The mobile browser world

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The desktop web

- Boring!

- Only five browsers

- with only one viewport each

- that support nearly everything

- Even IE? Yes, even IE.

The mobile web

- Exciting!

- Twenty browsers and counting

- ranging from great to lousy

- Fascinating new bugs that don't occur on desktop

- Eventually about five times as many users as desktop web

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

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WebKit on Mobile

There is no WebKit on mobile!

There's iPhone Safari (3 and 4),
and Android (2.1 and 2.2),
and Nokia WebKit (S40 and Symbian),
and Blackberry WebKit,
and Dolfin 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

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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 Q4 2010

(by StatCounter)

Safari	23%	iOS	Stable
Opera	22%	Many OSs	Stable
BlackBerry	18%	BlackBerry	Down
Nokia	16%	Symbian (and S40)	Stable
Android	12%	Android	Up
NetFront	4%	Sony Ericsson and Samsung	Stable
Samsung	1%	bada	Up
UCWeb	1%	Many OSs	Down
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.
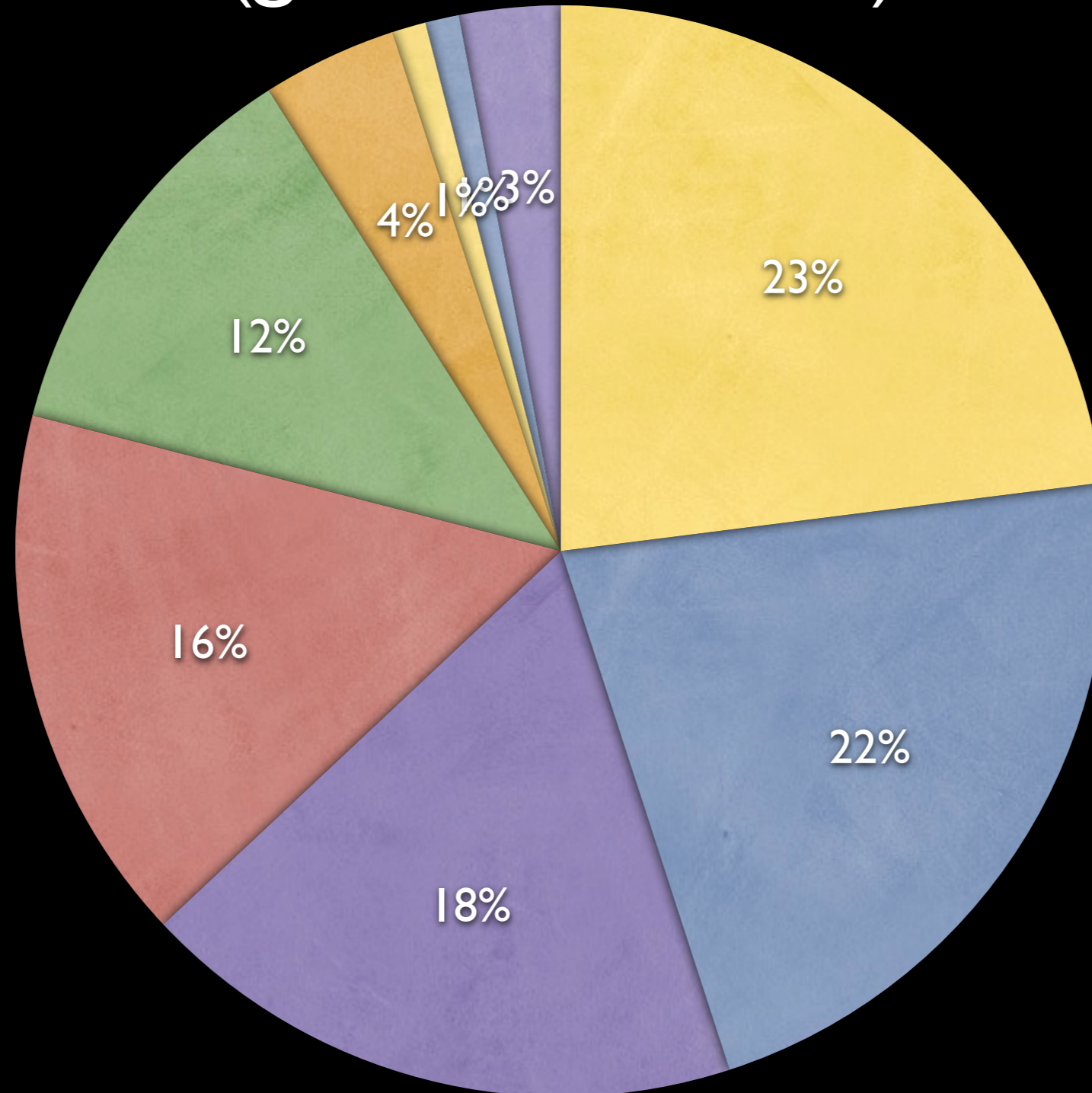
US stats Q4 2010

