

VISUAL & RESPONSIVE DESIGN



GOALS OF VISUAL DESIGN

structure content: relative importance,
relationships, ordering

richer experience: branding

WHY IS VISUAL DESIGN IMPORTANT?



50 milliseconds to make a good first impression!

perceptions about trustworthiness, usability are based on visual appeal

What Do You See When You're Surfing? Buscher et al., CHI 2009
Attention Web Designers, Lindgaard et al., Behaviour & Information Technology 2006

COMPONENTS OF VISUAL DESIGN

Layout

Color

Typography

Human Perception plays a
big role in visual design

layout

arrangement of visual elements

spacing, alignment, and relative
sizing

VISUAL HIERARCHY



The Outspoken website homepage features a large, dramatic photograph of a man in a suit shouting into a megaphone. The text 'Is Your Brand Outspoken?' is overlaid on the image, along with the subtitle 'Use text, picture and video messaging to ensure your brand is heard.'

Messaging
If you're a brand or agency, our feature-rich SMS and MMS platform is perfect to help you increase your ROI on your mobile marketing campaigns.

Aggregation
Working with carriers can be complicated. We give you the power of over 700 carriers in 250 countries simply with one API for SMS and MMS.

Transcoding
Connect to the Outspoken transcoding API to optimize MMS video, picture, audio and other rich media for individual carriers, OS and phone make/model.

[See Features](#) [Learn More](#) [Try it Now](#)

outspoken.com

What's important?

What's related?

How can you tell?

Designing User Interfaces, Jennifer Tidwell

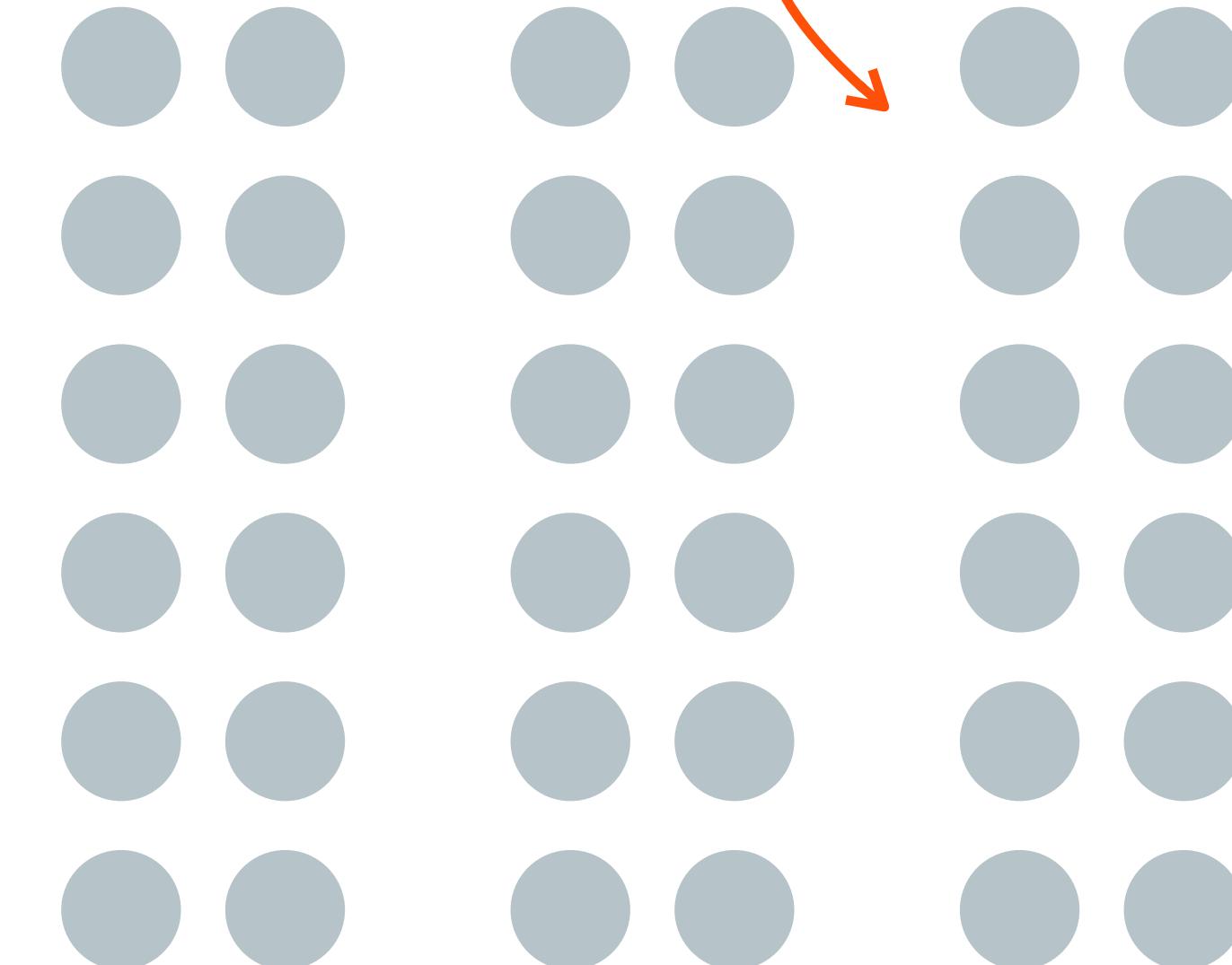
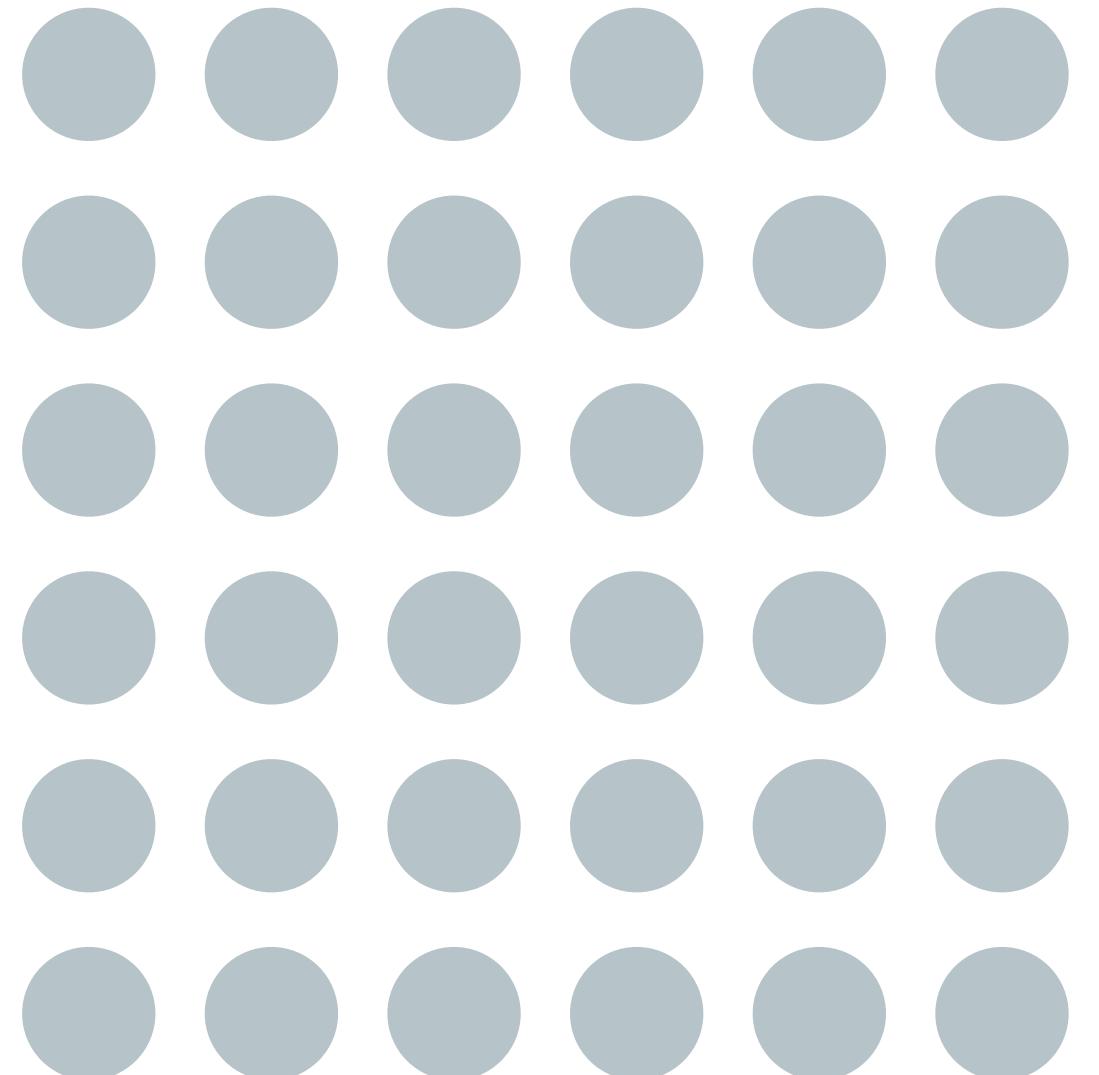
GESTALT LAWS

theories of visual perception (1920s)

