

# Web Design for Programmers

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NAPCS

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# Quick Disclaimers

- This is a crash course!
  - Many topics are simplified to keep things moving
- There's more to learn after this is over!
- This is not show and tell - get ready to build something!



# We are going to learn stuff

- Basic Color Theory
  - Learn how to choose colors
- Basic Typography
  - Learn how to choose fonts
- Basic layouts
  - How to mock up a site in Photoshop
- Basic XHTML and CSS



# We're gonna build stuff

- We'll build a logo that can scale using Illustrator
- We'll build a mockup of the site in Photoshop
- We'll write some code
  - XHTML
  - CSS



# Good vs. Bad Design

- Most successful web designs have a few things in common:
  - They are accessible
    - Most users have little problem finding the information they need
  - They are easy to read
    - There are good clean fonts laid out appropriately
  - They are visually-appealing



# Bad Design





# Good Design

**Blinksale®** Home Blog Learn Signup<sup>Free!</sup> Login

*The easiest way to send invoices online.*  
"Blinksale rocks!" — PayPal Developer Network

**\$609.00 Open**

[Send Invoice](#)

[Edit Invoice](#)

[Print Invoice](#)

Send elegantly formatted invoices to anyone with an email address.

**Invoice 10001**  
**21 Apr 2006**  
Due 21 May 2006 (NET 30)

**My Client**

Qty	Description
1.0 Hours	Stuff

Use our professionally-designed invoice templates or design your own with CSS.

**Who is this invoice for?** Just Added!

[Import a client from Basecamp](#)

[Select a client from Basecamp](#)

☒ Create a new Blinksale client record

☐ Replace an existing Blinksale client record

Import your client records from Basecamp for painless invoicing.

**Recurring Templates**

Name	Sent
SEO and Advertising	54 c
Web Hosting 40	8 cl
Web Hosting 80	13 c
Web Design Retainer 500	2 cl
Coffee Expenses	000

Use recurring templates to send automated repeating invoices.

**Popular Tags**

art [blinksale](#) [blog](#) [brian-brasher](#) [client](#) [design](#) [ebay](#) [icons](#) [illustration](#) [jc](#) [john-marstall](#) [josh-williams](#) [paypal](#) [rootkit](#) [sonybm](#) [sparkplug](#)

Tag invoices and purchases to organize, track, and export your invoice data.

**Dashboard Invoices Purchases**

**Purchases**

Filter: ☒ All ☐ Unpaid

From: 01 January To: 01 January

Invoices received from other Blinksale subscribers are added to your records.

Uniform, easy to read, easy to get signed up.



# Design is more than pretty colors!

- Design based around your content
  - Be appropriate!
  - Be interesting!
  - Be clear!
- Make sure users find what they came for quickly!



# Commandments

- Your site's content is the star.
  - Allow nothing else to distract the user from your content.
- Your site's design should reflect your content
- Your site should strive to have simple navigation
- Your site should load quickly



# Basics of Layout

- Process is the same for basic HTML, templates for a CMS, or a Rails template



# Navigation

- Should be easy to find and use
- Positions
  - Top of the page
  - Sidebar
- Keep it small
  - No scrolling to see the navigation!



# Gather information

- What does the site do?
- What's the site's target audience?
- What's the goal of the company?
- Who are the competitors?

