

JavaScript APIs

HTML5

Remy Sharp
@rem
standards.next

JavaScript APIs

HTML5 & friends!

Remy Sharp
@rem
standards.next

HTML5: 2022?

Bollocks.

APIs

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

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Documentation

www.whatwg.org/html5/

dev.w3.org/html5/

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



First draft

#printing

Tests: 0

Demos: 0

Implementation status:



2009-06-05 Hixie

Latest Internet Explorer beta: passes all the available test cases for this feature

The `showModalDialog(url,`
agent to run the following s

1. Resolve *url* relative to

If this fails, then throw

3. If the user agent is co
somehow disabled, th

Notes: ...



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Notes: Hixie

HTML CAN NOT



DO THAT!!!1!!

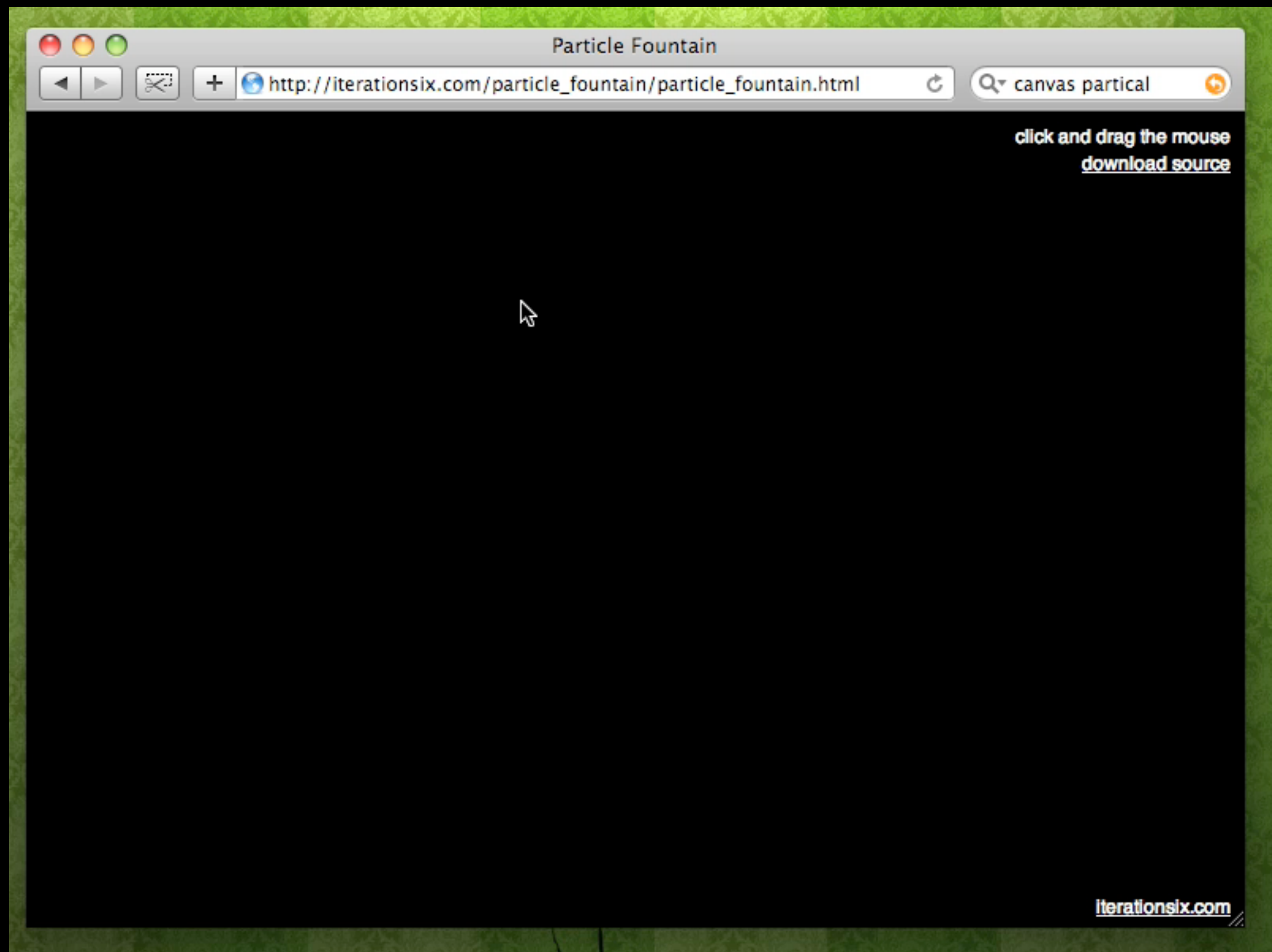
Canvas



Canvas

```
document.querySelector( ' canvas ' ).getContext( "2d" )
```

<http://tr.im/pRkz>



```
document.querySelector('canvas').getContext("2d")
```

<http://tr.im/pRkz>

A dramatic silhouette of a dragon's head, shown in profile facing right. The dragon has a large, spiky crest on its head and a long, pointed snout. Its mouth is slightly open, revealing sharp teeth. The background is a dark, cloudy night sky with a bright, full moon in the upper right corner. The overall mood is mysterious and powerful.

