

Hell is other browsers - *Sartre*

The Mobile Web

(or the masochist's guide to gleeful
self-flagellation)

Peter-Paul Koch (ppk)

<http://quirksmode.org>

<http://twitter.com/ppk>

Fronteers 2009, 5 November 2009

1588



The Most Catholic King is not pleased with the Queen of England. She is the only major opponent of victorious catholicism left in Europe.

1588



The Spanish armies are invincible. The English won't stand a chance. But England is an island. Therefore a different strategy is required.

1588



We'll build a fleet;
one that is so large
that it
can't possibly fail

The Invincible Armada



The Invincible Armada

20 galleons, 4 galleys, 4 galleases,
about 100 smaller and supporting
ships.

The first ever really big Atlantic fleet
bound for the first ever really big
Atlantic sea war.

The Invincible Armada

The struggle between the Armada and the English fleet was the first modern naval battle in history.

There was just one slight problem:
Nobody had the faintest idea how to conduct a modern naval battle.

Shooting

Shooting the other side's ships to bits is a vital ingredient of any naval tactic. Both the English and the Spanish were aware of that.

What they didn't know was how to pull it off.



Shooting

These two ships can fire until all powder and balls are spent, but they'll hit each other only by luck.

They're not close enough.



Shooting

It was only in the next century that they figured out ships had to approach closely, and then fire all cannon simultaneously.



The Invincible Armada

The first modern naval battle in history. Serious mistakes were made; mistakes that later generations found odd.

That's exactly where we are with the mobile web right now.

The Mobile Web

Mobile is the single most fascinating development on the Web in many years.

Problem is: we don't have the faintest idea what to do with it.

Yet.

Case study: Liever.com

liever

inloggen | maak een profiel aan!

INTERIEUR

HOTELS BETA

IETS ANDERS

BLOG

PLAKBOEK

bijv. artistiek



Interieur - Newport van BKS, dressoirs & stoelen & tafels



Newport van BKS

[Website van BKS](#)

[In een woonwinkel bekijken](#)

<embed>

| [meer zoals deze foto](#)

| [doormailen](#)

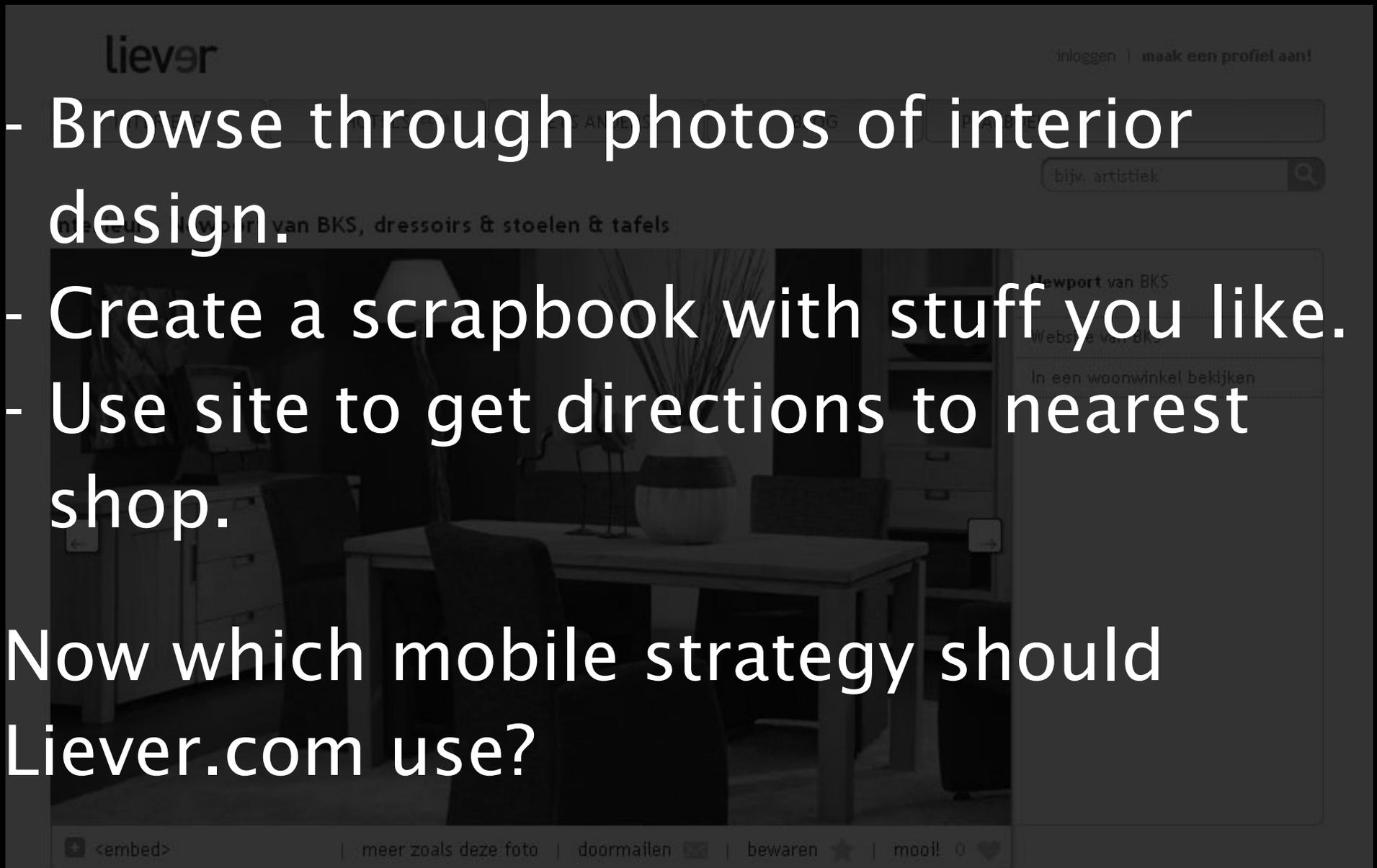
| [bewaren](#)

| [mooi!](#) 0

Case study: Liever.com

- Browse through photos of interior design.
- Create a scrapbook with stuff you like.
- Use site to get directions to nearest shop.

Now which mobile strategy should Liever.com use?

