# PLEASE FINISH MID-COURSE SURVEY

… if you haven’t.

## WEEK 7 - RESPONSIVE DESIGN

GA GENERAL ASSEMBLY

# FEWD

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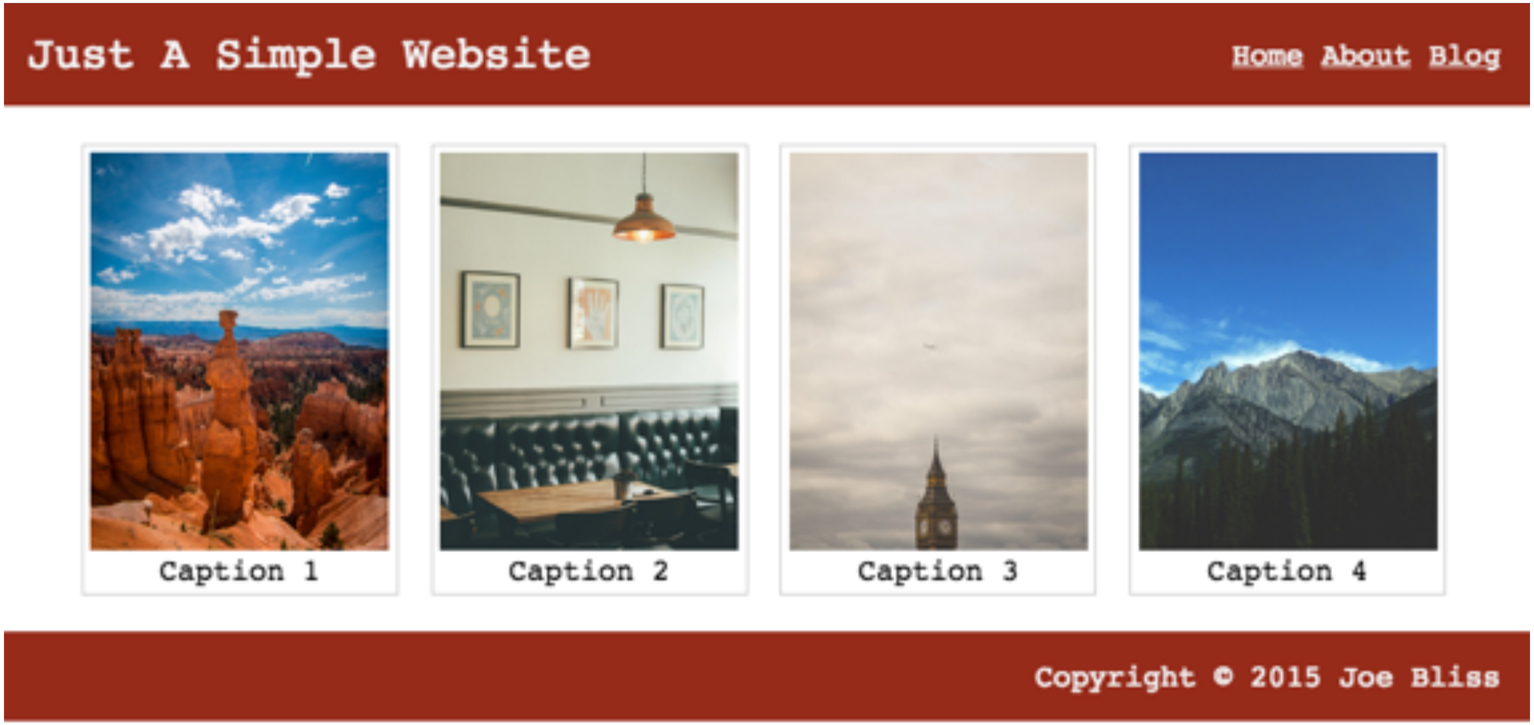
Responsive Design Enthusiast

# AGENDA

Code Warm-Up
Homework Review
Responsive Design
- Fluid Layout
- Media Queries
- Em Typography
CSS Positioning

# CODE WARM-UP

http://codepen.io/josephjbliss/pen/vOMwWe?editors=110



Just A Simple Website

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# FARM PARTY

Questions? Anyone like to share?

# RESPONSIVE DESIGN

What it is?

