



# Drink Responsively

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Research and Development

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Liferay North America Symposium



# 1.2 Billion

mobile-broadband subscriptions



# \$1.2 Billion

generated mobile ad revenue

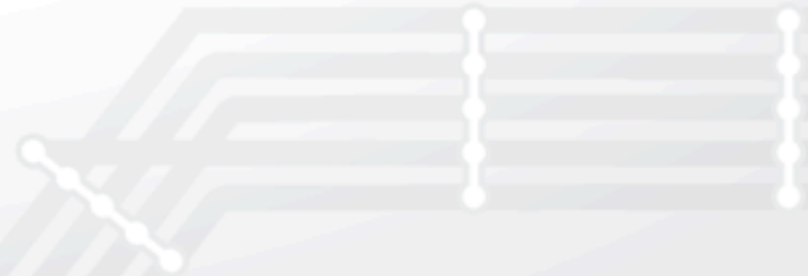
# Ready, Set, Go!

Start building!



# Responsive Web Development

Best Experience   For Anyone   On Any Device



# Responsive Web Development

Accept and Anticipate  
New Technology, Resolutions, Capabilities

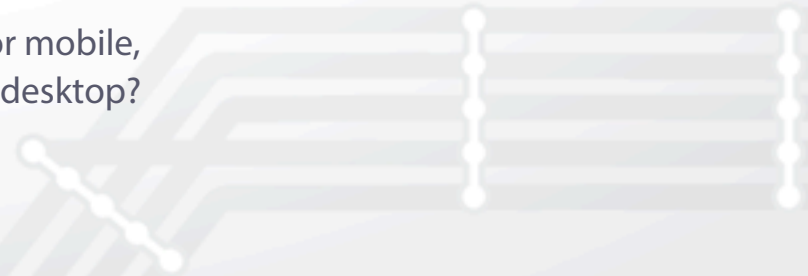


# Responsive Web Development

## Define Meaning

Meaning > Appearance

If you threw it out for mobile,  
why was it there for desktop?



## Visual

```
<article class="blueBg">
```

```
...
```

```
</article>
```

```
<article class="redBg bigText">
```

```
...
```

```
</article>
```

```
<\9LŧŦCŦ6>
```

```
...
```

```
<article class="movie-review">
```

```
...
```

```
</article>
```

```
<article class="breaking-news">
```

```
...
```

```
</article>
```

```
<\9LŧŦCŦ6>
```

```
...
```

Meaningful

# Responsive Web Development

Design for Liquid

display: none; won't save you,  
responsive patterns might



# Responsive Web Development

<a href="http://www.liferay.com/">http://www.liferay.com/</a>	GET	200 OK	text/html	Other	13.03KB 87.97KB	219ms 168ms	
<a href="#">callout-image.js</a> cdn.www.liferay.com/osb-theme/js	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	1014B 1.12KB	9ms 9ms	
<a href="#">viewport.js</a> cdn.www.liferay.com/osb-theme/js	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	1.24KB 1.97KB	9ms 9ms	
<a href="#">css.jsp</a> cdn.www.liferay.com/html/portal	GET	200 OK	text/css	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	17.65KB 103.78KB	234ms 33ms	
<a href="#">main.jsp</a> /html/portlet/journal_content/css	GET	200 OK	text/css	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	718B 1.02KB	20ms 20ms	
<a href="#">everything.jsp</a> cdn.www.liferay.com/html/js	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	108.88KB 332.69KB	637ms 99ms	
<a href="#">main.jsp</a> /chat-portlet/css	GET	200 OK	text/css	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	2.07KB 5.85KB	22ms 21ms	
<a href="#">layout_templates.js</a> cdn.www.liferay.com/osb-theme/js	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	914B 982B	168ms 166ms	
<a href="#">main.css</a> cdn.www.liferay.com/osb-theme/css	GET	200 OK	text/css	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	13.06KB 67.66KB	216ms 167ms	
<a href="#">main.js</a> /chat-portlet/js	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	5.46KB 15.85KB	162ms 145ms	
<a href="#">elqCfg.js</a> /elqNow	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	1.48KB 3.00KB	331ms 330ms	
<a href="#">main.js</a> cdn.www.liferay.com/osb-theme/js	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	791B 584B	165ms 163ms	
<a href="#">elqImg.js</a> /elqNow	GET	200 OK	text/javascript	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	862B 894B	332ms 330ms	
<a href="#">image_gallery</a> /image	GET	200 OK	image/jpeg	<a href="http://www.liferay.com/">http://www.liferay.com/</a> :1 Parser	71.02KB 70.64KB	1.13s 128ms	

# Responsive Web Development

Layouts

Media


Breakpoints



# Responsive Layouts


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THE CELEBRATED NEW MISCELLANY OF  
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A.K.A COLLY

