

# Design Languages and Experience Design

SWE 432, Fall 2016

Design and Implementation of Software for the Web

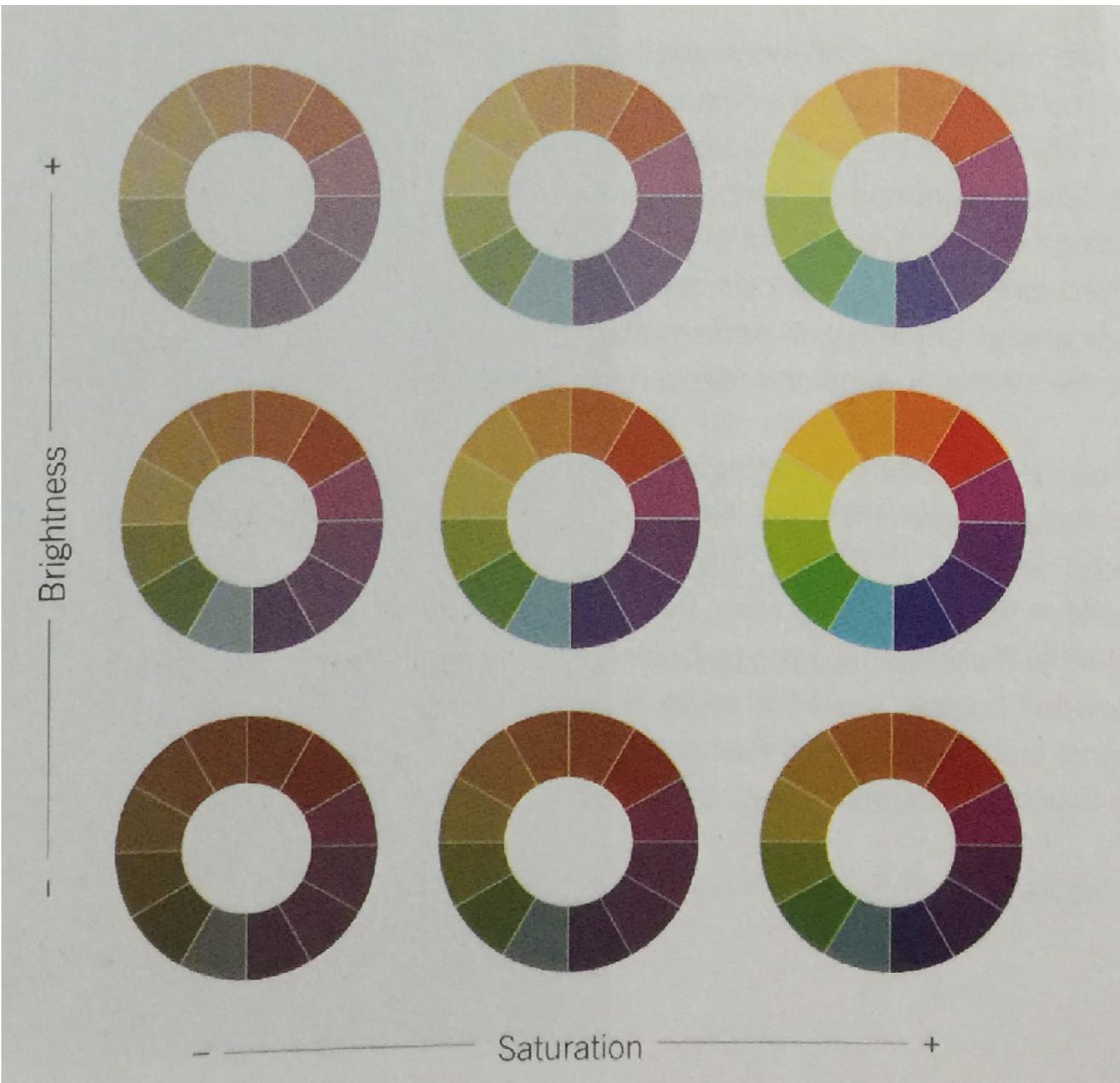
# Today

- What (exactly) is, and how can one make effective color design choices?
- What is a design language?
- What are design values, and how do they influence the design process?
- Course evaluations.
- Next time: Final review

