

CURRICULUM DESIGN

JEN KRAMER  
TECHNOLOGY INSTRUCTOR

# Roll Your Own Responsive Design



HTML5 Developer's Conference • San Francisco, CA • October 2014

# It's all about mobile



[Photo back story](#)

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# #SMBfail

- ∞ 93.3% of SMB websites are not mobile-compatible and will not render successfully on mobile devices, including smartphones.
  - 80.5% have no social media links.
  - 74.7% lack an email link on their home page.
  - 65.7% lack a form to request information.
  - 60% have no toll-free or local phone number on the home page.
  - 56.3% have no keyword info for search engines.
- ∞ 56% plan to invest in a new website or software in 2013.

## Source

# “But 5-7% use mobile now”



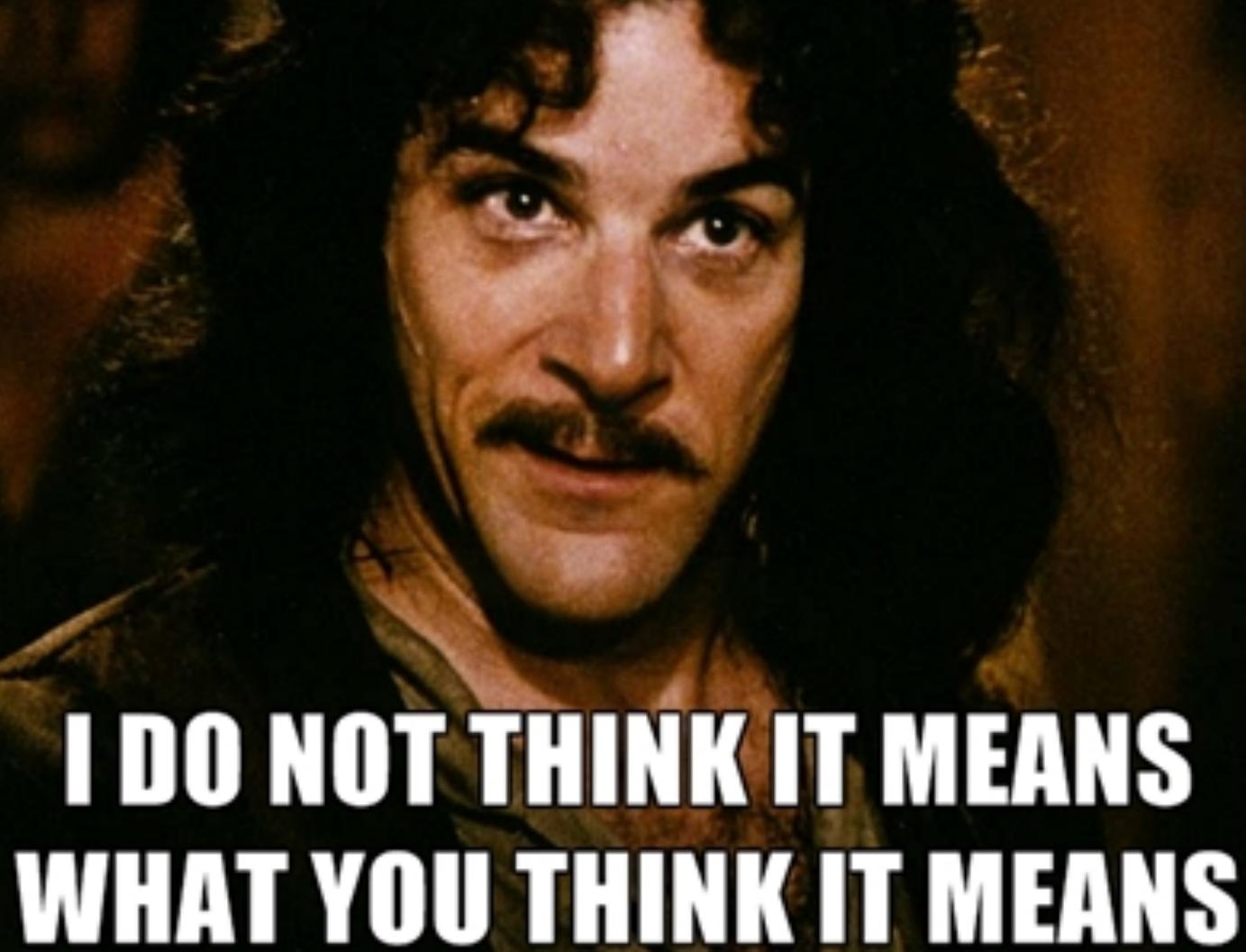
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“I need a website and I want responsive design. How much will that cost?”



