A "content-first" approach to designing responsive Drupal layouts using Twitter Bootstrap

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Back in the day...
But now...

an explosion of devices!

Device diversity

We can't predict the device of the future.

How can we know what size of device we are designing for?
"Mobile" Trends

35% of American adults own a smartphone

25% of smartphone users say they only use their phone to browse the web

In an ideal world...

A custom experience for every device.
We go responsive.

same content reused for each screen size

Sparkbox website at different browser sizes (from http://mediaqueri.es)
A typical department at Stanford

Small staff & limited resources
Centralized Tools and Resources
We want to make it easy.
What is Responsive Web Design? (RWD)
"Responsive"

A **design** that responds to the **size** of the browser or device.

Let's take a look at an example...
"Design"

We mostly mean **layout** when referring to "design" in RWD.
A single code base

Creating **one website**, and displaying it in different ways.
Embrace Flexibility

RWD is a philosophy and a practice.

By embracing the inherent flexibility of the web, we can design for the future.
How do you implement Responsive Web Design?
Flexible Grid-Based Layout

Flexible Images and Media

Media Queries
Flexible Grid

Express your layout proportionally.

Be flexible — not pixel-perfect.
Flexible Media

Flexible containers constrain proportions of images and media by using `width: 100%;`
Media Queries

**Detect** your device screen width, then load different styles.

```css
@media screen and (max-width: 480px) {
  .mything {
    width:100%;
  }
}
@media screen and (max-width: 1200px) {
  .mything {
    width:30%;
  }
}
```
Flexible Grid-Based Layout

Flexible Images and Media

Media Queries
What should you consider when designing responsive websites?
Responsive Layouts

Are about preserving content hierarchy and legibility.
Content Hierarchy

What content is **most important**?

Give it emphasis through **size** and **order**.
Preserve Content Hierarchy

On **small** devices, what shows up **first**?
Legibility

Legibility of **text**, but also "legibility" of **micro-layouts**.
Preserve legibility

Don't let things get too squished or stretched!
Preserve legibility

A **good** solution:

正常

image on top
Preserve legibility

An even **better** solution...

Build a responsive theme that **never requires a drastic size adjustment** of micro-layouts.
Preserve legibility

The holy grail?

desktop size...

~ same size on mobile!
"Content First"

Considering preservation of content hierarchy and legibility as a top priority.
Back to Stanford...
We started with content

We developed a "layout library" — sets of common layouts that we needed to support.
Landing page layouts
DEPARTMENT OF DEPARTMENTS

HOME  ABOUT  PEOPLE  PROGRAMS  RESOURCES  CONTACT

SECTION NAME
Overview
Contact
Directions
Research

PAGE TITLE GOES HERE


Integer posse erat a ante venenatis dapibus posuere velit aliquet.


Vestibulum sagittis l一把 vev augue lobar nem non sculpe odio acuctor. Sed posse consectetuer est at lobortis. Donec ullamcorper nulo non metus auctor fringilla. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Donec sed odio.

Cosa mattue consectetuer purus at alement fermentum. Vestibulum id ligula porto fele euismod semper. Moecebos sed dom ege rius vorsus bimbit sit amet non magna. Sed posse consectetuer est at lobortis.

Moecebos sed dom ege rius vorsus bimbit sit amet non magna. Etiam porta sem molestudo magni mollis etiam. Cross justo odio, donec ac molesto in, egestas eget sem. Donec ullamcorper nulo non metus auctor fringilla. Phasellus disparte, tellus ac cursus commodo, tincidunt morbi condimentum rhoncus. Etiam porta sem molestudo magni mollis etiam.

Welcome to the Department of Applied Metaphysics. As one of the oldest inorganic departments at Stanford, we have an impressive history of Nobel laureates, Rhodes Scholars, Olympic Medalists, and Pulitzer Prize winners. Explore the links below to learn more.

Overview
Contact
Directions
Research

1st Sidebar
Content
2nd Sidebar

Subpage layouts
Articulating responsive behavior

We created a set of responsive flow wireframes.
One and two sidebars
Content area blocks
This is complicated!

Can we find a way to support all this sophisticated behavior in a theme?

Can we make it easy to implement for site builders and content creators?
Where do we start?

Use an existing Drupal theme?
- Zen 5
- Omega
- AdaptiveTheme

Build off of a responsive framework?
- Twitter Bootstrap
- Zurb
- Skeleton
What we were looking for:

• Preserving content hierarchy and legibility
• Easy to implement
• Scalability and flexibility of layout options
• Support for complex layouts
• Consideration for Drupal core features and common layout implementation strategies
• Consideration of Stanford community context and technologies
Build off Twitter Bootstrap

We decided to build our own theme off of Twitter Bootstrap, which would provide us with base styles and basic responsive behaviors.

twitter.github.com/bootstrap
Default styles + responsive behavior

*Drupal Theme*

Base code that provides
- Styles and UI elements
- “Starter” responsive behavior
Why Twitter Bootstrap?
and also:

Open source
- Apache License v2.0
- Documentation licensed under CC BY 3.0

Community engagement
- Git: 39,000 stars and 9,000 forks

Handles fixed and fluid layouts
- 12-column grid system
- Grid can be nested - infinite grid
Introducing Open Framework
Open Framework

A new responsive Drupal theme based on Twitter Bootstrap.

What is Open Framework?

Open Framework is a new Drupal theme that uses Twitter Bootstrap and provides a simple yet powerful way to create complex responsive layouts. Through a simple use of blocks and new responsive regions, Open Framework provides a flexible foundation for creating a wide variety of page layouts.