describe how people organize visual elements into groups

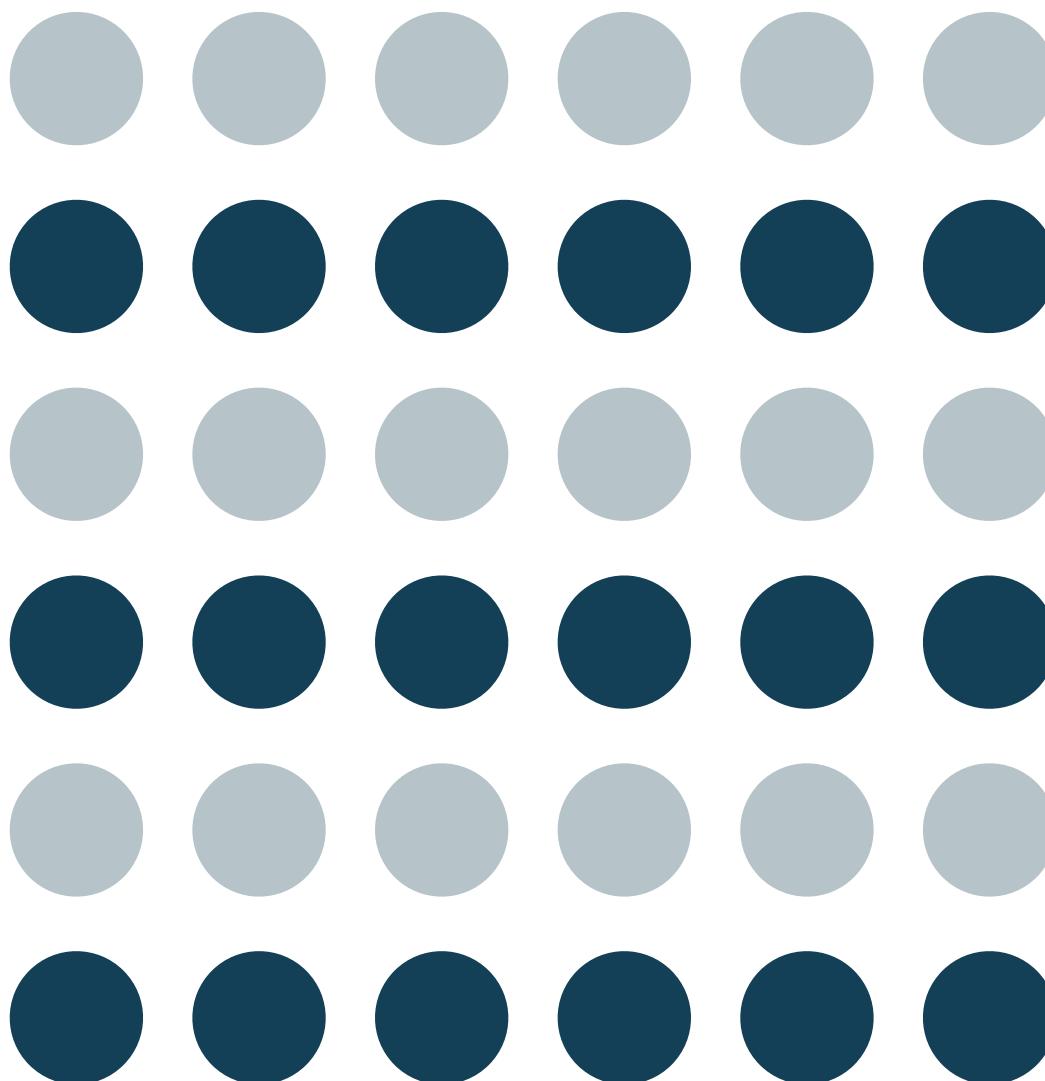
important for layout design

PROXIMITY



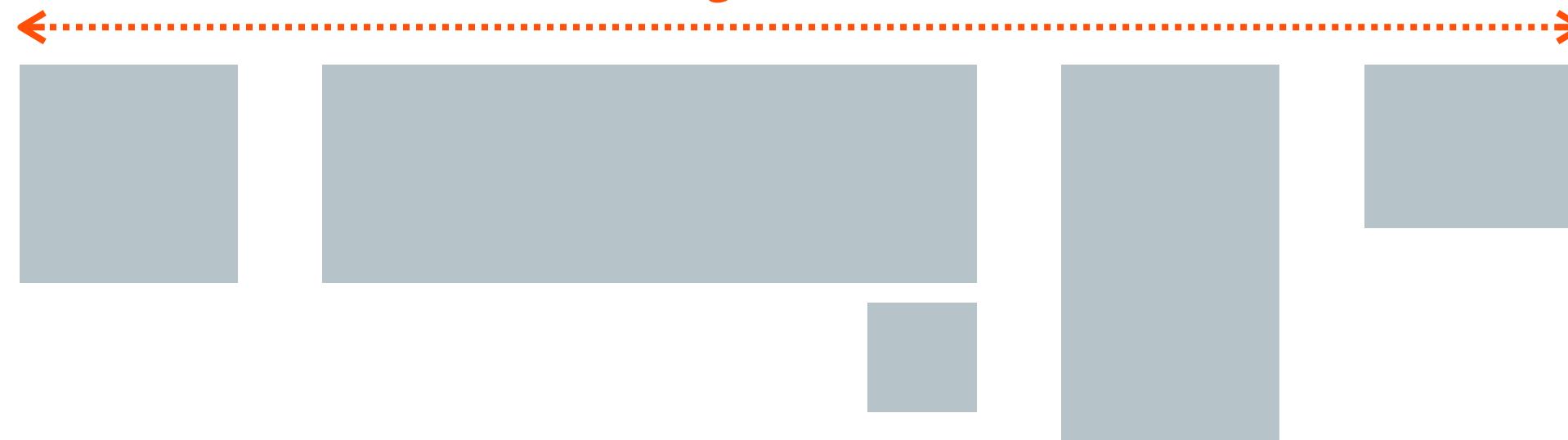
white space matters

SIMILARITY

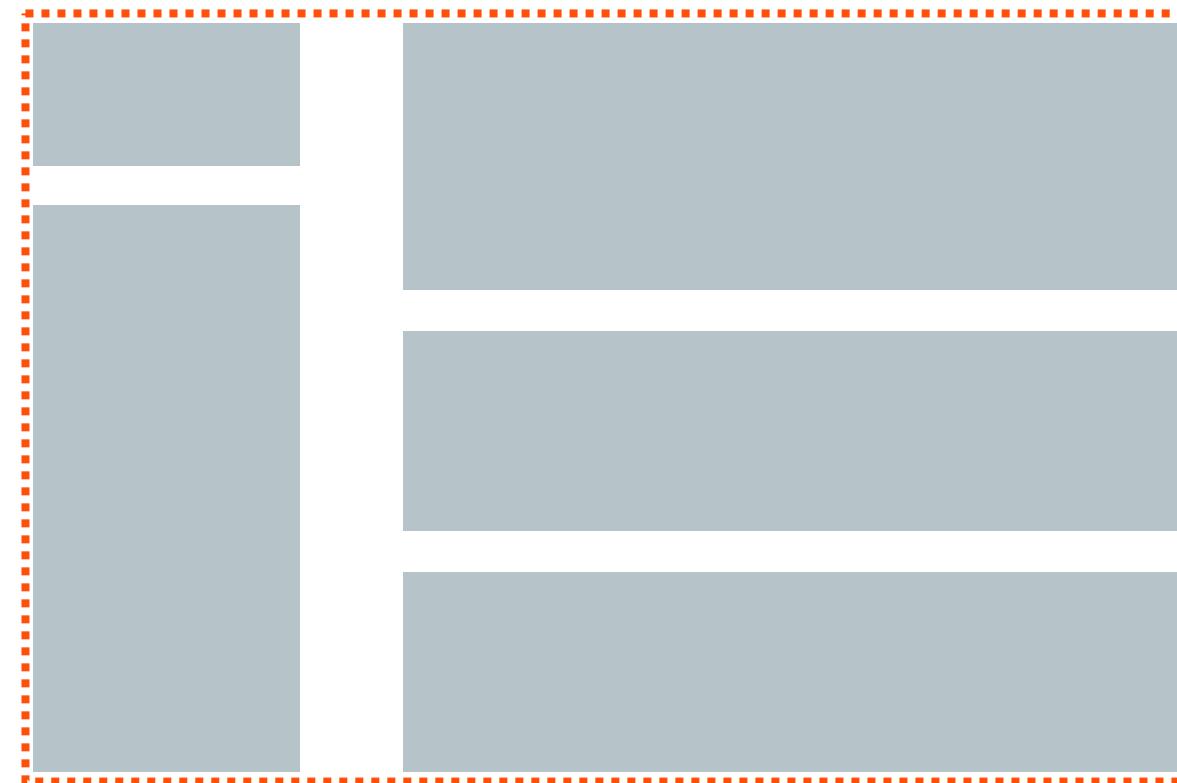


CONTINUITY

alignment



CLOSURE

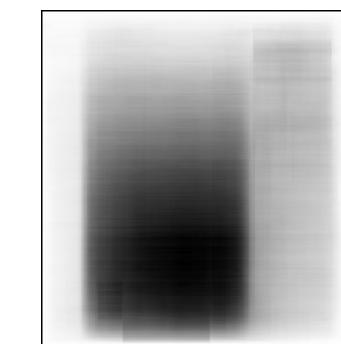


en.wikipedia.org/wiki/Gestalt_psychology

Design cues are predictive of semantic meaning!