# **RESPONSIVE DESIGN**

A close-up portrait of a man with dark hair and a prominent mustache. He has a serious, slightly weary expression and is looking directly at the viewer. The lighting is dramatic, with strong shadows on one side of his face.

**I DO NOT THINK IT MEANS  
WHAT YOU THINK IT MEANS**

# Responsive Design (Manager)



- ∞ Make it work on my iPhone!
- ∞ Make it work on my iPad!
- ∞ If the website knows what device I'm using, it's responding, right?

# Responsive Design (Geek)



- ∞ Defined by three characteristics
  - Flexible grid-based layout
  - Images that resize
  - Media queries (CSS3)
- ∞ [www.alistapart.com/  
articles/responsive-web-  
design/](http://www.alistapart.com/articles/responsive-web-design/)
- ∞ Example: [Boston Globe](http://www.bostonglobe.com/)

# Responsive design is client side

▼ Mobile portrait (320x480)

Boston Globe stories were available to all last week; today Globe stories are available for subscribers only. Subscribe now.

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The Boston Globe APRIL 25, 2013

SECTIONS 0 MY SAVED

Red Sox Live

2 7 Bruins

5th Inning 2 outs

Red Sox Bruins

NYC mayor says suspects planned attack

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▼ Tablet landscape (1024x768)

BOSTON.COM CARS JOBS REAL ESTATE THURSDAY, APRIL 25, 2013 SUBSCRIBE: DIGITAL HOME DELIVERY LOG IN

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The Boston Globe

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Red Sox Live 2 7 ▾ 5th Inning 2 outs Red Sox Bruins

NYC mayor says suspects planned attack

The suspects "intended to drive to New York and detonate additional explosives in Times Square," Mayor Michael Bloomberg said.

PAT GREENHOUSE/GLOBE STAFF Bombing victim says

Cab driver believes he had encounter with bomb suspects

Latest from the newsroom →

Marathon bombing investigation expands to a New Bedford landfill <http://b.globe.com/13xdI7J> by The Boston Globe via twitter on Thursday, April 25, 2013 at 7:44:17 PM

PAC's robocalls for Lynch campaign to end after candidate disavowed message that seized on Marathon tragedy <http://b.globe.com/LZLHi8> by The Boston Globe via twitter on Thursday, April 25, 2013 at 7:32:02 PM

Everett announces deal with Las Vegas casino operator Steve Wynn

Boston Globe ePaper →

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**Brad Frost** @brad\_frost

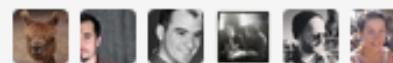
22 Apr

LADIES AND GENTLEMEN: I present to you a website that weighs 85.9MB. WTF. W. T. F. [pic.twitter.com/yUfStWfF63](http://pic.twitter.com/yUfStWfF63)  
Details

The screenshot shows a browser window displaying the Oakley website. The main content features a large banner with the text "I AM INVINCIBLE" and "INTRODUCING THE NEW AIRBRAKE MX GOGGLES". Below the banner, there are two red buttons: "BUY ONLINE" and "FIND IN STORES". The bottom half of the page is a network traffic analysis tool. It has tabs for "Elements", "Resources", "Network", "Sources", "Timeline", "Profiles", "Audits", "Console", and "PageSpeed". The "Network" tab is selected, showing a list of requests with columns for Name, Method, Status, Type, Initiator, Time, and Timeline. A tooltip at the bottom indicates "100 requests | 85.9MB transferred | 2.3mb (overall: 2.1 min, DOMContentLoaded: 5.30 s)". The "Timeline" section shows a horizontal bar with colored segments corresponding to the requests listed.

286  
RETWEETS

97  
FAVORITES



3:52 PM - 22 Apr 13 from Pittsburgh, PA · Details

Flag media



**Scott Vinkle** @svinkle

22 Apr

@brad\_frost Only 27.6 MB for small screen devices...  
Details

More info: <http://hawksworx.com/blog/oakleys-monster-page-of-baubles/>



Scott Jehl

@scottjehl



[Follow](#)

Hmm.

- Avg. website size: 1.4mb
- iPhone w/ Verizon's basic plan: \$80/mo for 300mb
- Number of website visits for \$80: 215
- \$0.37 per visit

[Reply](#) [Retweet](#) [Favorite](#) [More](#)

216  
RETWEETS

74  
FAVORITES



10:53 AM - 10 May 13



# Responsive Design is as good as its designer

Six Revisions      Useful Information for Web Developers & Designers

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[Tweet](#) 999    [Like](#) 551

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## Responsive Web Design is Not the Future

Apr 1 2013 by Josh Chan | 55 Comments



RESPONSIVE WEB DESIGN  
IS NOT THE FUTURE

In 2000, [The FWA](#) (a popular website awards program) gave their prestigious Site of the Year award to [Look and Feel New Media](#), shown below. Visit the site for some context of what I'll be discussing, but turn down your speakers or headphones because it has background music.





