Hell is other browsers - *Sartre*

HTML5 apps on Samsung bada

(and other platforms)

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Creating applications

Modern smartphone users want applications; bada users will not be different.

Two options:
1) native apps
2) HTML5 apps

Creating applications

Native apps will be discussed in detail in other sessions.

This session concentrates on HTML5 apps.

Differences

Native apps are written in C++, compiled, and installed on the phone.

Pros:
1) Excellent performance, especially when it comes to graphics and animations
2) Access to device APIs
3) IDE

Differences

Native apps are written in Java, compiled, and installed on the phone.

Cons:
1) Only available for bada; what if your target audience is larger than that?

Differences

HTML5 apps are written with web standards, zipped, and installed on the phone, where they run in the browser.

Pros:
1) Available on any device with a modern browser and W3C Widget support

Differences

HTML5 apps are written with web standards, zipped, and installed on the phone, where they run in the browser.

Cons:
1) Less beautiful UX
2) No (or little) access to device functionality such as camera, address book, or voice.

Which one to choose?

A) It's important that my app has the best UX possible, and that it can access phone functionality

B) It's important that my app runs on any platform.

Which one to choose?

A) It's important that my app has the best UX possible, and that it can access phone functionality
=> Native apps

B) It's important that my app runs on any platform.

Which one to choose?

A) It's important that my app has the best UX possible, and that it can access phone functionality

- Games
- Apps that tie in with the mobile platform (as opposed to the web at large)

Which one to choose?

A) It's important that my app has the best UX possible, and that it can access phone functionality

B) It's important that my app runs on any platform.
=> HTML5 apps

Which one to choose?

B) It's important that my app runs on any platform.

- Social media clients
- More in general: any app that facilitates easy communication with anyone (also non-bada users)

HTML5 apps

What is an HTML5 app?

- One core app written in HTML, CSS, and JavaScript
- Deployed to several mobile platforms
- If it can't be deployed it's still a web app. (This includes desktop browsers.)

HTML5 apps

Deployment

- W3C Widget (bada, Vodafone, Opera)
- Palm webOS app
- iPhone appcached site
- Apple Dashboard widgets and old Nokia widgets
- And if nothing works, it's still a website.

HTML5 apps

Deployment

- W3C Widgets will become default; work on bada, while Nokia and BlackBerry are switching
- We need a lot of other formats.
- Automated deployment. Upload web core to application, which returns all the different formats you need.

HTML5 apps

W3C Widgets are local applications written in HTML, CSS, and JavaScript.

They run in a browser (Opera, Samsung WebKit).

They can do Ajax requests for more data.

Creating HTML5 apps

- Create 1 HTML page with the CSS, JavaScript, and images you need.
- Add an icon and a config.xml
- Zip the lot
- Change extension to .wgt
- Upload to a widget-capable phone
- It Just Works

HTML5 apps

In addition to bada they work in:

- Vodafone Widget Manager (Symbian, Android)
- any phone with Opera Mobile 9.51+
- Windows Mobile 6.5
- future Symbians (native)
- future BlackBerrys (with Java wrapper)

HTML5 apps

Besides...

If I have a W3C Widget on my S60 phone
and you have a Windows Mobile phone
I can send the widget via Bluetooth
and It Just Works

(Really; I've done it)

HTML5 apps

That does mean monetisation is going to change:

- Pay for content instead of app
- Payments go through operators (simplest possible way)

HTML5 apps

Problems with HTML5 apps:
- Animations. JavaScript gets better and better, but animations remain a weak spot relative to other languages
- Access to phone functionality such as geolocation, the address book, the camera, and the file system

Device APIs

Context!

In order to serve the mobile context we need to access phone functionality from W3C Widgets.
Enter JavaScript device APIs

```
device.phone.call(
device.addressBook.entries['mom'].number)
```

Device APIs

- JIL (Vodafone, China Mobile)
- W3C Device API Working Group (just started)
- BONDI <-- bada
- WAC
- PhoneGap (iPhone, Android, Blackberry); temporary solution

Device API Security

Besides, there's a security problem.

If someone sends me a widget via Bluetooth,
how am I going to know it isn't going to steal my address book?

Serious problem. No real solution yet.

Mobile browsers

HTML5 apps run in the system browser,
which in case of Samsung bada is the Samsung WebKit.

We need to briefly talk about mobile browsers.

Mobile browsers

- Samsung WebKit
- Opera Mobile
- NetFront
- Safari
- Android WebKit
- Blackberry
- S60 WebKit
- IE Mobile
- Palm WebKit

- Iris
- Bolt
- Skyfire
- Obigo
- Fennec
- Teashark
- Ozone
- Opera Mini

You may groan now.

Mobile browsers

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- Opera Mini

These are all WebKit browsers.

WebKit Mobile

There is no WebKit on Mobile.

There's Samsung WebKit,
and Safari iPhone
and Android WebKit (v3 and v5)
and Symbian WebKit
and Iris, which was bought by Blackberry
and Bolt, Ozone, Teashark, and a few more

These WebKits are *all different*.

There is no WebKit on Mobile.

Exhibit A: http://quirksmode.org/m

S60v3	S60v5	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

e original element when another element is placed after it.

yes		incorrect	incom plete	incor rect	incor rect	incom plete	yes		incor rect

haves as if it has absolute while scrolling. After scrolling has finished it's placed at the

ute.

no	static	to be tested	yes	static	yes	yes			yes

Mobile browsers

The main battle on mobile is now between "WebKit" and Opera.

WebKit is free, but that means everybody creates his own version.

Opera costs money (for vendors), but there's some central planning, and therefore less differences.

Mobile browsers

The practical offshoot is that you have to test your HTML5 app in several browsers.

Mobile browsers

Focus on (roughly in this order):
- Samsung WebKit
- Opera Mobile
- iPhone Safari
- Android WebKit
- Symbian WebKit
- (upcoming: BlackBerry WebKit)

Testing

Initially you can test in any browser; an HTML5 app is just web technology, after all.

Still, it makes sense to test in a WebKit browser (Safari or Chrome), as well as Opera.

Testing

When a test version of your widget is finished, zip it up and test it in Opera desktop, which also runs widgets.

There is a Samsung WebKit emulator in the SDK.

Testing

Finally, upload it to a Samsung bada phone and test it there.

Do not skip this step!

Widgets may run well on desktop, but fail on mobile devices, for instance because of the screen size.

Thank you!
Questions?

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