# Color

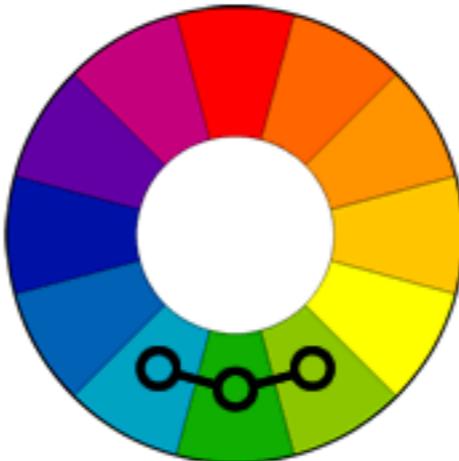
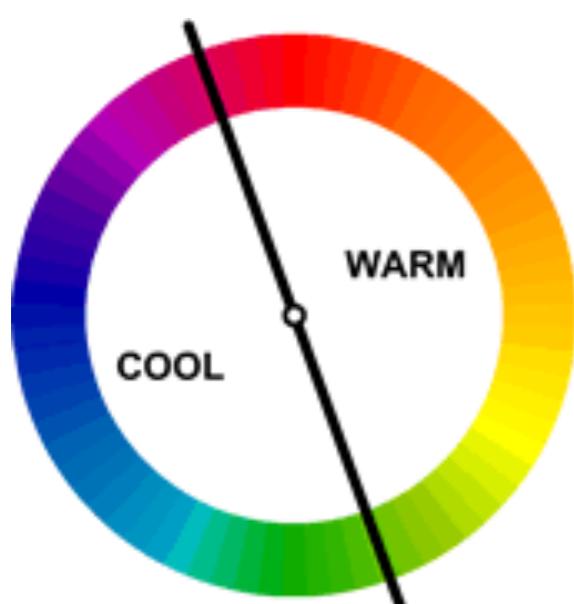
# What is color?

- Hue: What we usually see as color
- Luminance: Amount of light entering eye
- Brightness: Perceived amount of light
  - (blue appears brighter than white)
- Saturation: Purity of color

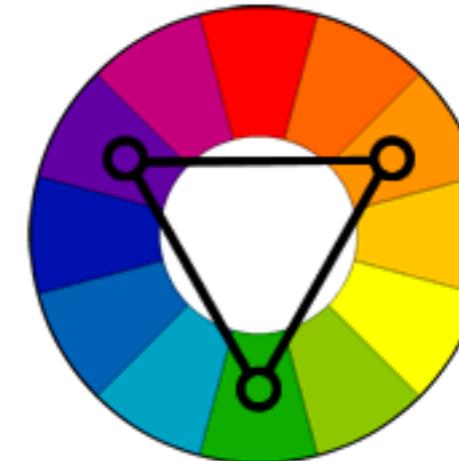


# Color combinations

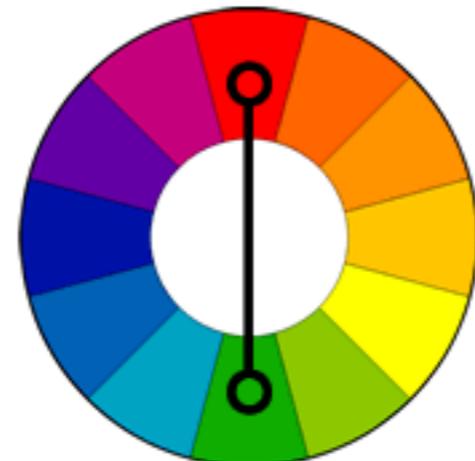
- Analogous color combinations - adjacent in color wheel
- Triadic color combinations - at corner of