(by StatCounter)

Safari	34%	iOS	Stable
BlackBerry	33%	BlackBerry	Down
Android	24%	Android	Up
Opera	3%	Many OSs	Stable
NetFront	2%	Sony Ericsson and Samsung	Stable
Nokia	1%	Symbian (and S40)	Stable
Others	3%		

Stats
(global, Q4 2010)

Legend:
- Safari
- Opera
- BlackBerry
- Nokia
- Android
- NetFront
- Samsung
- UCWeb
- Others

Pie chart values: 23%, 22%, 18%, 16%, 12%, 4%, 1%, 1%, 3%

But usually this is what happens

● Safari

● Android
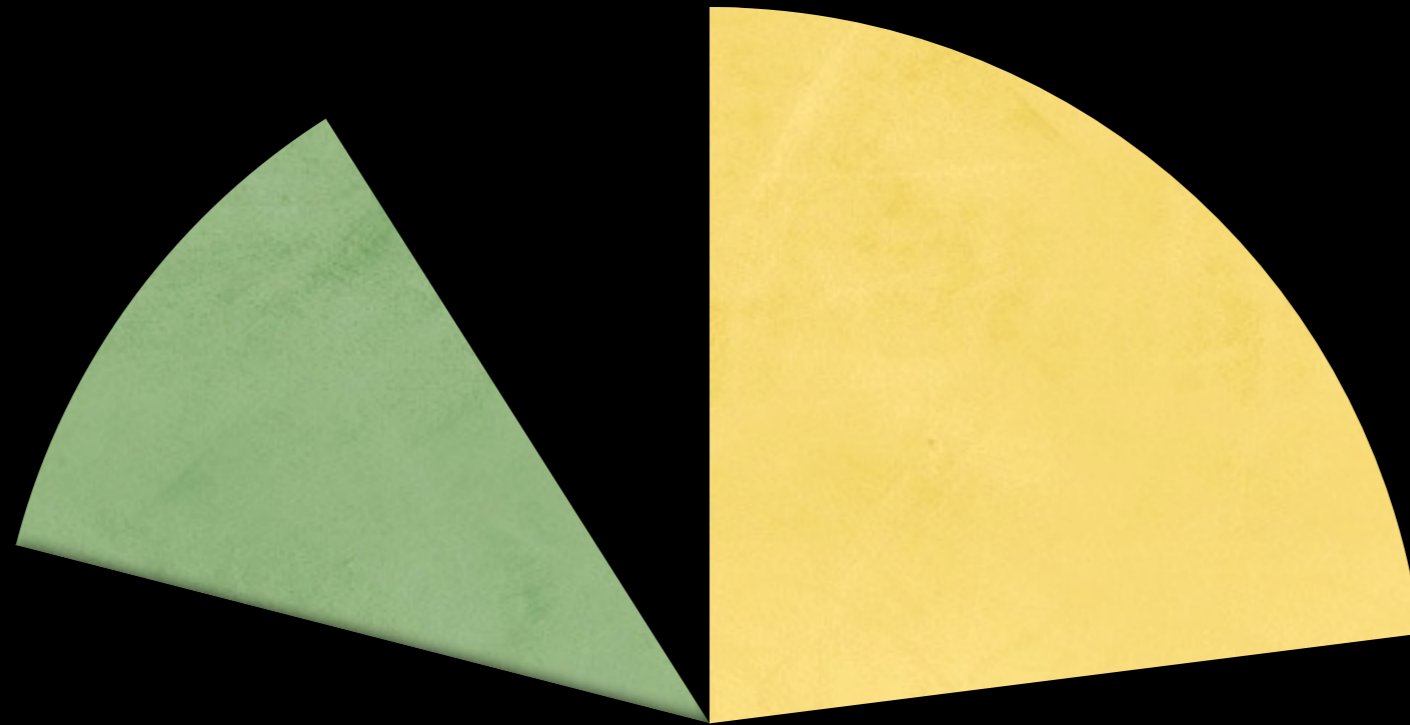
Rest? What rest?