Drag'n Drop



Drag'n Drop

Drag & Drop

- **draggable="true"**
- **events: dragstart, drop, etc**
- **event.transferData**

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

```
<script>
```

```
document.querySelector( 'div' ).addEventListener(
```

```
  "dragstart",
```

```
  function (e) {
```

```
    e.dataTransfer.setData( "arbitrary", "data" );
```

```
    return true;
```

```
  },
```

```
  true);
```

```
</script>
```

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

```
document.querySelector( 'div' ).addEventListener(
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  "dragstart",
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  function (e) {
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```
    e.dataTransfer.setData( "arbitrary", "data" );
```

```
    return true;
```

```
  },
```

```
  true);
```

```
</script>
```

```
e1.addEventListener('dragover', function (e) {  
    e.preventDefault();  
}, true);
```

```
e1.addEventListener('drop', function (e) {  
    e.stopPropagation();  
    alert(e.dataTransfer.getData('arbitrary'));  
}, true);
```

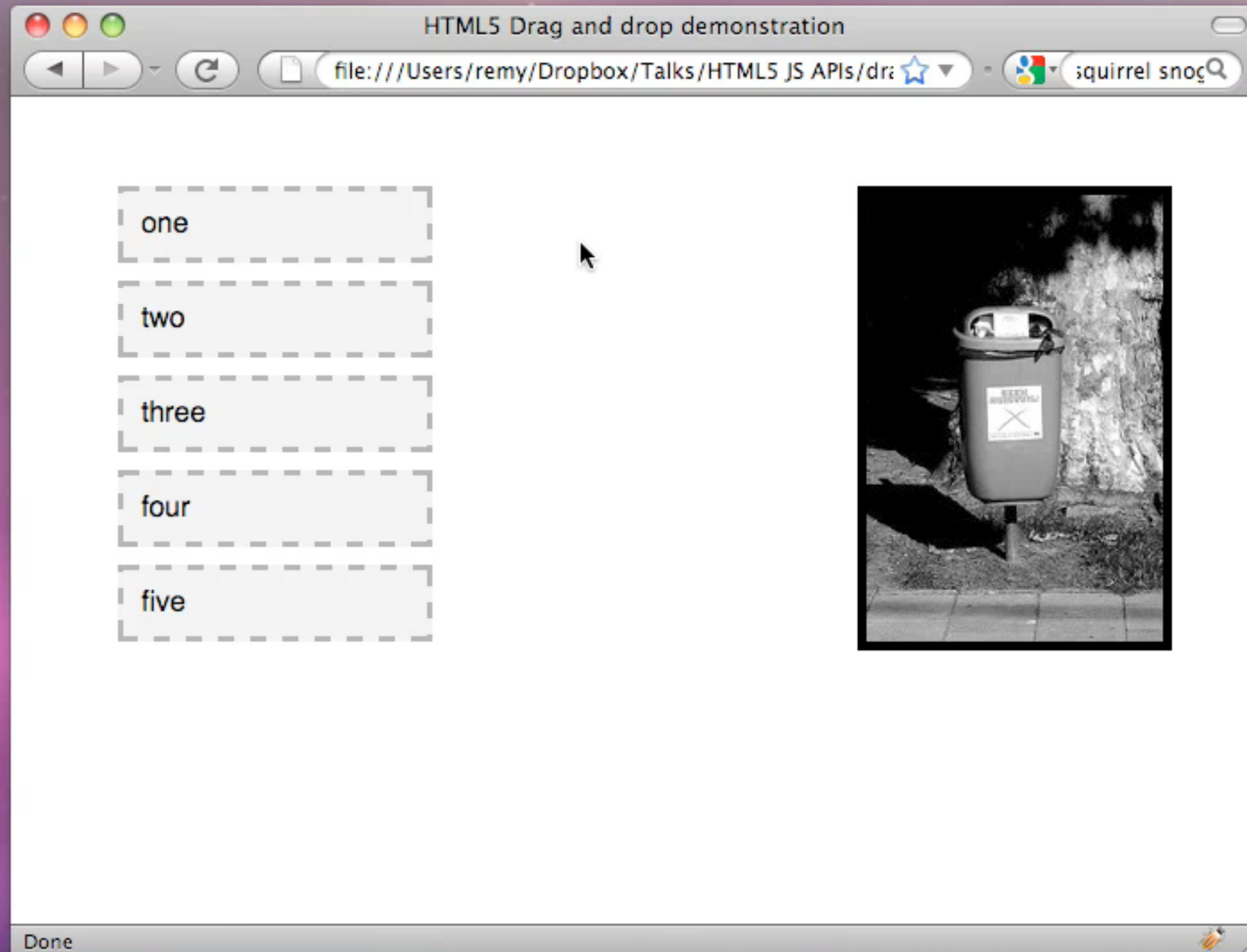
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e1.addEventListener('dragover', function (e) {  
    e.preventDefault();  
}, true);
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```
e1.addEventListener('drop', function (e) {  
    e.stopPropagation();  
    alert(e.dataTransfer.getData('arbitrary'));  
}, true);
```

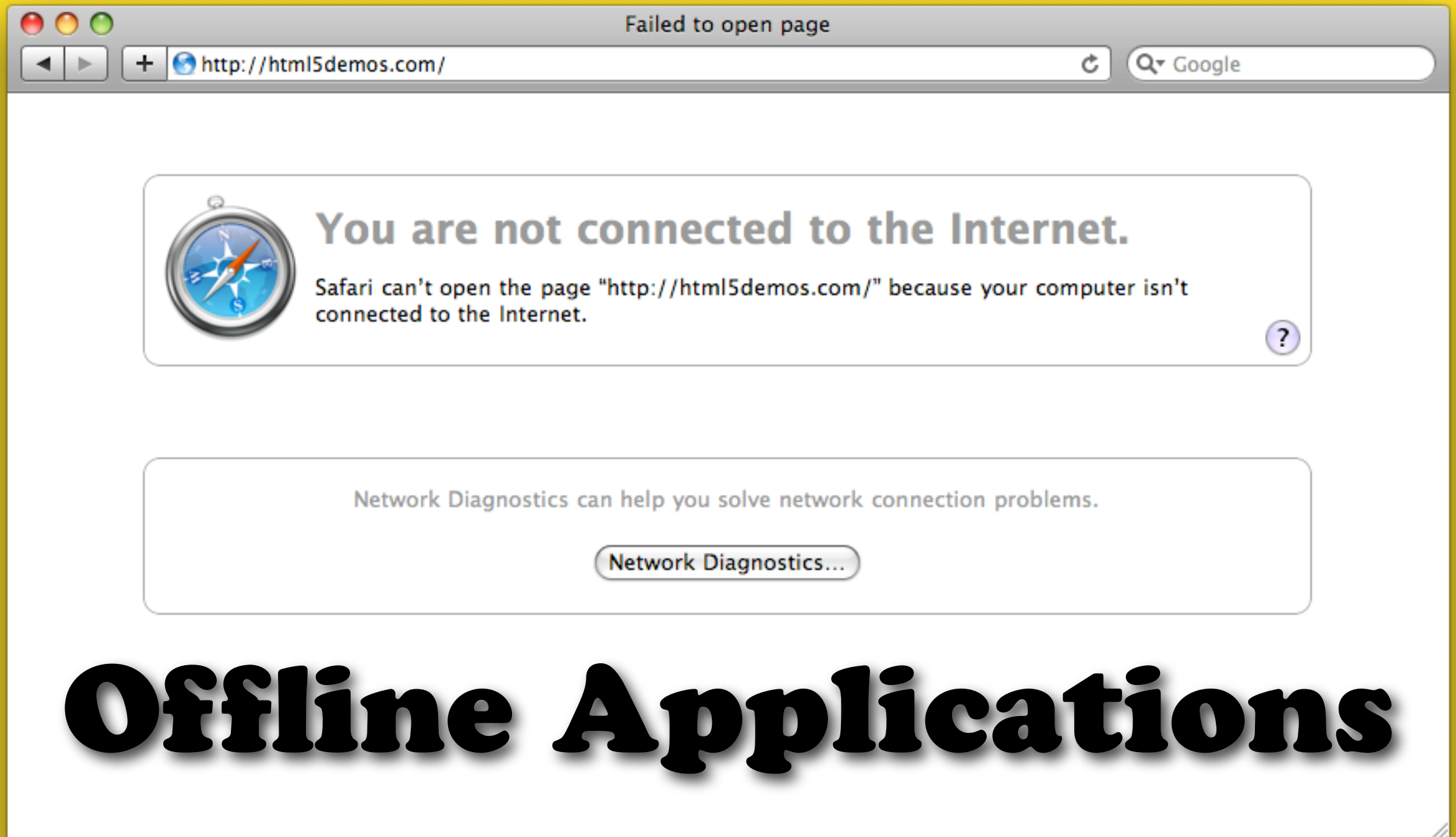
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e1.addEventListener('dragover', function (e) {  
    e.preventDefault();  
}, true);
```

```
e1.addEventListener('drop', function (e) {  
    e.stopPropagation();  
    alert(e.dataTransfer.getData('arbitrary'));  
}, true);
```

<http://html5demos.com/drag>



<http://html5demos.com/drag>



Offline Applications



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 hit my.manifest**

Cache

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

Cache

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

Cache

- **On load will hit 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:

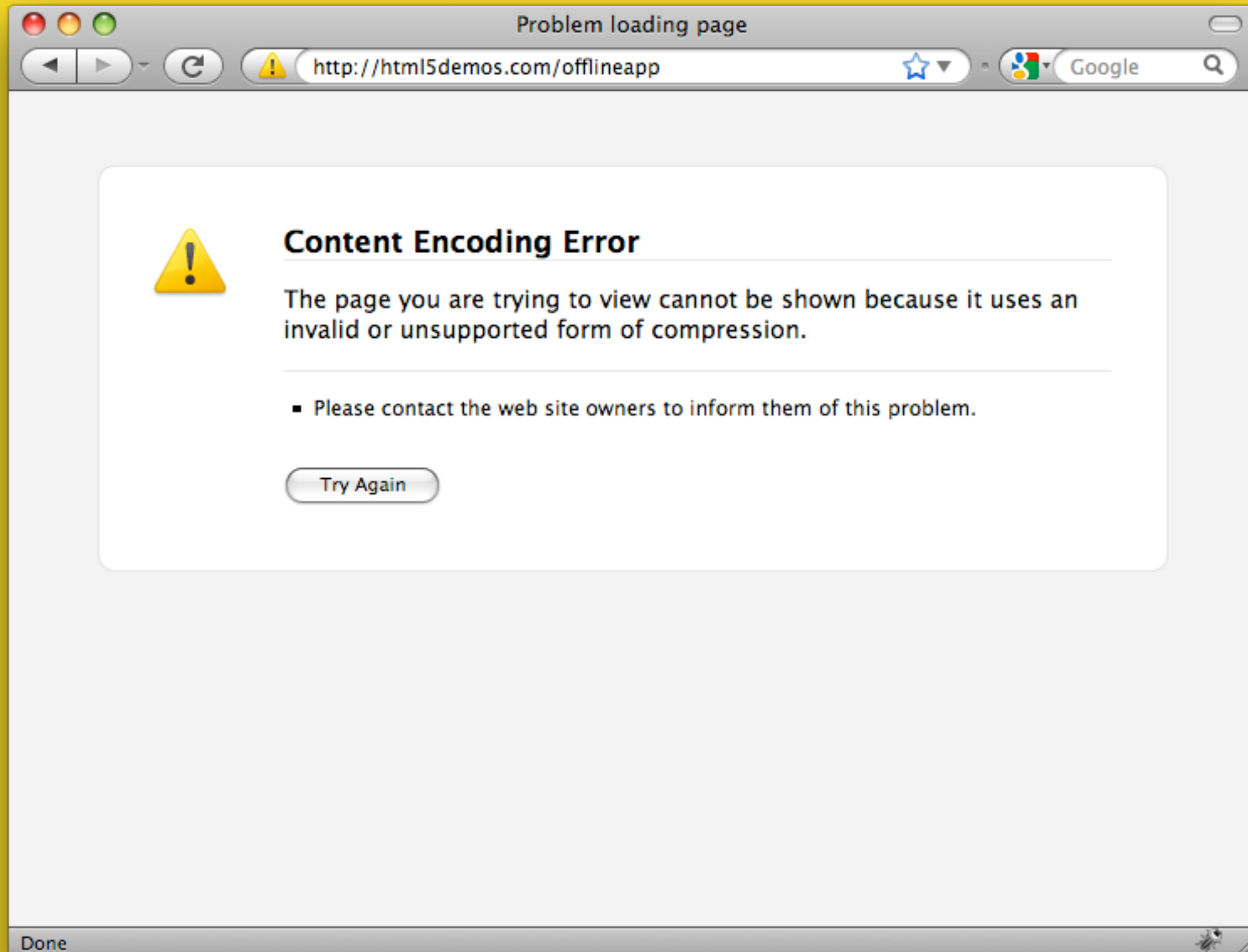
IDLE (numeric value 1) -- The ApplicationCache object's cache host is associated with an application cache whose application cache group's update status is idle, and that application cache is the newest cache in its application cache group, and the application cache group is not marked as obsolete.

Update cache status

Update cache to latest

[HTML5 demo](#)