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EXHAUSTIVE ARCHIVES



**855**—A brief update  
**856**—Please update your RSS  
**854**—The Stone Roses at Heaton...  
**852**—New Adventures, the sequel  
**851**—A letter of note


*Mr. Collison is currently*  
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**O**pinions & queries this way. Drop me a line if you wish. I'm always interested in new projects and opportunities and will of course do my best to reply to your emails swiftly and efficiently. [-->](#)

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*Retro-filtered iPhone Photos*  
INSTAGRAM PHOTOS




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# Responsive Layouts

```
.panel-1 { width: 25%; }  
.panel-2 { width: 50%; }  
.panel-3 { width: 25%; }
```

# Responsive Layouts

```
.panel-1 { width: 25%; }  
.panel-2 { width: 50%; }  
.panel-3 { width: 25%; }  
  
@media (max-width: 480px) {  
    .panel-1, .panel-2, .panel-3 { width: 100%; }  
}
```

```
}
```

```
.panel-1, .panel-2, .panel-3 { width: 100%; }
```

# Responsive Layouts

@media queries

```
@media screen { }
```

```
@media print { }
```

```
@media (max-width: 480px) { }
```



# Responsive Layouts

@media queries

```
@media screen and (max-width: 480px) { }
```



# Responsive Layouts

@media queries

```
@media screen and (min-width: 320px) and (max-width: 480px) { }
```



# Responsive Layouts

@media queries

```
@media screen and (min-width: 20em) and (max-width: 30em) { }
```



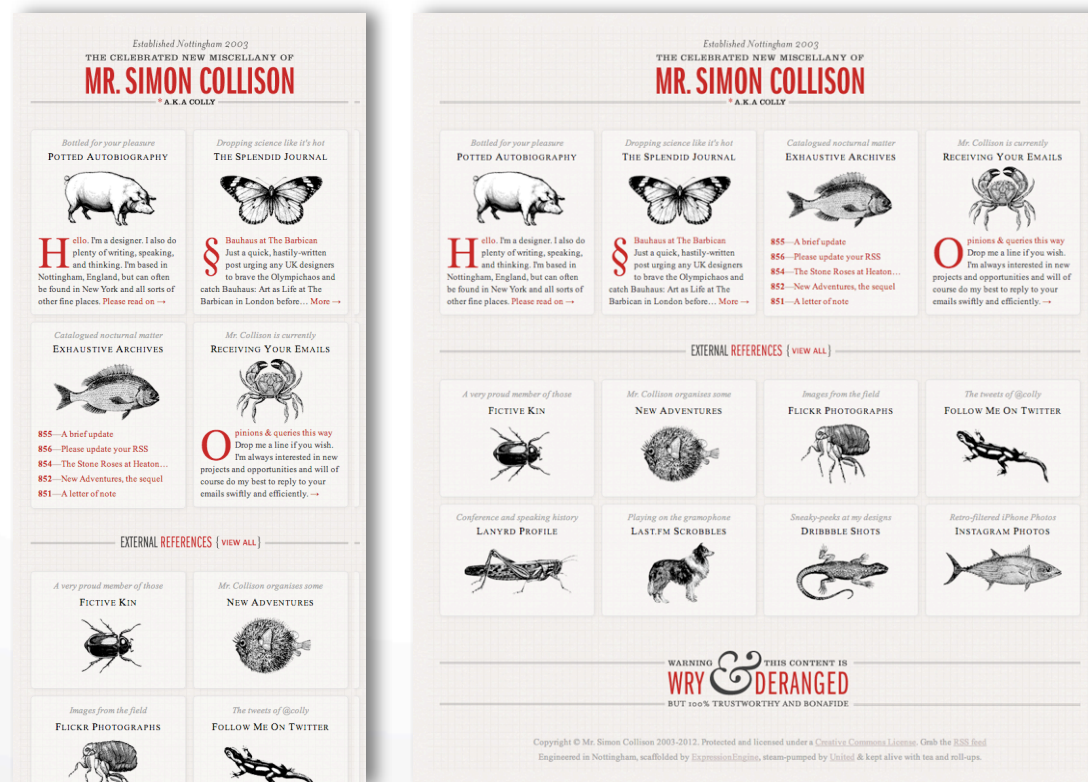
# Responsive Layouts

```
.panel-1 { width: 25%; }  
.panel-2 { width: 50%; }  
.panel-3 { width: 25%; }
```

# Responsive Layouts

```
.panel-1 { width: 25%; }  
.panel-2 { width: 50%; }  
.panel-3 { width: 25%; }  
  
@media (max-width: 30em) {  
    .panel-1, .panel-2, .panel-3 { width: 100%; }  
}
```


