Oct, 10th, 2011
Aarhus, Denmark

goto; conference aarhus

THE MOBILE BROWSER AS A PLATFORM

Max Firtman @firt
mobile+web developer

INTERNATIONAL SOFTWARE DEVELOPMENT CONFERENCE

gotocon.com

who am I?

mobile+web developer

mobilexweb.com blog

@firt

COMMUNITY PROFESSIONAL

NOKIA Developer Champion

ITMaster PROFESSIONAL TRAINING

where?

where?

buenos aires ~ argentina

where?

buenos aires ~ argentina

patagonia

football

meat & wine

tango

MOBILE HTML

0 Like
0 +1
0 Tweet

Do not program conditionals per platform or version. Always use feature detection.

This list is in progress. New tests, new features, more specificity of each feature and more mobile browsers soon!

If you want to help on the test, contact me.

by firt | Updates on Twitter | Blog

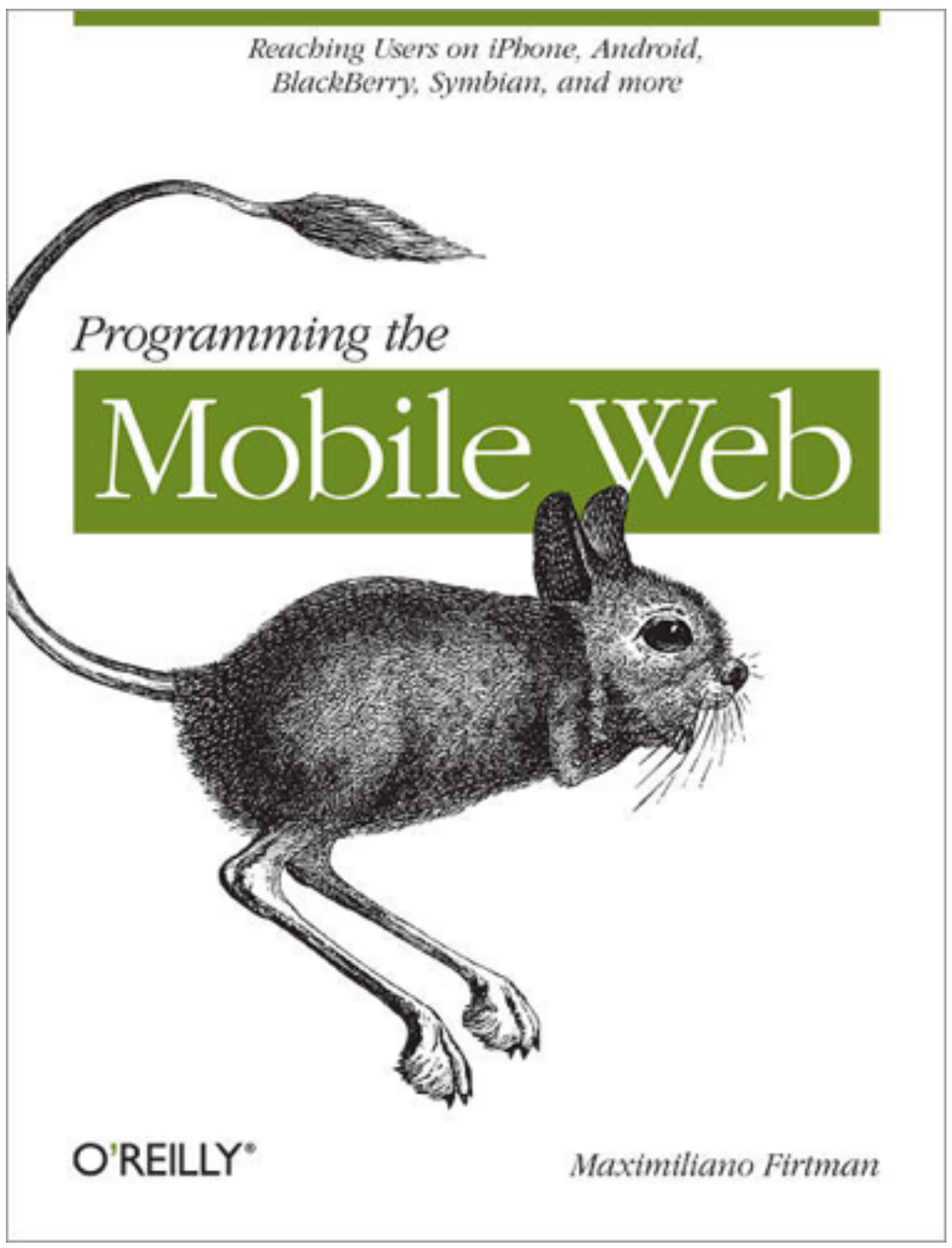
Trying to understand HTML5 compatibility on mobile and tablet browsers

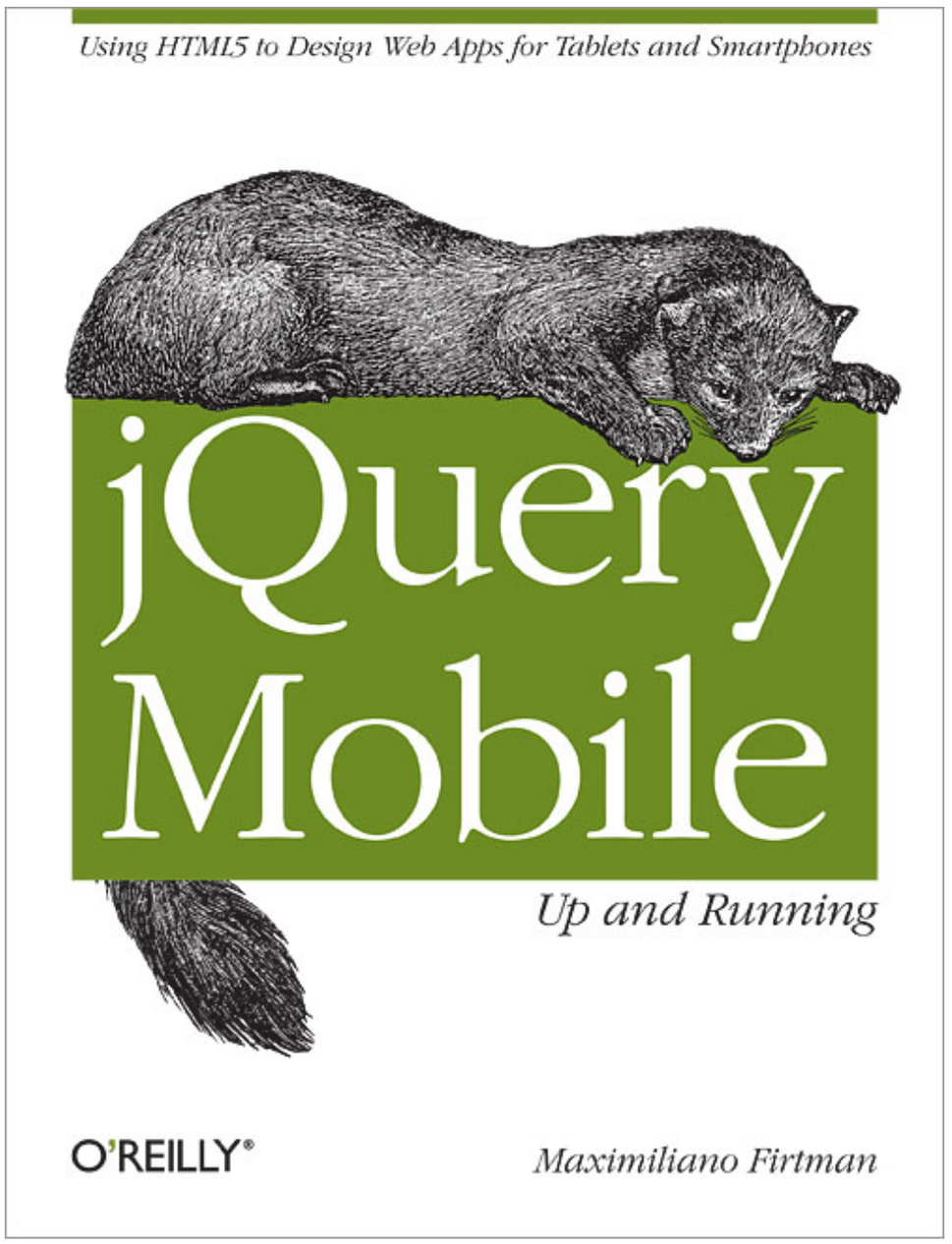
Feature	Safari on iOS	Android Browser		BlackBerry Browser		Internet Explorer	Opera		Firefox	webOS Browser	Symbian Browser
Version tested	iPhone, iPad	Phones (1.0-2.3)	Tablets (3.0+)	Phones	Tablet	Windows Phone	Mobile	Mini	Android		Nokia phones
Minimum version tested	3.2	1.5	3.0	5.0	1.0	9	11	5	6	1.4	^3
Application Cache W3C API Offline package installation.	✓	✓ 2.1+	✓	✓ 6.0+	✓		✓		✓	✓	
Web storage W3C API Persistent and session storage.	✓	✓ 2.0+	✓	✓ 6.0+	✓	✓	✓		✓	✓	
Web SQL storage W3C API (no active) Persistent SQLite storage.	✓	✓ 2.0+	✓	✓ 6.0+	✓		✓			✓	
Geolocation W3C API Geolocation & tracking using GPS, cells or Wi-Fi.	✓	✓ 2.0+	✓	✓ 6.0+	✓	✓	✓		✓	✓	
Multimedia W3C API Video & Audio Players	✓	✓ 2.3+	✓	✓ 7.0+	✓	✓	✓		✓	✓	
Server-Sent Events W3C API EventSource pattern to mantain the connection to the server open	✓ 4.1+						✓		✓		
Web Sockets W3C API Newbidireccional protocol over HTTP	✓ 4.2+			✓ 6.1+	✓		✓		✓		

www.mobilehtml5.org

books

Image from my house





Early Release

Using the Latest Today

Mobile HTML5

O'REILLY®

Estelle Weyl
& Maximiliano Firtman

coming soon...