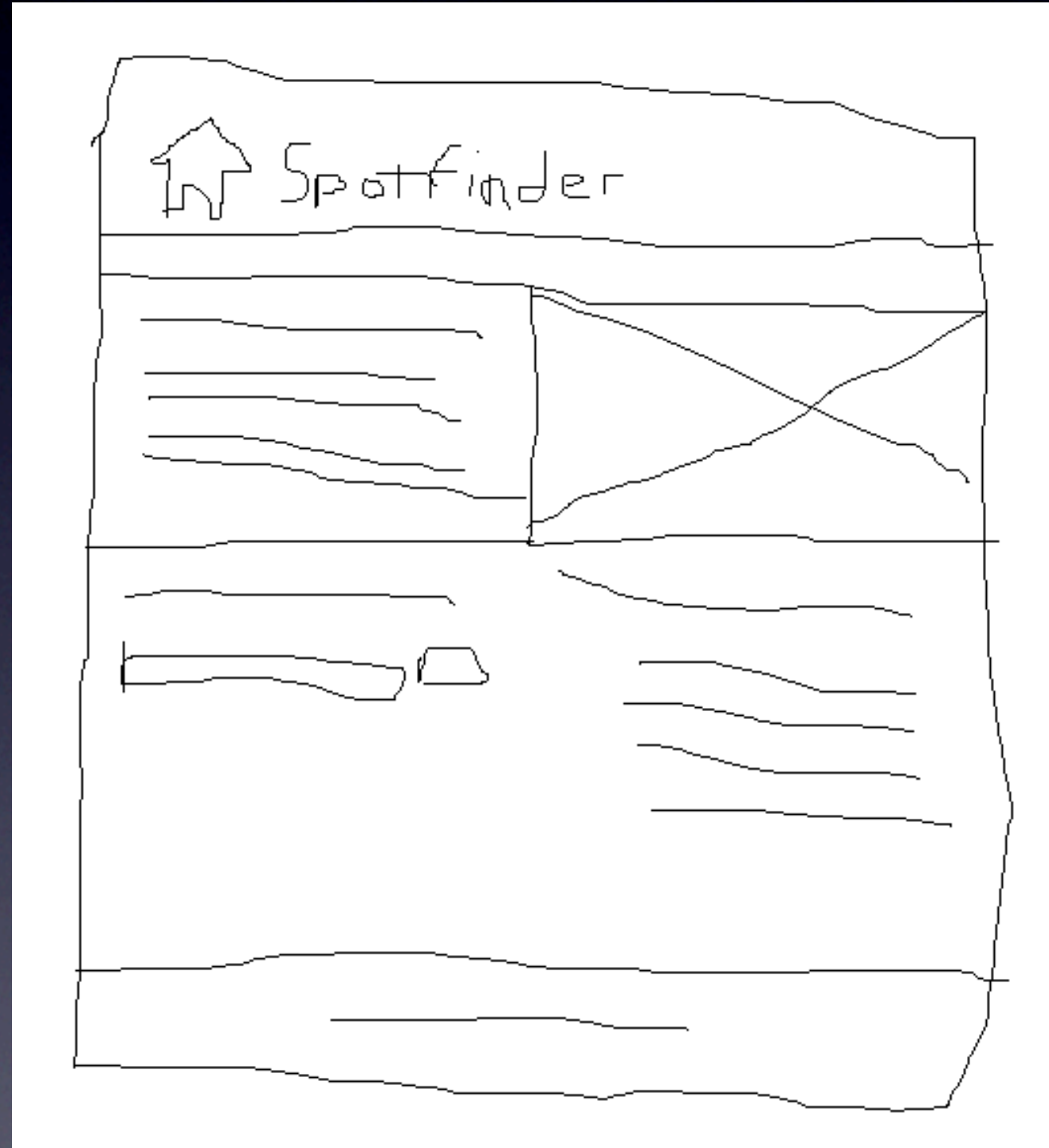


# Sketch your stuff

- Before you sit down at the computer, sketch ideas on paper
  - Great for working with clients
  - Avoid whiteboards – you want to keep the sketches with you!
  - Flipcharts are fun for meetings!



# Doesn't have to be pretty





# Get inspired!

- Surf the web and see what's out there
- Get potential clients to show you things they like
  - It helps you see what will please them



# Sketching Guidelines

- Sketch three variations
  - One simple
  - One complex
  - One in the middle
- Draw boxes if you're not a great artist



# Color

- Color is one of the most important parts of your design
  - It conveys information
  - It evokes an emotional response.



# What is Color

- Hue, or the “color” itself
- Saturation, the “amount” of color
- Brightness, the amount of black



# Basic Color Theory





# Color Schemes

- Monochromatic
  - Pick a hue
  - Choose various shades (brightness and saturation combinations)



# Monochromatic

# zeldman.com

web design news & info since 1995  
ISSN No. 1534-0309 made NYC USA

the daily report   designing with web standards   my glamorous life   classics   about



2 May 2008   10 am eastern

## An e-mail from Chip Kidd

I'll never forget the day [Chip Kidd](#) sent me an e-mail. Chip Kidd, author of *The Cheese Monkeys*, the book that does for design school what Nathaniel West's *Day of the Locust* did for Hollywood.

