## LET'S GET EVERYTHING SET UP!

1. In Schoology, go to: **Courses(in the top menu) > FEWD CHI 1: Section 1**
2. Then go to the **Class Materials** folder — it's the pink one!
3. Navigate to the **Week 8 (It's the yellow folder) > Lesson 13 folder**
4. There you'll find all the materials for today's class
5. Download starter_code_lesson_13.zip
6. Move it from your Downloads folder to your Desktop
7. Double-click on starter_code_lesson_13.zip to unzip it
8. After you've unzipped, delete the original .zip to avoid confusion and make sure you don't unzip it again later!!!

## HOMEWORK

Record which readings you did here

GENERAL ASSEMBLY

# RESPONSIVE BASICS

*Sarah Holden*

## LEARNING OBJECTIVES

- Describe responsive design.
- Know the difference between fluid, fixed and responsive layouts
- Apply media queries to achieve a responsive layout.

## AGENDA

- Review
- Responsive — Layout Design
- Responsive — REM/EM
- Responsive — Media Queries

## REVIEW

## LAB

## ACTIVITY

EXERCISE

### KEY OBJECTIVE

- Review HTML/CSS Layouts

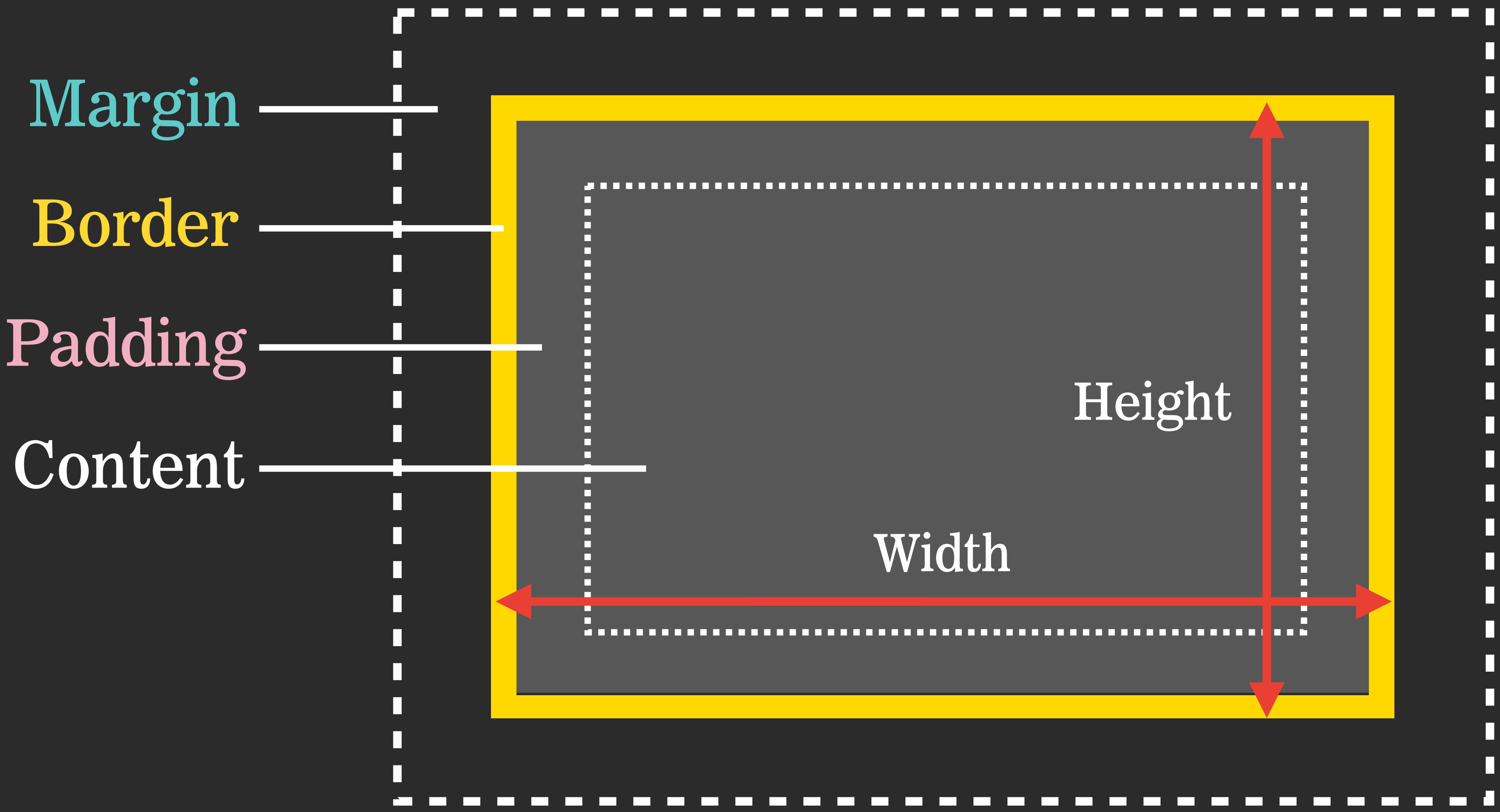
### TYPE OF EXERCISE

- Individual/Partner

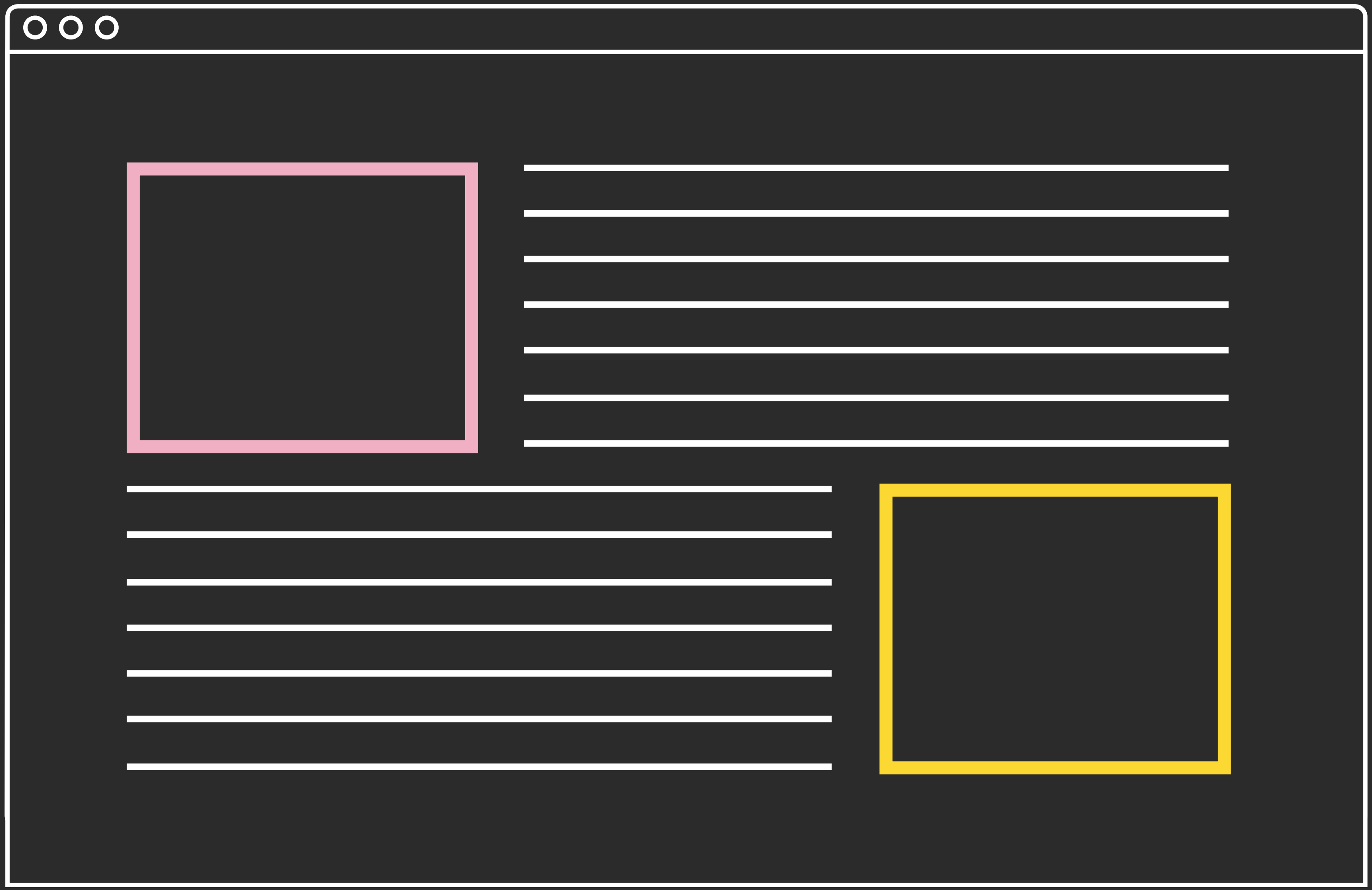
### TIMING

*20 min* 1. Use HTML and CSS to recreate boxes.png

## BOX-SIZING: BORDER-BOX

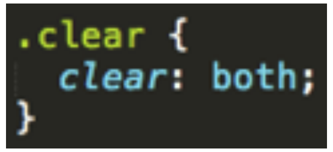


## CSS — FLOATS



## CLEARING FLOATS

- The **clear** property specifies which side(s) of an element other floating elements are not allowed



```
.clear {
  clear: both;
}
```

