

HTML 5: Fact and Fiction

Nathaniel T. Schutta

Who am I?

- Nathaniel T. Schutta
<http://www.ntschutta.com/jat/>
- @ntschutta
- Foundations of Ajax & Pro Ajax and Java Frameworks
- UI guy
- Author, speaker, teacher
- More than a couple of web apps

The Plan

- What is HTML 5?
- Why do I care?
- What can I do?
- How do I do it?

What is it?

There was an HTML 4?

Remember XHTML?

What happened there?

Lack of features.

Well-formed issue.

Browsers are forgiving.

Web flourished
because of it.

Lots of “broken” pages.

Draconian error handling.

Not backwards
compatible.

MIME type
largely ignored.

Syntax was adopted.

Lower case tags, double
quotes, closing slashes.

Very few pages are
parsed as XHTML.

HTML little long
in the tooth...

And wasn't designed
for applications.

Pushing boundaries.

De facto standards...

XHR anyone?

Speaking of de facto...

What works better?

Committees?

Scratching real itches?

Hibernate or a JCP?

Standards aren't
always clear cut.

And you don't want to
watch them being made.

Can contradict.

Not a conspiracy
against developers.

Well not entirely.

Evolve over time.

A conversation.

Browser implementors,
designers, standardistas.

Often a reaction to
what we're doing.

Can standards lead?

We say we
want standards...

Really want
browser consistency.

Pain isn't standards, it's
implementation.

How did we get here?

2004 W3C workshop.

What should we do?

Evolving HTML lost.

Formed a new group.

WHAT Working Group.

Web apps!

Reversed engineered, and
documented, parsing.

Web forms.

Canvas, audio, video tags.

Work continued on
XHTML 2.0.

You probably
didn't notice.

WHAT WG had
momentum.

W3C joined the effort.

Thus was born HTML5.

So what is it again?

HTML5 is a collection
of features...

Evolutionary step.

Why should I care?

Market is moving.



Customers.

Mobile.

Next big thing.

Millions of mobile devices...more daily.



i* - iPad, iPhone etc.

Not just Apple...

Don't want to build a native app?

Don't want to support multiple OS?

Android fragmentation,
Black Berry, Palm...

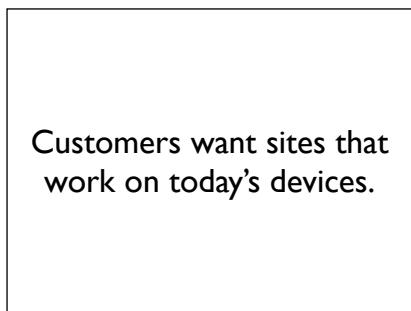
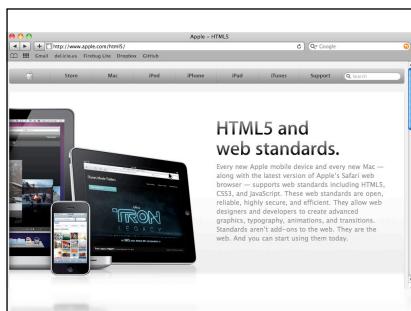
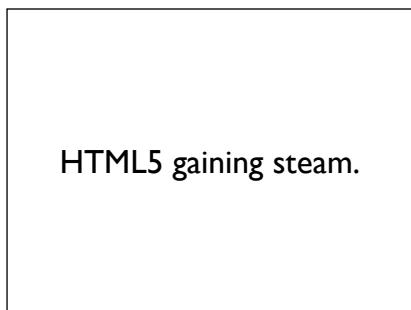
Great! HTML5.

Mobile browsers excellent
HTML5 support.

More likely than
desktop peers.

Flash is dying.

Lead largely by Apple
and...Google.



HTML5 is the answer.

Respects what we're
actually doing.

Forms, controls...
well worn hacks.

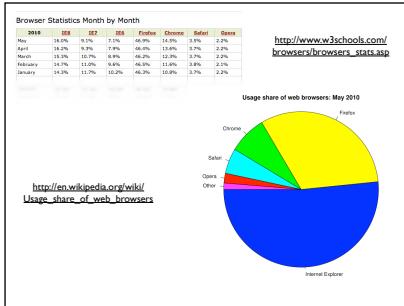
Helps us build
applications!

What can I do?

Browser support
isn't universal.

Shocking.

Older browsers pervasive.



IE 6 is dying...

Even MS wants it gone.

SharePoint 2010 - no IE 6.

Google Apps...sorry IE 6.

<http://googledocs.blogspot.com/2010/01/web-browser-support-for-docs-and-sites.html>

Agent sniffing?

NO!

Feature detection.

The DOM is
your answer key.

Four approaches.

