

# HTML 5

and friends



**2022**



**Queen  
Elizabeth II  
Platinum  
Jubilee**





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## Programming and Development

Host: Justin James

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What's Important

### Meet Doc



Here to help you with your Document Management Needs

Doc is an enigma. Born to a Russian ballerina and a German electrical engineer, he grew up in various locations in the United States. He's seen the insides of more brands, versions, and generations of printer and printer-related hardware than almost anyone.

To learn more about this mysterious figure [check out his blog on ZDNet](#) and [his Workspace on TechRepublic](#). You'll be glad you did.

Produced by ZDNet and



## HTML 5 Editor Ian Hickson discusses features, pain points, adoption rate, and more

Date: August 27th, 2008

Author: Justin James

Category: Interview

Tags: Web, HTML, Author, Specification, Web Browser, Feature, HTML5, HTML4, Justin James

45 comment(s)  
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 WORTHWHILE?
 9 VOTES

*In this interview, HTML 5 Editor Ian Hickson discusses his favorite features, the features he thinks might be most contentious, the pain points he expects HTML 5 will address, and much more. He also tells what he would change in the original HTML spec if he could go back in time.*

In January 2008, I wrote that [HTML 5 was headed for a change of course... straight for the iceberg](#). In response to my highly critical comments, [Ian Hickson](#), the editor of the HTML 5 specification, let me know that I was more than welcome to join the HTML Working Group. In the spirit of trying to be helpful, as well as giving something back to the development community, I decided to join the group.

It has been interesting to be involved in the standards process. While Ian and I have had our disagreements over a few details of the specification, I have come to respect him immensely for the work that he puts into the spec on a daily basis.

### Essential Topics

#### Messaging and Collaboration

- See how JDI switched 10,000+ users from Lotus Notes
- Learn how Hamilton Beach reduced total email costs by 60%
- Watch Google's CEO discuss the vision behind Google Apps
- Contact us to learn more about switching to Google Apps

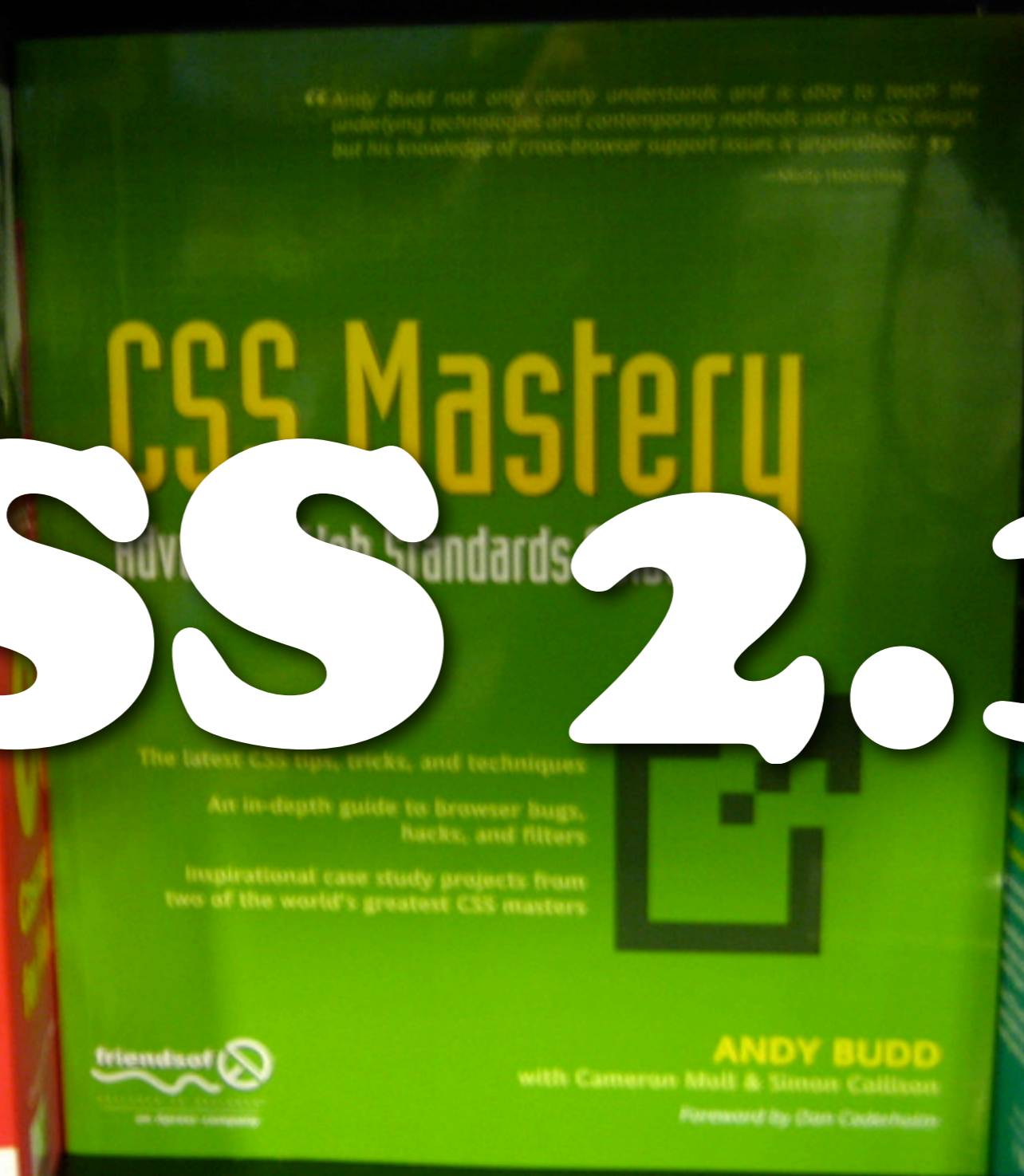
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**2022 =**  
**two completely**  
**interoperable**  
**implementations**

# CSS 2.1



**Last call:**

**October 2009**



**Get Involved**



**\* [whatwg.org/mailling-list](http://whatwg.org/mailling-list)**

**\* <irc://irc.freenode.net/#whatwg>**

**\* [whatwg.org/html5](http://whatwg.org/html5)**

**\* [dev.w3.org/html5](http://dev.w3.org/html5)**



**\* [html5doctor.com](http://html5doctor.com)**

**\* [html5demos.com](http://html5demos.com)**

**HTML 5**

***in 5 seconds***

**< !DOCTYPE html >**

A man in a blue and yellow superhero costume with a yellow visor and a woman in a red and gold costume standing in a city street. The man is making a hand gesture. The background shows a stone wall and a building with scaffolding.