### LEFT

- No floating elements allowed on the left side

### RIGHT

- No floating elements allowed on the right side

### BOTH

- No floating elements allowed on either the left or right side

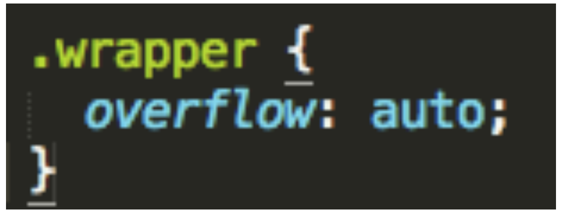
### NONE

- Allows floating elements on both sides

## PARENTS OF FLOATED ELEMENTS

- If a containing element only contains floated elements, some browsers will treat it as if it is zero pixels tall.
- There are two common ways to solve this problem:

1. Method One - set overflow property on parent element to 'auto'



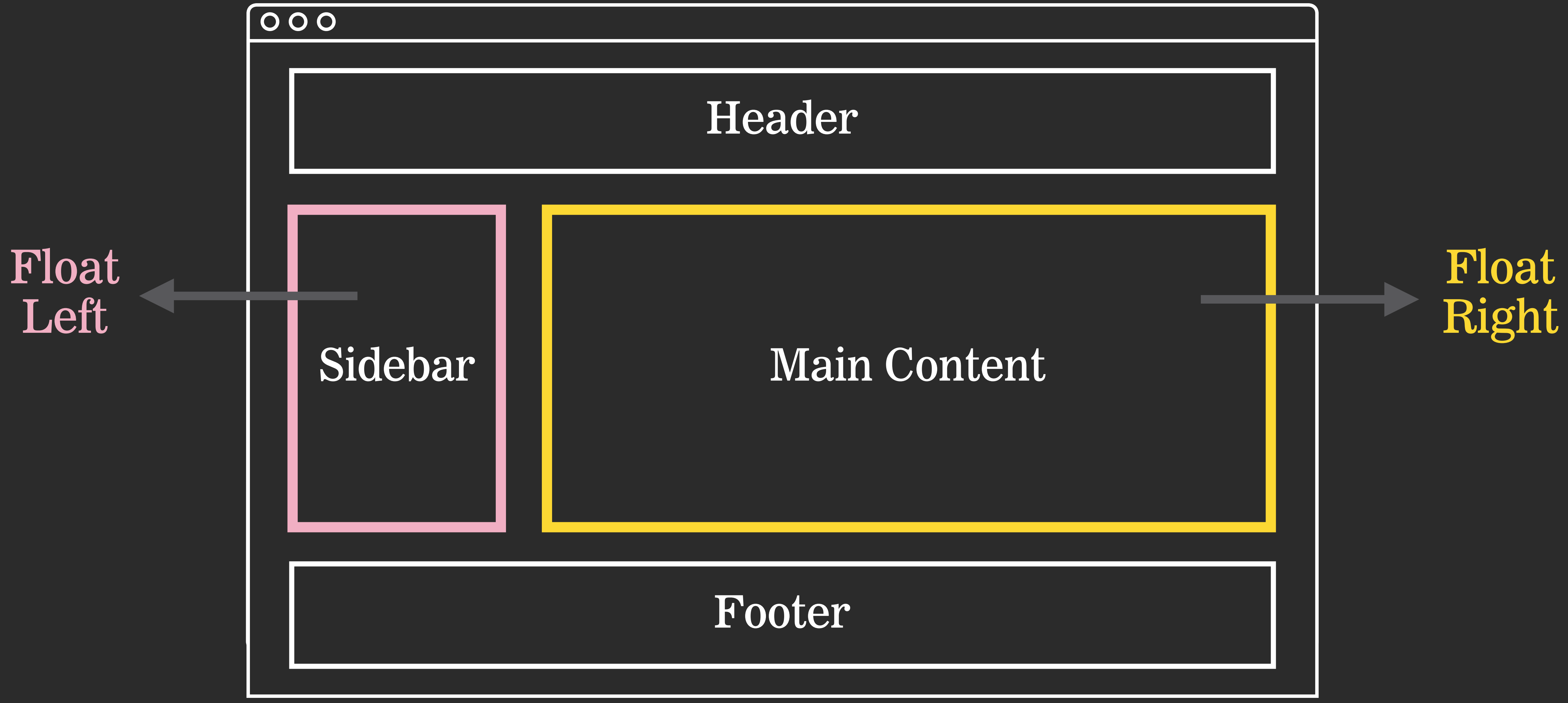
```
.wrapper {
  overflow: auto;
}
```

2. Method two (preferred!) - [The Micro Clearfix Hack]

```
.clearfix:before,
.clearfix:after {
   content: " ";
   display: table;
}
.clearfix:after {
   clear: both;
}
```

**Don't feel the need to memorize! You can look this up.

## CSS — MULTI-COLUMN LAYOUT

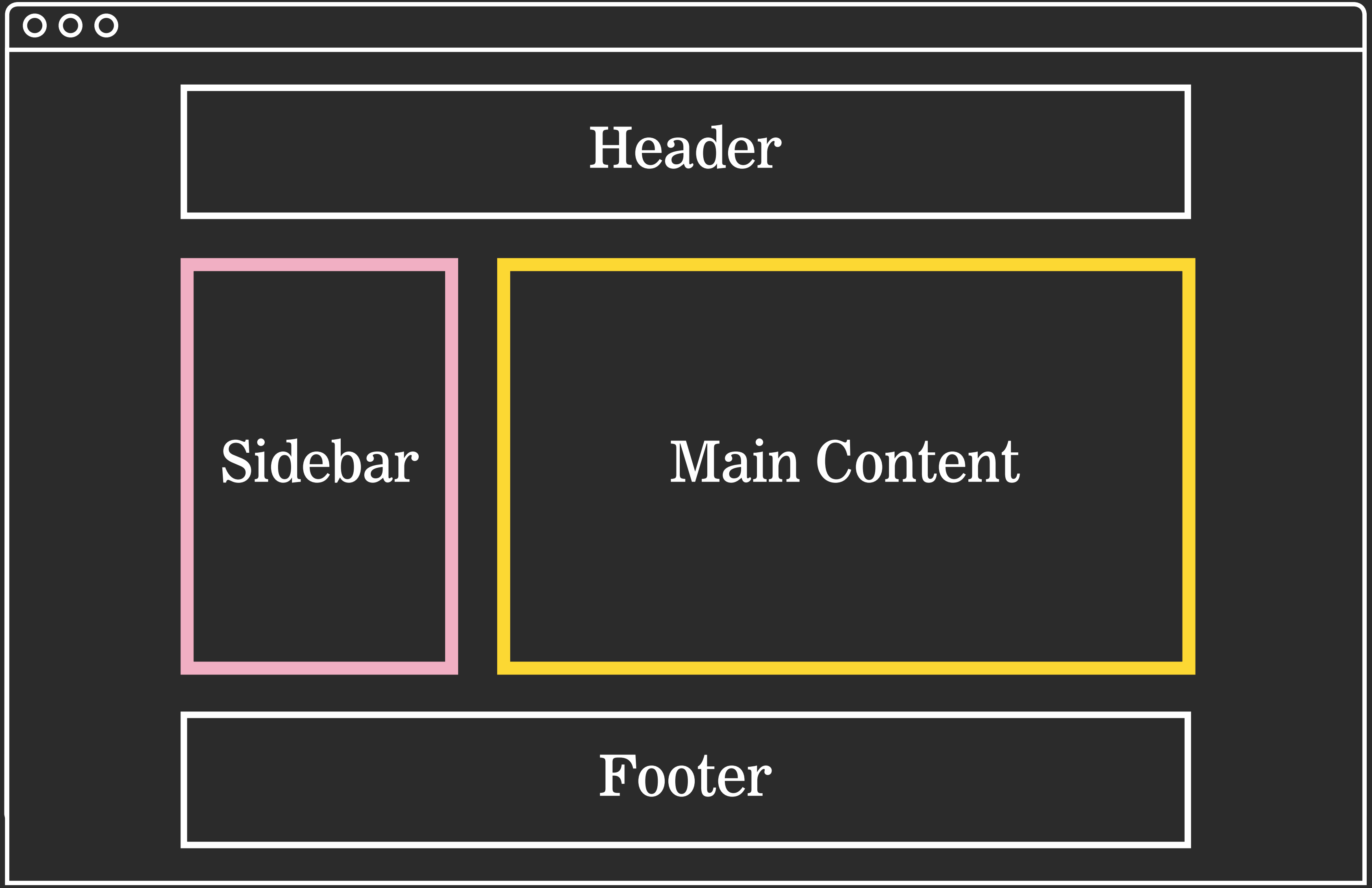


## FIXED WIDTH LAYOUT

Fixed width layouts do not change size as the user increases/ decreases width of browser window

To create:

- Width of any main boxes is set in pixels
- Layout can be centered by setting the value of the left and right margins to auto