I. Ask the global object
if a property exists.

```
function check_geolocationO {
  if (navigator.geolocation) {
    var message = "Geolocation is supported by your browser!";
  } else {
    return !navigator.geolocation;
  }
  show_results(message);
}
```

Create an element:

2. Look for a property.

```
function check_canvas_modernizerO {
  if (Modernizr.canvas) {
    var message = "modernizer says you've got canvas!";
  } else {
    message = no_support_mod;
  }
  show_results(message);
}
```

3. Look for a method.

```
function check_video_formats() {
  if (!Modernizr.video) {
    var message = "uh-oh, we can do some kind of video!";
    if (Modernizr.video.ogg) { message += " we can play ogg"; }
    } else if (Modernizr.video.h264) {
      message = "we prefer h264 thanks";
    }
  }
  show_results(message);
}
```

Ogg? 264? WebM?

Patents...

http://daringfireball.net/2010/03/gif_h264_patents
http://daringfireball.net/2010/03/on_submarine_patents

Browser support falls
on philosophical lines.

4. Set a property and
see if the value sticks.

```
function check_for_email(modernizer) {
  function supports_input(input_type) {
    var input = document.createElement("input");
    input.setAttribute("type", input_type);
    return input.type === "text";
  }
}
```

Modernizer.

<http://www.modernizr.com/>

Modern browsers are evolving with spec.

Support is quite good.

Not sure what your browser can do?

<http://www.findmebyip.com/#target-selector>



<http://www.modernizr.com/tester/>

Modernizr is a JavaScript library which detects your browser's support for the selection of the latest CSS & HTML5 features. It helps web developers implement progressive enhancement techniques.

The list to the right uses the Modernizr library to determine what "advanced" features your browser supports.

Please note this is a "black or white" test and is not designed to take into account any discrepancies and/or bugs in any particular vendor's implementation.

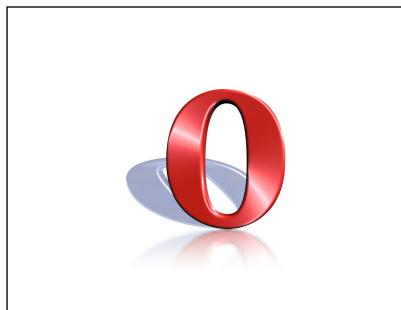
✓ @font-face	✓ Canvas
✓ Canvas Text	✓ HTML5 Audio
✓ HTML5 Video	✓ Geolocation API
✓ Local Storage	✓ Session Storage
✓ Post Message	✓ Offline Applications
✓ Workers	✓ Query Selector
✓ Web Database	
✗ Ogg	✗ MP3
✓ Wave Windows Audio	✗ MP4/MPEG4 AAC
✗ Oga	✓ Apple .264

<http://www.modernizr.com/tester/>

The first Web Forms 2.0 Draft appeared as far back as February 2006. Now updated by the Forms 2.0 specification it introduces new elements which offer a wide range of functionality previously only available with the help of third party scripts.

Your browser's support for basic Web Forms 2.0 is shown in the list to the right.

✓ input type="search">	✓ input type="tel">
✓ input type="url">	✓ input type="email">
✓ input type="datetime">	✓ input type="date">
✓ input type="month">	✓ input type="week">
✓ input type="time">	✓ input type="datetime-local">
✓ input type="number">	
✓ input type="range">	
✗ autocomplete="on">	✓ input autofocus
✓ input list="mylist">	✓ input placeholder="Enter Text"
✓ input max="100">	✓ input min="100"
✓ input multiple="multiple">	✓ input pattern="^([a-z])\$"
✓ input required="required">	✓ input step="3.1415"



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✓ @font-face	✓ Canvas
✓ Canvas Text	✓ HTML5 Audio
✓ HTML5 Video	✓ Geolocation API
✓ Local Storage	✓ Session Storage
✓ Post Message	✓ Offline Applications
✓ Workers	✓ Query Selector
✓ Web Database	
✗ Ogg	✗ MP3
✓ Wave Windows Audio	✗ MP4/MPEG4 AAC
✗ Oga	✓ Apple .264

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✓ input type="time">	✓ input type="datetime-local">
✓ input type="number">	
✓ input type="range">	
✓ autocomplete="on">	✓ input autofocus
✓ input list="mylist">	✗ input placeholder="Enter Text"
✓ input max="100">	✓ input min="100"
✗ input multiple="multiple">	✓ input pattern="^([a-z])\$"
✓ input required="required">	✓ input step="3.1415"



HTML5 Web Features

Modernizr is a JavaScript library which detects your browser's support for the selection of the latest **CSS** & **HTML5** features. It helps web designers to implement progressive enhancement techniques.

The list to the right uses the Modernizr library to determine what "advanced" features your browser supports.

Please note this is a "black or white" test and is not designed to take into account any discrepancies and/or bugs in any particular vendor's implementation.