**What about  
XHTML?**



*“pave the cowpaths”*

<http://www.w3.org/TR/html-design-principles/#pave-the-cowpaths>

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
    xml:lang="en" lang="en">
<head>
<meta http-equiv="Content-Type"
    content="text/html; charset=utf-8"/>
```

```
<!DOCTYPE html PUBLIC "//W3C//DTD XHTML 1.0 Strict//EN"  
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">  
<html xmlns="http://www.w3.org/1999/xhtml"  
  xml:lang="en" lang="en">  
<head>  
<meta http-equiv="Content Type"  
  content="text/html; charset=utf-8" />
```



```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset=utf-8 />
```

```
<style>  
  article, aside, dialog,  
  figure, footer, header,  
  hgroup, menu, nav,  
  section {  
    display: block;  
  }  
</style>
```





**document.createElement**

```
document.createElement( 'article' );  
document.createElement( 'nav' );  
document.createElement( 'section' );  
document.createElement( 'header' );  
document.createElement( 'footer' );  
...
```

```
<!DOCTYPE html>
<html>
<head>
<meta charset=utf-8 />
<title>HTML 5 complete</title>
<!--[if IE]>
<script src="http://html5shiv.googlecode.com/svn/trunk/html5.js">
</script>
<![endif]-->
<style>
    article, aside, dialog, figure, footer, header,
    hgroup, menu, nav, section { display: block; }
</style>
</head>
<body>
<!-- we're ready for HTML 5 goodness now -->
</body>
</html>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<meta charset=utf-8 />
```

```
<title>HTML 5 complete</title>
```

```
<!--[if IE]>
```

```
<script src="http://html5shiv.googlecode.com/svn/trunk/html5.js">
```

```
</script>
```

```
<![endif]-->
```

```
<style>
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```

```
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```
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```
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```
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```
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</body>
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# **Firefox 2 & Camino 1**



# **Firefox 2 & Camino 1**

***...are not A-grade browsers.***



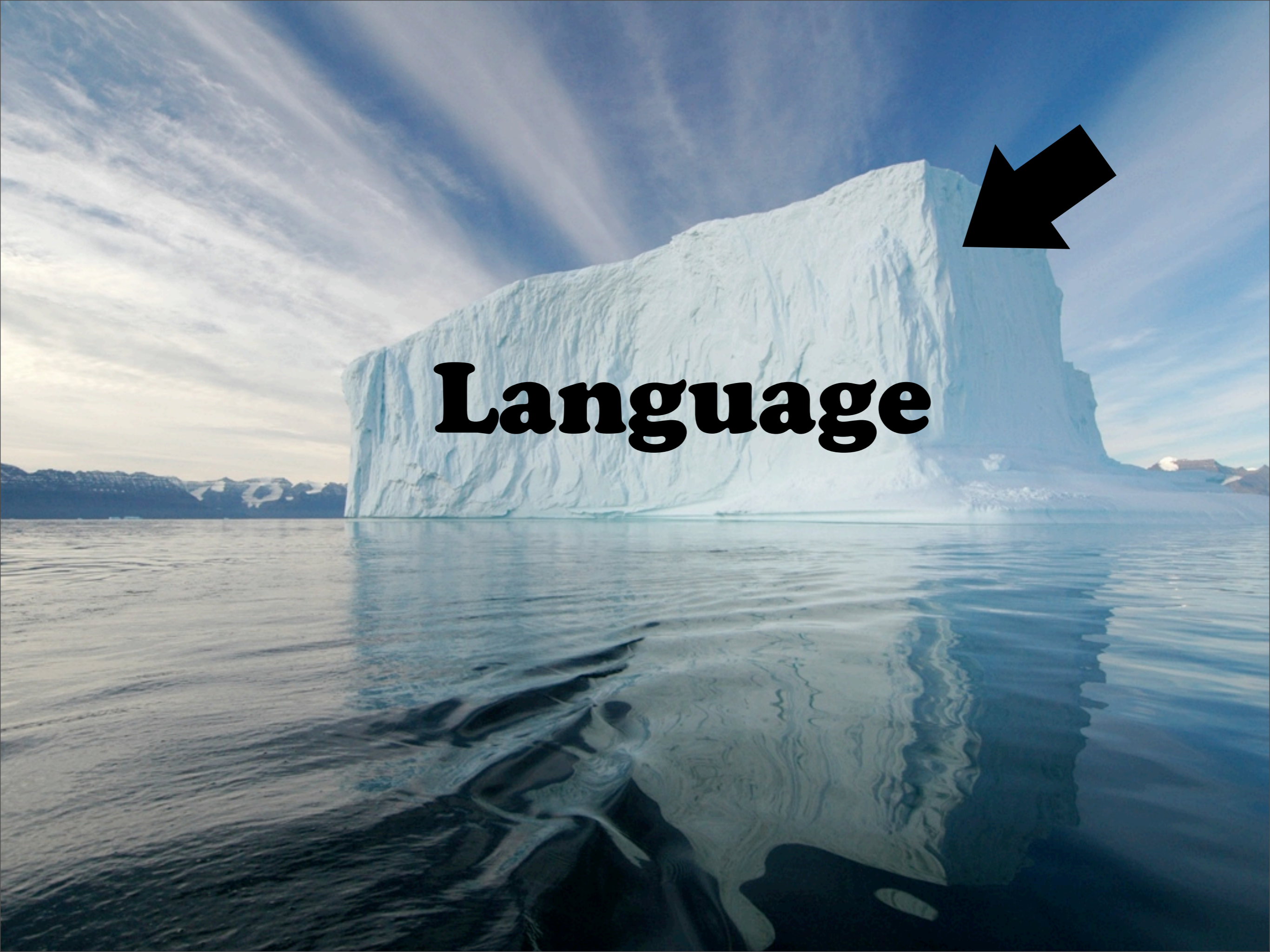
# HTML 5

A large, rectangular iceberg floats in the middle of a calm, blue ocean. The sky is a clear, bright blue with some light, wispy clouds. The iceberg's surface is textured with various ridges and grooves, and its reflection is clearly visible in the water below. The text "HTML 5" is centered on the iceberg in a bold, black, serif font.



# Language

# Language







- **Layout: header, hgroup, footer, section, article, nav, menu, dialog, aside**

- **Layout: header, hgroup, footer, section, article, nav, menu, dialog, aside**
- **Inline: time, details, figure, mark**

- **Layout: header, hgroup, footer, section, article, nav, menu, dialog, aside**
- **Inline: time, details, figure, mark**
- **Interactive: audio, video, (source), canvas, datagrid\***

# Marking up

*with thanks to Bruce!*

`</head>`  
`<body>`

**div#header**

**div#sidebar**

**div#content**

**div.post**

**div.post**

**div.post**

**div#footer**

**header**

**nav**

**section#content**

**article**

**article**

**article**

**footer**

# A Blog Post

**Credit: [fujinonbinos.com](http://fujinonbinos.com)**



# article

## header

**heading**

**time** (just date)

**pearls of article wisdom**

**footer** (metadata)

## article

**time** (full date & time)

**comment text**

**article** (another comment)

**nav** (between articles)

# Native Media Elements

STAR TREK  
The Next Generations  
"The good thing"

SHA  
T-120  
STING (original)  
24 A  
(126, 127)  
FOR HOME VIDEO RECORDING  
BLOCKBUSTER VIDEO

SHA  
Relics - TNG L30  
SONY

SHA  
The Cage - TOS - 00L  
Cause & Effect  
TNG - 1  
(original)  
SONY

SHA  
The VISIT  
TNG - 1  
The INN  
TNG - 1  
25 (original)  
SONY

BATTAN

BLOCKBUSTER VIDEO  
FOR HOME VIDEO RECORDING  
SHA  
T-120  
The Wrath of Khan  
A V. FOREVER  
SONY

SHA  
Ziggy Stardust & The Spiders from Mars  
David Bowie: A Very Special Birthday celebration  
SONY