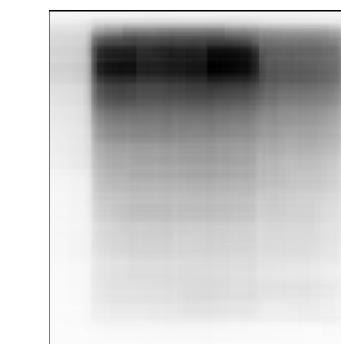
breadcrumb



comments



copyright



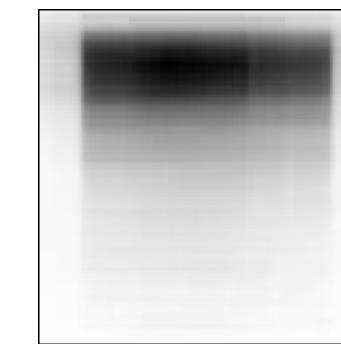
featured



footer



header



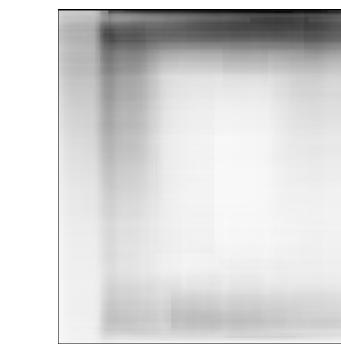
hero



login



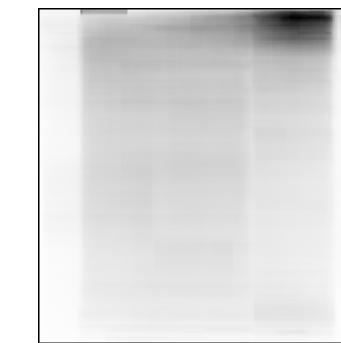
logo



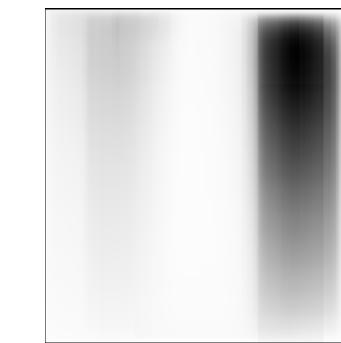
menu



nav



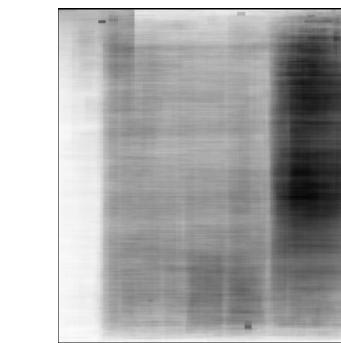
search



sidebar



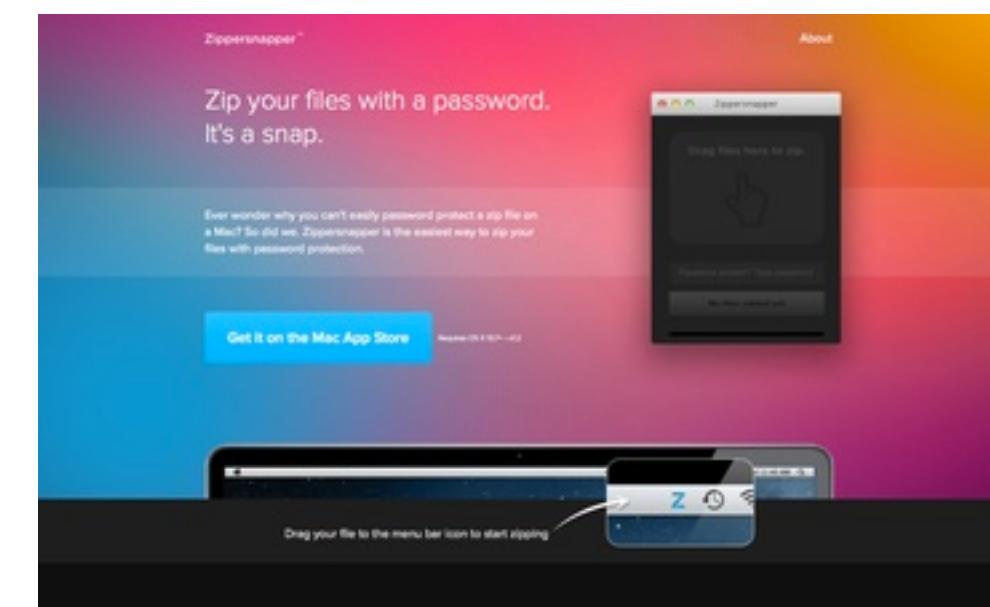
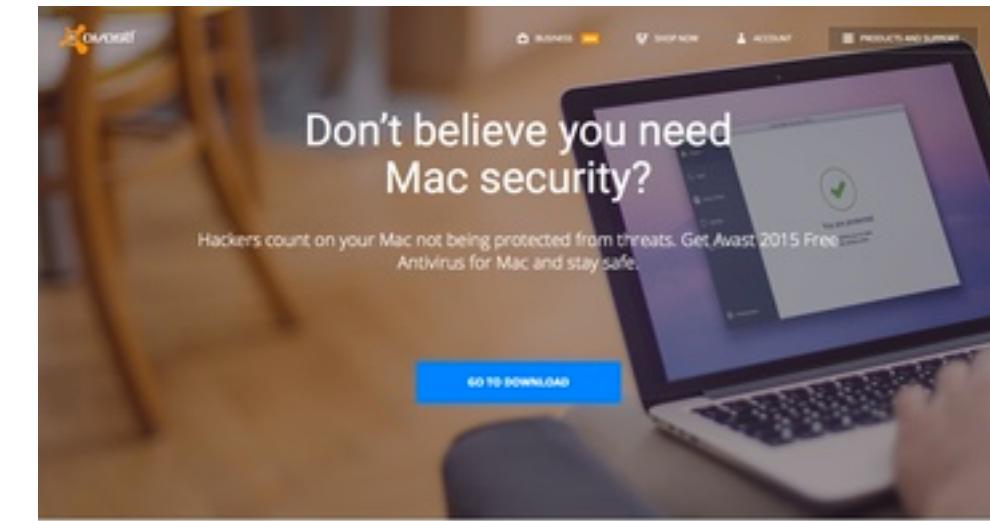
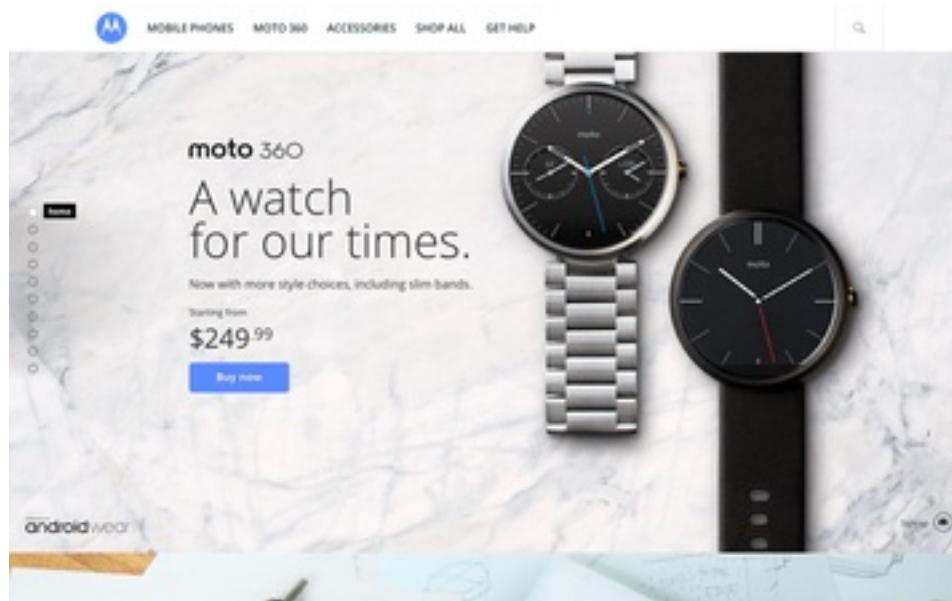
sitemap



twitter

Lim et al. 2013

Call-to-Action Buttons



TINT

INDUSTRY ▾ CLIENTS BLOG LOGIN REQUEST DEMO START TRIAL

Display any social feeds for ...

In-Store Screens

v s f o v in d h t

A self-service platform that allows organizations to create social hubs in minutes. Engage audiences anywhere.

START TRIAL WATCH VIDEO

SEE HOW IT WORKS

How can we help? ▾

1. CONNECT

Connect any social feeds & hashtags

Pull user generated and branded content into one place from over 10+ social networks.

2. PERSONALIZE

Custom brand your social hub

It's easy to change themes, colors, and add custom CSS for an elegant design.

3. MANAGE

Control your content from anywhere

Approve or reject posts from any device to control content instantly.