also by @estellevw

many of you have
two questions for me

the first answer is **no**

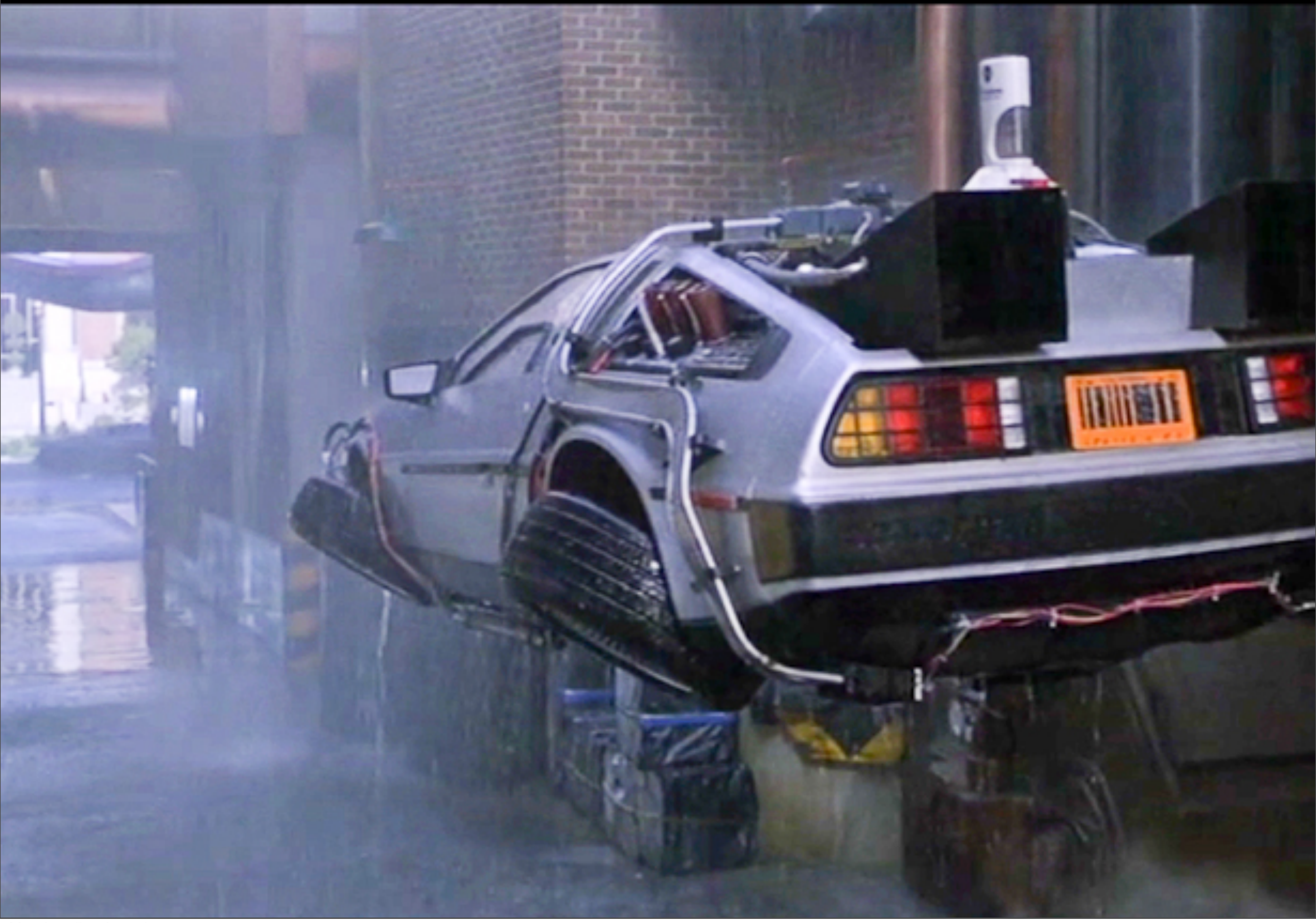
the second answer is

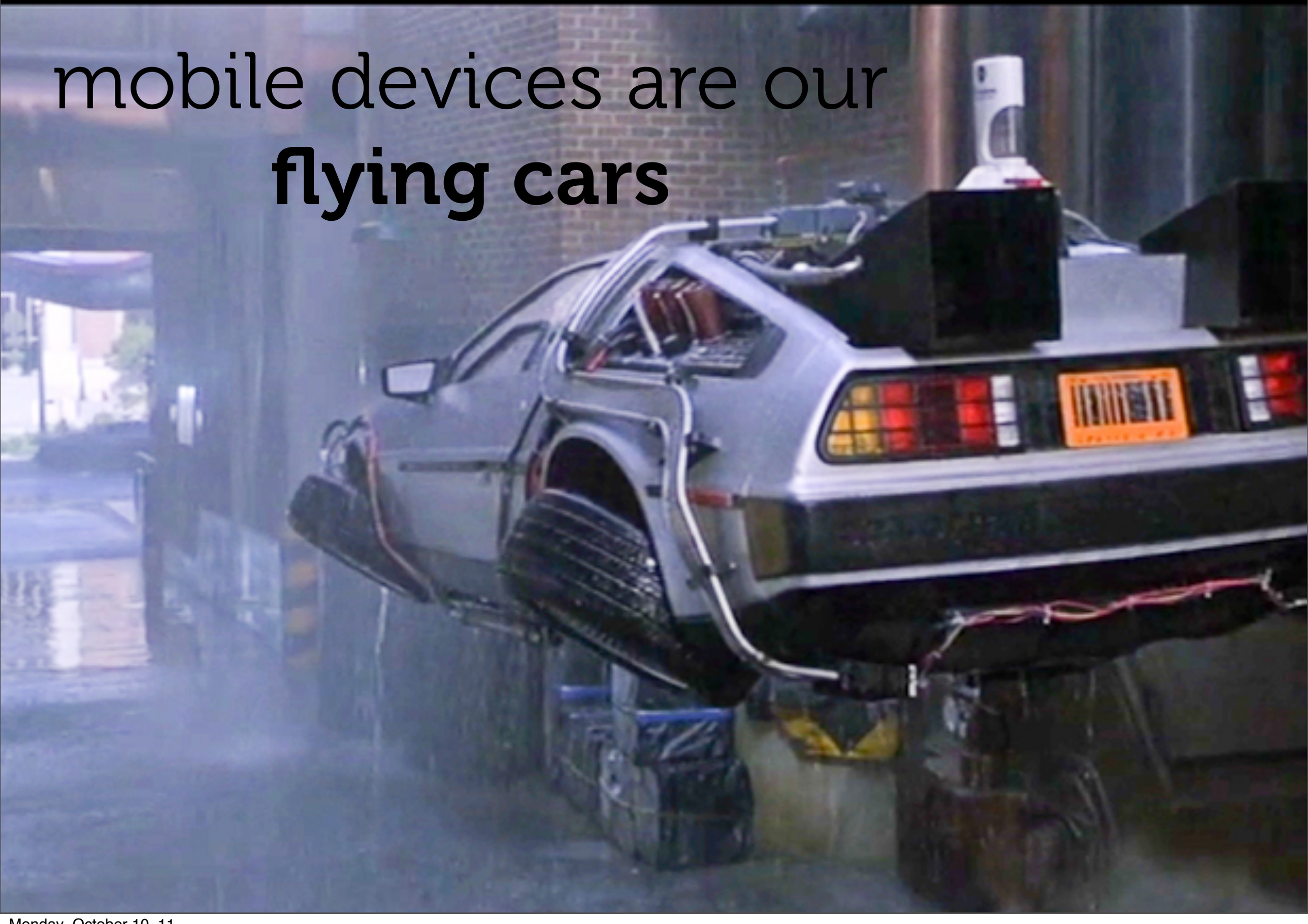
yes

but with a **problem**

why mobile?

2015 is coming...




mobile devices are our
flying cars

mobile is more about

users

mobile

mobile

- absolutely personal

mobile

- absolutely personal
- +5 billions

mobile

- absolutely personal
- +5 billions
- make us focus

mobile

- absolutely personal
- +5 billions
- make us focus
- read our context...

mobile

- absolutely personal
- +5 billions
- make us focus
- read our context...
- ... always...

mobile

- absolutely personal
- +5 billions
- make us focus
- read our context...
- ... always...
- ... and everywhere.

then... what is the problem?

mobile is a minefield

Photo by World of Good (Flickr)

Malvinas / Falklands Islands

lots of questions

Photo by wayneandwax (Flickr)

We need to learn

Beginning Android 2 — Murphy — Apress
Beginning Android 2 — Murphy — Apress
iPhone Design Award-Winning Projects — Dannen — Apress
iPhone Games Projects — Mark Cabrera — Apress
Building iPhone OS Accessories — Maskrey — Apress
Building iPhone OS Accessories — Maskrey — Apress
Business of iPhone App Development — Wooldridge with Schneider — Apress
Building iPhone OS Accessories — Maskrey — Apress
iPhone and iPad Apps for Absolute Beginners — Lewis — Apress
iPhone and iPad Apps for Absolute Beginners — Lewis — Apress
More iPhone 3 Development — Mark LaMarche — Apress
iPhone Advanced Projects — Apress
Learn Xcode Tools for Mac and iPhone Development — Piper — Apress
Beginning iPhone 3 Development — Mark LaMarche — Apress
iPhone for Programmers — An App-Driven Approach — Deitel
Cocoa Touch for iPhone OS 3 — Wiley
iPhone Cool Projects — Bennett — Apress
iPhone for Work — Faas — Apress
#1 iPhone Application Development 2nd Edition For Dummies — Goldstein
iPhone OS Development — Visual Blueprint
iPhone OS Development — Visual Blueprint
Web Geek's Guide to the Android-Enabled Phone — Que
iPhone Hacks — David Jurick, Adam & Damien Stolarz — O'Reilly Make:
iPhone OS Development — Visual Blueprint
My New iPhone — Wang — Wiley
My iPod touch — Que
My iPod touch — Que
#1 Mobile Internet For Dummies — O'Farrell et al.
Android Essentials — Haseman
Incredible iPhone Apps For Dummies
Incredible iPhone Apps For Dummies
Incredible iPhone Apps For Dummies
#1 BlackBerry Curve For Dummies — Kao Sarigumba

Computer Organization and Design — The Hardware/Software Interface — Patterson Hennessy — 4th Edition — Free CD — MK
SOA Design Patterns — Erl
CompTIA A+ Cert Kit — 220-701 220-702 — Exam Cram
Programming Massively Parallel Processors — Kirk Hwu — O'Reilly
iPhone Open Application Development — Zdziarski — O'Reilly
Business of iPhone App Development — Wooldridge with Schneider — Apress
Taking Your iPod touch to the Max — Sadun — Apress
iPhone SDK Application Development — Zdziarski — O'Reilly
iPhone Forensics — Zdziarski — O'Reilly
Google Web Toolkit Applications — Dewsbury — Addison Wesley
BlackBerry Development Fundamentals — Zmievski
#1 T-Mobile G1 For Dummies
Safari and WebKit Development for iPhone OS 3.0
Safari and WebKit Development for iPhone OS 3.0
MAC OS X, IPOD, AND IPHONE FORENSIC ANALYSIS — Varsalone
Professional iPhone and iPod touch Programming — Reynolds
presentationzen Design
The iPhone Developer's Cookbook — Second Edition — Sadun
Visual QuickTips iPhone — Shoup
Visual QuickTips iPod & iTunes — Shoup
Simplified Tips & Tricks Microsoft PowerPoint 2003
iPhone OS Development — Visual Blueprint
BlackBerry Development Fundamentals — Warga — Addison Wesley
Advanced BlackBerry Development — King — Apress
Beginning BlackBerry Development — Rizk — Apress
Beginning BlackBerry Development — Rizk — Apress
Beginning BlackBerry Development — Rizk — Apress
Beginning BlackBerry Development — Rizk — Apress
Beginning BlackBerry Development — Rizk — Apress
#1 BlackBerry Bold For Dummies

HARDWARE REPAIR & MAINTENANCE

Monday, October 10, 11

lots of platforms

mobile web appears

native

VS

web

WAIT!

