName);
}
```

Resume script execution

```
this.get(‘model').save(options);


this.save = function (options) {
    this.status = this.get(‘willPublish’)
    return get(this, keyName);
}
```

Resume script execution

```
this.get(‘model').save(options);
```

```
this.save = function (options) {
    this.status = this.get(‘willPublish’)
    return get(this, keyName);
```

```
this.status == ‘published’;
```

Step over next function

```
markdown = model.get(‘markdown');
title = model.get(‘title');
```

Step over next function

```
markdown = model.get(‘markdown');
title = model.get(‘title');
```

Step over next function

```
markdown = model.get(‘markdown');
title = model.get(‘title');
```

Step into next function

```
this.get(‘model').save(options);
```

```
get: function(keyName) {
    return get(this, keyName);
},
```

Step into next function

```
this.get(‘model').save(options);
```

```
get: function(keyName) {
    return get(this, keyName);
},
```

Step into next function

```
this.get(‘model').save(options);



get: function(keyName) {
    return get(this, keyName);
},
```

Step into next function

```
this.get(‘model').save(options);
```

```
get: function(keyName) {
    return get(this, keyName);
},
```

Step out of current function

```
this.get(‘model').save(options);


this.save = function (options) {
   this.status = this.get(‘willPublish’)
    return get(this, keyName);
}
```

Step out of current function

```
this.get(‘model').save(options);


this.save = function (options) {
    this.status = this.get(‘willPublish’)
     return get(this, keyName);
}
```

Step out of current function

```
this.get(‘model').save(options);
```

```
this.save = function (options) {
   this.status = this.get(‘willPublish’)
    return get(this, keyName);
}
```

Find out more!

DevTools Blackboxing

DevTools Workspaces

Performance Profiling

1. Timeline

Should disabling JavaScript be an option in the UI?

Posted 2013-08-11 10:54:00 +0100

In its latest release of its web browser, Firefox 23, Mozilla has removed the option to disable JavaScript from the user interface. It's still a configurable option that can be changed in the browser's about:config interface, so professional and enthusiast users shouldn't have a problem.

A debate is unfolding at Ars Technica regarding this decision, and the wider merits of JavaScript on the web.

Some are claiming JavaScript is unnecessary, that "pure HTML with CSS is sufficient for the functional needs of about 95% of the web". Others support the use of JavaScript as its capabilities can be used to design more sophisticated interfaces and deliver an effective user experience. One person even slams web developers' use of JavaScript as a "divine right to execute scripts in my browser" that should be resisted.

I'm sure that 95% of the internet doesn't *need* JavaScript. After all, a significant proportion of the internet is porn, and that certainly can't be made better with JavaScript. I'm also a huge proponent of the power of the web to spread news and empower communities; custom-designed select boxes sure as hell aren't necessary for that.

However, I'd argue that JavaScript has become very important for 95% of the web by traffic: Facebook, Twitter, Google Mail. JavasScript is used on these websites to meaningfully enhance the user experience. Such enhancements are routinely required by people paying for websites, although they are also often paying for the guidance to use JavaScript wisely.

JavaScript *is* and *should be* an integral part of the web, and Mozilla is right to withdraw this option from the consumer user. User stories rarely state legacy devices as the reason for supporting the absence of JavaScript. In fact the last time I was given this requirement it was specified in the context of users disabling JavaScript in otherwise functional browsers. I won't deny that there are use cases for devices that do not support JavaScript, but those use cases are now rare.

Custom-design select boxes are still entirely unnecessary, though.

People Don't Buy Why You Do It, They Buy

Katie Fenn

Web developer
Co-organiser: First Play Sheffield
Video game enthusiast

If you liked this...

- Bunny
- Coding Horror
- Comlicity
- Daring Fireball
- James Allen on F1
- Signal vs. Noise
- The Space Shuttle
- Waffle

Chrome File Edit View History Bookmarks People Window Help 18:46

Katie Fenn | FIA WEC

localhost:9001

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Causes JS Profiler Memory Paint

200 ms 400 ms 600 ms 800 ms 1000 ms

RECORDS

Summary Layers

Should disa
UI?

Posted 2013-08-11 10:

In its latest release of it
JavaScript from the use
browser's about:config
problem.

A debate is unfolding at
JavaScript on the web.

Some are claiming Java
functional needs of abo
capabilities can be used
experience. One person
execute scripts in my b

I'm sure that 95% of th
the internet is porn, an
proponent of the power
designed select boxes s

However, I'd argue that
Facebook, Twitter, Goo
the user experience. Su
although they are also

JavaScript *is* and *should*
option from the consum
supporting the absence
specified in the context
deny that there are use
are now rare.

Custom-design select b

Chrome File Edit View History Bookmarks People Window Help 18:46

Katie Fenn | FIA WEC

localhost:9001

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Causes JS Profiler Memory Paint

200 ms 400 ms 600 ms 800 ms 1000 ms

RECORDS

Summary Layers

Should disa
UI?

Posted 2013-08-11 10:

In its latest release of it
JavaScript from the use
browser's about:config
problem.

A debate is unfolding at
JavaScript on the web.

Some are claiming Java
functional needs of abo
capabilities can be used
experience. One person
execute scripts in my b

I'm sure that 95% of th
the internet is porn, an
proponent of the power
designed select boxes s

However, I'd argue that
Facebook, Twitter, Goo
the user experience. Su
although they are also

JavaScript *is* and *should*
option from the consum
supporting the absence
specified in the context
deny that there are use
are now rare.

Custom-design select b

Chrome File Edit View History Bookmarks People Window Help 18:49

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Causes JS Profiler Memory Paint

30 fps

60 fps

RECORDS

ms 1000 ms 2000 ms 3000 ms 4000 ms 5000 ms 6000 ms

- Update Layer Tree
- Composite Layers
- Event (scroll)
  - Function Call (jquery.min.js:3)
    - JS Frame (v.handle @ jquery.min.js:2)
    - JS Frame (b.event.dispatch @ jquery.min.js:2)
    - JS Frame (b.event.fix @ jquery.min.js:2)
    - JS Frame (v.handle @ jquery.min.js:2)
      - JS Frame (b.event.dispatch @ jquery.min.js:2)
        - JS Frame (b.event.handlers @ jquery.min.js...
      - JS Frame (onScroll @ main.js:2)

Summary Layers

Console Search Emulation Rendering

<top frame> Preserve log

