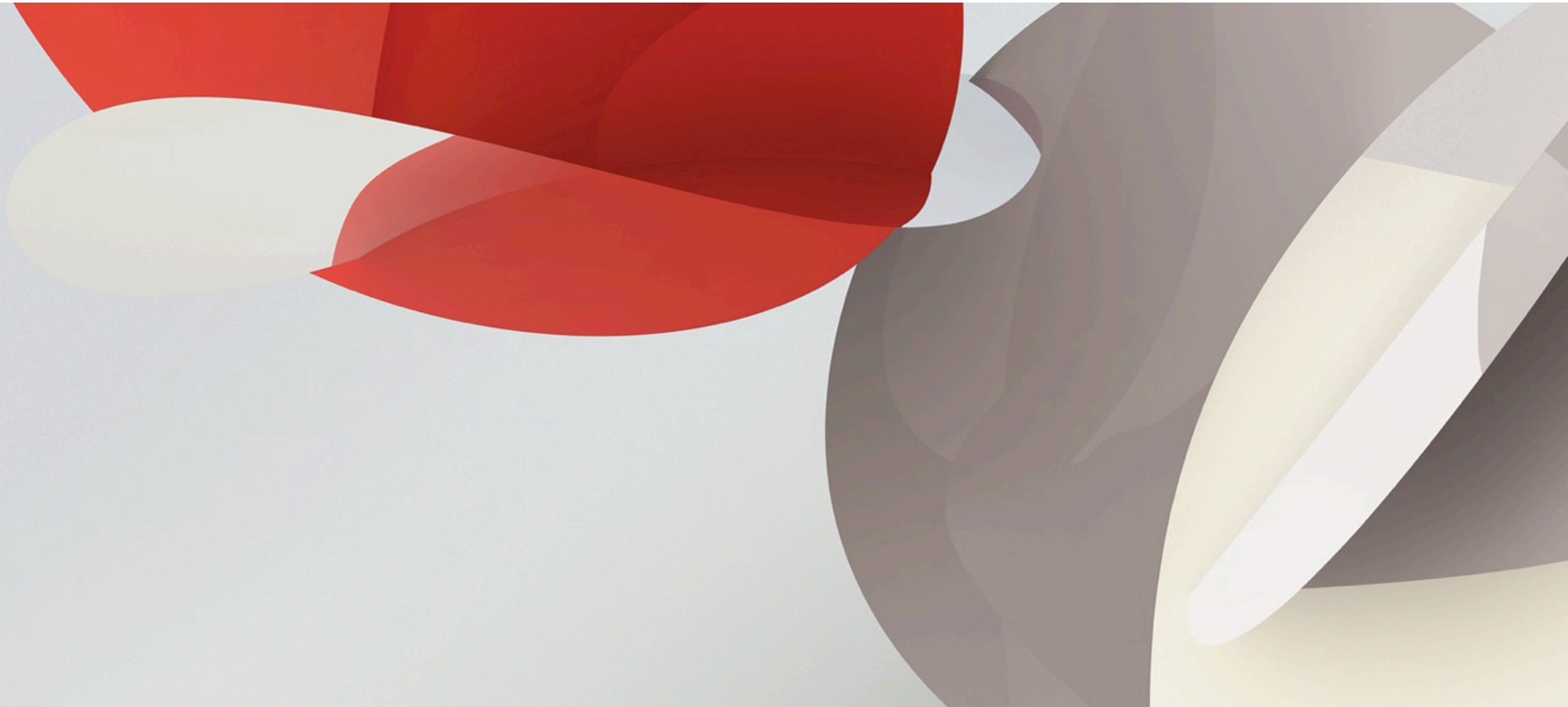




CQ5/WEM Developer Tricks

Gabriel Walt



CQ5/WEM Developer Tricks

Quick intro to a few mostly unknown new features:

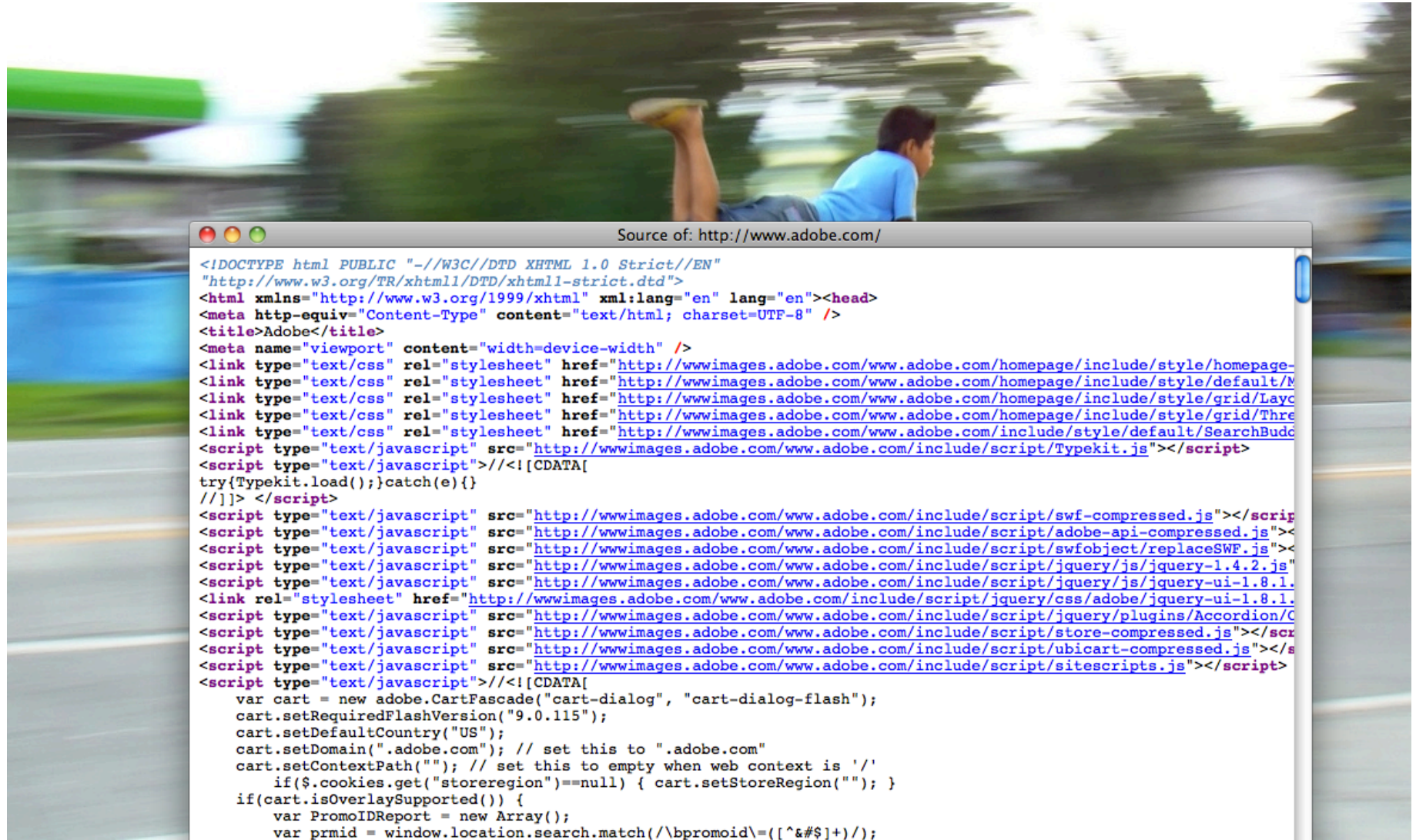
1. Front-End Optimization
2. Mobile Detection
3. Mobile Content Synchronization

