

The mobile browser world

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Front-end Day workshop, 26 April 2011

Mobile First!

- Luke Wroblewski invented it
- Design your sites for mobile first.
- You'll be forced to decide what is so important that it **MUST** be shown in the mobile device's tiny display.
- The things you leave out of the mobile version don't really need to be in the desktop version, either.

The mobile browsers

- Safari iPhone
- Android WebKit
- Dolfin for bada
- BlackBerry WebKit
- Opera Mobile
- Opera Mini
- MicroB
- Nokia WebKit
- Firefox
- Obigo WebKit
- Ovi
- Palm WebKit
- BlackBerry old
- Phantom
- Obigo old
- NetFront
- IE
- UCWeb

You may groan now.

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Gecko-based

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Presto-based

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Other rendering engines

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WebKit-based

WebKit on Mobile

There is no WebKit on mobile!

There's iPhone Safari (3 and 4),
and Android (2.1 and 2.3 and 3.0),
and Nokia WebKit (S40 and Symbian),
and BlackBerry WebKit,
and Dolfon for bada,
and Palm, and Obigo, and a few more

These WebKits are all different.
Not wildly so, but you'll notice some oddities.

Exhibit A: WebKit comparison table

<http://quirksmode.org/webkit.html>

S6ov3	S6ov5	iPhone 2.2	iPhone 3.1	Android 1.0	Android 1.5 / 1.6	Bolt 1.5	Iris 1.1.9	Ozone 0.9	Palm Pre 1.2.1
buggy	no	static		yes		yes			static
<p>the original element when another element is placed after it.</p>									
yes		incorrect	incomplete	incorrect	incorrect	incomplete	yes		incorrect
<p>behaves as if it has absolute while scrolling. After scrolling has finished it's placed at the</p>									
<p>ute.</p>									
no	static	to be tested	yes	static	yes	yes			yes

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Proxy browsers

Proxy browsers

- Page is downloaded to and rendered on a specialised server.
- A highly compressed image is sent to the client.
- Advantage: cheap, both in device and in network costs
- Disadvantage: no client-side interactivity

Global stats Q1 2011

(by StatCounter)

Safari	25%	iOS	Stable
Opera	21%	Many OSs	Stable
Nokia	16%	Symbian (and S40)	Stable
Android	15%	Android	Up
BlackBerry	14%	BlackBerry	Down
NetFront	4%	Sony Ericsson and Samsung	Stable
Samsung	2%	bada	Up
Others	3%		

Browser stats

- Those are GLOBAL stats; they are not necessarily correct for the sites you're working on. Always check your stats.
- Social media referrals cause disproportionate iPhone visits; and Android to a lesser degree.

Bulgarian stats Q1 2011

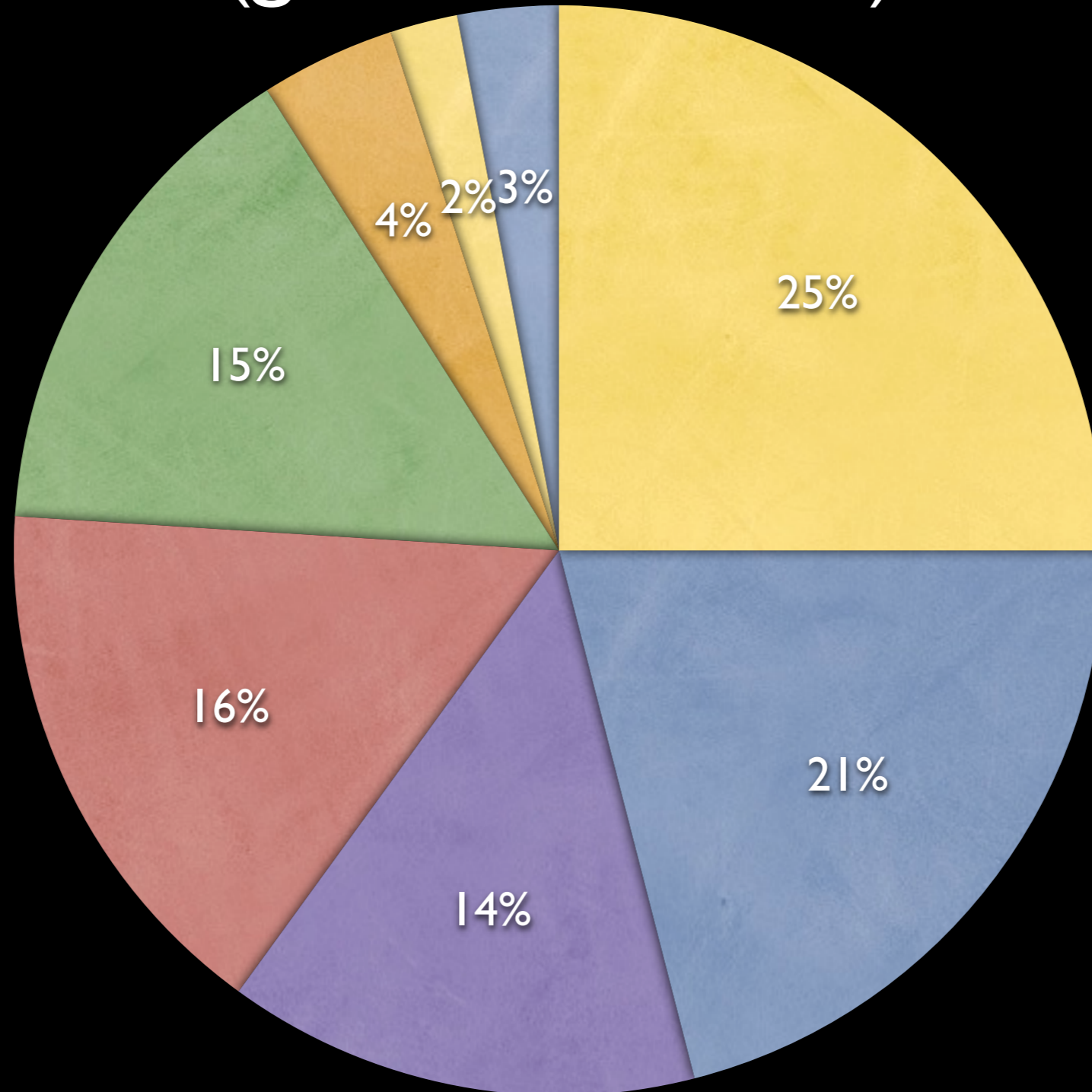
(by StatCounter)

