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

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Stanford University

BAD Camp 2012 — November 4, 2012



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Documentation, Design, & Development

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Back in the day...



But now...





an explosion of devices!

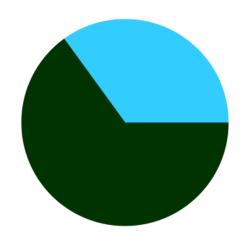
Device diversity

We can't predict the device of the future.

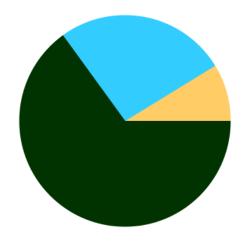
How can we know what **size** of device we are designing for?



"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.



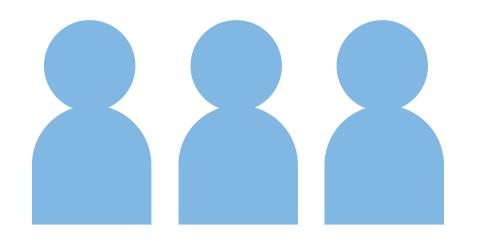






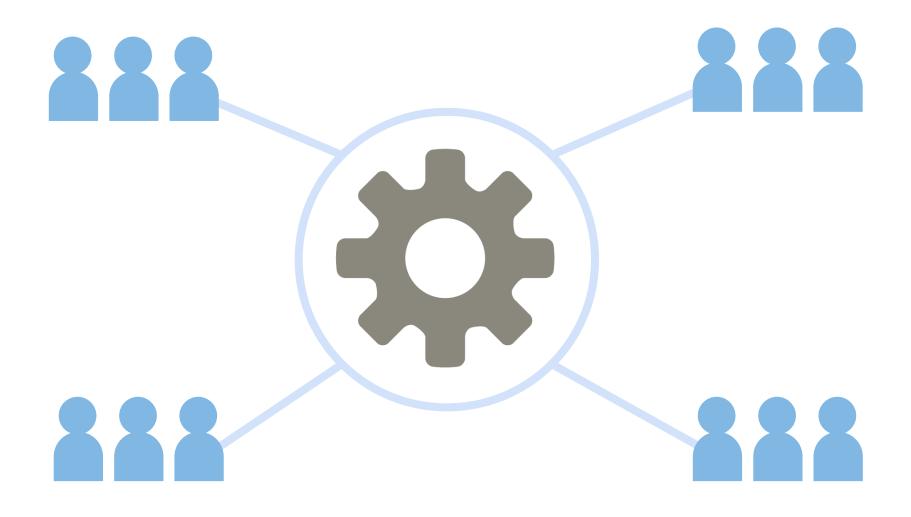
same content reused for each screen size

A typical department at Stanford



Small staff & limited resources

Centralized Tools and Resources



We want to make it easy.





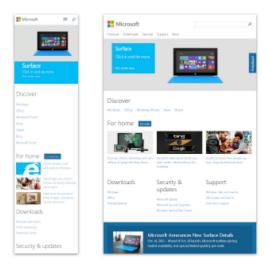


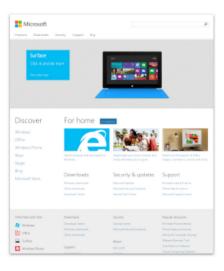


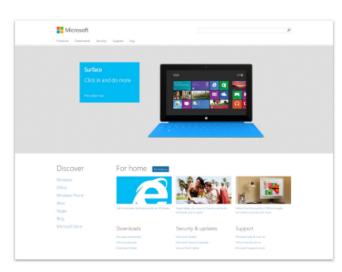
What is Responsive Web Design? (RWD)

"Responsive"

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



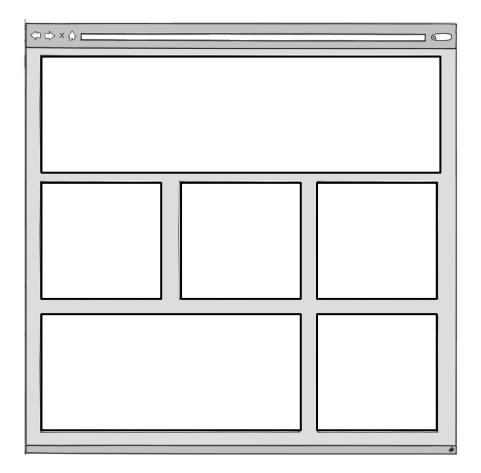




Let's take a look at <u>an example</u>...

"Design"

We mostly mean layout when referring to "design" in RWD.

