

Nov, 7th, 2012  
San Francisco, USA

**Max Firtman @firt**



# MULTIPLATFORM, PROMISES AND HTML5

**SAN FRANCISCO 2012**

Tutorials: Nov 5-6 Conference: Nov 7-9



**QCon**  
International  
SOFTWARE DEVELOPMENT  
CONFERENCE

[www.qconSF.com](http://www.qconSF.com)



# who am I?

# who am I?

@firt

mobile+web developer



# where?



# speaker



# MOBILE HTML



beta, of course

0 0 0  
[Like](#) [+1](#) [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
	iPhone, iPad	Phones (1.0-2.3)	Tablets (3.0+)	Phones	Tablet	Windows Phone	Mobile	Mini	Android		Nokia phones
Version tested											
Minimum version tested	3.2	1.5	3.0	5.0	1.0	9	11	5	6	1.4	^3
<b>Application Cache</b> <u>W3C API</u> Offline package installation.	✓	✓ 2.1+	✓	✓ 6.0+	✓		✓		✓	✓	
<b>Web storage</b> <u>W3C API</u> Persistent and session storage.	✓	✓ 2.0+	✓	✓ 6.0+	✓	✓	✓		✓	✓	
<b>Web SQL storage</b> <u>W3C API (no active)</u> Persistent SQLite storage.	✓	✓ 2.0+	✓	✓ 6.0+	✓		✓			✓	
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[www.mobilehtml5.org](http://www.mobilehtml5.org)