All your content on any website or screen

v s f o v in d h t

NASDAQ

START TRIAL

Trending: Horizontal Stripe

Color

hue, saturation, value

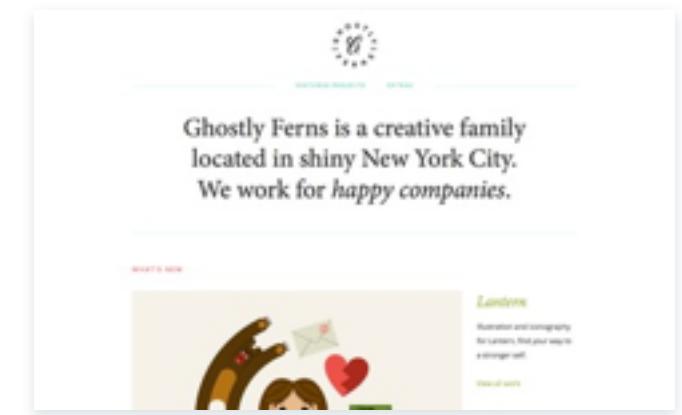
FUNCTIONAL COLOR

Contrast between background and text is key to readability

Design in greyscale first and keep those luminance values when moving to color

Expressive

light



Dark



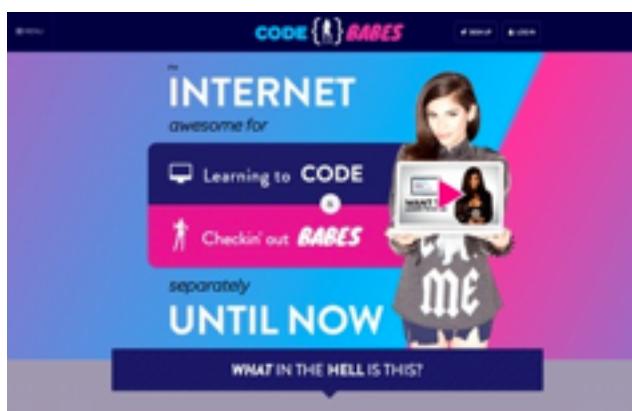
Warm



Cool



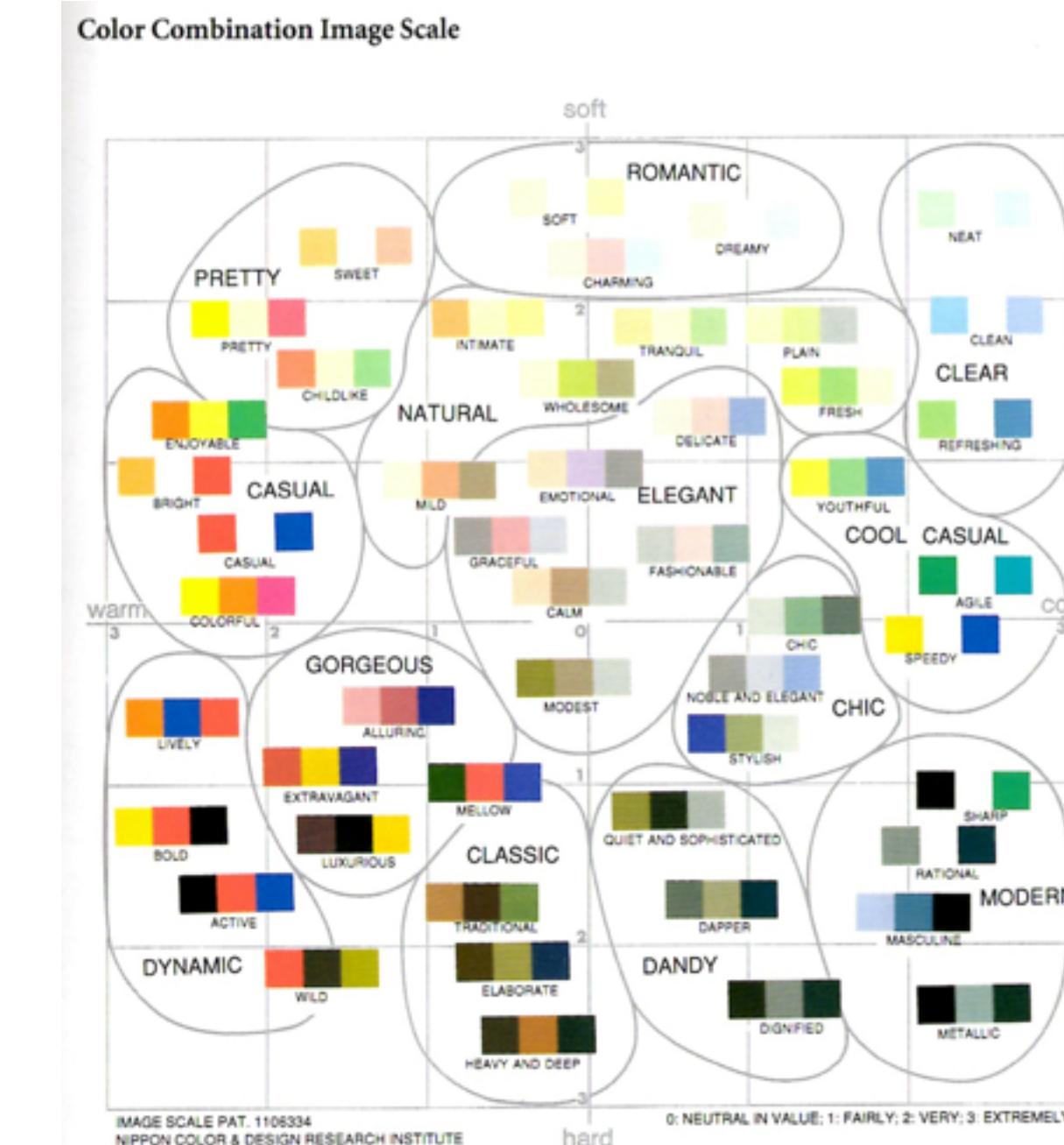
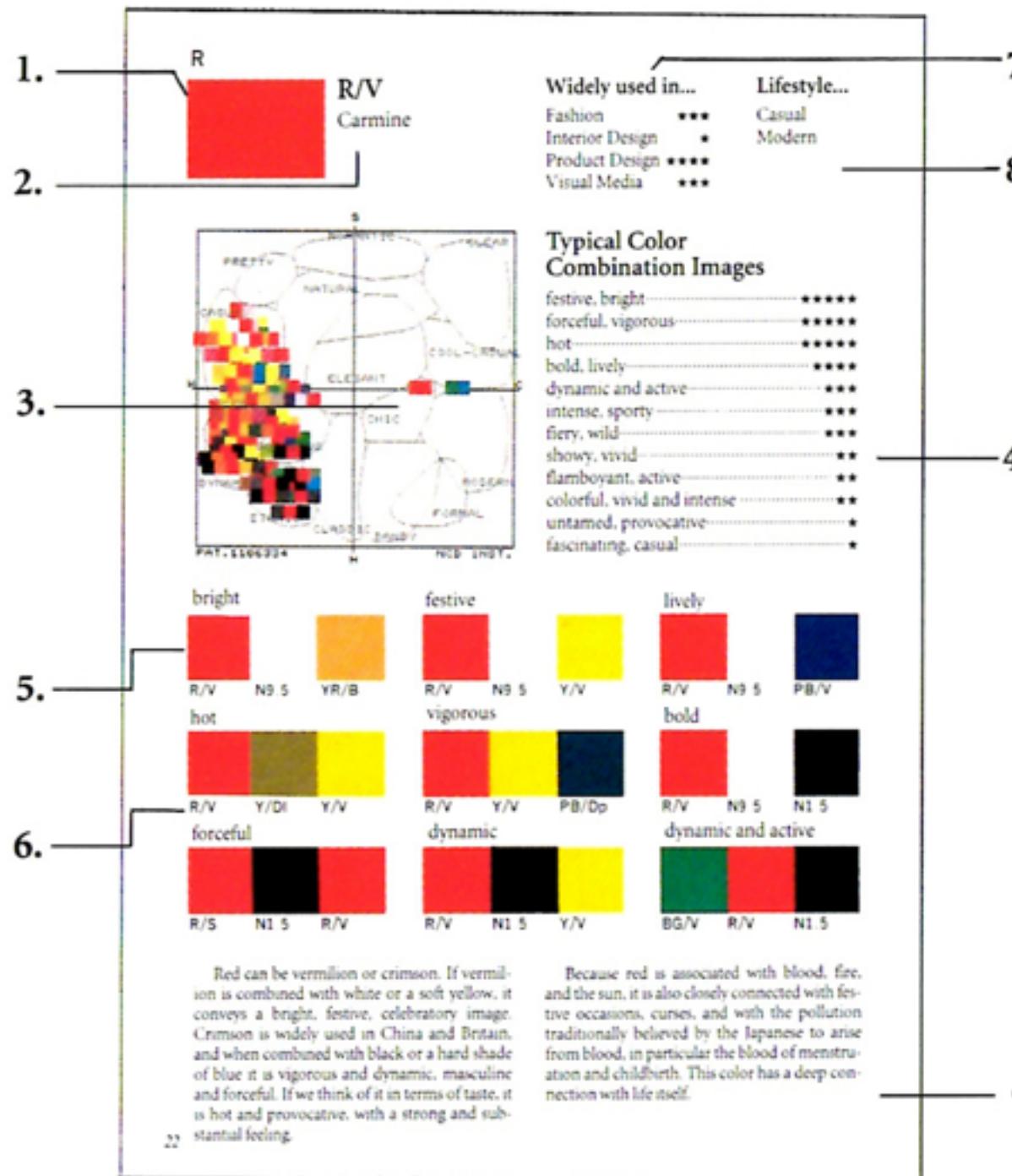
Colorful



Greyscale



SEMANTIC MEANING



Color Image Scale, Kobayashi

Trending: Greyscale with Accent Colors

ABOUT BLOG WORK CONTACT

Google Material Design's Animated Loading Spinner Using HTML, CSS and SVG

05 DECEMBER 2014

A look at how to create an animated loading spinner in the style of Google's Material Design.