I wrote about Chip Kidd's work and he sent me a polite e-mail in response. He called me "Mr. Zeldman." Hi. He. That Chip Kidd.

SEARCH:

You might also enjoy...

## A LIST APART

 **happy cog**  
WEB DESIGN, CONSULTING & PUBLISHING

## AN EVENT APART

Hosted by Media Temple. Powered by WordPress.

### JOB BOARD

Augustana College is looking for a Web Editor. See more on the Job Board.

### THE DECK

Ad via The Deck.

Ad via The Deck.



# Analogous

- Pick a hue on the color wheel
- Pick its neighbors to the left and right
- Choose various shades (brightness and saturation combinations)



# Analogous

The logo for Magnolia is centered within a horizontal bar. The bar is composed of four stacked segments: a top olive green segment, a middle light yellow segment containing the logo, a thin white segment, and a bottom dark grey gradient segment. The logo itself consists of the word "magnolia" in a dark brown serif font, with a stylized orange and yellow flower icon replacing the letter 'o'.



# Complimentary

- Pick a hue on the color wheel and then pick the color that sits 180 degrees across from the first color.
- Use saturation and brightness to create additional colors
- Be careful! This can be a shocking scheme!



# Complimentary

The screenshot shows the Amazon.com homepage with a blue header and a white main content area. The header includes the Amazon logo, a greeting, navigation links, a search bar, and links to the cart and lists. The left sidebar lists various departments. The main content area features a large announcement about the Kindle being in stock, accompanied by a photo of a warehouse. The right sidebar contains a blog post and a promotional offer from Riedel.

**amazon.com** Hello. Sign in to get [personalized recommendations](#). New customer? [Start here](#). Shopping for Mother's Day? ☐ Sponsored by Presto

Your Amazon.com Today's Deals ☐ Gifts & Wish Lists ☐ Gift Cards ☐ Your Account | Help

Search

**Shop All Departments**

- Books >
- Movies, Music & Games >
- Digital Downloads >
- Electronics & Computers >
- Home & Garden >
- Grocery >
- Toys, Kids & Baby >
- Apparel, Shoes & Jewelry >
- Health & Beauty >
- Sports & Outdoors >
- Tools, Auto & Industrial >

**Check This Out**

**Mother's Day Gifts**  
Shop gifts for Mom for Sunday, May 11

**amazon.com**

Dear Customers,

Ever since we launched our wireless reading device Kindle last November, we've been unable to keep it in stock, and we've had to work hard to increase manufacturing capacity. Today, we're excited to announce that [Kindle](#) is in stock and ready for immediate shipment.

We've also been adding selection. Since launch, we've added 25,000 additional books, blogs, magazines, and newspapers that you can download wirelessly to your Kindle, bringing the total to more

**Amazon Daily BLOG** 2 posts [Read](#)

**The Very Best of The Jeff H**

1998 release on featuring over 65 genius blues/ rock finest... [Read more](#)

> [View or edit your browsing history](#)

**Real Deals from Riedel**

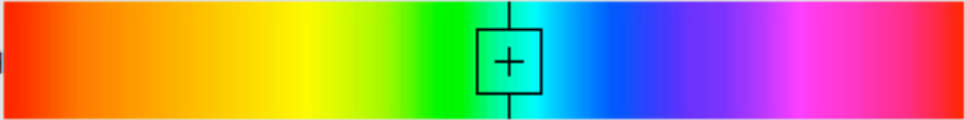
**Save** Through May 31 beautiful and fun tableware from Riedel is available now.

