THE ANATOMY OF A
RESPONSIVE PAGE LOAD

Andy Hume
Responsive Day Out, 2013
Grammys 2013: five things we learned

Beyoncé can't stop winning, Ed Sheeran can't dress and Chris Brown can't go anywhere without acting like a douche...
OK. NOW WE CAN TALK
PERFORMANCE

battery life

fast interface

page load time

server capacity

reliability

bandwidth use
PERFORMANCE

battery life

fast interface

page load time

server capacity

reliability

bandwidth use
THREE STAGES

- Content
- Enhancement
- Leftovers
THREE STAGES

Content
Enhancement
Leftovers
THREE STAGES

- Content
- Enhancement
- Leftovers
THREE STAGES

Content
Enhancement
Leftovers
<table>
<thead>
<tr>
<th>Content</th>
<th>Enhancement</th>
<th>Leftovers</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>Content</th>
<th>Enhancement</th>
<th>Leftovers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miami-Beach-Florida-009.jpg</td>
<td>Laurie-Anderson-006.jpg</td>
<td>831989577.js</td>
</tr>
</tbody>
</table>
Trade-off: Script loading

http://www.flickr.com/photos/funkypancake/477244177/
<script>
var script = document.createElement('script');
script.src = "app.js";
document.head.appendChildChild(script);
</script>
SCRIPT LOADING

```html
<script src="app.js" async defer></script>
```
appendChild(script)

<script async>

<script async>
<script>
if (isModernBrowser()) {
    var s = document.createElement('script');
    s.src = "app.js";
    document.head.appendChild(s);
}
</script>
if(isModernBrowser) {
    <script src="app.js" async defer></script>
}

CUTTING THE MUSTARD
Trade-off: CSS download
<link href="main.css" rel="stylesheet" />

<!-- For larger viewports -->
<link href="larger.css" media="screen and (min-width: 350px)" rel="stylesheet" />
<link href="main.css" rel="stylesheet" />

@if(isWideDevice()) {
    <link href="larger.css" media="screen and (min-width: 350px)" rel="stylesheet" />
}

CSS DOWNLOAD
RESPONSIVE SERVER
RESPONSIVE SERVER

- Relies on device detection
- DeviceAtlas, WURFL
- RESS
Trade-off: Web fonts

http://www.flickr.com/photos/harikrishnanb/4264996356/
Text Egyptian Web Regular
Just sit at "home" methodically ‘typing’ the most grotesque and inflammatory “statements” you can think of.

Text Egyptian Web Regular Italic
Just sit at "home" methodically ‘typing’ the most grotesque and inflammatory “statements” you can think of.

Text Egyptian Web Medium
Just sit at "home" methodically ‘typing’ the most grotesque and inflammatory “statements” you can think of.

Text Egyptian Web Medium Italic
Just sit at "home" methodically ‘typing’ the most grotesque and inflammatory “statements” you can think of.
FONT LOADING

Progressive enhancement
Progressive enhancement

Cuts the mustard
FONT LOADING

Progressive enhancement

耧 Cuts the mustard

耧 Supports WOFF
FONT LOADING

Progressive enhancement

- Cuts the mustard
- Supports WOFF
- localStorage available
PRE-RENDER

CUT THE MUSTARD?
  NO

SUPPORT WOFF?
  NO
  FONTS IN STORAGE?
    NO

NO FONTS

SHOW FONTS
POST-RENDER

STORAGE AVAILABLE?

NO

DOWNLOAD FONTS: BASE64 ENCODED IN JSON

CACHE FONTS IN STORAGE

SHOW FONTS

NO FONTS
POST-RENDER

STORAGE AVAILABLE?

NO

DOWNLOAD FONTS: BASE64 ENCODED IN JSON

CACHE FONTS IN STORAGE

NO FONTS

SHOW FONTS
Trade-off: Images

http://www.flickr.com/photos/zigazou76/4412946911/
RESPONSIVE IMAGES
THE FUTURE

Why media queries?

Modules, patterns, systems, components, OOCSS, SMACSS, Standalone

Viewport is irrelevant
THE FUTURE

Why media queries?

Modules, patterns, systems, components, OOCSS, SMACSS, Standalone

Viewport is irrelevant
RESPONSIVE IMAGES

```html
<picture alt="Describes the image.">
  <source src="s.jpg">
  <source media="(min-width:320px)" src="m.jpg">
</picture>
```
RESPONSIVE IMAGES

```html
<div data-alt="Describes the image."
     data-src="small.jpg"
     data-src-high="large.jpg"
     data-width="180"
     data-height="100"
>
</div>
```
RBS boss admits 'chastening' year as losses breach £5bn

Losses at Royal Bank of Scotland widen but Stephen Hester says the privatisation of the bailed-out bank is getting closer.
Money

1 hour ago
UK job market shows signs of improvement

The six months to February saw small increase in vacancies, though average salary plummeted, research reveals

Travel

13 min ago
Seoul: a soundtrack to the city
RESPONSIVE PERFORMANCE
PERFORMANCE
Thank-you!

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@andyhume