# books



Image from my house

*Using HTML5 to Design Web Apps for Tablets and Smartphones*



# jQuery Mobile

*Up and Running*

O'REILLY®

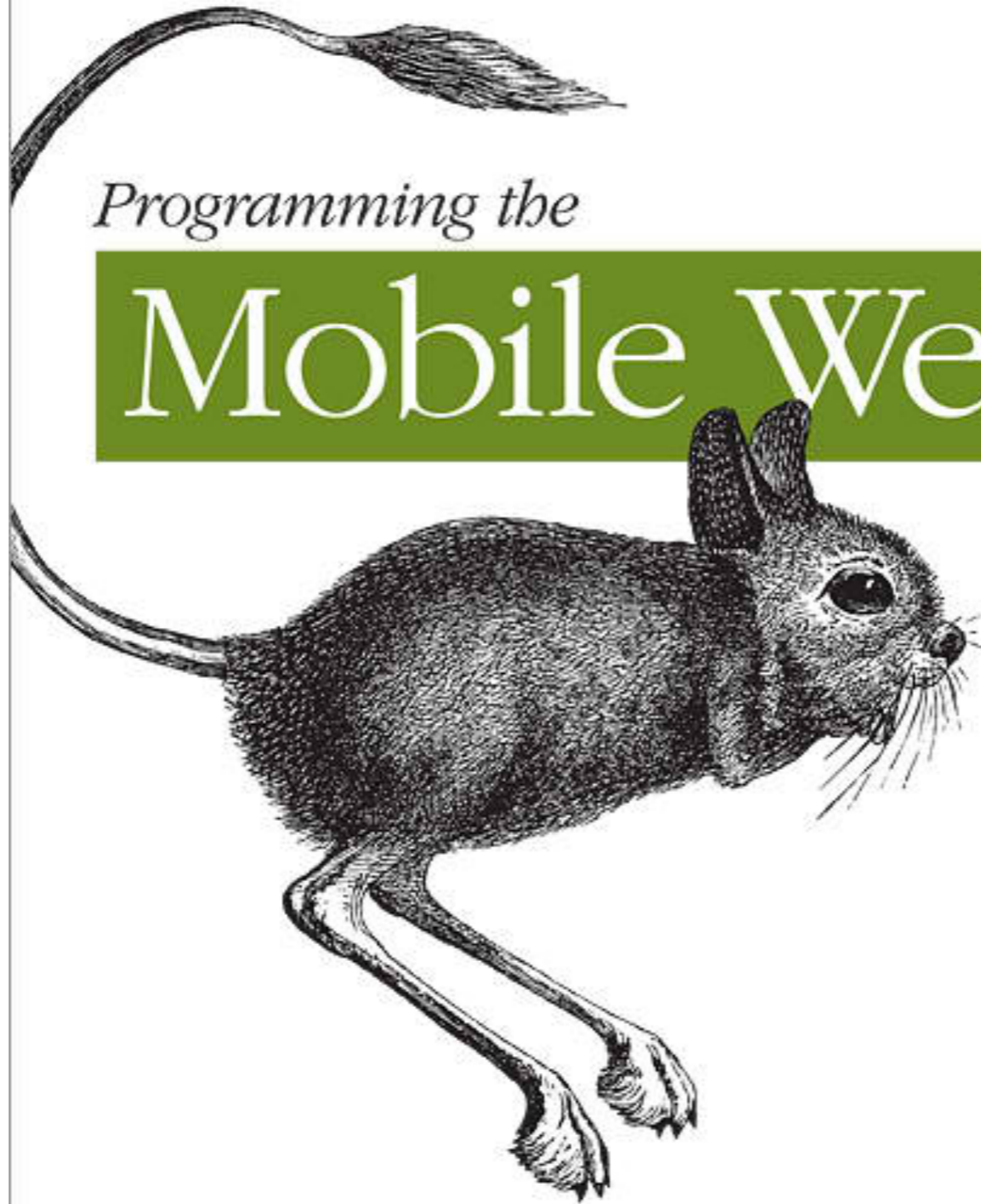
*Maximiliano Firtman*



*Reaching Users on iPhone, Android,  
BlackBerry, Symbian, and more*

*Programming the*

# Mobile Web



**O'REILLY®**

*Maximiliano Firtman*

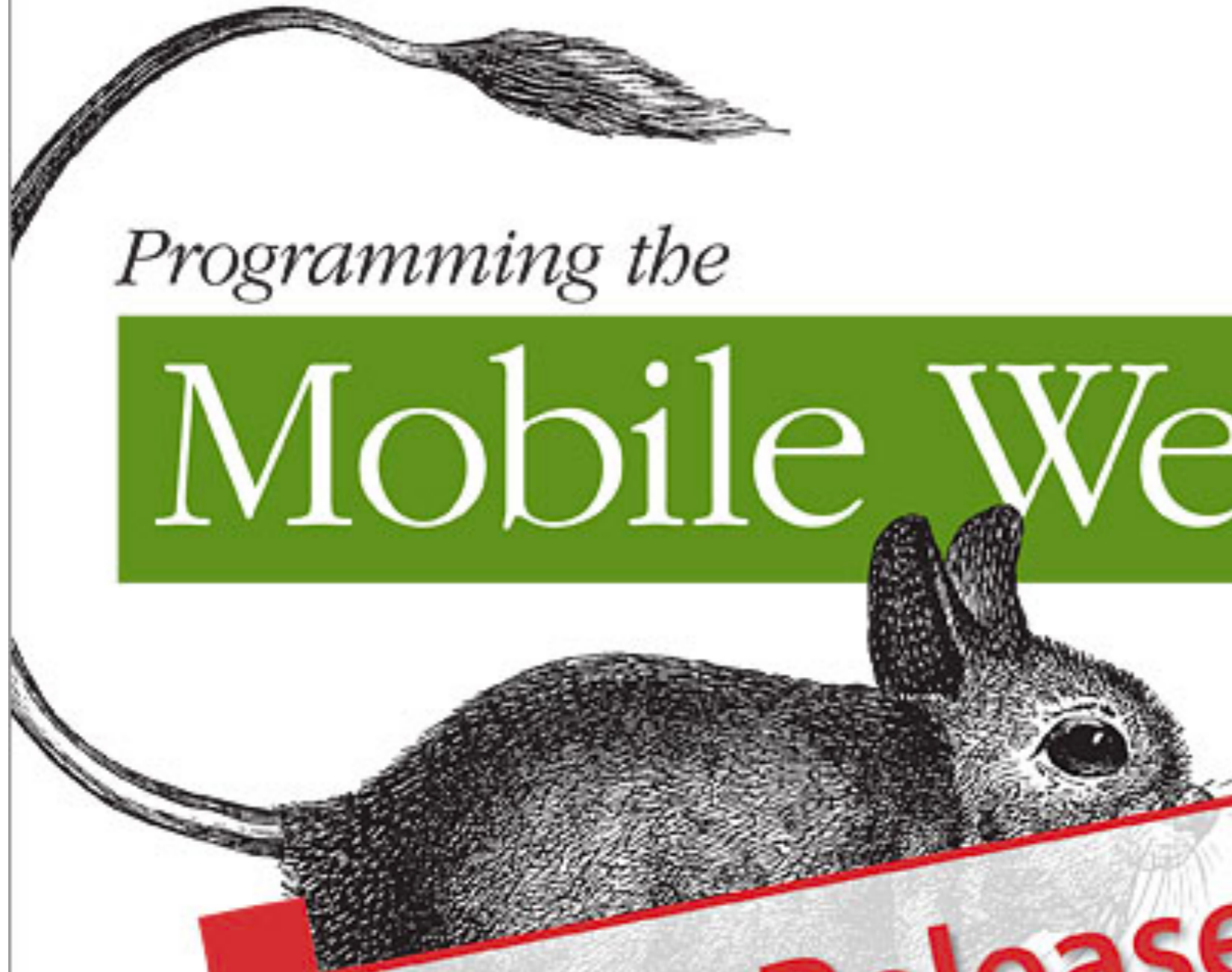
*Reaching Users on iPhone, Android,  
BlackBerry, Windows Phone, and more*