```
<object classid="clsid:d27cddb6e-  
height="344" codebase="http://do  
flash/swflash.cab#version=6,0,40  
<param name="allowFullScreen" va  
<param name="allowscriptaccess"  
<param name="src" value="http://  
<param name="allowfullscreen" va  
<embed type="application/x-shock  
src="http://www.youtube.com/v/oH  
allowscriptaccess="always" allow  
</embed>  
</object>
```

```
<video width="425" height="344">  
  <source src="dancing_cats.ogg" />  
  <source src="dancing_cats.mp4" />  
</video>
```

**<http://open.bbc.co.uk/rad/demos/html5/rdtv/episode2/>**

R&D TV Episode 2

<http://open.bbc.co.uk/rad/demos/html5/rdtv/episode2/> Google



▼ Programme chapters

- BBC R&D at the Maker Faire
- R&D TV
- R&D TV
- R&D TV
- R&D TV

This is a proof of concept demonstration of HTML pluginless Video and Audio playback, showing AV content synchronised to chapters, allowing direct access to specific sections

<http://open.bbc.co.uk/rad/demos/html5/rdtv/episode2/>

# WATCH WHATEVER WHENEVER.



With Sony's Betamax SL-8600 video recorder, you can see any TV show you want to see anytime you want to see it.

Because Betamax, which plugs into any TV set and is easy to operate, can videotape a show up to three-hours long (with the L-750 videocassette) while you're doing something else—even while you're out of the house, by setting the electronic timer.

It can also videotape something off one channel while you're watching another channel.

And remember, Sony has more experience in videorecorders than anyone (over 20 years!). In fact, we've sold more videorecorders to broadcasters and industry than any other consumer manufacturer. We even make our own tape.

For years you've watched TV shows at the times you've had to. Now you can watch them at the times you want to.