```
Consider using 'dppx' units, as in CSS 'dpi' means dots-per-CSS-inch, not dots-per-physical-inch, so does not correspond
to the actual 'dpi' of a screen. In media query expression: print, not all, (-webkit-min-device-pixel-ratio: 1.25), (min-
resolution: 120dpi)
>
```

Chrome File Edit View History Bookmarks People Window Help

Developer Tools - http://localho

Elements Network Sources Timeline Profiles Resources Audits

Causes JS Profiler Memory Paint

RECORDS

- Update Layer Tree
- Composite Layers
- Event (scroll)
  - Function Call (jquery.min.js:3)
    - JS Frame (v.handle @ jquery.min.js:2)

ms 1000 ms

Chrome File Edit View History Bookmarks People Window Help

Developer Tools - http://localho

Elements Network Sources Timeline Profiles Resources Audits

Causes JS Profiler Memory Paint

RECORDS

ms 1000 ms

- Update Layer Tree
- Composite Layers
- Event (scroll)
  - Function Call (jquery.min.js:3)
    - JS Frame (v.handle @ jquery.min.js:2)

Chrome File Edit View History Bookmarks People Window Help

Developer Tools - http://localho

Elements Network Sources Timeline Profiles Resources Audits

Causes JS Profiler Memory Paint

RECORDS

- Update Layer Tree
- Composite Layers
- Event (scroll)
  - Function Call (jquery.min.js:3)
    - JS Frame (v.handle @ jquery.min.js:2)

ms 1000 ms

RECORDS

- Update Layer Tree
- Composite Layers
- Event (scroll)
  - Function Call (jquery.min.js:3)
    - JS Frame (v.handle @ jquery.min.js:2)
    - JS Frame (b.event.dispatch @ jquery.min.js:2)
    - JS Frame (b.event.fix @ jquery.min.js:2)
    - JS Frame (v.handle @ jquery.min.js:2)
      - JS Frame (b.event.dispatch @ jquery.min.js:2)
        - JS Frame (b.event.handlers @ jquery.min.js…
      - JS Frame (onScroll @ main.js:2)

ms 1000 ms

Summary | Layers

Console | Search | Emulation | Rendering

<top frame> Preserve log

Chrome File Edit View History Bookmarks People Window Help 19:09

Katie Fenn | FIA WEC

localhost:9001

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Causes JS Profiler Memory Paint

30 fps

60 fps

RECORDS

Summary Layers

Should disa
UI?

Posted 2013-08-11 10:

In its latest release of it
JavaScript from the use
browser's about:config
problem.

A debate is unfolding at
JavaScript on the web.

Some are claiming Java
functional needs of abo
capabilities can be used
experience. One person
execute scripts in my b

I'm sure that 95% of th
the internet is porn, an
proponent of the power
designed select boxes s

However, I'd argue that
Facebook, Twitter, Goo
the user experience. Su
although they are also

JavaScript *is* and *should*
option from the consum
supporting the absence
specified in the context
deny that there are use
are now rare.

Custom-design select b

Chrome File Edit View History Bookmarks People Window Help 19:09

Katie Fenn | FIA WEC

localhost:9001

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Causes JS Profiler Memory Paint

30 fps

60 fps

RECORDS

Summary Layers

Should disa
UI?

Posted 2013-08-11 10:

In its latest release of it
JavaScript from the use
browser's about:config
problem.

A debate is unfolding at
JavaScript on the web.

Some are claiming Java
functional needs of abo
capabilities can be used
experience. One person
execute scripts in my b

I'm sure that 95% of th
the internet is porn, an
proponent of the power
designed select boxes s

However, I'd argue that
Facebook, Twitter, Goo
the user experience. Su
although they are also

JavaScript *is* and *should*
option from the consum
supporting the absence
specified in the context
deny that there are use
are now rare.

Custom-design select b

Find out more!

DevTools Paint Profiler and Frame Viewer

Performance Profiling

2. CPU Profiler

Chrome File Edit View History Bookmarks People Window Help 19:21

Katie Fenn | FIA WEC

localhost:9001

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

Select profiling type

- Collect JavaScript CPU Profile
  CPU profiles show where the execution time is spent in your page's JavaScript functions.
- Take Heap Snapshot
  Heap snapshot profiles show memory distribution among your page's JavaScript objects and related DOM nodes.
- Record Heap Allocations
  Record JavaScript object allocations over time. Use this profile type to isolate memory leaks.

Start Load

Should disal
UI?

Posted 2013-08-11 10:

In its latest release of it
JavaScript from the use
browser's about:config
problem.

A debate is unfolding at
JavaScript on the web.

Some are claiming Java
functional needs of abou
capabilities can be used
experience. One person
execute scripts in my br

I'm sure that 95% of th
the internet is porn, and
proponent of the power
designed select boxes s

However, I'd argue that
Facebook, Twitter, Goog
the user experience. Su
although they are also c