1. Front-End Optimization



© ⓘ ⓘ <http://www.flickr.com/photos/amorsiko/3355940427/>

1. Front-End Optimization



```
Source of: http://www.adobe.com/
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en"><head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<title>Adobe</title>
<meta name="viewport" content="width=device-width" />
<link type="text/css" rel="stylesheet" href="http://wwwimages.adobe.com/www.adobe.com/homepage/include/style/homepage-
<link type="text/css" rel="stylesheet" href="http://wwwimages.adobe.com/www.adobe.com/homepage/include/style/default/M
<link type="text/css" rel="stylesheet" href="http://wwwimages.adobe.com/www.adobe.com/homepage/include/style/grid/Layc
<link type="text/css" rel="stylesheet" href="http://wwwimages.adobe.com/www.adobe.com/homepage/include/style/grid/Thre
<link type="text/css" rel="stylesheet" href="http://wwwimages.adobe.com/www.adobe.com/homepage/include/style/default/SearchBudd
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/Typekit.js"></script>
<script type="text/javascript">/*! [CDATA[
try{Typekit.load();}catch(e){}
//]]> </script>
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/swf-compressed.js"></scrip
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/adobe-api-compressed.js"><
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/swfobject/replaceSWF.js"><
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/jquery/js/jquery-1.4.2.js"
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/jquery/js/jquery-ui-1.8.1.
<link rel="stylesheet" href="http://wwwimages.adobe.com/www.adobe.com/include/script/jquery/css/adobe/jquery-ui-1.8.1.
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/jquery/plugins/Accordion/C
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/store-compressed.js"></scr
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/ubicart-compressed.js"></s
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/sitescripts.js"></script>
<script type="text/javascript">/*! [CDATA[
var cart = new adobe.CartFascade("cart-dialog", "cart-dialog-flash");
cart.setRequiredFlashVersion("9.0.115");
cart.setDefaultCountry("US");
cart.setDomain(".adobe.com"); // set this to ".adobe.com"
cart.setContextPath(""); // set this to empty when web context is '/'
if($.cookies.get("storeregion")==null) { cart.setStoreRegion(""); }
if(cart.isOverlaySupported()) {
var PromoIDReport = new Array();
var prmid = window.location.search.match(/\\bpromoid\\=([^\&#]+)/);
if(prmid) {
cart.setEmailTrackingId(prmid[1]);
}
}
//]]></script>
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/device_detection2.js"></sc
<script type="text/javascript" src="http://wwwimages.adobe.com/www.adobe.com/include/script/jquery/plugins/ObjectOrient
```

Front-End is about

CQ5 structures well HTML:

- **HTML** = Markup + Content →
 - under the content node
 - under the component node
 - **CSS** = Layout
 - **JS** = Behavior
- Client Libraries
-
- ```
graph LR; HTML[HTML = Markup + Content] --> Content[under the content node]; HTML --> Component[under the component node]; CSS[CSS = Layout]; JS[JS = Behavior]; CSS --- Group[]; JS --- Group; Group --> Libraries[Client Libraries];
```