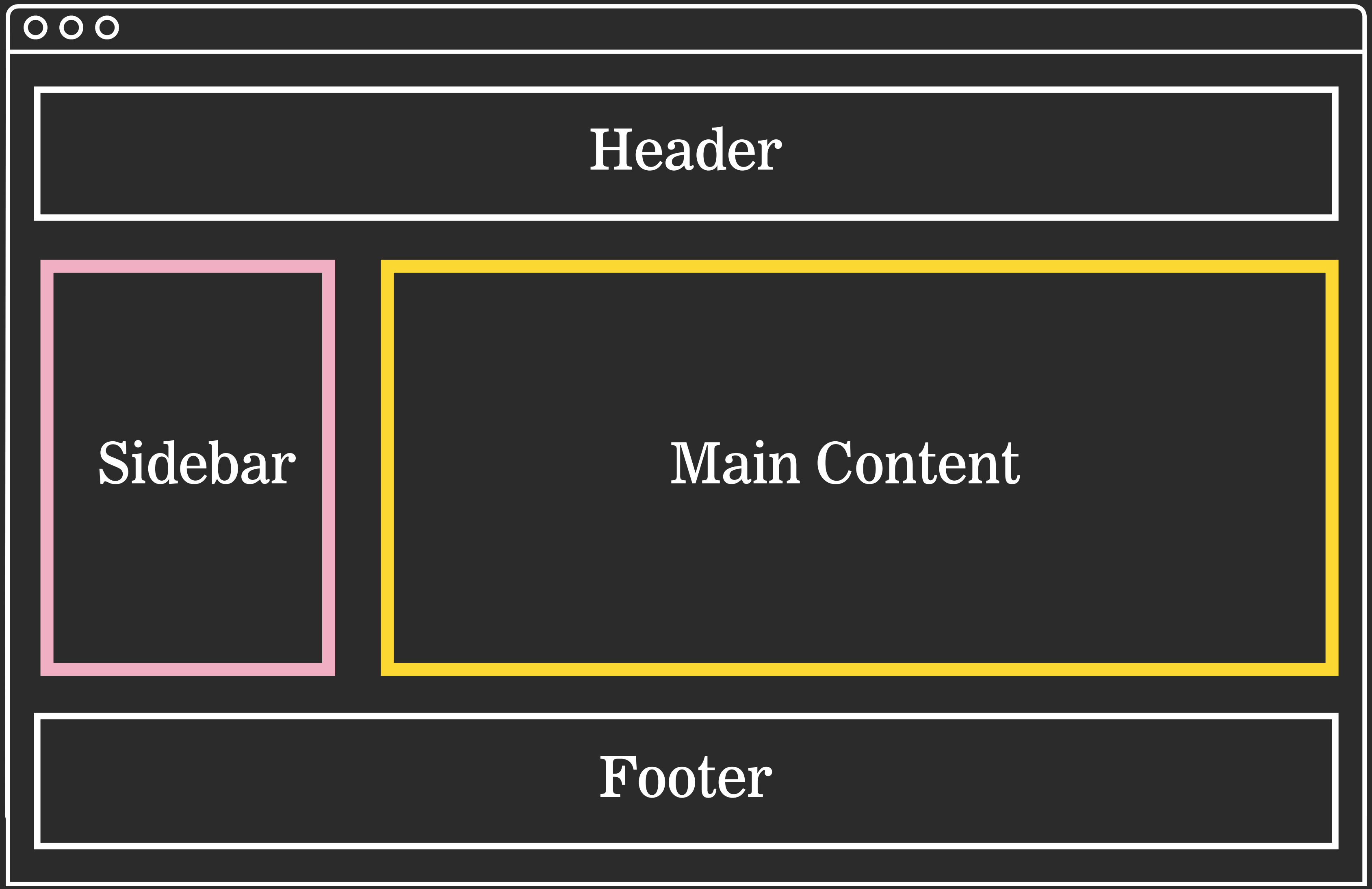


## FLUID LAYOUT

Liquid layouts stretch and contract as the user increases/ decreases the size of their browser window

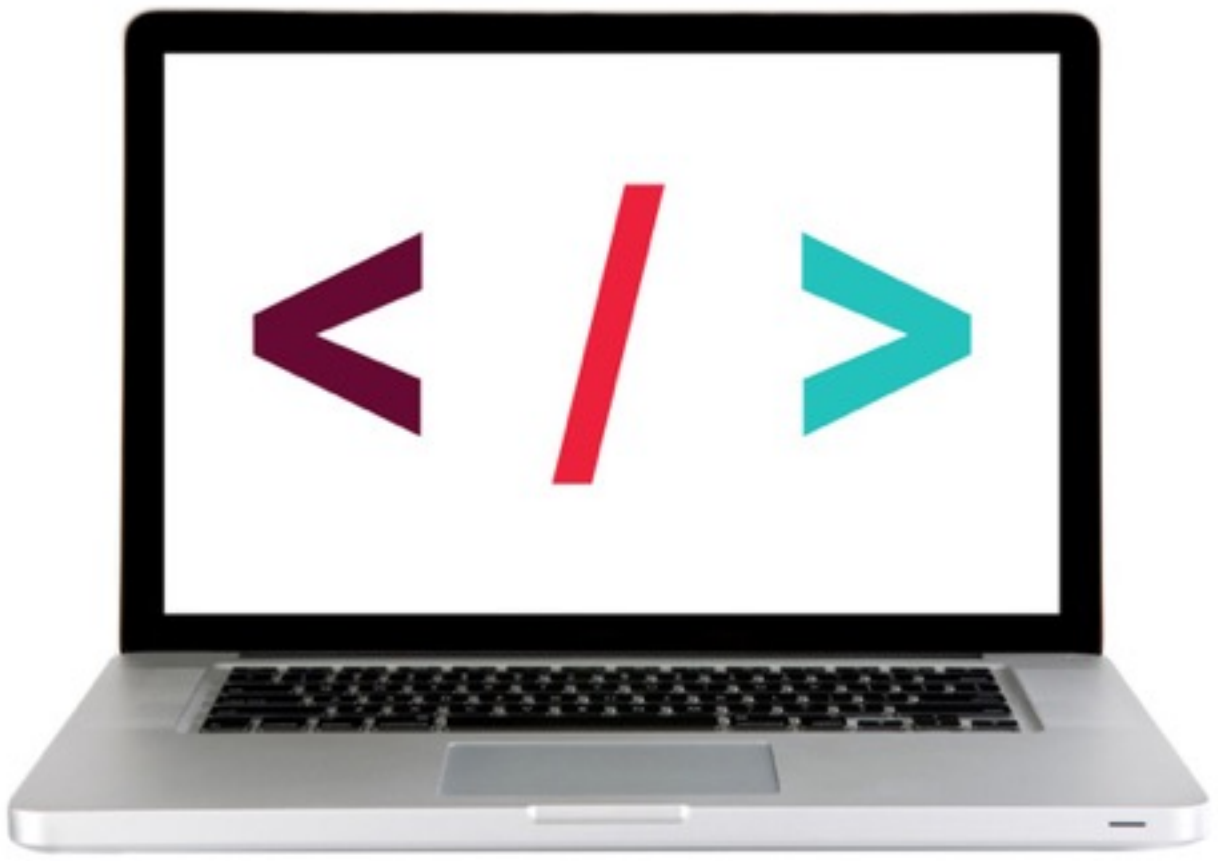
To create:

- Uses percentages to set the width of each box so that the design will stretch to fit the size of the screen



## RESPONSIVE — LAYOUT DESIGN

## LET'S TAKE A CLOSER LOOK



http://stephencaver.com/

## RESPONSIVE DESIGN

*“Day by day, the number of devices, platforms,
and browsers that need to work with your site grows.
Responsive web design represents a fundamental shift
in how we’ll build websites for the decade to come.”*

- Jeffrey Veen

## LAB

## ACTIVITY

EXERCISE

### KEY OBJECTIVE

- Use HTML/CSS to create a mobile layout

### TYPE OF EXERCISE

- Individual/Partner

### TIMING

*20 min*

1. Open the main.css file from the first exercise and place a comment at the **bottom** (something like, /*overwriting CSS for new layout goes here*/).
2. Below this line, add CSS that will make the original page look like the boxes_2.png.

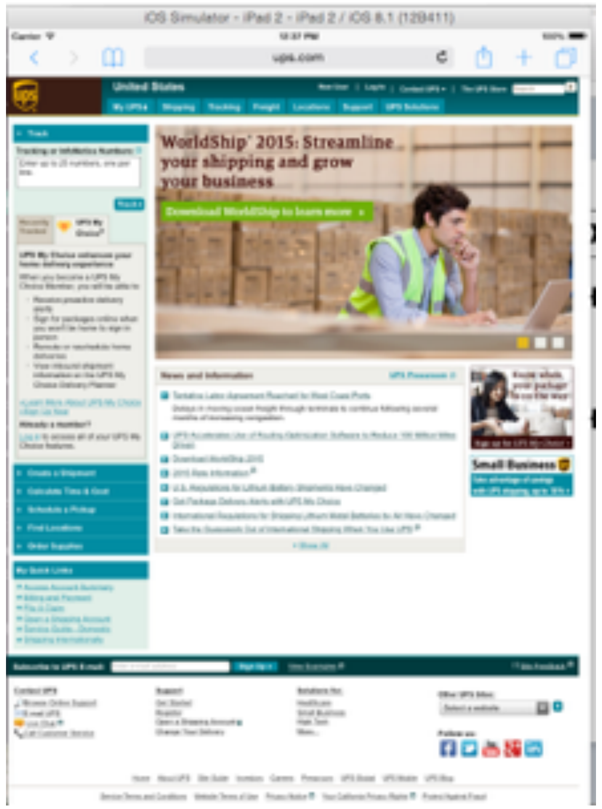
## RESPONSIVE — MEDIA QUERIES

## RESPONSIVE — TYPES OF LAYOUTS

## FIXED VS. RESPONSIVE

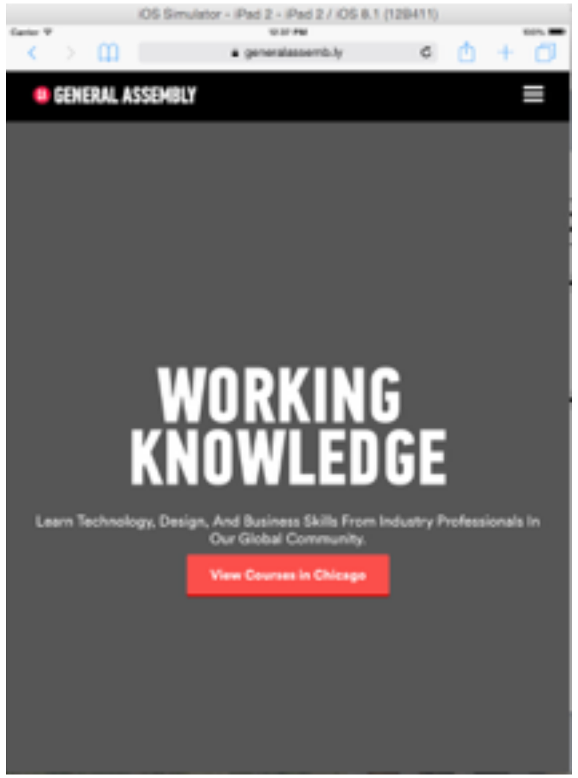
### CHECK OUT THESE FIXED SITES:

- [ups.com]
- [colourpixel.com]


iOS Simulator - iPad 2 - iPad 2 / iOS 8.1 (12B411)
ups.com
United States
WorldShip 2015: Streamline your shipping and grow your business
Download WorldShip to learn more
News and Information
Small Business

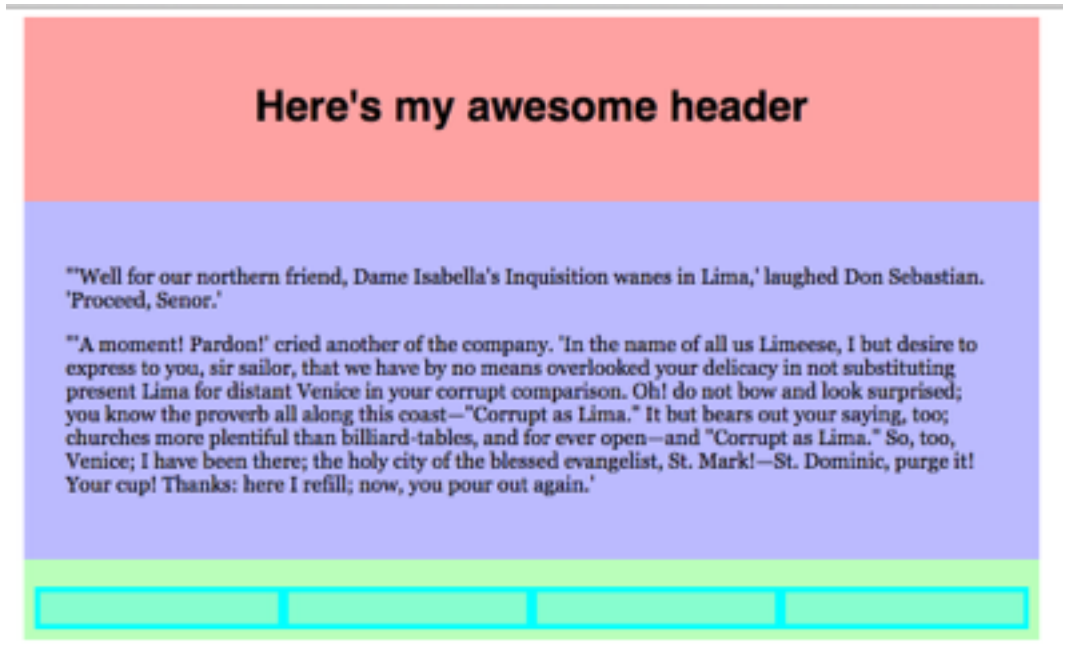
### CHECK OUT THESE RESPONSIVE SITES:

- [GeneralAssemb.ly]
- [KinHR.com]


iOS Simulator - iPad 2 - iPad 2 / iOS 8.1 (12B411)
generalassemb.ly
GENERAL ASSEMBLY
WORKING KNOWLEDGE
Learn Technology, Design, And Business Skills From Industry Professionals In Our Global Community.
View Courses in Chicago

## FIXED LAYOUT

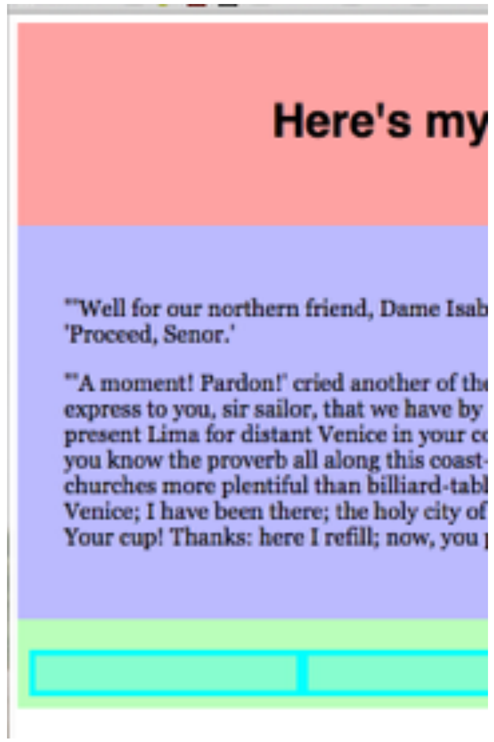
- Relies on a container of a fixed width (uses static units)
- Resizing the browser/viewing it on a different device won't have an effect on the page



Here's my awesome header

"'Well for our northern friend, Dame Isabella's Inquisition wanes in Lima,' laughed Don Sebastian. 'Proceed, Senor.'

"'A moment! Pardon!' cried another of the company. 'In the name of all us Limeese, I but desire to express to you, sir sailor, that we have by no means overlooked your delicacy in not substituting present Lima for distant Venice in your corrupt comparison. Oh! do not bow and look surprised; you know the proverb all along this coast—"Corrupt as Lima." It but bears out your saying, too; churches more plentiful than billiard-tables, and for ever open—and "Corrupt as Lima." So, too, Venice; I have been there; the holy city of the blessed evangelist, St. Mark!—St. Dominic, purge it! Your cup! Thanks: here I refill; now, you pour out again.'



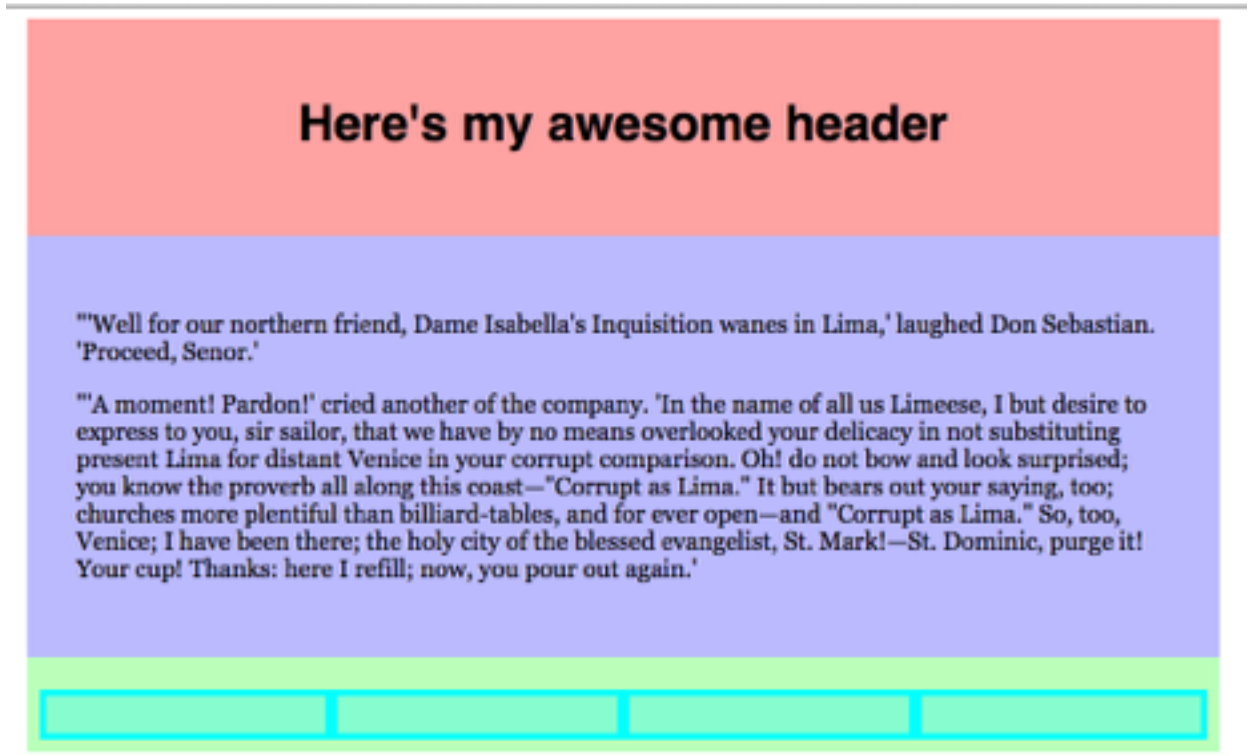
Here's my

"'Well for our northern friend, Dame Isab
'Proceed, Senor.'