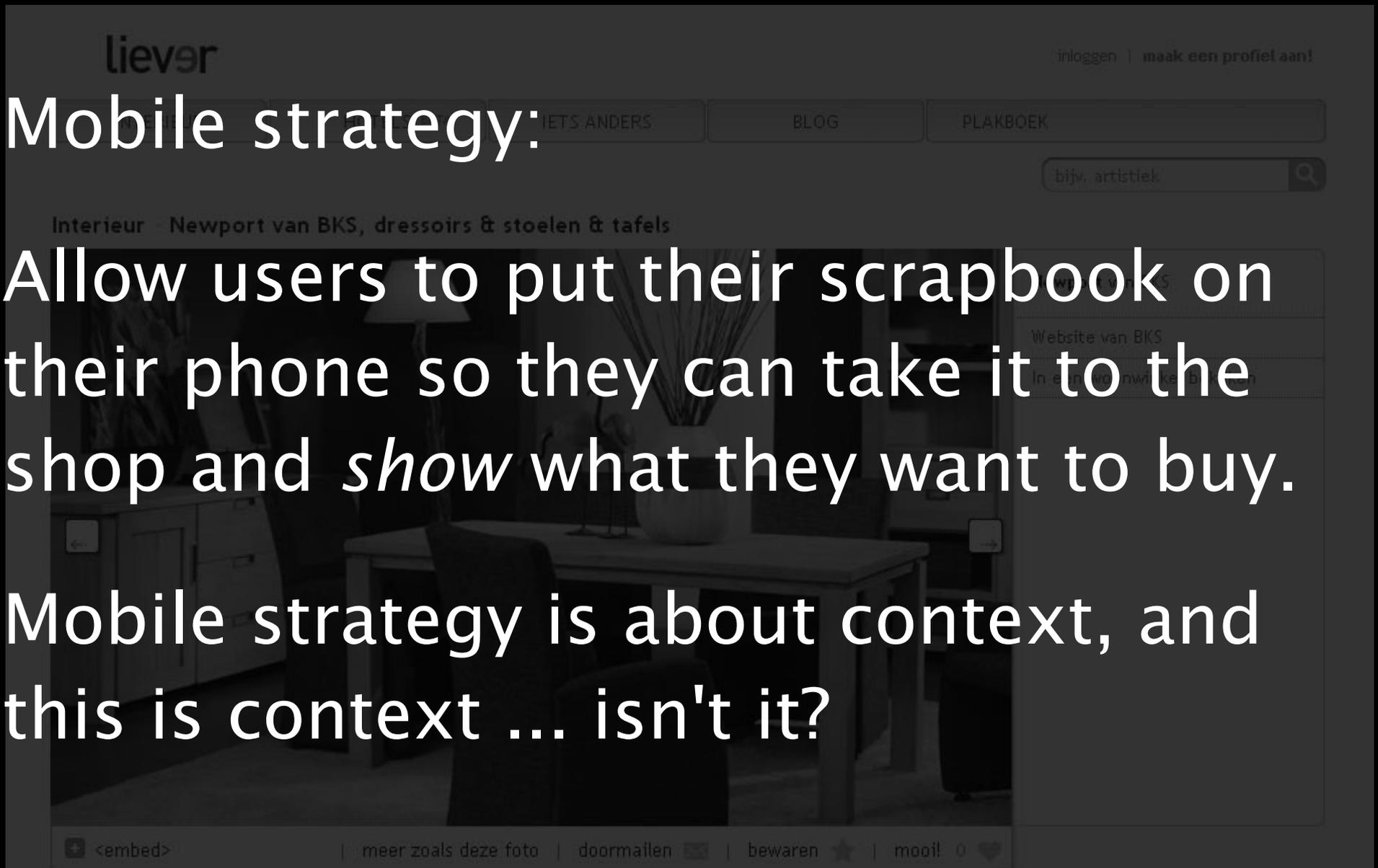


Case study: Liever.com

Mobile strategy:

Allow users to put their scrapbook on their phone so they can take it to the shop and *show* what they want to buy.

Mobile strategy is about context, and this is context ... isn't it?



Case study: Liever.com

Allow users to put their scrapbook on their phone.

How?

a) An application

b) Web



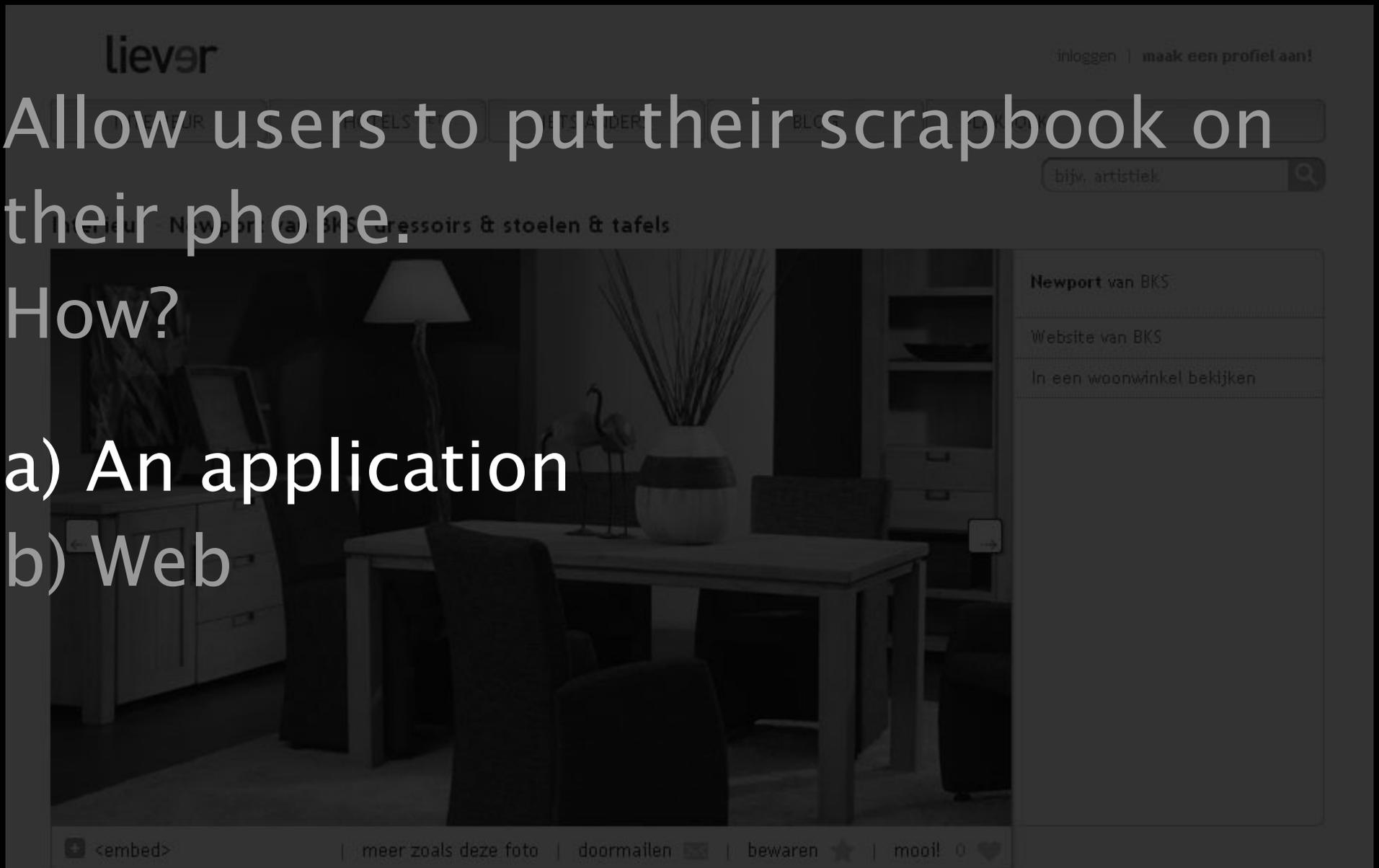
Case study: Liever.com

Allow users to put their scrapbook on their phone.