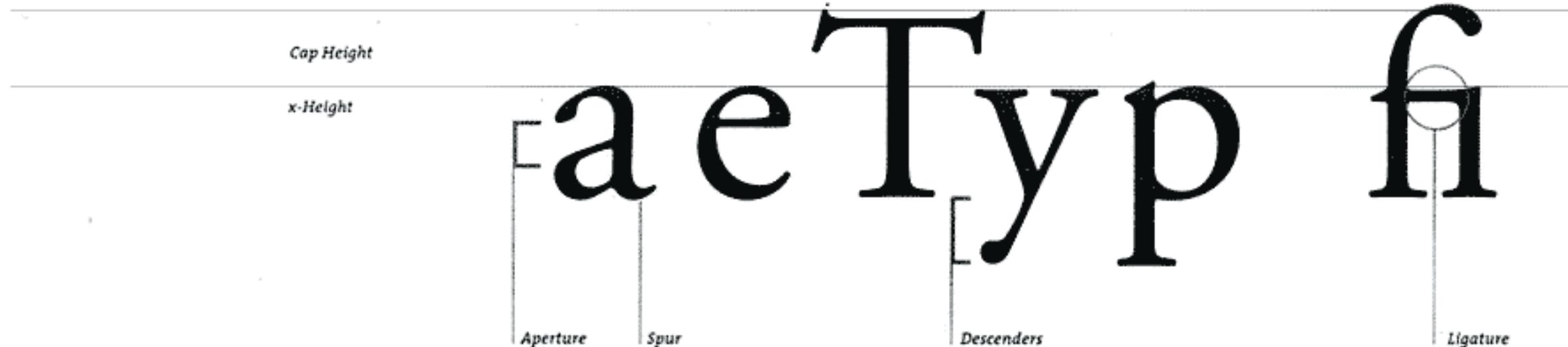
Simple Static Web Server with 1 Line of Python

23 JULY 2014

Setup a simple static web server for local development with just 1 line of Python
SimpleHTTPServer.

Typography

Letterform Anatomy



Serif

Sans Serif

Slab Serif

Script

Display

Monospace

FONT GUIDELINES

For small text, higher x-height easier to read

serif or sans serif?

2-3 font faces: use variations in size, weight,
and style for contrast

SPACING GUIDELINES

Use leading and margins

distance between lines

line-height: 120%

Keep text paragraphs narrow

60-75 characters / 12-15 words /
30-45 em

Trending: Typographic



More on prototypes...

UI/UX PROTOTYPES

storyboarding
paper prototypes
video prototypes
functional prototypes

specific tasks and flows

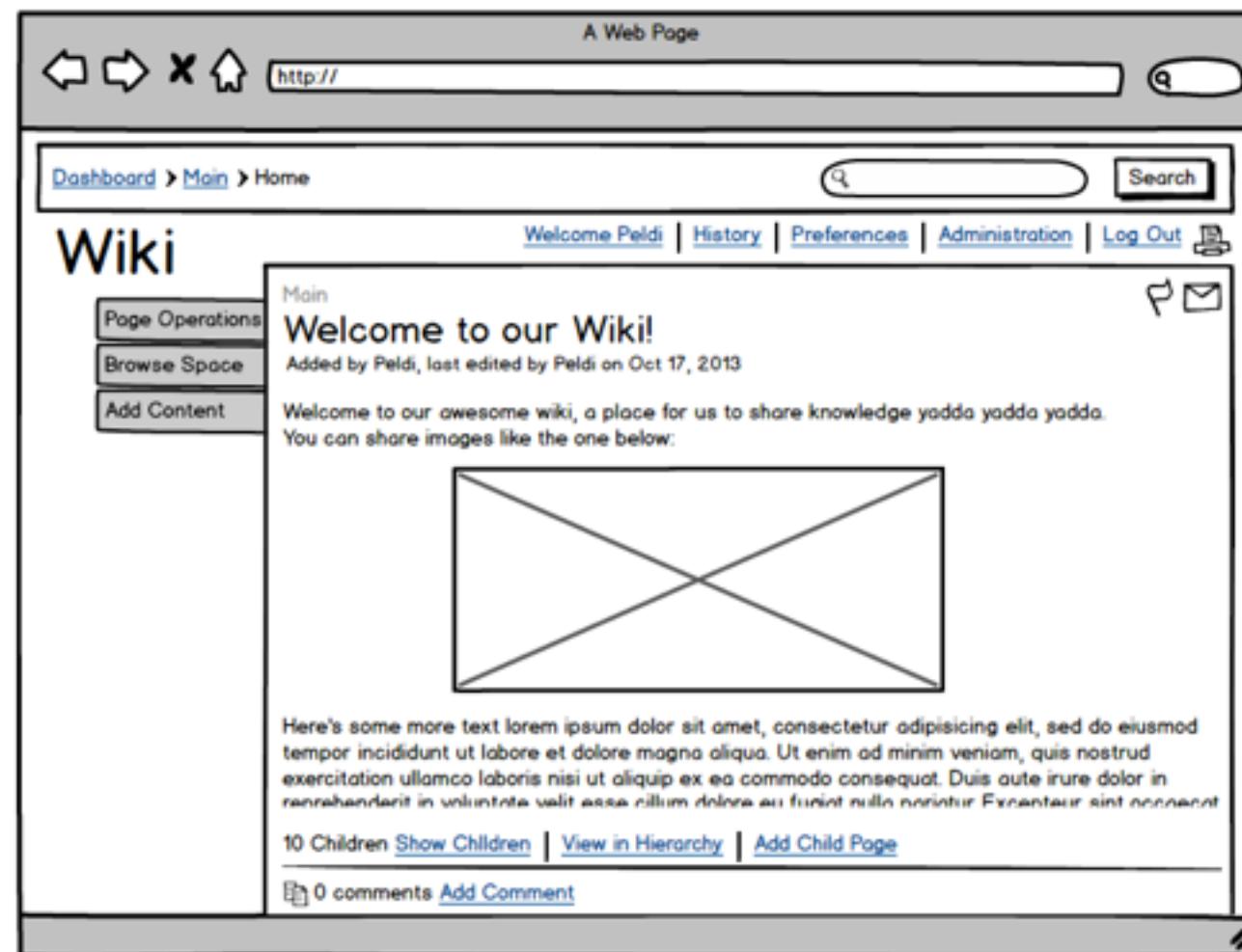


Sitemaps, Storyboards, and Specifications
Newman and Landay, DIS 2000

WIREFRAMES

a.k.a. *Schematics*

Balsamiq



content (information, navigation, interface elements) and layout

mixture of real content and annotated placeholders (images)