Which mobile browsers?

- Safari iPhone
- Opera Mini
- Android WebKit

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

- Dolfin 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

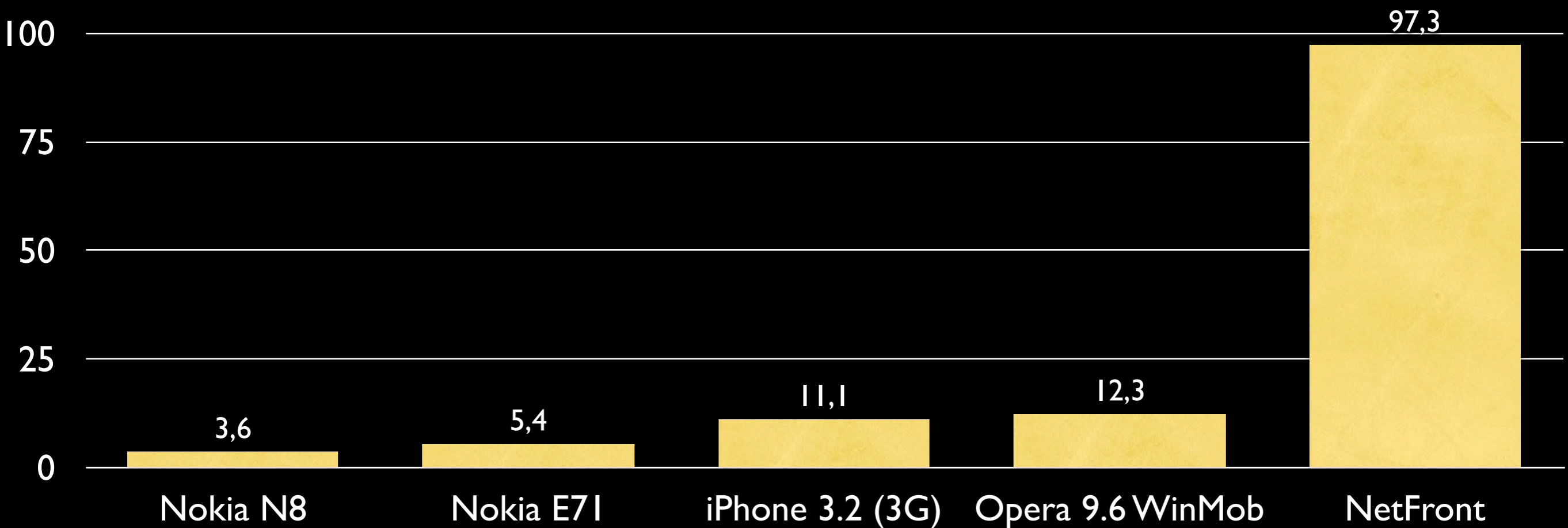Advanced JavaScript is a problem. Feature detection is your friend. Make sure it contains nothing vital.

