

CSS Master Workshop

How to get the best from CSS3 and HTML5

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Slides at: <http://1drv.ms/1q5grsi>

Agenda

CSS: past, present and future

2

Using CSS for page layouts

36

CSS selectors

83

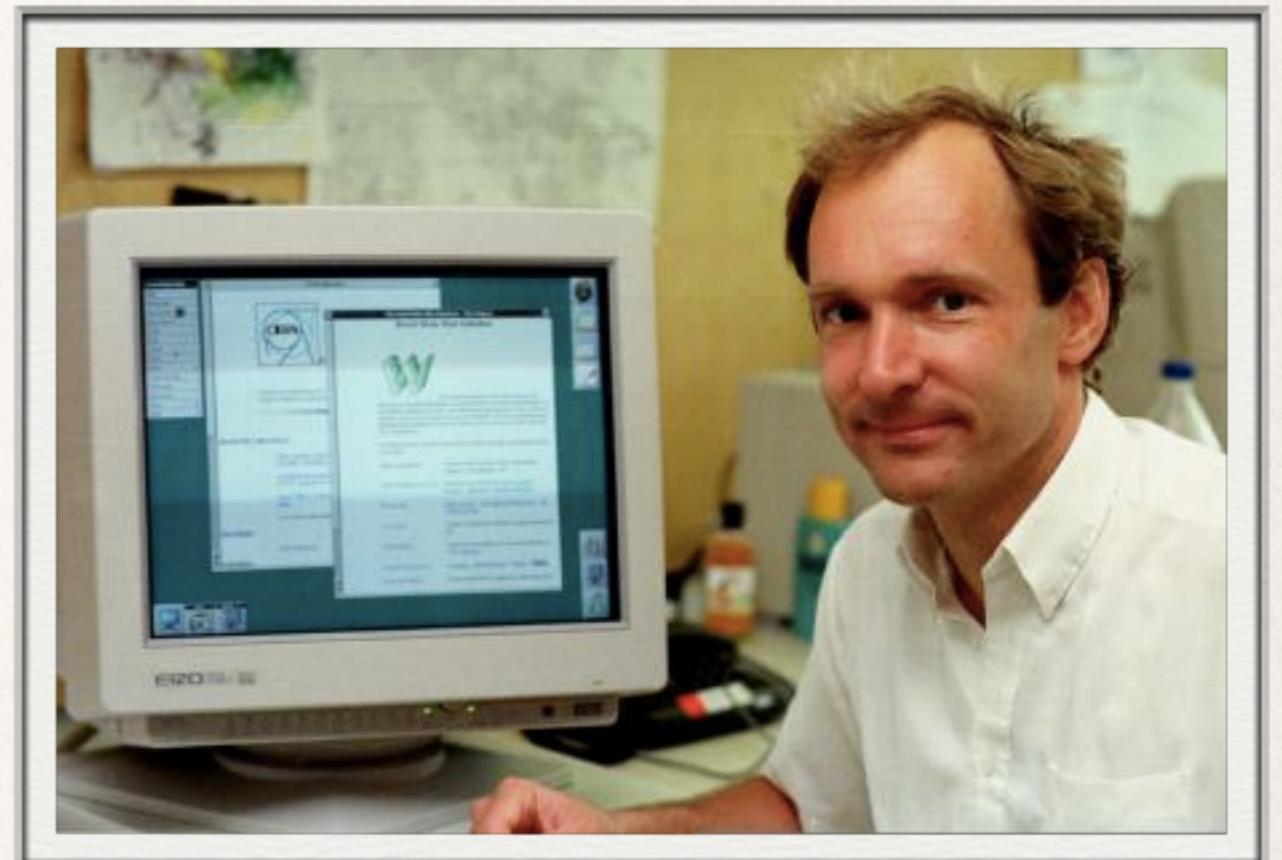
Implementing components with CSS

123

CSS: Past

When The Web Was Young

- Web was used to host documents
- CSS started out as a design layer for these documents
- Think “text editor” style buttons



CSS Changed Your Life

```
<TABLE BORDER="7" CELLPADDING="7" CELLSPACING="10">
<TR BGCOLOR="#00FF00">
<TD><IMG SRC="rrose.gif" ALT="rose"></TD>
<TD><FONT SIZE="18" COLOR="blue">Image is a
transparent .gif.</FONT></TD>
</TR>
</TABLE>
```

CSS Changed Your Life

```
<div class="sidebar">
  
</div>
```

```
<div class="main-content">
  <p>Image is a transparent gif
</div>
```

CSS Complexities

- ❖ As sites grew more complex
- ❖ As browser grew further apart
- ❖ As more machines got online
- ❖ CSS got more complex

90s

**CNN Interactive
PATHFINDER'S**

1996 Year in Review

What were the biggest stories of the year?

It's a question journalists like to ask themselves at the end of every year. Now you can join in the process. Here are our selections for the top ten news stories of 1996.

Disagree with our choices? Then tell us what stories you think were most compelling in the poll below.

TOP 10 STORIES OF 1996

- 1 Israel elects Netanyahu
- 2 Crash of TWA Flight 800
- 3 Russia elects Yeltsin
- 4 U.S. elects Clinton
- 5 Hutu-Tutsi conflict in central Africa
- 6 Peace, elections in Bosnia
- 7 U.S. base bombed in Saudi Arabia
- 8 Centennial Olympic Games
- 9 Advances against AIDS
- 10 Unabom suspect Ted Kaczynski arrested

Poll [Does your year fit?](#) **Quiz** [Test your knowledge!](#)

The top 10 stories according to our users

[TIME: The Best of 1996](#)

[TIME: Man of the Year](#)

Under the Big Top [The Year in Review 1996](#) 

big story BIG?

Year in REVIEW [More 1996 Year in Review](#)

[World News / Health / Sci-Tech / Home on the Internet](#)
[Sports / Business / People & Showbiz / Time Capsule](#)
[Talk of '96 / Trends / Obituaries / '97 Preview](#)

[CNN.com Home](#) **GAMES**

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 **Answering MILLIONS of Your QUESTIONS!**

Ask Me : Where can I find special youth rates on airfare?

Don't forget to bookmark this site!! Hit CTRL+D

Type a question and click "Ask!"

What is a healthy diet?

Ask.com

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FREE PERSONALS • **FIND PEOPLE** • **JOB SEARCH** • **MORTGAGES**

eed information on a car now? [4autoquotes.com has it!](#) - 4autoquotes.com offers access to instant auto insurance rates, new & used car pricing, leases, loans from top companies. How much can you save?

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Early 2000s



The MySpace homepage from 2003 features the classic blue and white design. At the top, the "myspace" logo is displayed with the tagline "a place for friends". A banner above the main content area reads: "MySpace lets you share photos, journals, and interests with your growing network of mutual friends. [Sign up for FREE!](#)". Below this, a section titled "With myspace you can:" lists five features with corresponding icons: "Find Old Friends", "Meet New Friends", "Suggest Matches Between Friends", and "Share Photos". To the right of this list, three steps are outlined: "Step 1: Create a Profile", "Step 2: Invite Your Friends", and "Step 3: Meet Your Friends' Friends". Below these steps are two buttons: "SIGN UP!" and "LOGIN". At the bottom of the page, there's a footer with links to "About MySpace", "Tour", "News!", "FAQ", "Terms", "Privacy", "Contact MySpace", and "Advertiser". A "TRUSTe" logo is also present.

Myspace 2003



The Facebook homepage from 2004 shows a transition in design. The header is blue with the "thefacebook" logo and navigation links for "login", "register", "about", and "faq". The main content area has a blue header with the text "[Welcome to Thefacebook]". Below this, a message says: "Thefacebook is an online directory that connects people through social networks at colleges. We have recently opened up Thefacebook at the following schools:". A long list of college names follows, including Alabama A&M, Alabama Huntsville, Aquinas, Art Chicago, Bellarmine, Belmont Abbey, Bethel KS, Bethune Cookman, Brevard, Brookdale, Caldwell, Catawba, Cedar Crest, Central College, Clarke, COE College, Concord, Concordia MN, Concordia NY, CSU East Bay, CSU Mont. Bay, CUNY Lehman, Delaware State, Delaware Valley, Detroit Mercy, Dowling, Erskine, Evergreen, Fayetteville, FL Southern, Fort Hays, Francis Marion, Franklin, Franklin CH, Franklin Pierce, Full Sail, Georgian Court, Houston Baptist, Incarnate Word, Johnson CC, Juilliard, Juniata, LA Monroe, Lander, Lasell, Lawrence Tech, Lesley, Lincoln MO, Lincoln PA, Marietta, Maryland Art, Maryland Eastern, Marywood, McKendree, Mesa State, Mills College, Monroe, Mount Ida, Muskingum, N.E. Illinois, Nebraska Kearney, New College FL, NJ City, Oakwood, Oglethorpe, Ohio Dominican.

Facebook 2004

Youtube, 2005



CSS Timeline

- ❖ (1996) CSS 1.0
- ❖ (1997) CSS 2.0
- ❖ Working on CSS 2.1 ...
- ❖ (2011) CSS 2.1
- ❖ (Work In Progress) CSS3

Web, 2008 and on

The screenshot shows the official Apple iPhone 3G website. At the top, there's a navigation bar with links for Store, Mac, iPod + iTunes, iPhone, Downloads, and Support. A search bar is also present. The main headline reads "It's here. The new iPhone 3G." followed by the subtext "Twice as fast. Half the price." Below this, there are five images of the iPhone 3G from different angles: showing various apps like mobileME, Gmail, and eBay; the home screen with the Apple logo; and the side profile. Below these images are five descriptive labels: "Enterprise Ready", "App Store", "Phone, iPod, and Internet", "3G Speed Built In", and "Maps with GPS". There's also a section for "Hot News Headlines" featuring links to "iPhone 3G, A Guided Tour", "App Store", "Buy a Mac, get a free iPod", and "This changes everything.". At the bottom, there's a copyright notice and a footer with links for "Apple Online Store", "Site Map", "Hot News", "RSS Feeds", "Media Info", "Environment", "Job Opportunities", and "Contact Us".

The screenshot shows the Windows Live Hotmail sign-in page. It features the Windows Live logo and the tagline "Share life as it happens." Below this is a large image of the Windows logo. To the right, there's a section for existing users with the text "Have an MSN Hotmail, MSN Messenger, or Passport account? It's your Windows Live ID." Below this are fields for "Windows Live ID" (with placeholder text "(example555@hotmail.com)"), "Password", and a "Forgot your password?" link. There are also checkboxes for "Remember me on this computer" and "Remember my password". At the bottom, there are "Sign up", "Help", and "Sign in" buttons, along with a "Use enhanced security" link. The footer includes links for "©2008 Microsoft Corporation", "About", "Privacy", "Trademarks", "Account", "Help Central", and "Feedback".

Hotmail, 2008

Apple, 2008

CSS3 Concepts and Features

- ❖ Divided to modules
- ❖ Earliest drafts published in June 1999
- ❖ Implementations in browsers started around 2008
- ❖ Find all specs details here:
<http://www.w3.org/Style/CSS/specs>

CSS3 Concepts and Features

- ❖ Better separation of presentation and content using new selector spec
- ❖ Adapt to multiple screen sizes:
 - ❖ Media Queries
 - ❖ Less images, more code
- ❖ Design pages, not documents

Core CSS Mischiefs

- CSS was originally designed to style documents
- CSS has kept backward compatibility
- CSS has taken a long time to evolve
- => developer frustration

Core CSS Mischiefs

container is just a
little too high



CSS & Result



2 .divi { width: 33%; outline: 1px solid }

img { width: 100%; }

Core CSS Mischiefs

until you set the
img vertical-align ???



CSS & Result

```
.divi { width: 33%; outline: 1px solid }
```

```
4   img { width: 100%; vertical-align: top; }
```

Core CSS Mischiefs

text on the left side text on the left
side text on the left side text on the
left side text on the left side text on
the left side text on the left side

text on the right side text on the right side text on
the right side text on the right side text on the right side text on
the right side text on the right side text on the right side text on
the right side text on the right side

```
#container {  
    border: 1px solid blue;  
}
```

We want this border to
surround entire container

Core CSS Mischiefs

text on the left side text on the left
side text on the left side text on the
left side text on the left side text on
the left side text on the left side

text on the right side text on the right side text on
the right side text on the right side text on the right side text on
the right side text on the right side text on the right side text on
the right side text on the right side text on the right side text on
the right side

All

```
#container {  
    border: 1px solid blue;  
    3 overflow: auto;  
}
```

So we add an overflow: auto ???

CSS Core Mischiefs

- ❖ Problems developer face with CSS are divided to 2 groups:
- ❖ Implementing a component matching the spec
- ❖ Managing complexities in large code bases

Q & A



CSS: Present

Change In Paradigms

<http://dowebsitesneedtolookexactlythesameineverybrowser.com/>



Developers write (much) more CSS

- ❖ every website needs to look differently on different devices
- ❖ That lead to theories explaining how to write complex (large) CSS files:
 - ❖ OOCSS
 - ❖ SMACSS

Make better use of device

- ❖ Animations
- ❖ Less images
- ❖ Complex layouts
- ❖ <http://www.cssdesignawards.com/>
- ❖ <http://themeforest.net/>

Modern Tooling

- ❖ CSS Frameworks make it really easy to start writing modern CSS
- ❖ Examples:
 - ❖ Twitter Bootstrap
 - ❖ Zurb Foundation
- ❖ Both implement concepts from OOCSS / SMACSS

CSS Layers

States

Modules

Layout

Base

CSS Layers

The screenshot shows the CNN International homepage (edition.cnn.com) displayed in a web browser. The page features a red header with the CNN logo and navigation links for various regions and categories. Below the header, there's a main content area with two large stories about ISIS. On the right side, there's a sidebar for CNN TV and social media links.