Easy to Use

In the Open Framework theme, we have put an emphasis on ease of use for site builders and content editors. Through using familiar and common techniques (such as blocks and regions) we hope to lower the barrier to entry for people to begin creating responsive...
Open Framework

Sophisticated
Easy to use
Sophisticated responsive behaviors

Open Framework provides support for two conflicting responsive patterns:

• **Row preference**

• **Column preference**
Row Preference

Row preference forces elements to bump other elements down when the screen gets smaller.

We call these "flow" regions.
Column Preference

Column preference forces elements to stack side-by-side in columns.

We call these "stacked" regions.
A combination approach

Through a combination of **stacked** and **flow** region behaviors, we can create **complex layouts** that respond well at every breakpoint.
New responsive regions

New set of **responsive regions** that support "**flow**" and "**stacked**" behavior.

Content placed in specific block regions will **respond based on** that region’s **pre-defined behavior**.
Drupal-specific styles support

Open Framework takes the basics of Twitter Bootstrap and adds in Drupal-friendly, semantic styles.

Some examples:

```
.more-link
.descriptor
.border-simple
```
Support for common micro-layouts

We have developed a set of styles and implementation strategies for common micro-layouts we refer to as "postcard" layouts.

```html
<div class="postcard-left">
  <div>
    <!-- Image -->
  </div>
  <div>
    <!-- Text content -->
  </div>
</div>
```
Support for common micro-layouts

We have developed a set of styles and implementation strategies for common micro-layouts we refer to as "postcard" layouts.

```html
<div class="postcard-left">
  <div>left</div>
  <div>right</div>
</div>
```
.postcard-left

.floats two divs side-by-side, and does not allow wrapping. You can use this to do "image on the left, text on the right" layouts. Postcard layouts are micro-layouts where you want thumbnail images, or other elements next to a block of text. We have built support for micro-layouts into the Open Framework theme through this postcard implementation strategy.

.postcard-left-wrap

.floats two divs side-by-side, and allows for wrapping. You can use this to do "image on the left, text on the right" layouts. Postcard layouts are micro-layouts where you want thumbnail images, or other elements next to a block of text. We have built support for micro-layouts into the Open Framework theme through this postcard implementation strategy.

.postcard-right

.floats two divs side-by-side, and does not allow wrapping. You can use this to do "image on the right, text on the left" layouts. Postcard layouts are micro-layouts where you want thumbnail images, or other elements next to a block of text. We have built support for micro-layouts into the Open Framework theme through this postcard implementation strategy.

.postcard-right-wrap

.floats two divs side-by-side, and allows for wrapping. You can use this to do "image on the right, text on the left" layouts. Postcard layouts are micro-layouts where you want thumbnail images, or other elements next to a block of text. We have built support for micro-layouts into the Open Framework theme through this postcard implementation strategy.
A truly Drupal style guide

Open Framework has a sortable style guide.

<table>
<thead>
<tr>
<th>Category</th>
<th>Name of Style</th>
<th>CSS Class</th>
<th>HTML Elements Applied To</th>
<th>Example Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image</td>
<td>Border Simple</td>
<td>border-simple</td>
<td>&lt;div&gt;, &lt;p&gt;, &lt;span&gt;</td>
<td><code>&lt;p class=&quot;border-simple&quot;&gt; &lt;img alt=&quot;waterfall&quot; src=&quot;waterfall.jpg&quot; /&gt; </code></td>
</tr>
<tr>
<td></td>
<td>Border Simple No Width</td>
<td>border-simple-no-width</td>
<td>&lt;div&gt;, &lt;p&gt;, &lt;span&gt;</td>
<td><code>&lt;p class=&quot;border-simple-nowidth&quot;&gt; &lt;img alt=&quot;waterfall&quot; src=&quot;waterfall.jpg&quot; /&gt; </code></td>
</tr>
<tr>
<td>Image</td>
<td>Border Shadow</td>
<td>border-shadow</td>
<td>&lt;div&gt;, &lt;p&gt;, &lt;span&gt;</td>
<td><code>&lt;p class=&quot;border-shadow&quot;&gt; &lt;img alt=&quot;waterfall&quot; src=&quot;waterfall.jpg&quot; /&gt; </code></td>
</tr>
</tbody>
</table>
Responsive order overlay toggle that shows how content hierarchy will be handled on small screens.
Let's take a look...

http://openframework.stanford.edu
Site Building with Open Framework
Open Framework at Stanford

Open Framework provides the foundation for theme development at Stanford.
Stanford Framework

Stanford Framework is a **subtheme** of Open Framework, providing **branding** and **default styles** for units at Stanford to use or subtheme.
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- The Black Mediterranean: Greece, Rome...
- Greek Art In and Out of Context
- Appropriations of Greek Art
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UPCOMING EVENTS

RESEARCH & PUBLICATIONS

NEWSLETTER UPDATES
OFW styled with CSS Injector
Modules that play nice

• Block Class
• Views
• BEAN
• Context
• CSS Injector
First blocks, then the world!

Region behaviors can be applied to panels regions, display suite layout regions, or even hand-coded regions.
Using Open Framework

Download version 7.x-2.x on github
github.com/SU-SWS/open_framework

Visit the Open Framework website at
openframework.stanford.edu

If you want to participate, contact us to join
the contribution team on Github.
Places to learn more about RWD:

• **“Responsive Web Design” by Ethan Marcotte** (a book apart)

• **LukeW — Multidevice Layout Patterns**

• **Jeffrey Zeldman — Content First**
  [http://www.zeldman.com/category/content-first/](http://www.zeldman.com/category/content-first/)

• **A List Apart — Responsive Web Design**

• **Ben Callahan — Responsive Retrofitting**
Connect with us

http://openframework.stanford.edu

#openframework

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