"'A moment! Pardon!' cried another of th
express to you, sir sailor, that we have by
present Lima for distant Venice in your c
you know the proverb all along this coast-
churches more plentiful than billiard-tabl
Venice; I have been there; the holy city of
Your cup! Thanks: here I refill; now, you

## FLUID LAYOUT

- Uses relative widths (percentages
- No media queries



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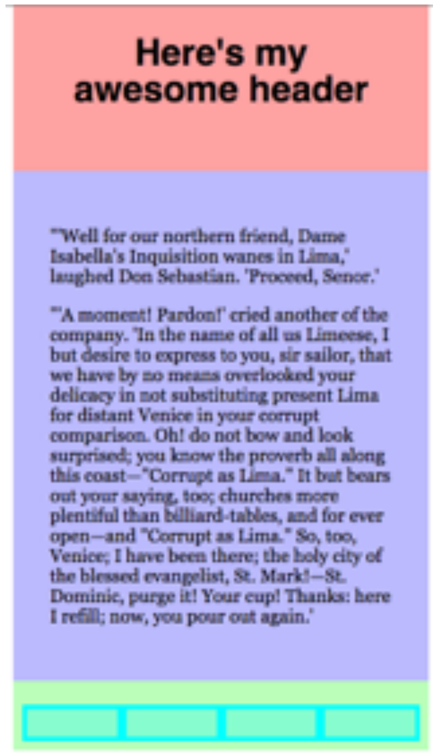

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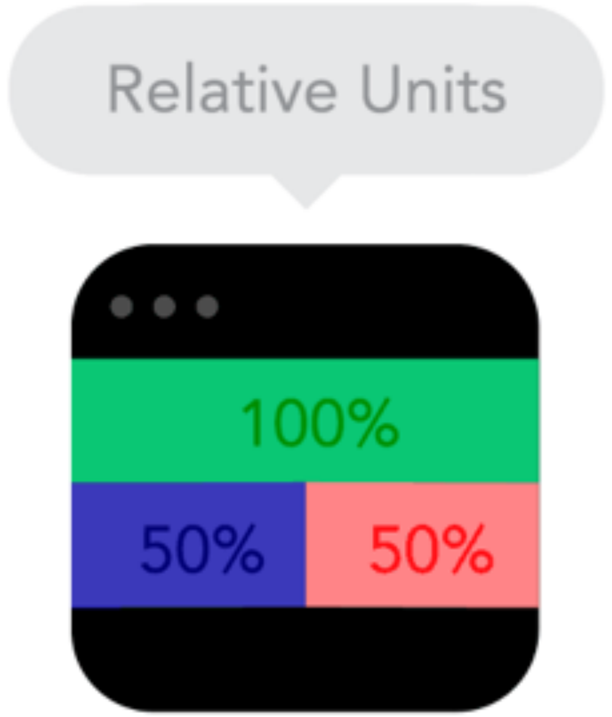
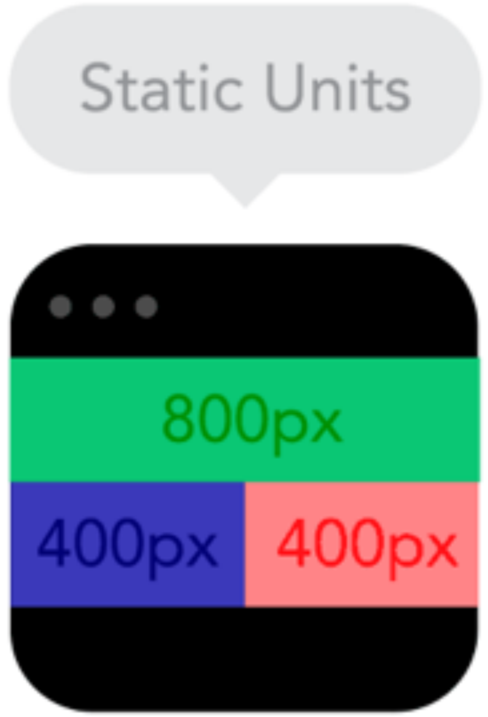
## FIXED VS. FLUID

Fluid layout

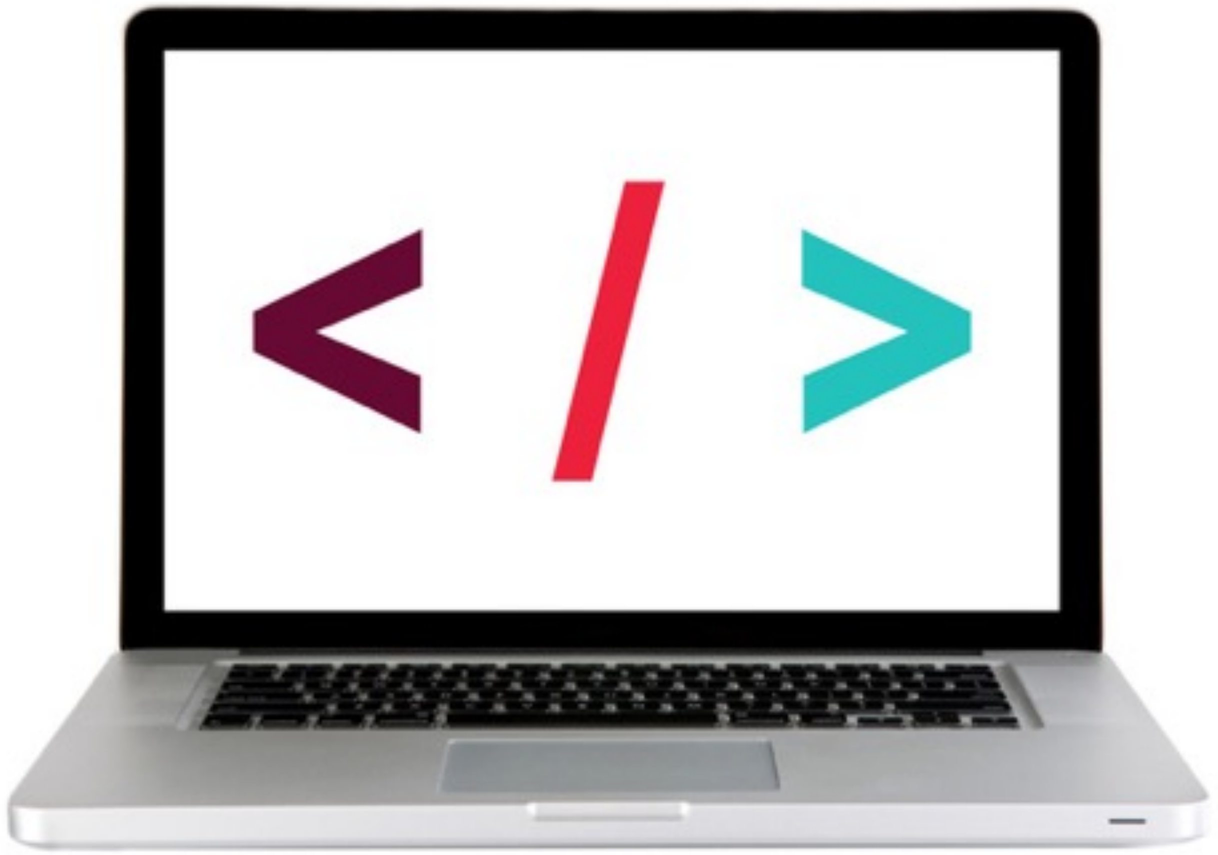




Fixed

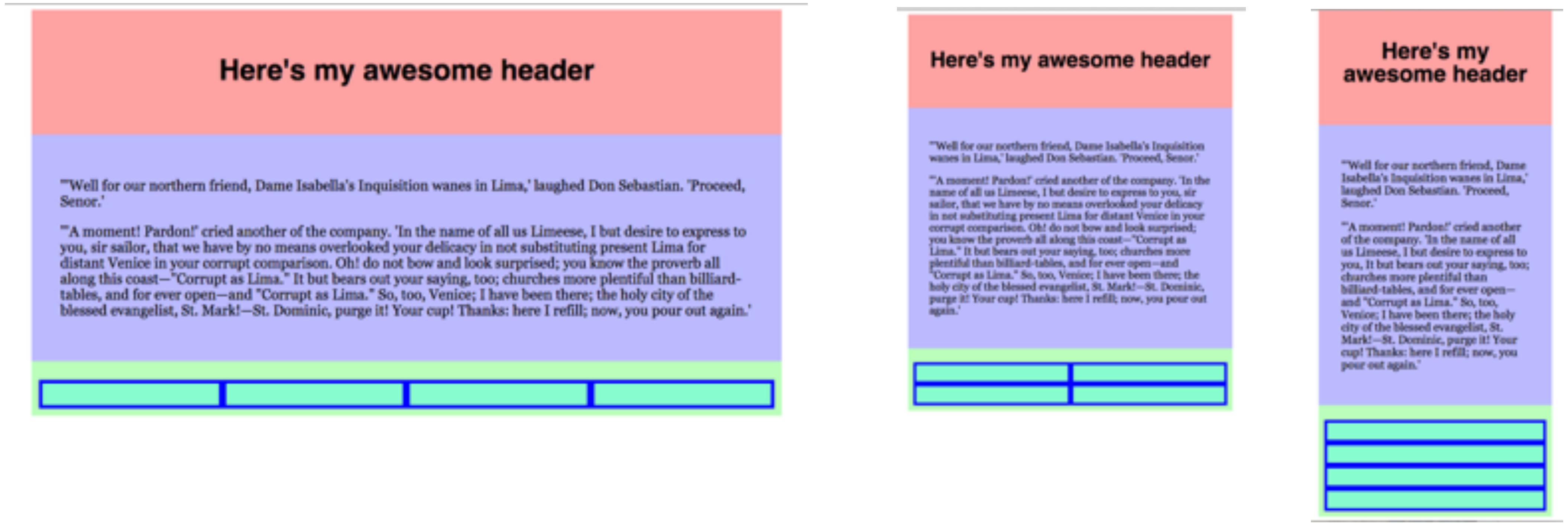
*Gif credit: Fast Company*

## LET'S TAKE A CLOSER LOOK



## RESPONSIVE LAYOUT

- Uses relative widths (built on a fluid grid)
- Use media queries to control design and content as it scales down or up with the browser or device