- Search
- Google™ Custom Search
- Topics
- AJAX
  - CSS
  - Design Showcase / Inspiration
  - Flash
  - Freebies
  - Graphic Design

## A Response to 'Responsive Web Design is Not the Future'

I fundamentally disagree with [this entire article](#). Let's address each point:

### 1. Web Performance

The fact that the author references Tim Kadlec's [Blame the Implementation Not the Technique](#) article and still makes these claims is pretty amazing.

# Alternative: Mobile site



# Separate sites are server side

Same data from the database

The screenshot shows the main navigation bar with links for Air, Hotel, Car, Vacations, Travel Guide, and Rapid Rewards. A large search bar at the top right contains the placeholder "Search Southwest". Below the search bar are links for southwestgiftcard, Sign Up 'n Save, Help, Español, and Travel Tools. The main content area features a "FAA Furloughs" section, a flight search form, and a prominent "Spring OR Fall PERSON?" advertisement. Other sections include "Get two free nights in Las Vegas with a vacation package!", "Upgrade your trip with the fully-refundable Business Select fare.", "Earn double Rapid Rewards Points and Double Tier Qualifying Points through May 15, 2013.", "Book your Fall trip! Our flight schedule is now open through November 1, 2013.", "Get a Roundtrip Flight", "Get EarlyBird Check-In", "CINCO de FLY-O! Mexico & The Caribbean On Sale", and "Car" offers.

Served up with different themes

The screenshot shows the mobile version of the Southwest website. It features a header with the Southwest logo and "SOUTHWEST.COM MOBILE". Below the header is a "Travel Advisory" section with a link to learn more about alerts. The main content area is a vertical list of links, each accompanied by an icon: "Air Reservations", "Flight Check In", "Flight Status", "Flight Schedules", "Rapid Rewards", "Car Reservations", "Contact Southwest", "View Full Site", "Help", and "More". At the bottom of the page is a copyright notice: "©2013 Southwest Airlines Co. All Rights Reserved."

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Choose Site

www.careerjunction.co.z

Google



Hi! You are using a mobile device. Visit our...

→ [Mobile site](#)

→ [Full site](#)



**WHICH IS BETTER?**



**IT DEPENDS**

# Positives/Advantages

## Responsive Design

- ∞ Static or data-driven sites OK
- ∞ Same content served in any environment
- ∞ Can work at any screen dimension if coded well
- ∞ Same URLs for content

## Mobile Site

- ∞ Data-driven backend required
- ∞ Can serve different content to desktop and mobile if required

# Negatives/Disadvantages

## Responsive Design

- ❖ If front-end developer doesn't know what they are doing, this can be a slow data-hog. Need a talented front-end developer who can weigh requirements and tradeoffs to make this technique work optimally.
- ❖ Is your content mobile-friendly?

## Mobile Site

- ❖ What if user wants to see the "full site" version?
- ❖ What happens if the user has a device that's not one of the defined widths?
- ❖ May have different URLs for mobile vs desktop content
- ❖ Talented back-end team who can serve up two (or more) sites with different themes/templates

# There's an app for that



Another alternative

# What makes a site and an app different?

## Website that's mobile-compatible

- ❖ Runs in the browser, so it will run on any mobile phone with a suitable browser
- ❖ May be cheaper to develop
- ❖ Generally will use responsive design or a separate mobile website
- ❖ Can pull info from a database on the web

## Mobile app

- ❖ Runs as an application, so a separate app must be coded for iOS and Android (and Windows).
- ❖ May be more expensive to develop and maintain
- ❖ Can look/function however you want, within the parameters of the operating system
- ❖ Can pull info from the web or web-based database

**WHICH IS BETTER?**



**IT DEPENDS**

# Which should I use when?

## Website that's mobile-compatible

- ☞ Use for any website.

## Mobile app

- ☞ Use only if needed.
- ☞ When do you need an app?
  - You have TONS of content that might need to be read on specific devices
  - Your visitors come back EVERY DAY
  - The browser is too limiting for what the user needs to complete.
- ☞ Some industries seem to standardize on apps, like banking

# My app does what your site can't



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# If you build it, will they come?