```
<video>
```

```
  <!-- native support -->
```

```
  <source />
```

```
  <!-- QuickTime support -->
```

```
  <object><param></object>
```

```
  <!-- fail down to flash -->
```

```
  <object><param></object>
```

```
</video>
```



**<video>**

```
<!-- native support -->
```

```
<source />
```

```
<!-- QuickTime support -->
```

```
<object><param></object>
```

```
<!-- fail down to flash -->
```

```
<object><param></object>
```

**</video>**

```
<video>
```

```
<!-- native support -->
```

```
<source />
```

```
<!-- QuickTime support -->
```

```
<object><param></object>
```

```
<!-- fail down to flash -->
```

```
<object><param></object>
```

```
</video>
```

```
<video>
```

```
<!-- native support -->
```

```
<source />
```

```
<!-- QuickTime support -->
```

```
<object><param></object>
```

```
<!-- fail down to flash -->
```

```
<object><param></object>
```

```
</video>
```

```
<video>
```

```
  <!-- native support -->
```

```
  <source />
```

```
  <!-- QuickTime support -->
```

```
  <object><param></object>
```

```
  <!-- fail down to flash -->
```

```
  <object><param></object>
```

```
</video>
```



## **Things that make me go 'Aay:**

- **dirt easy doctype**
- **a element wraps anything**
- **video & audio**
- **Possibility for cross ARIA support**

**HTML CAN NOT**



**DO THAT!!!1!!**

**Stuff that sucks**

# **Stuff that sucks**

- **legend - in figure & details**



# **Stuff that sucks**

- **legend - in figure & details**
- **small - should be like a, ins & del**

# **Stuff that sucks**

- **legend - in figure & details**
- **small - should be like a, ins & del**
- **canvas accessibility**

# **Stuff that sucks**

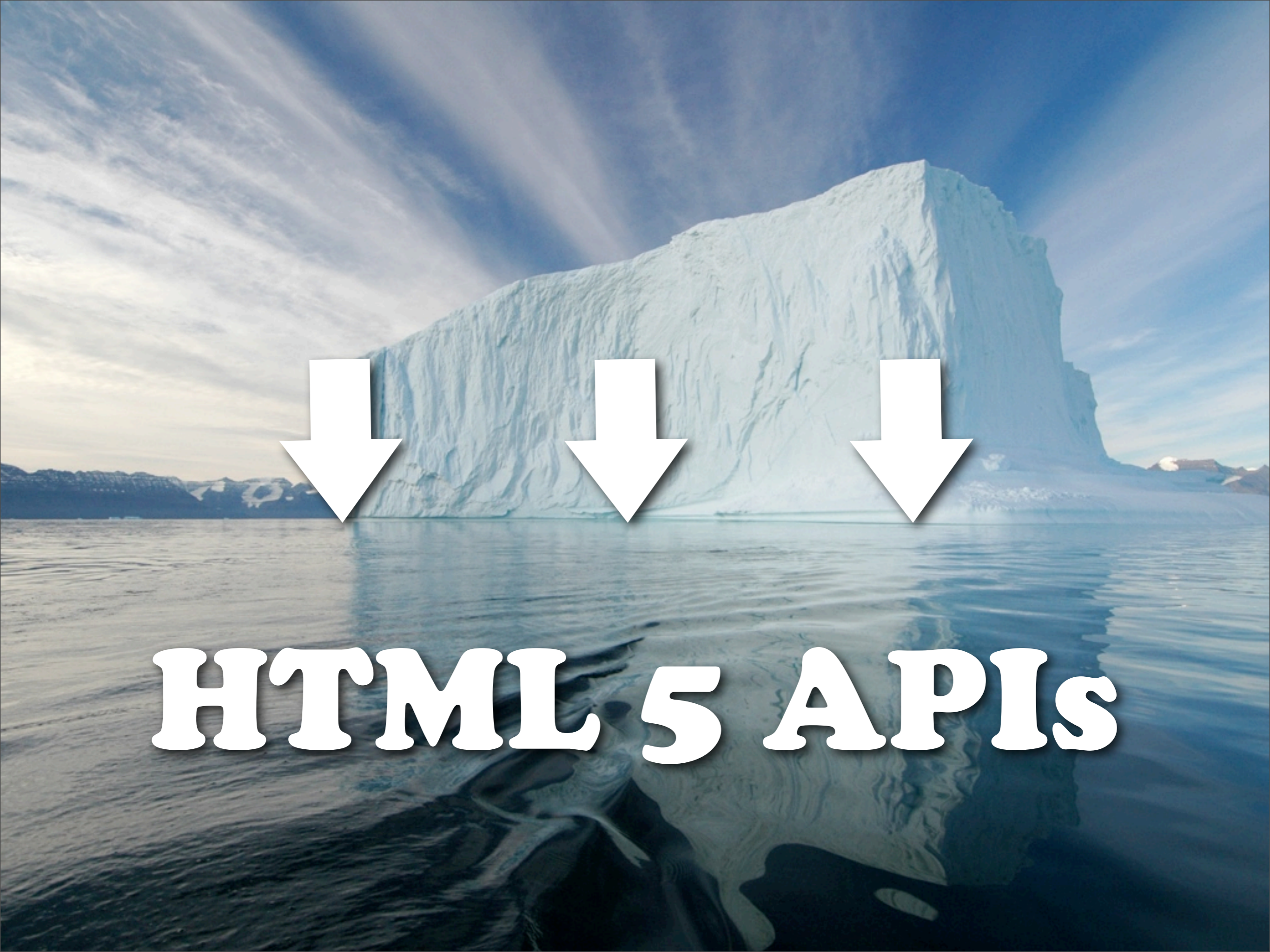
- **legend - in figure & details**
- **small - should be like a, ins & del**
- **canvas accessibility**
- **video codecs - no agreement**

# **Stuff that sucks**

- **legend - in figure & details**
- **small - should be like a, ins & del**
- **canvas accessibility**
- **video codecs - no agreement**
- **The Vomit Bug**



# HTML 5 APIs



# HTML 5 APIs

# JavaScripty Stuff

- **Canvas**
- **Drag & Drop**
- **History**
- **Inline Editing**
- **Messaging**
- **Offline Apps**
- **Video & Audio**
- **Geolocation**
- **Local Storage**
- **Selectors**
- **Server Events**
- **Web Sockets**
- **Workers**

# JavaScripty Stuff

- **Canvas**
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# JavaScripty Stuff

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- **Selectors**
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- **Web Sockets**
- **Workers**

**Canvas**

```
var ctx = canvas.getContext( '2d' );

// Create radial gradient
var grad = ctx.createRadialGradient(0,0,0,0,0,600);
grad.addColorStop(0, '#E4E4E4');
grad.addColorStop(1, '#000');

// assign gradients to fill
ctx.fillStyle = grad;