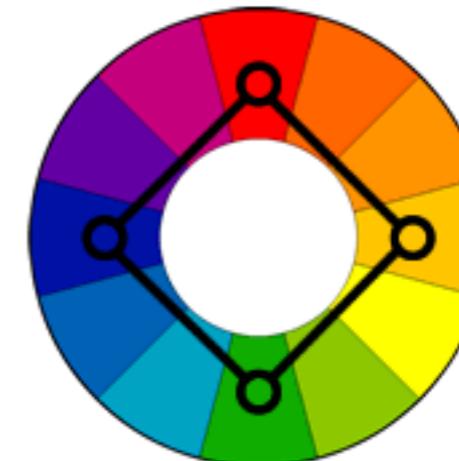
Analogous



Triadic



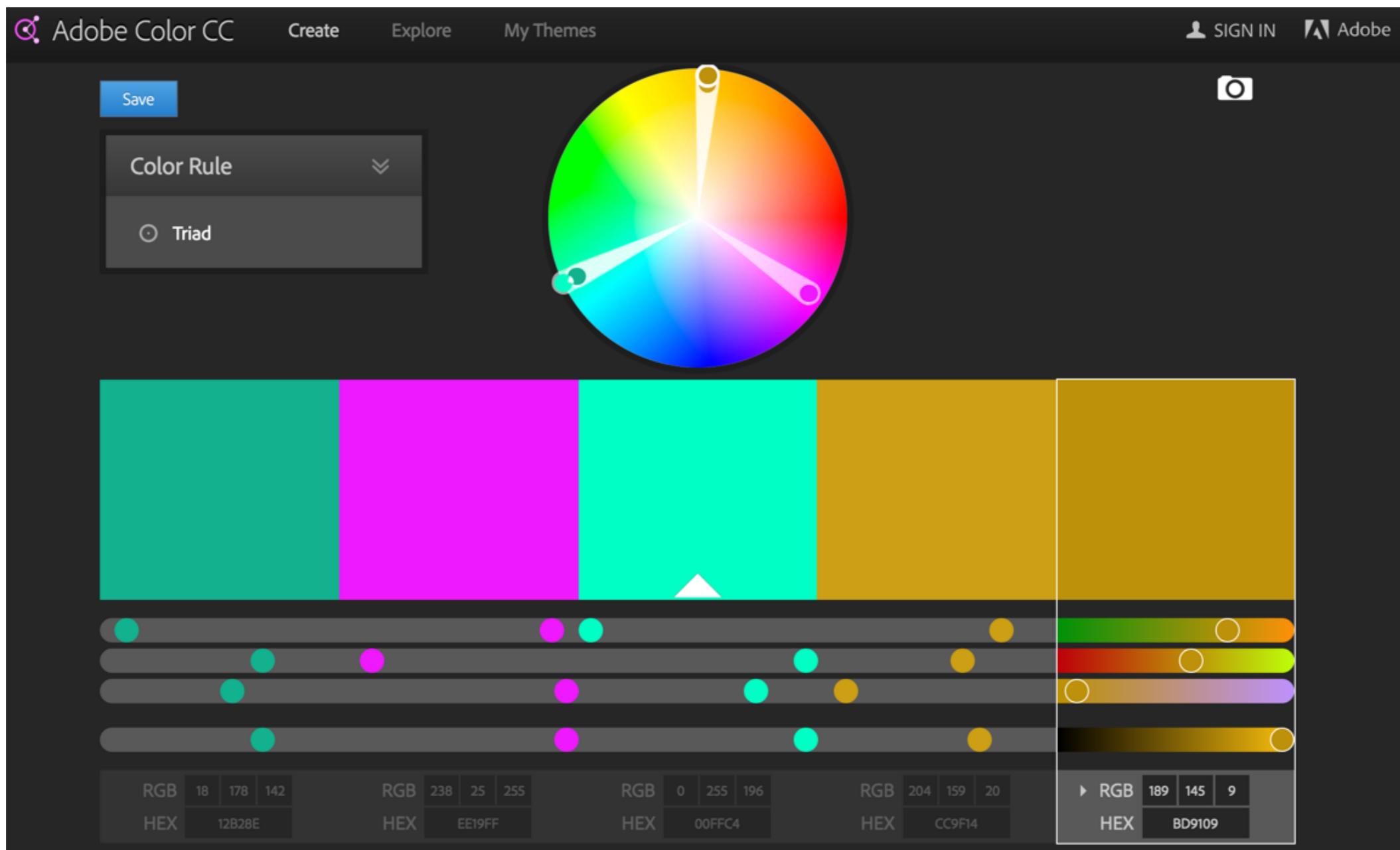
Complementary  
High contrast, vibrant



Quadratic

# Tools for finding color combinations

- Interactive tools can help you find color combinations
  - <https://color.adobe.com/>



# Guidelines on color use

- Number of colors - use color conservatively, limiting to ~5 colors; redundantly encode info to support color-blind
- Use appropriate color combinations
- Use warmer colors for foreground & cooler colors for background
- Use saturated colors to draw attention & for excited
- Use desaturated, dark colors for serious & professional