I heard you want to be a web developer
Here are a few devices to test your site

# RESPONSIVE DESIGN

Designing for the optimal viewing experience agnostic of the device on which the site is being viewed.

We are going to learn how to BUILD responsive sites.

"One site for every screen."

# RESPONSIVE DESIGN

Let’s explore some responsive sites:
http://thenextweb.com/
http://www.abookapart.com/
http://trentwalton.com/
http://www.time.com/time/

What about these makes them "Responsive"?

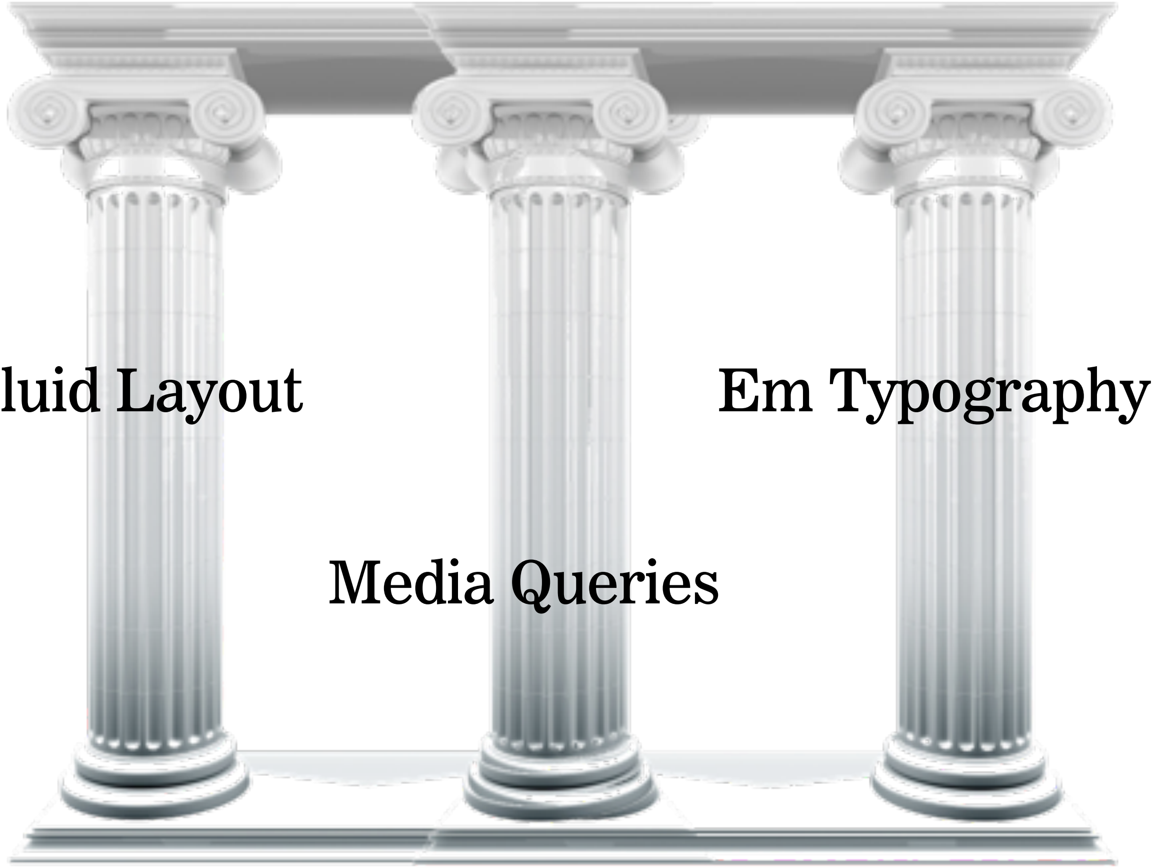
# WHAT’S HAPPENING

Columns are Changing Size

Images are Scaling, Dimensions are Changing
Columns, Navigation Items, are Being Rearranged
Elements Are Being Hidden and Shown

Typography is Changing Size / Ratios

# THREE PILLARS OF RESPONSIVE DESIGN



Fluid Layout

Em Typography

Media Queries

# FLUID LAYOUT

# FLUID LAYOUT

Fluid layout is our first step toward Responsive Design.

We use %'s for our box-model values (height, width, margin, padding) in order to achieve relative sizes based on the browser size.

You cannot set a % border-width.