Header:

- edition.cnn.com
- Apps, 62.219.140.73/Web, Rulers&Guides, Kendo UI ThemeBuilder, ++ Resizer
- Sign up | Log in
- SEARCH
- POWERED BY Google

Navigation:

- Home, Video, World, U.S., Africa, Asia, Europe, Latin America, Middle East, Business, World Sport, Entertainment, Tech, Travel, iReport

Text:

- June 22, 2014 – Updated 1901 GMT (0301 HKT) Edited by Nick Thompson in London
- Make CNN Your Homepage
- EDITOR'S CHOICE: Scenes from the field • Mayhem in Iraq • DMZ rampage • World Cup • What's the buzz? • Apple watch • Top travel songs • Tacloban
- BATTLE FOR IRAQ
- ISIS terrorists now four towns closer to Baghdad
- How ISIS could bring jihad to West
- ISIS battalions fighting in Iraq and Syria include jihadists who have traveled from Europe -- but what happens when they come home?
- Will they bring terrorism with them? [FULL STORY](#)
- TV Programs
- Full Schedule

Sidebar:

- FOLLOW US
- CNN TV
- Royal Television Society News channel of the year
- Featured TV

CSS Layers

- ❖ Base layer - all elements on page:
 - ❖ Only tag selectors
- ❖ Regions (layout) layer:
 - ❖ Usually special layout classes
- ❖ Modules:
 - ❖ Featured box, menu, article
- ❖ States:
 - ❖ is-active for menu item

CSS Precompilers

```
$blue: #1111FF;
```

```
ul {  
    li {  
        padding: 10px;  
    }  
    a {  
        color: $blue;  
        &:hover {  
            background: white;  
        }  
    }  
}
```



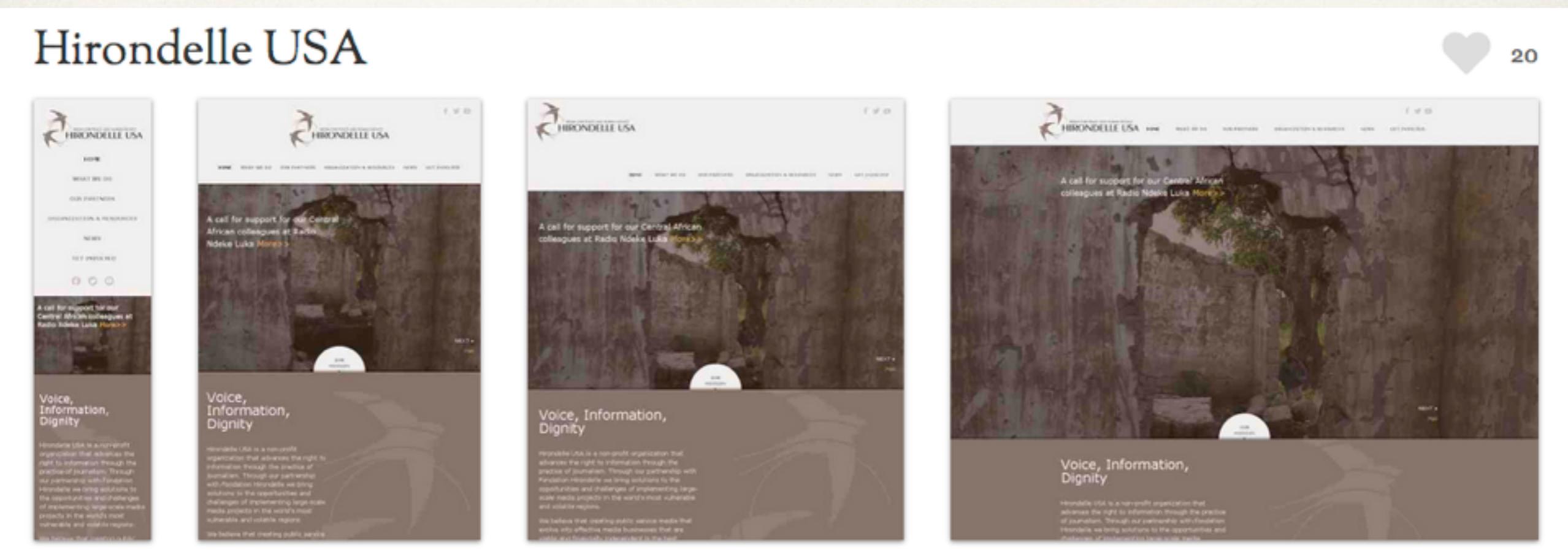
```
ul li {  
    padding: 10px;  
}  
ul a {  
    color: #1111ff;  
}  
ul a:hover {  
    background: white;  
}
```

CSS: Future

Responsive Web Design

Hirondelle USA

20



CSS Layouts

Header

Main Content

...Content 1...

...Content 2...

...Content 3...

...Content 4...

...Content 5...

...Content 6...

...Content 7...

...Content 8...

...Content 9...

Secondary Sidebar

Primary Sidebar

- *...Sidebar Content 1...*
- *...Sidebar Content 2...*
- *...Sidebar Content 3...*
- *...Sidebar Content 4...*
- *...Sidebar Content 5...*

Footer

Web Components

```
<div class="content">
  <input type="text"
    value="bla"
    oninput="document.querySelector('qr-
code').data = this.value"
    autofocus
  />
  <br><br>
  <!-- Using Custom Elements -->
  <qr-code data="http://"></qr-code>
</div>
```

<http://ynonperek.com>



Q & A



Agenda

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Using CSS for page layouts

36

CSS selectors

83

Implementing components with CSS

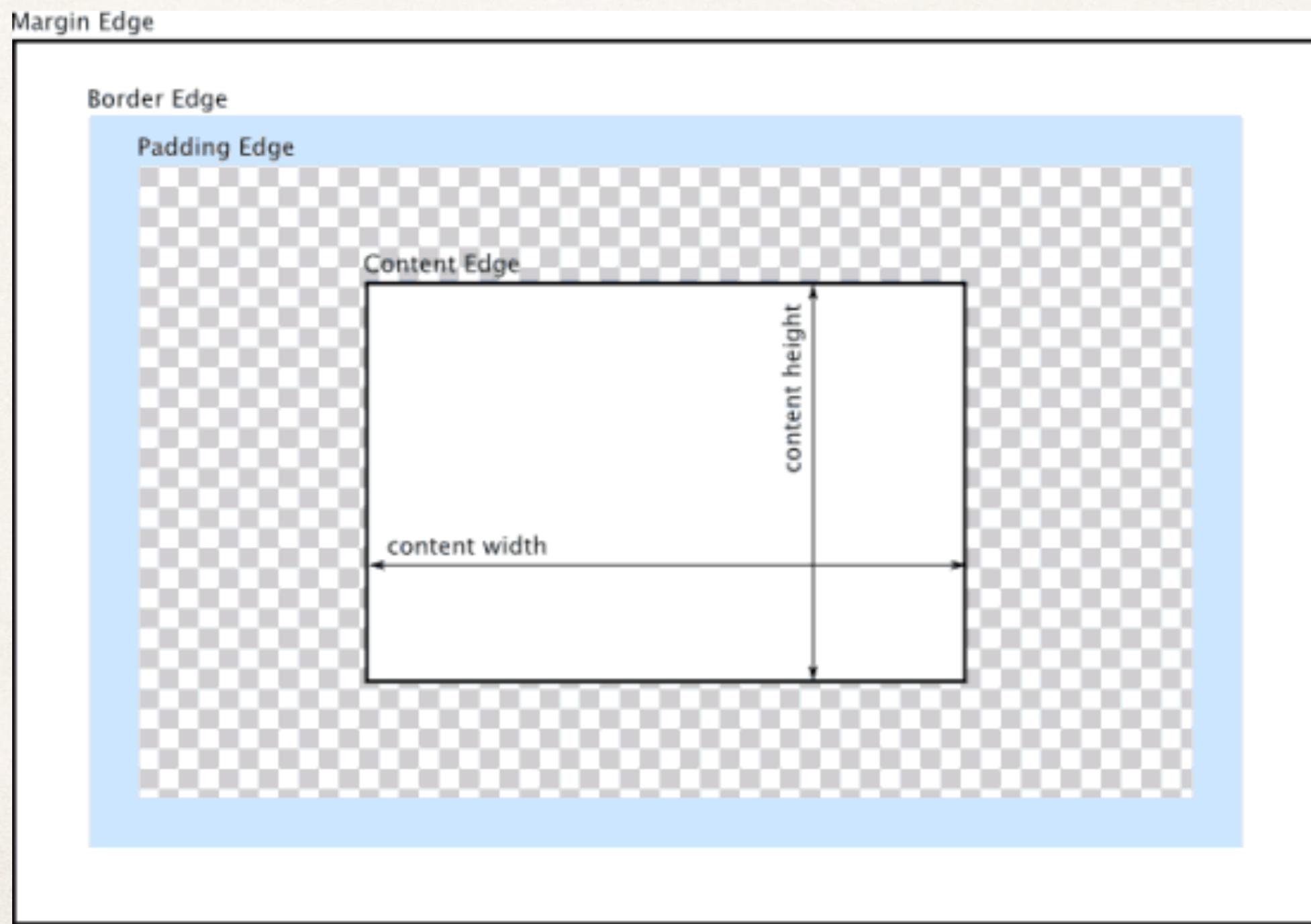
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Basic Page Layout

- ❖ Browsers place elements in a flow
- ❖ Treating each one as a box

Elements [Bob was here](#) are
placed in
boxes

CSS Box Model

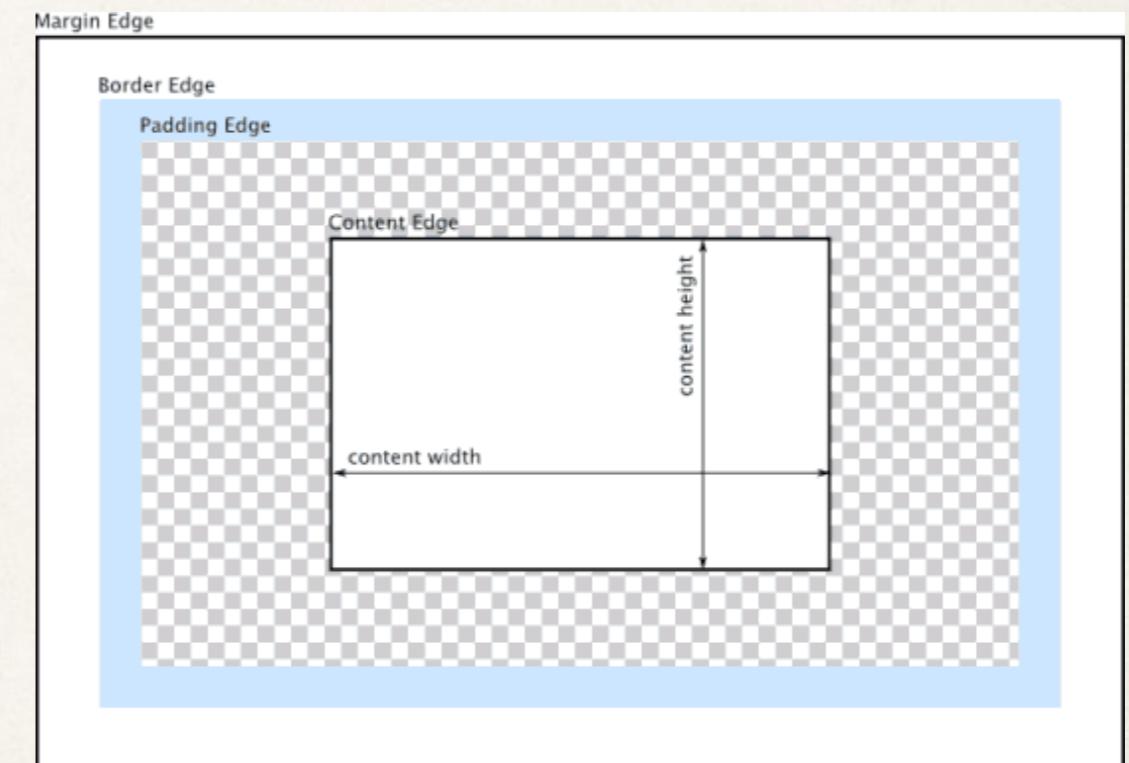


Content Size

- ❖ Innermost box
- ❖ By default controlled by:
 - ❖ width, min-width, max-width
 - ❖ height, min-height, max-heigh

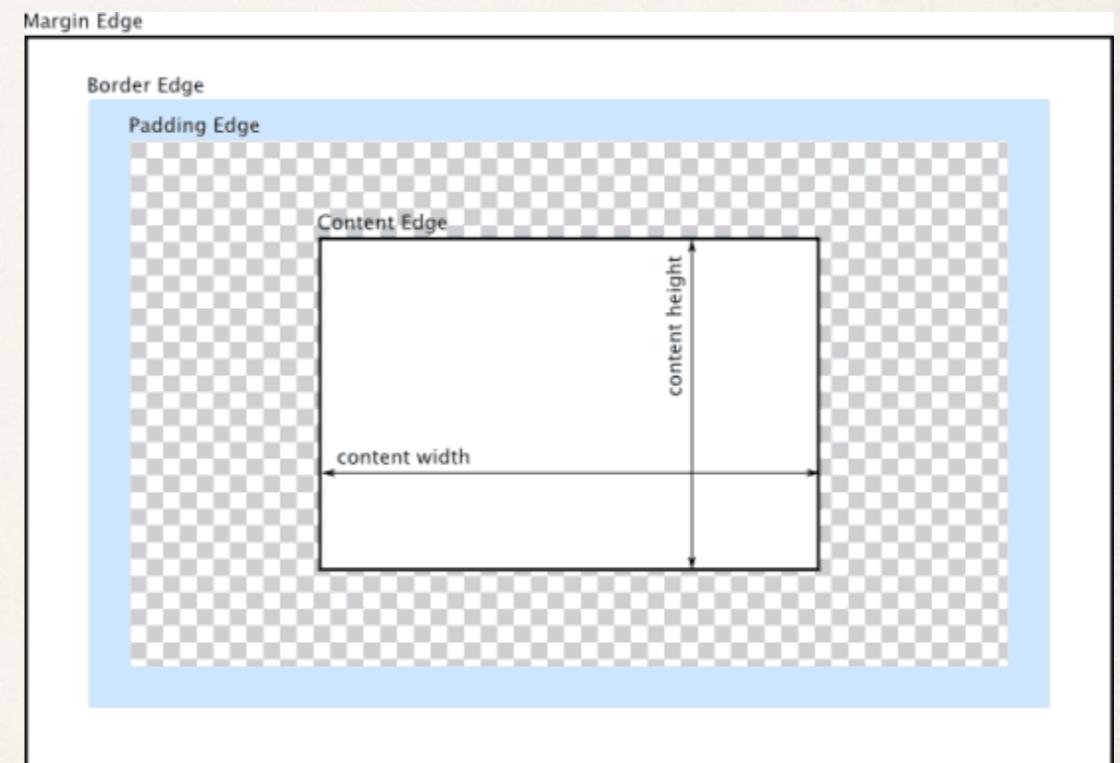
Padding Size

- ❖ Content is surrounded by padding
- ❖ Padding maintains background, but no content
- ❖ Controlled by:
 - ❖ padding
 - ❖ padding-top, padding-bottom, padding-left, padding-right



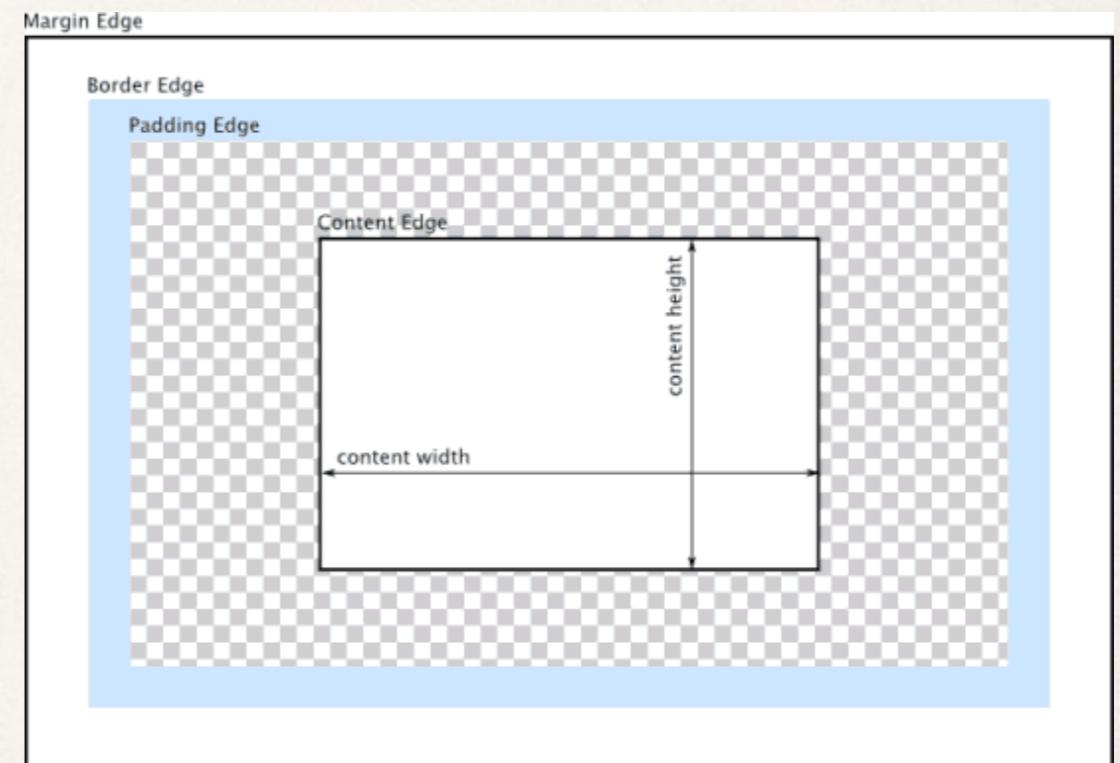
Border Size

- ❖ Border is the area around padding
- ❖ Does not maintain background or content
- ❖ Can have its own properties
- ❖ Controlled with: border-width or border