# Responsive Layouts



# Responsive Layouts


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# Responsive Media



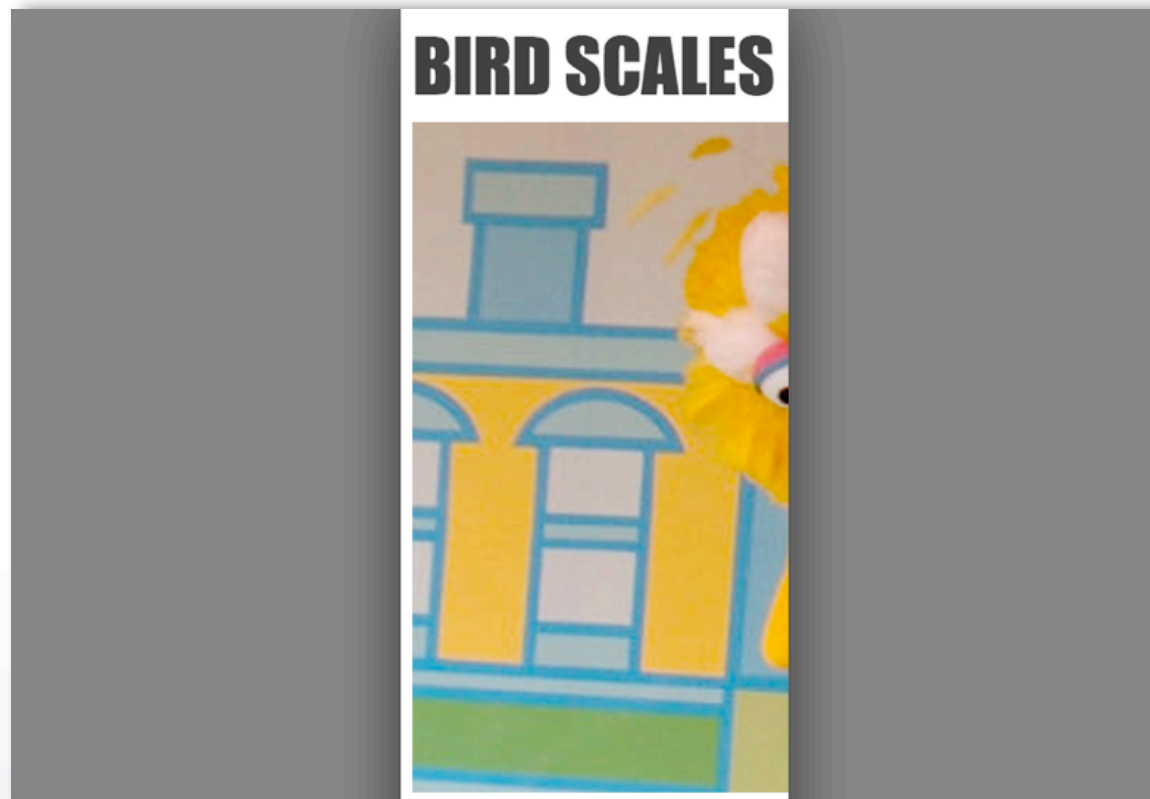
scale and target

# Responsive Media

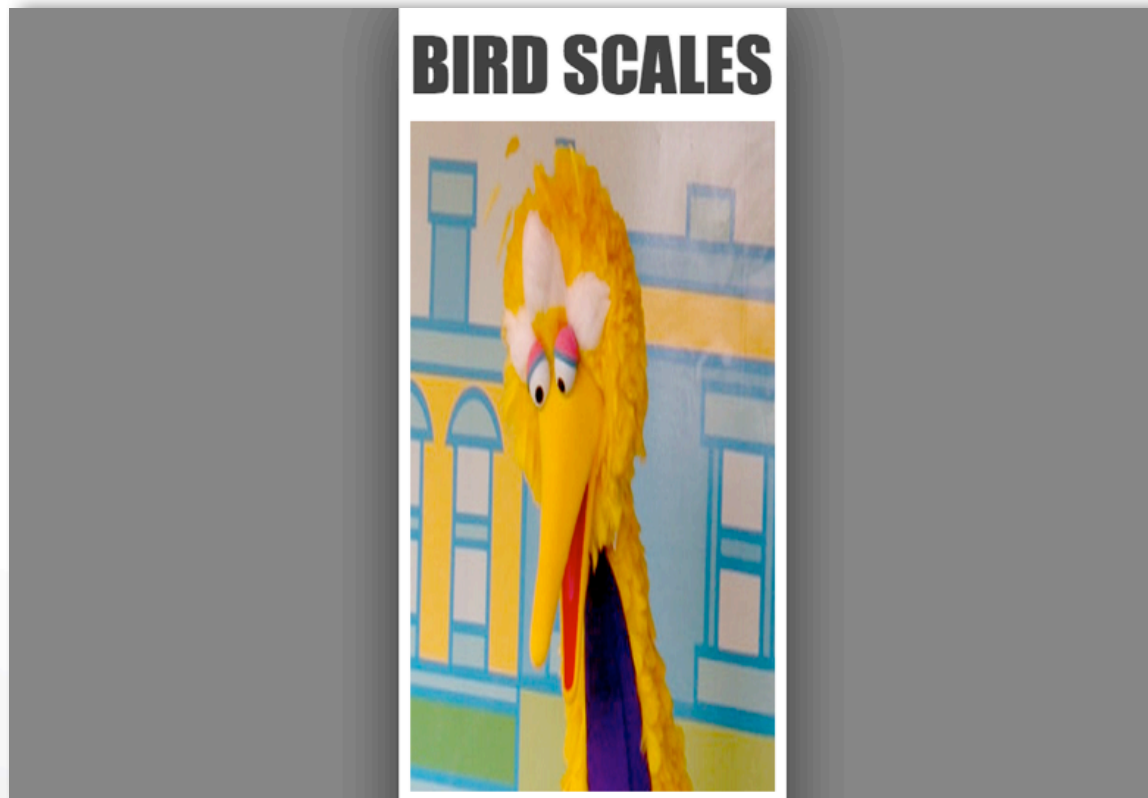
## BIRD SCALES



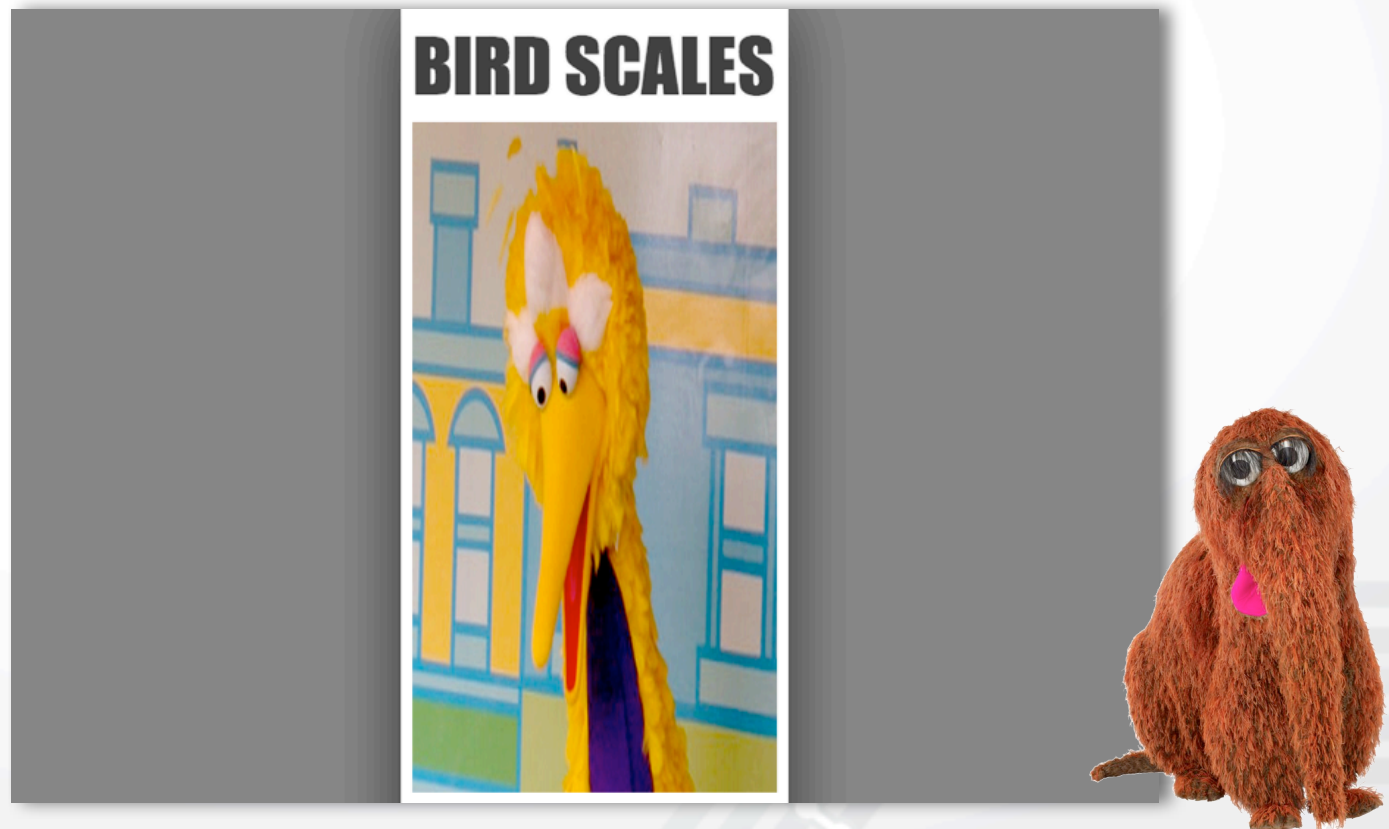
# Responsive Media



# Responsive Media



# Responsive Media



# Responsive Media

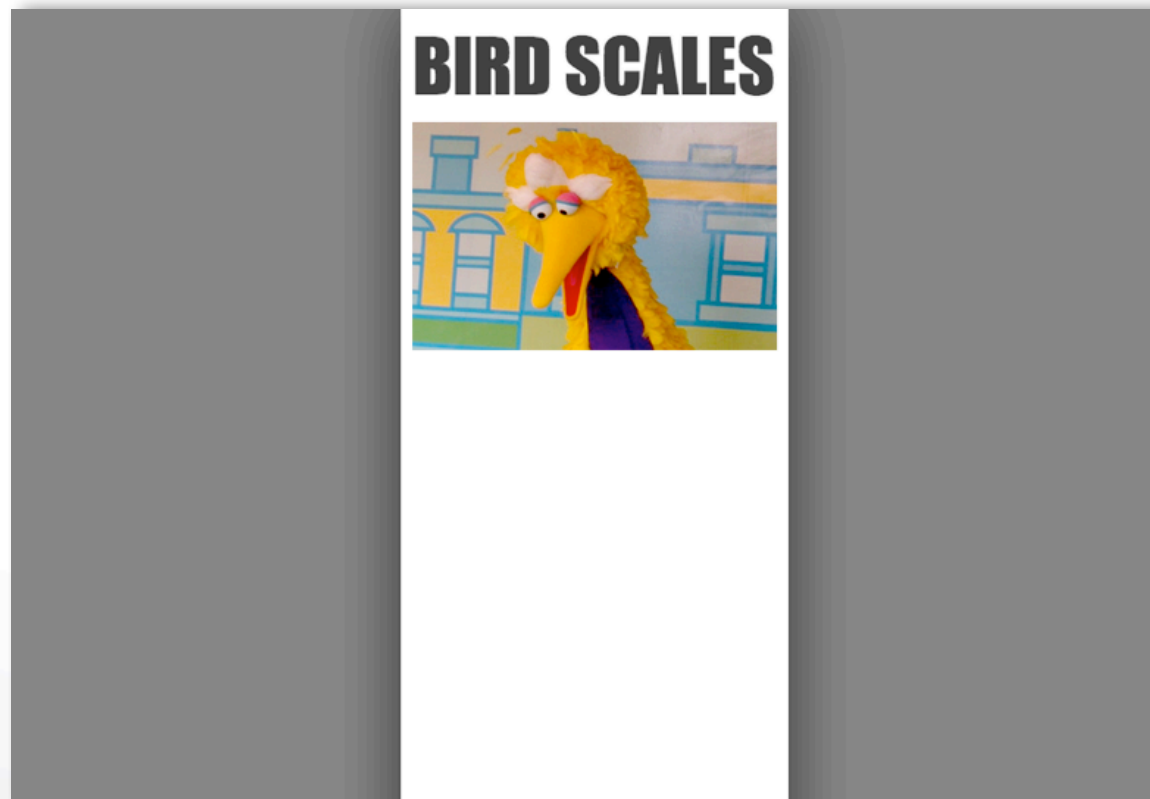


# Responsive Media

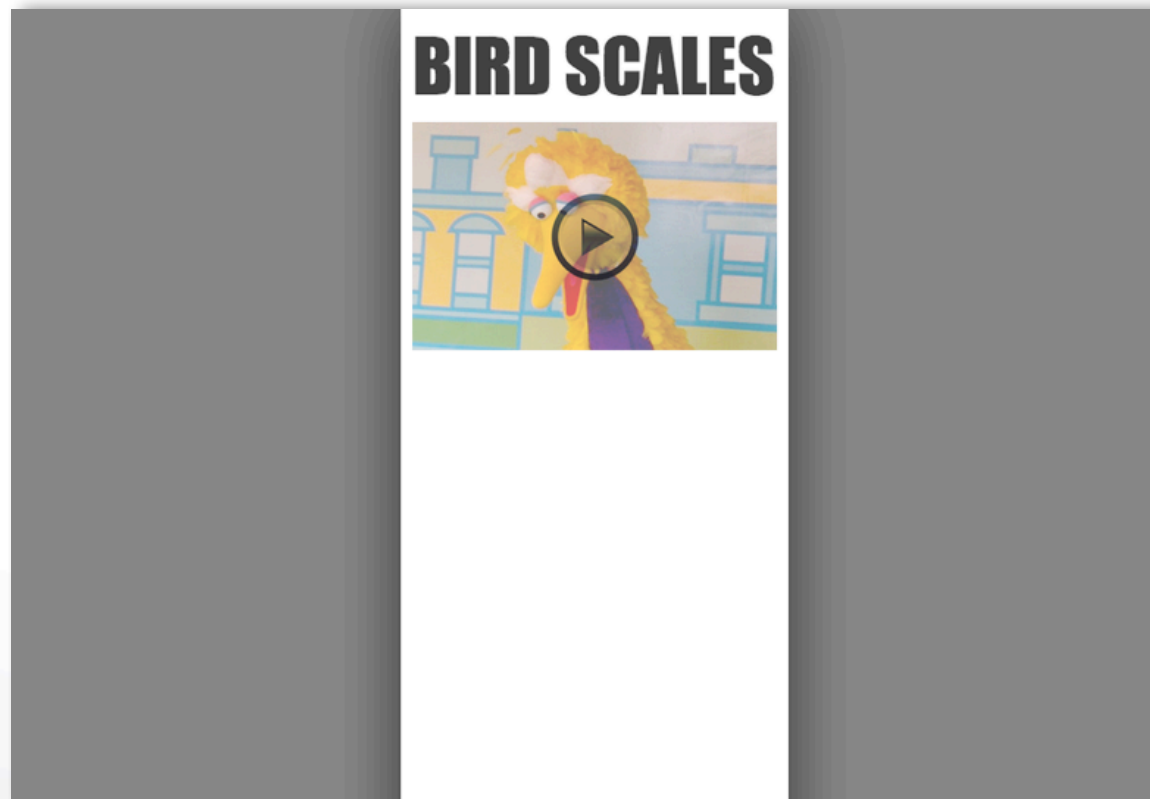