// draw 600x600 fill
ctx.fillRect(0,0,600,600);
```

```
var ctx = canvas.getContext( '2d' );
```

```
// Create radial gradient
```

```
var grad = ctx.createRadialGradient(0,0,0,0,0,600);
```

```
grad.addColorStop(0, '#E4E4E4');
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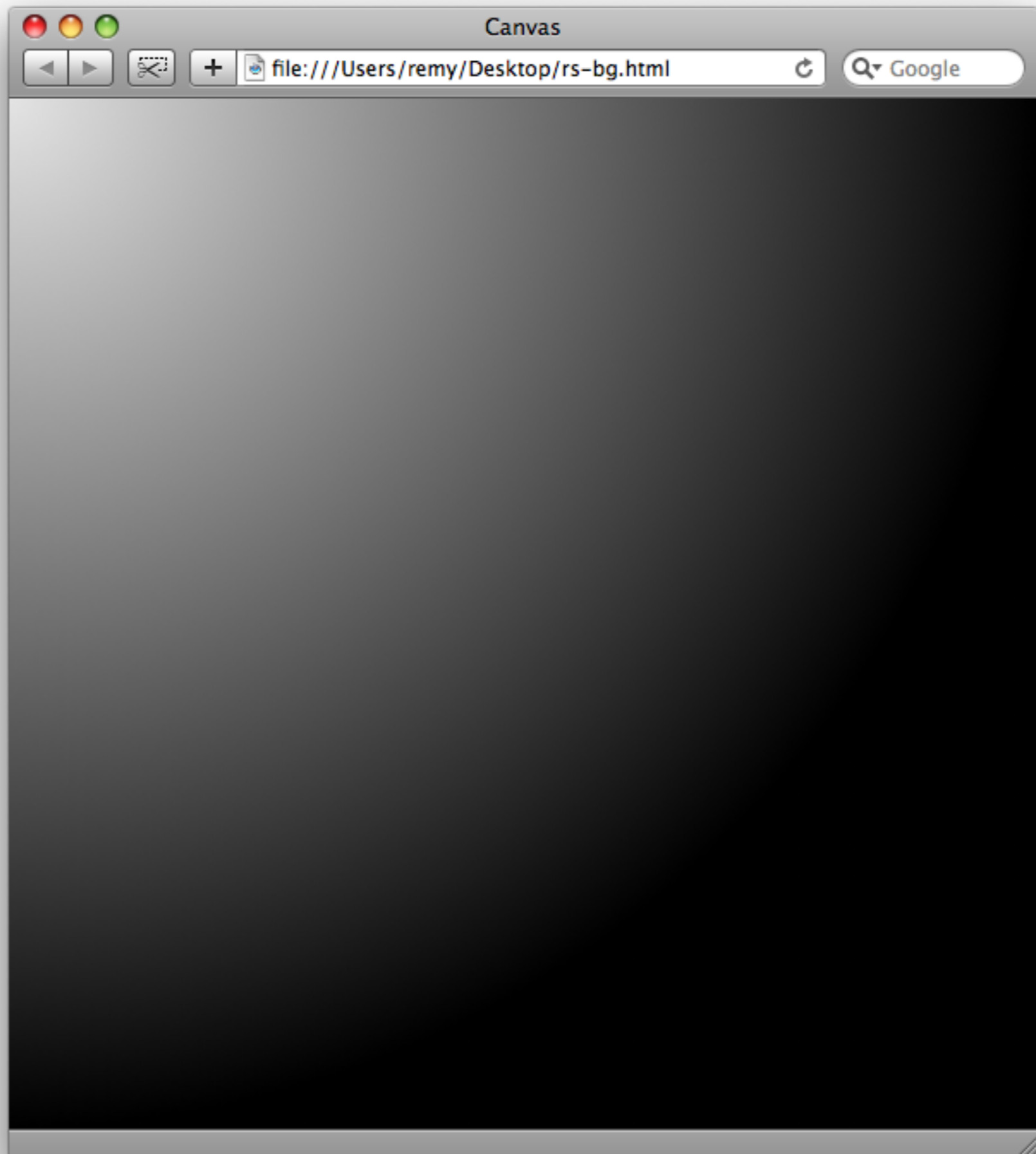
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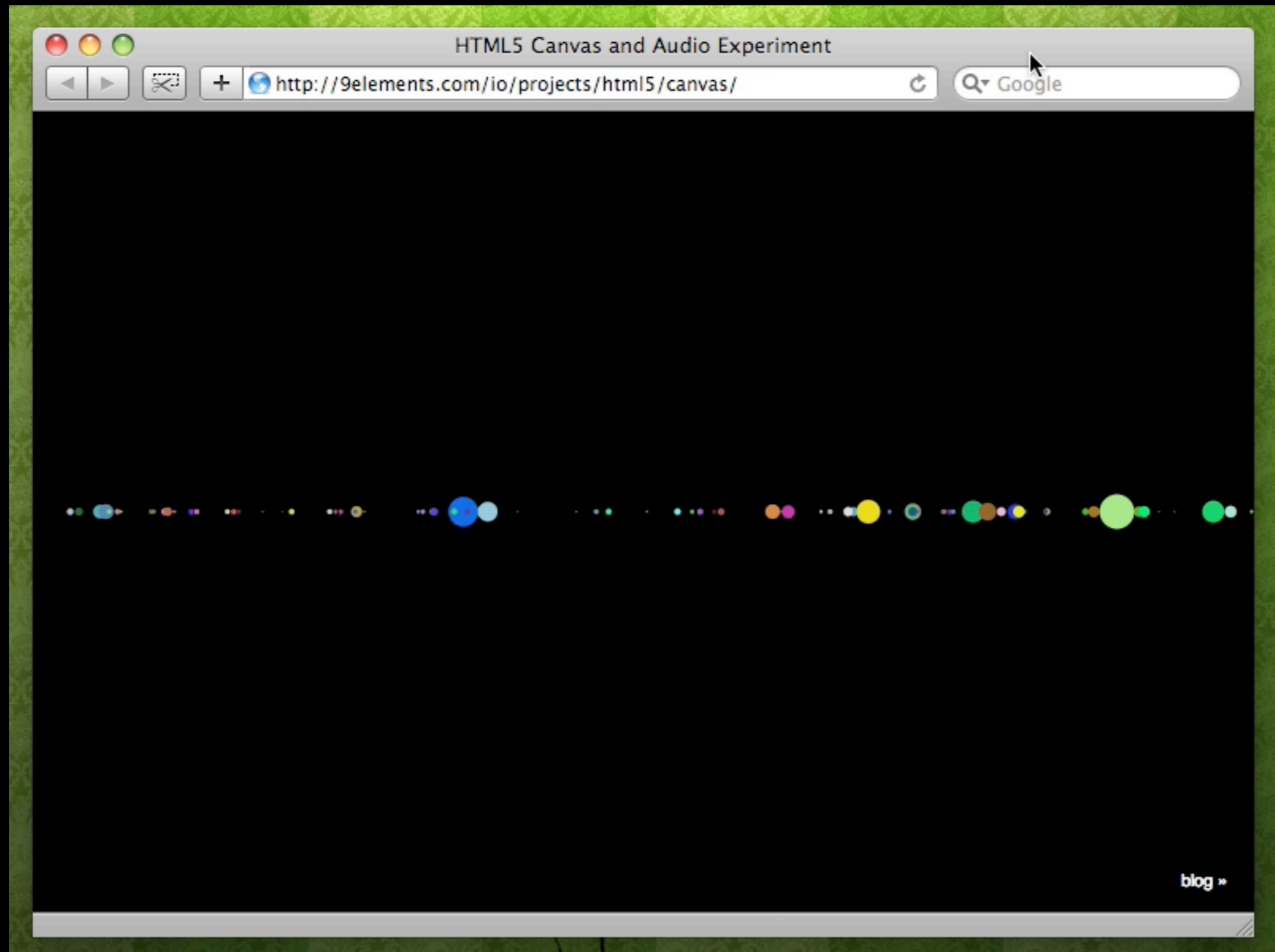
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// draw 600x600 fill
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```





**<http://9elements.com/io/projects/html5/canvas/>**



**<http://9elements.com/io/projects/html5/canvas/>**

The image features a dark silhouette of a dragon's head, facing right, with its mouth wide open. The dragon's teeth are visible, and its tongue is hanging out. The background is a gradient of dark grey to black, with a bright, circular light source in the upper right corner, creating a lens flare effect. The text "Drag'n Drop" is overlaid in the lower center of the image in a white, bold, serif font.

# Drag'n Drop

# Drag & Drop

- **Events: dragover, dragenter, drop**
- **event.transferData contains strings**
- **Links & Images draggable by default**
- **Anything else: draggable="true"\***

```
var drop = document.querySelector( '#drop' );

// Tells browser that we can drop on this target
addEventListener( drop, 'dragover', cancelEvent );
addEventListener( drop, 'dragenter', cancelEvent );

addEventListener( drop, 'drop', function (event) {
    // stops browser from redirecting to the text.
    if (event.preventDefault) {
        event.preventDefault();
    }

    alert( event.dataTransfer.getData( 'Text' ) );

    return false;
});

function cancelEvent(event) {
    if (event.preventDefault) {
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```

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    }
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}
```

```
<style>
  [draggable=true] {
    -khtml-user-drag: element;
  }
</style>

<div draggable="true">drag me</div>

<script>
var items =
document.querySelectorAll( '[draggable=true]' );

for (var i = 0; i < dragItems.length; i++) {
  addEvent( items[i], 'dragstart', function(event) {
    event.dataTransfer.setData( 'Text', this.id );
  });
}
</script>
```

```
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    -khtml-user-drag: element;  
  }
```

```
</style>
```

```
<div draggable="true">drag me</div>
```

```
<script>
```

```
var items =
```

```
document.querySelectorAll( '[draggable=true]' );
```

```
for (var i = 0; i < dragItems.length; i++) {  
  addEvent( items[i], 'dragstart', function(event) {  
    event.dataTransfer.setData( 'Text', this.id );  
  });  
}
```

```
</script>
```



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    -khtml-user-drag: element;
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<div draggable="true">drag me</div>