Margin Size

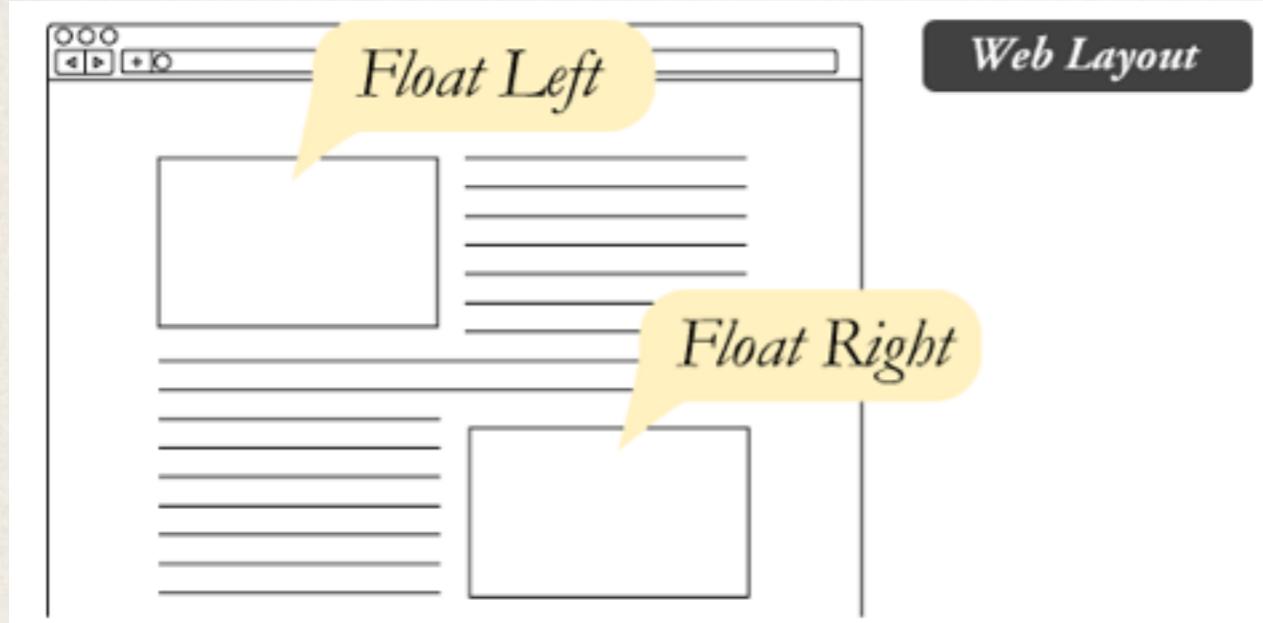
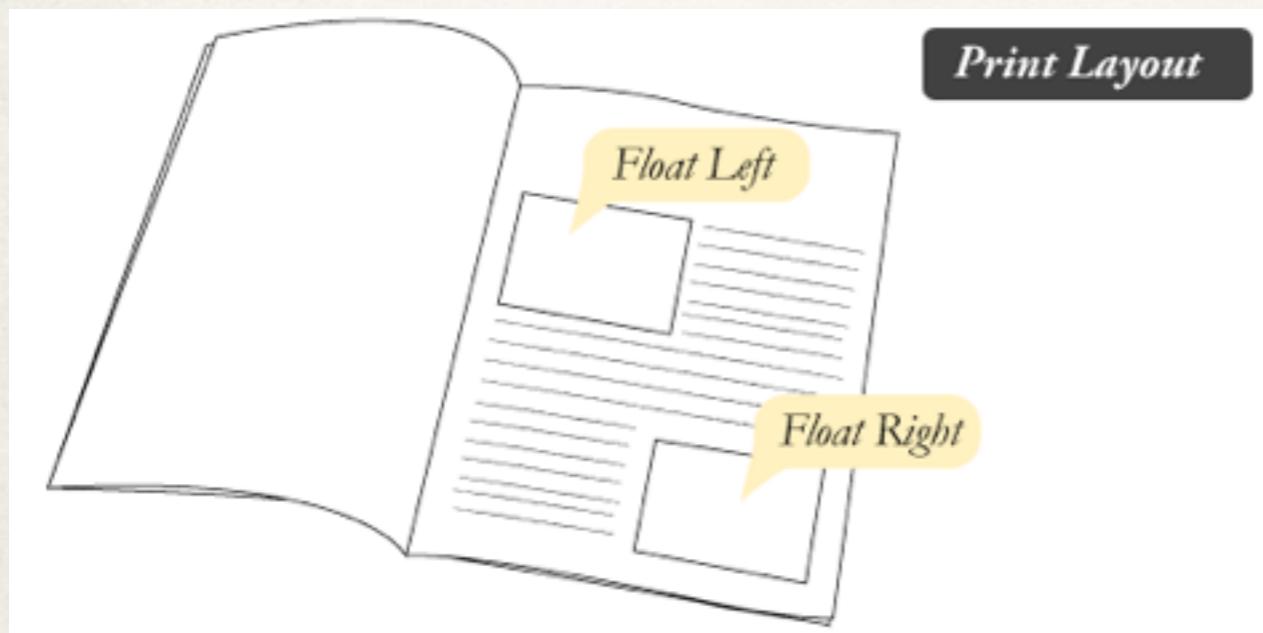
- ❖ Margin is the empty space around border
- ❖ No style
- ❖ Controlled with: margin-top, margin-bottom, margin-left, margin-right (or just margin)



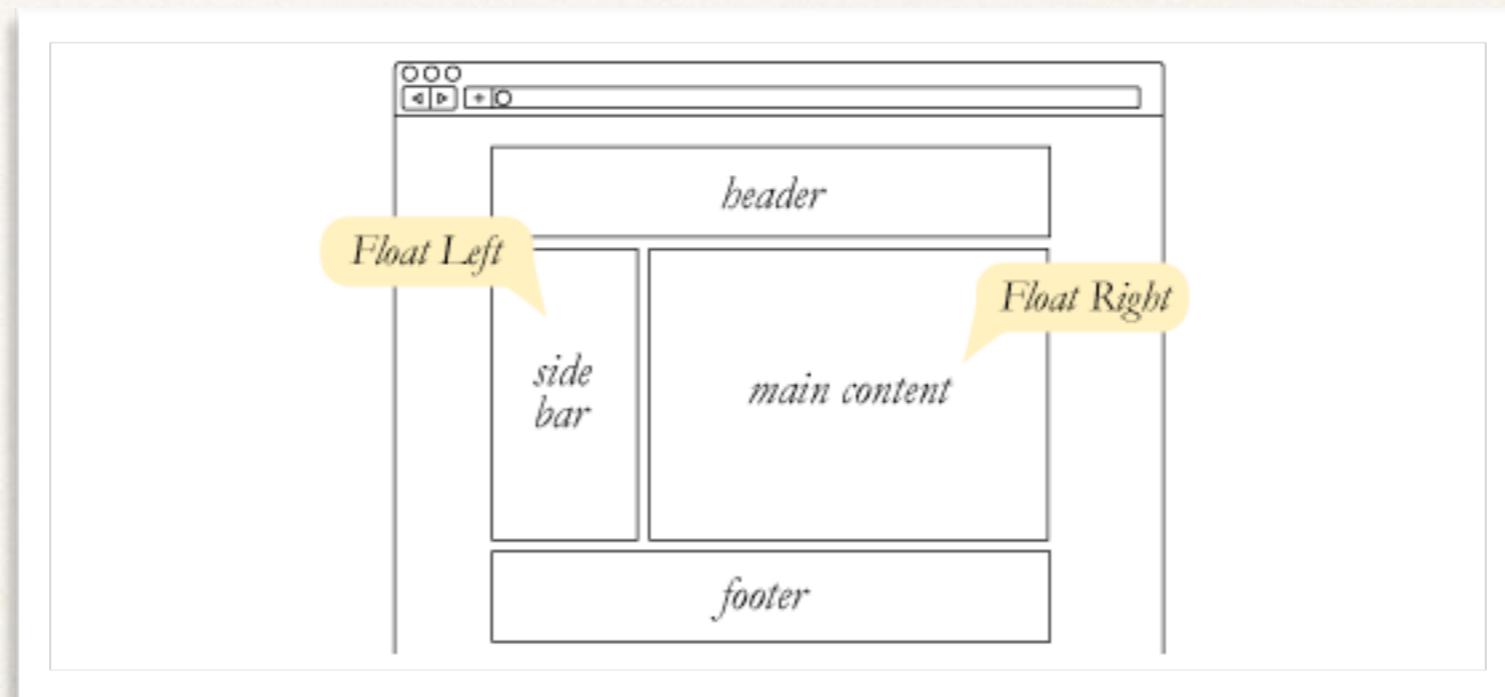
Box Model Caveats: Width

- ❖ { width: 100% } means width of the container
- ❖ Not setting width means “whatever is left”
- ❖ Demo:
<http://jsbin.com/iyenom/1/edit>

Box Model Caveats: Floats



FLOATS IN LAYOUTS



Why people use floats in layout ?

- ❖ They work everywhere (Hi IE6)
- ❖ It's easy
- ❖ Demo

What Can Go Wrong

- Floats dimensions are not what you think
- They may need to be cleared
- Demo: <http://jsbin.com/iyenom/3/>

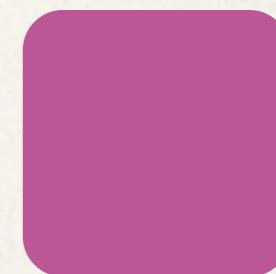
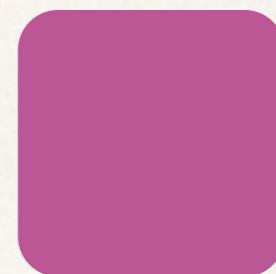
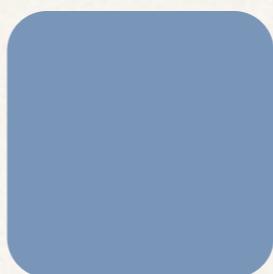
Floated Insights

- ❖ Floats have no height
- ❖ Width is determined by content



Alternative Layouts

- ❖ Use `display: inline-block` to place elements side-by-side
- ❖ Elements will have normal dimensions, so no surprises
- ❖ Except for one...
<http://jsbin.com/udetov/1/edit>



Q & A

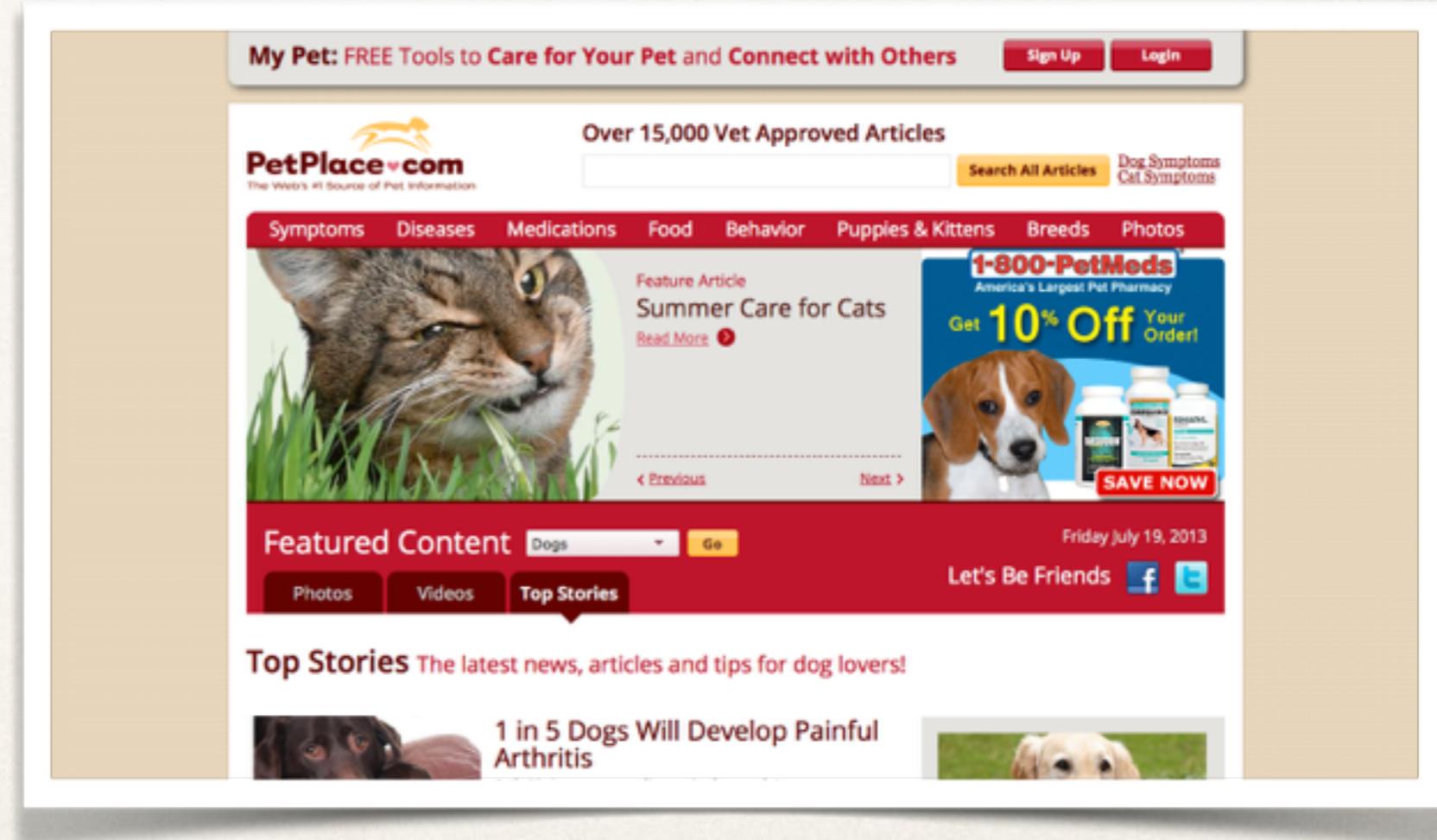


Page Layouts

- ❖ Fixed layout
- ❖ Fluid (liquid) layout
- ❖ Responsive layout

Fixed Layout

- ❖ Layout with “margins”
- ❖ Easiest to build
- ❖ Not fun to users

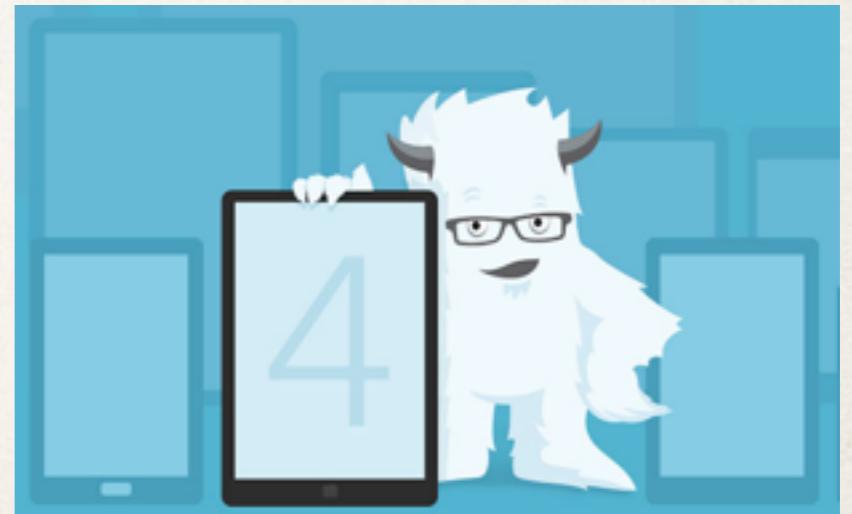


How To Build a Fixed Layout

- ❖ Use floated divs with widths
- ❖ Make sure to clear after each “row”
- ❖ Alternatively, use inline-block

How to Quickly build a fixed layout ?