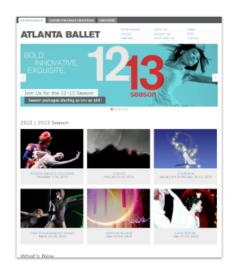


A single code base

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





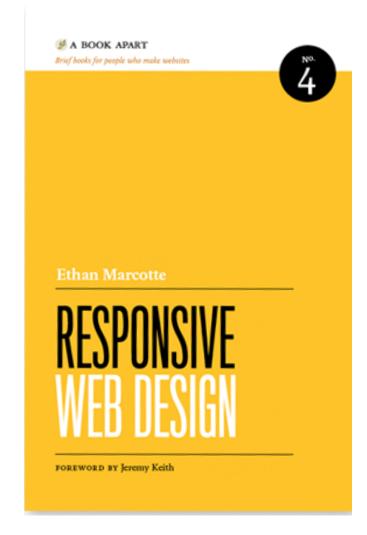




Embrace Flexibility

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

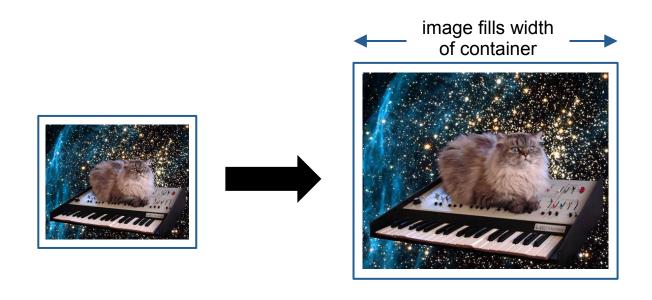
Express your layout proportionally.