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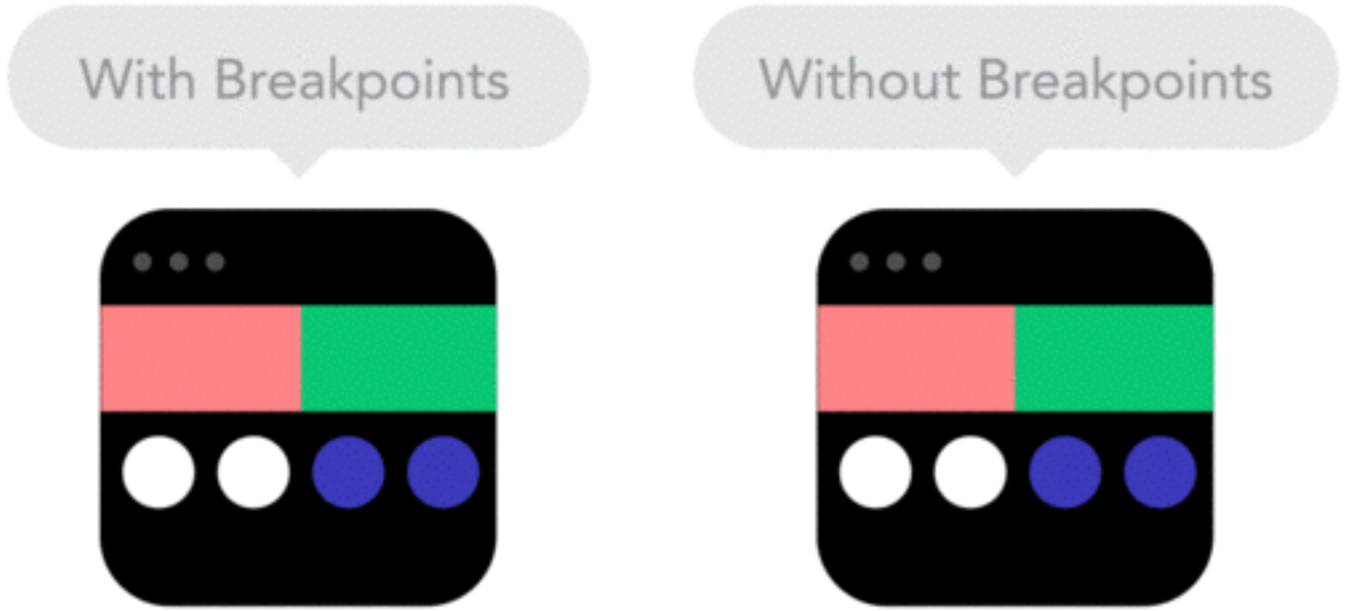
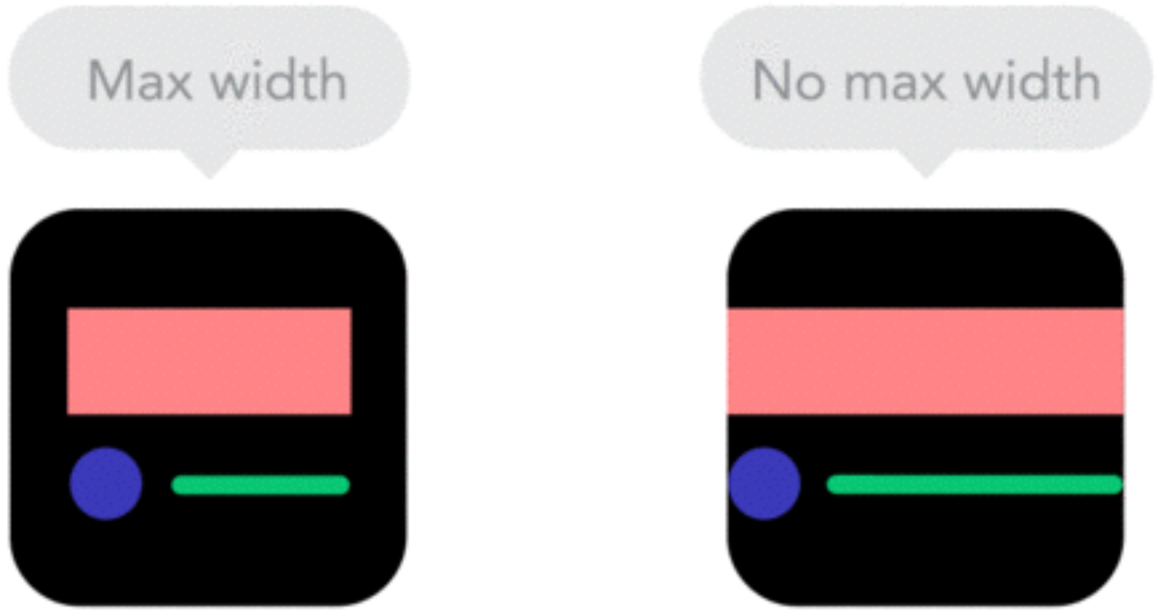
## WITH BREAKPOINTS VS. WITHOUT BREAKPOINTS



*Gif credit: [Fast Company]*

## MAX-WIDTH — A HELPFUL TOOL FOR LAYOUT



*Gif credit: Fast Company*

## RESPONSIVE — MEDIA QUERIES

## MEDIA QUERIES

- Media queries allow us to target CSS rules based on screen size, device orientation, display density, etc.
- We can use media queries to allow certain rules to apply for an iPad or iPhone, to add styles for a printer, or to create a responsive site.
- With media queries, we can allow most of our styles to remain the same, while we make small tweaks for specific formats.

## MEDIA QUERIES

- One technique is to create separate stylesheets for different devices and only apply styles in those stylesheets if the device meets those criteria.
- For example, we can have one main stylesheet (which would also be the default) that would define the styles for all main structural elements.
- If the screen becomes too narrow, short, tall, wide, etc. we can detect that and load in another stylesheet

```html
<link rel="stylesheet" media="screen and (max-width: 460px)" href="iphone.css" />
```

## MEDIA QUERIES

- These media queries can also be brought directly inside our CSS like so:

```css
@media screen and (max-width: 600px) {
  .box {
    width: 100%;
  }
}
```

## MEDIA QUERIES — SYNTAX

### MEDIA TYPES

- **screen**: color computer screen
- **print**: print preview mode
- **all**: suitable for all devices

```
@media screen {
  /* Styles for color computer screen */
}
```

```
@media print {
   /* All your print styles go here */
   #header, #footer, #nav { display: none !important; }
}
```

## MEDIA QUERIES — SYNTAX

### MEDIA FEATURES

- **width**: viewport width
- **height**: viewport height

```
@media screen and (max-width: 600px){
  /* Styles for screens with a maximum width of 600px */
}
```

```
@media screen and (min-width: 600px){
  /* Styles for screens with a minimum width of 600px */
}
```

****See a full list of features here*

## MEDIA QUERIES — SYNTAX

### MEDIA FEATURES

- **orientation**: orientation of the viewport

```
@media screen and (orientation: portrait){
  /* Styles for screens with a maximum width of 600px */
}
```

```
@media screen and (orientation: landscape){
  /* Styles for screens with a minimum width of 600px */
}
```

****See a full list of features here***

## MEDIA QUERIES — SYNTAX

### LOGICAL OPERATORS

- **and**: can be used to combine multiple media features together, as well as combining media features with media types.

```
@media (min-width: 700px) and (orientation: landscape) { ... }
```

- **comma-separated lists**: behave like the logical operator *or*

```
@media (min-width: 700px), handheld and (orientation: landscape) { ... }
```

- **not:** applies to the whole media query and returns true if the media query would otherwise return false

```
@media not print { ... }
```

- **only:** prevents older browsers that do not support media queries with media features from applying the given styles

```
@media only screen and (min-width: 400px) { ... }
```

## VIEWPORT META TAG — AN IMPORTANT NOTE!!

- The viewport meta tag controls how a webpage is displayed on a mobile device.
- Without the tag, mobile devices will assume you want the full desktop experience and will set the viewport width at 980px (iOS)