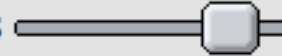

> [Shop Riedel savings](#)

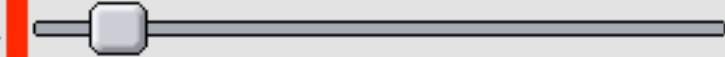



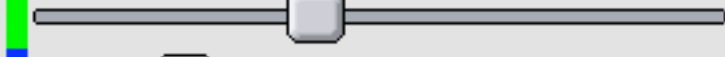

# Technical Color Selection

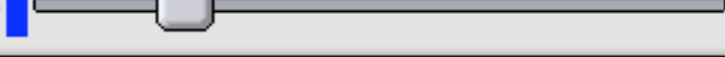
SitePro Central | Colour Scheme Chooser GX

H  189°

S  74% B  38%

R  25 

G  99 

B  50 196332

Colour Pallet

19602F	3D6048	4E6054	20402A	102015	2D4836	445449
194D60	3D5760	4E5C60	203840	101C20	2D4148	445054
336019	4A603D	55604E	2C4020	162010	37482D	4A5444

Scheme:  
Analogic (base + neighbours)

Offset [1-60°]: 30° Paint: ☐ Set

19602F

336019

2C4020

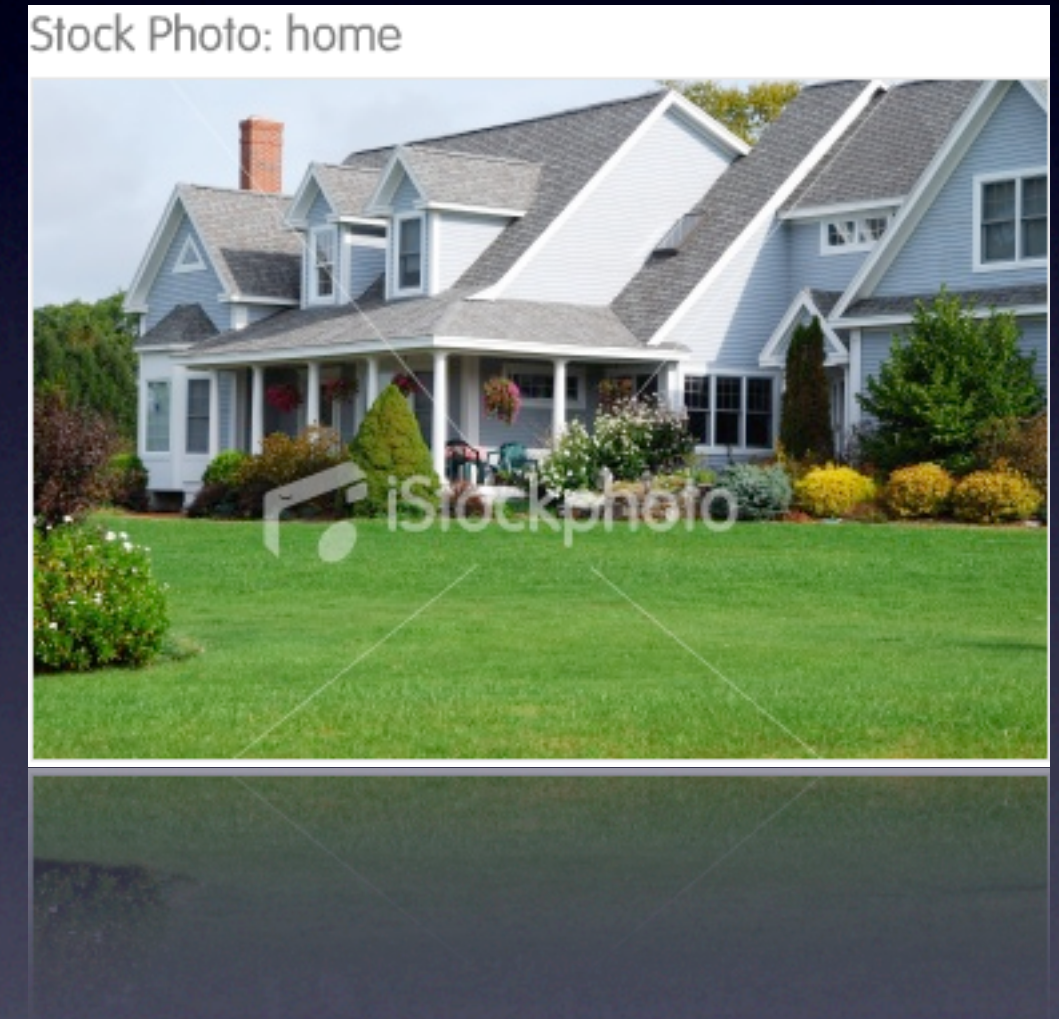
194D60

4A603D



# Photographs

- Photographs make the site come alive
  - Use professional-looking photographs
  - Take your own or use stock photos