Performance

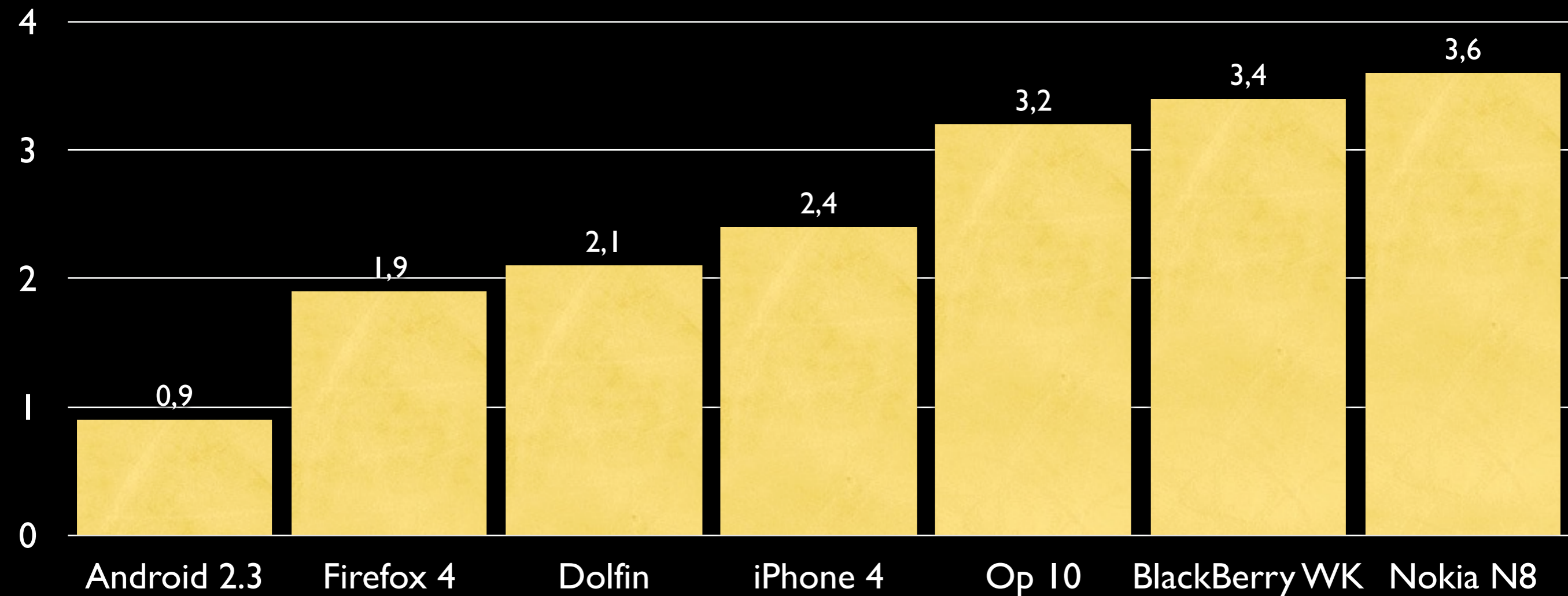How long does it take to generate 250 lists with 20 items each?

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

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

Performance

A bar chart titled "Performance" with the y-axis marked at 0, 25, 50, 75, 100.

Category	Value
Nokia N8	3,6
Nokia E71	5,4
iPhone 3.2 (3G)	11,1
Opera 9.6 WinMob	12,3
NetFront	97,3

Performance

	Android 2.3	Firefox 4	Dolfin	iPhone 4	Op 10	BlackBerry WK	Nokia N8
Value	0,9	1,9	2,1	2,4	3,2	3,4	3,6

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.

HTML5 apps

- One core app written in HTML, CSS, and JavaScript.

- Deployed to several mobile platforms.

- Ideally, CSS and JavaScript are stored on the device.

- If it can't be deployed it's still a website.

Deploying HTML5 apps

- Via app store or web

- Or phone-to-phone via Bluetooth

- I've done it. Back in 2009

- For now, however, deployment will remain tricky

HTML5 app deployment

- http://apparat.io/ (Uxebu)

- https://build.phonegap.com/ (Nitobi)

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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http://quirksmode.org
http://twitter.com/ppk
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