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    event.dataTransfer.setData( 'Text', this.id);
  });
}
</script>
```

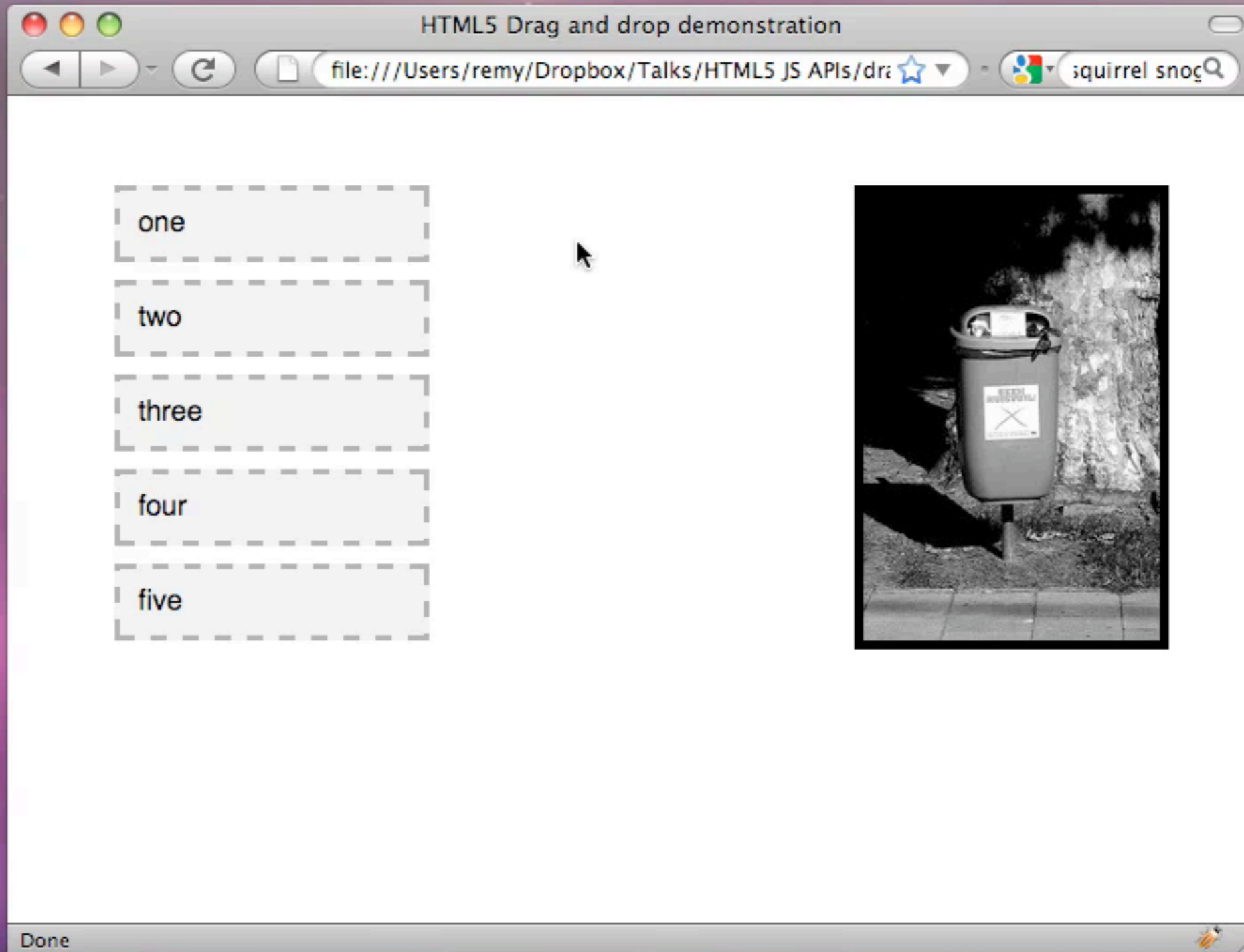
```
<style>
  [draggable=true] {
    -khtml-user-drag: element;
  }
</style>

<div draggable="true">drag me</div>

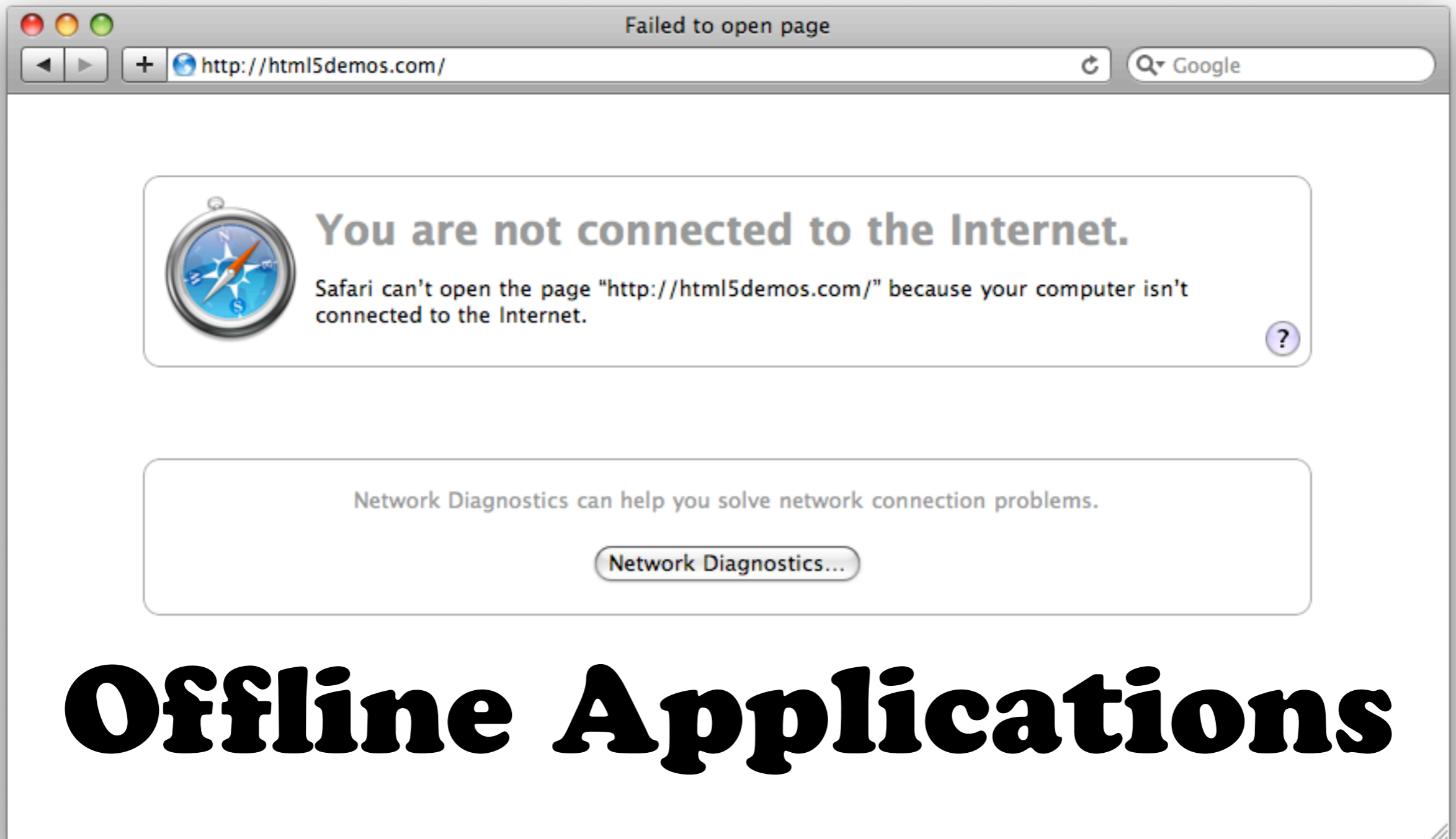
<script>
var items =
document.querySelectorAll( '[draggable=true]' );