JavaScript *is* and *should*
option from the consum
supporting the absence
specified in the context
deny that there are use
are now rare.

Custom-design select b

Chrome File Edit View History Bookmarks People Window Help 19:21

Katie Fenn | FIA WEC

localhost:9001

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

Select profiling type

- Collect JavaScript CPU Profile
  CPU profiles show where the execution time is spent in your page's JavaScript functions.
- Take Heap Snapshot
  Heap snapshot profiles show memory distribution among your page's JavaScript objects and related DOM nodes.
- Record Heap Allocations
  Record JavaScript object allocations over time. Use this profile type to isolate memory leaks.

Start Load

Should disal
UI?

Posted 2013-08-11 10:

In its latest release of it
JavaScript from the use
browser's about:config
problem.

A debate is unfolding at
JavaScript on the web.

Some are claiming Java
functional needs of abou
capabilities can be used
experience. One person
execute scripts in my br

I'm sure that 95% of th
the internet is porn, and
proponent of the power
designed select boxes s

However, I'd argue that
Facebook, Twitter, Goog
the user experience. Su
although they are also c

JavaScript *is* and *should*
option from the consum
supporting the absence
specified in the context
deny that there are use
are now rare.

Custom-design select b

Chrome File Edit View History Bookmarks People Window Help 19:26

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

CPU PROFILES

Profile 1 Save

Heavy (Bottom Up)

Self		Total		Function	
5883.4 ms	93.34 %	5883.4 ms	93.34 %	(idle)	
383.3 ms	6.08 %	383.3 ms	6.08 %	(program)	
2.1 ms	0.03 %	36.4 ms	0.58 %	v.handle	jquery.min.js:2
2.1 ms	0.03 %	34.3 ms	0.54 %	▶ b.event.dispatch	jquery.min.js:2
0 ms	0 %	27.8 ms	0.44 %	▶ onScroll	main.js:2
0 ms	0 %	23.6 ms	0.37 %	▶ updateFrame	main.js:7
0 ms	0 %	23.6 ms	0.37 %	▶ animateCloud	main.js:15
1.1 ms	0.02 %	23.6 ms	0.37 %	▶ b.extend.access	jquery.min.js:2
1.1 ms	0.02 %	20.3 ms	0.32 %	▶ b.fn.extend.css	jquery.min.js:4
1.1 ms	0.02 %	18.2 ms	0.29 %	▶ (anonymous function)	jquery.min.js:4
15.0 ms	0.24 %	17.1 ms	0.27 %	▶ ⚠ b.extend.style	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ b.fn.(anonymous function)	jquery.min.js:4
2.1 ms	0.03 %	4.3 ms	0.07 %	▶ (anonymous function)	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ getWindowScroll	main.js:11
1.1 ms	0.02 %	3.2 ms	0.05 %	▶ b	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ b.event.fix	jquery.min.js:2
1.1 ms	0.02 %	2.1 ms	0.03 %	▶ P	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.b.init	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.extend.find	jquery.min.js:3
0 ms	0 %	2.1 ms	0.03 %	▶ b.extend._data	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ ⚠ st	jquery.min.js:3
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get scrollHeight	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.acceptData	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ (anonymous function)	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.camelCase	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get source_url	

Chrome File Edit View History Bookmarks People Window Help 19:26

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

CPU PROFILES

Profile 1 Save

Heavy (Bottom Up)

Self		Total		Function	
5883.4 ms	93.34 %	5883.4 ms	93.34 %	(idle)	
383.3 ms	6.08 %	383.3 ms	6.08 %	(program)	
2.1 ms	0.03 %	36.4 ms	0.58 %	v.handle	jquery.min.js:2
2.1 ms	0.03 %	34.3 ms	0.54 %	▶ b.event.dispatch	jquery.min.js:2
0 ms	0 %	27.8 ms	0.44 %	▶ onScroll	main.js:2
0 ms	0 %	23.6 ms	0.37 %	▶ updateFrame	main.js:7
0 ms	0 %	23.6 ms	0.37 %	▶ animateCloud	main.js:15
1.1 ms	0.02 %	23.6 ms	0.37 %	▶ b.extend.access	jquery.min.js:2
1.1 ms	0.02 %	20.3 ms	0.32 %	▶ b.fn.extend.css	jquery.min.js:4
1.1 ms	0.02 %	18.2 ms	0.29 %	▶ (anonymous function)	jquery.min.js:4
15.0 ms	0.24 %	17.1 ms	0.27 %	▶ ⚠ b.extend.style	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ b.fn.(anonymous function)	jquery.min.js:4
2.1 ms	0.03 %	4.3 ms	0.07 %	▶ (anonymous function)	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ getWindowScroll	main.js:11
1.1 ms	0.02 %	3.2 ms	0.05 %	▶ b	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ b.event.fix	jquery.min.js:2
1.1 ms	0.02 %	2.1 ms	0.03 %	▶ P	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.b.init	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.extend.find	jquery.min.js:3
0 ms	0 %	2.1 ms	0.03 %	▶ b.extend._data	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ ⚠ st	jquery.min.js:3
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get scrollHeight	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.acceptData	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ (anonymous function)	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.camelCase	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get source_url	