Nokia	34%	Symbian (and S40)	Stable
Android	20%	Android	Up
Opera	18%	Many OSs	Stable
Safari	15%	iOS	Stable
NetFront	3%	Sony Ericsson and Samsung	Stable
BlackBerry	2%	BlackBerry	Down
Sony Er.	2%	NetFront-based	
Samsung	2%	bada	Up
Others	3%		

Stats

(global, Q4 2010)

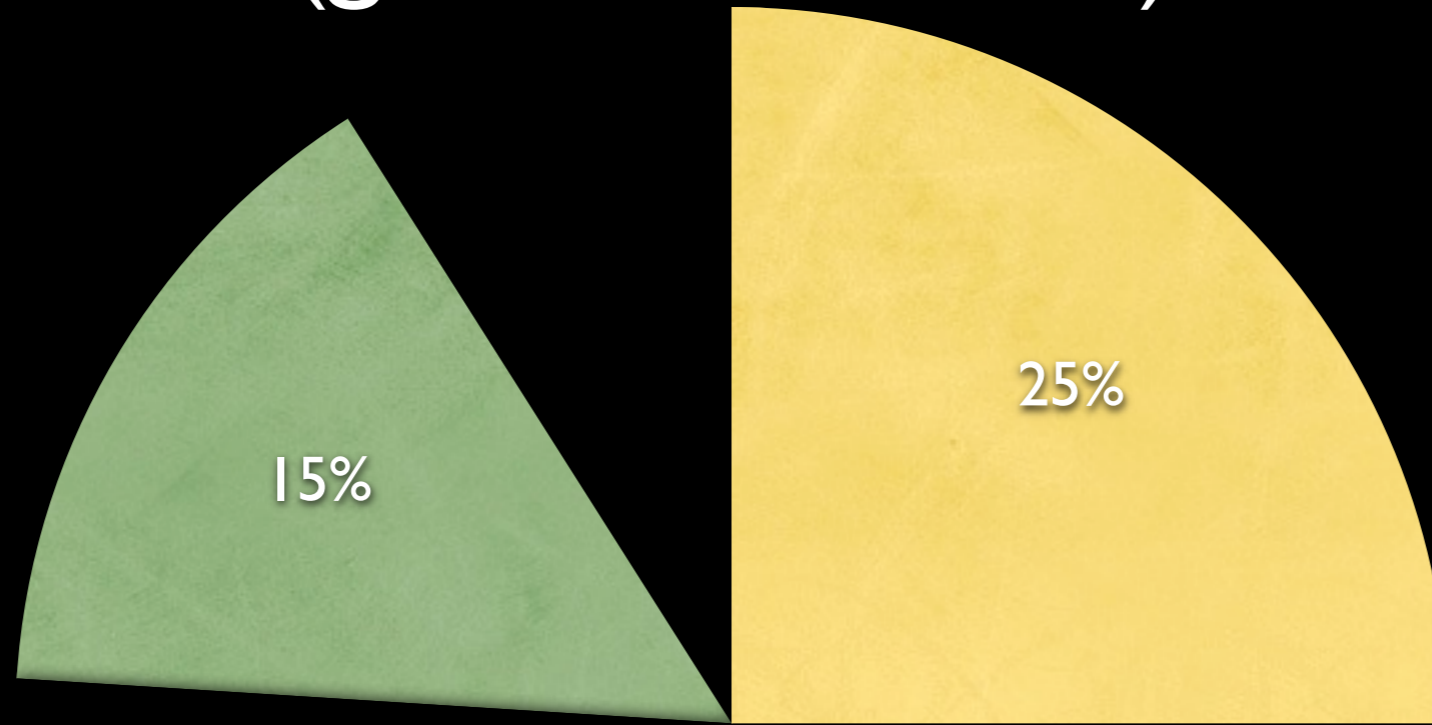
- Safari
- Opera
- BlackBerry
- Nokia
- Android
- NetFront
- Samsung
- Others