25% 50% 25%

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.

```
@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?

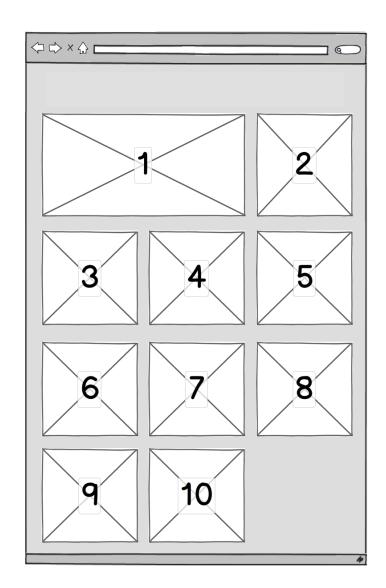
Responsive Layouts

Are about preserving content hierarchy and legibility.

Content Hierarchy

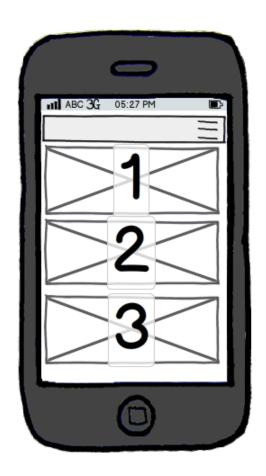
What content is **most** important?

Give it emphasis through **size** and **order**.



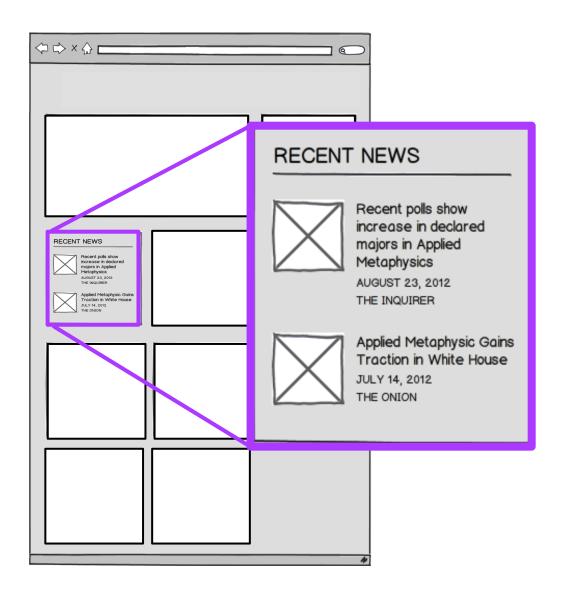
Preserve Content Hierarchy

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



Legibility

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



Don't let things get too squished or stretched!



The Poison King: The Life and Legend of Mithradates, Rome's Deadliest Enemy Adrienne Mayor November 01, 2011

normal



THE POLEN KINS

King: The Life and Legend of Mithradates, Rome's Deadliest Enemy Adrienne Mayor November 01, 2011

The Poison

squished

A **good** solution:



The Poison King: The Life and Legend of Mithradates, Rome's Deadliest Enemy Adrienne Mayor

November 01, 2011



The Poison King: The Life and Legend of Mithradates, Rome's Deadliest Enemy

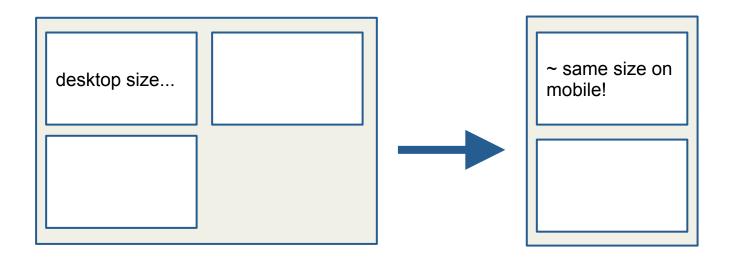
Adrienne Mayor November 01, 2011

normal

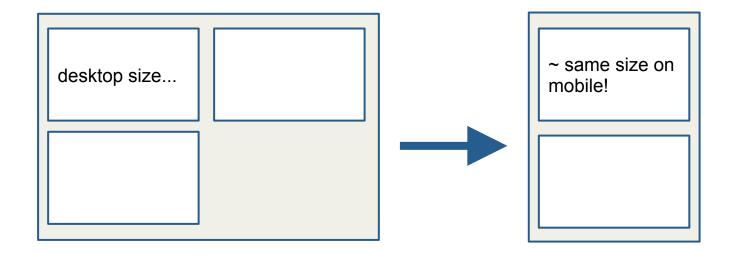
image on top

An even **better** solution...

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



The holy grail?



"Content First"

Considering preservation of content hierarchy and legibility as a top priority.

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First Two-Neutrino and Neutrinoless Double-Beta Decay Measurements by EXO 200 The first EXO 200

results on two - neutrino double - beta decay

were featured in this Synopsis in... Read more



Quantum Degenerate Dipolar Fermi Gas Benjamin Lev's research group is the first to produce a Fermi sea of interacting dipolar atoms.. Read more

Read more

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- Professors Blas Cabrera and Bernard Sadoulet Awarded the 2013 W.K.H. Panofsky
- Varian Physics Bldg: Process Cooling Water, Emergency Power, Cardkeys - Aug 14 2012
- Shoucheng Zhang awarded 2012 Dirac medal Andrei Linde Receives Fundamental Physics