- ❖ Use an existing grid:
 - ❖ Twitter Bootstrap
 - ❖ Zurb Foundation
 - ❖ Grid960
 - ❖ Skeleton
- ❖ Demo



Fluid Layout

Bins Add library Share HTML CSS JavaScript Console Output Log in Register Help

HTML

```
<!DOCTYPE html>
<html>
<head>
<script src="http://jashkenas.github.com/coffee-script/extras/coffee-script.js"></script>
<meta charset=utf-8 />
<title>Welcome to JS Bin</title>
<meta name="viewport" content="width=device-width">
<link href='http://fonts.googleapis.com/css?family=Doppio+One' rel='stylesheet' type='text/css'>
<script class="jsbin" src="http://ajax.googleapis.com/ajax/libs/jquery/1/jquery.min.js"></script>
</head>

<body>

<div class="wrapper">

  <div id="welcome">
    <h1>Welcome to JS Bin!</h1>
    <p class="bubble"><strong>Hello</strong>, I'm <em><strong>Dave</strong> the <strong>JS Bin</strong> bot</em>. <br/>JS Bin is a JavaScript, HTML and CSS playground. If you want to experiment, learn or help your friends with a problem, then JS Bin is for you.<br/>Have a play and build something <strong>cool</strong> &mdash; and don't forget to <a target="_blank" href="http://twitter.com/js_bin">follow me on Twitter</a>!<small id="message">Oh, and please don't click on, I get rather dizzy...</small></p>
    <h2>Here's just a few of the things I can do:</h2>
  </div>

<div id="features">
```

CSS

```
body {
  padding: 0;
  margin: 0;

  background: #3FA8C6;
  background-image: -moz-linear-gradient(top, #3fa8c6 0%, #3fa8c6 0%, #399ab2 100%);
  background-image: -webkit-gradient(linear, left top, left bottom, color-stop(0%,#3fa8c6), color-stop(0%,#3fa8c6), color-stop(100%,#399ab2));
  background-image: -webkit-linear-gradient(top, #3fa8c6 0%,#3fa8c6 0%,#399ab2 100%);
  background-image: -o-linear-gradient(top, #3fa8c6 0%,#3fa8c6 0%,#399ab2 100%);
  background-image: -ms-linear-gradient(top, #3fa8c6 0%,#3fa8c6 0%,#399ab2 100%);
  background-image: linear-gradient(to bottom, #3fa8c6 0%,#3fa8c6 0%,#399ab2 100%);

  color: #fff;

  font-family: 'Doppio One', sans-serif;
  text-shadow: 0 1px 0 rgba(0,0,0,.3);
  line-height: 1.5;
  -webkit-font-smoothing: antialiased;
}

.wrapper {
  width: 50%;
  margin: 0 auto;
}

h1, h2, h3, h4, h5, h6 {
  letter-spacing: -0.03em;
  font-size: 2em;
}

a {
  border-bottom: 1px solid #fff;
  border-bottom: 1px solid rgba(255,255,255,0.7);
  padding-bottom: 0.15em;
```

Output

Run with JS Auto-run JS



Welcome to JS Bin!

Hello, I'm **Dave the JS Bin bot**. JS Bin is a JavaScript, HTML and CSS playground. If you want to experiment, learn or help your friends with a problem, then JS Bin is for you. Have a play and build something cool — and don't forget to follow me on Twitter! Oh, and please don't click on, I get rather dizzy...

Here's just a few of the things I can do:

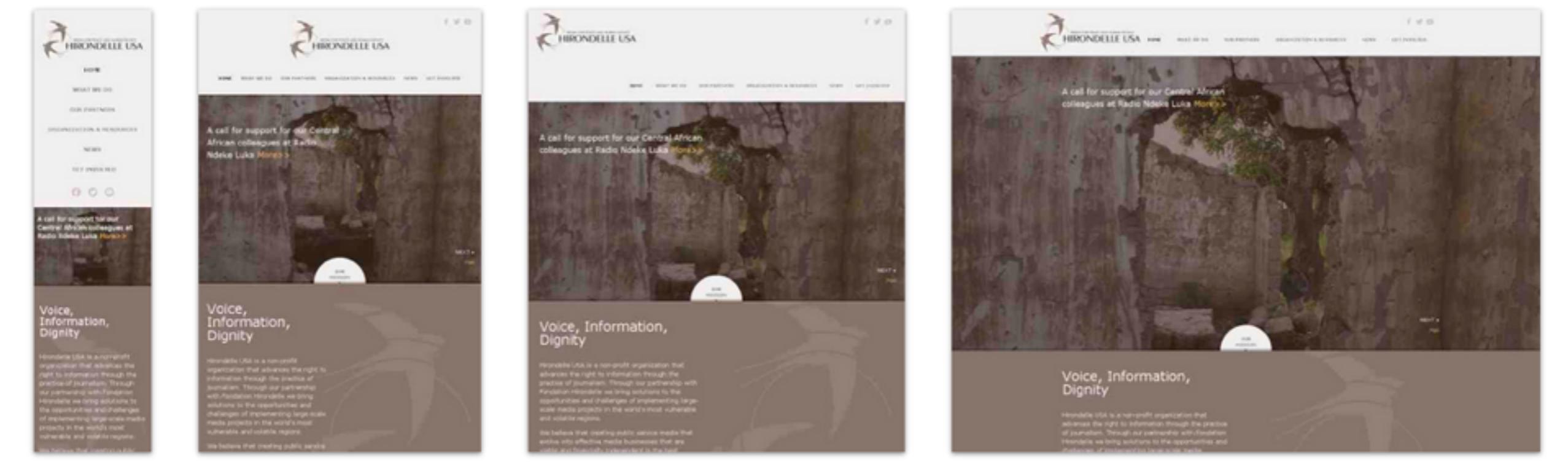
How To Build Fluid Layout

- ❖ Use relative units (percents)
- ❖ Test often (they break easily)
- ❖ Don't use when size varies drastically
- ❖ Easy way: Use a framework

Responsive Layout

Hirondelle USA

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Layout Lab

- Fill in the CSS to create the grid on the right
- HTML at:
<https://gist.github.com/4286294>

Webpage Screenshot



Q & A



CSS Units

Percents, ems, pixels, rem, pts, ...



First there were pixels

- ❖ Size is relative to the monitor
- ❖ “normal” is 1/96 inch
- ❖ Used for fixed layouts

```
div {  
  width: 150px;  
  height: 70px;  
  font-size: 16px;  
  padding: 20px;  
}
```

And percents

- ❖ % is relative to the container
- ❖ Root element is relative to browser size
- ❖ Allows fluid layout
- ❖ Consider box sizing property



And then everything changed

THIS IS THE WEB.



A case for Ems

- ❖ We need media queries to cope with the variation in screen size
- ❖ Each breakpoint needs different fonts and spacings
- ❖ Don't want to change sizes in 50 places

Em Demo

- ❖ Em based produce fixed layouts
- ❖ Layout is fixed to font size
- ❖ Also known as elastic layout
- ❖ Code:
[http://mirificampress.com/
code_examples/
2008_05_07_em_based_layout.
html](http://mirificampress.com/code_examples/2008_05_07_em_based_layout.html)

My EM Based Website Header

Column One

Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want.

Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want.

Column Two

Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want.

Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want.

Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want. Here is some great content for your website. This is the kind of content you want.

The Problem with Ems

- ❖ It's hard to track who's your parent and what their real font size is
- ❖ Long inheritance makes programmers unhappy

Rems to the rescue

rem (root em) units - Candidate Recommendation

***Usage stats:** Global Support: 84.33%

Type of unit similar to "em", but relative only to the root element, not any parent element. Thus compounding does not occur as it does with "em" units.

Show all versions	IE	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Android Browser	Blackberry Browser
								2.1	
								2.2	
						3.2		2.3	
						4.0-4.1		3.0	
	8.0		26.0			4.2-4.3		4.0	
	9.0	21.0	27.0	5.1		5.0-5.1		4.1	7.0
Current	10.0	22.0	28.0	6.0	15.0	6.0-6.1	5.0-7.0	4.2	10.0
Near future	11.0	23.0	29.0	7.0		7.0			
Farther future		24.0							

Notes Known issues (1) Resources (2) Feedback Edit on GitHub

No notes

Rems to the rescue

- ❖ Stand for root ems
- ❖ A rem is an rem, relative to the root element
- ❖ Root element is <html>
- ❖ Demo

Lab

- ❖ Write the HTML and CSS for the following form
- ❖ Don't bother with design - just the layout

The image shows a registration form titled "Register5!" with a red ribbon banner that says "100% HTML5". The form has three fields: Name (Michael), Email (michael@gmail.com), and Password (represented by a series of dots). Each field has a green checkmark to its right, indicating validation. The form also includes a success message ("Go on, you're doing great!") and a progress bar. At the bottom, there is a "Thanks for filling out the form!" message and a "Register5!" button.

100% HTML5

Register5!

Go on, you're doing great!

Name: Michael ✓

Email: michael@gmail.com ✓

Password: ✓

Thanks for filling out the form!

Register5!

But what about fluids ?

- ❖ Using % for page layouts is cumbersome
- ❖ They don't play well with borders
- ❖ Flexbox to the rescue

Flexbox browser support

# Flexible Box Layout Module - Candidate Recommendation										*Usage stats:	Global
Method of positioning elements in horizontal or vertical stacks.										Support:	35.02%
Show all versions	IE	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Android Browser	Blackberry Browser	Total:	43.78%
										2.1	-webkit-
										2.2	-webkit-
						3.2	-webkit-	2.3	-webkit-		
						4.0-4.1	-webkit-	3.0	-webkit-		
	8.0		26.0	-webkit-		4.2-4.3	-webkit-	4.0	-webkit-		
	9.0	21.0	-moz-	27.0	-webkit-	5.1	-webkit-	5.0-5.1	-webkit-	4.1	-webkit-
Current	10.0	-ms-	22.0	28.0	-webkit-	6.0	-webkit-	6.0-6.1	-webkit-	5.0-7.0	7.0 -webkit-
Near future	11.0		23.0	29.0		7.0	-webkit-	7.0	-webkit-		
Farther future			24.0								

Notes

Known issues (1)

Resources (4)

Feedback

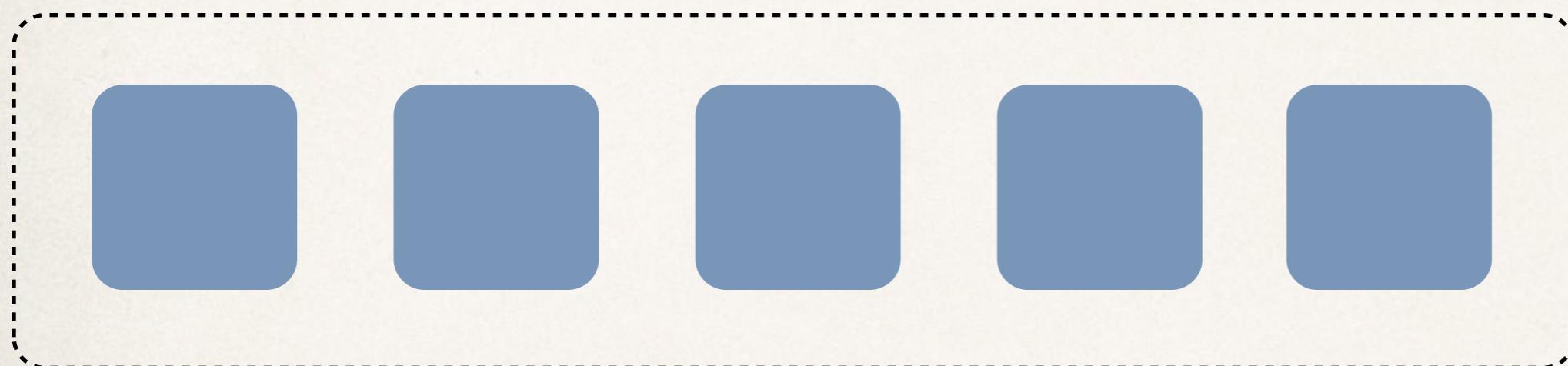
Edit on GitHub

Most partial support refers to supporting an [older version](#) of the specification or an [older syntax](#). For Firefox 21+ it refers to lack of flex-wrap & flex-flow support.