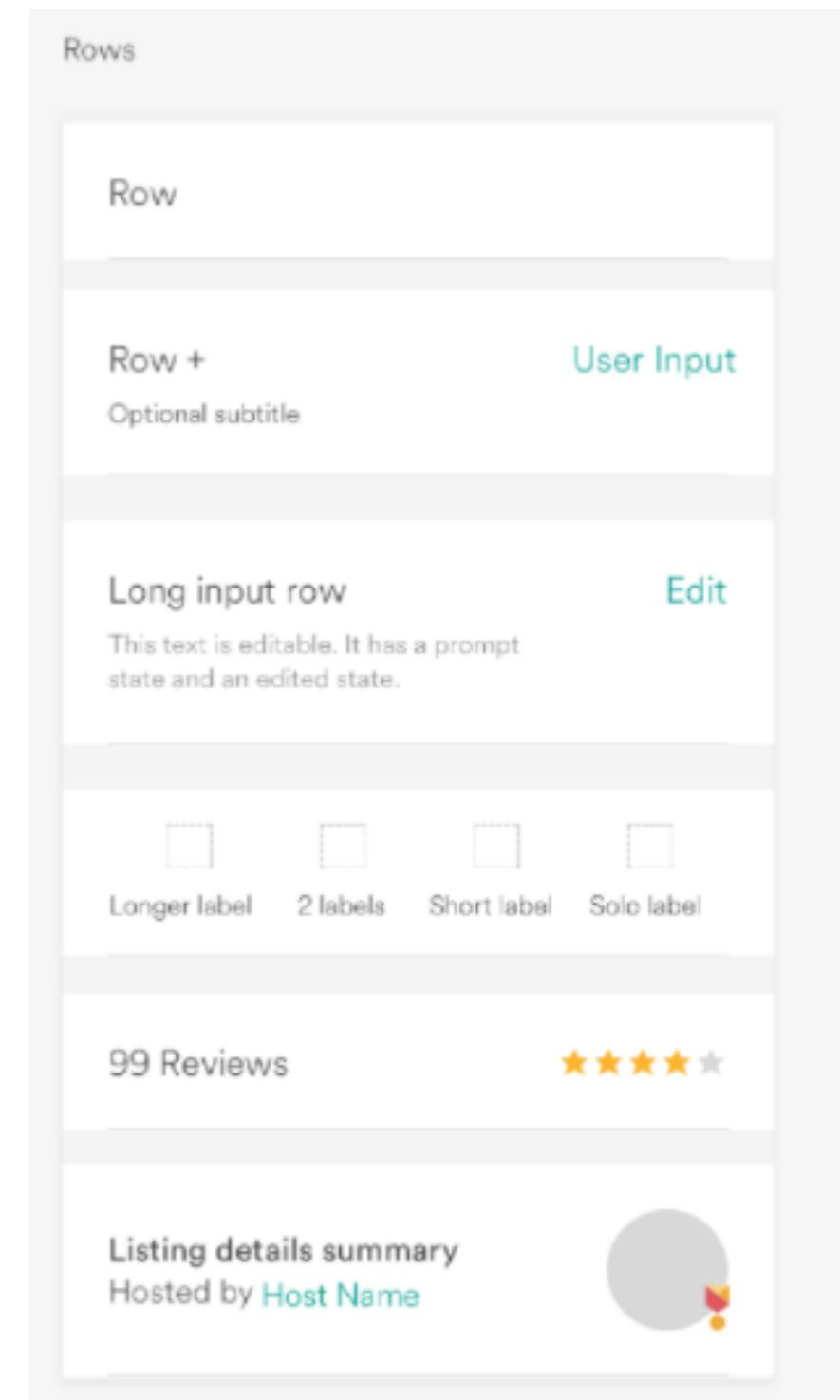
# Guidelines on color use

- Avoid highly saturated opponent colors at the same time
- Older users need more brightness
- Do not require color discrimination in small areas
- Use color for relative differences, but not numeric information
- Use greater intensity for hues that indicate larger amounts

# Design Language

# Design language

- Many, **many** choices about visual variables and syntax of composition
  - How do you ensure choices are made consistently across web app?
- Solution: design language
  - Describes how to express ideas and concepts in the interface
  - May be communicated through Human Interface Guideline documentation
  - (Example of consistency and standards)



# Example: Elements, Google 2004

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# Example: Syntax, Google 2004

task

Find results  
with **all** of the words  
with the **exact phrase**  
with **at least one** of  
without the words