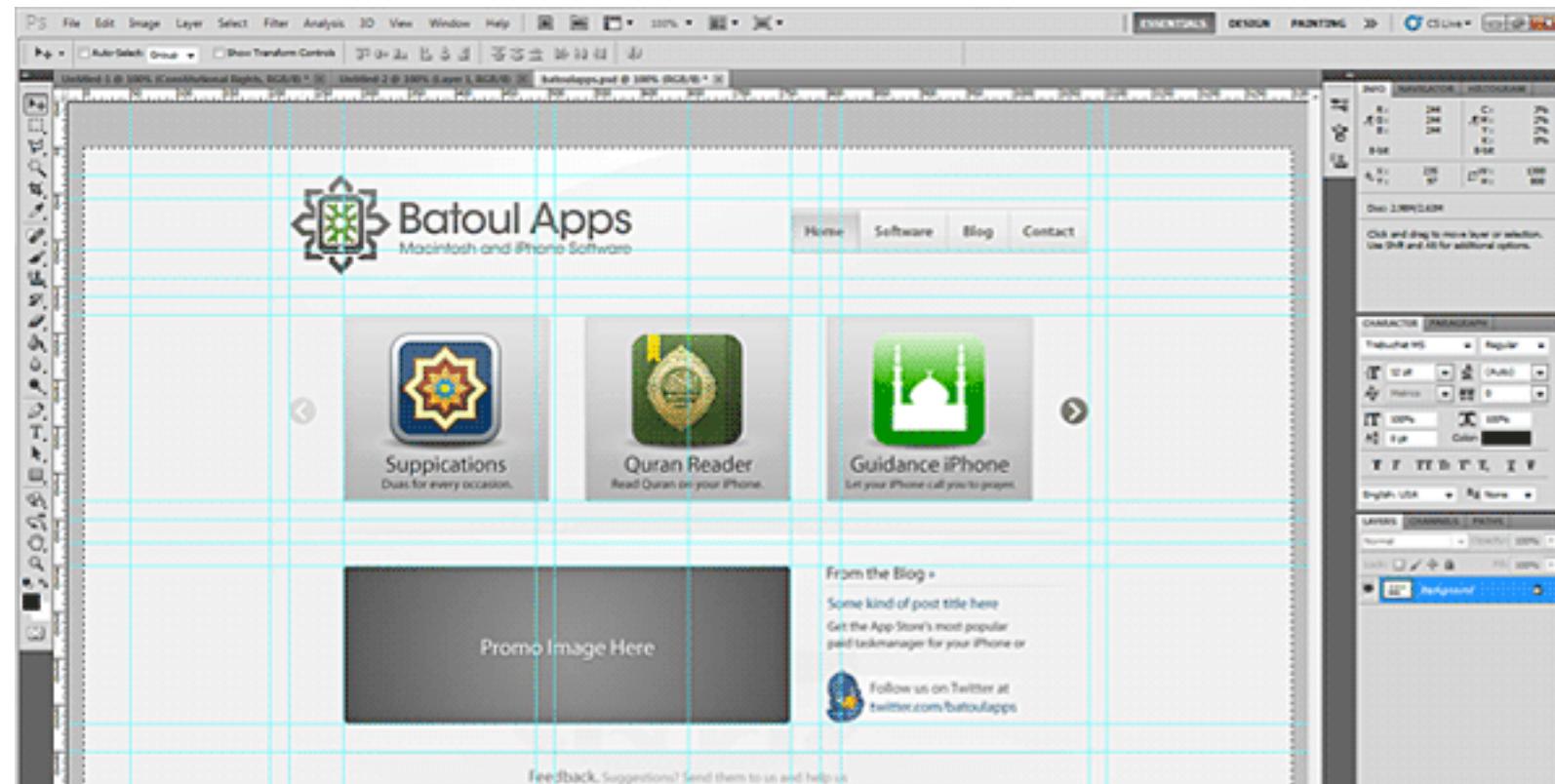
variations in color, typography used to differentiate different types of content

not the final visual design

MOODBOARDS



MOCKUPS



high-fidelity prototypes of visual design

static: created in Photoshop, Illustrator, Sketch

STYLE TILES

The Examiner WASHINGTON

Election Headline
Font: Adelle Typekit

Election Subhead
Font: Arial

Possible Colors

Possible Patterns

Learn More

Style Tile version:4

WASHINGTON EXAMINER LOGO / MASTHEAD

Leaderboard Ad (728x90)

Macy's Ad

Search Washington Examiner

WASHINGON EXAMINER LOGO / MASTHEAD

Thumbnail Image

Thumbnail Image

Thumbnail Image

Thumbnail Image

Thumbnail Image

Thumbnail Image

Top Story Treatment TBD in Design Phase

This is another top story ipsum dolor (PHOTOS)

This is another top story ipsum dolor (PHOTOS)

This is another top story ipsum dolor (PHOTOS)

flaws, Christian University

headline

Voices

AUTHOR NAME
This is the title of a blog post or column

AUTHOR NAME
This is the title of a blog post or column

AUTHOR NAME
This is the title of a blog post or column

Ad (300x250)

Marketing Ad

Our Blogs 6

between moodboards and mockups

styletile.es

STYLE TILES

Election Headline
Font: Adelle Typekit

Election Subhead
Font: Arial
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonumy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exercit ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at

This is an example of a Text link >

Learn More

Style Tile version: 4

Possible Colors

Possible Patterns

WASHINGTON EXAMINER LOGO / MASTHEAD

Leaderboard Ad (728x90)

Macy's Ad

Thumbnail Images

Top Story Treatment TBD In Design Phase

Ad (300x250)

Marketing Ad

Our Blogs 6

Washington Examiner.com

Elections 2012 Washington Examiner.com Share: Search Examiner 2012

The Examiner WASHINGTON

ELECTIONS 2012

Beltway Confidential

MICHAEL BARONE More non-boring analysis of the Canadian election

MICHAEL BARONE More non-boring analysis of the Canadian election

MICHAEL BARONE More non-boring analysis of the Canadian election

MICHAEL BARONE More non-boring analysis of the Canadian election

THE RUNDOWN

ADVERTISEMENT

Trump lashes out

Power Rankings

Gingrich claims #1, Trump slips to #3

Younger voters hold key

State Races

Choose a State

What to Watch For

AUG 27 Republican National Convention

What Matters Most ?

- Economy
- Environment
- Medicare
- Social Security
- Taxes
- Welfare

Follow Us

Could Tim Pawlenty be the next president?

Bachmann Is In

Vote Now

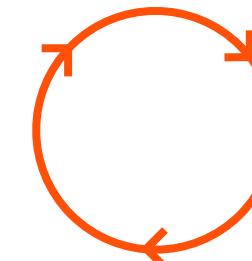
DISCOVERY

PRD



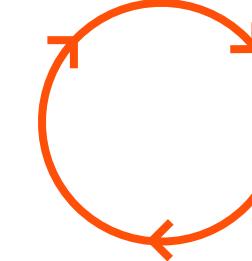
DESIGN

UI/UX Design



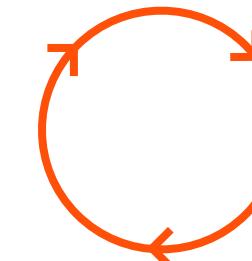
storyboards, paper prototypes,
video prototypes, functional prototypes

Information and
Navigation Design



wireframes/schematics

Visual Design



style tiles, mockups

Responsive Design



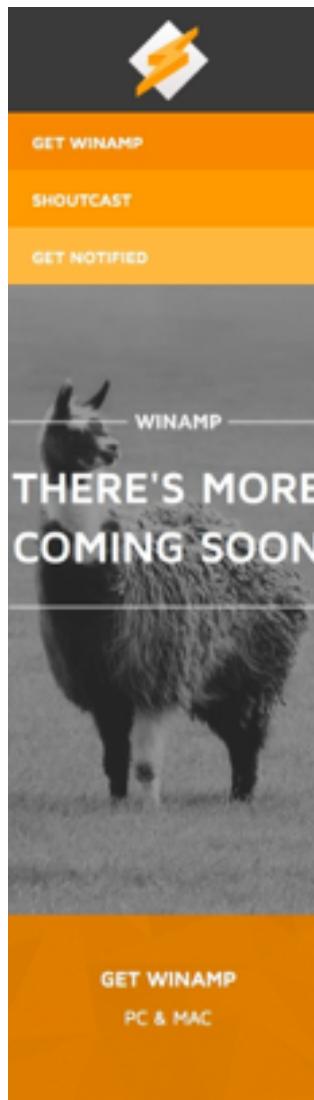
number of devices on which people view Web content is exploding



In the US, ~30% of mobile
Web users are mobile-only

GOAL OF RESPONSIVE DESIGN

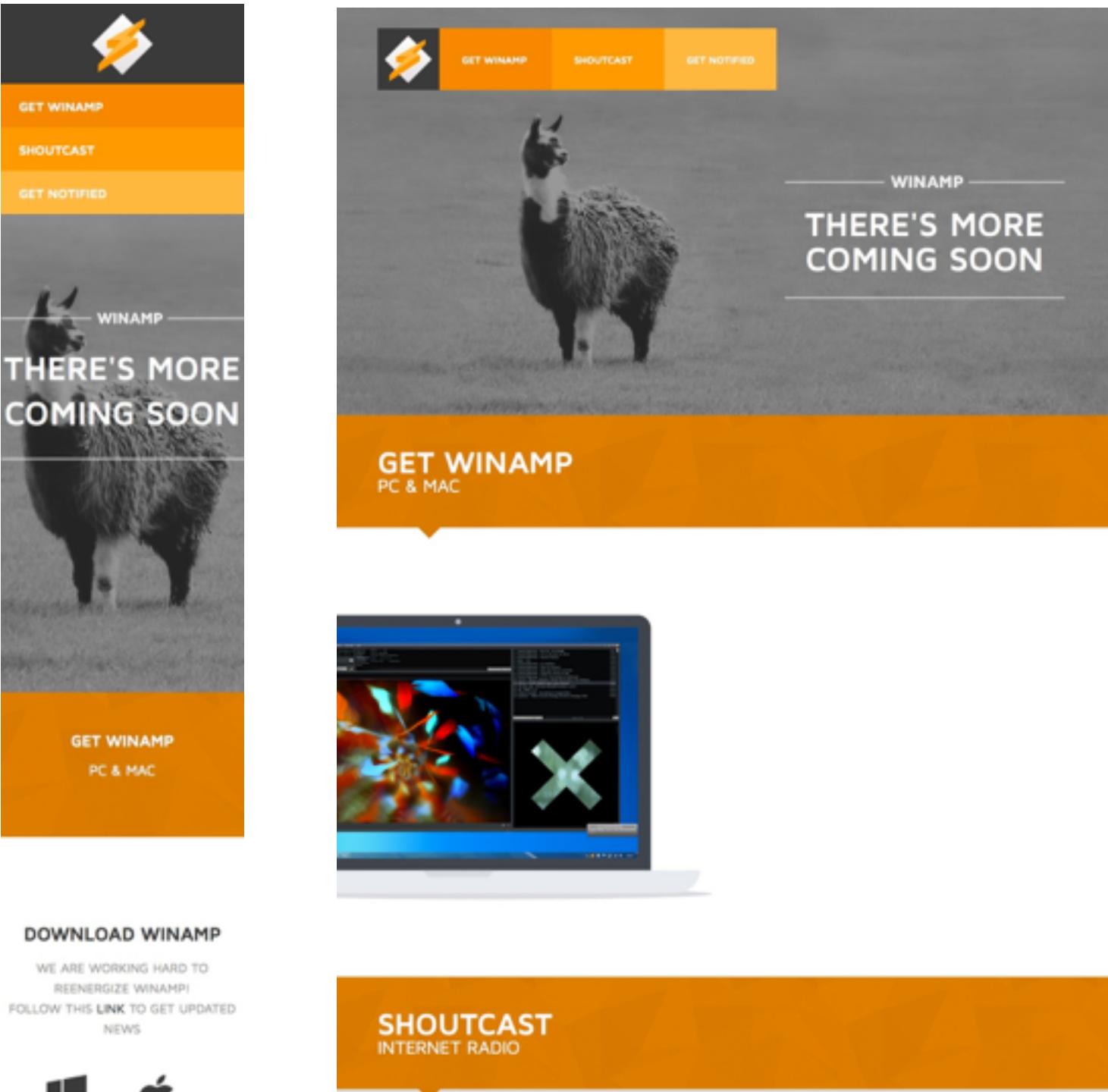
optimize design for different form factors