Chrome File Edit View History Bookmarks People Window Help 19:26

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

CPU PROFILES

Profile 1 Save

Heavy (Bottom Up)

Self		Total		Function	
5883.4 ms	93.34 %	5883.4 ms	93.34 %	(idle)	
383.3 ms	6.08 %	383.3 ms	6.08 %	(program)	
2.1 ms	0.03 %	36.4 ms	0.58 %	v.handle	jquery.min.js:2
2.1 ms	0.03 %	34.3 ms	0.54 %	▶ b.event.dispatch	jquery.min.js:2
0 ms	0 %	27.8 ms	0.44 %	▶ onScroll	main.js:2
0 ms	0 %	23.6 ms	0.37 %	▶ updateFrame	main.js:7
0 ms	0 %	23.6 ms	0.37 %	▶ animateCloud	main.js:15
1.1 ms	0.02 %	23.6 ms	0.37 %	▶ b.extend.access	jquery.min.js:2
1.1 ms	0.02 %	20.3 ms	0.32 %	▶ b.fn.extend.css	jquery.min.js:4
1.1 ms	0.02 %	18.2 ms	0.29 %	▶ (anonymous function)	jquery.min.js:4
15.0 ms	0.24 %	17.1 ms	0.27 %	▶ ⚠ b.extend.style	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ b.fn.(anonymous function)	jquery.min.js:4
2.1 ms	0.03 %	4.3 ms	0.07 %	▶ (anonymous function)	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ getWindowScroll	main.js:11
1.1 ms	0.02 %	3.2 ms	0.05 %	▶ b	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ b.event.fix	jquery.min.js:2
1.1 ms	0.02 %	2.1 ms	0.03 %	▶ P	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.b.init	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.extend.find	jquery.min.js:3
0 ms	0 %	2.1 ms	0.03 %	▶ b.extend._data	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ ⚠ st	jquery.min.js:3
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get scrollHeight	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.acceptData	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ (anonymous function)	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.camelCase	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get source_url	

Chrome File Edit View History Bookmarks People Window Help 19:26

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

CPU PROFILES

Profile 1 Save

Heavy (Bottom Up)

Self		Total		Function	
5883.4 ms	93.34 %	5883.4 ms	93.34 %	(idle)	
383.3 ms	6.08 %	383.3 ms	6.08 %	(program)	
2.1 ms	0.03 %	36.4 ms	0.58 %	v.handle	jquery.min.js:2
2.1 ms	0.03 %	34.3 ms	0.54 %	▶ b.event.dispatch	jquery.min.js:2
0 ms	0 %	27.8 ms	0.44 %	▶ onScroll	main.js:2
0 ms	0 %	23.6 ms	0.37 %	▶ updateFrame	main.js:7
0 ms	0 %	23.6 ms	0.37 %	▶ animateCloud	main.js:15
1.1 ms	0.02 %	23.6 ms	0.37 %	▶ b.extend.access	jquery.min.js:2
1.1 ms	0.02 %	20.3 ms	0.32 %	▶ b.fn.extend.css	jquery.min.js:4
1.1 ms	0.02 %	18.2 ms	0.29 %	▶ (anonymous function)	jquery.min.js:4
15.0 ms	0.24 %	17.1 ms	0.27 %	▶ ⚠ b.extend.style	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ b.fn.(anonymous function)	jquery.min.js:4
2.1 ms	0.03 %	4.3 ms	0.07 %	▶ (anonymous function)	jquery.min.js:4
0 ms	0 %	4.3 ms	0.07 %	▶ getWindowScroll	main.js:11
1.1 ms	0.02 %	3.2 ms	0.05 %	▶ b	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ b.event.fix	jquery.min.js:2
1.1 ms	0.02 %	2.1 ms	0.03 %	▶ P	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.b.init	jquery.min.js:2
0 ms	0 %	2.1 ms	0.03 %	▶ b.fn.extend.find	jquery.min.js:3
0 ms	0 %	2.1 ms	0.03 %	▶ b.extend._data	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ ⚠ st	jquery.min.js:3
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get scrollHeight	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.acceptData	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ (anonymous function)	
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ b.extend.camelCase	jquery.min.js:2
1.1 ms	0.02 %	1.1 ms	0.02 %	▶ get source_url	

sources Audits Console

Total		Function	
5883.4 ms	93.34%	(idle)	
383.3 ms	6.08%	(program)	
36.4 ms	0.58%	v.handle	jquery.min.js:2
34.3 ms	0.54%	▶ b.event.dispatch	jquery.min.js:2
27.8 ms	0.44%	▶ onScroll	main.js:2
23.6 ms	0.37%	▶ updateFrame	main.js:7
23.6 ms	0.37%	▶ animateCloud	main.js:15
23.6 ms	0.37%	▶ b.extend.access	jquery.min.js:2
20.3 ms	0.32%	▶ b.fn.extend.css	jquery.min.js:4
18.2 ms	0.29%	▶ (anonymous function)	jquery.min.js:4
17.1 ms	0.27%	▶ ⚠ b.extend.style	jquery.min.js:4
4.3 ms	0.07%	▶ b.fn.(anonymous function)	jquery.min.js:4
4.3 ms	0.07%	▶ (anonymous function)	jquery.min.js:4

Chrome File Edit View History Bookmarks People Window Help 19:48

Katie Fenn | FIA WEC LIVE

localhost:9001

Should disabling
UI?

Posted 2013-08-11 10:54:00 +01

In its latest release of its web bro
JavaScript from the user interface
browser's about:config interface,
problem.

A debate is unfolding at Ars Techn
JavaScript on the web.

Some are claiming JavaScript is u
functional needs of about 95% of
capabilities can be used to design
experience. One person even slam
execute scripts in my browser" th