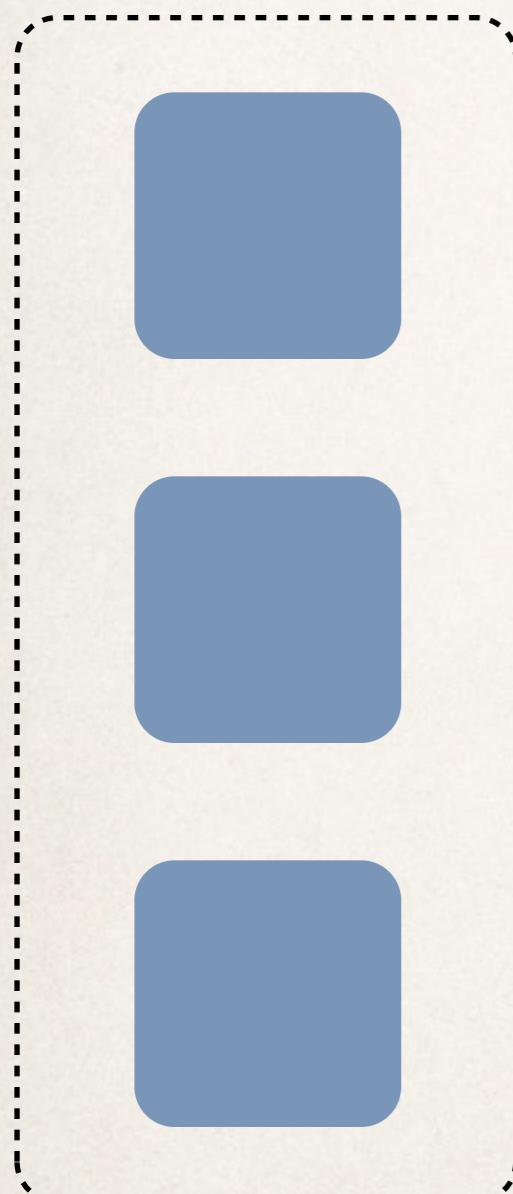
Flexbox to the rescue

- ❖ Flexbox is a layout manager
- ❖ Known as HBoxLayout or VBoxLayout in other frameworks
- ❖ Arrange items in boxes: vertical or horizontal

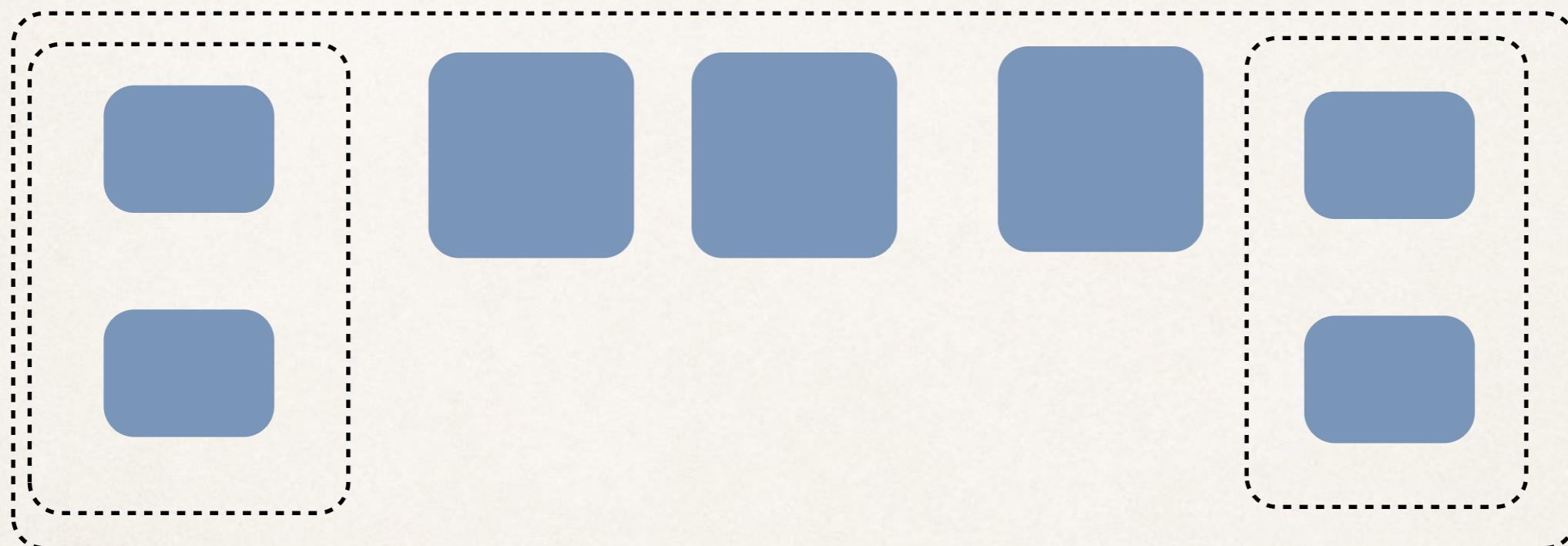
Horizontal flexbox



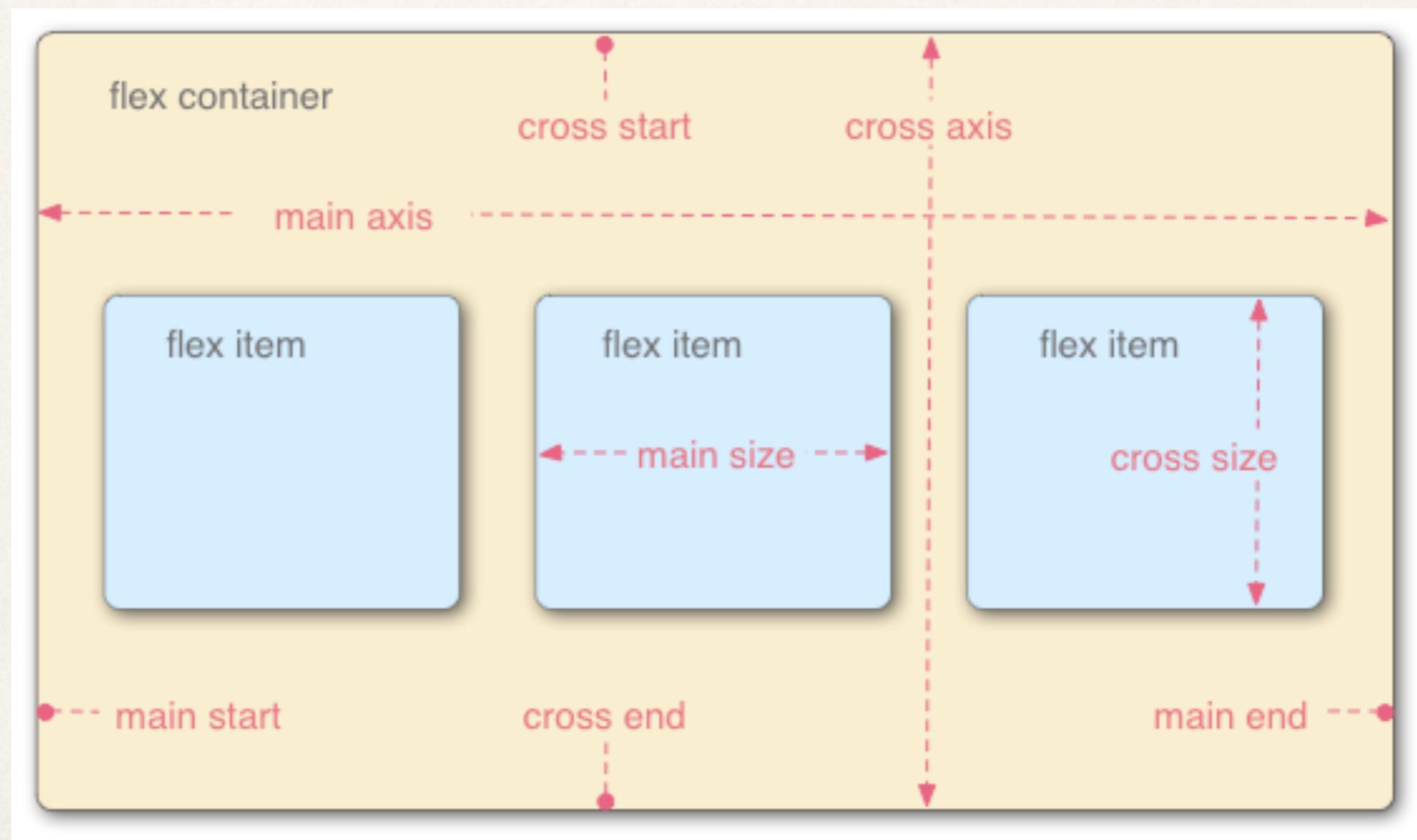
Vertical flexbox



Combined Flexbox



Flexbox concepts



Hello Flexbox

- ❖ Demo: Using flexbox to create columns

a left column text is just some text that is displayed on the left column. You can read it by looking left

a left column text is just some text that is displayed on the left column. You can read it by looking left

Flex Props

- ❖ Use `display: flex` on a container to flexify
- ❖ Use `flex: [count]` on an item to choose flex factor

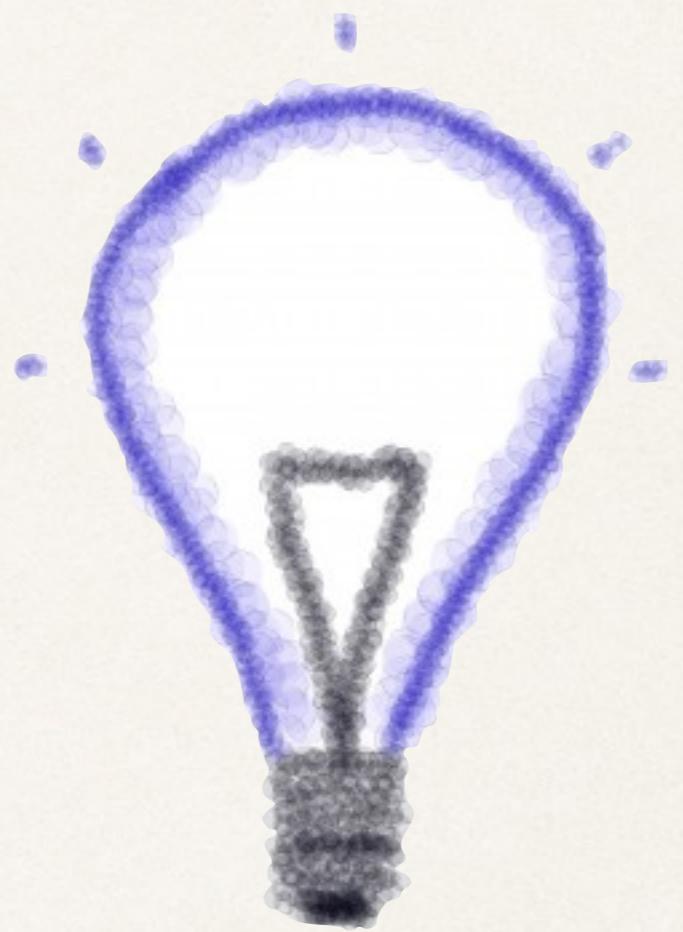
Vertical Flexboxes

- ❖ Not as useful since it's the same as no-flex
- ❖ Used to quickly change from horizontal to vertical (think mobile)
- ❖ Demo

Other Flex Advantages

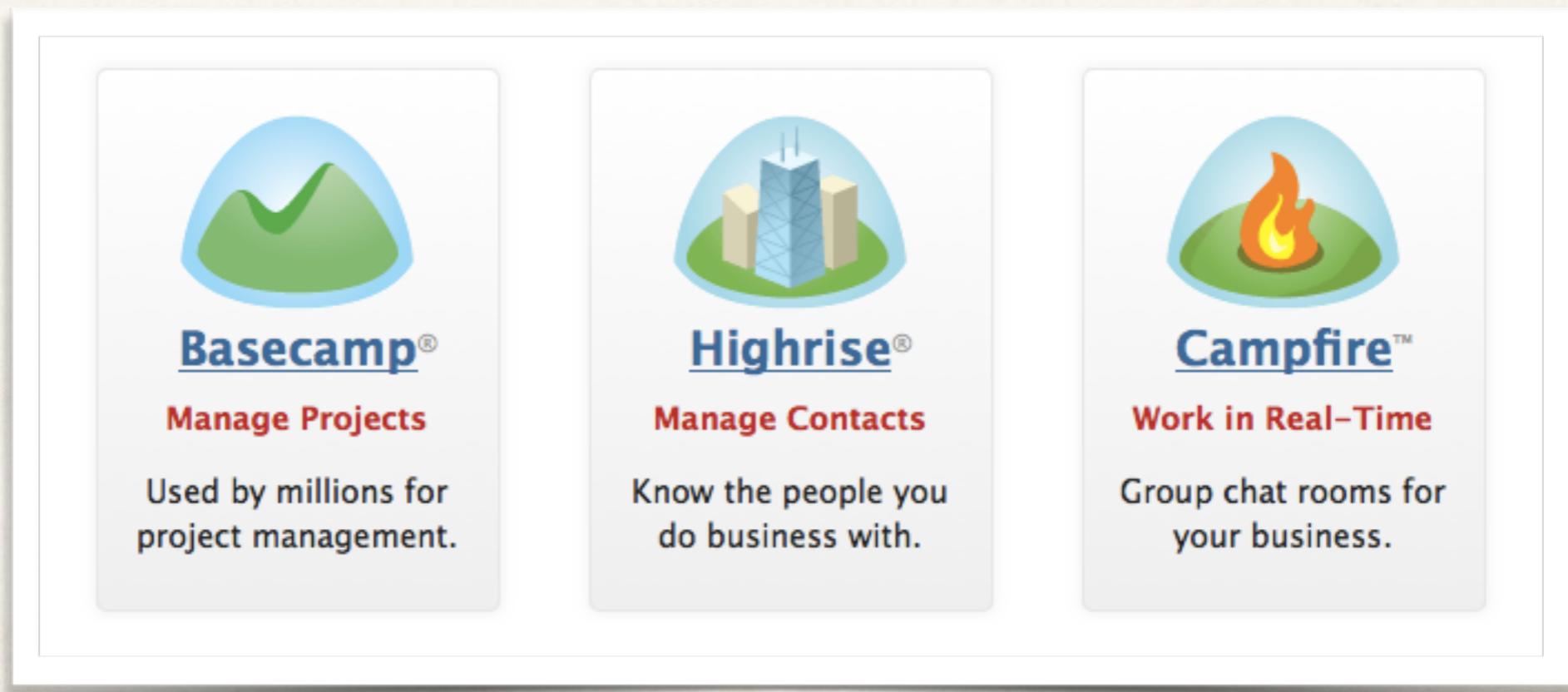
- justify-content determines the placing order of elements (so centering is a breeze)
- Can combine fixed-width item with flex.
- Equal height columns works out-of-the-box

Q & A



Lab 1

- ❖ Implement HTML and CSS for the following using flexbox
- ❖ div image: <http://ynonperek.com/static/basecamp.png>



Lab 2

- ❖ Implement HTML and CSS for the following using twitter bootstrap grid

Aaron Gustafson @AaronGustafson 12h

Smartphone Browser localStorage is up to 5x Faster than Native Cache mobify.com/blog/smartphon...