**2nd Edition**  
Includes HTML5

*Programming the*

# Mobile Web

**Early Release**



*Reaching Users on iPhone, Android,  
BlackBerry, Windows Phone, and more*

**2nd Edition**  
Includes HTML5

*Programming the*

50% off

Code: **AUTHD**

at [oreilly.com](http://oreilly.com)

**Early Release**



appliness

MARCH 2012

The digital magazine for web app DEVELOPERS

TUTORIALS

HTML5, PHONEGAP, BACKBONE.JS, JQUERY MOBILE...

INTERVIEW

MAXIMILIANO FIRTMAN, THE MOBILE WEB GODFATHER

INTERVIEW  
MAXIMILIANO FIRTMAN, THE MOBILE WEB GODFATHER

# Let's start



**the track**

# Cross Platform mobile

10.30 **Maximiliano Firtman**

Multiplatform, promises and HTML5



11.40 **James Pearce**

Building social apps for all mobile platforms



13.30 **Pete LePage**

The Mobile Web Developer's Tool belt



14.40 **Christophe Coenraets**

Cross-Platform Mobile Apps with PhoneGap



16.00 **Robert Shilston**

Developing the FT web app



**how many...?**



**why mobile?**

**why cross platform?**

**mobile is a  
minefield**



Photo by World of Good (Flickr)

**Malvinas / Falklands Islands**



lots of platforms

# Internet Explorer wants to be friends on Facebook

Trash | X



Facebook to me

[show details](#) 5:34

## facebook

Internet Explorer wants to be friends with you on Facebook.



Internet Explorer

0 friends - late on HTML5 - Please, forgive me!

[Confirm Friend Request](#)

[See All Requests](#)