How?

a) An application

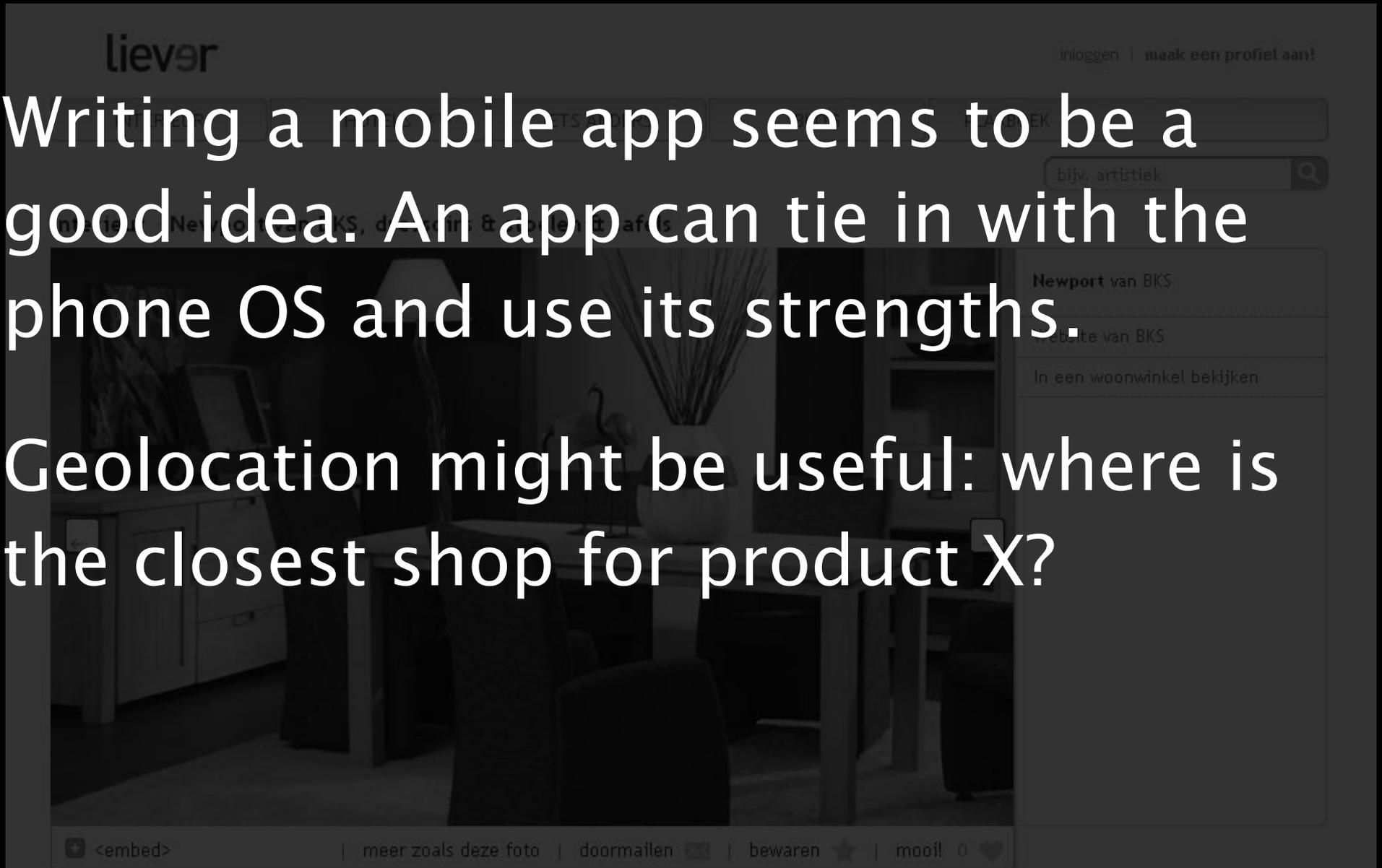
b) Web



Applications

Writing a mobile app seems to be a good idea. An app can tie in with the phone OS and use its strengths.

Geolocation might be useful: where is the closest shop for product X?



Applications

So let's write one for the iPhone

And one for Android

And one for Blackberry

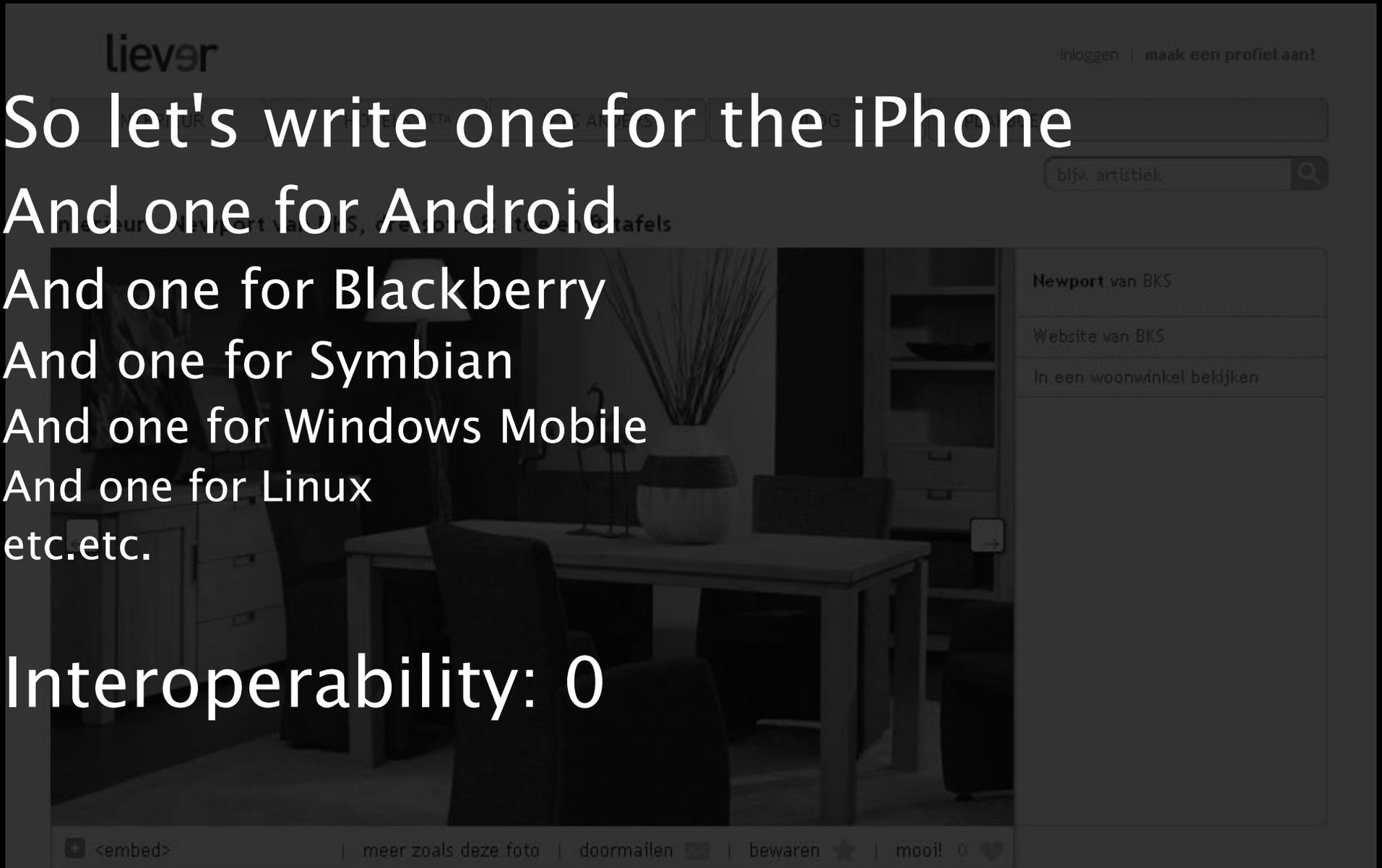
And one for Symbian

And one for Windows Mobile

And one for Linux

etc.etc.