Collapse Reply Retweet Favorite Pocket More

7 RETWEETS	5 FAVORITES	
------------	-------------	--

4:35 AM - 24 May 13 · Details

Agenda

CSS: past, present and future

2

Using CSS for page layouts

36

CSS selectors

83

Implementing components with CSS

123

Why Selectors Level 3

- ❖ Selectors help separate content from presentation
- ❖ They let you modify presentation without touching content (no need to add special classes)
- ❖ That said, they can easily be misused

Review: Tag Selector

- Used in the base layer
- Sets style throughout the page

```
a {  
  text-decoration: none;  
  color: black;  
}
```

```
body {  
  background: #d7d7d7;  
}
```

```
h1 {  
  font-size: 3em;  
}
```

Review: ID Selector

```
#content { width: 960px; margin: 0 auto; }
```

```
<div id="content">  
</div>
```

Review: Class Selector

```
.thumb { width: 32px; height: 32px; }
```

```
<div class="gallery">
  <ul>
    <li></li>
    <li></li>
    <li></li>
  </ul>
</div>
```

Review: Descendants Selector

```
.gallery img { border: 2px solid blue; }
```

```
<div class="gallery">
  <ul>
    <li></li>
    <li></li>
    <li></li>
  </ul>
</div>
```

Direct Child Selector

- ❖ CSS2.1 Selector.
- ❖ IE8 and above

```
.header > h1 {  
    font-size: 1.8em;  
    font-weight: bold;  
}
```

```
<div class="header">  
    <h1>Welcome Home</h1>  
    <div class="menu">  
        <h1>About</h1>  
        <h1>Gallery</h1>  
        <h1>Contact</h1>  
    </div>  
</div>
```

Attribute Selector

- ❖ CSS2.1 Selector.
- ❖ IE7 and above

```
input[type="text"] {  
    border: 2px solid blue;  
}
```

```
<form>  
    <input type="text"/>  
    <input type="text" />  
    <input type="submit" />  
</form>
```

CSS 3 Selectors



“Starts With” Attribute Selector

```
a[href^="mailto:"] {  
    background: url(/images/icn-email.png);  
}
```

```
<a href="/work">Work</a>  
<a href="/about">About</a>  
<a href="mailto:admin@work.com">Contact</a>
```

“Ends With” Attribute Selector

```
a[href$="pdf"] {  
    background: url(/images/icn-pdf.png);  
}
```

```
<a href="report.pdf">Report</a>
```

Pseudo Selectors

- ❖ :first-child
- ❖ :last-child
- ❖ :nth-child, :nth-of-type
- ❖ :not
- ❖ :enabled, :disabled, :checked

Pseudo Selectors: Drop Caps

```
p { margin-top: 20px; }
p::first-letter {
    font: 2em zapfino;
    float: left;
    margin: -22px 15px 0 0;
}
```

Pellentesque habitant morbi tristique senectus et
netus et malesuada fames ac turpis egestas.
Vestibulum tortor quam, feugiat vitae, ultricies
egestas semper. Aenean ultricies mi vitae est. Mauris
placerat eleifend leo.

:nth-child

```
td { padding: 2px; }
tr td:first-child { width: 100px; }
tr:nth-child(2n) { background: #ccc; }
```

```
<table>
  <tr>
    <td>Dollar</td>
    <td>USA</td>
  </tr>
  <tr>
    <td>Pound</td>
    <td>Great Britain</td>
  </tr>
  <tr>
    <td>Yen</td>
    <td>Japan</td>
  </tr>
  <tr>
    <td>Euro</td>
    <td>EMU</td>
  </tr>
</table>
```

Dollar	USA
Pound	Great Britain
Yen	Japan

Selectors: Lab #1

- Write a CSS selector for each marked element in the following HTML.
- Test your work by changing background color for the selected element
- <http://jsfiddle.net/9GYsp/>

The diagram illustrates three CSS selector targets within an HTML document structure:

- Target 1:** Points to the `` element containing the text "Home".
- Target 2:** Points to the `<p>` element containing the text "Pellentesque habitant mor..".
- Target 3:** Points to the `` element containing the text "Aliquam tin..".

```
<body>
  <nav>
    <ul>
      <li><a href="#">Home</a></li>
      <li><a href="#">About</a></li>
      <li><a href="#">Schedule</a></li>
    </ul>
  </nav>

  <div id="page-main">
    <article>
      <p>Pellentesque habitant mor..</p>
      <ul>
        <li>Lorem ipsum ..</li>
        <li>Aliquam tin..</li>
        <li>Vestibulum ..</li>
      </ul>
      <p>Pellentesque habitant mor..</p>
    </article>
  </div>
</body>
```

Selectors: Lab #2

- ❖ Prepare dinner:
<http://flukeout.github.io/>

CSS Conflicts



What is the text color ?

```
.foo { color: blue; }  
p     { color: red; }
```

```
<p class="foo">Hello</p>
```

Selector Specificity

- ✿ Number of IDs = A
- ✿ Number of class, attributes, pseudo-classes = B
- ✿ Number of type, pseudo elements = C
- ✿ Add it all to get the specificity
- ✿ Selector with the larger specificity wins

CSS Faceoff

- ✳ Who Wins ?
- ✳ #slider
- ✳ OR
- ✳ div.twocol .container .primary .content ul

Q & A



CSS Animations and Transitions

CSS Transition

- Controls the transition between element states
- Allows animating transitions
- Uses 3D acceleration
- Replaces old JS

Transitions Browser Support

Simple method of animating certain properties of an element

Show all versions	IE	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Android Browser	Blackberry Browser	IE Mobile
								2.1 -webkit-		
								2.2 -webkit-		
						3.2 -webkit-		2.3 -webkit-		
						4.0-4.1 -webkit-		3.0 -webkit-		
	8.0					4.2-4.3 -webkit-		4.0 -webkit-		
	9.0	28.0	33.0			5.0-5.1 -webkit-		4.1 -webkit-		
	10.0	29.0	34.0			6.0-6.1 -webkit-		4.2-4.3 -webkit-	7.0 -webkit-	
Current	11.0	30.0	35.0	7.0	22.0	7.0-7.1	5.0-7.0	4.4	10.0 -webkit-	10.0
Near future		31.0	36.0	8.0	23.0	8.0		4.4.3		
Farther future		32.0	37.0		24.0					
3 versions ahead		33.0	38.0							

Demo – Transitions

- ❖ Each state is represented by a CSS class
- ❖ Clicking the button changes element state



Controlling Transition

- ❖ transition-property
- ❖ transition-duration
- ❖ transition-timing-function
- ❖ transition-delay



transition-property

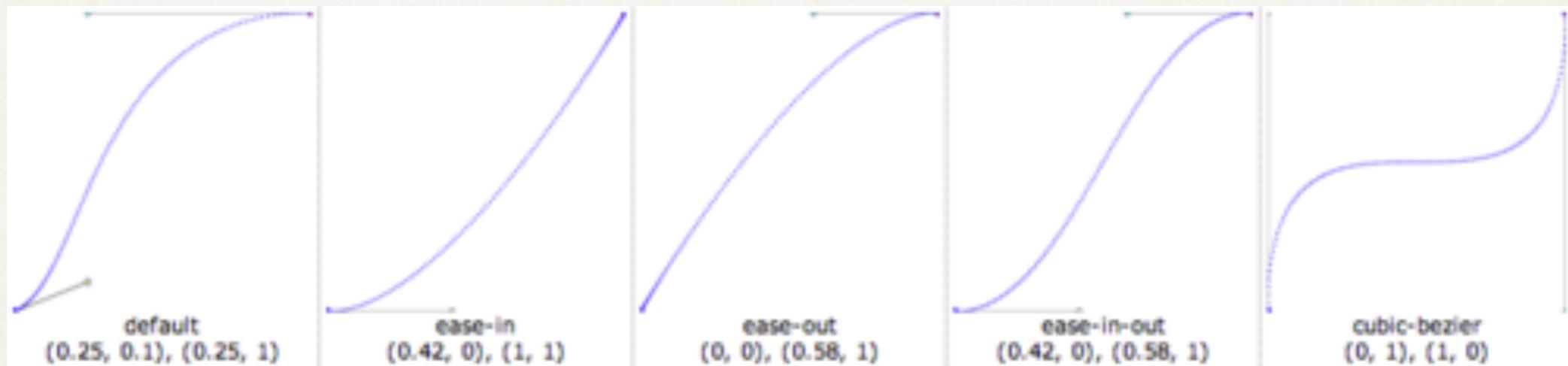
- ❖ Almost any property can be animated
- ❖ Use all to catch everything
- ❖ Full list at: https://developer.mozilla.org/en/css/css_transitions

transition-duration

- ❖ How long the property animation should take
- ❖ Use time in seconds or ms (can be < 1s)

transition timing-function

- Determines the timing function for the animation



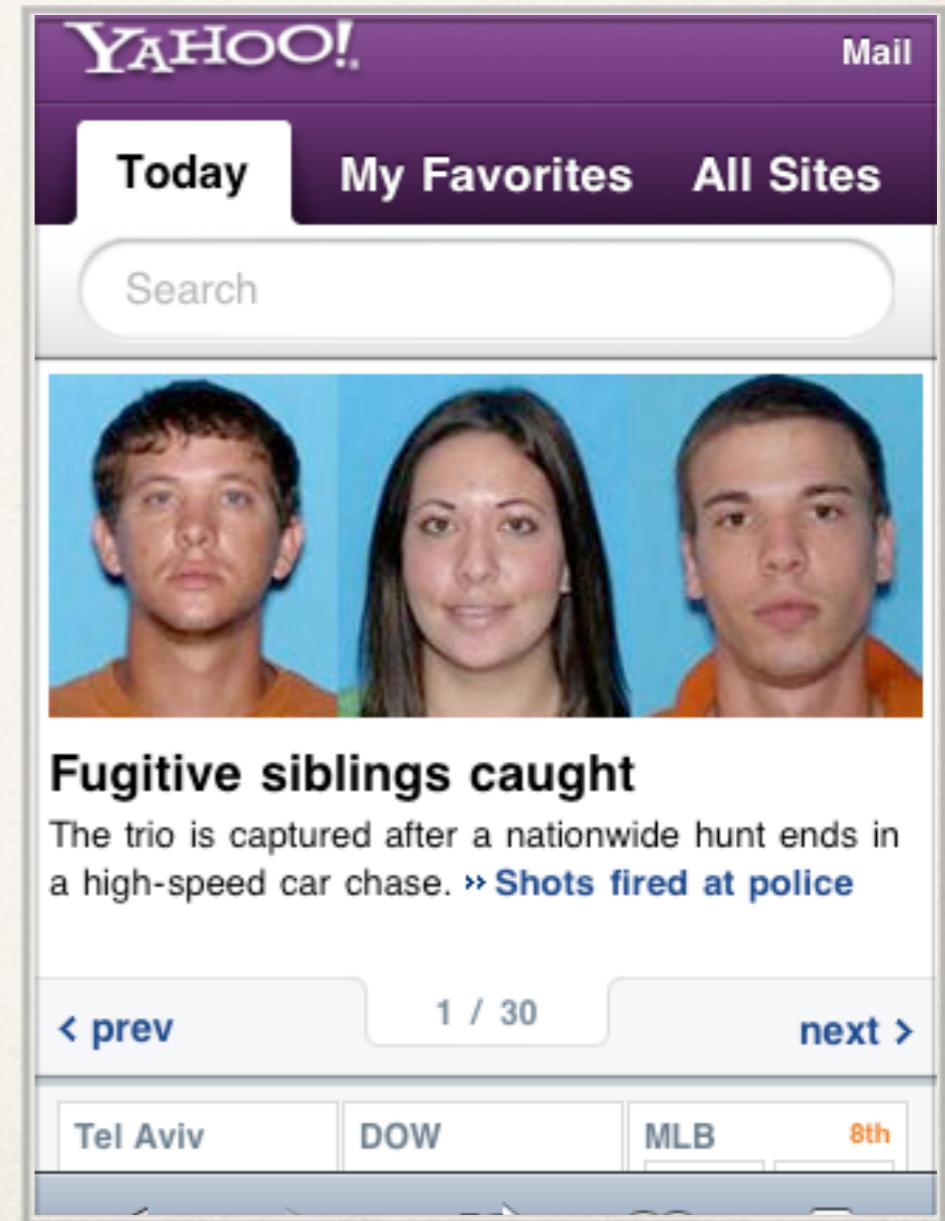
Live demo at: <http://www.the-art-of-web.com/css/timing-function/>

transition delay

- ❖ Delay between value change and animation start
- ❖ Can be used to coordinate multiple animating objects

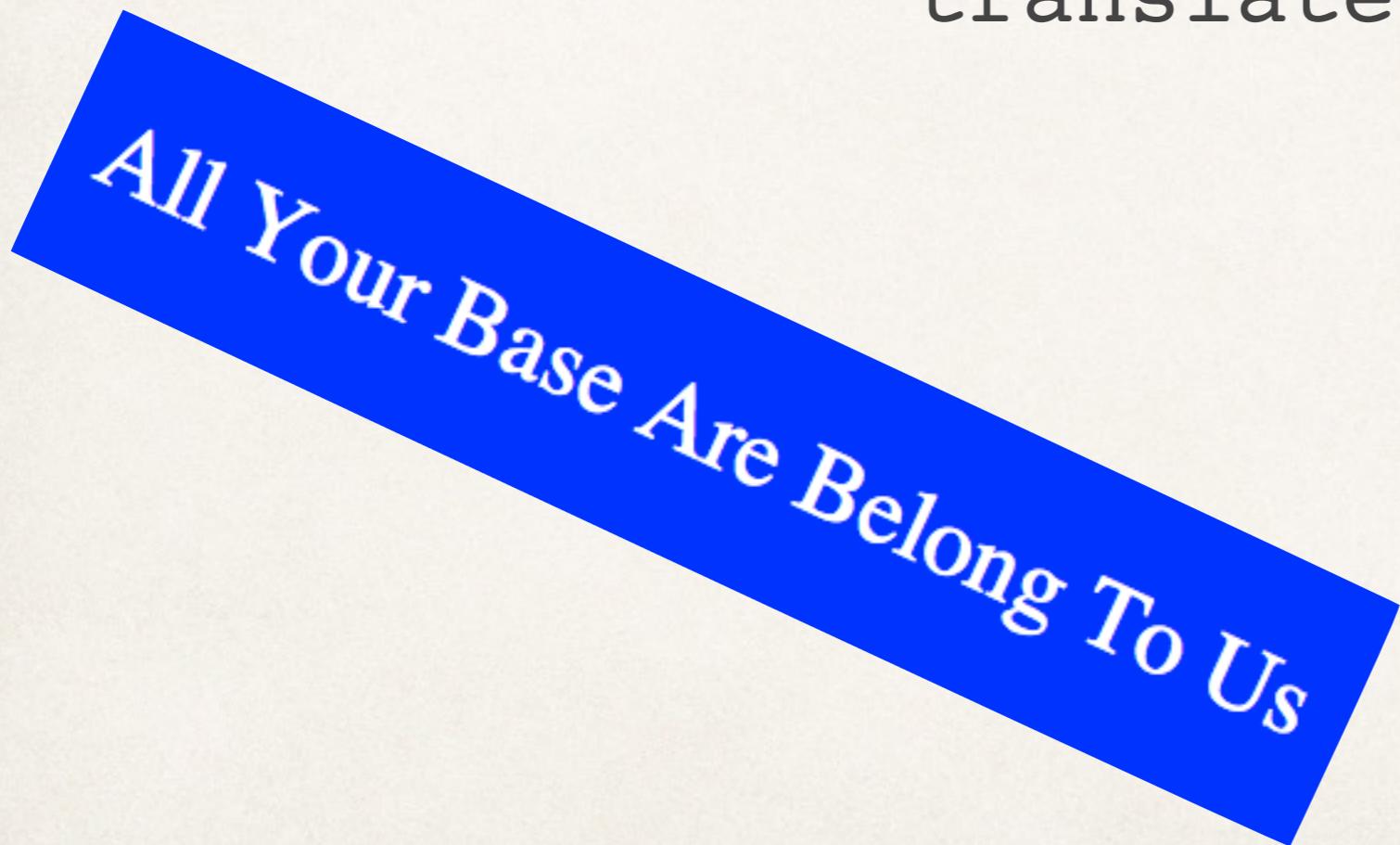
Lab

- ❖ Implement a yahoo style “top news” section
- ❖ Click next to animate to the next image
- ❖ Click prev to animate to the previous image
- ❖ Hint: 3 divs inside a container, and animate position