- Prize
- Sally Ride, 1951-2012: Physics grad & Astronaut

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EVENTS



- "Photovoltaic Retinal Prosthesis for Restoring Sight to the Blind" Oct 30 2012 - 4:15pm
- Hewlett Teaching Center Rm. 201
- Physics Dept. Faculty Mtg. Nov 14 2012 - 3:15pm
- Physics Dept. Undergrad. Study Comm. Mtg. Nov 28 2012 - 3:15pm
- Physics Dept. Grad. Study Comm. Mtg.
- Nov 30 2012 3:15pm
- Physics Dept. Faculty Mtg. Dec 12 2012 - 3:15pm

Calendar view More Events

NOBEL PRIZES IN PHYSICS



- Robert Laughlin: 1998 Nobel Prize
- Steven Chu: 1997 Nobel Prize
- Douglas Osheroff: 1996 Nobel Prize
- Arthur Schawlow: 1981 Nobel Prize
- Robert Hofstadter: 1961 Nobel Prize ■ Felix Bloch: 1952 Nobel Prize
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- CabreraFest 2012
- Physics Alumni Reception

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double - beta decay were featured in this Synopsis in...



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FEATURED NEWS



Applied Metaphysic Gains Traction in White House 07/15/12 - THE ONION

Summary of this article is really helpful to know about what the article is.

 Sally Ride, 1951-2012: Physics grad & Astronaut

See more news

FEATURED EVENT



My Fantastic Lecture

AUGUST 31, 2012 - 5:30PM JORDAN HALL, RM 201

Summary about this event is really helpful to know about what the article is.

Learn More

Nov 30 2012 - 3:15pm Physics Dept. Faculty Mtg. Dec 12 2012 - 3:15pm

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In a custom text block, you can have custom text with or without a header image, or widget embed code from a site like Twitter, YouTube, Vimeo, Constant Contact, Mailchimp, etc. This is a block that you can have a subscribe form embedded widget, or an embedded Twitter feed or video.

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- Physics Alumni Reception

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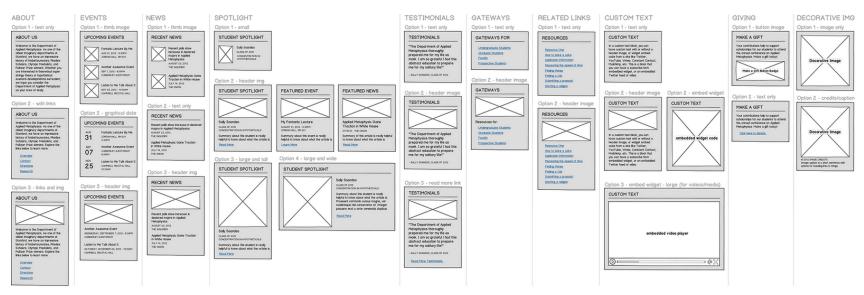
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We started with content

We developed a "**layout library**" — sets of common layouts that we needed to support.