Are you sure?

native code

VS

javascript

browser

VS

installed apps & stores

lack of definitions

when we say mobile web

when we say mobile web

from a developer's perspective it's using HTML, CSS and JavaScript to develop mobile apps

when we say mobile web

from a developer's perspective it's using HTML, CSS and JavaScript to develop mobile apps

(browser or installed)

what are the problems with mobile web?

we are second class producers

second class

second class

- vague, non-existent or outdated documentation

second class

- vague, non-existent or outdated documentation
- new features discovered by third-parties

second class

- vague, non-existent or outdated documentation
- new features discovered by third-parties
- lack of samples

second class

- vague, non-existent or outdated documentation
- new features discovered by third-parties
- lack of samples
- no developer tools

Testing & debugging

Standards!

Photo by Ben Millett (Flickr)

HTML

Are you sure?

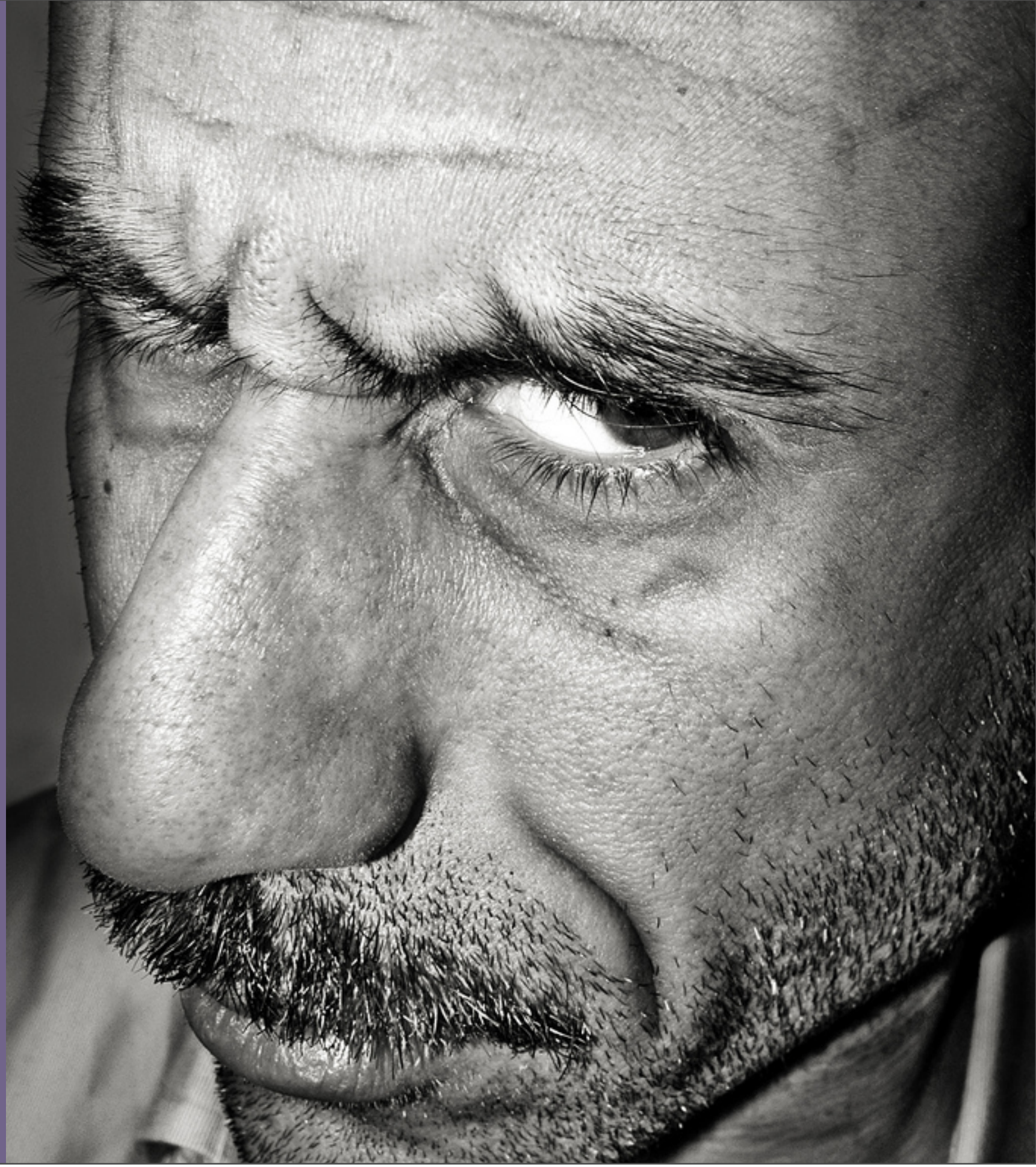


Photo by Ricky David (Flickr)

What is HTML 5 ?

html5

html5

- w3c standards (all in draft)

html5

- w3c standards (all in draft)
- some are other w3c standards

html5

- w3c standards (all in draft)
- some are other w3c standards
- de-facto standards

html5

- w3c standards (all in draft)
- some are other w3c standards
- de-facto standards
- w3c ex-standards

html5

- w3c standards (all in draft)
- some are other w3c standards
- de-facto standards
- w3c ex-standards
- everything “new” on the web

do you want more?

do you want more?

- mobile html5

do you want more?

- mobile html5
- wednesday 15.50

do you want more?

- mobile html5
- wednesday 15.50
- mobile track

Let’s clarify

mobile browsers

mobile browsers

- too many

mobile browsers

- too many
- (some) too limited

mobile browsers

- too many
- (some) too limited
- (some) too innovative

mobile browsers

- too many
- (some) too limited
- (some) too innovative
- (some) proxy based

mobile browsers

- too many
- (some) too limited
- (some) too innovative
- (some) proxy based
- (most) without documentation

mobile browsers

- too many
- (some) too limited
- (some) too innovative
- (some) proxy based
- (most) without documentation
- (most) without a *name*

mobile browsers

- too many
- (some) too limited
- (some) too innovative
- (some) proxy based
- (most) without documentation
- (most) without a *name*
- (most) without debugging tools

mobile browsers

mobile browsers

- (some) focus-based

mobile browsers

- (some) focus-based
- (some) cursor-based

mobile browsers

- (some) focus-based
- (some) cursor-based
- (some) touch-based

mobile browsers

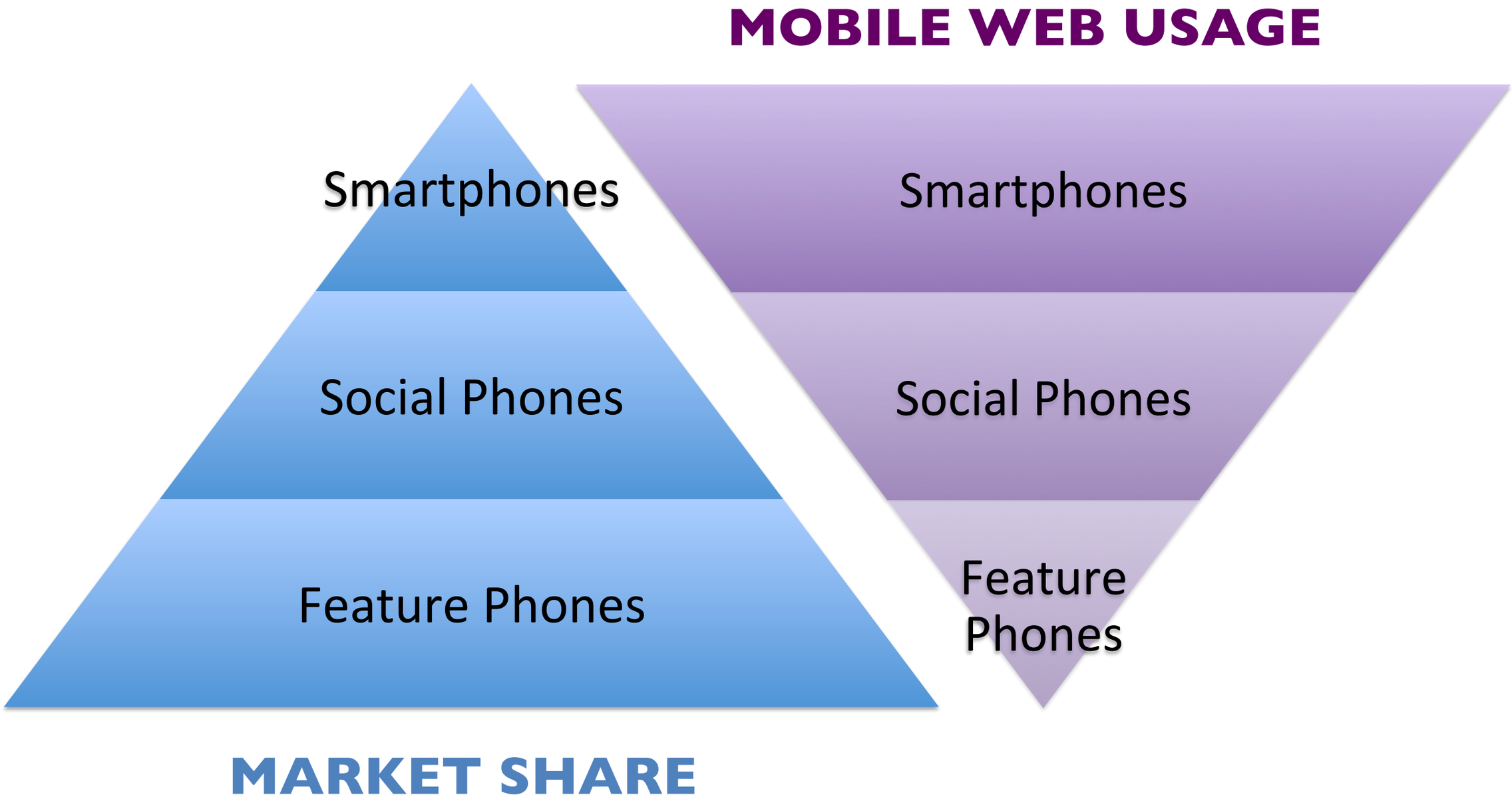
- (some) focus-based
- (some) cursor-based
- (some) touch-based
- (some) multitouch-based

mobile browsers

- (some) focus-based
- (some) cursor-based
- (some) touch-based
- (some) multitouch-based
- (some) with zooming support

mobile browsers

- (some) focus-based
- (some) cursor-based
- (some) touch-based
- (some) multitouch-based
- (some) with zooming support
- (most) unknown for web devs


MOBILE WEB USAGE
Smartphones
Social Phones
Feature Phones
Smartphones
Social Phones
Feature Phones
MARKET SHARE

some are known

some are known

- Safari (on iOS)
- Opera Mobile (on Android & Symbian)
- Firefox (on Android)
- Internet Explorer (on Windows Phone)

some are unknown

some are unknown

- Nokia Browser (on Symbian, S40 & Meego 1.2)
- BlackBerry Browser
- webOS Browser
- Bada Browser
- Opera Mini
- NetFront
- Myriad
- Phantom
- Skyfire

and some are coming...

and some are coming...

- Google Chrome
- Amazon Silk

they are on tablets too!

they are on tablets too!