# CODEALONG – FLUID NAVIGATION

In codepen, we'll make a fluid nav bar.

http://codepen.io/josephjbliss/pen/gjAnJ/

# EXERCISE – STARTUP MATCHMAKER (MATCHMAKER, MAKE ME A MATCH … )

Take a few minutes to think about how you would approach this site.

# FLUID LAYOUT

What’s the problem with fluid layout? Why isn’t it good enough by itself?

# RESPONSIVE DESIGN

~~Fluid Layout - Use of %'s~~

Media Queries

Use of em's

# WHAT IS A MEDIA QUERY?

"A media query consists of a media type and at least one expression that limits the style sheets' scope by using media features, such as width [...] let the presentation of content be tailored to a specific range of output devices without having to change the content itself."

https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Media_queries

# BROWSER-WIDTH MEDIA QUERIES

Within stylesheet:

```
@media only screen and (min-width: 1024px) {
  /* Styles go here */
}
```

"only screen" -> Only target devices with a viewable screen

min-width: 1024px -> Only assign the following styles to windows larger than 1024px

# BROWSER-WIDTH MEDIA QUERIES

Within <link>:

```
<link rel="stylesheet " media="only screen and (min-width: 1024px" href="css/1024only.css">
```

Will assign any styles in the file "css/1024only.css" to the file for browser widths greater than 1024px.

# BROWSER-WIDTH MEDIA QUERIES

min-width: ___px;

- targets browsers greater than or equal to __px wide

max-width: ___px;

- targets browsers less than or equal to __px wide

Can use multiple:

```
@media only screen and (min-width: 320px) and (max-width: 480px) {
    /* These styles will only apply on devices between 320 and 480
    pixels wide. */
}
```

# BREAK POINTS

Classic "Break Points" to target: (>1280px),(1024px), 768px, 480px, 320px

# CODEALONG - ECON NEWS CORP

Let’s turn this pre-existing site into a responsive one!

What decisions do we have to make?

# RESPONSIVE DESIGN

~~Fluid Layout - Use of %’s~~

~~Media Queries~~

Use of em’s

# EM ... WHAT?

An em is a unit of measurement. Just like pixels, ems can determine the size of elements on a web page. Unlike pixels, which are absolute, ems are relative to their parent's font size.

1em is equal to the inherited font size. If the font size of a <div> is set to 16px, 1em within that <div> is equivalent to 16px. If the font size of that <div> changes to 20px, 1em within that <div> is equivalent to 20px.

# LET ME EM-PHASIZE THIS

http://kevinperalta.com/playground/em_size.html

- A good example

# I EM WHAT I EM

And what I em is based one what you are …

```
.element {
   font-size: 20px;
   line-height: 1.2em; //i.e. 24px
   margin: 2em 0; //i.e. 40px 0
}
```

# CARPE DI-EM! SEIZE THE EM!

Set a font-size on the <body> using pixels.

Set your typography based on ems.

Then, in your media queries at smaller sizes, set that <body> font size to be smaller. The other values will cascade down.

# CODEALONG - EM-TYPOGRAPHY

# CODEALONG - RESPONSIVE NEWS

Add em’s to the Econ News Corp

# META TAG

Many handheld devices (iOS retina displays, for example) usually have higher resolutions than the actual "pixel" width of the device itself, making zooming an issue.

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

This ensures that your site is actually being viewed at the width of the device (that you’ve painstakingly created media queries for … ).

Let’s put Roxy online to see why we need to do this.

# RESPONSIVE RULES OF THUMB

Use pixels for font size on <body> and other top-level elements.

Use percents for widths, margins, padding of block elements.

Use em’s for typography (font-size, line-height, etc.)

Include a viewport <meta> tag in your <head>

<meta name="viewport" content="width=device-width, initial-scale=1.0">

# FURTHER READING

http://johnpolacek.github.io/scrolldeck.js/decks/responsive/

# CODEALONG - RESPONSIVE NAV

Let’s build a simple responsive navigation.

# CSS POSITIONING

Static

Fixed

Relative

Absolute

What’s your favorite posish?

# POSITION: STATIC;

Everything that we’ve seen so far has been “position: static;” by default. This is the default for all elements.

You cannot set right, left, top, bottom values to elements with position: static;

A static element is said to be “not positioned” and an element with its position set to anything else is said to be “positioned”.