Interoperability: 0



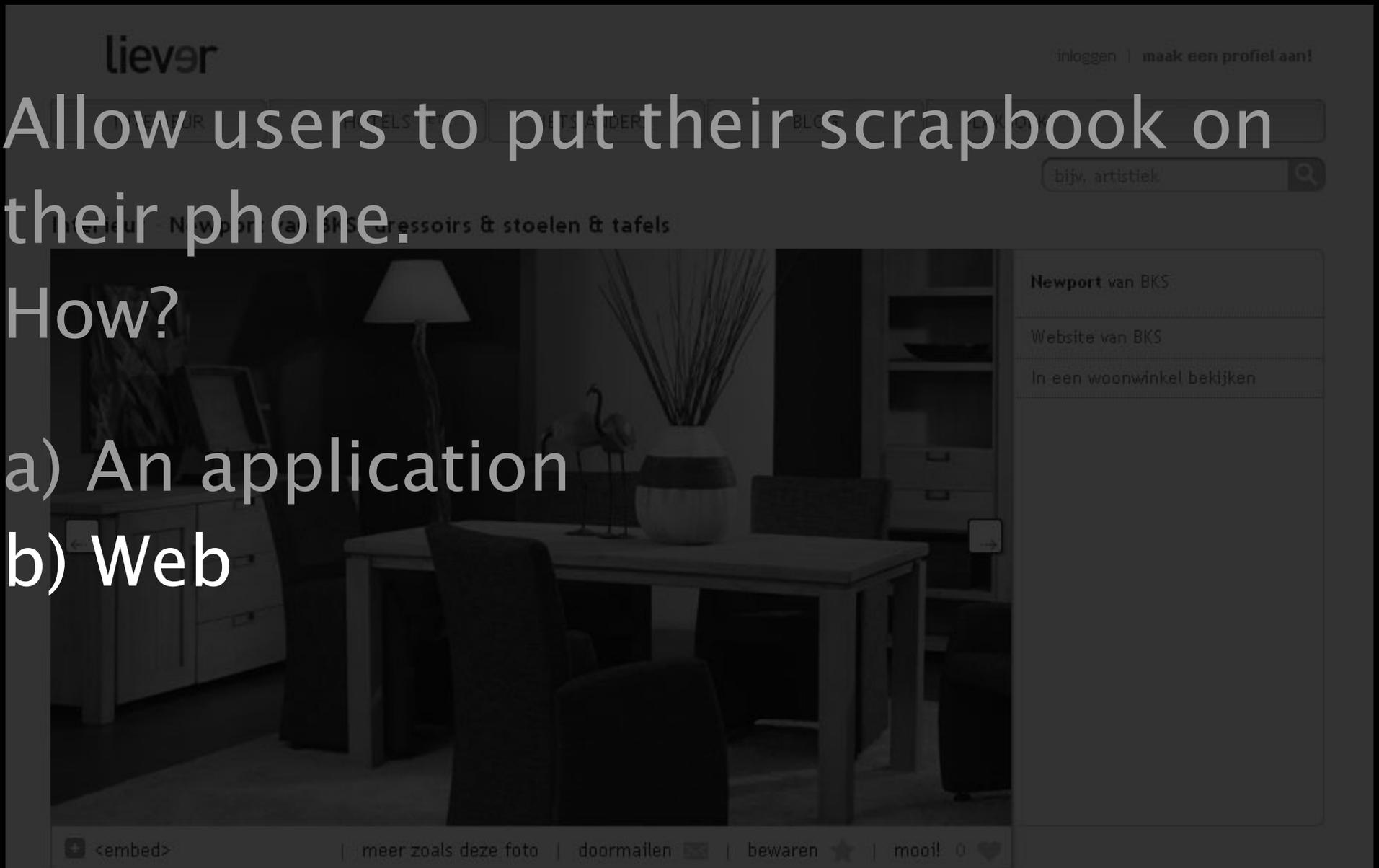
Case study: Liever.com

Allow users to put their scrapbook on their phone.

How?

a) An application

b) Web



The Mobile Web

The other option is to create a website. Or rather, to make the already-existing website safe for mobile devices.

That means we have to take a closer look at the mobile browsers.

Freak show time!



Mobile browsers

- Android WebKit
- Opera Mobile
- NetFront
- Safari
- MicroB
- Blackberry
- S60 WebKit
- IE Mobile
- Palm WebKit
- Iris
- Bolt
- Skyfire
- Obigo
- Fennec
- Teashark
- Ozone
- Opera Mini

You may groan now.

Mobile browsers

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

Default browsers

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

Non-default

Mobile browsers

- Android WebKit
- Opera Mobile
- NetFront
- Safari
- MicroB
- Blackberry
- S60 WebKit
- IE Mobile
- Palm
- Iris
- Bolt
- Skyfire
- Obigo
- Fennec
- Teashark
- Ozone
- Opera Mini

These are all WebKit browsers.

WebKit Mobile

There is no WebKit on Mobile.

There's iPhone Safari (2 and 3),
and Android (1.0 and 1.5)
and S60 WebKit (v3 and v5)
and Iris, which was bought by Blackberry
and Palm
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	static	yes	yes	yes	yes	yes	static

...e original element when another element is placed after it.

yes	incorrect	incomplete	incorrect	incorrect	incomplete	yes	incorrect
-----	-----------	------------	-----------	-----------	------------	-----	-----------

...has 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	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

- Blackberry browser is dead; they'll switch to WebKit instead
- Mozilla is very late to the game
- NetFront is not very good
- IE ... is IE (IE6, to be precise)
- The minor browsers are even worse



QuirksMode - for all your browser quirks

quirksmode.org/ Google

Compatibility QuirksBlog About

HELL IS OTHER BROWSERS - Safari

[quirk(smode) ppi(

QuirksMode.org is the primary source for browser compatibility information on the Internet. It is maintained by Peter-Paul Koch, quirksmode@quirksmode.org, and quirksmode@quirksmode.org in Amsterdam, the Netherlands.

QuirksMode.org is the home of the [Browser Compatibility Tables](#), where you'll find hyper-accurate information on the major browsers' CSS and JavaScript capabilities, as well as their adherence to the W3C standards.

Book [quirksmode.org](#) contains all information a beginning JavaScript needs.

Compatibility This site contains the [Browser Compatibility Tables](#).