for (var i = 0; i < dragItems.length; i++) {
  addEvent( items[i], 'dragstart', function(event) {
    event.dataTransfer.setData( 'Text', this.id );
  });
}
</script>
```

**<http://html5demos.com/drag>**



<http://html5demos.com/drag>



# Offline Applications

# Offline Apps

- **Application cache**
- **Events: offline, online**
- **navigator.onLine property**

# Enable

```
<html  
manifest="my.manifest"  
>
```



# **my.manifest**

**CACHE MANIFEST**

**images/shade.jpg**

**images/bin.jpg**

# Cache

- **First line: CACHE MANIFEST**
- **Requires text/cache-manifest**
- **Recommend using versioning**
- **window.applicationCache**

# Cache

- **On load will request my.manifest**

# Cache

- **On load will request my.manifest**
- **Change manifest: trigger reload**

# Cache

- **On load will request my.manifest**
- **Change manifest: trigger reload**
- **applicationCache.update() force**

# Cache

- **On load will request my.manifest**
- **Change manifest: trigger reload**
- **applicationCache.update() force**
- **Cache events**



01:29



## HTML5 Demo: offline app

html5demos.com/offlin... 

Google

### Offline Application: using manifest

Status of cache:

IDLE (numeric value 1) -- The ApplicationCache object's cache host is associated with an application cache whose application cache group's update status is idle, and that application cache is the newest cache in its application cache group, and the application cache group is not marked as obsolete.

Update cache status

Update cache to latest

[HTML5 demo](#)



01:29



## HTML5 Demo: offline app

html5demos.com/offlin...

Google

### Offline Application: using manifest

Status of cache:

IDLE (numeric value 1) -- The ApplicationCache object's cache host is associated with an application cache whose application cache group's update status is idle, and that application cache is the newest cache in its application cache group, and the application cache group is not marked as obsolete.

Update cache status

Update cache to latest

[HTML5 demo](#)

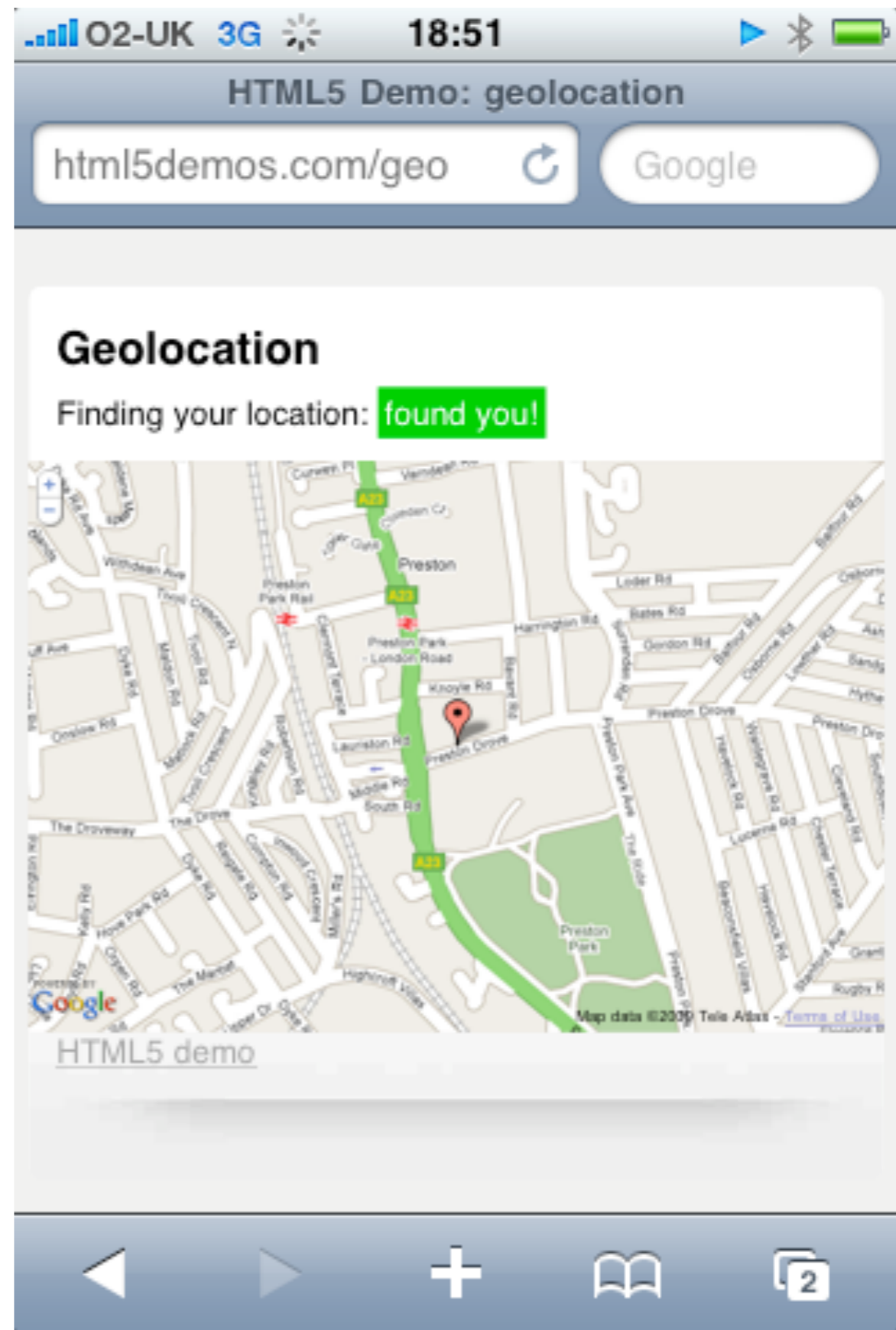




# Geolocation



**Not always accurate!**