**I have a BlackBerry**



I have a Nokia



**I have a Windows Phone**





I have a Surface



**I'm using Firefox**



**I have a TouchPad and browse  
with Internet Explorer!**

# Discrimination

# Frustration



**market share**

**cross platform**





**NOKIA**



**cross form-factor**





© InventHelp 1-800-invention | GIZMODO



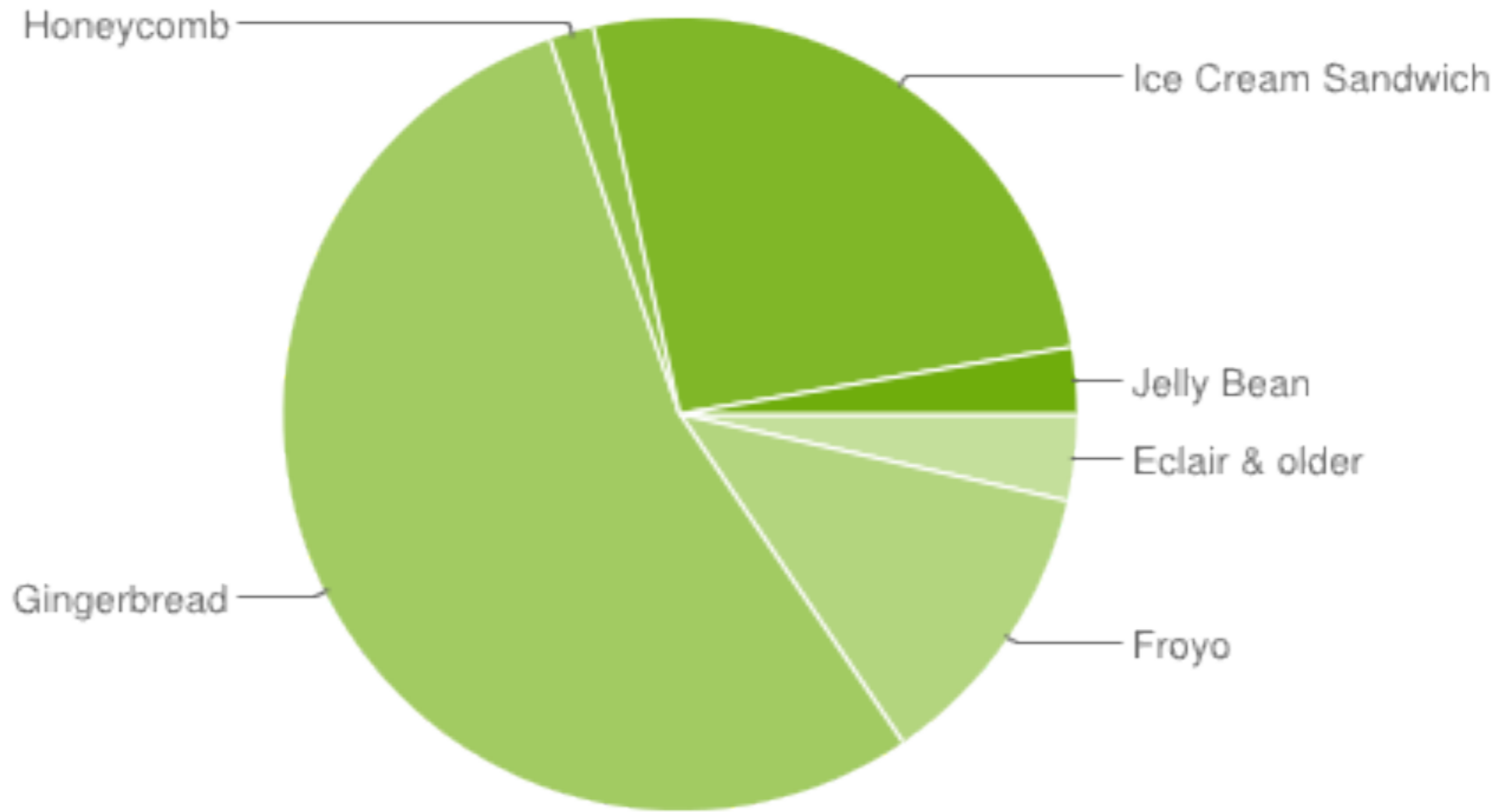
Start

Kat  
Jordan



Source: informationweek

**cross version**



<http://developer.android.com/about/dashboards>





**cross form-factor**

QQVGA

WVGA

FWXGA

QVGA

FWVGA

Sq.HD

WQVGA

VGA

XGA

FWQVGA

DVGA

WXGA

LQVGA

WDVGA

WUXGA

HVGA

QHD

QXGA

nHD

WSVGA

WQXGA

HD











**NOKIA**







**NOKIA**





**NOKIA**





**NOKIA**



**TIZEN™**



# Give me a break!



Gold museum, Bogotá, Colombia

# mobile apps

- 1. distribution channel**
- 2. development platform**
- 3. native vs. web?**

# distribution

# distribution

- ▶ **web: browser - url**



# distribution

- ▶ web: browser - url
- ▶ installed webapp

# distribution

- ▶ web: browser - url
- ▶ installed webapp
- ▶ apps

# development



Native SDKs  
Cross-compilers/runtime

# development

- ▶ web: browser - url



Native SDKs

Cross-compilers/runtime

# development

- ▶ web: browser - url
- ▶ installed webapp



Native SDKs

Cross-compilers/runtime

# development

▶ web: browser - url



▶ installed webapp



▶ apps



Native SDKs

Cross-compilers/runtime

# native sdks

# native sdks

- ▶ no cross platform



# native sdks

- ▶ no cross platform
- ▶ no code sharing

# native sdks

- ▶ no cross platform
- ▶ no code sharing
- ▶ high cost

# native sdks

- ▶ no cross platform
- ▶ no code sharing
- ▶ high cost
- ▶ high performance

# native sdks

- ▶ no cross platform
- ▶ no code sharing
- ▶ high cost
- ▶ high performance
- ▶ high flexibility

# cross compilers / runtimes

# cross compilers / runtimes

- ▶ medium cross platform

# cross compilers / runtimes

- ▶ medium cross platform
- ▶ code sharing

# cross compilers / runtimes

- ▶ medium cross platform
- ▶ code sharing
- ▶ lot of promises



# cross compilers / runtimes

- ▶ medium cross platform
- ▶ code sharing
- ▶ lot of promises
- ▶ performance analysis

# cross compilers / runtimes

- ▶ medium cross platform
- ▶ code sharing
- ▶ lot of promises
- ▶ performance analysis
- ▶ risk analysis

# cross compilers / runtimes



...



**native**  
vs  
**web**



**native code**  
vs  
**javascript**



# native ui elements vs html/css



**browser**  
**VS**  
**installed apps**  
**& stores**

# HTML







Photo by Ben Millett (Flickr)