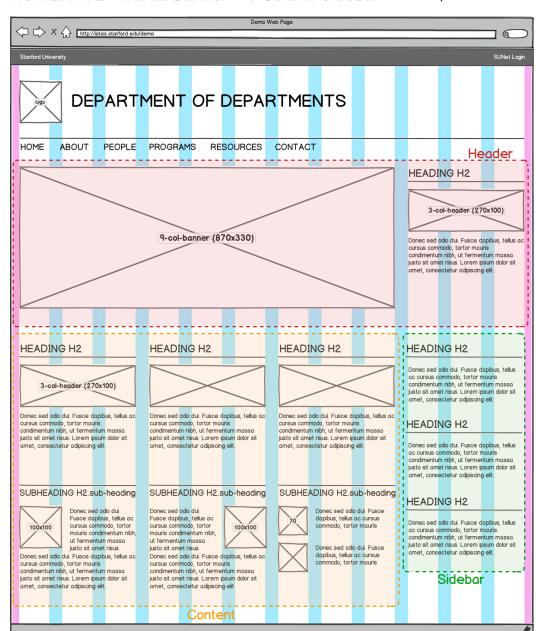


COMMON BLOCKS

Last updated 8/23/12

HOMEPAGE - Partial Banner - 4 Column Sidebar

Last Updated 08/24/12



HEADING H2

Deno Web Page

Deno Web

SUBHEADING H2 sub-heading SUBHEADING H2 sub-heading

HEADING H2

ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa justo sit amet risus. Lorem ipsum dolor sit amet, consectetur adpiscing elit.

2nd Sidebar

Homepage layouts

HEADING H2

Donec sed odo dui. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum ribh, ut fermentum massa justo sit amet risus. Lorem ipsum dolor sit

1st Sidebar

LANDING - NEWS+EVENTS - 3/6/Sidebar Stories + Banner Good when there are very few news/events items. NOTE: Banner only if your homepage banner is full width. Last Updated 08/24/12 http://sites.stanford.edu/demo Stanford University DEPARTMENT OF DEPARTMENTS ABOUT PEOPLE PROGRAMS RESOURCES CONTACT HEADING H2 9-col-banner (870x170) 3-col-header (270x100) Donec sed odio dui. Fusce dapibus, tellus ac cursus commodo, tortor mauris UPCOMING EVENTS RECENT NEWS condimentum nibh, ut fermentum massa justo sit amet risus. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Heading H3 STANFORD REPORT - 08/23/12 3-col-header (270x100) HEADING H2 Summary about this student is really helpful to know about what the article is. Praesent commodo cursus magna, vel scelerisque nisl med-landscape (270x200) Donec sed odio dui. Fusce dapibus, tellus consectetur et. Integer posuere erat a ante Event Title Header H3 ac cursus commodo, tortor mauris venenatis dapibus posuere velit aliquet. 5:30PM - LOCATION NAME condimentum nibh, ut fermentum massa 23 Nullam quis risus eget urna mollis ornare vel ADMISSION INFO justo sit amet risus. Lorem ipsum dolor sit eu leo. Vivamus sagittis lacus vel augue amet, consectetur adipiscing elit. Donec sed odio dui. Fusce dapibus, tellus lacreet rutrum faucibus dolor auctor. ac cursus commodo, tortor mauris Vestibulum id ligula porta felis euismod condimentum nibh, ut fermentum massa Summary about this student is really helpful to know about what the article is. Praesent HEADING H2 More