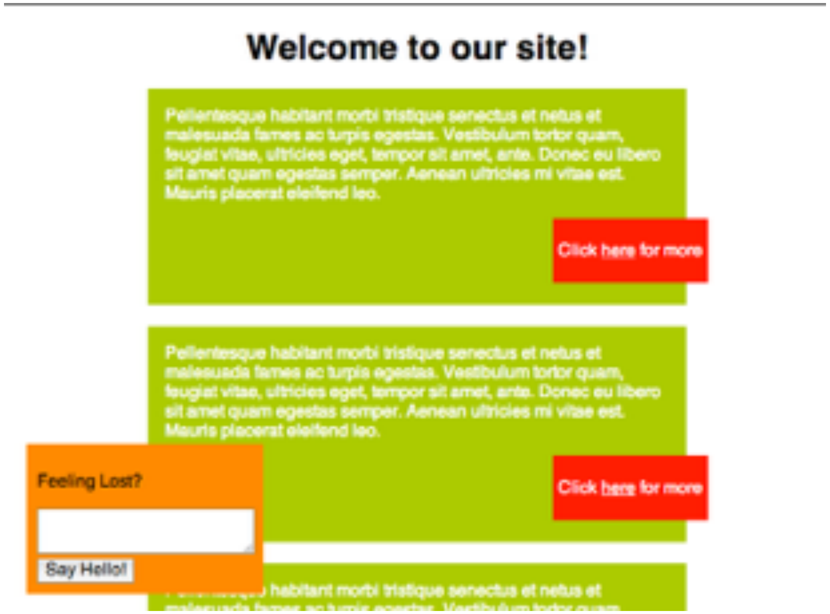
# POSITION: FIXED;

Fixed-position elements don't move when the browser scrolls. They are placed relative to the browser window (top, left, bottom, right). Elements with position: fixed; are removed from the normal flow of the page.

It is "buggy" in older browsers, as well as unsupported in many mobile browsers. (http://caniuse.com/css-fixed)

Usage: Persistent navigation, "Modal" divs, Animation

# POSITION: FIXED;



Welcome to our site!

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo.

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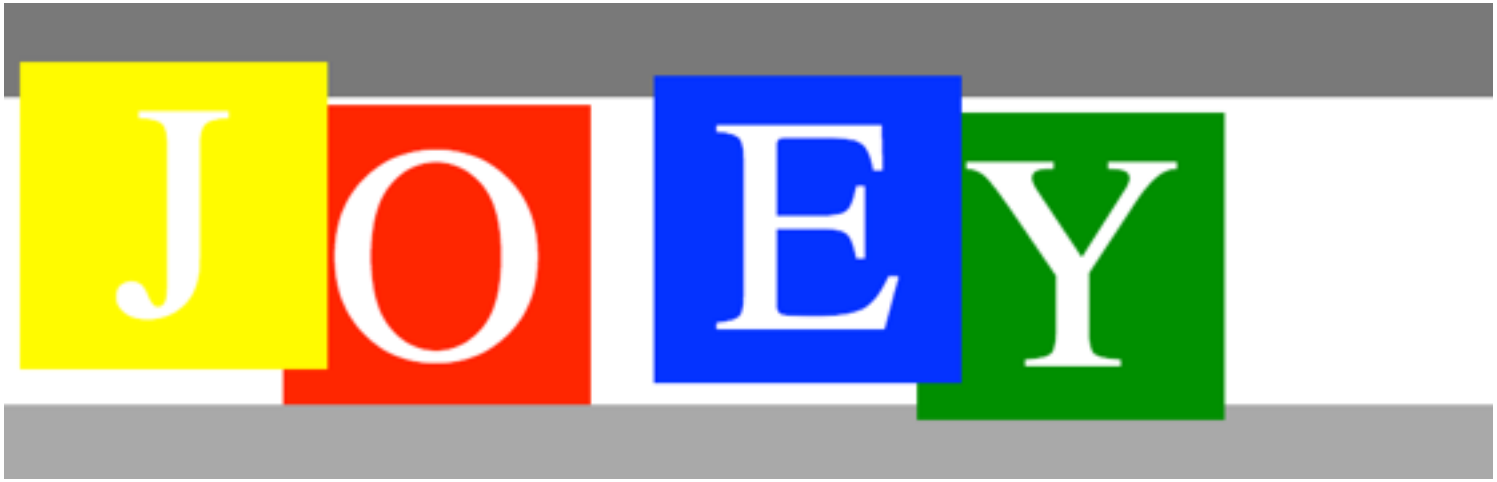
habitant morbi tristique senectus et netus et