```
img {  
    width: auto; height: auto;  
  
    max-width: 100%; max-height: 100%;  
}
```

```
max-width: 100%; max-height: 100%;
```

# Responsive Media



# Responsive Media



# Responsive Media

```
.ir { background-size: 100%; }  
.ir-bigbird { background-image: url(bigbird-16x9.jpg); }
```

```
<div class="ir ir-bigbird">  
  <p><!-- CONTENT --></p>  
</div>
```

```
</div>
```

# Responsive Media

```
.ar { height: 0; position: relative; }  
.ar > * { position: absolute; top: 0; right: 0; bottom: 0; left: 0; }  
.ar-16x9 { padding-bottom: 56.25%; }  
  
.ir { background-size: 100%; }  
.ir > * { clip: rect(0 0 0 0); position: absolute; }  
  
.ir-bigbird { background-image: url(bigbird-16x9.jpg); }
```

```
<div class="ar ar-16x9">  
  <div class="ir ir-bigbird">  
    <p><!-- CONTENT --></p>  
  </div>  
</div>
```

# Responsive Media



# Responsive Media

```
<picture alt="Big Bird Scales">
  <source media="(min-width: 45em)" srcset="bigbird-l.jpg 1x, bigbird-l-2x.jpg 2x">
  <source media="(min-width: 18em)" srcset="bigbird-m.jpg 1x, bigbird-m-2x.jpg 2x">
  <source srcset="bigbird-s.jpg 1x, bigbird-s-2x.jpg 2x">
</picture>
```

</html>

# Responsive Media

```
<picture alt="Big Bird Scales">  
  <source media="(min-width: 45em)" srcset="bigbird-l.jpg 1x, bigbird-l-2x.jpg 2x">  
  <source media="(min-width: 18em)" srcset="bigbird-m.jpg 1x, bigbird-m-2x.jpg 2x">  
  <source srcset="bigbird-s.jpg 1x, bigbird-s-2x.jpg 2x">  
    
</picture>
```