CSS Transformations

```
-webkit-transform:  
    rotate(25deg)  
    translate(80px, 150px);
```



CSS Transformations

- ❖ Available Transformations:
 - ❖ translate
 - ❖ scale
 - ❖ rotate
 - ❖ skew

Keyframe Animations

- ❖ Use keyframe animations when:
 - ❖ Need more control
 - ❖ Repeated Animations

Keyframe Animations

- Define An Animation With:

```
@-webkit-keyframes rounder {  
  0%   { border-radius: 0; }  
  100%  { border-radius: 100px; }  
}
```

Keyframe Animations

- Apply it to an element

```
div {  
    width: 200px;  
    height: 200px;  
    background: blue;  
    -webkit-animation: rounder 2s infinite;  
}
```

Keyframes Lab

- ❖ Write a spinner keyframe animation



Q & A



Agenda

CSS: past, present and future

2

Using CSS for page layouts

36

CSS selectors

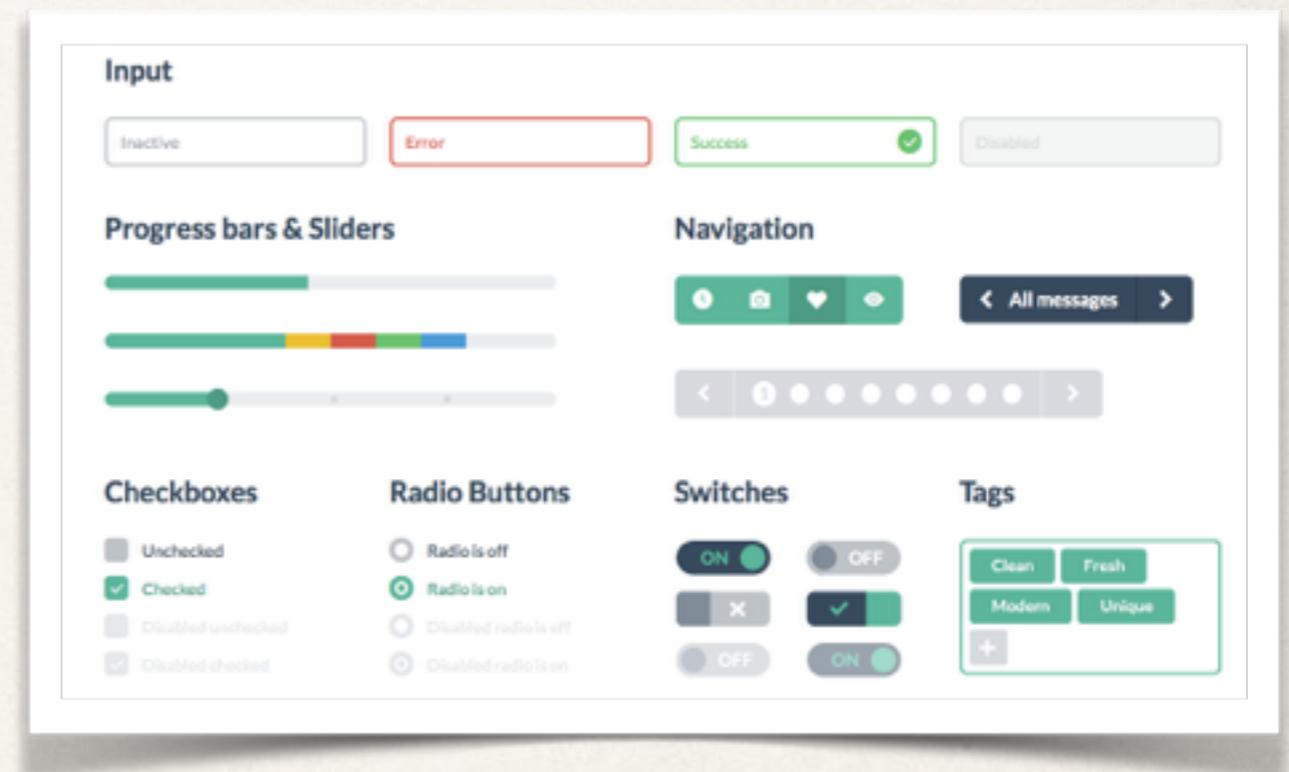
83

Implementing components with CSS

123

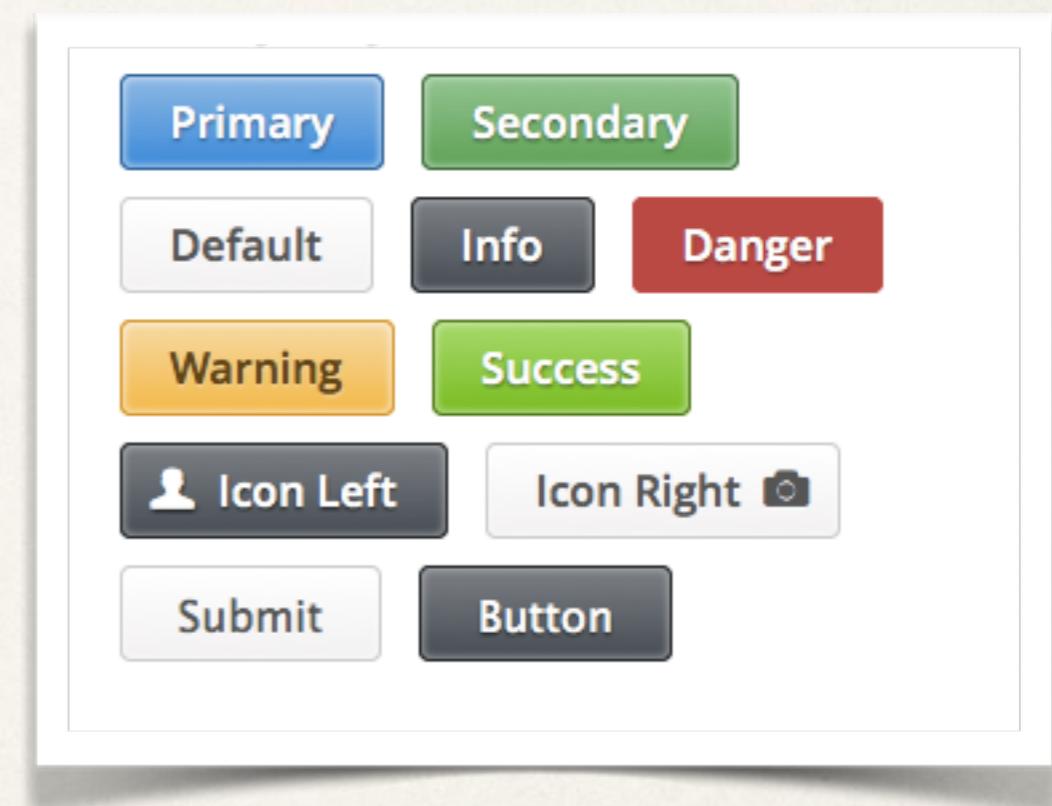
Styling UI Controls

- ❖ Styling a simple button
- ❖ Styling form fields
- ❖ Famous UI kits
- ❖ Famous jQuery Plugins



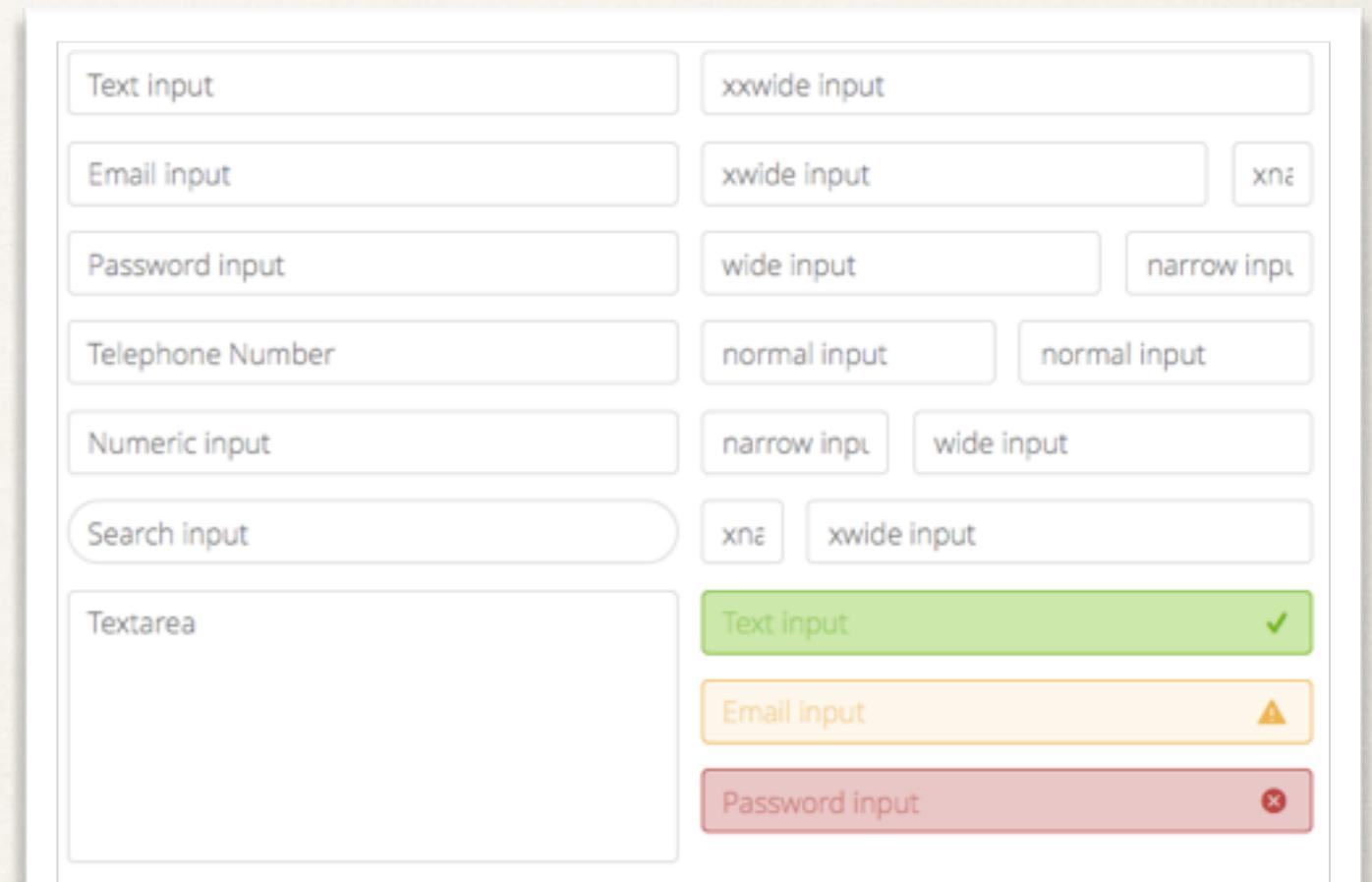
Hello Buttons

- ❖ A button is rectangular
- ❖ May have round corners
- ❖ May have drop-shadow (or inset)
- ❖ May have an icon
- ❖ Demo



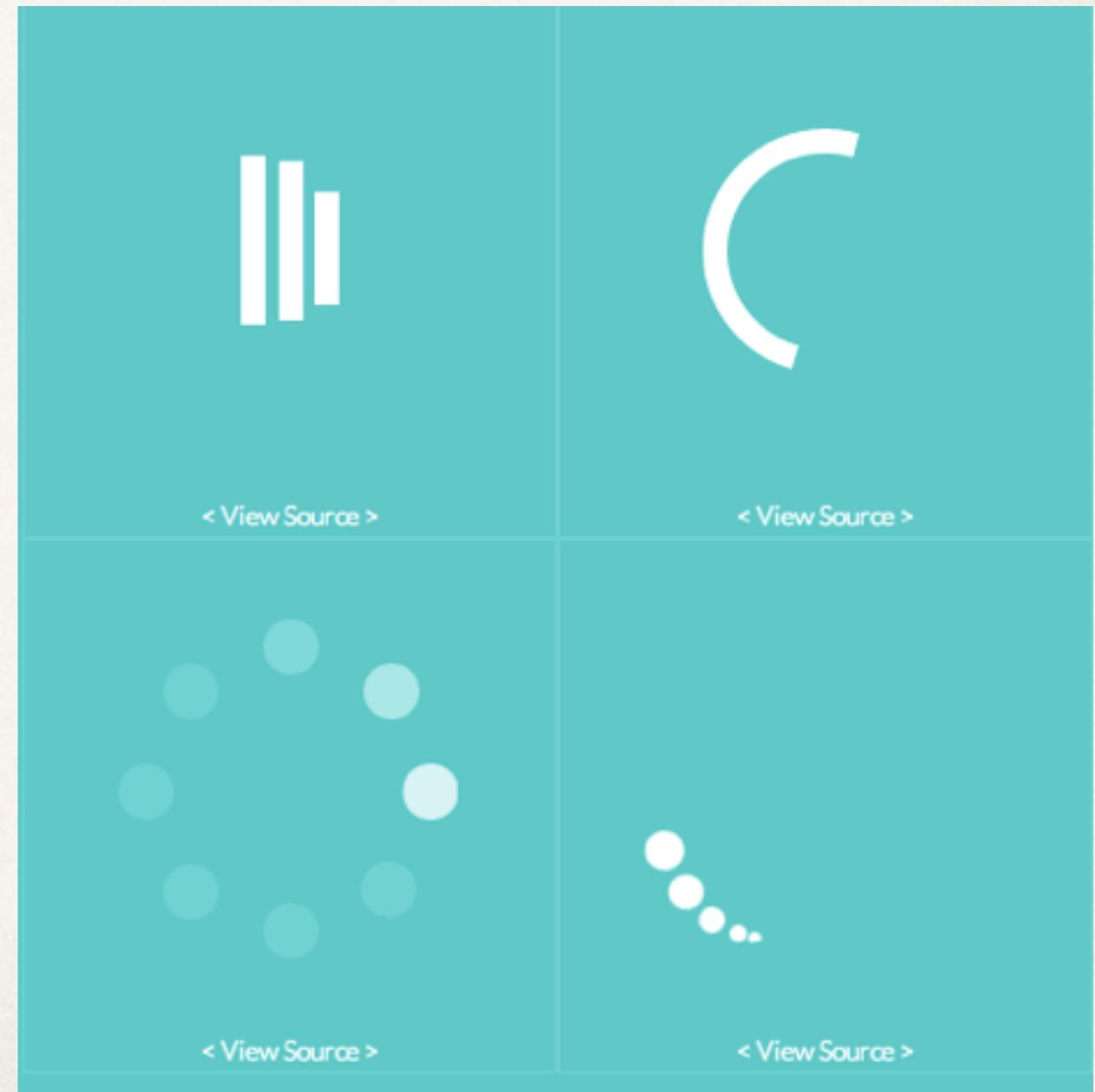
Hello Form Controls

- ❖ Use ::-prefix-placeholder to style placeholder text
- ❖ Use border to change input's border style
- ❖ Use background to add an icon
(but prefer a dedicated <i> tag)



Hello Spinners

- ✿ <http://projects.lukehaas.me/css-loaders/>
- ✿ No images involved
- ✿ Single div



Lab

- Now style the form you created earlier
- Bonus: use a single div for the toggle button

The image shows a registration form titled "Register5!" with a red diagonal badge on the left that says "100% HTML5". The form has the following fields:

- Name: Michael (green checkmark)
- Email: michael@gmail.com (green checkmark)
- Password: (redacted) (green checkmark)
- Location: We detected you're from sunny **Germany**, is that right?
Yes No

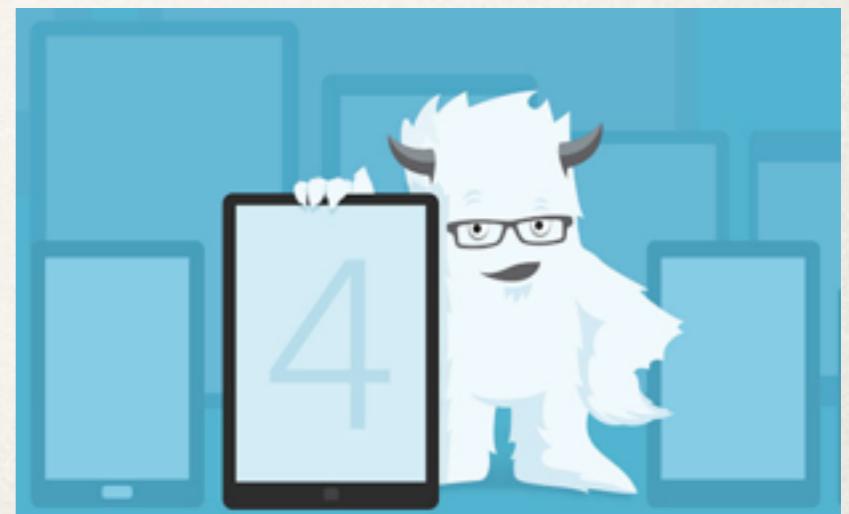
At the bottom, it says "Thanks for filling out the form!" and "Register5!".