Create a chat window:

http://codepen.io/josephjbliss/pen/hxsio

# HOW WOULD WE CREATE THIS?

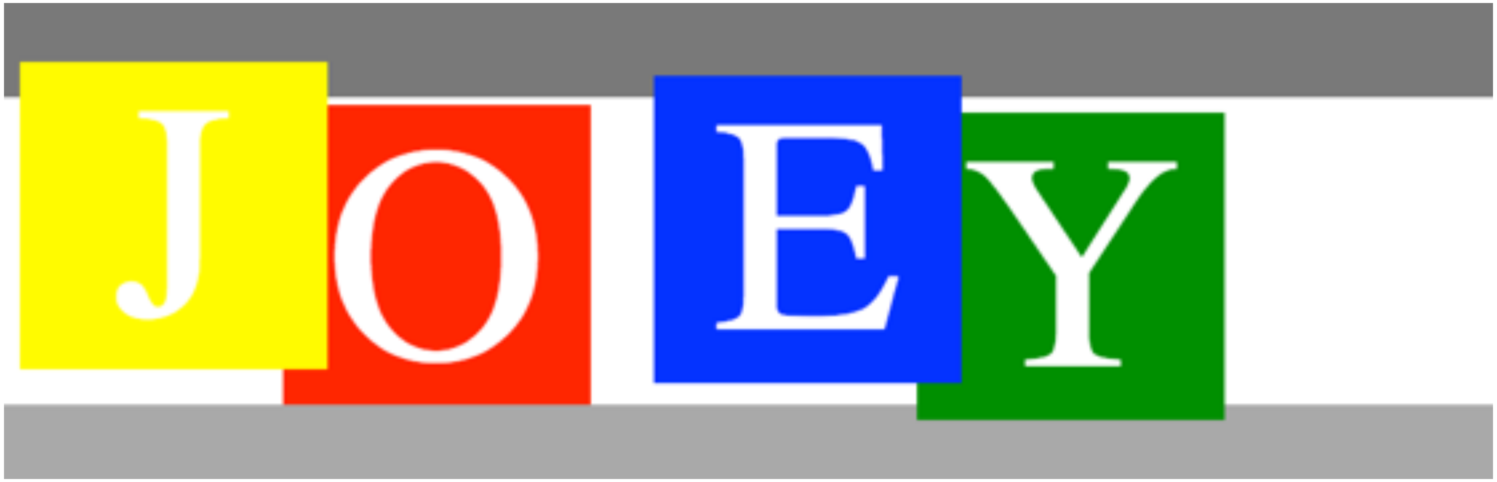


# POSITION: RELATIVE;

When an element is assigned position: relative, this changes its position on the page relative to it's current position. Important to note: the original space for the element is preserved in the page.

Usage: Overlapping elements, providing a reference for an absolute object to be placed within.

# CODEALONG - POSITION: RELATIVE;



http://codepen.io/josephjbliss/pen/txdfD

# POSITION: ABSOLUTE;

An absolutely-positioned element is positioned with respect to it’s nearest parent with a position other than static (relative, absolute, fixed). By default, it is positioned with respect to the browser window.

Absolutely-position elements are taken out of the normal flow of the page.