Blog [QuirksBlog](#) [quirksmode.org](#)

Freebies This is [quirksmode.org](#). You can hire me as the developer I represent.

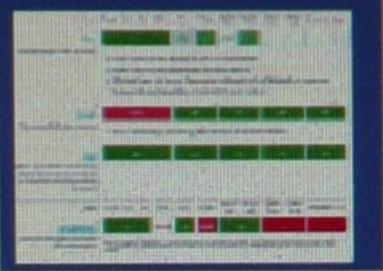
© 2004 Peter-Paul Koch

Safari iPhone 2.2
 Zooms out and shows entire page.
 Width about 900px



HELL IS OTHER BROW

[quir](smod



QuirksMode.org is the prime source for browser compatibility information on the Internet. It is maintained by Peter Paul Koch, *Freelance Front-end Consultant, agent, and trainer* in Amsterdam, the Netherlands.

QuirksMode.org is the home of the *browser compatibility tables*, where you'll find *hyper-linked assessments* of the major browsers' CSS and JavaScript capabilities, as well as their adherence to the W3C standards.

Compatibility
QuirksBlog
About

Book
ppk on
JavaScript,
contains all
information a
beginning
JavaScripter
needs.

Master
Compatibility
Tables

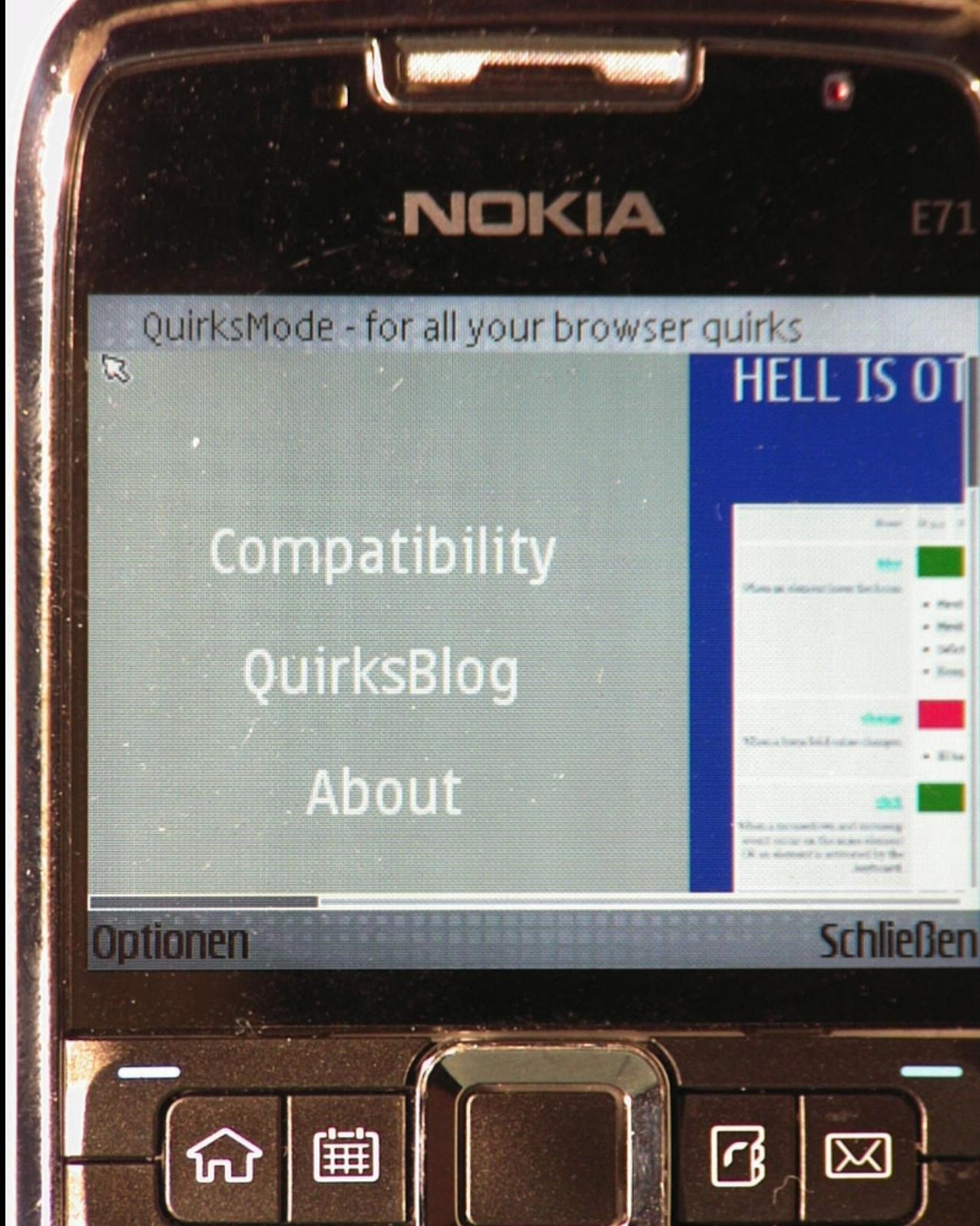
QuirksBlog
Browser-compat-
Test

Freelance
I'm a freelance
front-end
consultant, agent,
and trainer. You
can hire me or
the freelancers I
represent.

Blackberry 9500
(Storm)

Same, but with a
few bugs.

S60v3 WebKit on Nokia E71





PPK

Hell is other browsers - Sartre

Browser	IE 6.0	IE 7.0	IE 8.0	Firefox	Opera	Safari	Android	Chrome	BlackBerry
IE 6.0	100%	100%	100%	100%	100%	100%	100%	100%	100%
IE 7.0	100%	100%	100%	100%	100%	100%	100%	100%	100%
IE 8.0	100%	100%	100%	100%	100%	100%	100%	100%	100%
Firefox	100%	100%	100%	100%	100%	100%	100%	100%	100%
Opera	100%	100%	100%	100%	100%	100%	100%	100%	100%
Safari	100%	100%	100%	100%	100%	100%	100%	100%	100%
Android	100%	100%	100%	100%	100%	100%	100%	100%	100%
Chrome	100%	100%	100%	100%	100%	100%	100%	100%	100%
BlackBerry	100%	100%	100%	100%	100%	100%	100%	100%	100%