- Safari
- Android Browser
- webOS Browser
- BlackBerry Browser
- Opera Mini

and with different versions...

and there's more!

pseudo-browsers

pseudobrowsers

pseudobrowsers

- mostly on iOS and Android

pseudobrowsers

- mostly on iOS and Android
- uses the internal web control

pseudobrowsers

- mostly on iOS and Android
- uses the internal web control
- have different behavior than the native!

don’t give up yet

webkit on mobile

mobile IE reborn

mobile IE reborn

- on Windows Phone 7.5, full Internet Explorer 9 with HTML5

mobile IE reborn

- on Windows Phone 7.5, full Internet Explorer 9 with HTML5
- but...

the webkit problem

the webkit problem

- we are doing some things wrong

the webkit problem

- we are doing some things wrong
- mostly css3

the webkit problem

- we are doing some things wrong
- mostly css3
- IE9, Firefox, Opera second-class citizens

the webkit problem

- we are doing some things wrong
- mostly css3
- IE9, Firefox, Opera second-class citizens
- The history is repeating!

do responsible web

do responsible web

- do WebKit development for mobile

do responsible web

- do WebKit development for mobile
- but do not discriminate your users

do responsible web

- do WebKit development for mobile
- but do not discriminate your users
- please?

we need to forget and learn

forget about

forget about

- pixels

forget about

- pixels
- desktop frameworks (ok, not always)

forget about

- pixels
- desktop frameworks (ok, not always)
- always connected

forget about

- pixels
- desktop frameworks (ok, not always)
- always connected
- unlimited power

forget about

- pixels
- desktop frameworks (ok, not always)
- always connected
- unlimited power
- everyone see the same

forget about

- pixels
- desktop frameworks (ok, not always)
- always connected
- unlimited power
- everyone see the same
- emulate native ui exactly

forget about

- pixels
- desktop frameworks (ok, not always)
- always connected
- unlimited power
- everyone see the same
- emulate native ui exactly
- device conditionals

forget about

- pixels
- desktop frameworks (ok, not always)
- always connected
- unlimited power
- everyone see the same
- emulate native ui exactly
- device conditionals
- suppose

learn about

learn about

- server-side detection

learn about

- server-side detection
- progressive enhancement

learn about

- server-side detection
- progressive enhancement
- responsive design, but....

learn about

- server-side detection
- progressive enhancement
- responsive design, but....
- mobile usability

learn about

- server-side detection
- progressive enhancement
- responsive design, but....
- mobile usability
- best experience for each context

learn about

- server-side detection
- progressive enhancement
- responsive design, but....
- mobile usability
- best experience for each context
- the “top model” approach, aka WPO

learn about

- server-side detection
- progressive enhancement
- responsive design, but....
- mobile usability
- best experience for each context
- the “top model” approach, aka WPO
- gain user loyalty

responsive design

The Boston Globe

66° Clear
WEATHER | TRAFFIC

Search

ESSDRAS M SUAREZ/ GLOBE STAFF

Tiny grants keep 'awesome' ideas coming

The Awesome Foundation, started by a group of tech-savvy twentysomethings, offers small grants for ideas that are, well, awesome.

Potatoes, pride at risk in Maine

The Aroostook County potato harvest in Maine,

Early educator union sought

Massachusetts teacher unions are attempting to enroll more than 10,000 early childhood education workers in the private and nonprofit sectors.

Mass. redistricting plans pit east vs. west

The congressional seats of William Keating and Stephen Lynch could be combined in one plan. Another reportedly merges the seats of Richard E. Neal and John W. Olver.

Optimism, candor boost Cain in polls

Herman Cain, a pizza magnate and conservative talk-radio host, has

Linde Family Wing for Contemporary Art

NOW OPEN
GET A PREVIEW

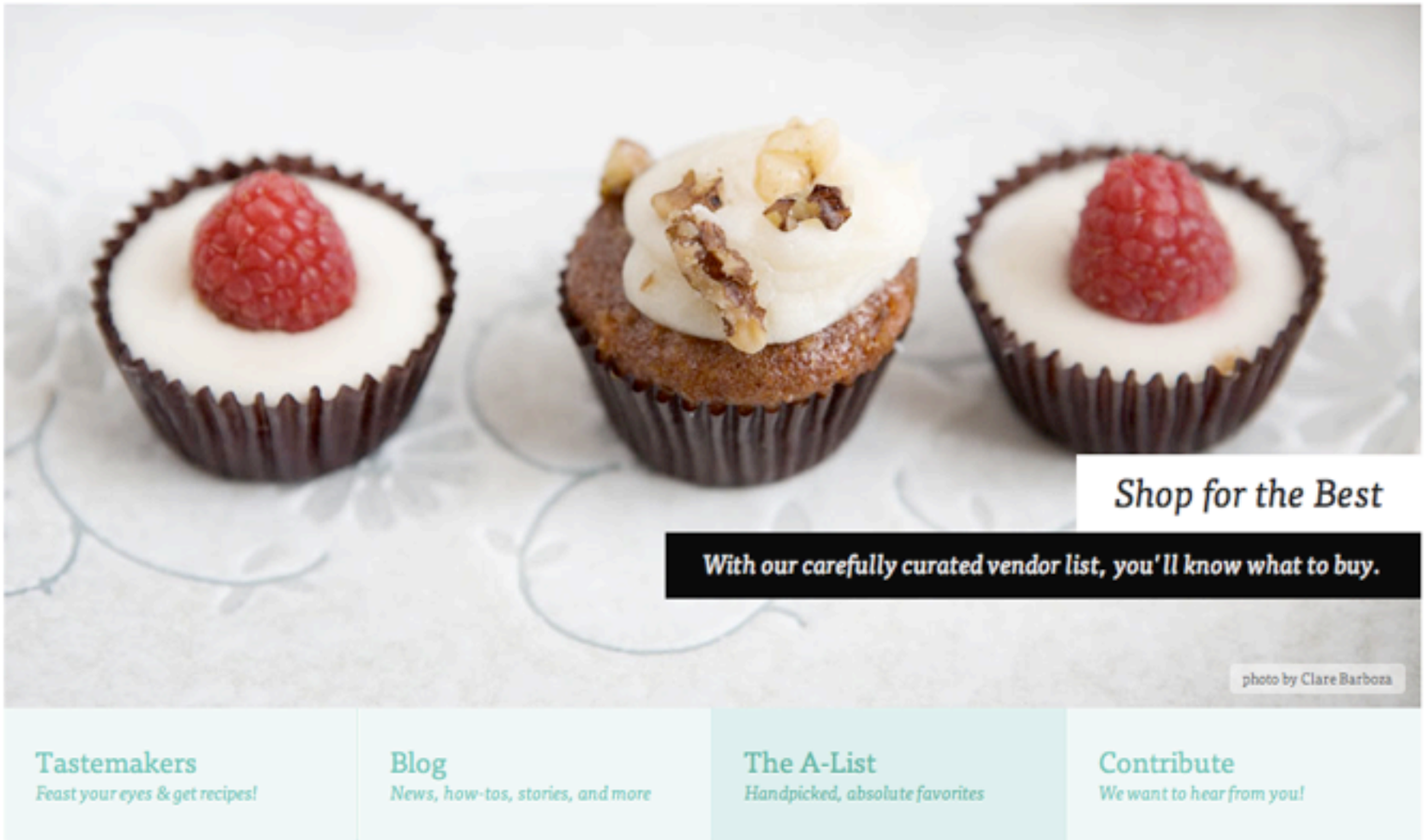
the new mfa

"

"Being funded by interested and interesting peers is a whole benefit in itself."

Sara Hendren, who was awarded an Awesome Foundation grant

responsive design



foodsense.is

learn about

learn about

- the viewport

learn about

- the viewport
- target density (pixel ratio)

learn about

- the viewport
- target density (pixel ratio)
- how and when to fix elements on screen

learn about

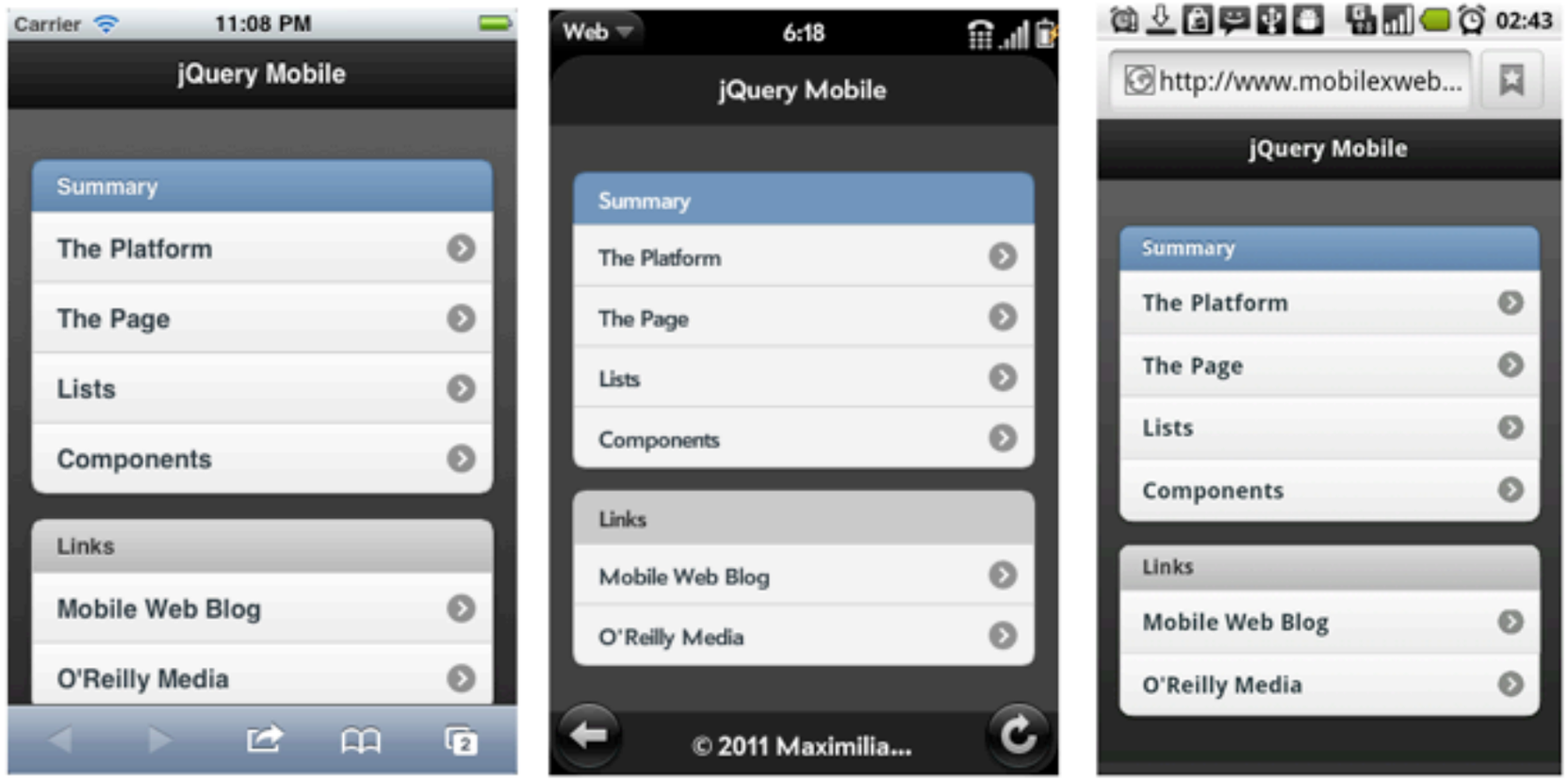
- the viewport
- target density (pixel ratio)
- how and when to fix elements on screen
- how background code works