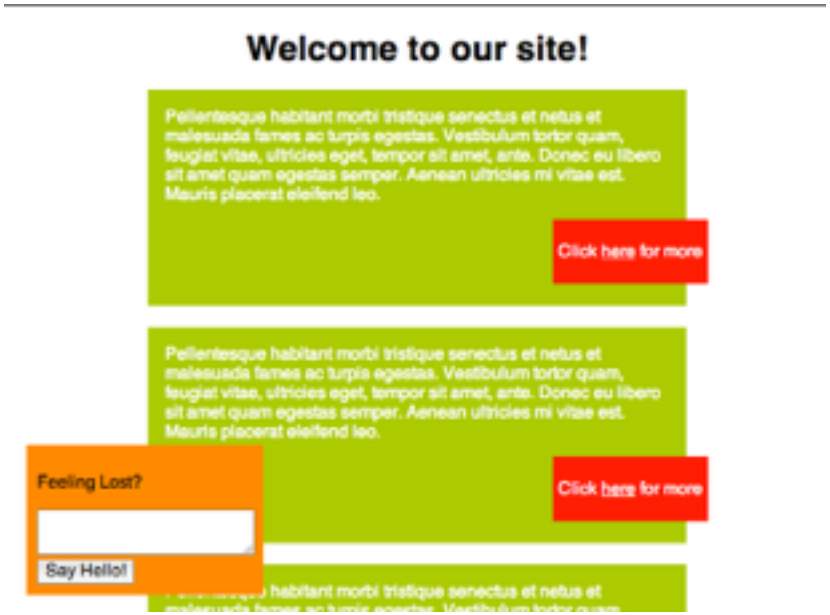
Usage: Animation!, Placing an element within a parent.

# POSITION: ABSOLUTE; + POSITION: RELATIVE;

We can use position: relative; together with position: absolute; to place an object WITHIN another object.

You place position: relative; on the parent object, and then, children of that object with position: absolute; applied to them will determine their placement on the position: relative; object.

# POSITION: ABSOLUTE; + POSITION: RELATIVE;



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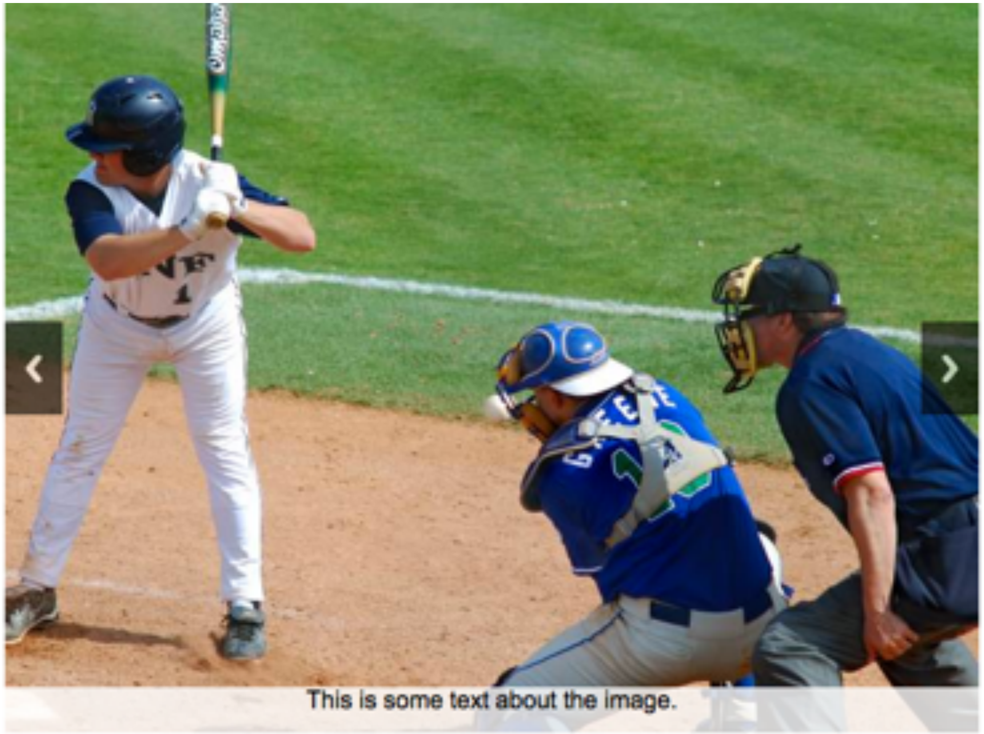
http://codepen.io/josephjbliss/pen/hxsio

# CODEALONG - SLIDESHOW LAYOUT



This is some text about the image.

# EXERCISE – STARTUP MATCHMAKER

Make the startup matchmaker responsive!

Add break points for large desktop users, tablet, and mobile views!

Make design decisions based on these views, i.e. what can be hidden, what can be un-floated.

# FINAL PROJECT MILESTONE

First draft of one page / section of HTML / CSS and at least one JS pseudocode interaction.

This can be extremely rough, just want to make sure you are working on it.