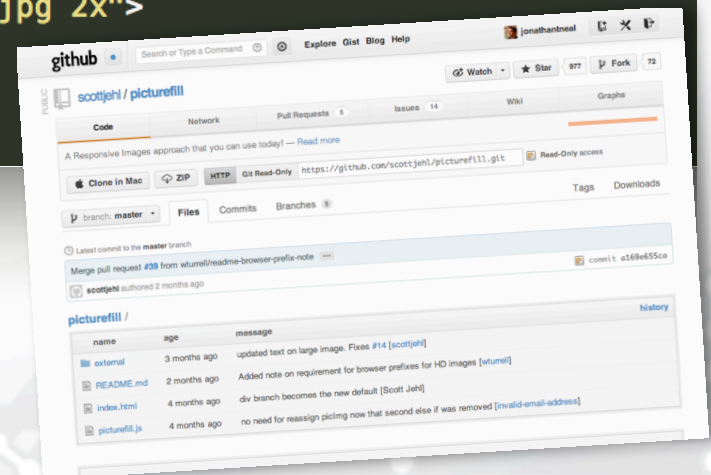
```
</picture>  

```

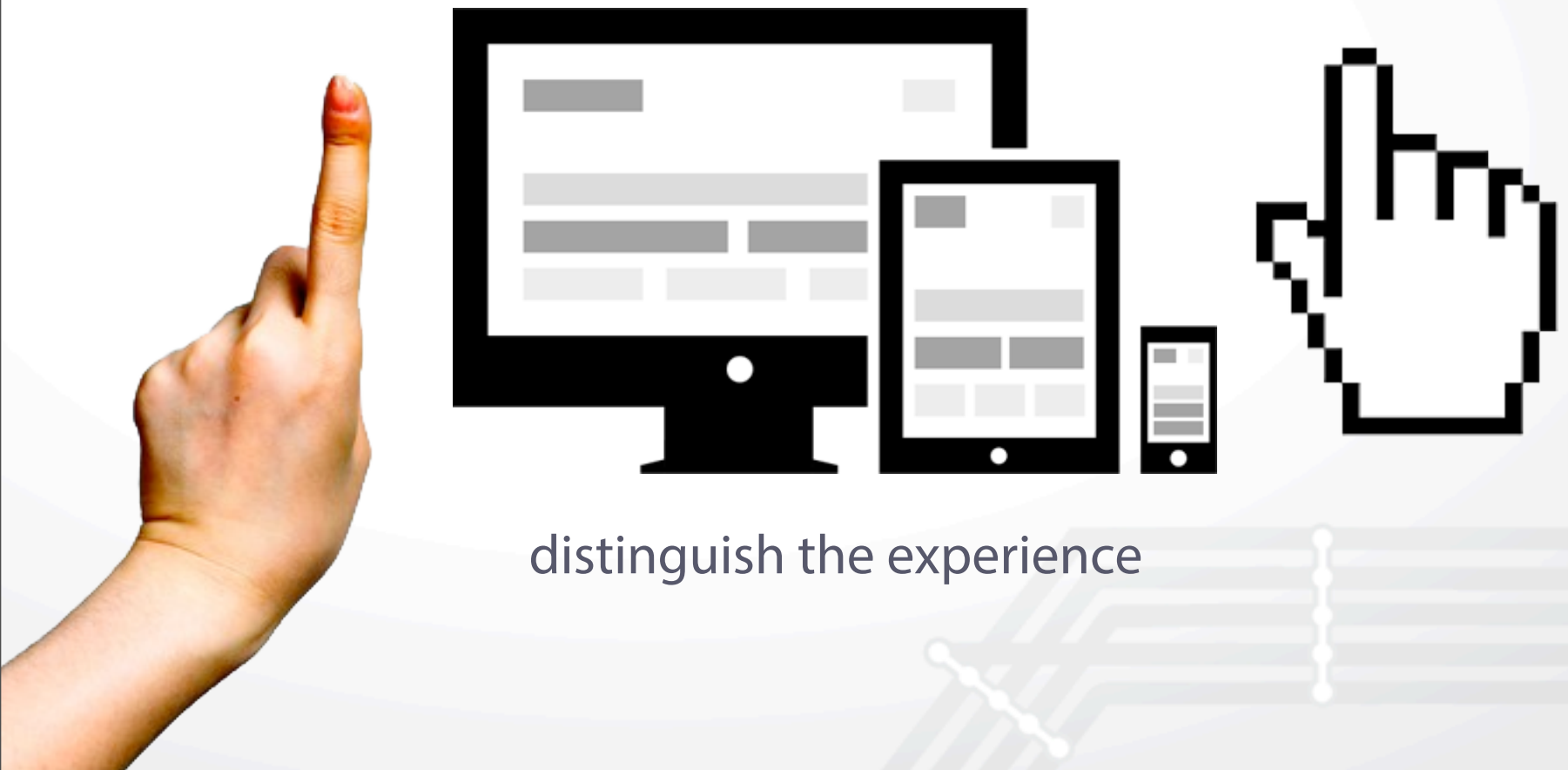
# Responsive Media

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<picture alt="Big Bird Scales">  
  <source media="(min-width: 45em)" srcset="bigbird-l.jpg 1x, bigbird-l-2x.jpg 2x">  
  <source media="(min-width: 18em)" srcset="bigbird-m.jpg 1x, bigbird-m-2x.jpg 2x">  
  <source srcset="bigbird-s.jpg 1x, bigbird-s-2x.jpg 2x">  
    
</picture>
```

[github.com/scottjehl/picturefill](https://github.com/scottjehl/picturefill)



# Responsive Breakpoints



distinguish the experience

# Responsive Breakpoints