learn about

- the viewport
- target density (pixel ratio)
- how and when to fix elements on screen
- how background code works
- data URI - inlining content

mobile web toolkit

emulators



www.mobilexweb.com/emulators

friends

lots of them

virtual labs

real devices on real networks

www.perfectomobile.com www.deviceanywhere.com

device libraries

detect devices and abilities from server-side

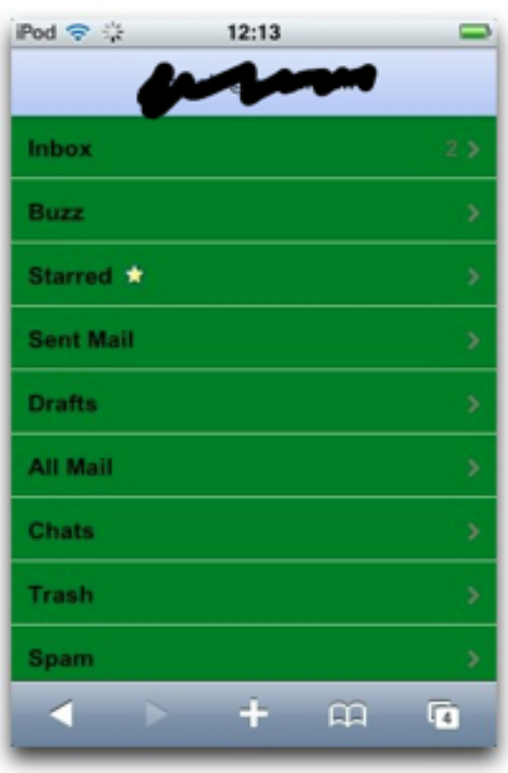
manually tested

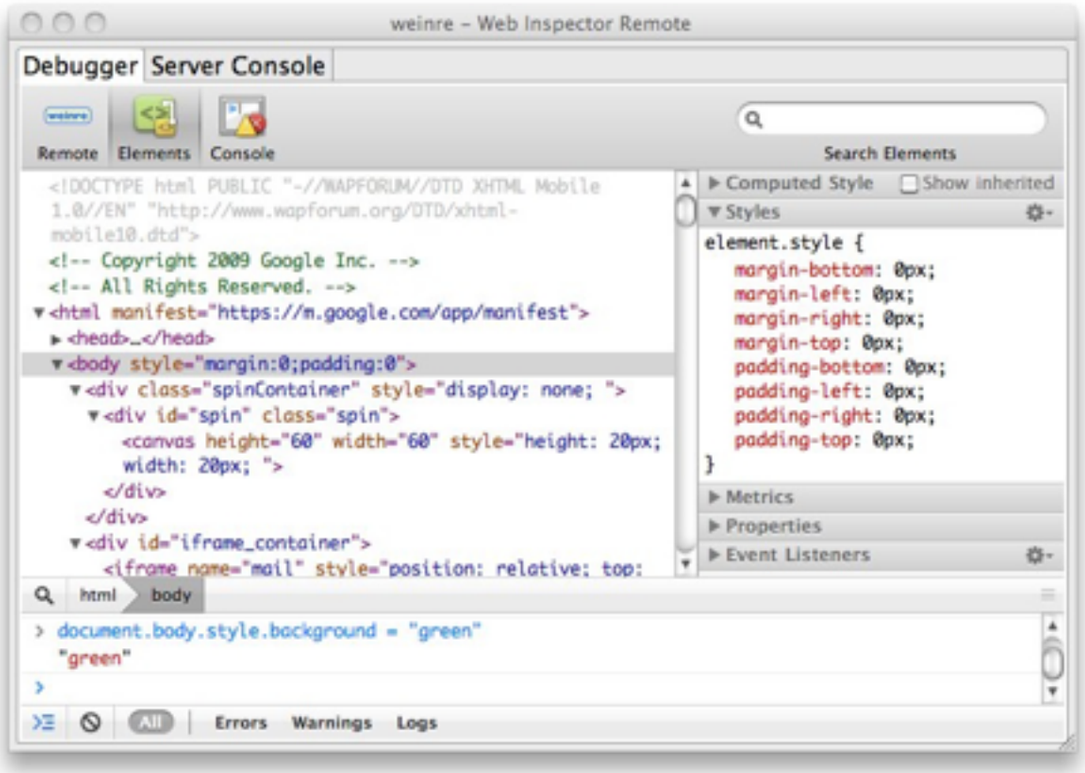
www.wurfl.com

www.deviceatlas.com

debugging tools

remote web inspector (BB 7.0 y PlayBook)
opera mobile (DragonFly)
weinre



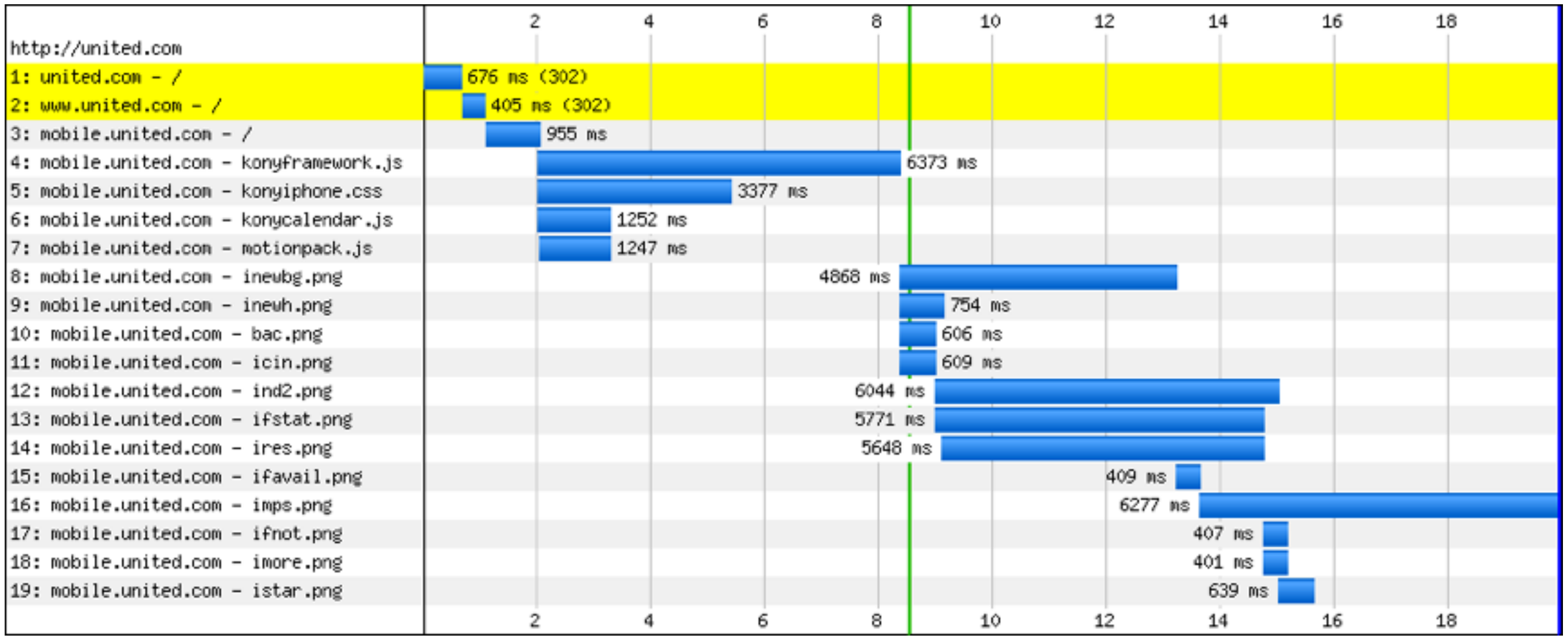


phonegap.github.com/weinre

debug.phonegap.com

performance tools

just starting...

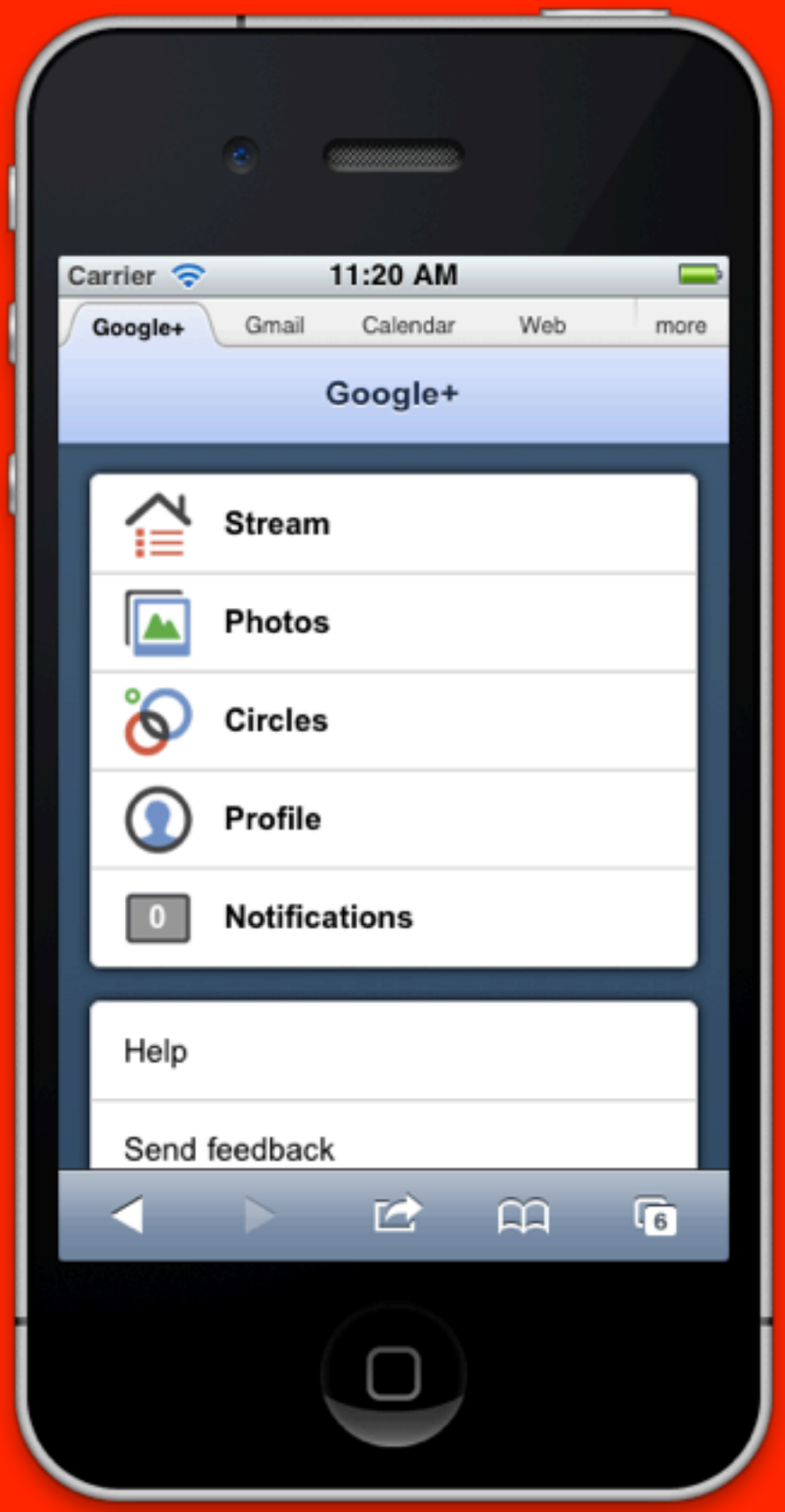


http://stevesouders.com/mobileperf/

what can we do today?