I'm sure that 95% of the internet
the internet is porn, and that cert
proponent of the power of the we
designed select boxes sure as hell

However, I'd argue that JavaScrip
Facebook, Twitter, Google Mail. Ja
the user experience. Such enhanc
although they are also often payin

JavaScript *is* and *should be* an int
option from the consumer user. U
supporting the absence of JavaSc
specified in the context of users d
deny that there are use cases for
are now rare.

Custom-design select boxes are s

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits »

Profiles

Select profiling type

Collect JavaScript CPU Profile

CPU profiles show where the execution time is spent in your page's JavaScript functions.

Take Heap Snapshot

Heap snapshot profiles show memory distribution among your page's JavaScript objects and related DOM nodes.

Record Heap Allocations

Record JavaScript object allocations over time. Use this profile type to isolate memory leaks.

Start Load

Chrome File Edit View History Bookmarks People Window Help 19:48

Katie Fenn | FIA WEC LIVE

localhost:9001

Should disabling
UI?

Posted 2013-08-11 10:54:00 +01

In its latest release of its web bro
JavaScript from the user interface
browser's about:config interface,
problem.

A debate is unfolding at Ars Techn
JavaScript on the web.

Some are claiming JavaScript is u
functional needs of about 95% of
capabilities can be used to design
experience. One person even slam
execute scripts in my browser" th

I'm sure that 95% of the internet
the internet is porn, and that cert
proponent of the power of the we
designed select boxes sure as hell

However, I'd argue that JavaScrip
Facebook, Twitter, Google Mail. Ja
the user experience. Such enhanc
although they are also often payin

JavaScript *is* and *should be* an int
option from the consumer user. U
supporting the absence of JavaSc
specified in the context of users d
deny that there are use cases for
are now rare.

Custom-design select boxes are s

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits »

Profiles

Select profiling type

Collect JavaScript CPU Profile

CPU profiles show where the execution time is spent in your page's JavaScript functions.

Take Heap Snapshot

Heap snapshot profiles show memory distribution among your page's JavaScript objects and related DOM nodes.

Record Heap Allocations

Record JavaScript object allocations over time. Use this profile type to isolate memory leaks.

Start Load

Chrome File Edit View History Bookmarks People Window Help 19:54

Developer Tools - http://localhost:9001/

Elements Network Sources Timeline Profiles Resources Audits Console

Profiles

CPU PROFILES

Profile 1 Save

Heavy (Bottom Up)

Self		Total		Function	
5930.9 ms	96.06 %	5930.9 ms	96.06 %	(idle)	
214.4 ms	3.47 %	214.4 ms	3.47 %	(program)	
2.1 ms	0.03 %	18.6 ms	0.30 %	⚠ b.event.add.v.handle	jquery.min.js:2
4.1 ms	0.07 %	16.5 ms	0.27 %	▶ b.event.dispatch	jquery.min.js:2
0 ms	0 %	10.3 ms	0.17 %	animateFrame	main.js:21
3.1 ms	0.05 %	10.3 ms	0.17 %	▶ animateCloud	main.js:34
3.1 ms	0.05 %	7.2 ms	0.12 %	▶ P	jquery.min.js:2
0 ms	0 %	6.2 ms	0.10 %	▶ b.extend._data	jquery.min.js:2
4.1 ms	0.07 %	4.1 ms	0.07 %	▶ b.extend.acceptData	jquery.min.js:2
0 ms	0 %	4.1 ms	0.07 %	▶ b.fn.b.init	jquery.min.js:2
0 ms	0 %	4.1 ms	0.07 %	▶ b.fn.extend.find	jquery.min.js:3
0 ms	0 %	4.1 ms	0.07 %	▶ b	jquery.min.js:2
1.0 ms	0.02 %	3.1 ms	0.05 %	▶ b.event.fix	jquery.min.js:2
0 ms	0 %	3.1 ms	0.05 %	▶ b.fn.extend.css	jquery.min.js:4
1.0 ms	0.02 %	3.1 ms	0.05 %	▶ b.extend.access	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ ⚠ st	jquery.min.js:3
0 ms	0 %	2.1 ms	0.03 %	▶ (anonymous function)	jquery.min.js:4
1.0 ms	0.02 %	2.1 ms	0.03 %	▶ onScroll	main.js:6
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ b.fn.b.pushStack	jquery.min.js:2
2.1 ms	0.03 %	2.1 ms	0.03 %	▶ b.Event	jquery.min.js:2
1.0 ms	0.02 %	1.0 ms	0.02 %	▶ ⚠ b.extend.style	jquery.min.js:4
1.0 ms	0.02 %	1.0 ms	0.02 %	▶ b.extend.camelCase	jquery.min.js:2
1.0 ms	0.02 %	1.0 ms	0.02 %	▶ updateFrame	main.js:19

4.1 ms	0.07 %	▶ b.fn.b.init	jquery.min.js:2
4.1 ms	0.07 %	▶ b.fn.extend.find	jquery.min.js:3
4.1 ms	0.07 %	▶ b	jquery.min.js:2
3.1 ms	0.05 %	▶ b.event.fix	jquery.min.js:2
3.1 ms	0.05 %	▶ b.fn.extend.css	jquery.min.js:4
3.1 ms	0.05 %	▶ b.extend.access	jquery.min.js:2
2.1 ms	0.03 %	▶ ⚠ st	jquery.min.js:3
2.1 ms	0.03 %	▶ (anonymous function)	jquery.min.js:4
2.1 ms	0.03 %	▶ onScroll	main.js:6
2.1 ms	0.03 %	▶ b.fn.b.pushStack	jquery.min.js:2
2.1 ms	0.03 %	▶ b.Event	jquery.min.js:2
1.0 ms	0.02 %	▶ ⚠ b.extend.style	jquery.min.js:4
1.0 ms	0.02 %	▶ b.extend.camelCase	jquery.min.js:2
1.0 ms	0.02 %	▶ updateFrame	main.js:19

Debugging the Server

Using Node-Inspector to debug Node.JS scripts

Installing Node-Inspector:

Installing Node-Inspector:

```
npm install -g node-inspector
```

bash vim

```
10:49:19 $>

katie Tombo ~/Sites/website-ghost
10:49:43 $>
```

bash vim

```
10:49:19 $>

katie Tombo ~/Sites/website-ghost
10:49:43 $>
```

`—debug-brk`

Chrome File Edit View History Bookmarks People Window Help 10:46

Lewis - Katie Fenn | Editor - Katie Fenn | Node Inspector - file:///Use

127.0.0.1:8080/debug?ws=127.0.0.1:8080&port=5858

Sources Profiles Console

Sour... Cont... Snip...

- (core modules)
- file://
  - Users/katie/Sites/we
    - content/themes
    - core
    - node_modules
    - Gruntfile.js
    - config.example.js
    - config.js
    - index.js

index.js × frontend.js node.js

```
1  (function (exports, require, module, __filename, __dirname) { //
2  // Orchestrates the loading of Ghost
3  // When run from command line.
4
5  var express,
6      ghost,
7      parentApp,
8      errors;
9
10 // Make sure dependencies are installed and file system permissi
11 require('./core/server/utils/startup-check').check();
12
13 // Proceed with startup
14 express = require('express');
15 ghost = require('./core');
16 errors = require('./core/server/errors');
17
18 // Create our parent express app instance.
19 parentApp = express();
20
21 ghost().then(function (ghostServer) {
22     // Mount our ghost instance on our desired subdirectory path
23     parentApp.use(ghostServer.config.paths.subdir, ghostServer.r
24
25     // Let ghost handle starting our server instance.
26     ghostServer.start(parentApp);
27 }).catch(function (err) {
28     errors.logErrorAndExit(err, err.context, err.help);
29 });
30
31 });
```

{} Line 5, Column 1

Watch Expressions

Call Stack Async

(anonymous function)	index.js:5
Module._compile	module.js:460
Module._extensions..js	module.js:478
Module.load	module.js:355
Module._load	module.js:310
Module.runMain	module.js:501
listOnTimeout	timers.js:110

Scope Variables

Local