Link commodo cursus magna, vel scelerisque nisl consectetur et. Integer posuere erat a ante venenatis dapibus posuere velit aliquet. Nullam quis risus eget urna mollis ornare vel eu More Link Donec sed odio dui. Fusce dapibus, tellus ac cursus commodo, tortor mauris 3-col-header (270x100) condimentum nibh, ut fermentum massa justo sit amet risus. Lorem ipsum dolor sit Heading H3 amet, consectetur adipiscing elit. STANFORD REPORT - 08/23/12 Event Title Header H3 Summary about this student is really helpful to 5:30PM - LOCATION NAME 23 know about what the article is. Praesent ADMISSION INFO HEADING H2 commodo cursus magna, vel scelerisque nisl med-landscape (270x200) Donec sed odio dui. Fusce dapibus, tellus consectetur et. Integer posuere erat a ante ac cursus commodo, tortor mauris venenatis dapibus posuere velit aliquet. Donec sed odio dui. Fusce dapibus, tellus condimentum nibh, ut fermentum massa Nullam quis risus eget urna mollis ornare vel ac cursus commodo, tortor mauris eu leo. Vivamus sagittis lacus vel augue condimentum nibh, ut fermentum massa laoreet rutrum faucibus dolor auctor justo sit amet risus. Lorem ipsum dolor sit Vestibulum id ligula porta felis euismod amet, consectetur adipiscing elit. Summary about this student is really helpful to know about what the article is. Praesent commodo cursus magna, vel scelerisque nisl consectetur et. Integer posuere erat a ante 3-col-header (270x100) venenatis dapibus posuere velit aliquet. Nullam quis risus eget urna molis ornare vel eu Sidebar Event Title Header H3

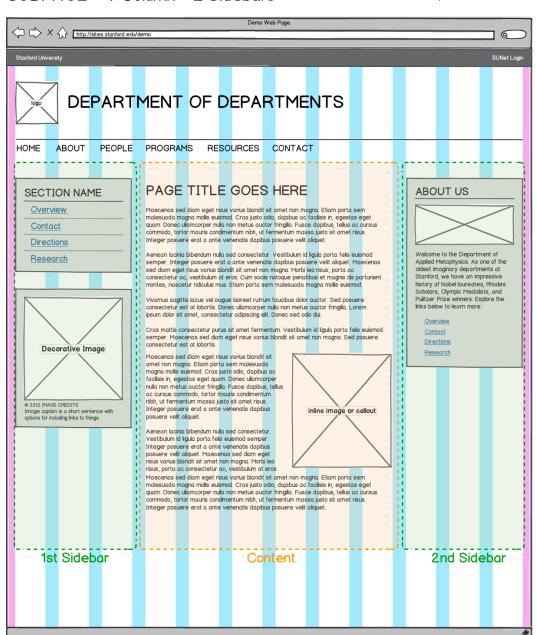
Content

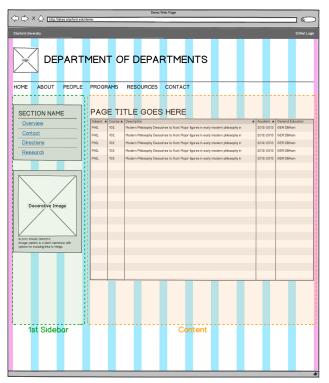
23 S:30PM - LOCATION NAME ADMISSION INFO
Donec sed odio dui. Fusce dapibus, tellus ac cursus commodo, tortor mauris condimentum nibh, ut fermentum massa

More Link

LANDING - 4 Column Sidebar - 2 Column Grid Last Updated 08/24/12 4 items - NOTE: can use header image style or postcard image style X http://sites.stanford.edu/a DEPARTMENT OF DEPARTMENTS RESOURCES CONTACT ABOUT PEOPLE PROGRAMS HEADING H2 HEADING H2 HEADING H2 3-col-header (270x100) onec sed odio dui. Fusce dapibus, tellus ac cursus con auris condimentum nibh, ut fermentum massa justo si Donec sed odio dui. Fusce dopibus, tellus ac cursus commodo, tortor mouris condimentum riibit, ut fermentum mosso justo sit amet risus. Lorem ipsum dolor sit amet, consectetur adipiscing elit. HEADING H2 HEADING H2 HEADING H2 HEADING H2 Sidebar