Compatibility

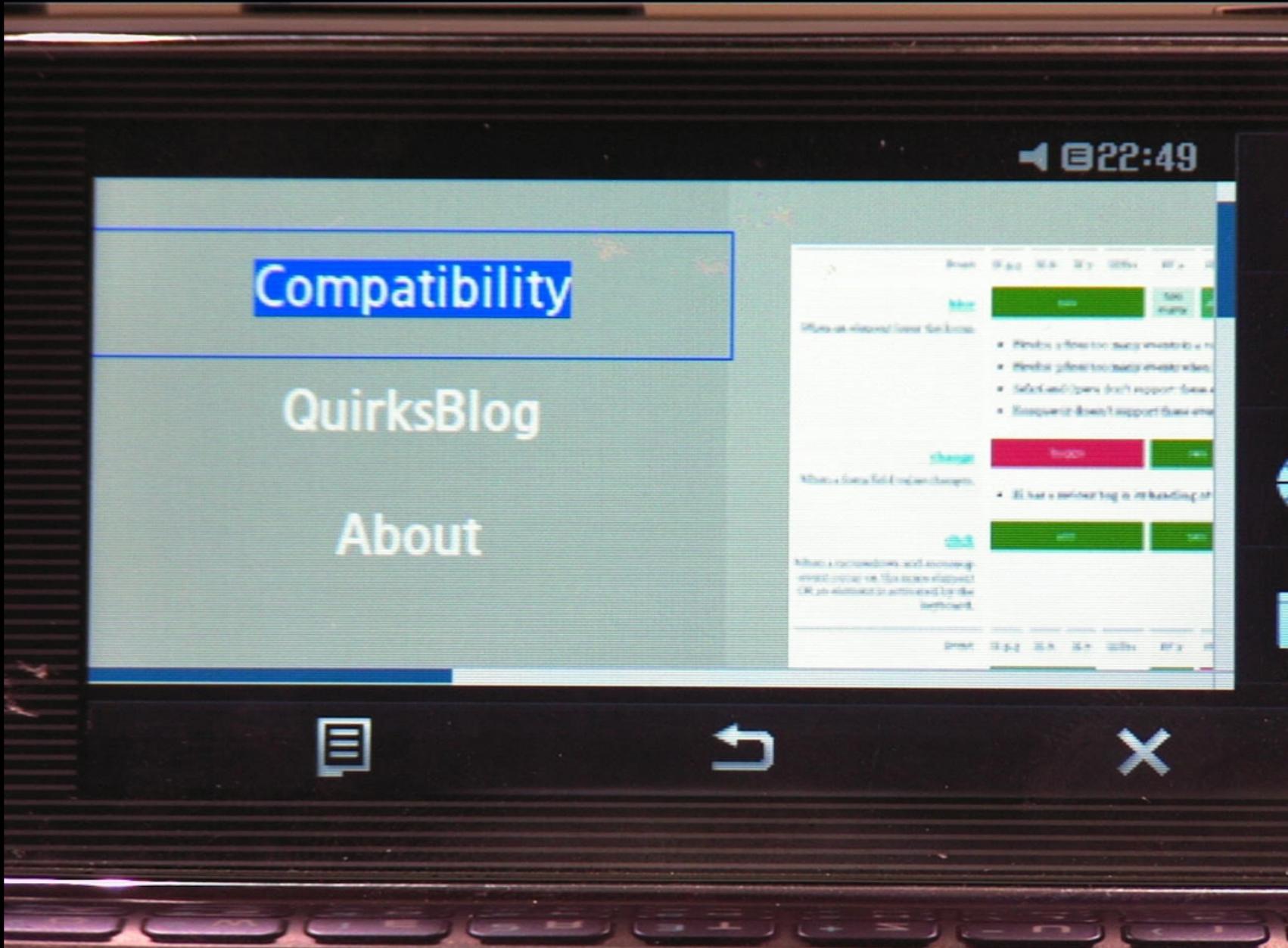
NetFront 3.2 on Samsung F700

Yeah ... right ...

But what if we switch it to landscape mode?



NetFront 3.2 on Samsung F700 landscape



font-weight: 700

font-style: italic

According to JavaScript the `fontStyle` of the previous line is italic

text-decoration: underline

TEXT-TRANSFORM : UPPERCASE

FONT-VARIANT : SMALL-CAPS

color: blue

letter-spacing: 0.3em

word-spacing: 1em word-spacing:
1em

font-size: 1500%

Opera Mobile 9.5
on HTC Touch
Diamond
(Win Mob 6.1)
in *desktop mode*.

Basic CSS.

Basic font CSS - mobile

I want to be sure mobile browsers support this CSS because I often use it in my test cases.

font-weight: 700

font-style: italic

According to JavaScript the fontStyle of the previous line is italic

text-decoration: underline

TEXT-TRANSFORM: UPPERCASE

font-variant: small-caps

color: blue

letter-spacing: 0.3em

word-spacing: 1em word-spacing: 1em

font-size: 150%



Opera Mobile 9.5
on HTC Touch
Diamond
(Win Mob 6.1)
in *mobile mode*.

Basic CSS.