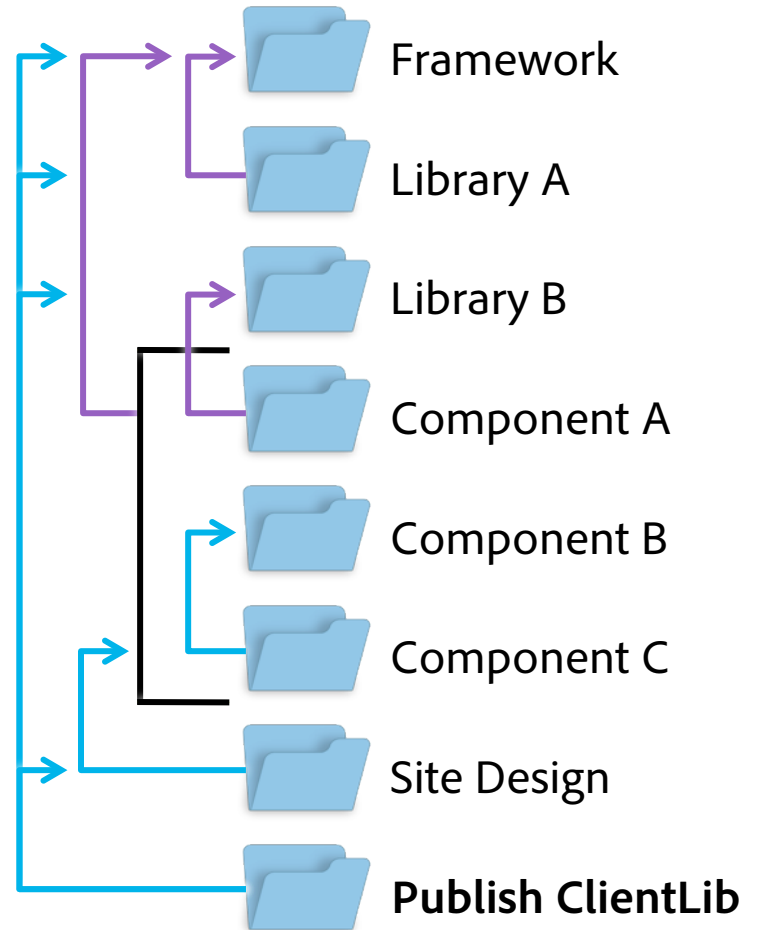
# Client Libraries

Each project usually has:

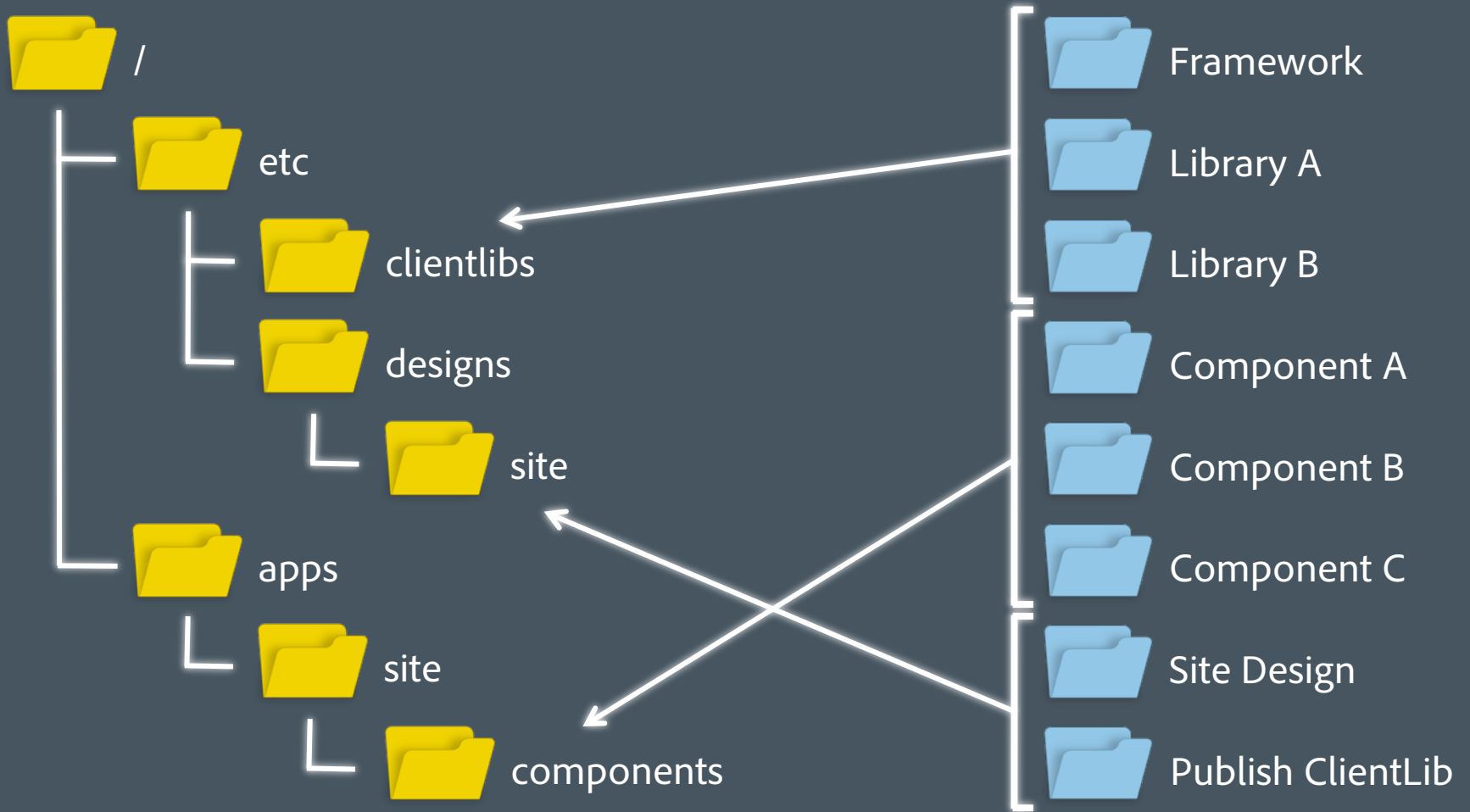
- Various CSS & JS libraries
- Express relations between client libs
  - **dependencies**
  - **embed**

Various optimizations

- concatenated
- minified
- gzipped



# Client Libraries



# Demo



# Client Libraries – Cheat Sheet

List ClientLib dependencies and embeds:

<http://SERVER/libs/cq/ui/content/dumplibs.html>

Include JS and CSS in separate files:

<http://SERVER/PAGE.html?debugClientLibs=true>

Show Firebug console:

<http://SERVER/PAGE.html?debugConsole=true>

## 2. Mobile Detection



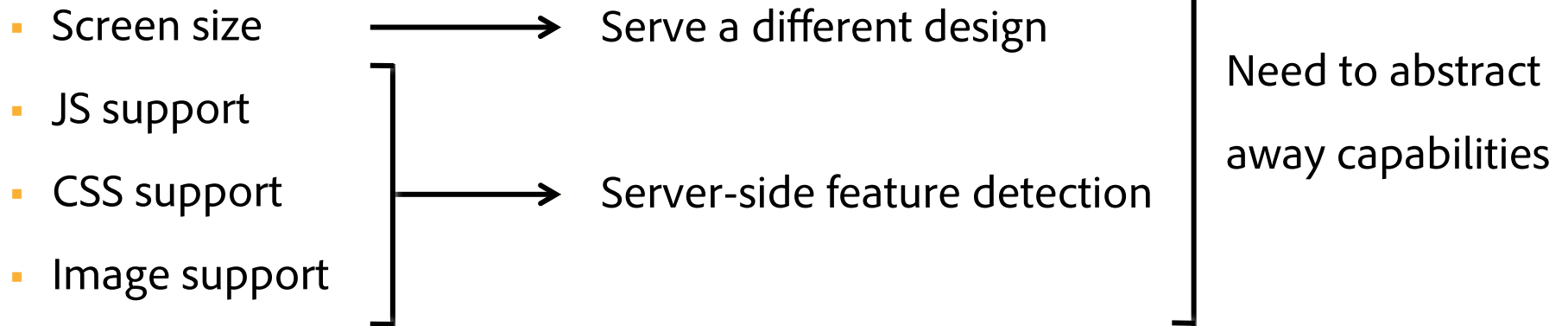
© ⓘ ⓘ <http://www.flickr.com/photos/mikecogh/4520411836/>

# Why?

We are facing:

- Thousands of devices – with varying capabilities
- Rare software updates – still, for most devices

Unequal capabilities





## Wireless Universal Resource FiLe

- Configuration file for all known mobile devices on earth
- Over 500 capabilities for each device that are broken up into 30 groups
- Used by many others, such as Facebook
- is Free and Open Source Software – <http://wurfl.sourceforge.net/>

# Mobile Page Rendering



HTTP request



HTML Renditions

Content in Repository

Default Site

Master Content

Live Copy

Touch Phone Site

Mobile Content

Different flavors of same content

Smart Phone Site

## Device Capabilities (from WURFL)

- Supports JS
- Supports CSS
- Supports Image
- Exact Screen Size
- Supports Device Rotation
- Etc.

# Mobile Page Rendering



HTTP request



Web Path

Node Path

/site/news.html

Default Site

/content/site/news

Master Content

/site-mobile/news.touch.html

Touch Phone Site

Live Copy

/content/site-mobile/news

Mobile Content

/site-mobile/news.smart.html

Smart Phone Site

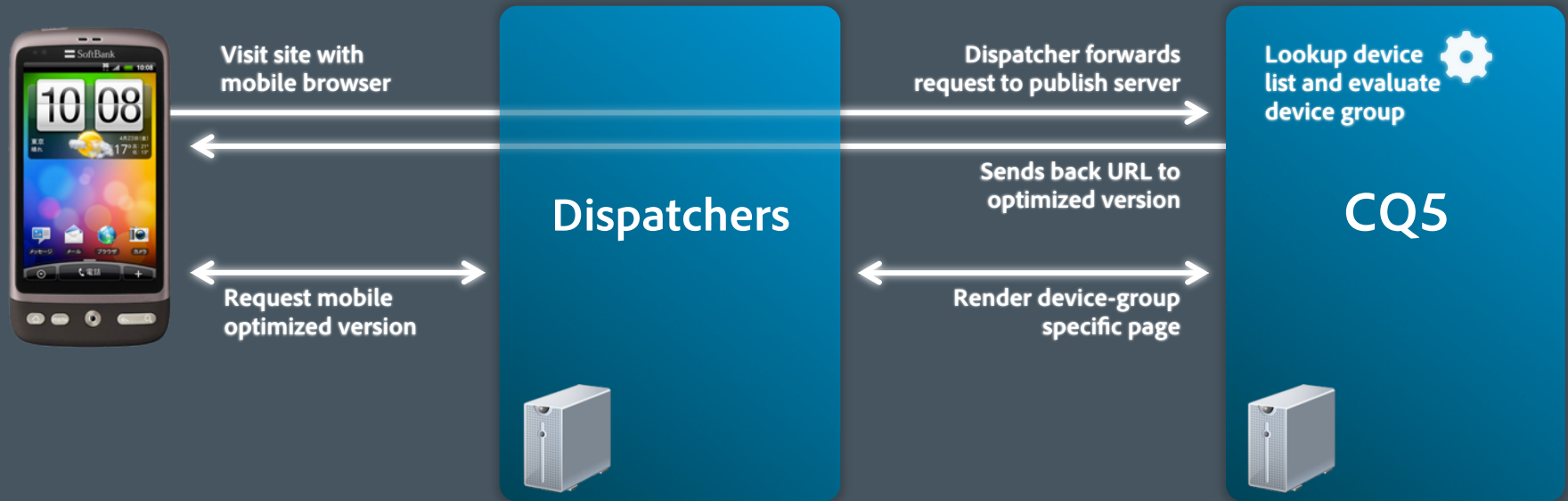
Different flavors of same content

## Device Capabilities (from WURFL)

- Supports JS
- Supports CSS
- Supports Image
- Exact Screen Size
- Supports Device Rotation
- Etc.