Landing page layouts

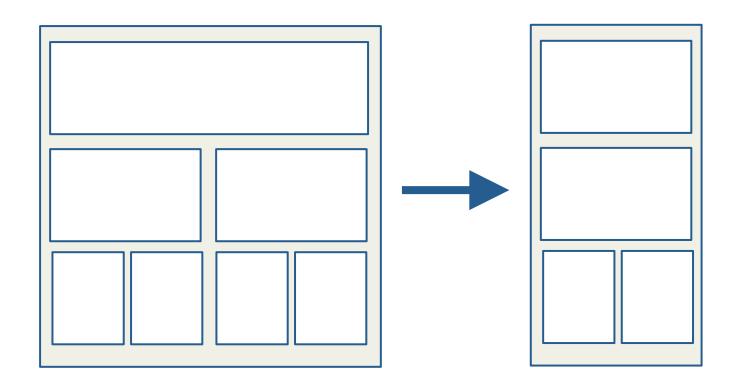


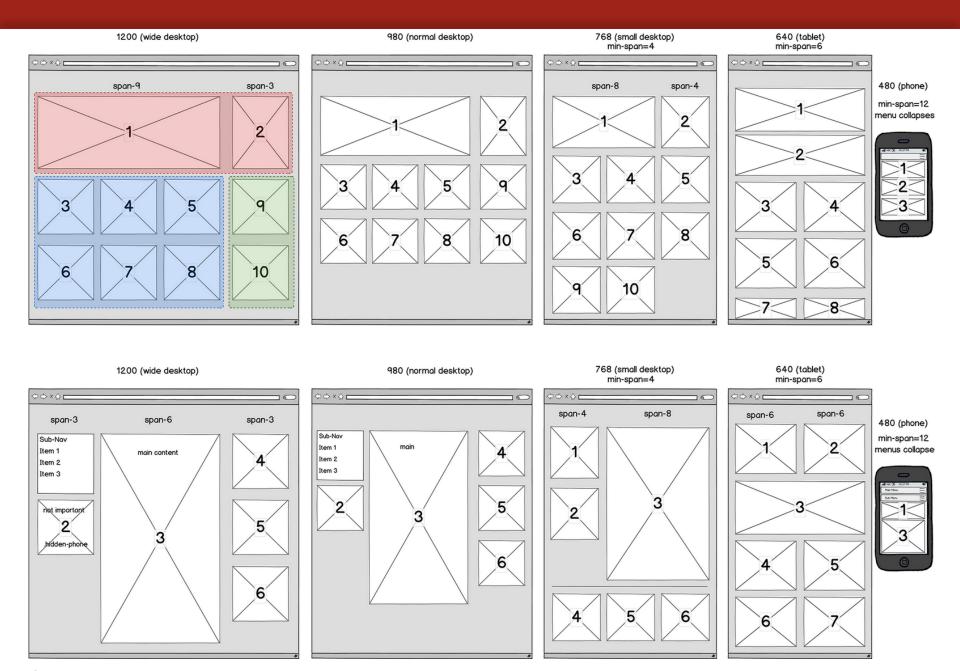


Subpage layouts

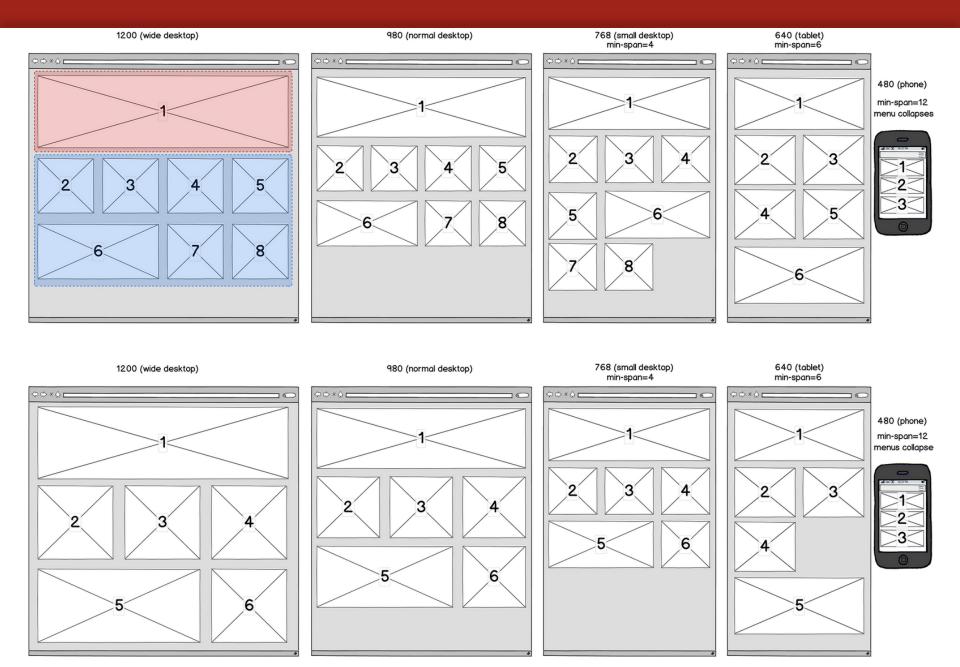
Articulating responsive behavior

We created a set of **responsive flow** wireframes.

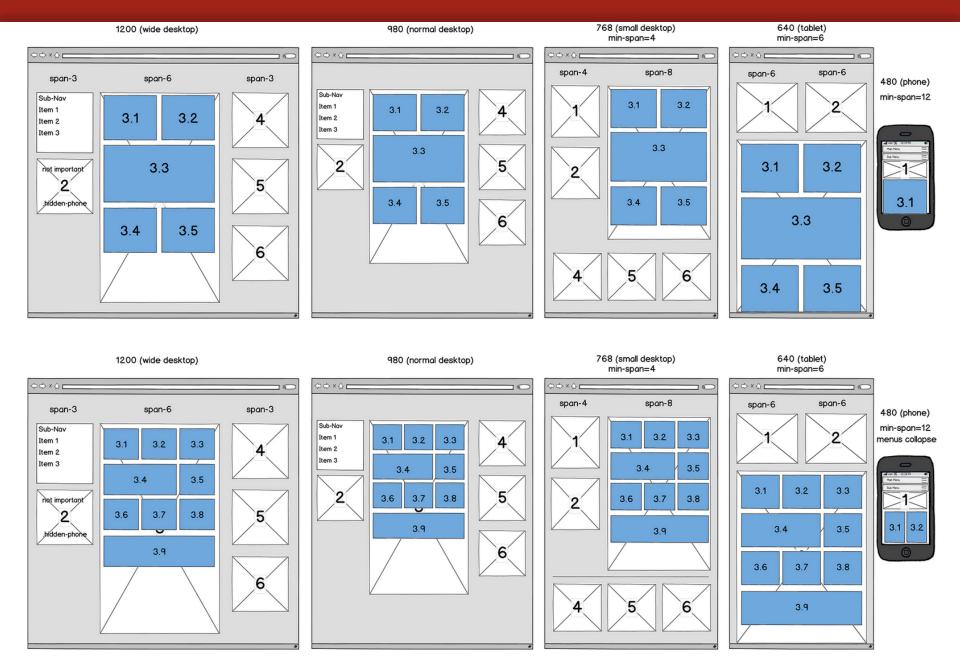




One and two sidebars



No 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

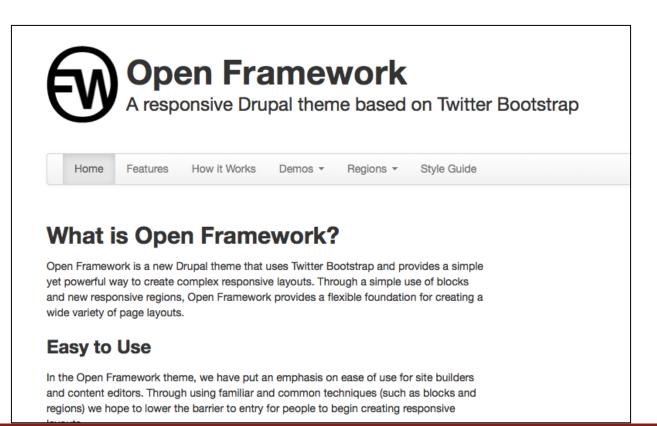
- 12-column grid system
- Grid can be nested infinite grid



Introducing Open Framework

Open Framework

A new responsive Drupal theme based on Twitter Bootstrap.



Open Framework

Sophisticated Easy to use



Sophisticated responsive behaviors

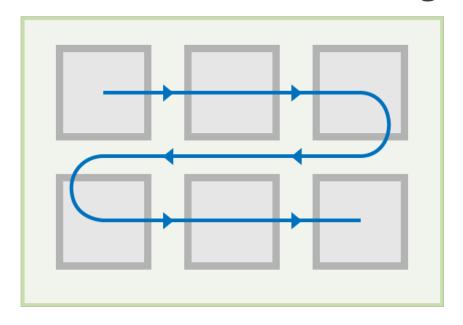
Open Framework provides support for two conflicting responsive patterns:

Row preference

Column preference

Row Preference

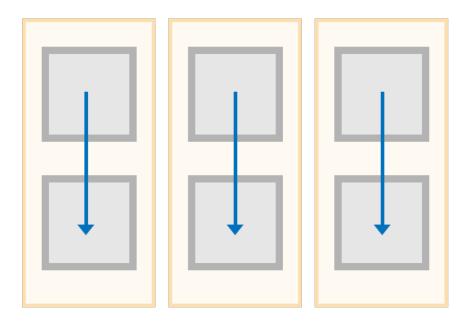
Row preference forces elements to bump other elements down when the screen gets smaller.



We call these "flow" regions.

Column Preference

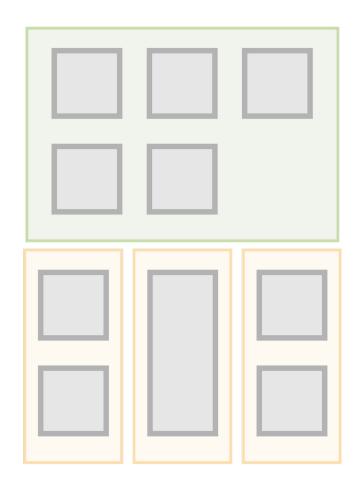
Column preference forces elements to stack side-by-side in columns.



We call these "stacked" regions.

A combination approach

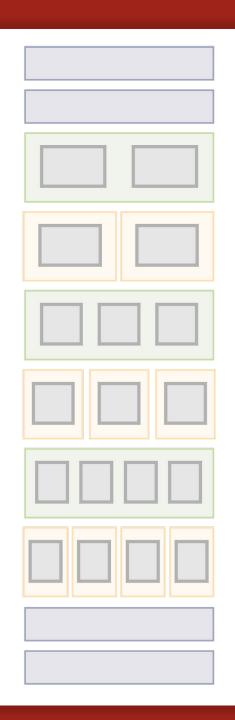
Through a combination of **stacked** and **flow** region behaviors, we can create **complex layouts** that respond well at every breakpoint.



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

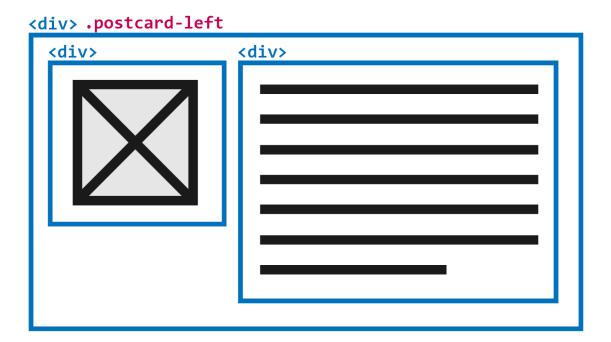
Open Framework takes the basics of Twitter Bootstrap and adds in **Drupal-friendly**, **semantic styles.**

Some examples:

- .more-link
- .descriptor
- .border-simple

Support for common micro-layouts

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



Support for common micro-layouts

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

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