**Are you  
sure?**

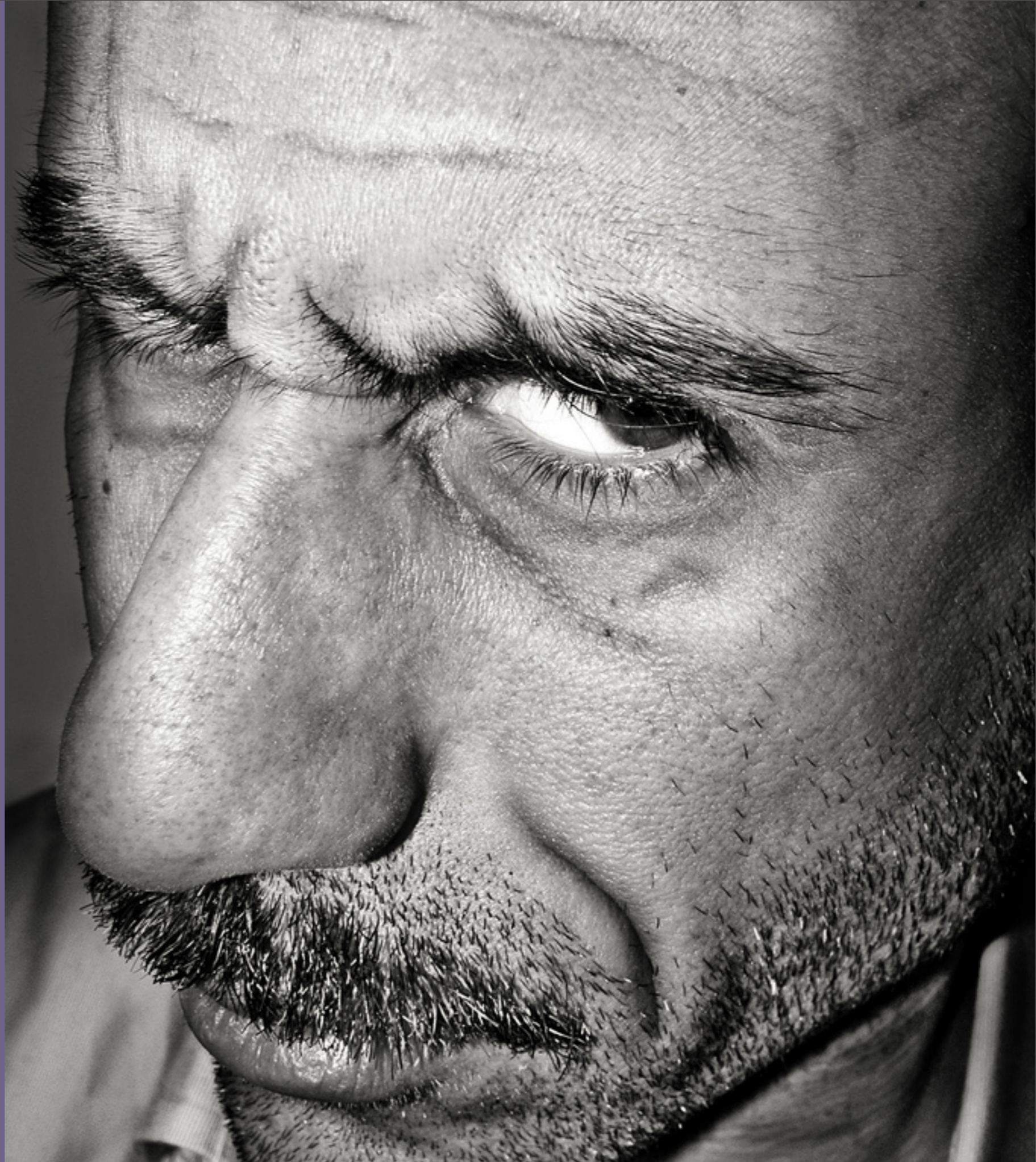


Photo by Ricky David (Flickr)

**HTML**

**What is**



**?**

# html5

W3C<sup>®</sup>



# html5



# advantages

# advantages

- ▶ **multiplataforma**

# advantages

- ▶ **multiplataforma**
- ▶ **apis**



# advantages

- ▶ multiplataforma
- ▶ apis
- ▶ know how

# advantages

- ▶ multiplataforma
- ▶ apis
- ▶ know how
- ▶ “future friendly”

# disadvantages

# disadvantages

- ▶ **multiplataform**

# disadvantages

- ▶ multiplatform
- ▶ underestimation

# disadvantages

- ▶ multiplatform
- ▶ underestimation
- ▶ performance

# disadvantages

- ▶ multiplatform
- ▶ underestimation
- ▶ performance
- ▶ native ui

**typeof html5 !== boolean**



**some features safe**

**some features only on  
few platforms**

**some features  
experimental**

**some features with  
prefixes**

# MOBILE HTML



beta, of course

0 0 0  
 Like +1 Tweet

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[www.mobilehtml5.org](http://www.mobilehtml5.org)

# second class developers

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- ▶ vague, non-existent or outdated info

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- ▶ new features discovered by third-parties



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- ▶ lack of samples

# second class developers

- ▶ vague, non-existent or outdated info
- ▶ new features discovered by third-parties
- ▶ lack of samples
- ▶ no developer tools on some platforms

mobile  
html5  
is slow



Picture from Simon Howden [freedigitalphotos.net](http://freedigitalphotos.net)

# performance

# performance

- ▶ do we need jQuery?