“German mobile analytics firm Adeven says that nearly two-thirds of software in iOS App Store are ‘zombies’ — thanks to a new tool that has counted 400,000 apps which get no downloads, are invisible to users and have no ranking.”

[source](#)



# So what is responsive design?



# Responsive Design

Defined by three characteristics

- Flexible grid-based layout
- Media queries
- Images that resize

[www.alistapart.com/articles/responsive-web-design/](http://www.alistapart.com/articles/responsive-web-design/)

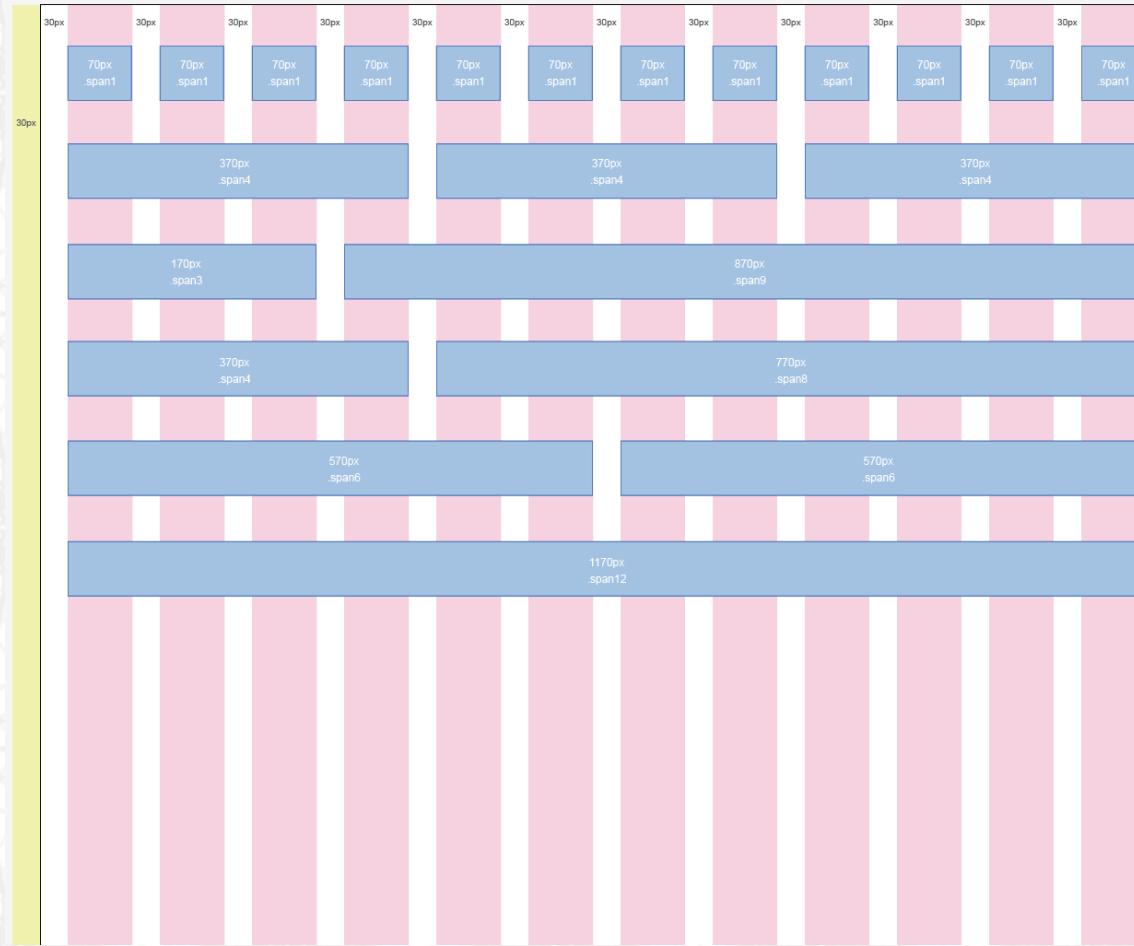
The screenshot shows the header of an article from A List Apart. On the left is the A List Apart logo, which features a large serif letter 'A' above the words 'LIST apart' in a serif font, all set against a laurel wreath. To the right of the logo is the date 'MAY 25, 2010'. Below the date is the title 'Responsive Web Design' in a large, bold, red sans-serif font. Underneath the title is the author's name, 'by ETHAN MARCOTTE'. At the bottom of the header, there is a horizontal line followed by the text 'Published in: CSS, Layout, User Interface Design, Mobile, Mobile Design, Mobile Development'. Below this line are two links: 'Discuss this article »' and 'Share this article »'.