```
navigator
```

```
.geolocation
```

```
.getCurrentPosition(
```

```
    success,
```

```
    err
```

```
);
```

Property	Value
▼ coords	undefined latitude=51.500152 longitude=-0.1
CONTENT_NODE	64
DOM_OBJECT	8
EAGER_CLASSINFO	32
MAIN_THREAD_ONLY	4
PLUGIN_OBJECT	16
RESERVED	2147483648
SINGLETON	1
THREADSAFE	2
accuracy	140000
altitude	0
altitudeAccuracy	0
classDescription	"wifi geo position coords object"
classID	null
contractID	""
flags	8
heading	0
implementationLanguage	2
latitude	51.500152
longitude	-0.126236
speed	0

A row of seven spools of thread in various colors: orange, green, yellow, purple, blue, and two shades of green. The spools are arranged in a slightly overlapping line on a dark, reflective surface. The text 'Web Workers' is overlaid in the center in a white, bold, serif font.

# Web Workers

- **Threads**

- **Threads**

- **Native or via Gears**



- **Threads**
- **Native or via Gears**
- **Sandboxed**

- **Threads**
- **Native or via Gears**
- **Sandboxed**
- **Debugging?**

# Without

The image shows a Safari browser window titled "HTML5 Demo: canvas". The address bar contains the file path: `file:///Users/remy/Dropbox/Talks/HTML5%20JS%20AP`. The page content includes:

## Canvas

Canvas is running whilst an infinite loop in a worker

Counter status: 109005500 100 iterations

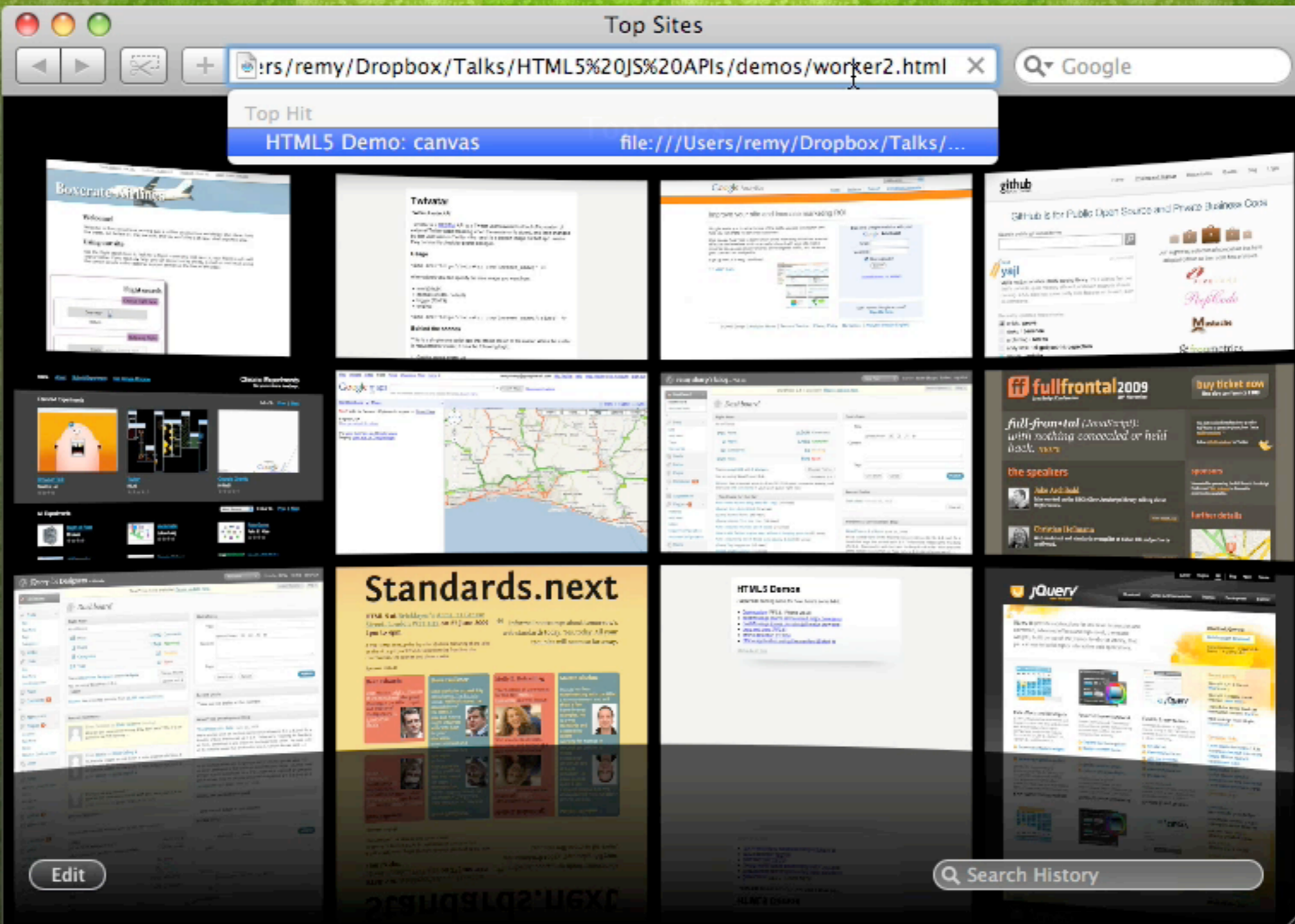
Below the text is a circular progress indicator and the text [HTML5 demo](#).

A "Slow Script" warning dialog box is displayed in the foreground, featuring a compass icon and the following text:

**Slow Script**

Safari is no longer responding because of a script on the webpage "HTML5 Demo: canvas" (`file:///Users/remy/Dropbox/Talks/HTML5%20JS%20APIs/demos/non-worker.html`). Do you want to stop running the script, or let it continue?

At the bottom of the dialog are two buttons: "Stop" and "Continue".



<http://html5demos.com/worker>

**And a  
lot  
more...**



**Attributes: data-\*, itemProp,  
sandbox (on iframes)**

**<progress>**

**<meter>**

**<datalist>**

**<ruby>**

**Microdata API,  
datagrid, XHR2,  
Database Storage**

**Web Forms 2.0:  
client validation,  
new input types,  
date time pickers**

**querySelector**

**ARIA overlap**

# Remy Sharp

@rem

remy@leftlogic.com

html5demos.com

html5doctor.com

JavaScript Conference:  
full-frontal.org

## Photos by

nesster, adactio, badlogik,  
f\_mafra, dearbarbie, ilcello,  
thefangmonster, anniewong,  
aztlek, emeraldrose