# Mobile Page Rendering with Dispatchers



## Demo

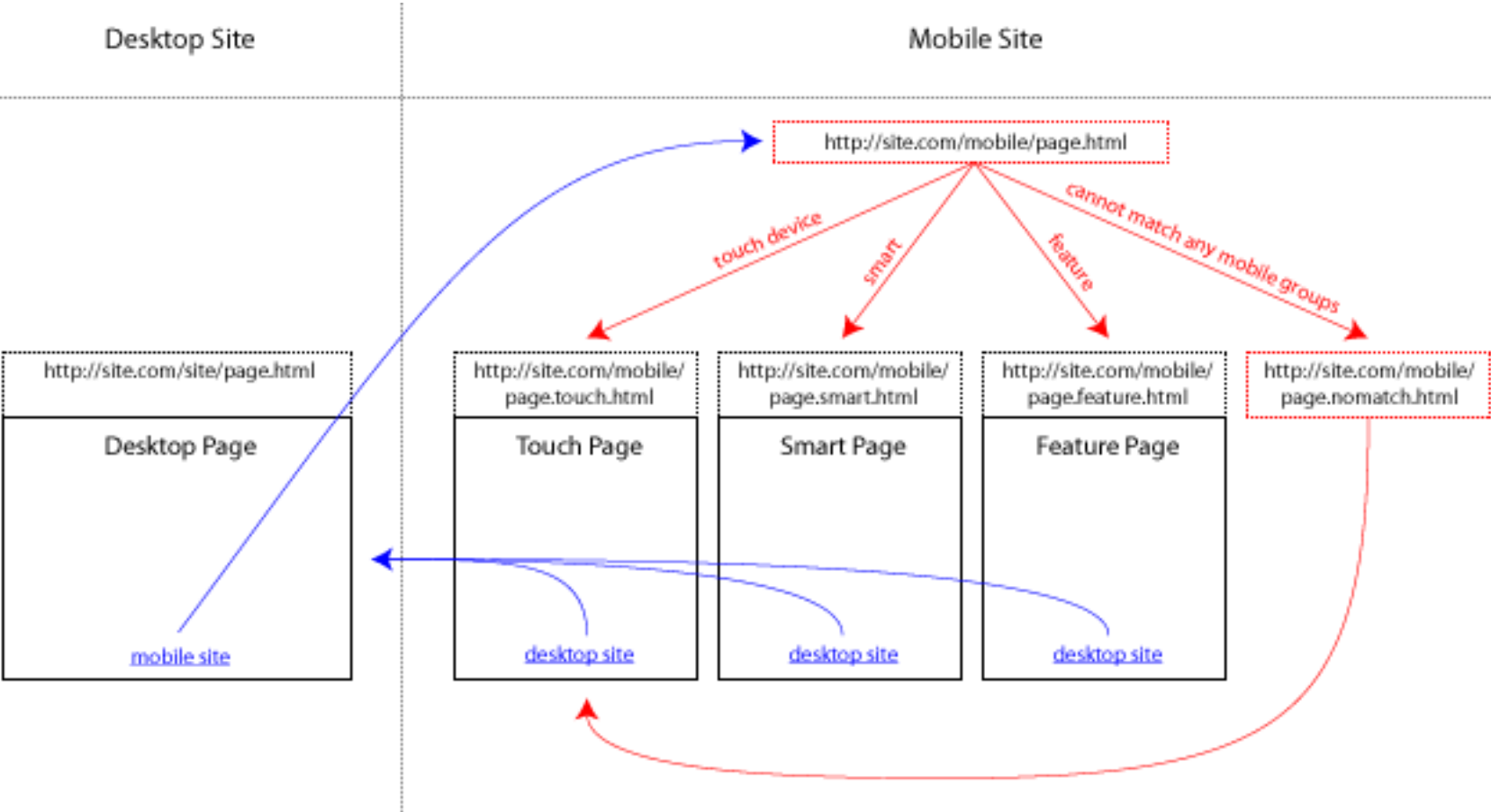
# Improving the default solution

## Server