### DEVICE-WIDTH

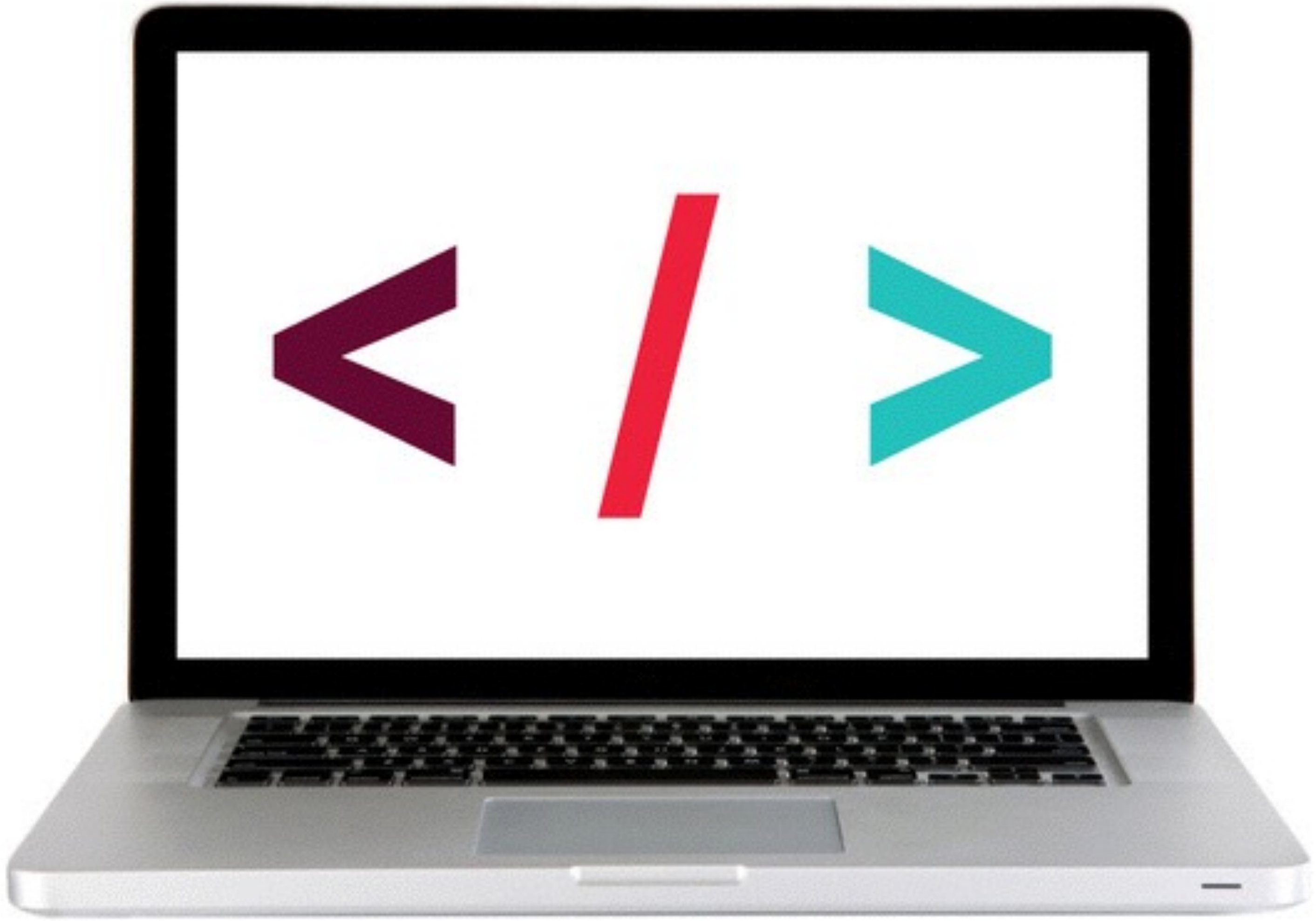
- This tells the browser "My Website adapts to your width"

### INITIAL-SCALE

- Sets the initial zoom level and prevents default zooming

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

## LET'S TAKE A CLOSER LOOK



## LAB

## ACTIVITY

EXERCISE

### KEY OBJECTIVE

- Apply media queries to achieve a responsive layout.

### TYPE OF EXERCISE

Be resourceful. You have a basic understanding of media queries, responsive, mobile layouts and cascading style sheets. This exercise challenges your understanding and requires that you Google code snippets and implement media queries to make Boxing_1 responsive.

### TIMING

*25 min*

1. Demo the site
2. Add media queries to make Boxing_1 exercise responsive.

## RESPONSIVE — REM/EM

## PIXELS, EMS AND REMS

- Both **em** and **rem** are relative units. Their counterpart, the px, is not.

## EMS

- Sized based on the width of the letter “m”
- Same as percentages* 1em=100% font-size
- Based on *parent*
- Parent{ font-size:16px;} Child{font-size:2em;} Child’s font size is 32px

## REMS

- "Root" em
- Same as em **except** based on the font-size of the *html element*

## THE BENEFIT OF USING RELATIVE UNITS

```
html { font-size: 1em; }
h1 { font-size: 2.074em; }
h2 { font-size: 1.728em; }
h3 { font-size: 1.44em; }
h4 { font-size: 1.2em; }
small { font-size: 0.833em; }
.box { padding: 1.25em; }

@media screen and (min-width: 1400px) {
  html { font-size: 1.25em; }
}
```

```
html { font-size: 16px; }
h1 { font-size: 33px; }
h2 { font-size: 28px; }
h3 { font-size: 23px; }
h4 { font-size: 19px; }
small { font-size: 13px; }
.box { padding: 20px; }

@media screen and (min-width: 1400px) {
  html { font-size: 20px; }
  h1 { font-size: 41px; }
  h2 { font-size: 35px; }
  h3 { font-size: 29px; }
  h4 { font-size: 24px; }
  small { font-size: 17px; }
  .box { padding: 25px; }
}
```

## MORE RESOURCES

## MORE RESOURCES

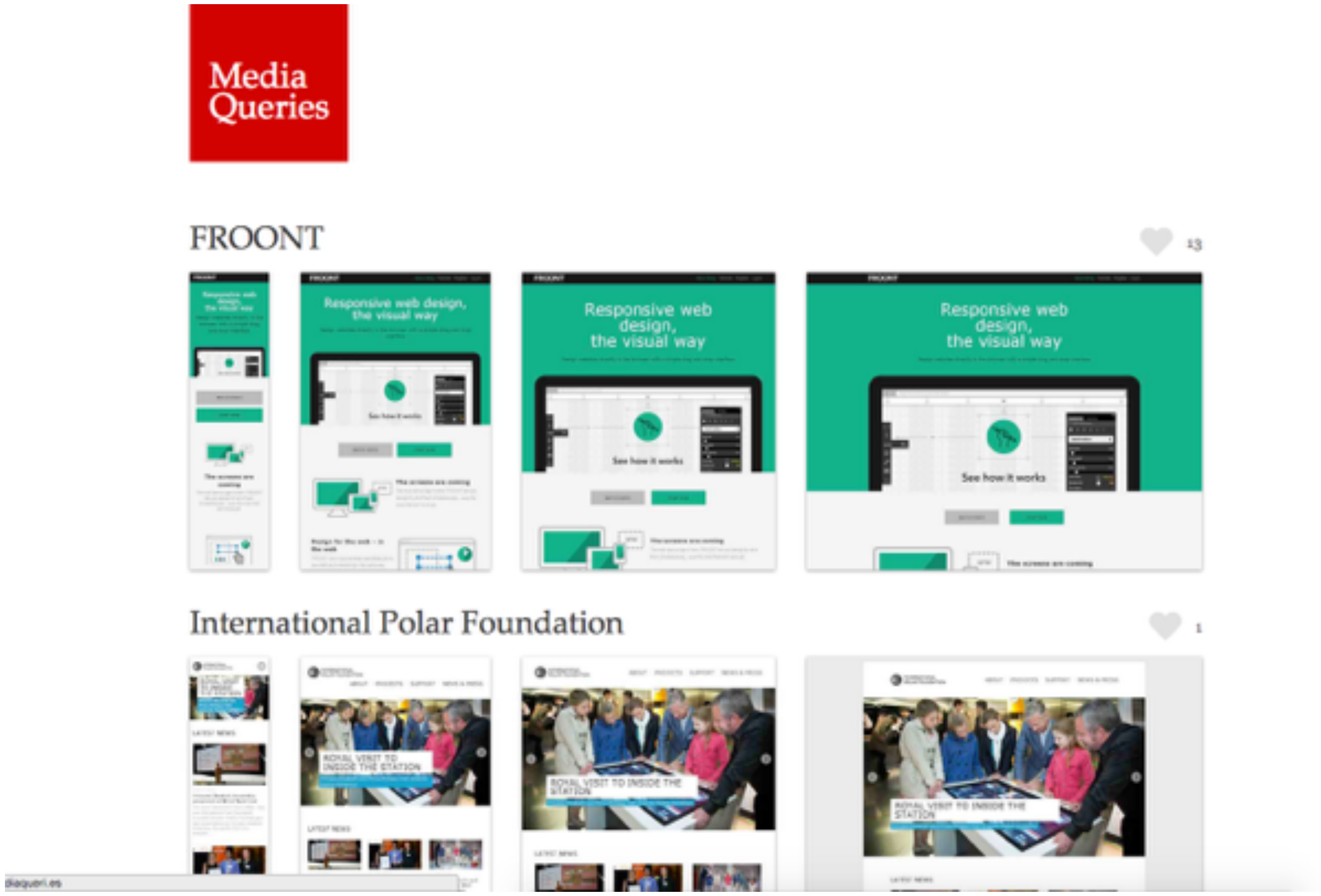
*Image credit:*
*[coloroverboard.com](coloroverboard.com)*