# performance

- ▶ do we need jQuery?
- ▶ performance best practices

# performance

- ▶ do we need jQuery?
- ▶ performance best practices
- ▶ JIT compilers

# performance

- ▶ do we need jQuery?
- ▶ performance best practices
- ▶ JIT compilers
- ▶ hardware acceleration



# battery consumption

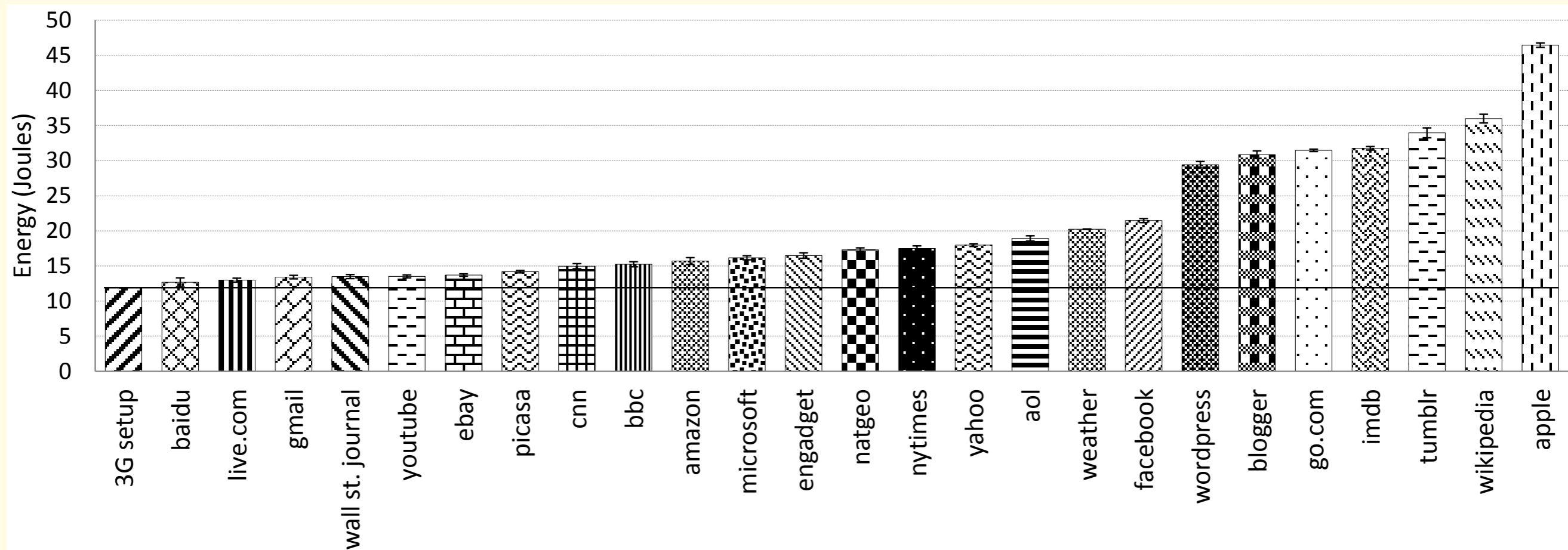


Figure 6: Energy consumption of top websites

Who Killed My Battery ~ [mobilexweb.com/go/battery](http://mobilexweb.com/go/battery)

# battery consumption

Apple has no mobile website

Amazon consumes 17% energy  
in a non used JS

jQuery.js ~ 4 joules (0,02%)  
~5000 jQuery parsings per charge

Who Killed My Battery ~ [mobilexweb.com/go/battery](http://mobilexweb.com/go/battery)