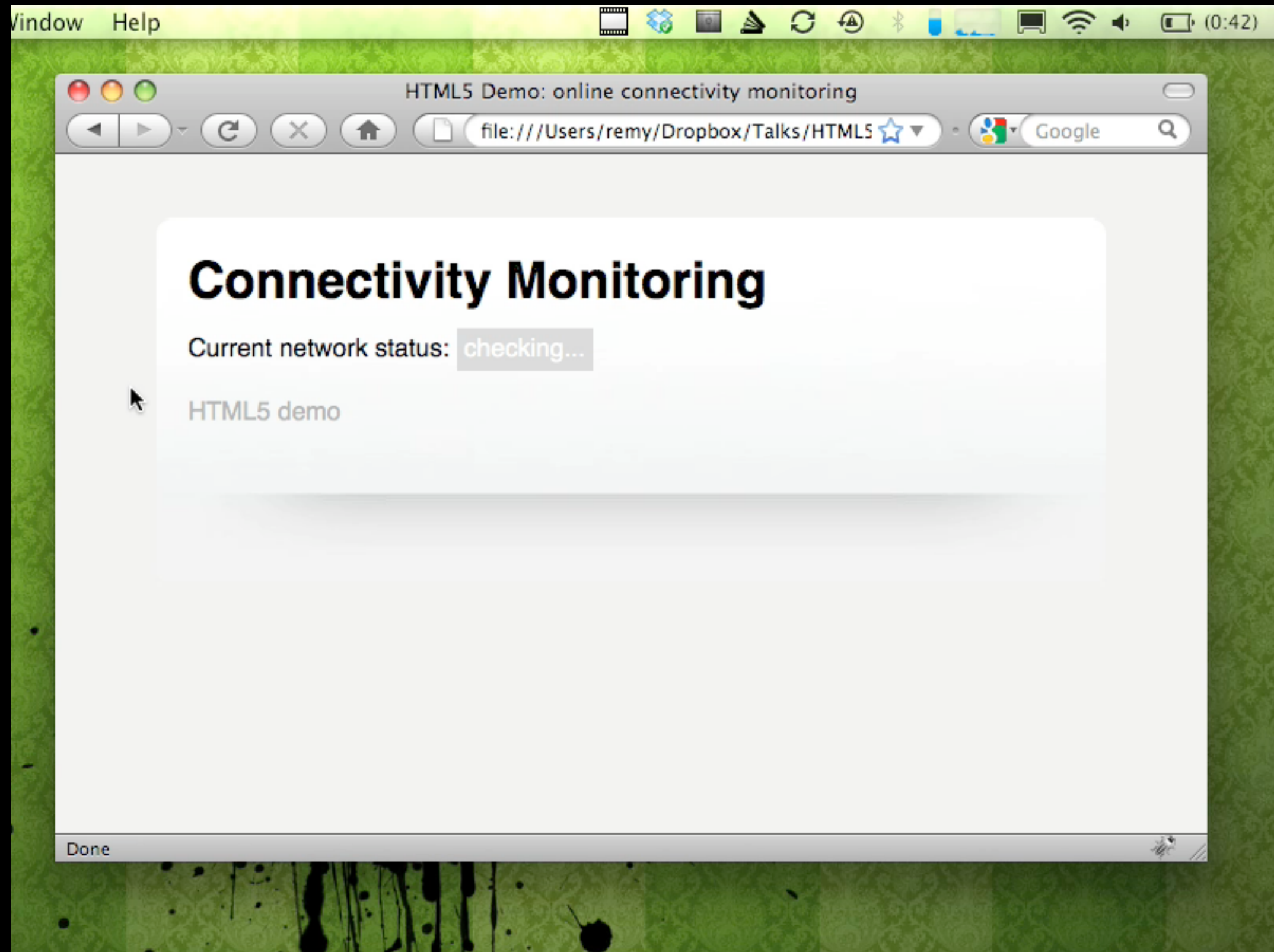
Firefox



```
window.addEventListener(  
  'offline', // online too  
  online, // function  
  true  
);
```

```
function online() {  
    if (navigator.onLine == false) {  
        // gone offline  
    } else {  
        // else we're online  
    }  
}
```

<http://html5demos.com/offline>



<http://html5demos.com/offline>

The Firefox logo, featuring a stylized orange fox head encircling a green and blue globe, is centered in the background.