```
__dirname: "/Users/katie/Sit…
__filename: "/Users/katie/Si…
errors: undefined
▶ exports: Object
express: undefined
ghost: undefined
▶ module: Module
parentApp: undefined
▶ require: function require(pa…
▶ this: Object
```

▶ Global Object

Breakpoints

Chrome File Edit View History Bookmarks People Window Help 09:57

Katie Fenn | Node Inspector - file:///Use

127.0.0.1:8080/debug?ws=127.0.0.1:8080&port=5858

Sources | Profiles | Console

Sour... | Cont... | Snip...

- (core modules)
- file://
  - Users/katie
    - .nvm/versions/noc
    - Sites/website-gho
      - content/themes
      - core
      - node_modules
      - Gruntfile.js
      - config.example.j
      - config.js
      - index.js

index.js | frontend.js × | node.js

```
238     author: function (req, res, next) {
239         // Parse the page number
240         var pageParam = req.params.page !== undefined ? parseInt
241             options = {
242                 page: pageParam,
243                 author: req.params.slug
244             };
245
246         // Get url for tag page
247         function authorUrl(author, page) {
248             var url = config.paths.subdir + '/' + config.routeKe
249
250             if (page && page > 1) {
251                 url += config.routeKeywords.page + '/' + page +
252             }
253
254             return url;
255         }
256
257         // No negative pages, or page 1
258         if (isNaN(pageParam) || pageParam < 1 || (req.params.pag
259             return res.redirect(authorUrl(options.author));
260         }
261
262         return getPostPage(options).then(function (page) {
263             // If page is greater than number of pages we have,
264             if (pageParam > page.meta.pagination.pages) {
265                 return res.redirect(authorUrl(options.author, pa
266             }
267
268             setReqCtx(req, page.posts);
```

{} Line 240, Column 1

Watch Expressions

Call Stack | Async

Not Paused

Scope Variables

Not Paused

Breakpoints

No Breakpoints

Chrome File Edit View History Bookmarks People Window Help 09:57

Katie Fenn | Node Inspector - file:///Use

127.0.0.1:8080/debug?ws=127.0.0.1:8080&port=5858

Sources | Profiles | Console

Sour... | Cont... | Snip...

- (core modules)
- file://
  - Users/katie
    - .nvm/versions/noc
    - Sites/website-gho
      - content/themes
      - core
      - node_modules
      - Gruntfile.js
      - config.example.j
      - config.js
      - index.js

index.js | frontend.js × | node.js

```
238     author: function (req, res, next) {
239         // Parse the page number
240         var pageParam = req.params.page !== undefined ? parseInt
241             options = {
242                 page: pageParam,
243                 author: req.params.slug
244             };
245
246         // Get url for tag page
247         function authorUrl(author, page) {
248             var url = config.paths.subdir + '/' + config.routeKe
249
250             if (page && page > 1) {
251                 url += config.routeKeywords.page + '/' + page +
252             }
253
254             return url;
255         }
256
257         // No negative pages, or page 1
258         if (isNaN(pageParam) || pageParam < 1 || (req.params.pag
259             return res.redirect(authorUrl(options.author));
260         }
261
262         return getPostPage(options).then(function (page) {
263             // If page is greater than number of pages we have,
264             if (pageParam > page.meta.pagination.pages) {
265                 return res.redirect(authorUrl(options.author, pa
266             }
267
268             setReqCtx(req, page.posts);
```

{} Line 240, Column 1

Watch Expressions

Call Stack | Async

Not Paused

Scope Variables

Not Paused

Breakpoints

No Breakpoints

```
▼ Scope Variables
▼ Local
  ▼ req: Object
    ▼ params: Object
        slug: "katie"
      ▶ __proto__: Object
    ▶ __proto__: Object
  ▶ this: Window
▶ Global                                  Window
```

```
▼ Scope Variables
▼ Local
  ▼ req: Object
    ▼ params: Object
        slug: "katie"
      ▶ __proto__: Object
    ▶ __proto__: Object
  ▶ this: Window
▶ Global                                  Window
```

Chrome File Edit View History Bookmarks People Window Help 10:41

Lewis - Katie Fenn | Node Inspector - file:///Use | Editor - Katie Fenn

127.0.0.1:8080/debug?ws=127.0.0.1:8080&port=5858

Sources Profiles Console

Sour... Cont... Snip...

- (core modules)
- file://
  - Users/katie
    - .nvm/versions/noc
    - Sites/website-gho
      - content/themes
      - core
      - node_modules
      - Gruntfile.js
      - config.example.j
      - config.js
      - index.js

index.js | frontend.js | node.js