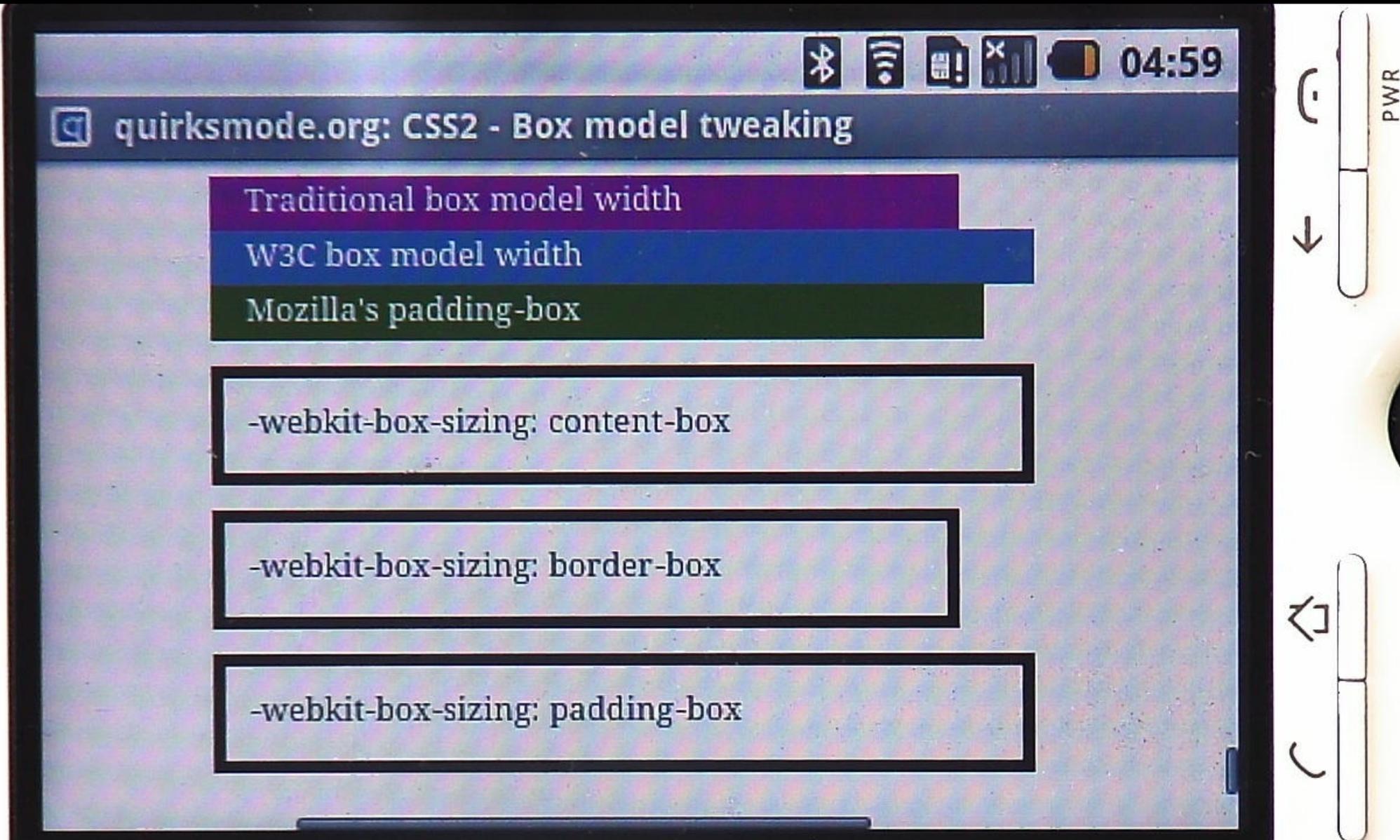


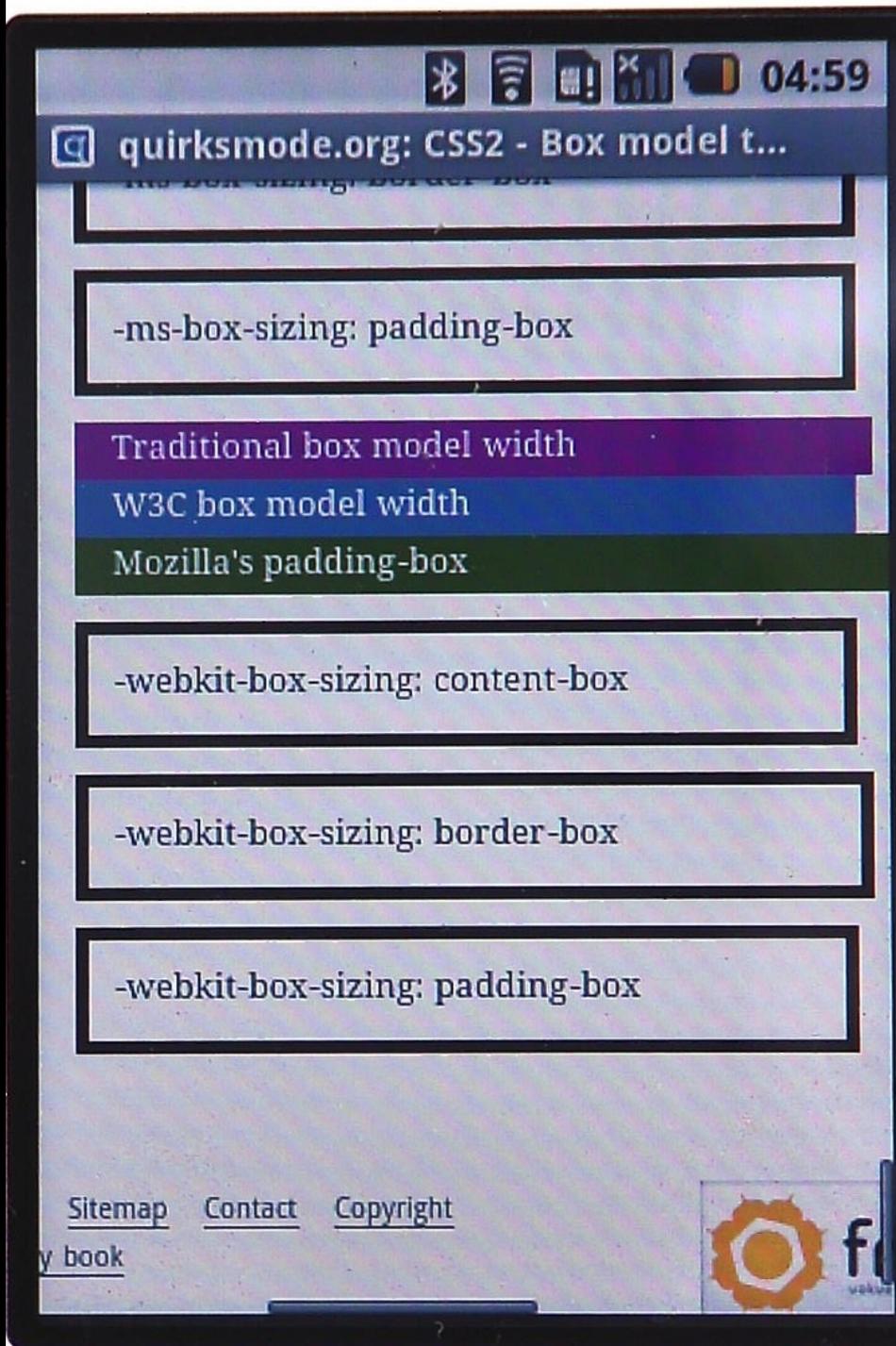
Android 1.5 landscape mode



HTC

Pioneer





Android 1.5
portrait, in mobile
mode.

The 300px wide
box is smaller than
the 330px wide
box.

Case study: Liever.com

Allow users to put their scrapbook on their phone.

How?