and everything
in between



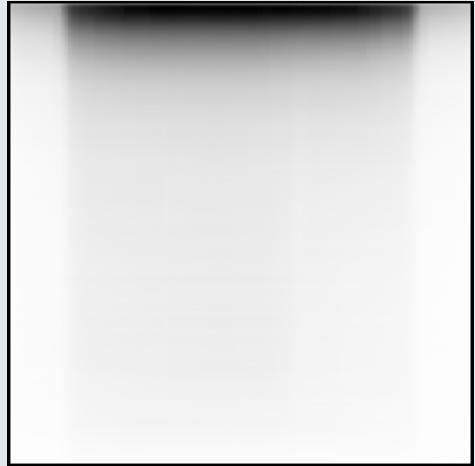
DESIGN CONSIDERATIONS



How do styles and layouts change?

How is content remapped?

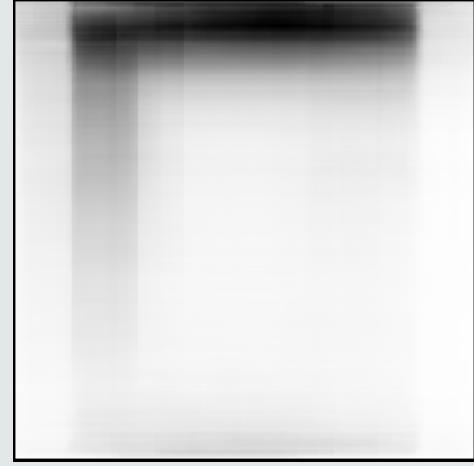
DESKTOP



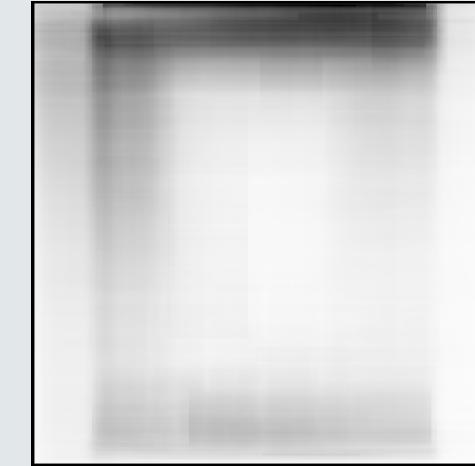
header



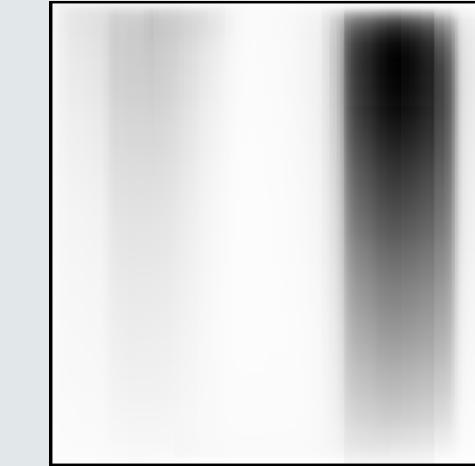
login



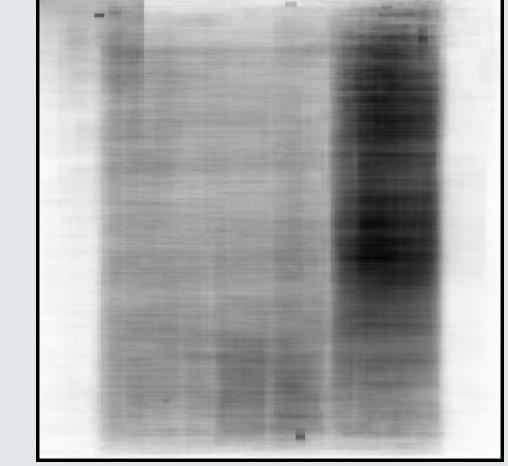
nav



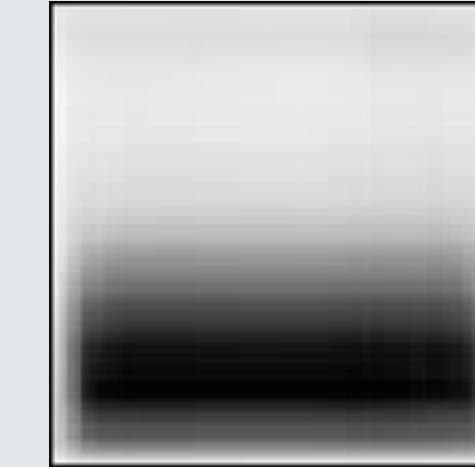
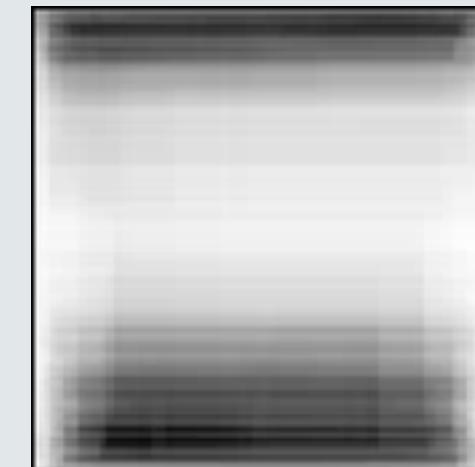
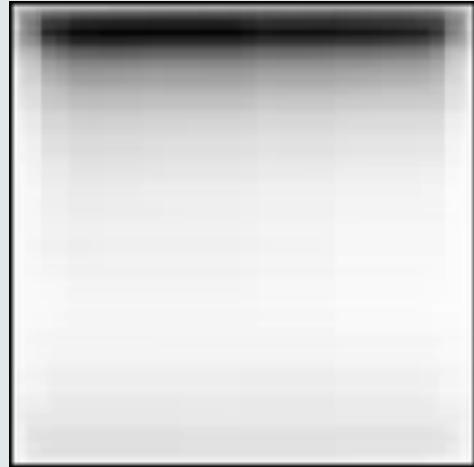
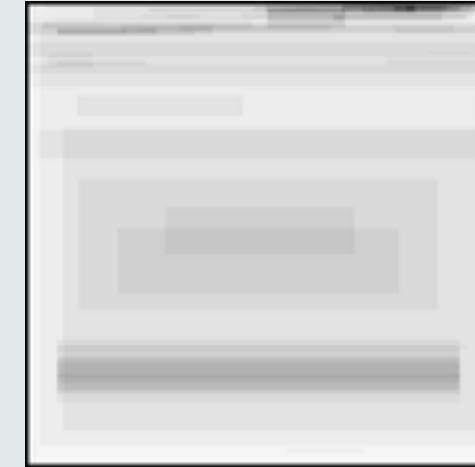
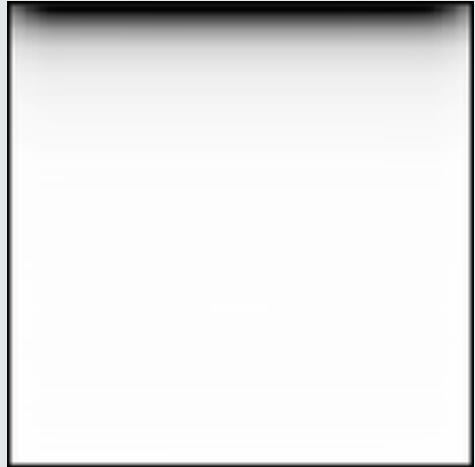
menu



sidebar



twitter



MOBILE

@media

CSS media queries are used to define different style rules for different devices

usually defined on browser width and/or height

can also query device width, height, orientation, resolution, etc.

@media SYNTAX

```
@media not|only mediatype and  
(media feature) {  
    CSS-Code;  
}
```

screen, print, tv

max-width, min-width, width,
max-height, min-height, height,
max-resolution, ...