Stats

(global, Q4 2010)

- Safari
- Android



Rest? What rest?

Which mobile browsers?

- Safari iPhone
- Opera Mini
- Android WebKit

- US: BlackBerry (WebKit and older)
- Europe: Nokia WebKit

- Dolfín for bada (easy)
- Opera Mobile (easy)

Progressive enhancement

How do you deal with this immense amount of browsers?

Use advanced tricks, but make sure your site remains usable without them.

The site is enhanced as much as the browser allows.

Progressive enhancement

HTML

All browsers support HTML. That's the definition of a browser.

Progressive enhancement

Basic CSS

HTML

All browsers support most basic CSS. There will be bugs, but only few.

Progressive enhancement

Advanced CSS

Basic CSS

HTML

Advanced CSS is restricted to advanced browsers.
Make sure it contains nothing vital; just nice extras.

Progressive enhancement

Advanced CSS

Basic CSS

Basic JavaScript

HTML

All browsers support basic JavaScript, but they can be slow. Maybe switch off in BB5 and lower.

Progressive enhancement

Advanced CSS

Advanced JavaScript

Basic CSS

Basic JavaScript

HTML

Advanced JavaScript is a problem. Feature detection is your friend. Make sure it contains nothing vital.

Get real phones

- You need to hold and handle a phone
- Unlocked! You want to test on several networks
- At least one non-touchscreen phone
- But you likely can't afford to buy ten phones

Other solutions

- Find other companies with the same problem and share phones
- Go to the phone shop and test there
- Use online tools:
 - <http://deviceanywhere.com>
 - <http://perfectomobile.com>
- Or use emulators
 - Not my favourite
 - Usually inside SDK