Attention Span

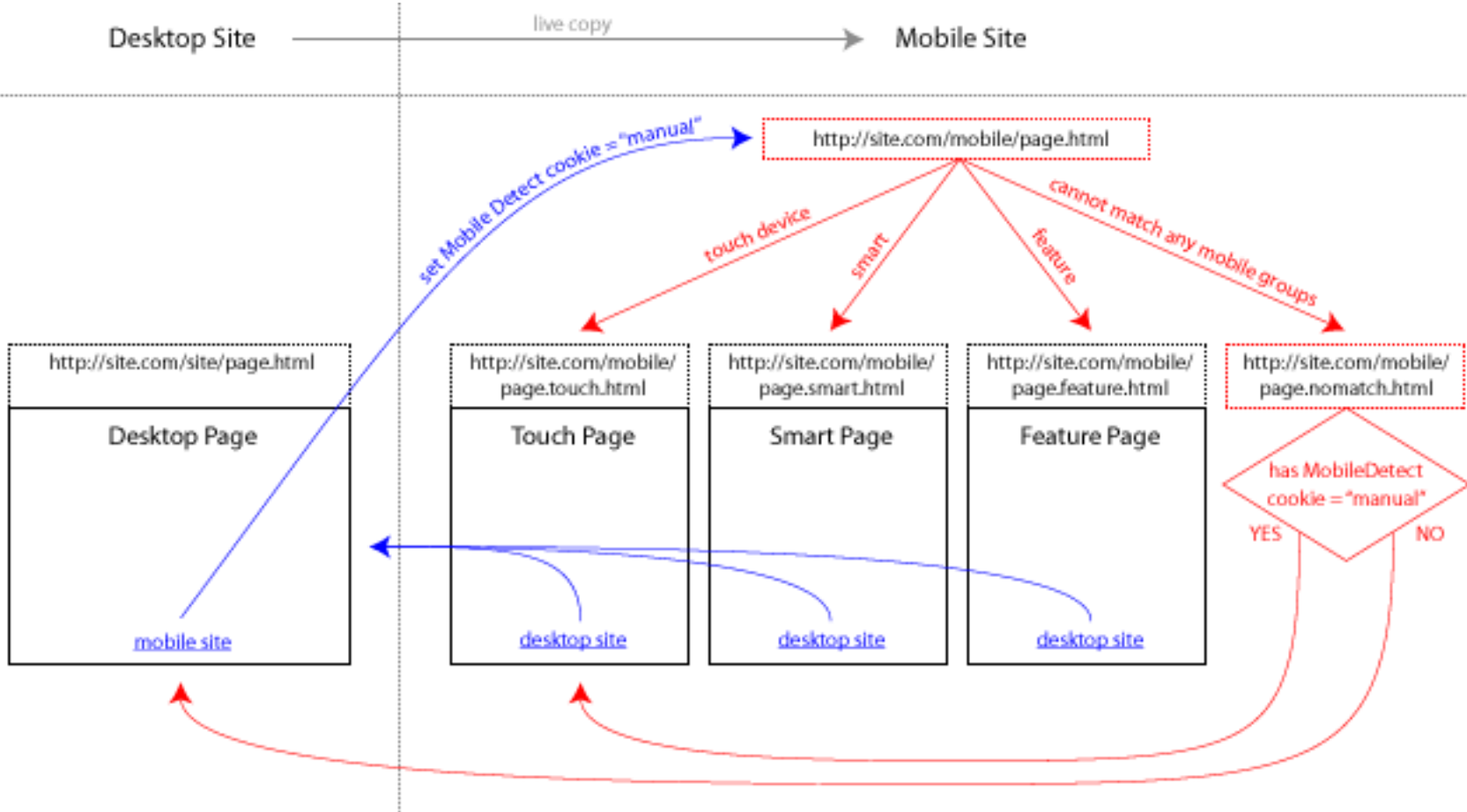


<http://xkcd.com/869/>

# The default solution

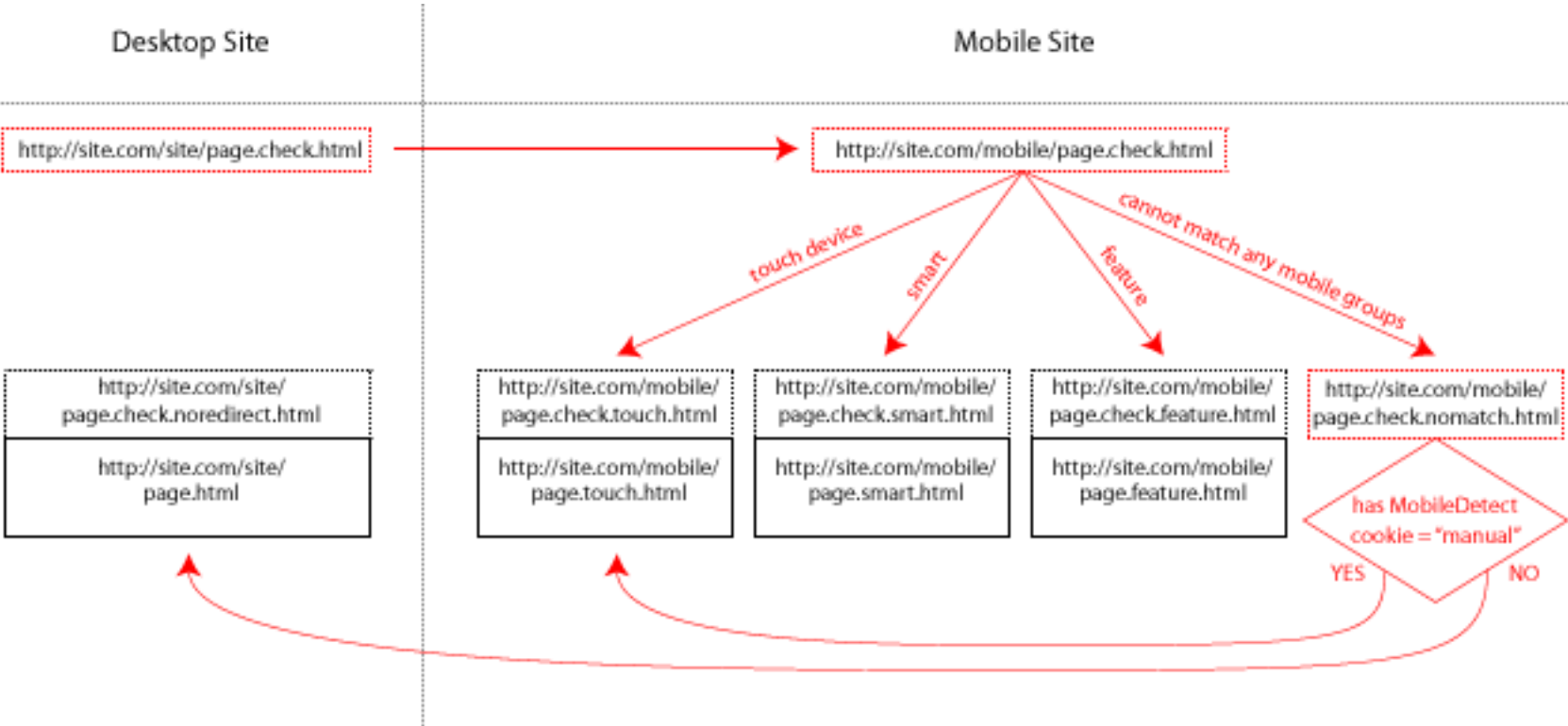