Results Window

C

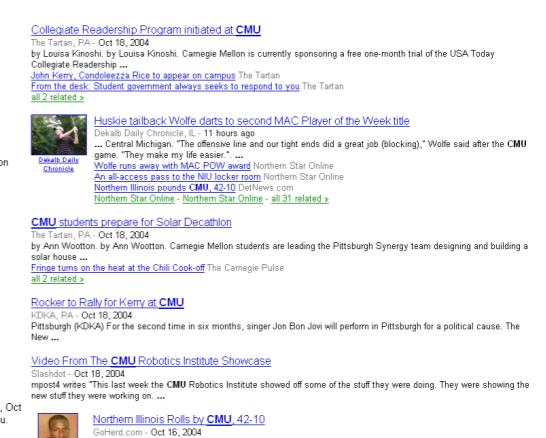
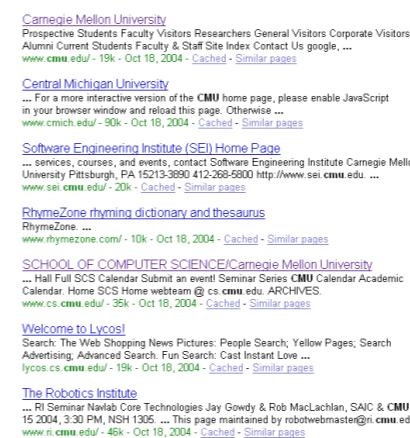
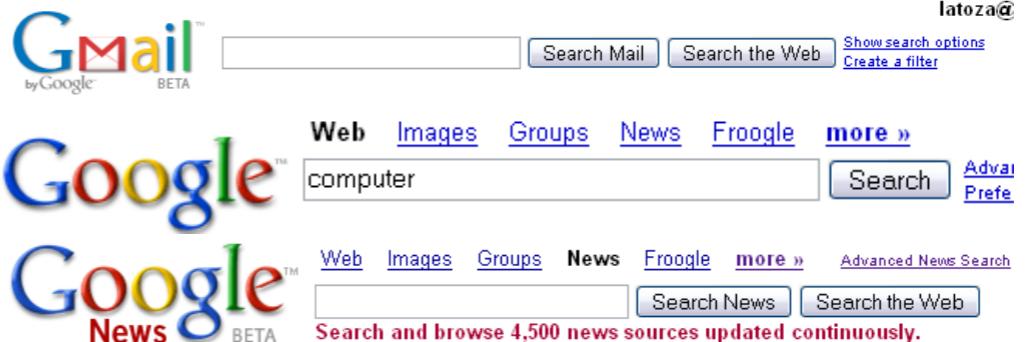
Loading...