navigator.onLine



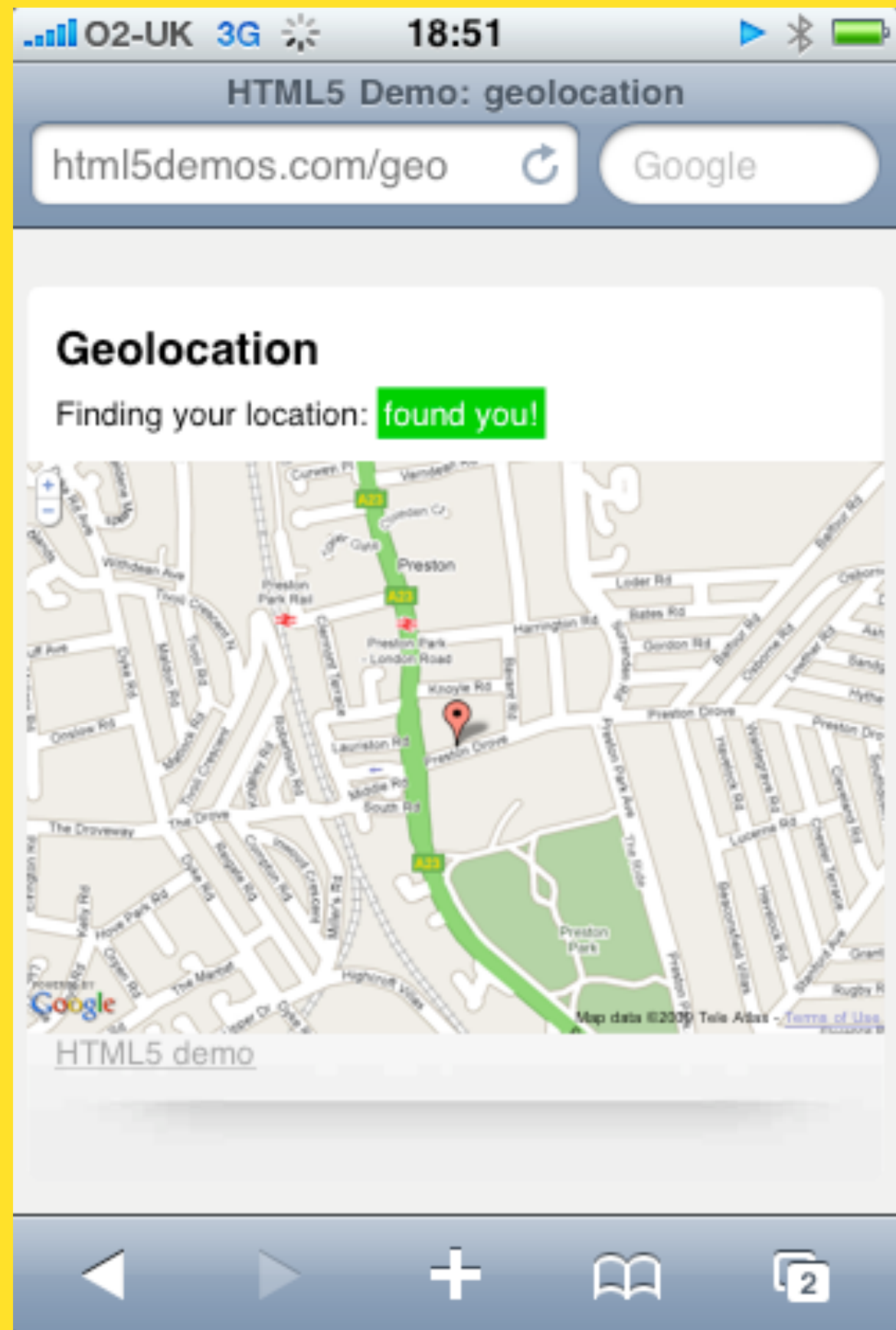
Geolocation



Geolocation



Not always accurate!



```
navigator  
  .geolocation  
  .getCurrentPosition(  
    success,  
    err  
  );
```

▼ coords	undefined latitude=51.500152 longitude=-0.126236
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

▼ coords	undefined latitude=51.500152 longitude=-0.126236
CONTENT_NODE	64
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Messaging



Messaging

Messaging

- **Communicate across domains**
- **Across window object**
- **With Workers**
- **String transfer only**

.postMessage(str)



.onMessage(event)
event.data == str

Cross Domain

document

.getElementById("iframe")

.contentWindow

.postMessage("my message");

The Catcher

```
window.addEventListener(  
    "message",  
    function(e) {  
        if (e.origin !== "http://example.com") {  
            return;  
        }  
  
        alert(e.origin + " said: " + e.data);  
    },  
    false  
);
```