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# Grid-based layout



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# Grid-based layout

The screenshot shows a website with a grid-based layout. The header is a dark red bar with the Sabre Travel Network logo. Below it is a navigation bar with links: Home, Products & Services, News & Events, About, Contact, and Search. A breadcrumb trail indicates the current page: Home > Travel Agencies > Business Needs > Increase Revenue. The main content area has a light blue background. On the left, there's a sidebar with a vertical navigation menu for Travel Agencies, Leisure Solutions, Corporate Solutions, Business Needs (highlighted in red), Product Index, Contact, Travel Suppliers, Corporations, Government, and Product Index. The central column contains several sections: 'Increase Revenue' (with intro text about travel agents needing booking tools), 'Header 2' (with text about integrated experiences through service best practices), 'Header 3' (with text about generating empowered technology and a holistic total package), 'Header 4' (with text about embracing innovative metrics like one-to-one action items, employee-business definition link, and synergized contextually-based external link), and a table comparing three plans: Nexion, Simplicity, and another unnamed plan. The right sidebar lists categories: Booking Tools, Travel Product Selection, Increase Revenue, Reduce Costs, Customer Service Tools, Manage Your Business, and Development Tools. At the bottom, there are four footer boxes: 'Did you find what you were looking for?' (with a feedback link), 'Global Customer Support Center' (mentioning over 850,000 calls in 2006), 'The Sabre Efficient Solution' (for solving complex, seamless travel requirements), and 'Sabre Travel Network in the News' (listing Virgin America and Sabre Travel Network SITA Distribution). The footer also includes links for Privacy Policy, Cookies & Trademark Notice, and footer navigation: Regional Sites, Careers, and Sabre Holdings.

Plan	Sabre GDS	Setup Fee	Monthly Fee	Agents	Contract Term
Nexion	Included	\$1,250	\$10 - \$500**	Unlimited**	Month-to-Month
	Not Included	\$1,250	\$10 - \$500**	Unlimited**	Month-to-Month
Simplicity	Included	\$1,250	\$10 - \$500**	Unlimited**	Month-to-Month

[Source](#)

# CSS3 Media Queries

- ∞ Browser reports screen resolution
- ∞ Based on current width, serve a stylesheet with layout for that width
- ∞ No JavaScript involved



# Images that resize

- ∞ Images should change size, based on screen resolution
- ∞ Solutions are still being developed, but they are:
  - Client-side
  - Server-side
  - 3<sup>rd</sup> party
  - Free
  - Paid



# Images that resize

Good or bad?

- Load a big image, suitable for desktop, and let it scale for smaller screens.

BAD



# Images that resize

Good or bad?

- Server-side (server tech decides which image to load based on browser screen resolution data)

GOOD



# Images that resize

⌚ Good or bad?

- Client-side: Load several images and display the one right for this resolution, hide others with display: none;

SO BAD



# Images that resize

Good or bad?

- Client-side: let JavaScript decide which image to load

GOOD



# Responsive design is friends with...

- ☞ Static HTML (really? In 2014?)
- ☞ Content management systems
- ☞ Server-side technologies



# Should I use a responsive design framework or roll my own?



# Responsive Design Frameworks



[getbootstrap.com](http://getbootstrap.com)



[foundation.zurb.com](http://foundation.zurb.com)

[20 Exceptional CSS Boilerplates and Frameworks](#)

# BRACE YOURSELF



IT STILL DEPENDS

[memegenerator.net](http://memegenerator.net)

# Two approaches to front-end design



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# No middle ground!

While the back-end world has been developing tools and API's, the front-end world has been custom or off-the-shelf.

There has been no middle ground.





## Sushi Making Kit

Create your own Japanese style sushi at home! This kit contains all the basic ingredients and utensils, as well as a detailed recipe book to allow you to make a variety of delicious and exotic sushi. All you provide are the fresh ingredients for the filling, such as: avocado, crabmeat, fresh cucumber, shrimp, or whatever suits your fancy!

All of the ingredients in the Sushi Chef™ kit have been selected for their superior quality and wholesomeness, to assure you of a satisfying and rewarding adventure into the world of sushi making.



# Frameworks as middle ground

- ∞ Some of the work is done for you – including debugging!
- ∞ You can still customize what you get.
- ∞ It doesn't have to look like a Bootstrap/Foundation site.
- ∞ The code may be more than you would create custom... but how much time/money did you save?



# Should you use a framework?



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# Just because you can...

Recently published in Smashing Magazine

[Responsive Design Frameworks: Just Because You Can, Should You?](#)

# Questions?

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