# The default solution, improved



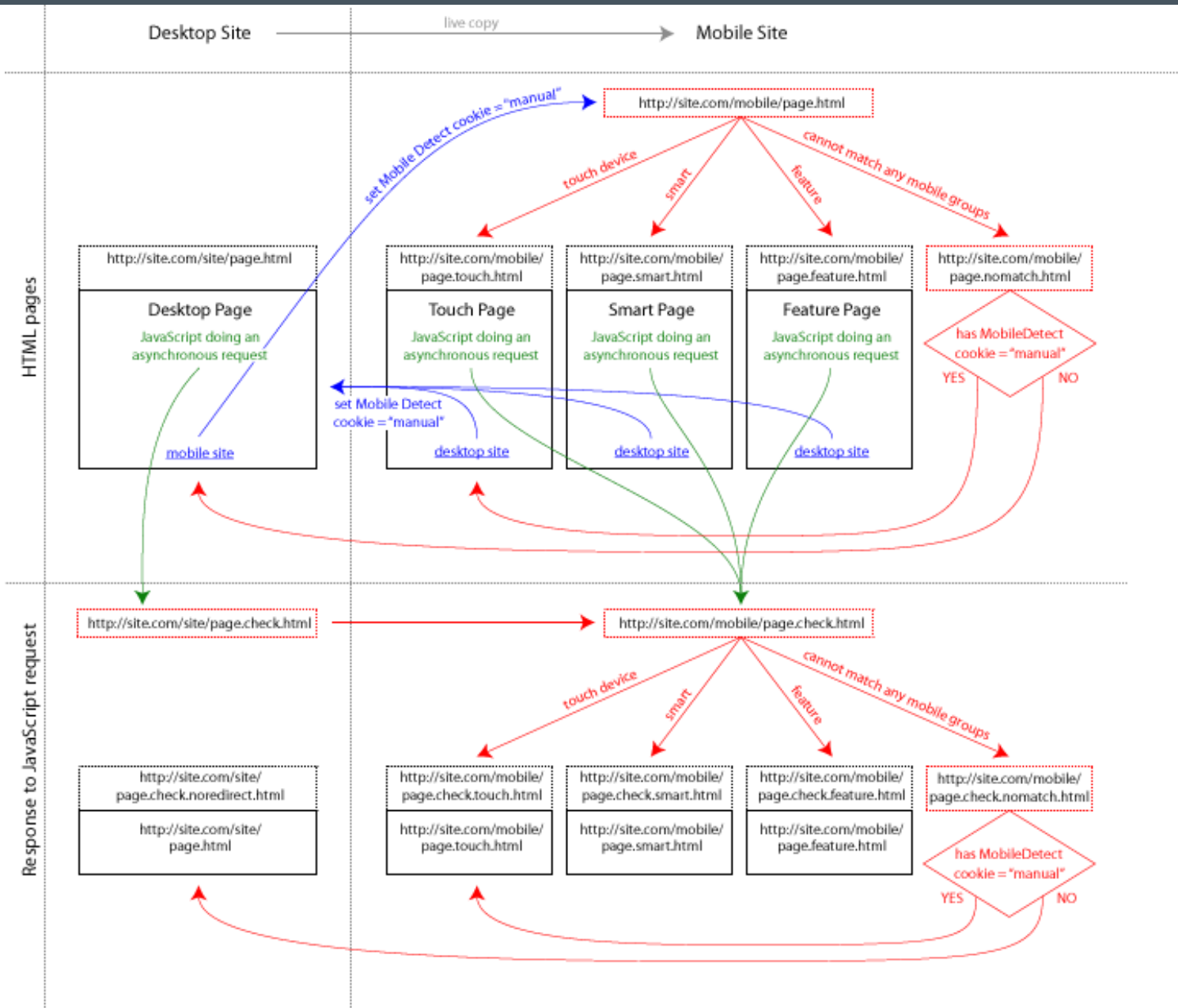
We need JavaScript to improve it further!