# Natural Color Selection

Create

From a Color

From an Image

Themes

Community

Links

Select a Mood

Colorful


Bright

Muted

Deep

Dark

Custom



Tags:

Remember Me

Go

Error occurred

Upload New Image



# Choose a color scheme

- Choose a method
  - Maybe select a color from a picture and use the technical method to build the scheme
  - Write down the color codes



# Typography

- Typography is all about making your content readable
  - It's more than picking fonts!



# Font types

- Serif
- Sans Serif
- Script
- Monospaced
- Symbols



# Serif

hello





# Sans-Serif

hello





# Monospaced

Thank you for your order!

Item	Qty	Price
Novelty Flying Disc	1	\$5.00
Adhesive Bandages	2	\$3.00
Subtotal: \$8.00		
Tax: \$0.00		
Shipping: \$5.00		
Total: \$13.00		

Thank you for your order!

Item	Qty	Price
Novelty Flying Disc	1	\$5.00
Adhesive Bandages	2	\$3.00
Subtotal:		\$8.00
Tax:		\$0.00
Shipping:		\$5.00
Total:		\$13.00



# Legibility

- Sans-Serif fonts
  - Good for your main text. Easier to read on many displays
  - Harder for dyslexics
- Serif fonts
  - Good for headlines
  - Hard to read at smaller sizes



# Fonts and Style

- Browsers across platforms only support a small group of fonts
- You can use images to replace text to retain a font's style
  - Use sparingly!
- You can have “fallback fonts” defined in CSS



# The Baseline Grid

- Pay attention to vertical space. Fonts have a line-height.
  - When working with fonts, define the font size and the line-height
  - Ensure that all element heights are divisible by the line height



# Limited Options

- Web browsers only support a certain number of fonts by default
- The font you choose needs to be installed on your users' machines



Windows fonts / Mac fonts / Font family
Normal style
Arial, <a href="#">Arial</a> , Helvetica, <i>sans-serif</i>
<b>Arial Black, <a href="#">Arial Black</a>, Gadget, <i>sans-serif</i></b>
Comic Sans MS, <a href="#">Comic Sans MS</a> <sup>5</sup> , <i>cursive</i>
Courier New, <a href="#">Courier New</a> , <a href="#">Courier</a> <sup>6</sup> , <i>monospace</i>
Georgia <sup>1</sup> , <a href="#">Georgia</a> , <i>serif</i>
<b>Impact, <a href="#">Impact</a><sup>5</sup>, Charcoal<sup>6</sup>, <i>sans-serif</i></b>
Lucida Console, <a href="#">Monaco</a> <sup>5</sup> , <i>monospace</i>
Lucida Sans Unicode, <a href="#">Lucida Grande</a> , <i>sans-serif</i>
Palatino Linotype, Book Antiqua <sup>3</sup> , <a href="#">Palatino</a> <sup>6</sup> , <i>serif</i>
Tahoma, <a href="#">Geneva</a> , <i>sans-serif</i>
Times New Roman, <a href="#">Times</a> , <i>serif</i>
Trebuchet MS <sup>1</sup> , <a href="#">Helvetica</a> , <i>sans-serif</i>
Verdana, <a href="#">Verdana</a> , <a href="#">Geneva</a> , <i>sans-serif</i>
Συμβολ, <a href="#">Συμβολ</a> (Symbol <sup>2</sup> , Symbol <sup>2</sup> )
►♠♣♥♦●■?↗ ►♠♣♥♦●■? (Webdings <sup>2</sup> , Webdings <sup>2</sup> )
✠✡■☸☉☊☋☌☍☎☏☐☑☒☓☔☕☖☗☘☙☚☛☜☝☞☟☠☡☢☣☤☥☦☧☨☩☪☫☬☭☮☯☰☱☲☳☴☵☶☷☸☹☺☻☼☽☾☿☽☿☽☿ (Wingdings <sup>2</sup> , Zapf Dingbats <sup>2</sup> )
MS Sans Serif <sup>4</sup> , <a href="#">Geneva</a> , <i>sans-serif</i>
MS Serif <sup>4</sup> , <a href="#">New York</a> <sup>6</sup> , <i>serif</i>
MS 2611 <sub>tt</sub> , <a href="#">New York</a> <sub>o</sub> , 2611 <sub>l</sub>
MS 2611 <sub>tt</sub> , <a href="#">Geneva</a> , sans-serif