UI Kits

- Instead of writing your own CSS controls, can use existing
- There are many free kits, and many paid ones
- Choose something that works for you.
- Be consistent

The Big Kits

- ❖ Twitter bootstrap from twitter
- ❖ Zurb foundation from Zurb



Some smaller kits

- ✿ Skeleton: <http://www.getskeleton.com/>
- ✿ Metro UI: <http://metroui.org.ua/>
- ✿ Gumby framework: <http://www.gumbyframework.com/>
- ✿ More at: <http://www.cssflow.com/>

How to use a kit

- ❖ Make sure license fits
- ❖ Change default colors
- ❖ Be consistent

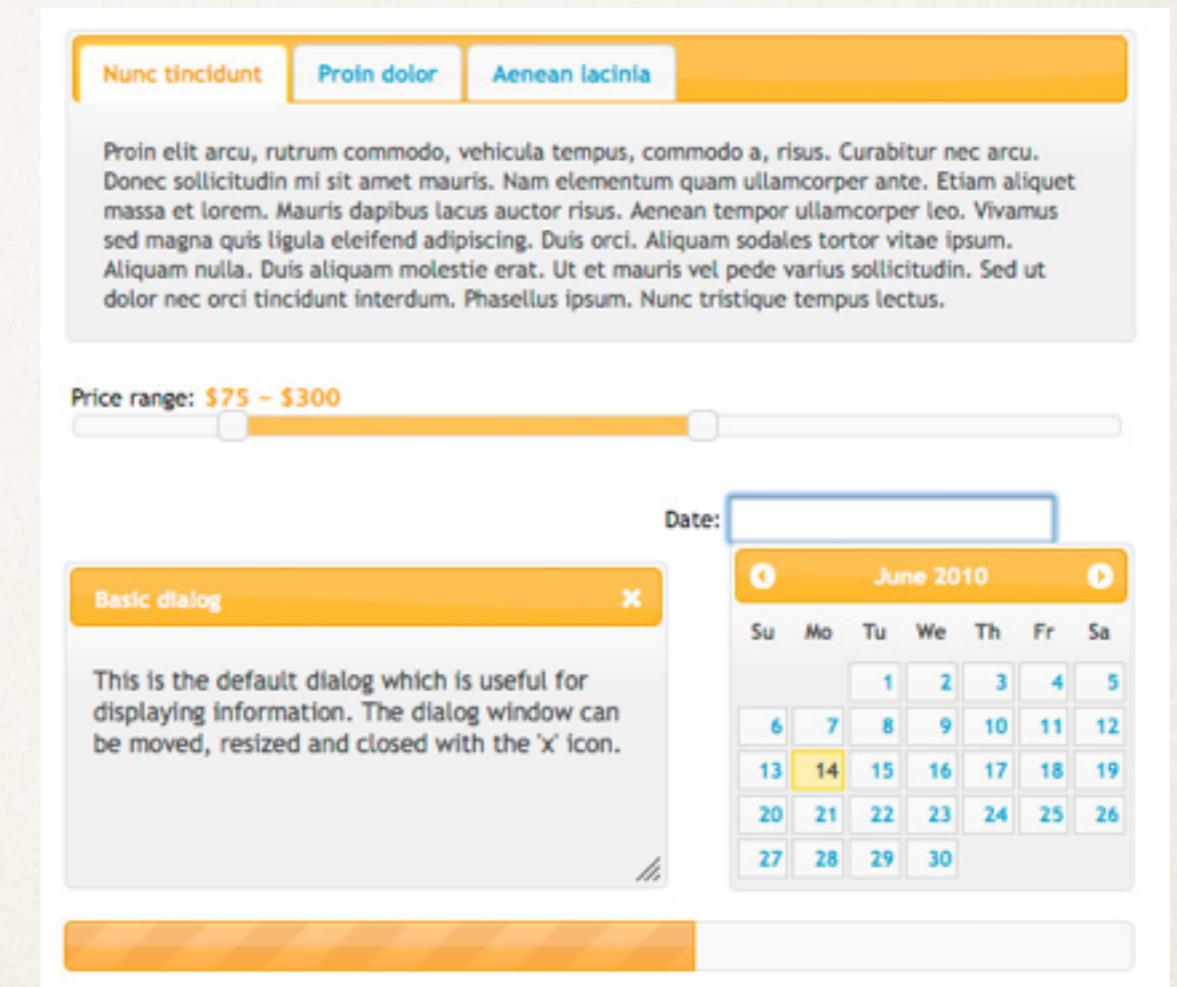
Adding JavaScript



- ❖ Some kits will require you to add more HTML elements to get right
- ❖ Usually for technical reasons
- ❖ Can avoid with the help of JavaScript
- ❖ Best known as jQuery Plugins

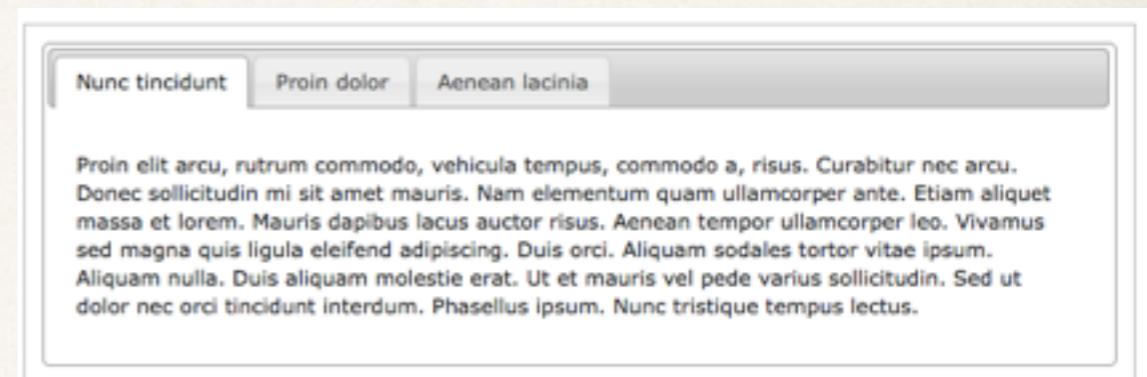
Famous jQuery Plugins: jQuery UI

- ❖ jQuery UI is them-able UI kit
- ❖ Involves JavaScript to create the DOM
- ❖ Also handles actions



jQuery UI Demo – Tabs

```
<div id="tabs">
  <ul>
    <li><a href="#tabs-1">Nunc tincidunt</a></li>
    <li><a href="#tabs-2">Proin dolor</a></li>
    <li><a href="#tabs-3">Aenean lacinia</a></li>
  </ul>
  <div id="tabs-1">
    <p>e tempus lectus.</p>
  </div>
  <div id="tabs-2">
    <p>t, tellus pellentesque pretium posuere,  
felis lorem euismod felis, eu ornare leo nisi vel  
felis. Mauris consectetur tortor et purus.</p>
  </div>
  <div id="tabs-3">
    <p>nt eu risus hendrerit ligula tempus  
pretium. Curabitur lorem enim, pretium nec,  
feugiat nec, luctus a, lacus.</p>
    <p>pede. Aenean vehicula velit eu tellus  
interdum rutrum. Maecenas commodo. Pellentesque  
nec elit. Fusce in lacus. Vivamus a libero vitae  
lectus hendrerit hendrerit.</p>
  </div>
</div>
```



Other jQuery UI Controls

- ❖ Accordion
- ❖ Autocomplete
- ❖ Button
- ❖ Datepicker
- ❖ Tooltip
- ❖ Dialog

Famous jQuery Plugins

<http://designwithpc.com/Plugins/ddSlick>

1 Basic Drop down using JSON

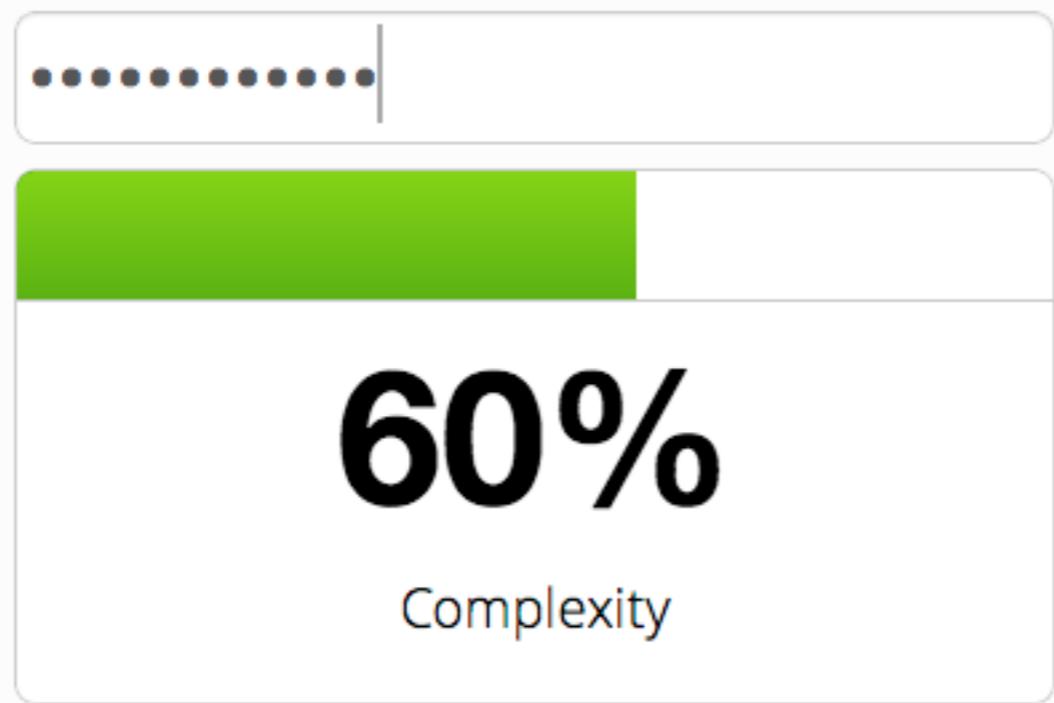
Select your favorite social network ▾

-  Facebook
Description with Facebook
-  Twitter
Description with Twitter
-  LinkedIn
Description with LinkedIn
-  Foursquare
Description with Foursquare

Famous jQuery Plugins

<http://danpalmer.me/jquery-complexify/>

Try it out:



Famous jQuery Plugins: Filtering

<http://luis-almeida.github.com/filtrify/>

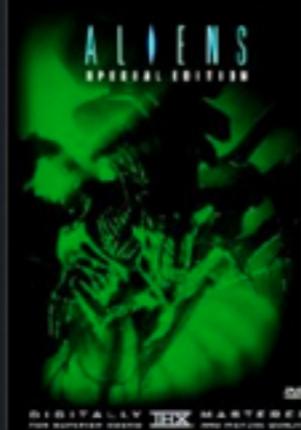
genre ▲ main actors ▼ director ▼

Adventure x

Search

Action	24
Animation	1
Biography	0
Comedy	4
Crime	3
Drama	13
Family	6

Allens



Aliens

genre: Action, Adventure, Sci-Fi, Thriller
actors: Sigourney Weaver, Michael Biehn, Carrie Henn, Paul Reiser
director: James Cameron

Sherlock Holmes



Sherlock Holmes

genre: Action, Adventure, Crime, Mystery, Thriller
actors: Robert Downey Jr., Jude Law, Rachel McAdams, Mark Strong
director: Guy Ritchie

The Beach



The Beach

LEONARDO DICAPRIO
THE BEACH

genre: Adventure, Drama, Romance, Thriller
actors: Leonardo DiCaprio, Daniel York, Patcharawan Patarakijanon, Virginie Ledoyen
director: Danny Boyle

Jurassic Park



Jurassic Park

genre: Adventure, Sci-Fi
actors: Sam Neill, Laura Dern, Jeff Goldblum, Richard Attenborough
director: Steven Spielberg

O Brother, Where Art Thou?



O Brother, Where Art Thou?

genre: Comedy, Adventure, Crime, Music
actors: George Clooney, John Turturro, Tim Blake Nelson, John Goodman
director: Joel Coen

Famous jQuery Plugins: Lightbox

<http://www.frescojs.com/>



jQuery Plugins: Tooltips

<http://calebjacob.com/tooltipster/>

The screenshot shows a tooltip interface over a landscape image. The tooltip content includes a close button and a message: "Press any key on your keyboard or click the circle again to close this". Below are eight items, each with a red circular trigger:

- HOVER Default settings
- CLICK Custom show / hide triggers
- HOVER Custom themes & animations
- HOVER Interaction with tooltips
- HOVER Fixed width, position, & HTML
- HOVER Disable touch devices
- HOVER Custom callbacks (AJAX <3)
- HOVER Attach tooltips to icons

At the bottom left is "...& more!"

What Next

- ❖ Discover more plugins at: <http://plugins.jquery.com/>
- ❖ Or at: <http://www.unheap.com/>
- ❖ Or build your own

Thanks For Listening

- ✿ Read more: www.tocode.co.il
- ✿ Talk to me: ynon@tocode.co.il
- ✿ Photos from: <http://123rf.com>
- ✿ Slides at: <http://1drv.ms/1q5grsi>