# Adding a "check" selector

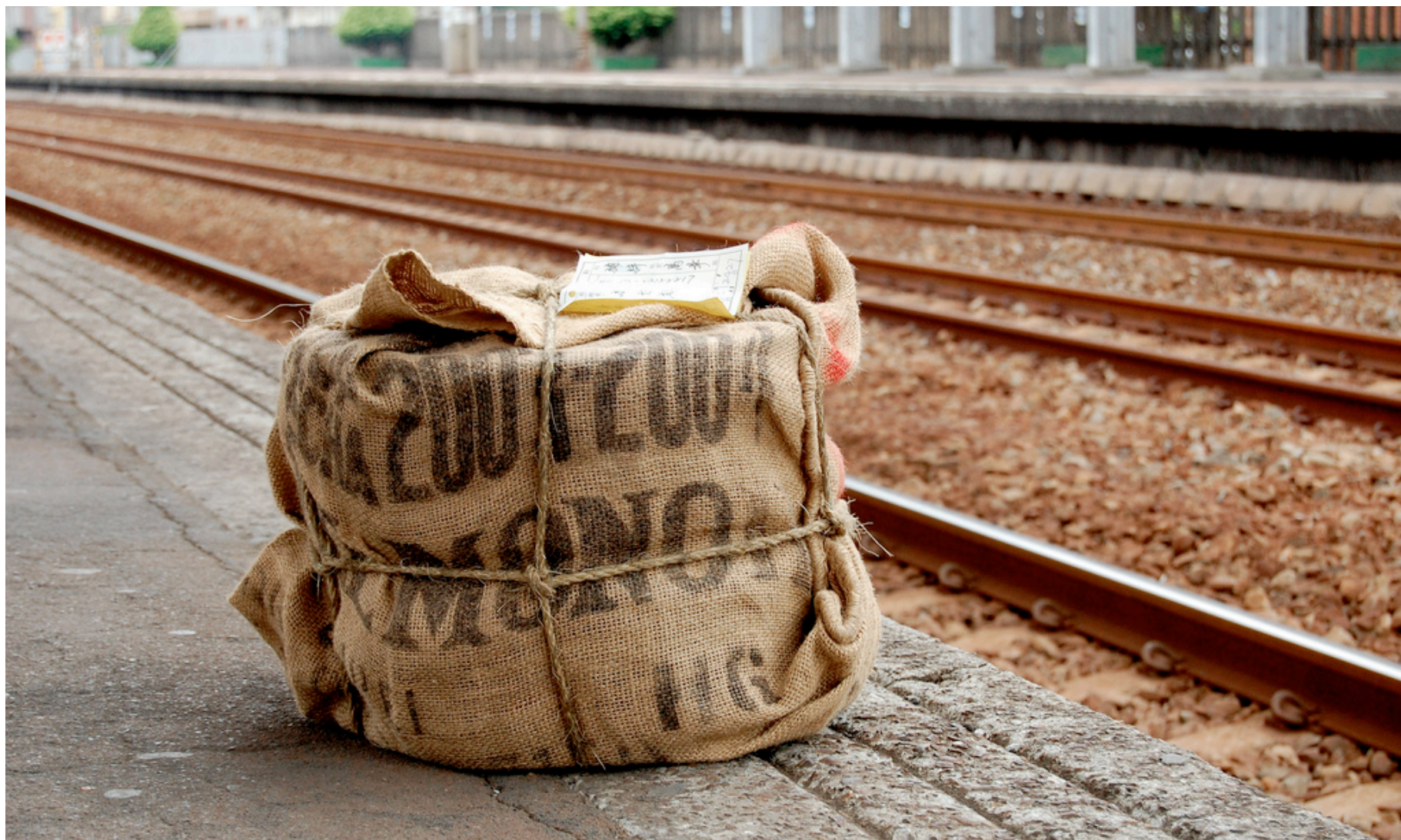





# The full solution

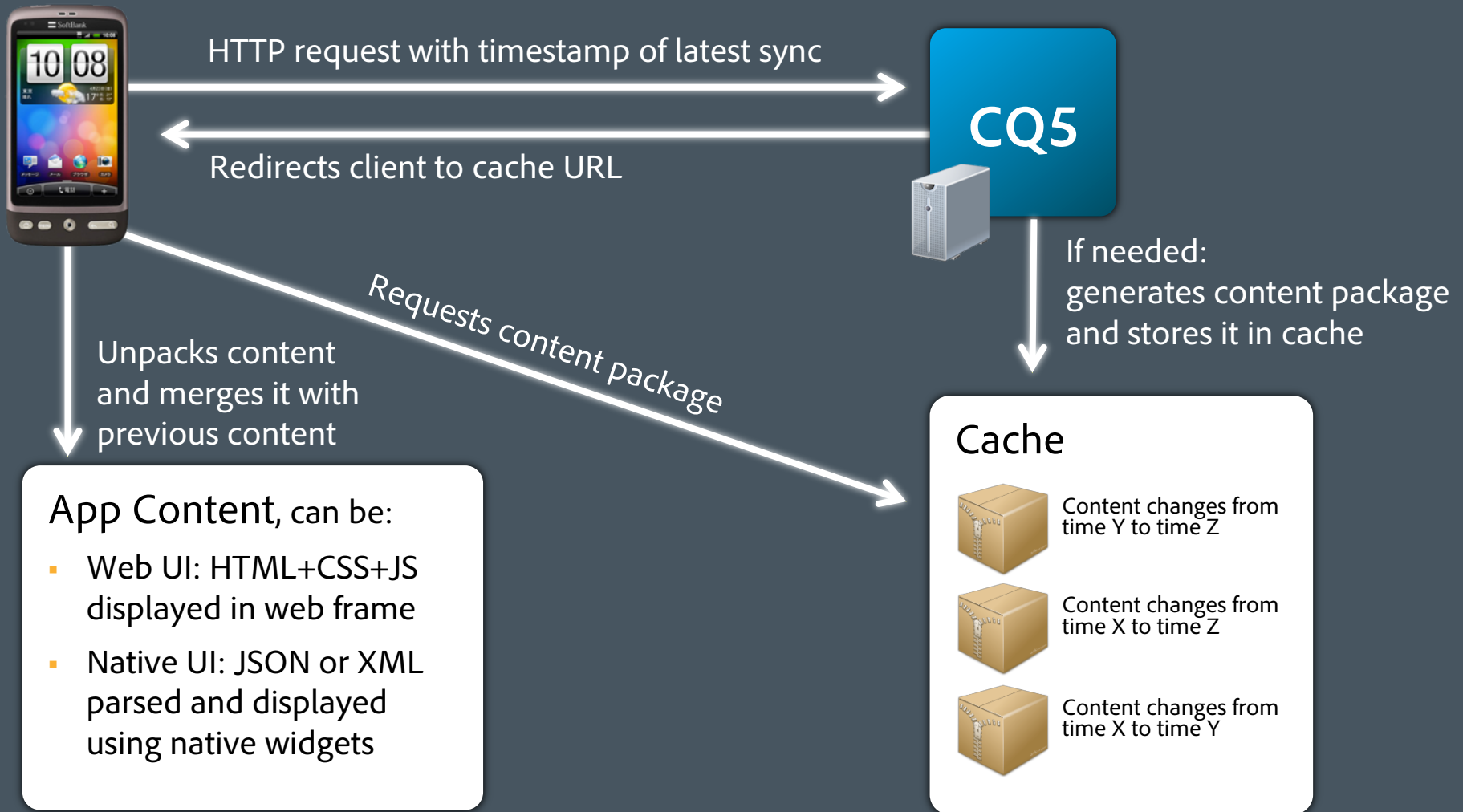


### 3. Mobile Content Synchronization



  <http://www.flickr.com/photos/clemmac/3571171997/>

# What it does



## App Content, can be:

- Web UI: HTML+CSS+JS displayed in web frame
- Native UI: JSON or XML parsed and displayed using native widgets

# Mobile Content Synchronization – Benefits

- Optimized for low bandwidth consumption
  - Only diff is transferred
  - Content is ZIPed
- Client Technology Agnostic:
  - Requires HTTP client
  - Requires ZIP library
- Reuse of content for mobile app
- Can synchronize any kind of content: HTML, XML, JSON, Images, PDF, files, ...
- App can be:
  - Web UI: HTML+CSS+JS displayed in web frame
  - Native UI: JSON or XML parsed and displayed using native widgets

## Demo



# Mobile Content Synchronization – Cheat Sheet

## Configuration:

- **copy** – Copy files and folders  
parameters: path
- **content** – Render content using standard Sling request processing  
parameters: path, extension, selector
- **clientlib** – Package a Javascript or CSS client library  
parameters: path, extension
- **assets** – Collect original renditions of assets  
parameters: path
- **pages** – Render CQ pages and collect referenced assets  
parameters: path, extension, selector, deep

Console to update the content of the ContentSync packages:

<http://SERVER/libs/cq/contentsync/content/console.html>

Documentation:

<http://dev.day.com/docs/en/cq/current/developing/mobile/contentsync.html>





**Adobe**