placeholder

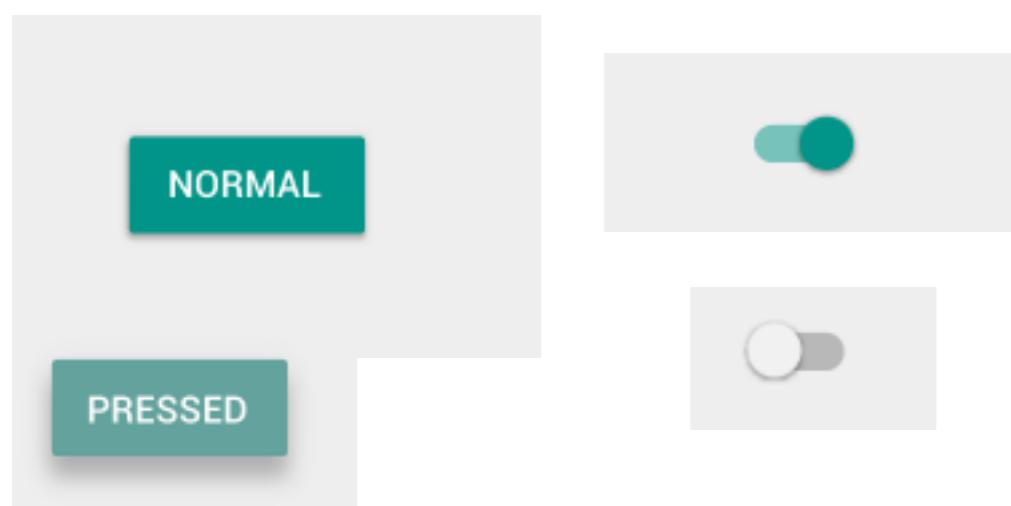
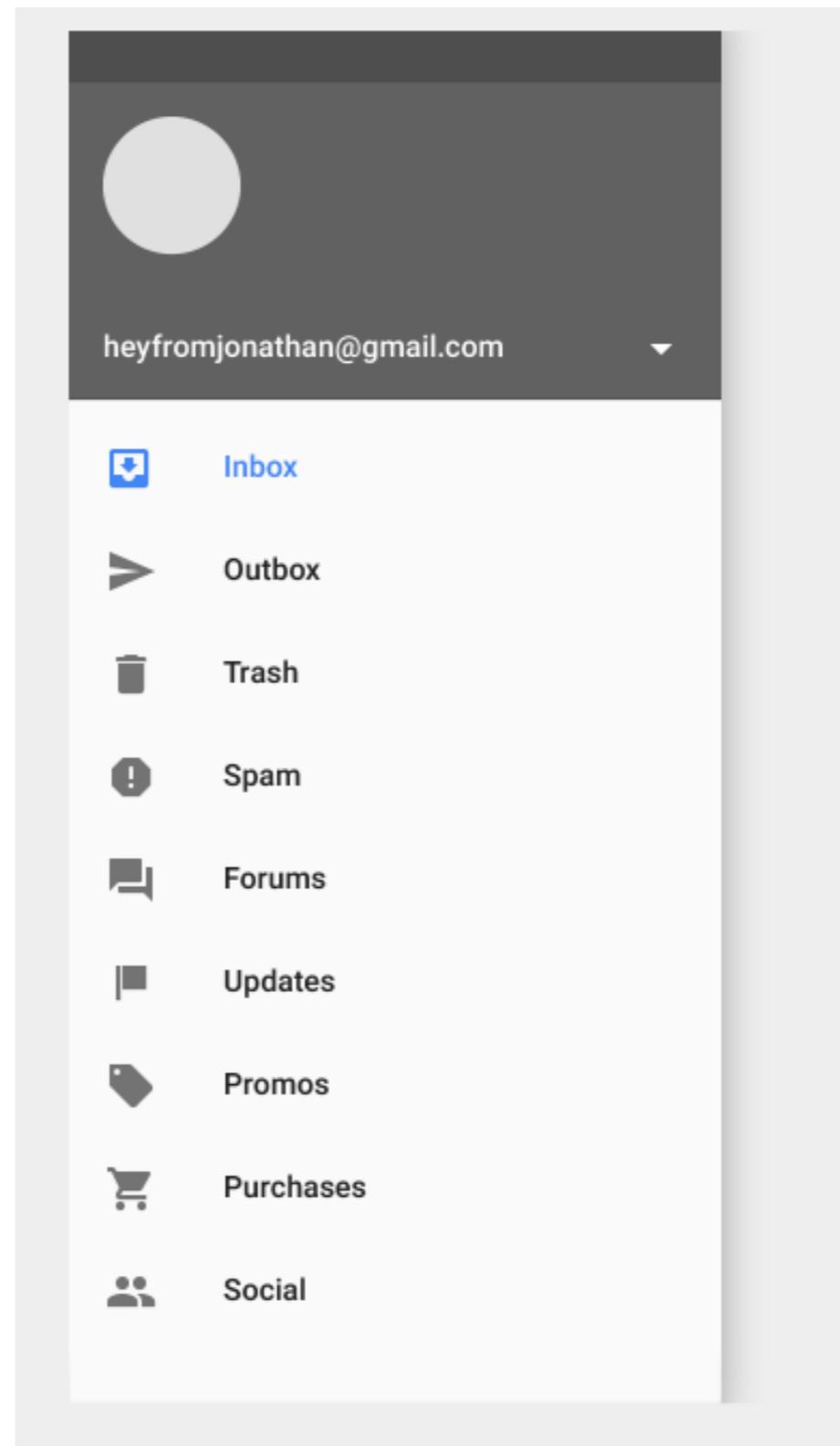
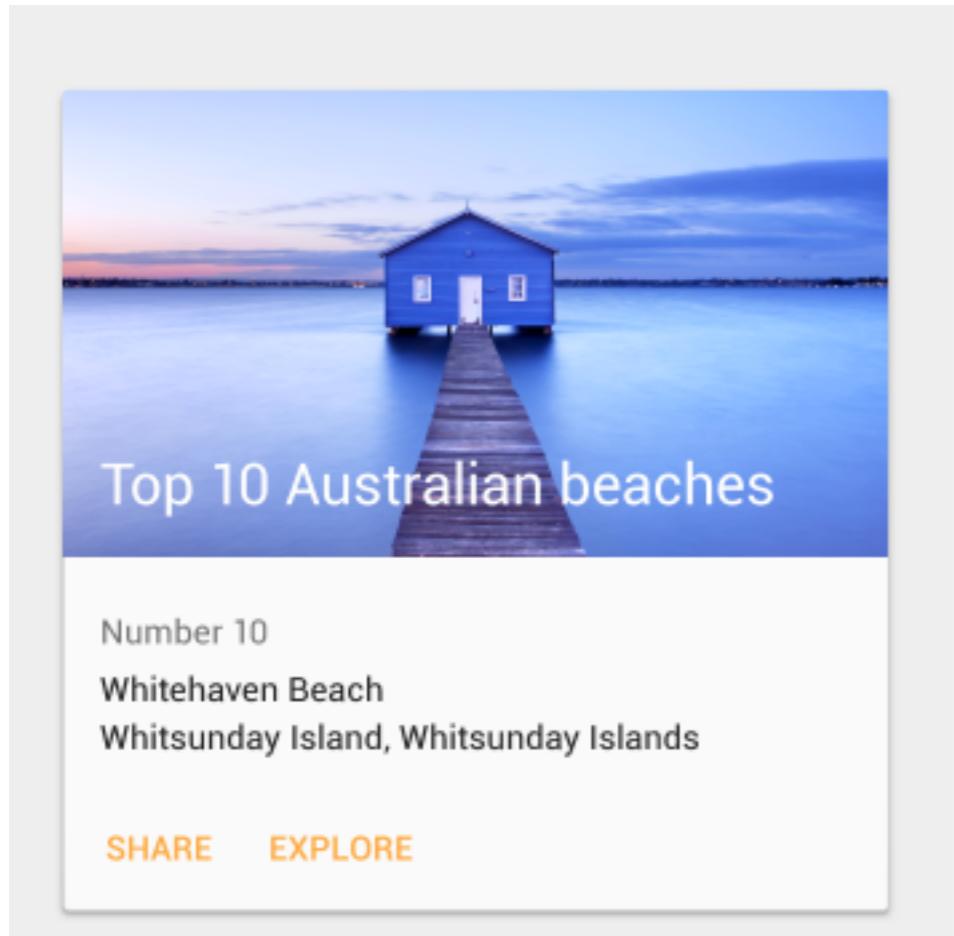
list