**HTML**



**now the fun part**

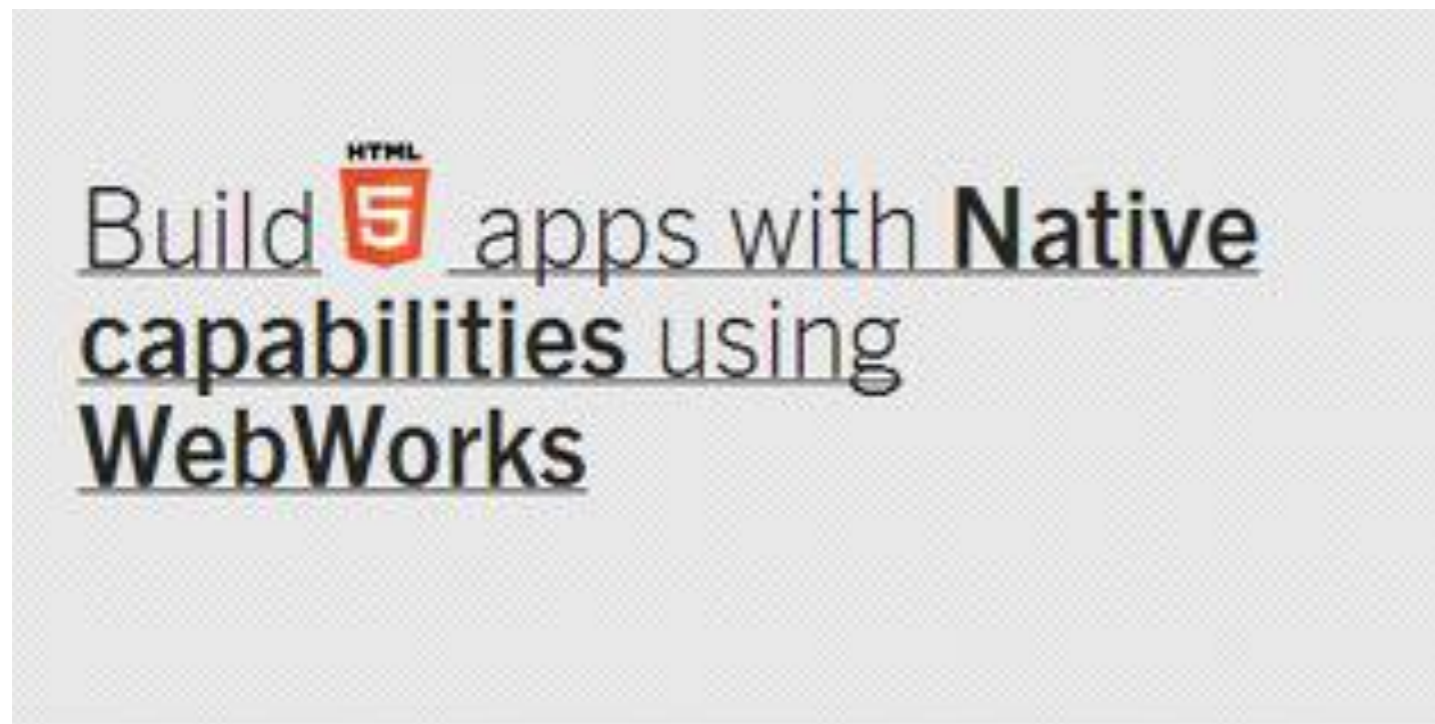
# html5

websites => url

installed webapps => url and store?