✓ @font-face	✓ Canvas
✓ Cache Text	✓ HTML5 Audio
✓ HTML5 Video	✓ Geolocation API
✓ Local Storage	✓ Session Storage
✓ Post Message	✓ Offline Applications
✓ Workers	✓ Query Selector
✗ WebDatabase	
✓ (ogg) Ogg	✗ (mp3) MP3
✓ (wmv) Windows Audio	✗ (m4a) MP4 AAC
✗ Ogg	✓ Apple H.264

Done

HTML5 Web Forms

Modernizr is a JavaScript library which detects your browser's support for the selection of the latest **CSS** & **HTML5** features. It introduces new elements which offer a wide range of functionality previously only possible with the help of third party scripts.

Your browser's support for basic Web Forms 2.0 is shown in the list to the right.

✗ <input type="search">	✗ <input type="tel">
✗ <input type="url">	✗ <input type="email">
✗ <input type="date-time">	✗ <input type="date">
✗ <input type="month">	✗ <input type="week">
✗ <input type="time">	✗ <input type="datetime-local">
✗ <input type="number">	✗ <input type="range">
✗ <input type="color">	
✗ <input autocomplete="on">	✓ <input autofocus>
✗ <input list="mylist">	✓ <input placeholder="Enter Text">
✓ <input max="100">	✗ <input min="100">
✓ <input multiple>	✓ <input pattern="(\\d{3})?">
✓ <input required>	✓ <input step="1.1415">

Done



HTML5 Web Features

Modernizr is a JavaScript library which detects your browser's support for the selection of the latest **CSS** & **HTML5** features. It helps web designers to implement progressive enhancement techniques.

The list to the right uses the Modernizr library to determine what "advanced" features your browser supports.

Please note this is a "black or white" test and is not designed to take into account any discrepancies and/or bugs in any particular vendor's implementation.

✓ @font-face	✓ Canvas
✓ Cache Text	✓ HTML5 Audio
✓ HTML5 Video	✓ Geolocation API
✓ Local Storage	✓ Session Storage
✓ Post Message	✓ Offline Applications
✓ Workers	✓ Query Selector
✓ WebDatabase	
✓ (ogg) Ogg	✗ (mp3) MP3
✗ (wmv) Windows Audio	✓ (m4a) MP4 AAC
✓ Ogg	✓ Apple H.264

HTML5 Web Forms

Modernizr is the first Web Forms 2.0 Draft appeared as far back as February 2006. Now it's time to introduce the rest of the HTML5 specification. It introduces new elements which offer a wide range of functionality previously only possible with the help of third party scripts.

Your browser's support for basic Web Forms 2.0 is shown in the list to the right.

✓ <input type="search">	✓ <input type="tel">
✓ <input type="url">	✓ <input type="email">
✓ <input type="date-time">	✓ <input type="date">
✓ <input type="month">	✓ <input type="week">
✓ <input type="time">	✓ <input type="datetime-local">
✓ <input type="number">	✓ <input type="range">
✓ <input type="color">	
✗ <input autocomplete="on">	✓ <input autofocus>
✗ <input list="mylist">	✓ <input placeholder="Enter Text">
✓ <input max="100">	✓ <input min="100">
✓ <input multiple>	✓ <input pattern="(\\d{3})?">
✓ <input required>	✓ <input step="1.1415">

Let's go!

Doctype.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"  
     "http://www.w3.org/TR/html4/loose.dtd">
```

Trans-what-now?

Quite a mouth full...

People designed expecting
poor rendering.

Browsers standards
support improved.

And they broke the web.

Quirks mode vs.
standards mode.

And almost standards mode.

Seriously.

Let developers opt in.

HTML5 simplifies life.

<!DOCTYPE HTML>

It's almost too easy!

And you can type it.

Oh, must be the first line.

Blank line can kick you
into quirks mode...

HTML palette...lacking.

Text box, text area, drop down, radio button...

Pretty limited.

Libraries help!

But they aren't perfect.

No reason browsers
can't do more...

Now they can!

New input types.

- search
- spinner
- slider
- color picker
- telephone number
- url
- email
- date, month, week, timestamp
- datetime