# No Grid Used

## Welcome

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

We are masters of our own destiny

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## News

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## Events

Once upon a time there was a small town.

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# Grid Used

## Welcome

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## News

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## Events

Once upon a time there was a small town.

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# Basics of a Grid

- Pick a font and a unit of spacing (line-height)
- 12px font with 18px line-height (12/18)
- Use the line-height for spaces between elements
- Increase line-height when a font crosses it
  - 24px fonts have 36px line-height
- All image heights need to adhere to the line-height



# Units of Measure

- Pixels
  - Easiest to measure
- Points
  - Measure for print, not great for the web
- EMs
  - Relative unit, height is the height of the letter M in the font you're using



# Logo Design

- Logos are used everywhere
  - Web, print, billboards, t-shirts
- Design a logo to be scalable
  - Vector graphics



# Designing a Logo

- Logo should be easy to recognize
- Should be appropriate for your audience



# Learning to Draw with Illustrator

- Basic Shapes
- Duplicating
- Paths
- Pens
- Fonts



# Make a Logo





# Mockup with Photoshop

- Use Photoshop to lay out your page
- Import other elements
  - logos, photographs, etc
- Extract elements for use in CSS and HTML



# HTML Basics

- HTML is a markup language
  - Markup languages are for CONTENT
    - NOT PRESENTATION



# Semantic Markup

- Use the correct tags to represent your content
  - Headings
  - Lists
  - Paragraphs



# Tables

- Avoid tables for layout whenever possible.



# HTML Tags

- Tags, or elements, wrap your content
- Formatting tags
- Content tags
- Invisible tags



# Block level tags

- DIV  
`<div>This is a section</div>`
- H1 through H6  
`<h1>This is a headline</h1>`  
`<h2>This is a smaller headline</h2>`
- P  
`<p>This is a paragraph</p>`
- Forms, tables, lists



# Inline Elements

- a  
`<a href="/home">Home</a>`
- img  
``
- span  
This text should be `<span>wrapped</span>`



# Scope

- Tags that wrap content have a scope
  - Opening tag
  - Closing tag
  - `<strong>bolded words</strong>`
- Important to open and close tags properly!



# Valid markup

- Valid markup is the key to success
  - Without valid markup, pages render incorrectly in many browsers
  - CSS and Javascript are affected greatly



# Block vs Inline Elements

- Block elements start on a new line
- Inline elements don't.
- You can change this behavior with CSS
  - It's important to understand the default styles of HTML elements!



# Doctype

- The doctype you choose determines what validation rules will be applied to your document.
- It also determines whether IE will be nice to you or not.
  - Standards vs. Quirks mode



# Create Your HTML Page



# Validation

- Invalid documents can cause problems
  - CSS and JavaScript tend to FAIL
- Validation is easy with Web Developer Toolbar