mobile webapps capabilities

offline storage
geolocation
device motion
drawing
animations / transitions / transformations
chrome-less experience
touch and gesture events



google services

what about packagers?

html5 offline

Application cache
Web Storage API
Full-screen homepage installation iOS

Carrier 10:55 AM 100%

FT Web App

app.ft.com/#home

Google

MENU

Add Bookmark
Add to Home Screen
Mail Link to this Page

To get full offline access to the FT Web App straight from your home screen, tap the button above and click **'Add to Home Screen'**

L TIMES

FTSE 100	DAX
Closes in 6 hr 46 min	Closes in 6 hr 41 min
+ 0.38% to 5,324	+ 0.02% to 5,677

United Kingdom iPad edition

8:12 PM Sunday

'Time short' for eurozone, says Cameron

UK prime minister wants France and Germany to bury differences and to adopt by end of year what he claims would be a decisive five-point plan

8:39 PM Sunday

Save Europe's unity now

If Europe fails the euro will fail, and uncountable strands in the fabric of European integration will unravel

7:54 PM Sunday

Merkel and Sarkozy set euro deadline

Leaders aim for end of October to reach agreement on measures to stabilise eurozone, including recapitalisation of banks if needed

8:53 AM Monday

Dexia set for €90bn of state guarantees

Last updated: 10:54am Refresh

Global market map

Delayed by at least 20 minutes

app.ft.com

phonegap

open-source & free
nitobi & adobe

camera
contacts
file
device

BTW

you are guilty!

users hate you

why?

mobile
web
is slow
Picture from Simon Howden freedigitalphotos.net

mobile web is **slow**
because...

mobile web is **slow**
because...

we are doing it wrong

on mobile

on mobile

- slower networks

on mobile

- slower networks
- higher latency

on mobile

- slower networks
- higher latency
- slower hardware

on mobile

- slower networks
- higher latency
- slower hardware
- different browsing experience

on mobile

- slower networks
- higher latency
- slower hardware
- different browsing experience
- different context

on mobile

- slower networks
- higher latency
- slower hardware
- different browsing experience
- different context
- different possible networks

web performance optimization

wpo mobile

wpo mobile

- do mobile semantic html5

wpo mobile

- do mobile semantic html5
- do not redirect

wpo mobile

- do mobile semantic html5
- do not redirect
- apply known wpo techniques

wpo mobile

- do mobile semantic html5
- do not redirect
- apply known wpo techniques
- reduce http requests

wpo mobile

- do mobile semantic html5
- do not redirect
- apply known wpo techniques
- reduce http requests
- use only semantic images

wpo mobile

- do mobile semantic html5
- do not redirect
- apply known wpo techniques
- reduce http requests
- use only semantic images
- defer

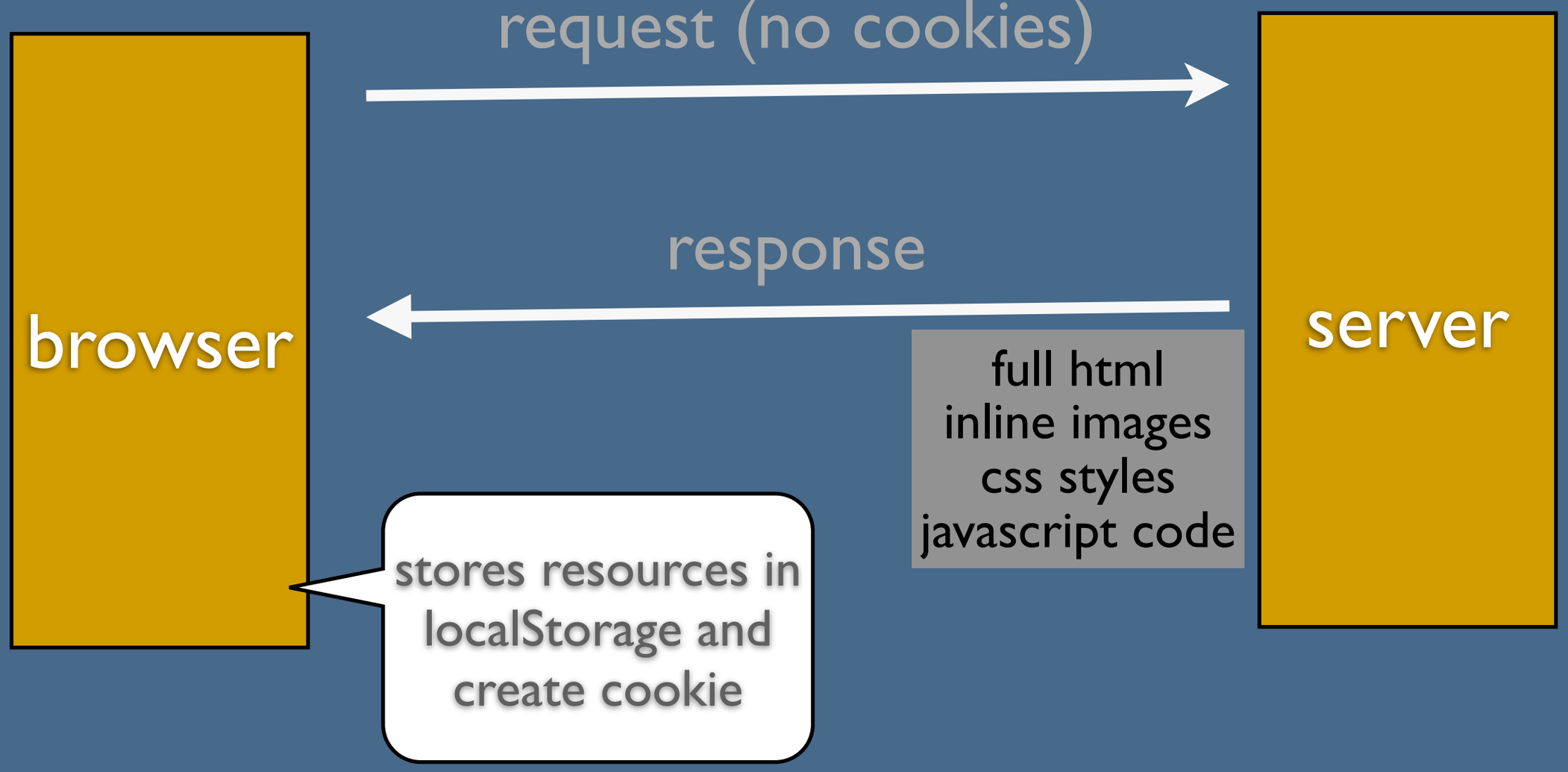
wpo mobile

- do mobile semantic html5
- do not redirect
- apply known wpo techniques
- reduce http requests
- use only semantic images
- defer
- internal is better?

wpo mobile

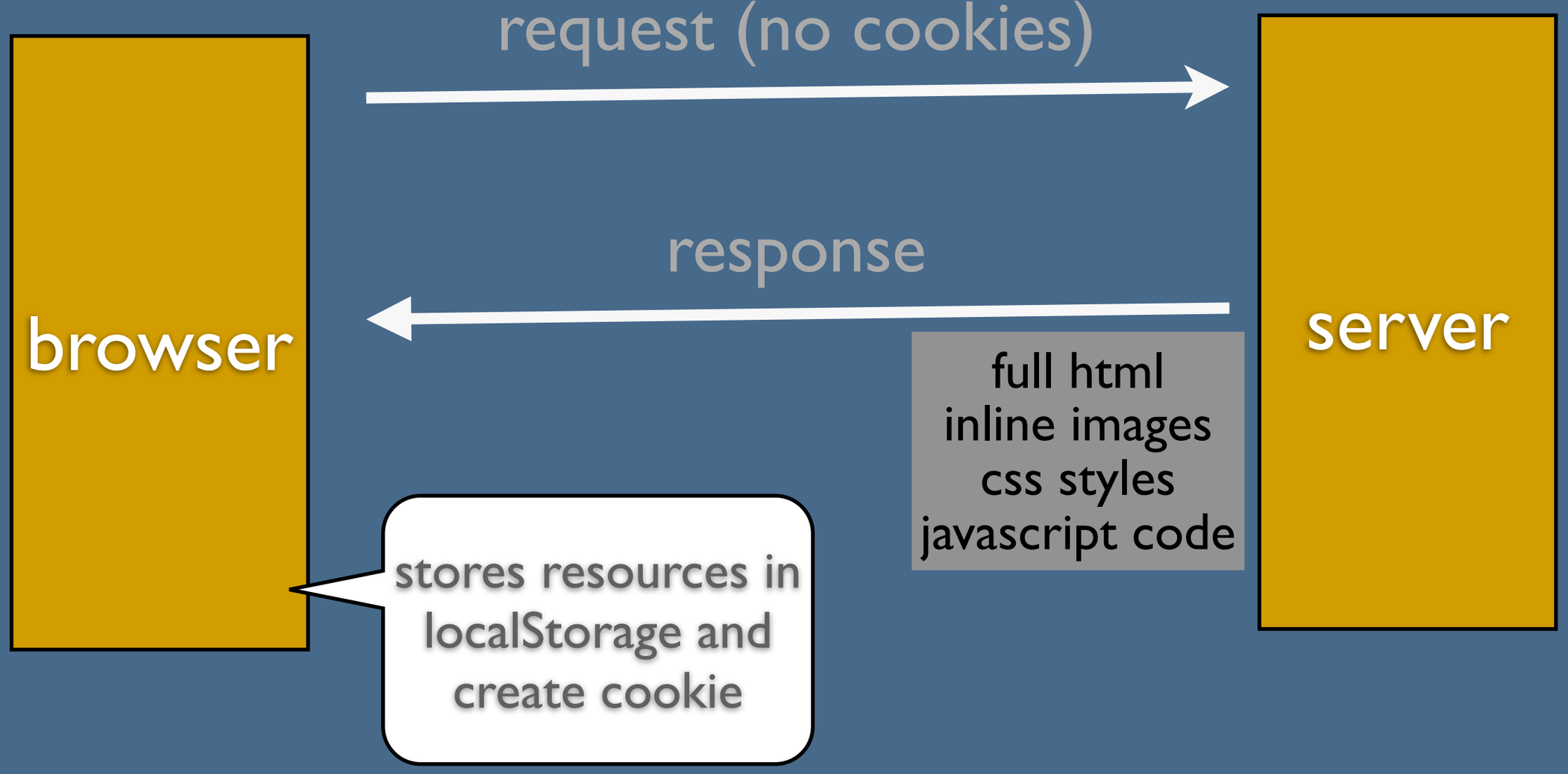
- do mobile semantic html5
- do not redirect
- apply known wpo techniques
- reduce http requests
- use only semantic images
- defer
- internal is better?
- touch instead of click