.postcard-left



.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-right

.postcard-right 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-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-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.

.postcard-left-wrap

.postcard-right-wrap

A truly Drupal style guide

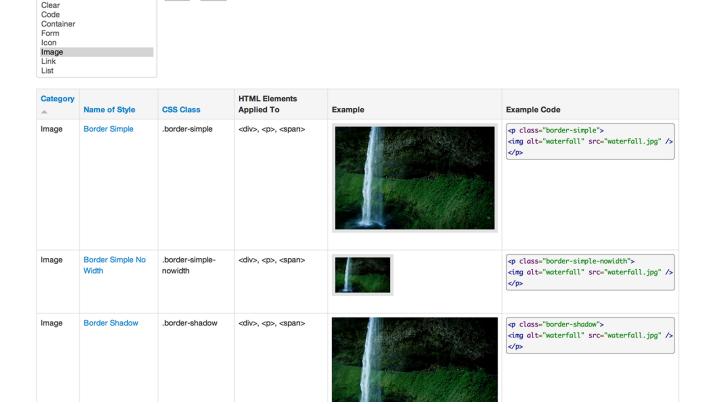
Reset

Apply

Filter by Category

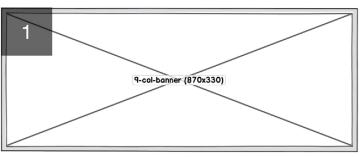
Button

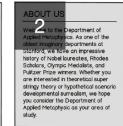
Open Framework has a sortable style guide.



Responsive order overlay

Responsive order overlay toggle that shows how content hierarchy will be handled on small screens.



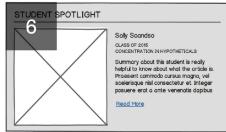














Let's take a look...

http://openframework.stanford.edu



Site Building with Open Framework

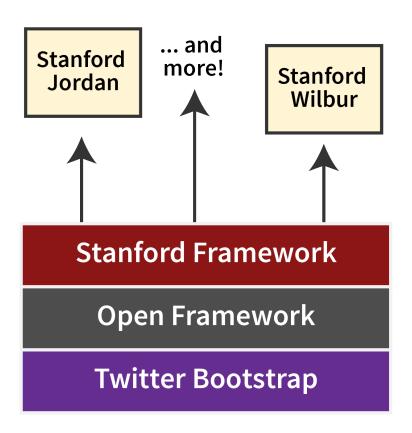
Open Framework at Stanford

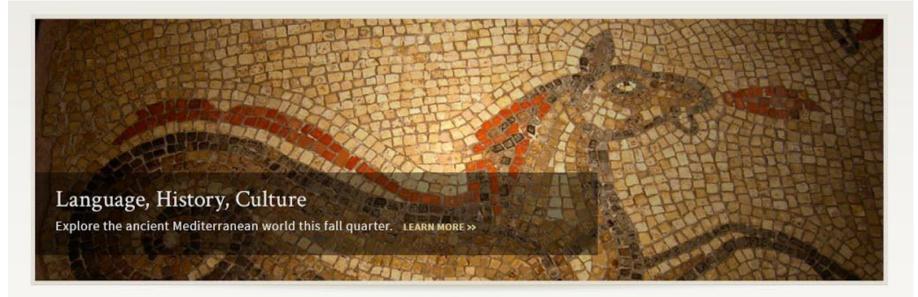
Open Framework provides the **foundation** for **theme development** at Stanford.



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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- Appropriations of Greek Art

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- Greek Art In and Out of Context
- Appropriations of Greek Art

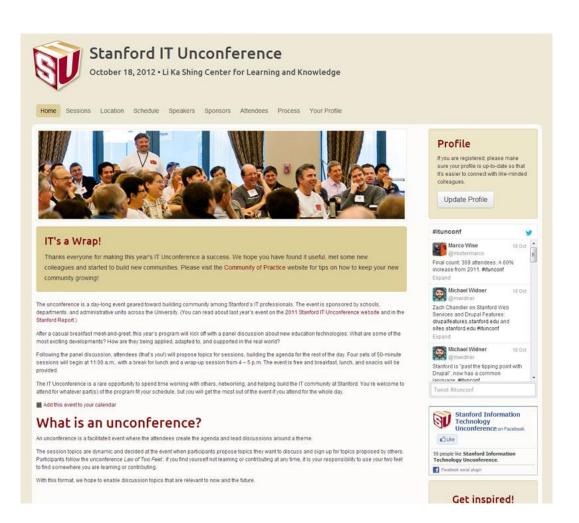
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OFW styled with CSS Injector



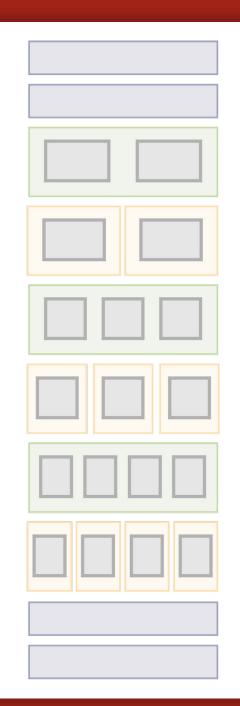


Modules that play nice

- 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) http://www.abookapart.com/products/responsive-web-design
- LukeW Multidevice Layout Patterns http://www.lukew.com and http://www.lukew.com/ff/entry.asp?1514
- Jeffrey Zeldman Content First
 http://www.zeldman.com/category/content-first/
- A List Apart Responsive Web Design
 http://www.alistapart.com/articles/responsive-web-design/
- Ben Callahan Responsive Retrofitting
 http://bencallahan.com/ and https://bencallahan.com/ and https://github.com/bencallahan/rwd-retrofitting

Connect with us

http://openframework.stanford.edu #openframework

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