@media EXAMPLE

```
Hide style sheets from  
older user agents  
@media only screen and  
(max-width: 640px) {  
    body {color: blue; }  
}
```

breakpoint

CODEPEN

writing media queries by hand is hard!



GRID-BASED DESIGNS

divide screen into equal-width columns

columns separated by gutters

margins on both sides of window

elements may span multiple columns

elements start or end at column boundaries

alignment reduces visual clutter



WHY ARE GRIDS USEFUL IN RESPONSIVE DESIGN?

NATIVE GRIDS & FRAMEWORKS

CSS Grid Layout

Semantic UI

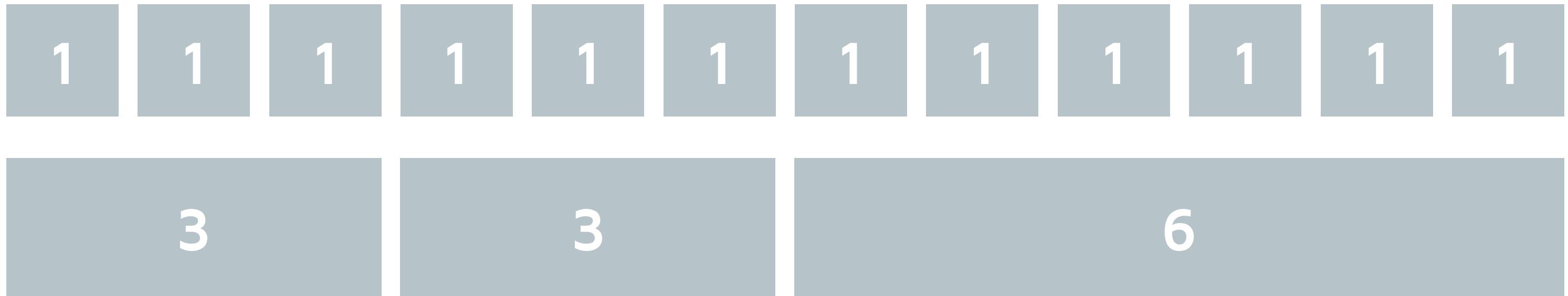


Twitter
Bootstrap



Zurb
Foundation

12-COLUMN GRIDS



GRID CLASSES

use predefined class libraries to
create layouts and define
responsive behaviors



GRID CLASSES



```
<div class="row">  
  <div class="small-3 columns">...</div>  
  <div class="small-3 columns">...</div>  
  <div class="small-6 columns">...</div>  
</div>
```

All children of rows
must be columns!



COLUMN CLASSES

small-# **max-width: 640px**

medium-# **min-width: 641px and max-width: 1024px**

large-# **min-width: 1025 and max-width: 1440px**

xlarge-# **min-width: 1441 and max-width: 1920px**

xxlarge-# **min-width: 1920px**



COMBINING CLASSES



```
<div class="row">  
  <div class="small-3 columns">...</div>  
  <div class="small-3 columns">...</div>  
  <div class="small-6 columns">...</div>  
</div>
```

why don't we see any
responsive behavior?



MOBILE FIRST

design mobile first, then desktop

Google's approach, Eric Schmidt 2010

graceful degradation vs progressive enhancement



MOBILE FIRST BEHAVIOR



larger devices will inherit
styles from smaller ones

```
<div class="row">  
  <div class="medium-3 columns">...</div>  
  <div class="medium-3 columns">...</div>  
  <div class="medium-6 columns">...</div>  
</div>
```

CODEPEN



MOBILE FIRST BEHAVIOR

```
<div class="row">  
    <div class="small-3 large-2 columns">...</div>  
    <div class="small-3 large-2 columns">...</div>  
    <div class="small-6 large-8 columns">...</div>  
</div>
```

what does this do?



NESTING GRIDS

```
<div class="row">  
  <div class="small-3 columns">...</div>  
  <div class="small-9 columns">  
    <div class="row">  
      <div class="medium-6 columns">...</div>  
      <div class="medium-6 columns">...</div>  
    </div>  
  </div>  
</div>
```

CODEPEN



MORE GRID CLASSES

```
<div class="row">  
  <div class="small-4 small-offset-2 columns">...</div>  
</div>
```

offset columns

```
<div class="row">  
  <div class="small-3 small-centered columns">...</div>  
</div>
```

center columns

CODEPEN



REORDER COLUMNS

```
<div class="row">  
  <div class="medium-9 medium-push-3 columns">...</div>  
  <div class="medium-3 medium-pull-9 columns">...</div>  
</div>
```

CODEPEN



CSS PREPROCESSOR INTEGRATION

Bootstrap is built on LESS,
but also has SASS port

Foundation works with SASS



CUSTOMIZING WITH SASS

customize grid with SASS variables in `_settings.scss`

```
$row-width: rem-calc(1000);
```

```
$column-gutter: rem-calc(30);
```

```
$total-columns: 12;
```



Device Apple iPhone 5 Network No throttling
320 x 568 2 Fit UA Mozilla/5.0 (iPhone; CPU iPhone O...
0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300
ANNOUNCEMENT: Enrollment is at max capacity --
keep checking online for openings.
PIAZZA LABS AND MPS RESOURCES
THE ART AND
SCIENCE OF WEB
PROGRAMMING
CS498RK SPRING 2015 UIUC MONDAY AND
WEDNESDAY 11AM-12.15PM SIEBEL 0216
OVERVIEW
Presents client- and server-side technologies that enable modern Web applications. Topics include the building blocks of the Web (HTML, CSS, the Document Object Model, Javascript) and data exchange (HTTP, JSON, RESTful APIs, and SQL/NoSQL databases). Programming
☰

The screenshot shows a mobile browser simulation for an iPhone 5. The page content includes an announcement about enrollment being at capacity, navigation links (PIAZZA, LABS AND MPS, RESOURCES), course information (CS498RK, SPRING 2015 UIUC, MONDAY AND WEDNESDAY 11AM-12.15PM, SIEBEL 0216), and an overview section describing the course's focus on client and server-side technologies. A red circle highlights the 'Elements' tab in the developer tools interface at the bottom.

Elements Network Sources Timeline Profiles Resources Audits Console

Styles Computed Event Listeners DOM Breakpoints Properties

element.style {
}
@media only screen and (max-width: 40em)
.nav {
}

Find in Styles

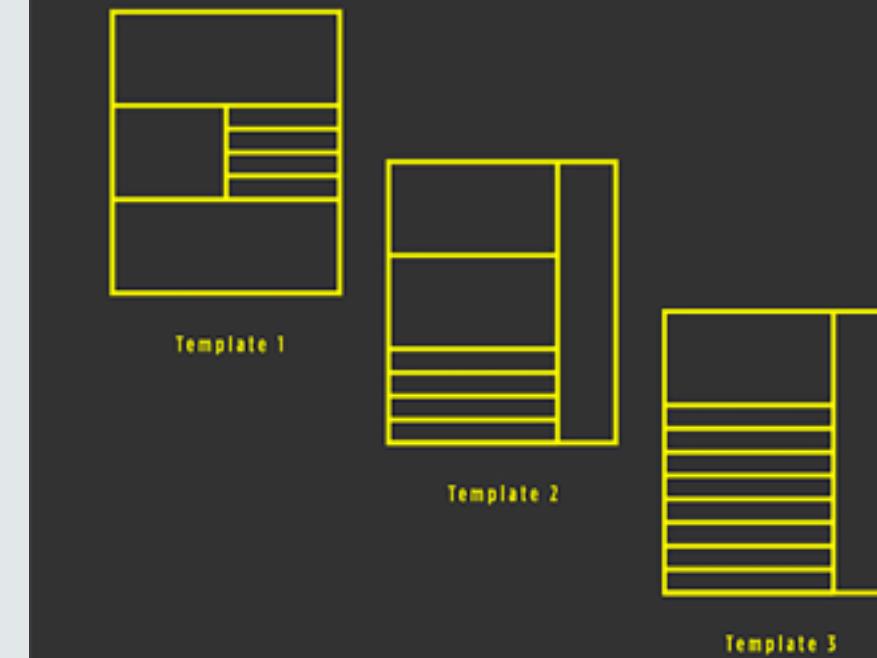
Towards a Responsive Philosophy

www.fastcodesign.com/3036091/the-next-big-thing-in-responsive-design

“Most homepages use the exact same layout, day in and day out. And it’s not just homepages. Article pages—where most users first land on websites—look exactly the same, too. To a user, a day when war breaks out in Iraq can feel exactly the same as a day when the biggest news is a change in Bieber's hairstyle.”



MOST PUBLISHERS ONLINE HAVE THE SAME TEMPLATE EVERY DAY.



have responsive elements instead of responsive pages?

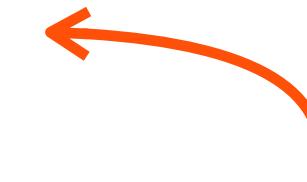
www.fastcodesign.com/3036091/the-next-big-thing-in-responsive-design

TAILORED EXPERIENCES

screen size is just one part of a user's context

there's a lot more you know: where people are in the world, where they've just come from, how long they've been on the site, etc.

design algorithms and interfaces that take into account more of the user's context



percentage of influence specifier?

NEXT CLASS: GRIDS & RESPONSIVE DESIGN

courses.engr.illinois.edu/cs498rk1/