## MORE RESOURCES — THIS IS RESPONSIVE

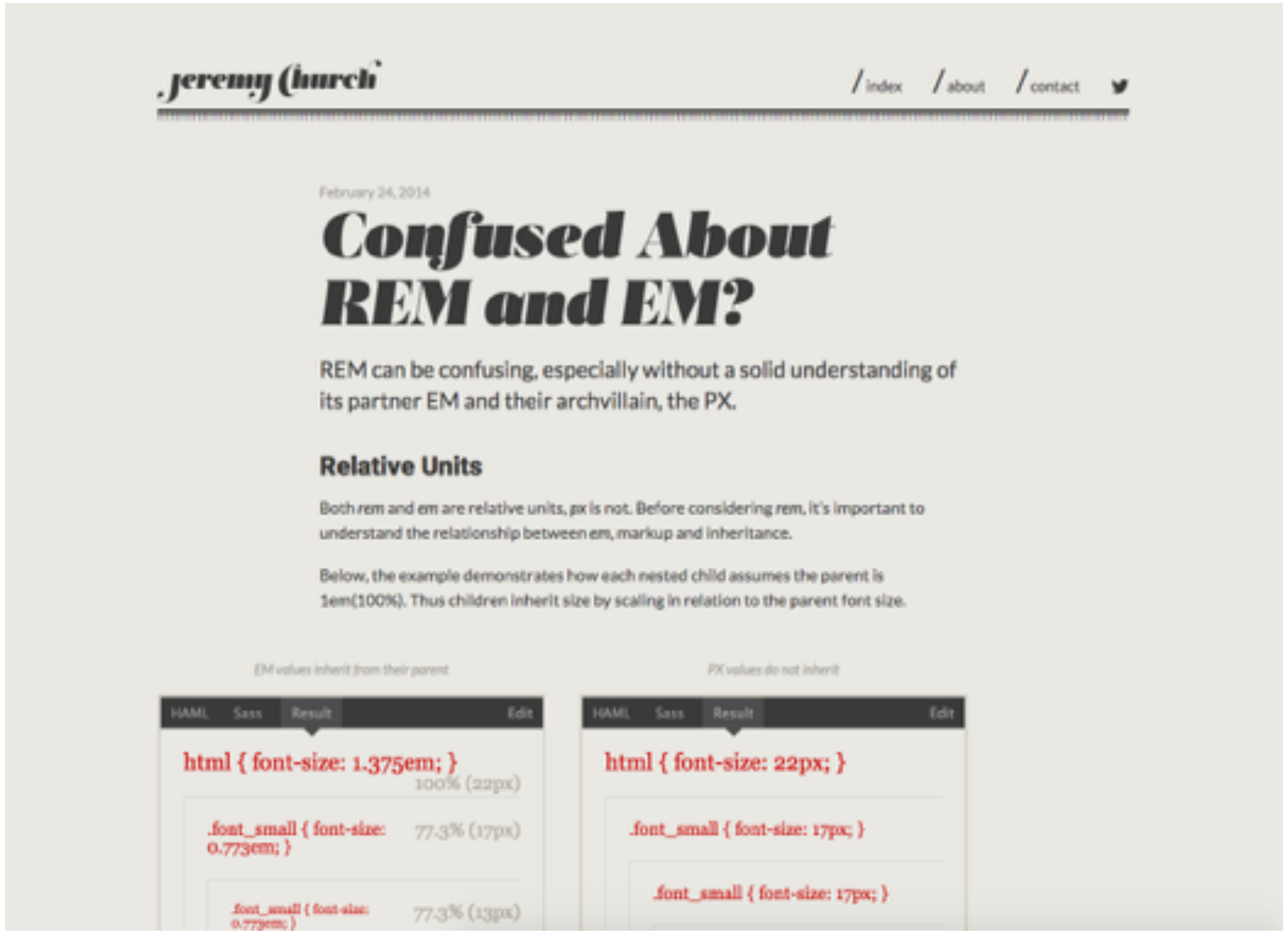
This Is Responsive.

Patterns, resources and news for creating responsive web experiences.

## MORE RESOURCES — MEDIA QUERIES


Media Queries
FROONT
13
Responsive web design, the visual way
See how it works
International Polar Foundation
1
ROYAL VISIT TO INSIDE THE STATION
diaqueri.es

## MORE RESOURCES — REMS/EMS



February 24, 2014

Confused About REM and EM?

REM can be confusing, especially without a solid understanding of its partner EM and their archvillain, the PX.

Relative Units

Both rem and em are relative units, px is not. Before considering rem, it's important to understand the relationship between em, markup and inheritance.

Below, the example demonstrates how each nested child assumes the parent is 1em(100%). Thus children inherit size by scaling in relation to the parent font size.

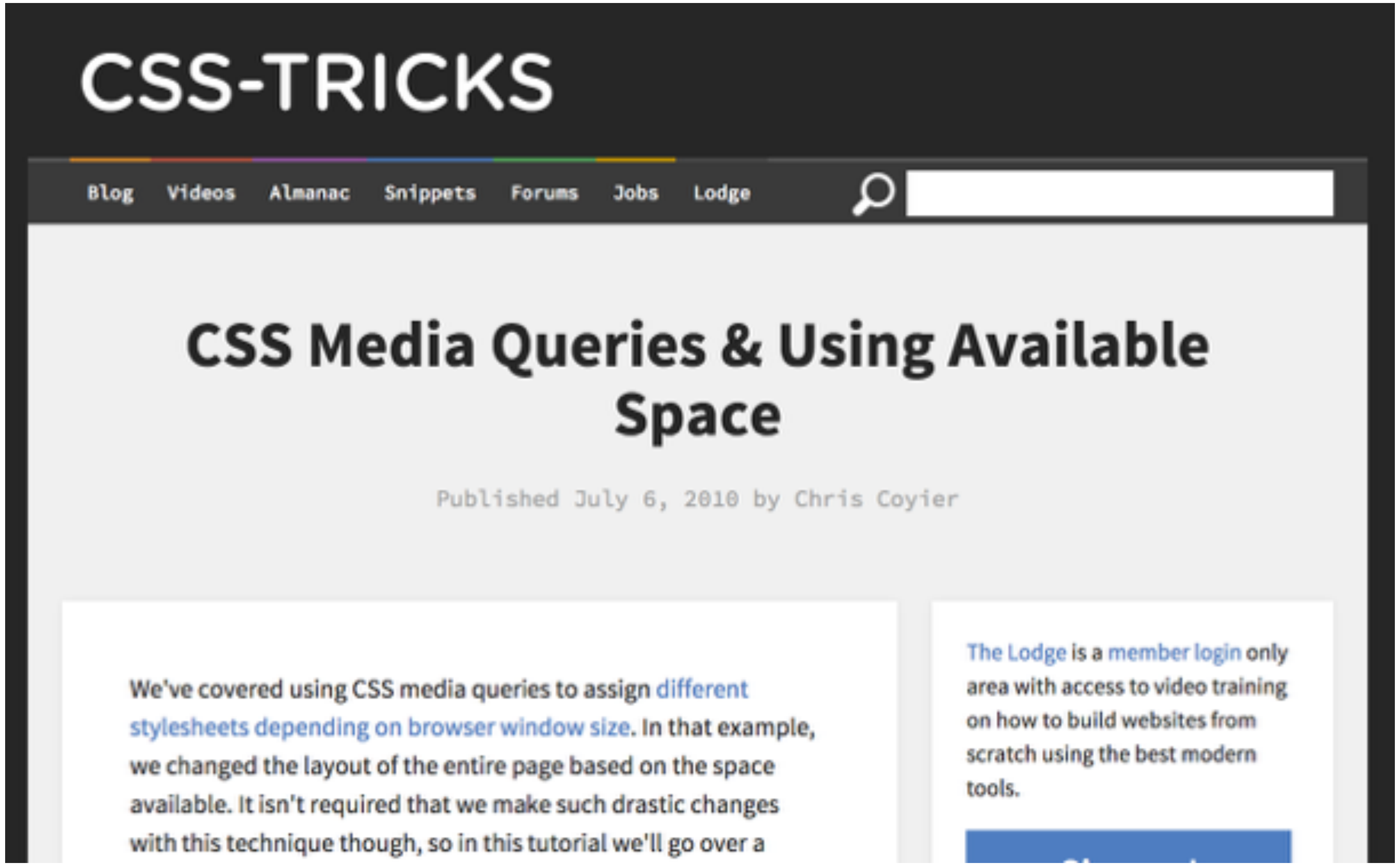
EM values inherit from their parent

```
html { font-size: 1.375em; }
                                  100% (22px)
  .font_small { font-size:        77.3% (17px)
  0.773em; }
    .font_small { font-size:      77.3% (13px)
    0.773em; }
```

PX values do not inherit

```
html { font-size: 22px; }
  .font_small { font-size: 17px; }
    .font_small { font-size: 17px; }
```

## MORE RESOURCES — MEDIA QUERIES



CSS Media Queries & Using Available Space

Published July 6, 2010 by Chris Coyier

We've covered using CSS media queries to assign different stylesheets depending on browser window size. In that example, we changed the layout of the entire page based on the space available. It isn't required that we make such drastic changes with this technique though, so in this tutorial we'll go over a

The Lodge is a member login only area with access to video training on how to build websites from scratch using the best modern tools.

# UPCOMING AT GA

## UPCOMING EVENTS AT GA

- Workshops happening in the next couple weeks

## LEARNING OBJECTIVES

- Describe responsive design.
- Know the difference between fluid, fixed and responsive layouts
- Apply media queries to achieve a responsive layout.

# HOMEWORK

## HOMEWORK

### FINAL PROJECT MILESTONES:

- Milestone 2 Pseudo Code: Due March 7th
- Milestone 3 First Draft: Build The First Draft Of Your Final Project.
  Due March 14th

### OPTIONAL BUT HIGHLY ENCOURAGED READING:

- Javascript & jQuery by John Ducket — Chapter 13: Form Enhancement & Validation
- HTML & CSS by Jon Duckett — Chapter 7: Forms

## EXIT TICKETS