Web Workers



Web Workers

- **Threads**

- **Threads**

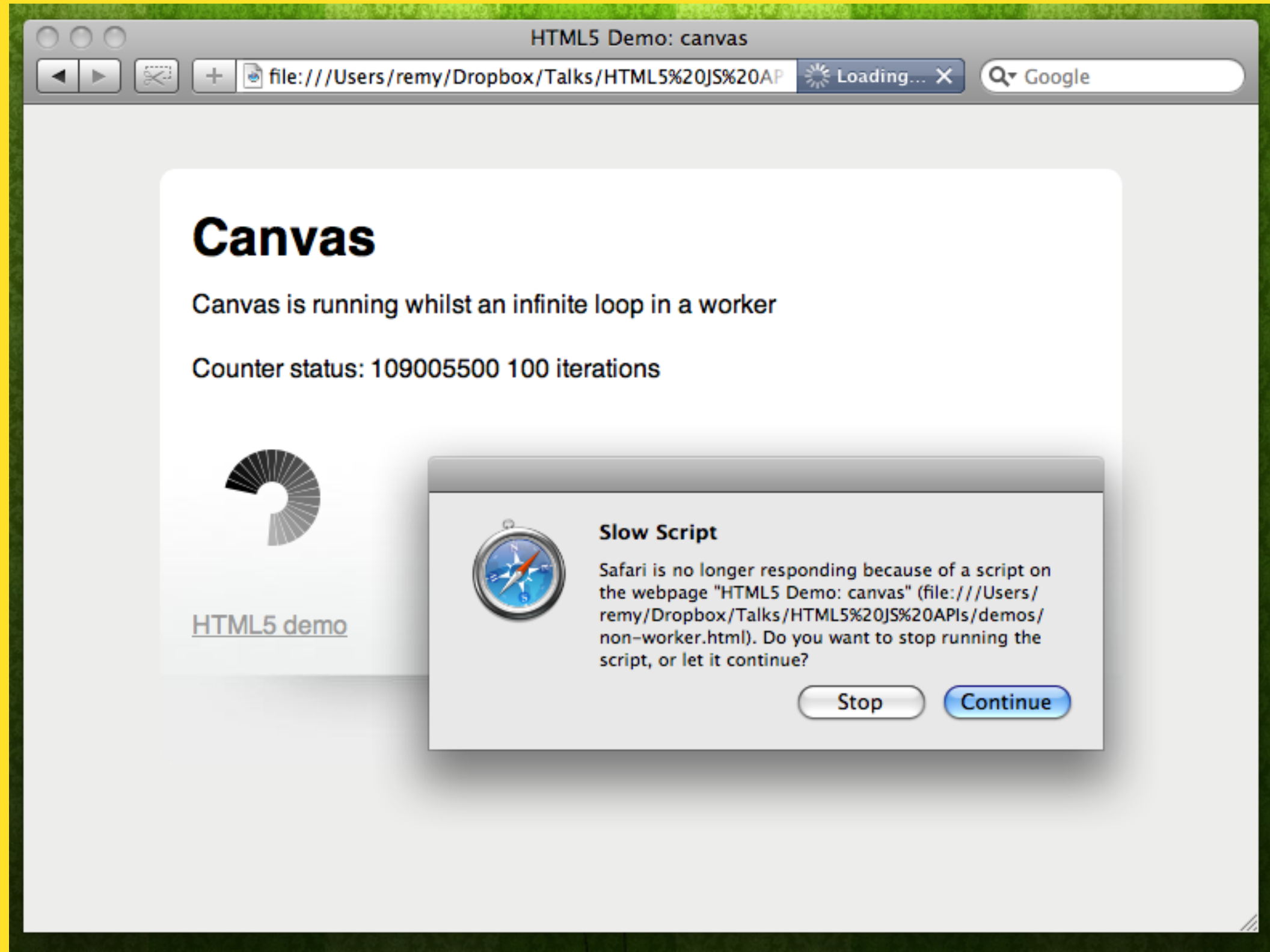
- **Native or via Gears**

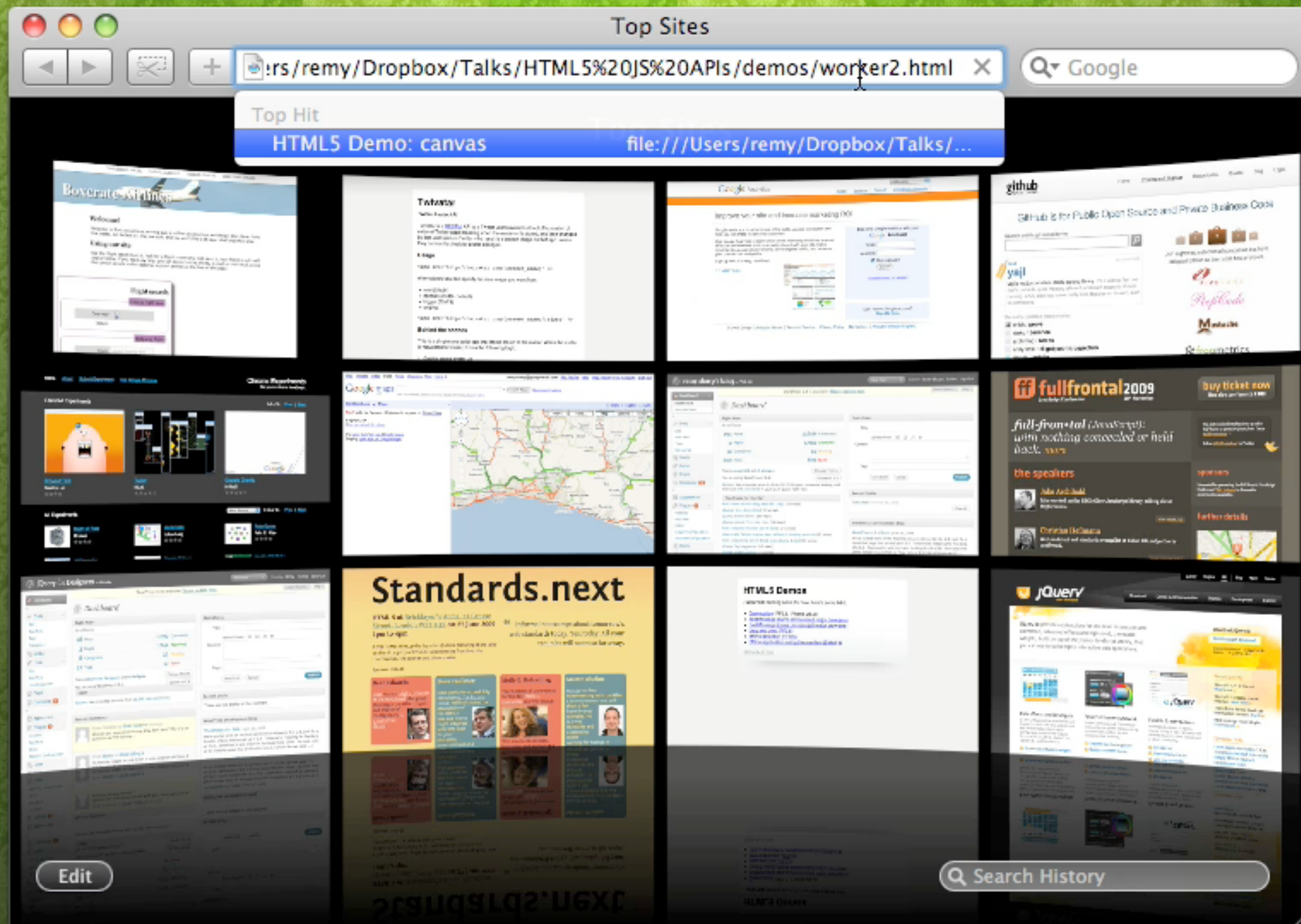
- **Threads**
- **Native or via Gears**
- **Sandboxed**