```
238     author: function (req, res, next) {
239         // Parse the page number
240         var pageParam = req.params.page !== undefined ? parseInt
241             options = {
242                 page: pageParam,
243                 author: req.params.slug
244             };
245
246         // Get url for tag page
247         function authorUrl(author, page) {
248             var url = config.paths.subdir + '/' + config.routeKe
249
250             if (page && page > 1) {
251                 url += config.routeKeywords.page + '/' + page +
252             }
253
254             return url;
255         }
256
257         // No negative pages, or page 1
258         if (isNaN(pageParam) || pageParam < 1 || (req.params.pag
259             return res.redirect(authorUrl(options.author));
260         }
261
262         return getPostPage(options).then(function (page) {
263             // If page is greater than number of pages we have,
264             if (pageParam > page.meta.pagination.pages) {
265                 return res.redirect(authorUrl(options.author, pa
266             }
267
268             setReqCtx(req, page.posts);
269             if (page.meta.filters.author) {
```

{} Line 240, Column 1

```
_maxListeners: undefined
▶ _parsedOriginalUrl: Url
▶ _parsedUrl: Url
▶ _passport: Object
  _pendingIndex: 0
▶ _pendings: Array[0]
▶ _readableState: ReadableStat
  _remoteAddress: "127.0.0.1"
▶ _startAt: Array[2]
▶ _startTime: Sun May 03 201…
  baseUrl: ""
▶ body: Object
▶ client: Socket
  complete: true
▶ connection: Socket
  domain: null
▶ headers: Object
  httpVersion: "1.1"
  httpVersionMajor: 1
  httpVersionMinor: 1
  method: "GET"
▶ next: function next(err) {
  originalUrl: "/author/kati…
▼ params: Object
    slug: "lewis"
  ▶ __proto__: Object
▶ query: Object
▶ rawHeaders: Array[14]
▶ rawTrailers: Array[0]
  readable: true
```

Chrome File Edit View History Bookmarks People Window Help 10:41

Lewis - Katie Fenn | Node Inspector - file:///Use | Editor - Katie Fenn

127.0.0.1:8080/debug?ws=127.0.0.1:8080&port=5858

Sources Profiles Console

Sour... Cont... Snip...

- (core modules)
- file://
  - Users/katie
    - .nvm/versions/noc
    - Sites/website-gho
      - content/themes
      - core
      - node_modules
      - Gruntfile.js
      - config.example.j
      - config.js
      - index.js

index.js | frontend.js | node.js

```
238     author: function (req, res, next) {
239         // Parse the page number
240         var pageParam = req.params.page !== undefined ? parseInt
241             options = {
242                 page: pageParam,
243                 author: req.params.slug
244             };
245
246         // Get url for tag page
247         function authorUrl(author, page) {
248             var url = config.paths.subdir + '/' + config.routeKe
249
250             if (page && page > 1) {
251                 url += config.routeKeywords.page + '/' + page +
252             }
253
254             return url;
255         }
256
257         // No negative pages, or page 1
258         if (isNaN(pageParam) || pageParam < 1 || (req.params.pag
259             return res.redirect(authorUrl(options.author));
260         }
261
262         return getPostPage(options).then(function (page) {
263             // If page is greater than number of pages we have,
264             if (pageParam > page.meta.pagination.pages) {
265                 return res.redirect(authorUrl(options.author, pa
266             }
267
268             setReqCtx(req, page.posts);
269             if (page.meta.filters.author) {
```

{} Line 240, Column 1

```
_maxListeners: undefined
▶ _parsedOriginalUrl: Url
▶ _parsedUrl: Url
▶ _passport: Object
  _pendingIndex: 0
▶ _pendings: Array[0]
▶ _readableState: ReadableStat
  _remoteAddress: "127.0.0.1"
▶ _startAt: Array[2]
▶ _startTime: Sun May 03 201…
  baseUrl: ""
▶ body: Object
▶ client: Socket
  complete: true
▶ connection: Socket
  domain: null
▶ headers: Object
  httpVersion: "1.1"
  httpVersionMajor: 1
  httpVersionMinor: 1
  method: "GET"
▶ next: function next(err) {
  originalUrl: "/author/kati…
▼ params: Object
    slug: "lewis"
  ▶ __proto__: Object
▶ query: Object
▶ rawHeaders: Array[14]
▶ rawTrailers: Array[0]
  readable: true
```

Find out more!

ng-inspector

Ember Inspector

React DevTools

The Breakpoint

Find out more!

Firefox Developer Tools

Firebug

Internet Explorer Developer Tools

Remote Debugging for Mobile

Summary

- DevTools has a huge roster of features
- Sources tab for debugging flow and state
- Timeline for debugging performance broadly
- Profiles for debugging specific script performance
- Node-Inspector for debugging Node.JS scripts

INVIQA™

We're hiring!

Thank You

@katie_fenn

http://tiny.cc/cdt-ftb

http://tiny.cc/cdt-ftb-videos