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- Thomas LaToza » FW: Bb F04-17651: My apologies
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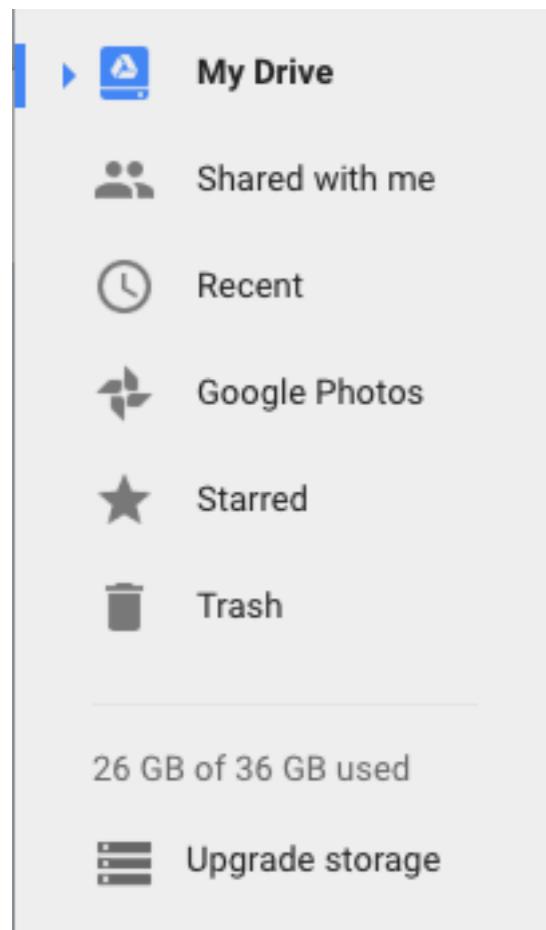
toolbar