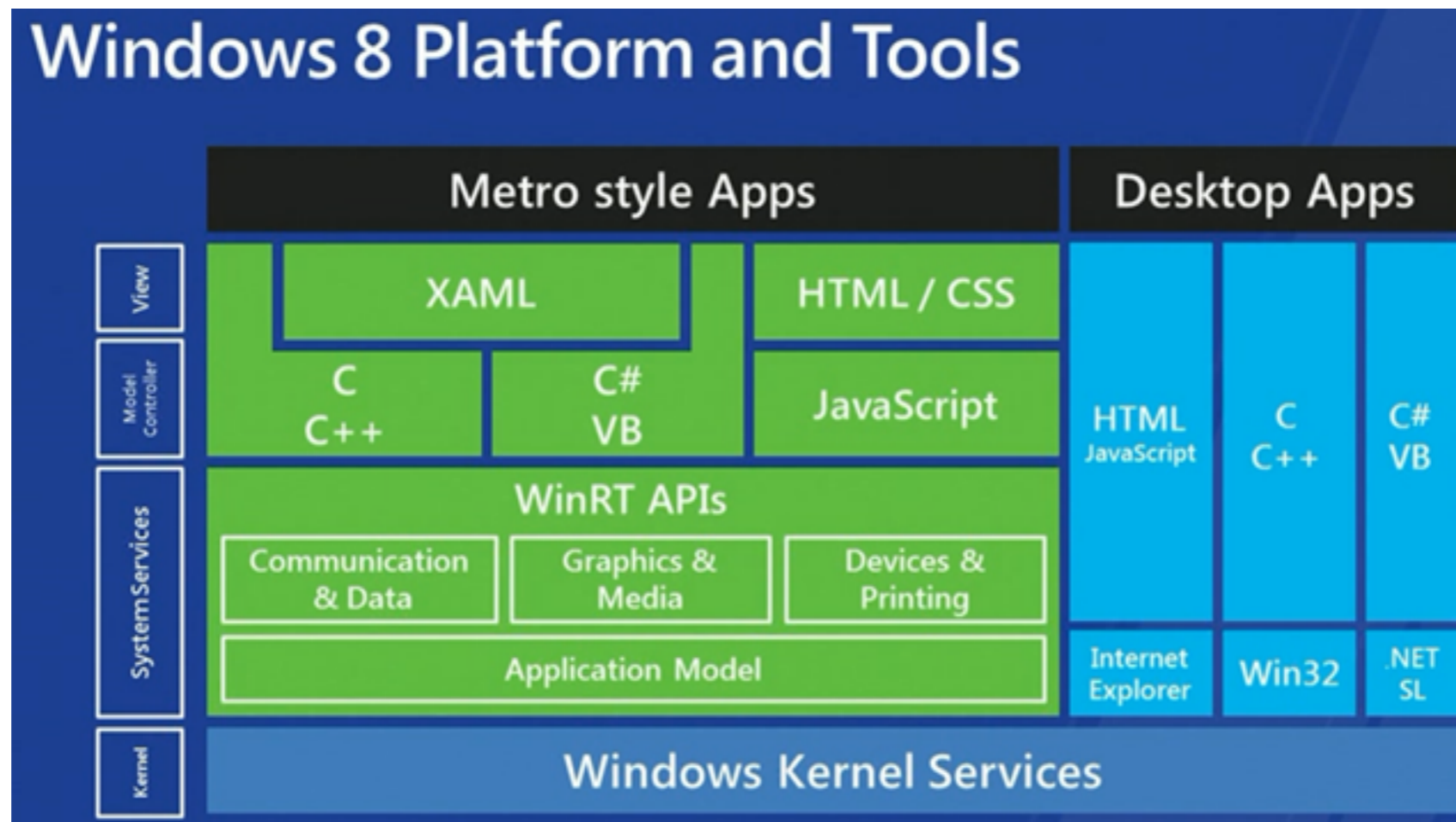
native webapps (aka hybrid) => store

# native webapps



BlackBerry WebWorks

# native webapps



Windows 8 HTML5 dev

# native webapps



firefox apps



# native webapps



available in the  
chrome web store

chrome apps

# native webapps



APACHE  
CORDOVA™



Phone**Gap**



UI

**HTML**  
  
.elements  
.canvas  
.svg  
.webgl

**CSS**  
  
.basic & adv  
.transforms  
.transitions  
.animations

  
PhoneGap  
.notification  
.events

 Sencha  
 **jQuery**  
mobile framework



# Logic

**HTML**  
 .web workers  
.touch events

 JS

 jQuery  
*write less, do more.*  
...

# UI

**HTML**  
 .elements  
.canvas  
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**CSS**  
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 PhoneGap  
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*mobile framework.*



## Data

**HTML5**  
.web storage  
.sql storage  
.indexeddb  
.web sockets  
.server-sent events



.local files  
.remote http  
.xhr 2



.file api  
.contacts api

## Logic

**HTML5**  
.web workers  
.touch events



## UI

**HTML5**  
.elements  
.canvas  
.svg  
.webgl

**CSS3**  
.basic & adv  
.transforms  
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.animations



.notification  
.events



## Device



.geolocation  
.motion  
.multimedia



PhoneGap

.accelerometer  
.camera  
.compass  
.network info



plugins

## Data



.web storage  
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.elements  
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PhoneGap

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per platform

Meta data



Native code

PhoneGap  
Plugins



Compilation



Stores



# Device

**HTML5** .geolocation  
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**plugins**

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**AJAX** .local files  
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.events

**Sencha**  
**jQuery**  
mobile framework.



per platform



**live demos!**

SO...

# conclusions

# conclusions

- ▶ Multiplatform is a key for success

# conclusions

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- ▶ HTML5 is good for cross platform on some situations

# conclusions

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- ▶ However, it's better than 10 SDKs or than create only elite users

# conclusions

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- ▶ HTML5 is not a heaven
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- ▶ However, it's better than 10 SDKs or than create only elite users
- ▶ On some situations you will need native SDKs

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- ▶ Some problems will be gone in the future

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- ▶ write once, deploy anywhere is... a promise
- ▶ However, it's better than 10 SDKs or than create only elite users
- ▶ On some situations you will need native SDKs
- ▶ Some problems will be gone in the future
- ▶ Use the best technology for every situation

**some last advices**

**DANGER**  
OVERHEAD CATENARY  
WIRES ARE ALIVE

# GOVERNMENT CENTER

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

UND

NO SMOKING

1  
2  
0  
0

**DON'T BE  
AVERAGE.**

GOOD BANKING IS GOOD CITIZENSHIP Citizens Bank

www.the.citizensbank.com

-1083 + 0-



performance,  
performance

**good practices**

NO  
PARKING





# don't be fanatic



photo by Kurt Christensen  
(flickr)

# be multiplatform



be **FUTURE** ☆ **FRIENDLY**



**futurefriendly.ly**

thanks!

firt.mobi  
firtman@gmail.com

twitter: @firt  
www.mobilexweb.com