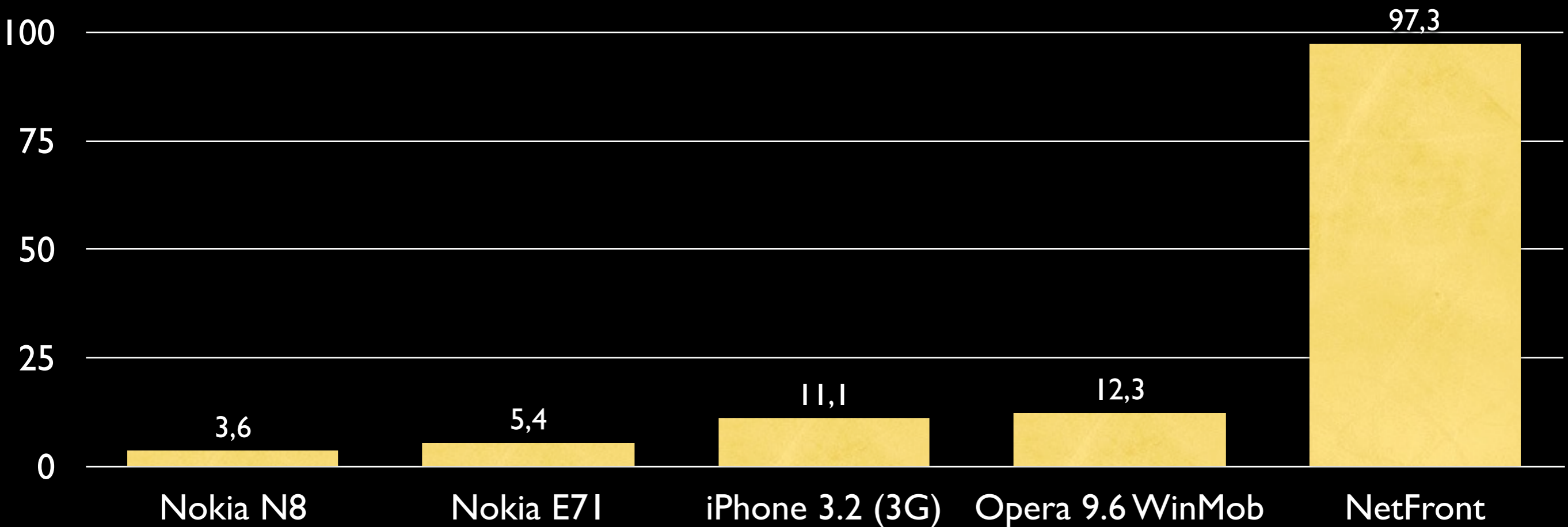
Performance

How long does it take to generate 250 lists with 20 items each?

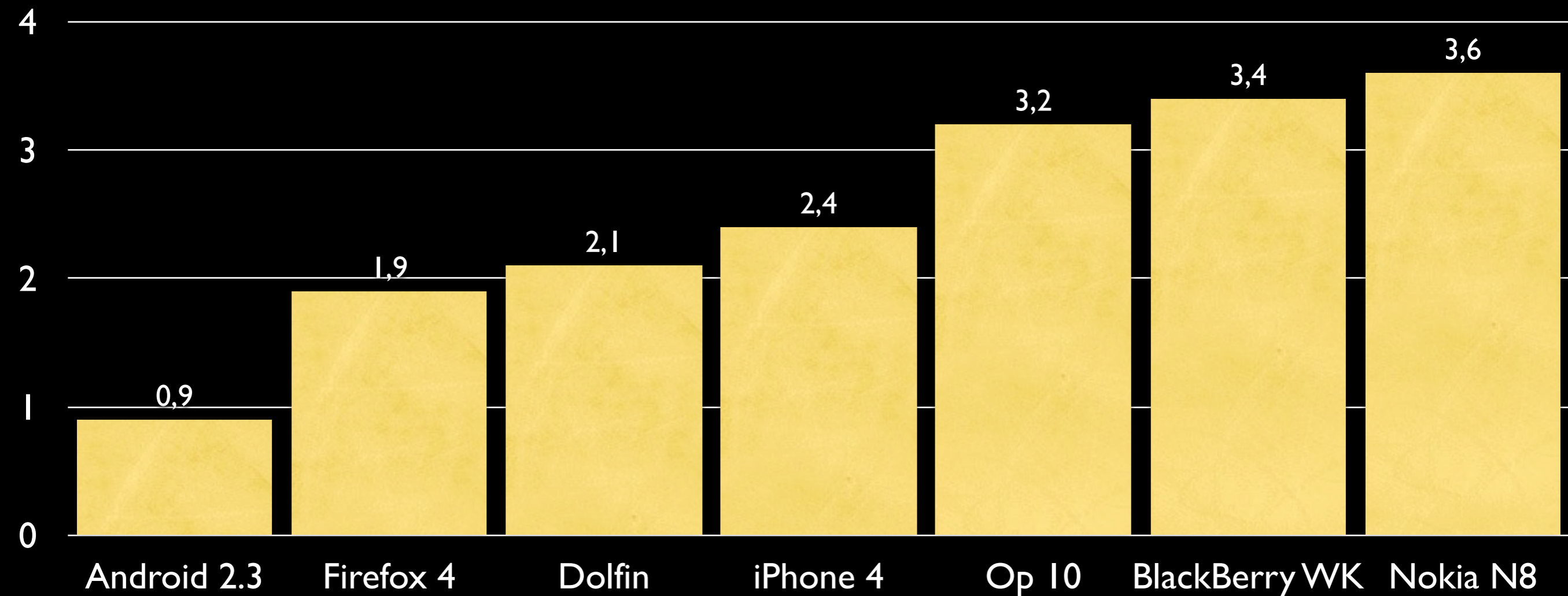
The following graphs give the number of seconds it took the browsers.

<http://quirksmode.org/m/tests/DOMspeed.html>

Performance



Performance



HTML5

- Which browsers support HTML5?
- What is HTML5, anyway?
- Ask five web developers and they'll give you five different answers.

HTML5

- Offline storage
- Video and audio
- Canvas
- New input types
- Websockets
- New semantics
- SVG
- File API
- etc. etc. etc.

Offline storage

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SVG

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New input types

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HTML5

- Which browsers support HTML5?
- It depends.
- HTML5 is mainly a marketing buzzword.
- That's not bad; we need it.
- But it has no technical meaning.

JavaScript events

Fun party game

- online and offline
- orientationchange
- shake
- cameraopen
- compasspointnorth
- devicemove (GPS?)
- phonecall
- textreceived

Thank you

I will post these slides online.

Questions?

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