```
@media (min-device-width: 320px) { }
```

```
@media (min-device-pixel-ratio: 2) { }
```

```
@media (min-resolution: 192dpi) { }
```

```
@media (orientation: portrait) { }
```

# Responsive Breakpoints

```
<table>
  <thead>
    <tr><td>First Name</td> <td>Last Name</td> <td>Nickname</td></tr>
  </thead>

  <tbody>
    <tr><td>Samuel</td> <td>Clemens</td> <td>Mark Twain</td></tr>

    <tr><td>Stefani</td> <td>Germanotta</td> <td>Lady Gaga</td></tr>

    <tr><td>Marion</td> <td>Morrison</td> <td>John Wayne</td></tr>
  </tbody>
</table>
```

responsive tables

# Responsive Breakpoints

First Name	Last Name	Nickname
Samuel	Clemens	Mark Twain
Stefani	Germanotta	Lady Gaga
Marion	Morrison	John Wayne

responsive tables

# Responsive Breakpoints

```
@media {  
thead { float: left; } thead th { display: block; }  
tbody { display: block; overflow-y: auto; }  
tfoot { display: block; overflow-y: auto; }
```

responsive tables



# Responsive Breakpoints

<b>First Name</b>	Samuel	Clemens	Mark
<b>Last Name</b>	Stefani	Germanotta	Lady
<b>Nickname</b>	Marion	Morrison	John

responsive tables

# Responsive Breakpoints

```
@media {  
  
  table, tbody, tr, td { border: 0; display: block; }  
  
  thead { clip: rect(0 0 0 0); position: absolute; }  
  
  tr { border-bottom: 1px solid #CCC; margin-bottom: 1.5em; padding-bottom: 0.5em; }  
  
  td:before { font-weight: bold; }  
  td:nth-of-type(1):before { content: "First Name: "; }  
  td:nth-of-type(2):before { content: "Last Name: "; }  
  td:nth-of-type(3):before { content: "Nickname: "; }
```

responsive tables

# Responsive Breakpoints

**First Name:** Samuel

**Last Name:** Clemens

**Nickname:** Mark Twain

**First Name:** Stefani

**Last Name:** Germanotta

**Nickname:** Lady Gaga

**First Name:** Marion

**Last Name:** Morrison

**Nickname:** John Wayne

```
table, tbody, tr, td { border: 0; display: block; }

thead { clip: rect(0 0 0 0); position: absolute; }

tr { border-bottom: 1px solid #CCC; margin-bottom: 1.5em; padding-bottom: 0.5em; }

td:before { font-weight: bold; }
td:nth-of-type(1):before { content: "First Name: "; }
td:nth-of-type(2):before { content: "Last Name: "; }
td:nth-of-type(3):before { content: "Nickname: "; }
```

responsive tables

# More

[bradfrost.github.com/this-is-responsive/](http://bradfrost.github.com/this-is-responsive/)

## Responsive Patterns

A collection of patterns and modules for responsive designs.

### Layout

#### Reflowing Layouts

Mostly Fluid  
Column Drop  
Layout Shifter  
*Tiny Tweaks*  
Main column with sidebar  
3 column  
3 column v2

#### Equal Width

2 equal-width columns  
3 equal-width columns  
4 equal-width columns  
5 equal-width columns  
6 equal-width columns

#### Off Canvas

Top  
Left  
Right  
Left and Right  
Bottom

#### Source-Order Shift

Table Cell  
Flexbox  
*Append/Prepend*

#### Lists

List with Thumbnails  
List with Thumbnails 2  
List with Thumbnails and Summary

#### Grid Block

4-up Grid Block  
Double-Wide v1  
Double-Wide v2  
Double-Wide v3  
Double-Wide v4  
With Title Sections

### Tables

Responsive Table  
Definition List to Table  
Pie Chart to Table  
Priority Columns  
Link to Full-Table  
Horizontal Overflow  
Header Orientation Flip

### Navigation

#### Single-Level

Toggle  
Footer Anchor  
Select Menu  
Left Nav Flyout  
Priority+  
Top Links

#### Multi-level

Multi-Toggle  
Multi-Toggle v2  
Multi-Toggle v3  
Multi-Toggle with Active Parent Links  
Multi-Toggle with Active Parent Links -  
Pure CSS

#### Breadcrumbs

Across the Top  
Breadcrumbs Dropdown  
Last-One Only

# More



# Modernizr

[modernizr.com](http://modernizr.com)



# A Brief Argument for Mobile First



# Mobile First

Accept and Anticipate  
Define Meaning  
Design for Liquid





# Drink Responsively

Jonathan Neal  
Research and Development

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jneal@liferay.com



Liferay North America Symposium