offline storage

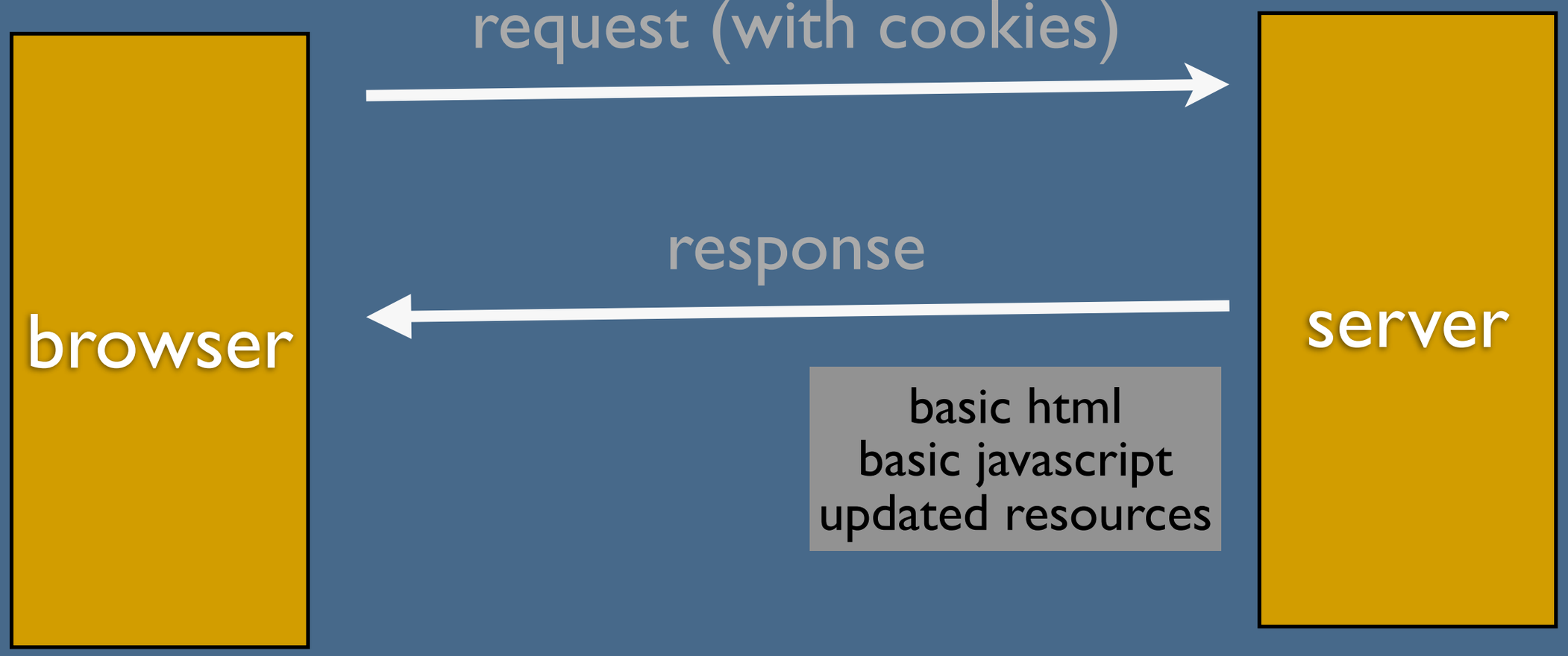


offline storage

first load

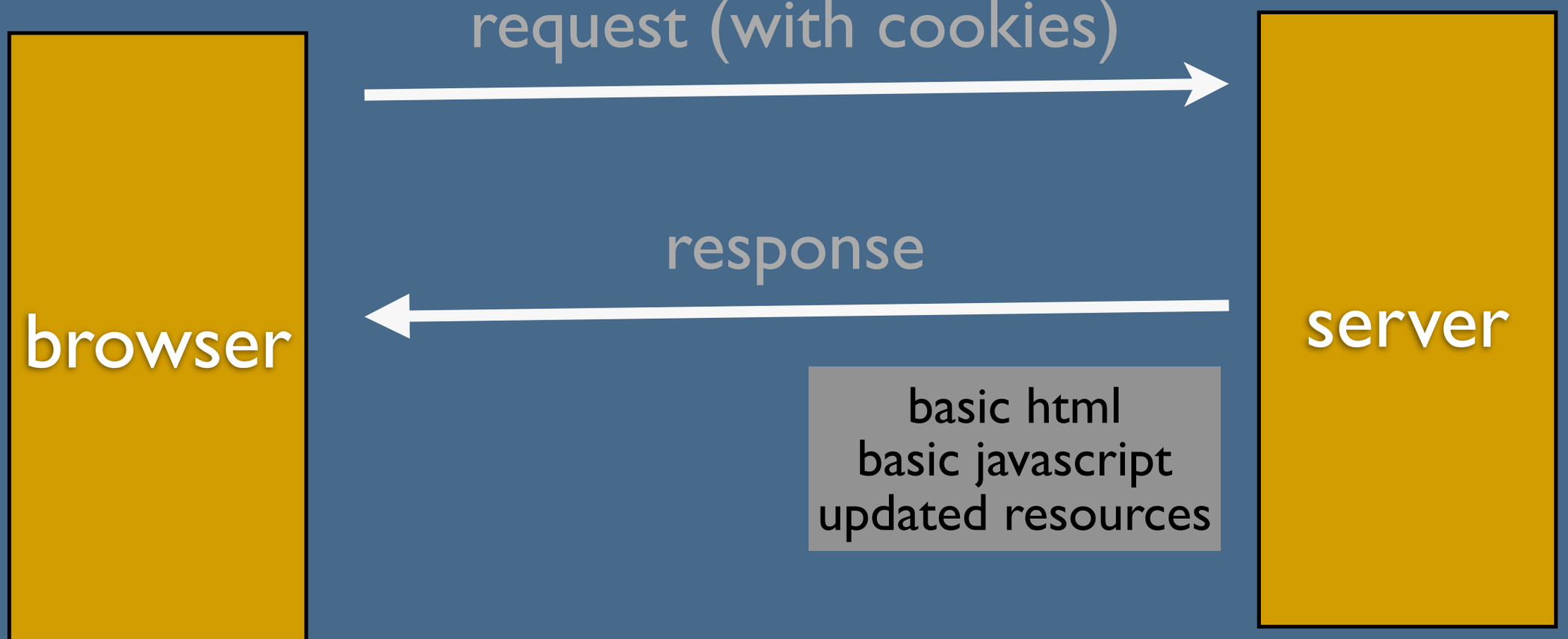


offline storage



offline storage

second load

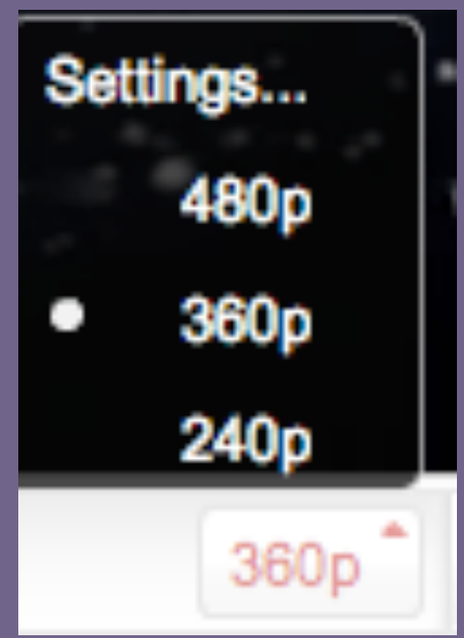


forget about

DECIDING FOR THE USER

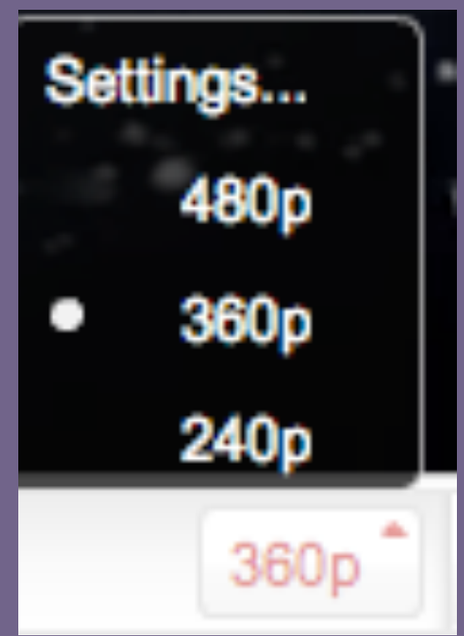
WRONG

right experience for the right context



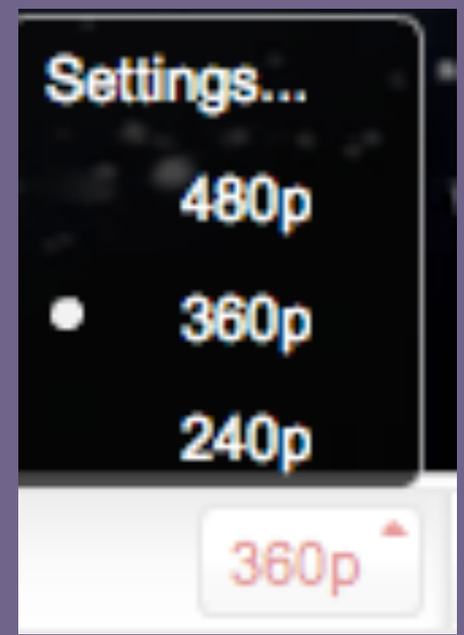
right experience for the right context

- provide different experiences



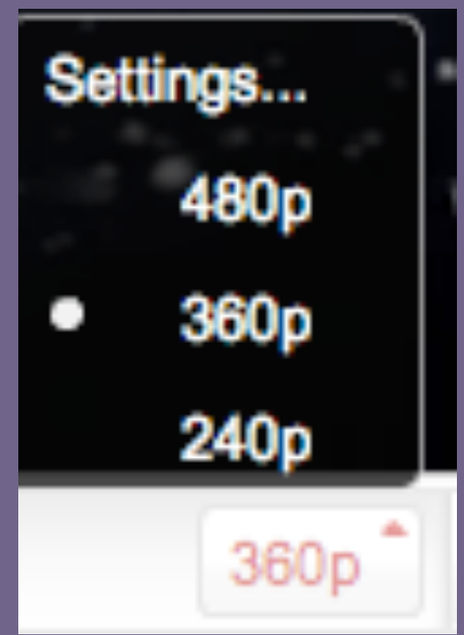
right experience for the right context

- provide different experiences
- YouTube resolution idea



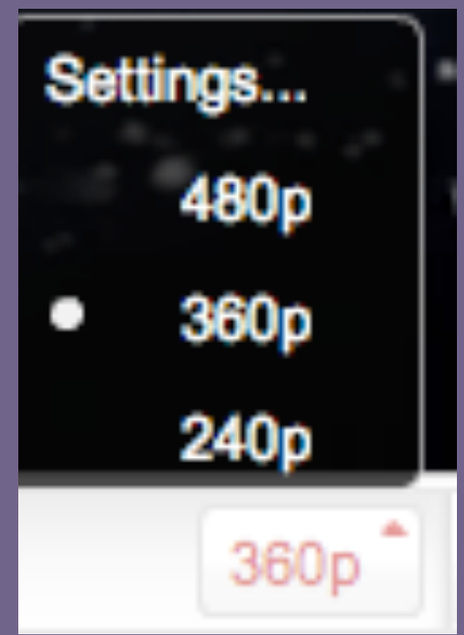
right experience for the right context

- provide different experiences
- YouTube resolution idea
- SD/HD version



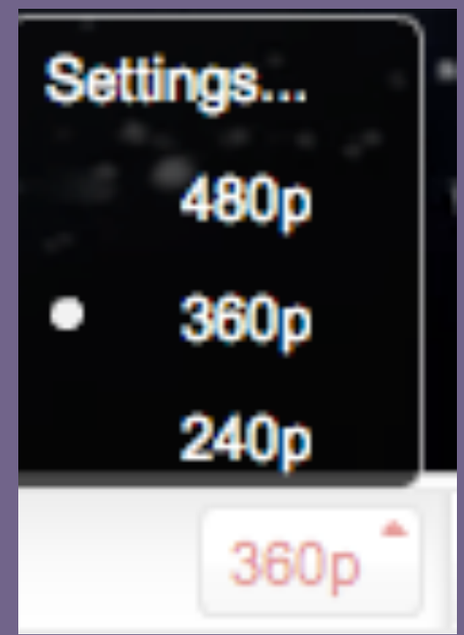
right experience for the right context

- provide different experiences
- YouTube resolution idea
- SD/HD version
- decide best version based