```
<!DOCTYPE HTML>
<html>
<head>
<title>HTML5 Input Types</title>
</head>
<body>
<h1>HTML5 Adds New Input Types</h1>
Search: <input type="search" autofocus> <br/><br/>
Search (Placeholder): <input type="search" placeholder="search"> <br/>
Number: <input type="number" step="2" value="0"> <br/> <br/>
Range: <input type="range"> <br/> <br/>
Color: <input type="color"> <br/> <br/>
Telephone: <input type="tel"> <br/> <br/>
URL: <input type="url"> <br/> <br/>
Email: <input type="email"> <br/> <br/>
Date: <input type="date"> <br/> <br/>
Month: <input type="month"> <br/> <br/>
Week: <input type="week"> <br/> <br/>
Time: <input type="time"> <br/> <br/>
Date/Time: <input type="datetime"> <br/> <br/>
</body>
</html>
```

HTML5 Input Types

HTML5 Adds New Input Types

Search:

Search (Placeholder):

Number:

Range:

Color:

Telephone:

URL:

Email:

Date:

Month:

Week:

Time:

Date/Time:

HTML5 Input Types

HTML5 Adds New Input Types

Search:

Search (Placeholder):

Number:

Range:

Color:

Telephone:

URL:

Email:

Date:

Month:

Week:

Time:

Date/Time:

HTML5 Input Types

HTML5 Adds New Input Types

Search:

Search (Placeholder):

Number:

Range:

Color:

Telephone:

URL:

Email:

Date:

Month:

Week:

Time:

Date/Time:

HTML5 Adds New Input Types

Search:

Search (Placeholder):

Number:

Range:

Color:

Telephone:

URL:

Email:

Date:

Month:

Week:

Time:

Datetime:

type="text" if browser
doesn't support it.

Implementation isn't
always...top notch.

May still want to
use a library.

HTML5 Adds New Input Types

Search:

Search (Placeholder):

Number:

Range:

Color:

Telephone:

URL:

Email:

Date:

Month:

Week:

Time:

Datetime:

Really Simple Address Book

Name:

Email:

Phone:

Street:

City: State: Zip:

Website:

IM:

Birthday:

CSS could be improved.

Placeholder text.

“Search”

```
<!DOCTYPE HTML>
<html>
<head>
<title>HTML5 Input Types</title>
</head>
<body>
<h3>HTML5 Adds New Input Types</h3>
<pre><input type="search" placeholder="Search"> <br/> <br/>
Number: <input type="number" value="0"> <br/> <br/>
Range: <input type="range"> <br/> <br/>
Color: <input type="color"> <br/> <br/>
Tel: <input type="tel"> <br/> <br/>
URL: <input type="url"> <br/> <br/>
Email: <input type="email"> <br/> <br/>
Date: <input type="date"> <br/> <br/>
Month: <input type="month"> <br/> <br/>
Week: <input type="week"> <br/> <br/>
Time: <input type="time"> <br/> <br/>
Date/Time: <input type="datetime"> <br/> <br/>
</pre>
</body>
```



Clever and helpful.

Annoying when sites don't.

Not enough?

How bout form validation?

Opera has support...
but no one else.

New semantic elements.

- section
- nav
- article
- aside
- hgroup
- header
- footer
- time
- mark

Defines things we've been doing for years.

Common markup.

Again, nod to what we're actually doing.

More meaningful than divs!

Autofocus.

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>HTML5 Input Types</title>
  </head>
  <body>
    <input type="text" placeholder="Text"/>
    Search: <input type="search" placeholder="Search"> <br/><br/>
    Search (Placeholder): <input type="search" placeholder="Search"> <br/> <br/>
    Number: <input type="number" value="0"> <br/> <br/>
    Range: <input type="range"> <br/> <br/>
    Color: <input type="color"> <br/> <br/>
    Telephone: <input type="tel"> <br/> <br/>
    URL: <input type="url"> <br/> <br/>
    Email: <input type="email"> <br/> <br/>
    Date: <input type="date"> <br/> <br/>
    Month: <input type="month"> <br/> <br/>
    Week: <input type="week"> <br/> <br/>
    Time: <input type="time"> <br/> <br/>
    Date/Time: <input type="datetime"> <br/> <br/>
  </body>
</html>
```

Today we use JavaScript.

Edge cases.

Consistency.

Can be disabled.

Local storage.

Like cookies...

But bigger, stays local.

Offline.

Google Apps, GMail rock.



Some flights have wifi.

Not cheap.

Application cache.

Web server tells client
what it needs.

Application works
when disconnected.

When it connects,
changes are uploaded.

Web workers.

Background JavaScript.

Multiple threads.

Geolocation.

Where in the
world are you?

Technically not a
part of HTML5.

Geolocation Working Group.

Your browser doesn't support it?

No worries.

Gears.

<http://gears.google.com/>

Gears does quite a bit actually...

Google is migrating to web storage though.

Device specific options.

Microdata.

Add semantics
to your pages.

Licensing info, vCard.

For search and browsers.

Still early.

Browser support isn't
universal...yet.

Very strong.

At least with
modern browsers.

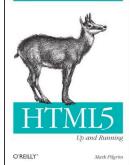
Great time to get started!

Books coming.

<http://diveintohtml5.org/>

DIVE INTO HTML 5
BY
MARK PILGRIM

WITH ILLUSTRATIONS FROM THE PUBLIC DOMAIN



<http://books.alistapart.com/product/html5-for-web-designers>

Plus *many* more.

Questions???

Thanks!

Please complete your surveys.