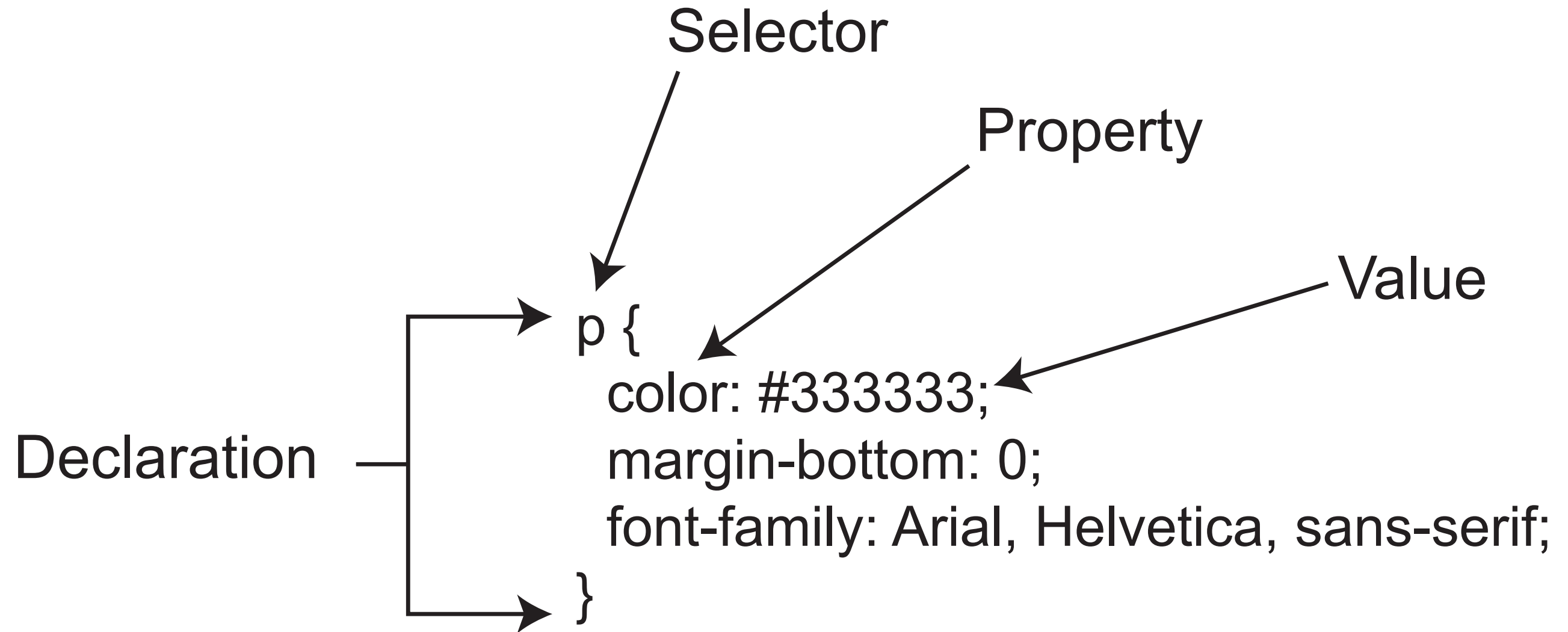


# CSS Basics

- Cascading Style Sheets define the presentation
  - Fonts, colors
  - images, positioning
- Rules tell browsers how to render the content



# A CSS Rule





# Types of Stylesheets

- Inline Styles
- Inline Stylesheet
- External stylesheet



# Inline Styles

- Defined using the STYLE attribute of an HTML tag
- Pros
  - No external files needed
  - Easy way to make a “one-off” style
- Cons
  - Mixes design with presentation
  - Makes code bigger - much bigger



# Inline Stylesheet

- Entire stylesheet defined within the `<STYLE>` tag within the page's header
- Pros
  - Great for one-off pages where the style is different
  - No external files needed
- Cons
  - No way to share styles across pages



# External Stylesheets

- Use the LINK tag to include a stylesheet
- Pros
  - Can be shared across pages
- Cons
  - Requires an extra file and thus an extra download
  - Requires more rigid documentation



# Media Types

- Stylesheets can be associated with media types
  - Screen
  - Projector
  - Printer
- Easy way to handle print versions of your page



# Selectors

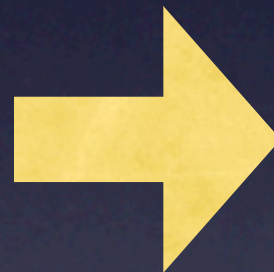
- HTML elements
- Classes
- IDs



# Selectors by HTML Elements

- Define a style that is applied to all elements specified by the selector

```
<h2>Profile</h2>  
<p>Here's some stuff</p>
```



```
h2{  
  font-size:24pt;  
  line-height:36px  
}
```