right experience for the right context

- provide different experiences
- YouTube resolution idea
- SD/HD version
- decide best version based on context

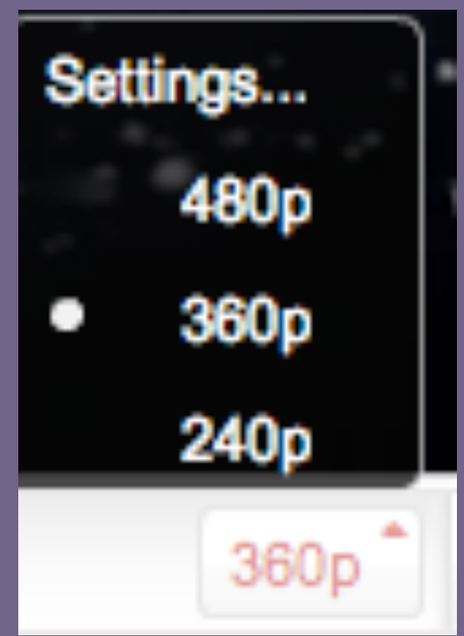


right experience for the right context

- provide different experiences
- YouTube resolution idea
- SD/HD version
- decide best version based

on context

- let the user change the decision



some last advices

DANGER
OVERHEAD CATENARY WIRES ARE ALIVE

GOVERNMENT CENTER

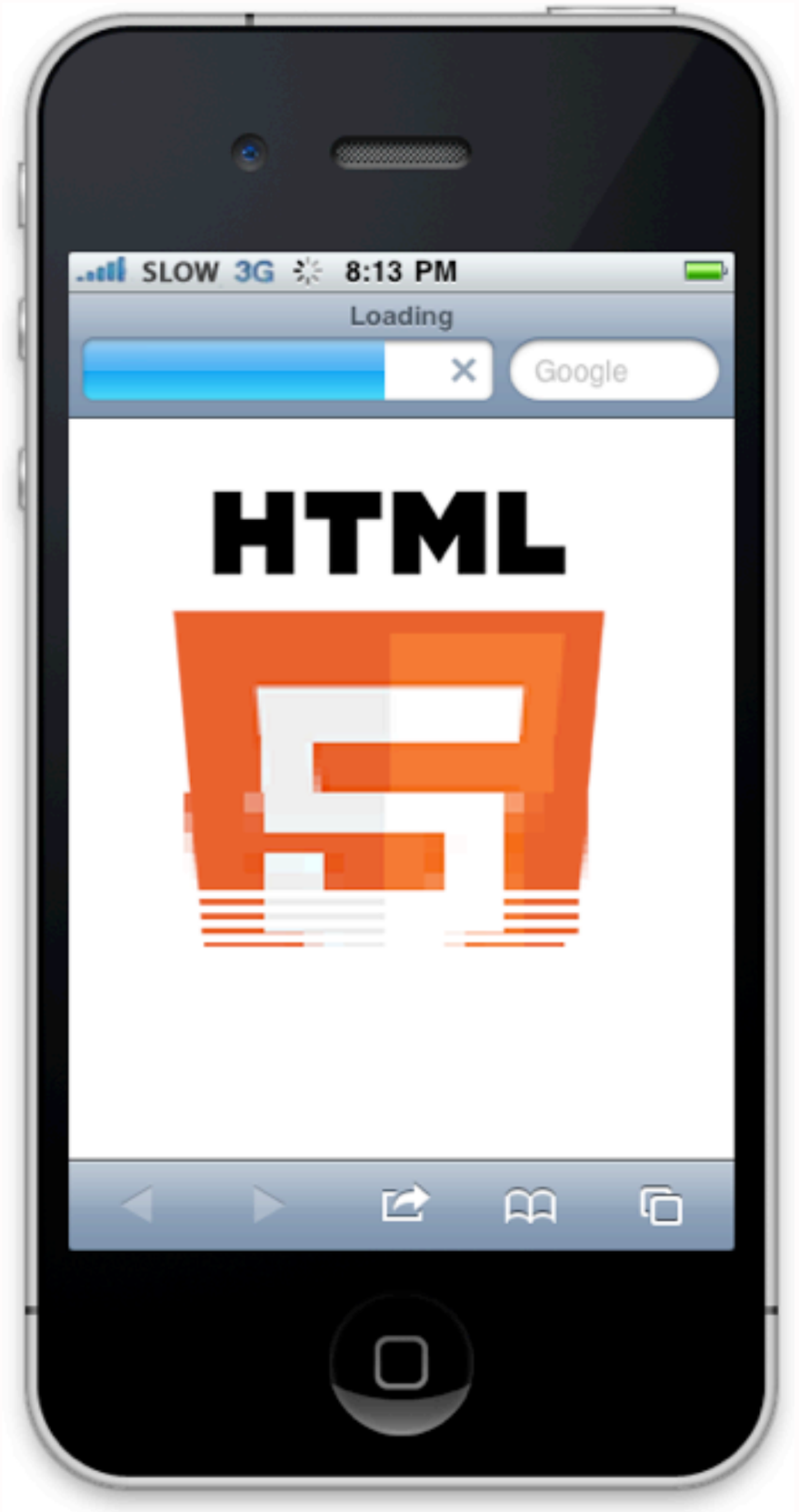
UND

TO B.C., CLEVELAND CIRCLE, RIVERSIDE, HEATH VIA PARK

DON'T BE AVERAGE.

GOOD BANKING IS GOOD CITIZENSHIP Citizens Bank

1083 + 0



performance, performance

good practices

don't be fanatic

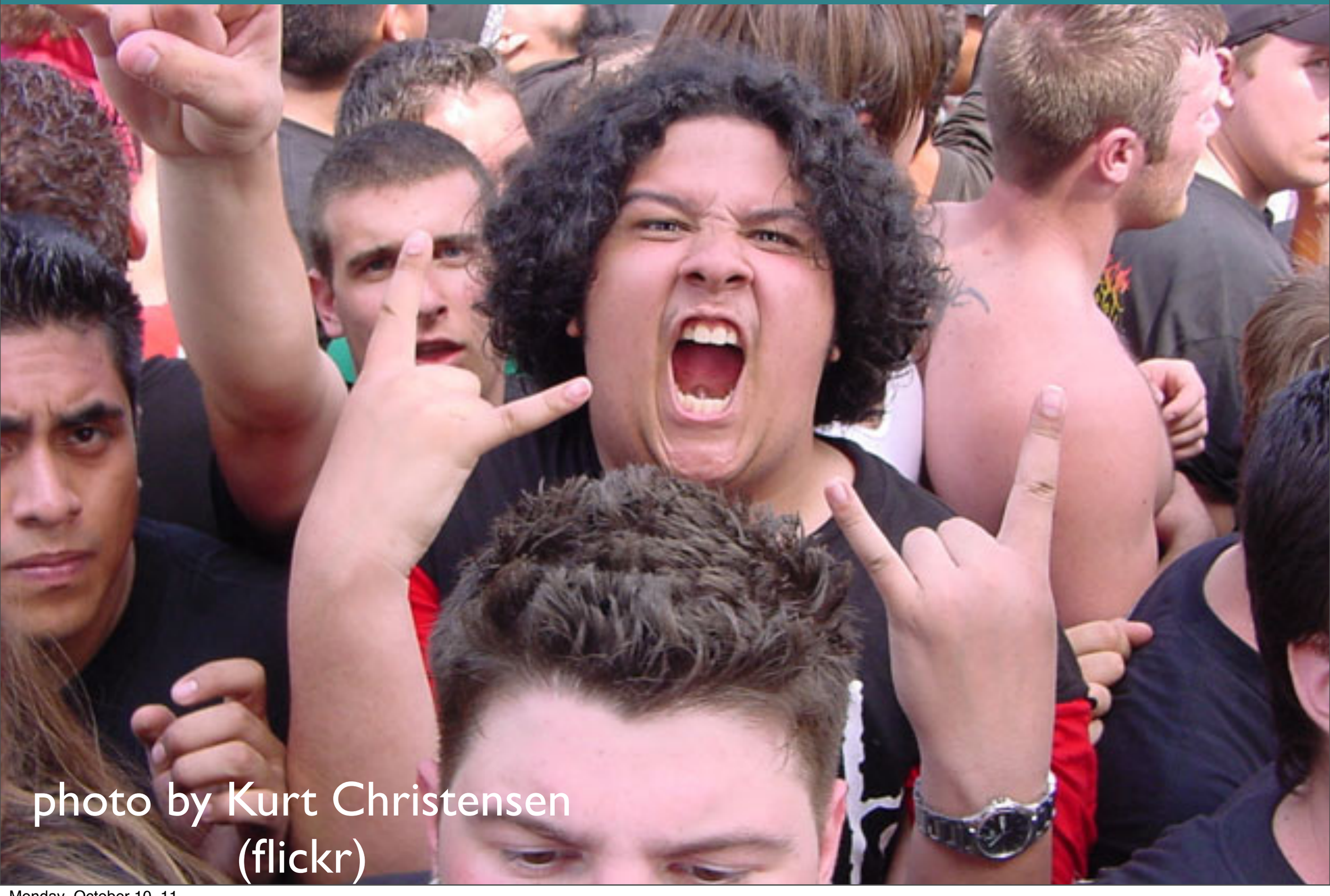


photo by Kurt Christensen (flickr)

be multiplatform

be FUTURE ☆ FRIENDLY

futurefriend.ly

best experience for every context

thank you!

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