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

- **importScripts**
- **postMessage**
- **onmessage**
- **onconnect**

Without

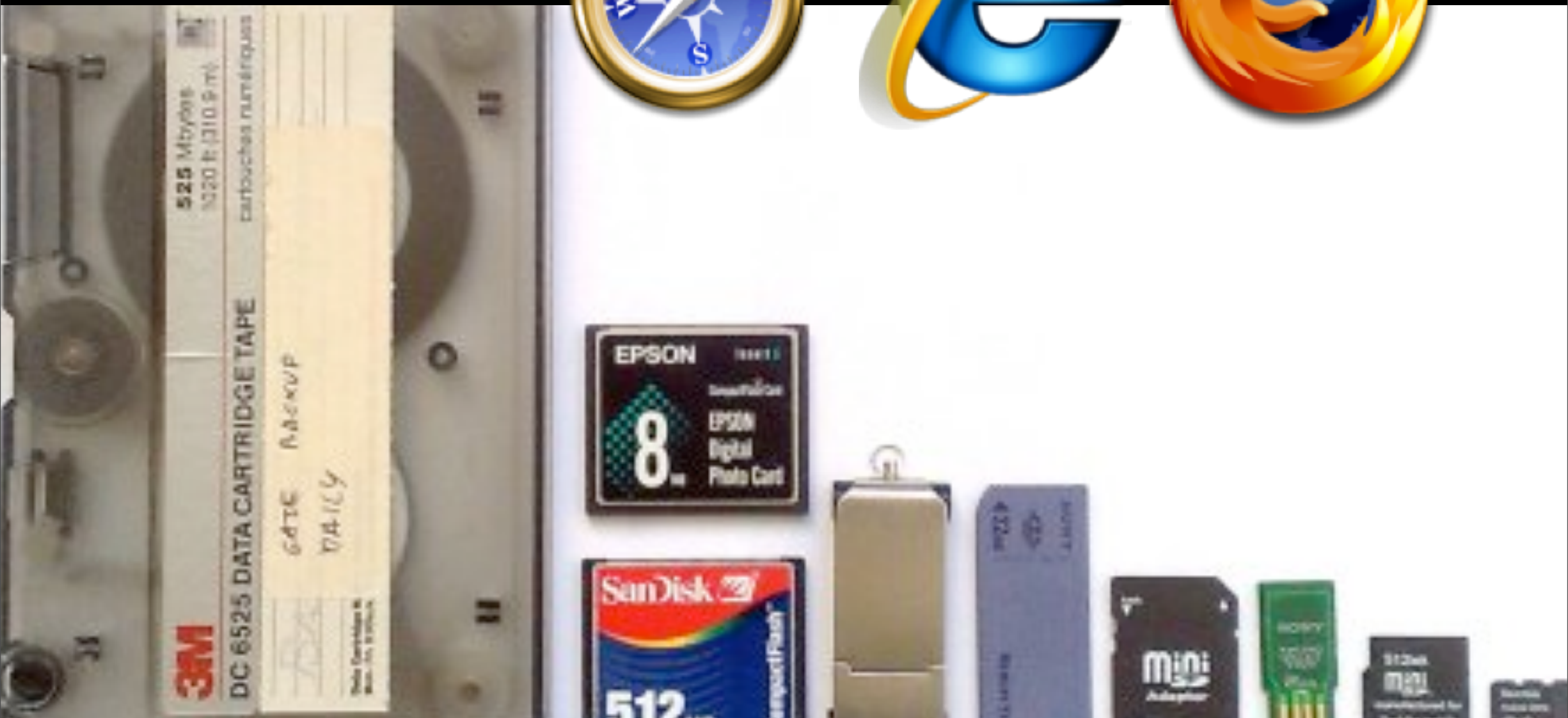




<http://html5demos.com/worker>



Storage



Storage

1. sessionStorage

1. sessionStorage

2. localStorage

- 1. sessionStorage**
- 2. localStorage**
- 3. database storage**

Storage

`sessionStorage.setItem(key, value)`

`sessionStorage.getItem(key)`

Storage

`localStorage.setItem(key, value)`

`localStorage.getItem(key)`

And more!

**Remy
Sharp**

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html5demos.com

remysharp.com

full-frontal.org