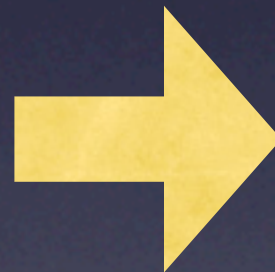


# Selectors by Class Name

- Define a style by referencing the associated class attribute assigned to elements in the document

```
<div class="box">  
  <p>Here's some text</p>  
</div>
```

```
<div class="box2">  
  <p>Here's more text</p>  
</div>
```



```
.box{  
  font-weight:bolder;  
  border:1px solid #000;  
  padding:5%;  
  color:#669;  
  line-height:1.8px;  
}
```

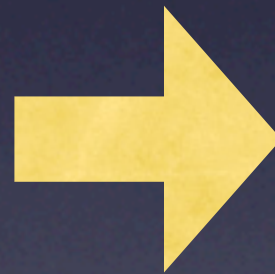


# Selectors by ID Name

- Define a style by referencing the associated class attribute assigned to elements in the document

```
<div id="header">  
  <h1>This is a headline</h1>  
</div>
```

```
<div id="main">  
  <p>Here's more text</p>  
</div>
```



```
#header{  
  background-color:#ffe;  
  color:#000;  
  margin-bottom:18px;  
}
```



# Guidelines for use

- IDs can't be used on more than one element per page
  - ID selectors are great for defining position of regions of page
- Classes can be reused
  - Class selectors are great for defining how a group of items look
- HTML elements already exist
  - HTML element selectors are great for changing how elements appear



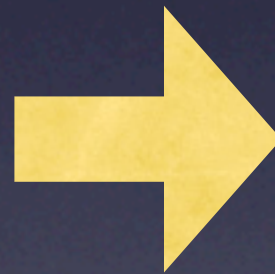
# Grouping

- You can share a single style definition using groups of selectors, separated by commas

```
<h1>Header</h1>
```

```
<h2>Subheader</h2>
```

```
<p>This is a paragraph</p>
```



```
.h2, p{  
  margin-left: 18px;  
  color: #669;  
  line-height: 18px;  
}
```

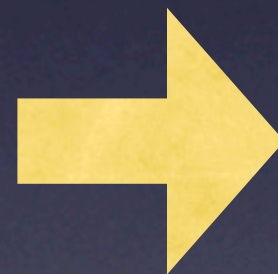


# Scoping

- You can ensure that styles are only applied to elements you specify by using scoping

```
<div class="special">  
<p>This is not affected</p>
```

```
<p class="special">This is  
affected</p>
```



```
p.special{  
  margin:left: 18px;  
}
```



# Layout.css

- Positioning of regions
- Definition of line-heights



# Resetting

- Browsers have their own default styles for elements. To be sure you get what you want, set margins and paddings on everything to 0
- Or at least everything that matters



# Web Graphics

- JPEG
  - For pictures and complex images with many colors - lossy compression
- GIF
  - For logos, simple artwork, only 256 colors max, basic transparency, no loss compression, support for animation
- PNG
  - Many colors, transparency support which is not supported in older browsers



# Style.css

- All of your colors, images, and fonts are here, including your font sizes and line heights



# Optimizing Images

- Take a large image and prepare it for the web
  - Convert DPI to 72px
  - Convert image dimensions to something useful
  - Compress image
    - Remove colors
    - Reduce quality
- Use a good image editor



# Accessibility

- Make your site accessible to people with disabilities
  - and you make it accessible to everyone



# How?

- Make sure your pages validate
- Use ALT attributes for images
- Avoid things that flash rapidly
- Make sure it downloads quickly
- Make sure it works on older browsers
- Test it on a phone
- Test it on a Mac!!!
- Test it on a PC!!!



# Questions



# Follow up

- Web
  - <http://www.napcs.com>
- Contact me
  - [bphogan@gmail.com](mailto:bphogan@gmail.com)
  - hoganbp on #rubyonrails