a) An application

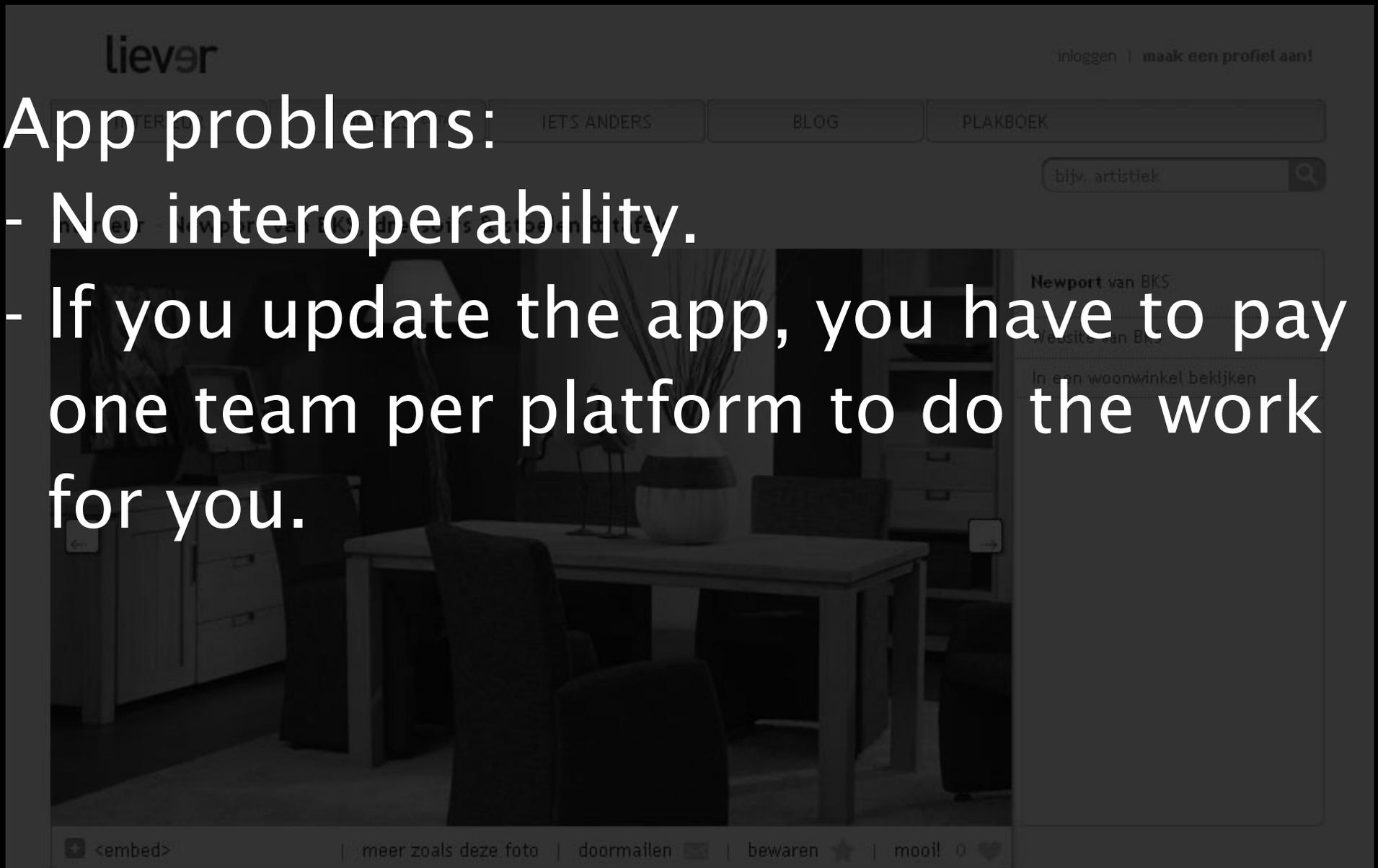
b) Web



Case study: Liever.com

App problems:

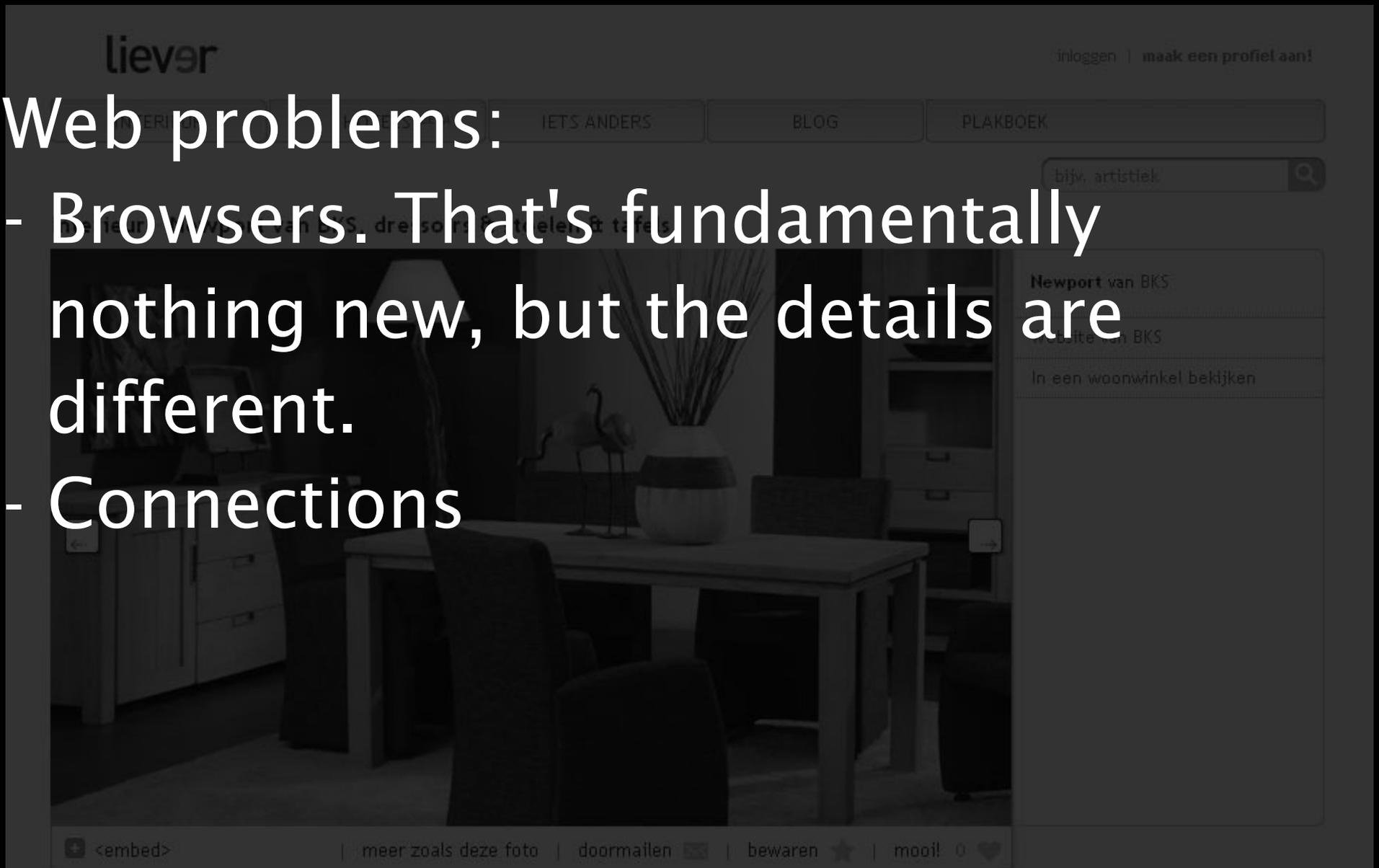
- No interoperability.
- If you update the app, you have to pay one team per platform to do the work for you.



Case study: Liever.com

Web problems:

- Browsers. That's fundamentally nothing new, but the details are different.
- Connections



Connections

If the guy next to you is downloading a few movies

your network connection will slow down regardless of how good it's supposed to be.

I don't see this problem disappearing any time soon.

Connections

This is a problem on the mobile web, especially when your site uses 200K of custom JavaScript plus a few libraries.

They have to be downloaded every time the user visits your site and caching isn't always reliable.

Connections

Solution:

Put the core files on your mobile phone so that you only need to download the data. Saves a lot of network traffic.

Apps do that. Websites don't.

Enter W3C Widgets.

W3C Widgets

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

They run in a browser (mainly Opera right now).

They can do Ajax requests for more data.

Creating W3C Widgets

- 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

W3C Widgets

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)

W3C Widgets

Right now W3C Widgets work in:

- S60 phones with Vodafone Widget Manager
- any phone with Opera Mobile 9.51+
- Windows Mobile 6.5 phones (well, almost)

W3C Widgets

In the future they might work in:

- Blackberry (first steps taken)
- Nokia Maemo?
- Palm Pre? (logical extension of webOS)
- Android??

Not on the iPhone, though.

#appleisevil

W3C Widgets

Problems with W3C Widgets:

- 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
- 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.

W3C Widgets

Still, I believe these problems are solvable.

I believe W3C Widgets are the future of the mobile web.

So let's get to work.

Thank you!
Questions?

<http://quirksmode.org>

<http://twitter.com/ppk>