# Examples: Google 2016

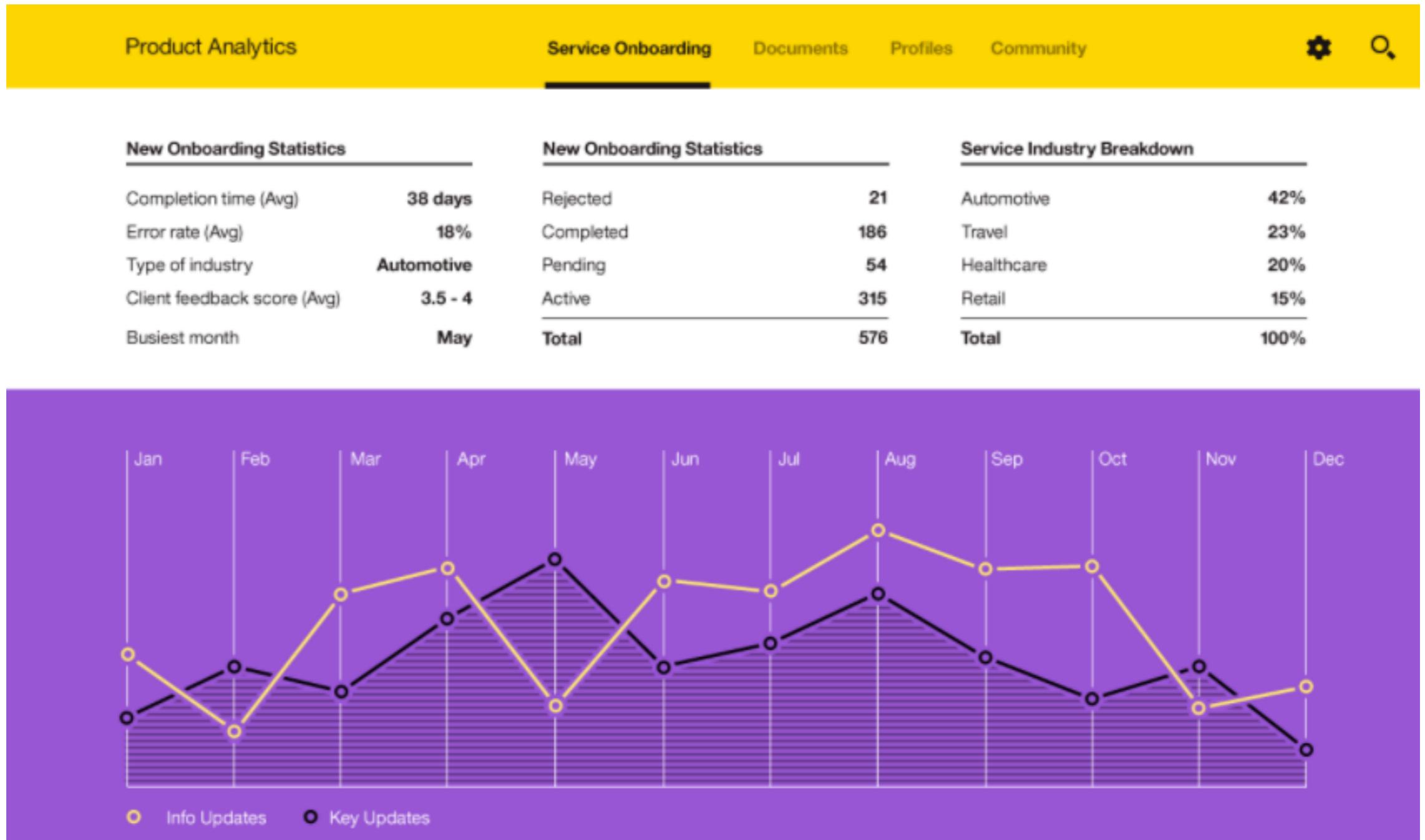


# Examples: Google 2016



A screenshot of the Google Analytics interface. The top navigation bar shows 'Google Merchandise Store' and '1 Master View'. The main content area is the 'Dashboard' for 'Google Merchandise Store', featuring links to 'Services', 'Versions', 'Instances', 'Task queues', 'Security scans', 'Quotas', 'Blobstore', 'Memcache', 'Search', and 'Settings'. To the right, there's a sidebar with sections for 'CUSTOMIZATION', 'Reports' (with sub-sections 'REAL-TIME', 'AUDIENCE', 'ACQUISITION', 'BEHAVIOR', 'CONVERSIONS'), and 'ADMIN'. A red circle with the number '1' is placed over the 'Dashboards' link in the customization sidebar.

# Examples: IBM

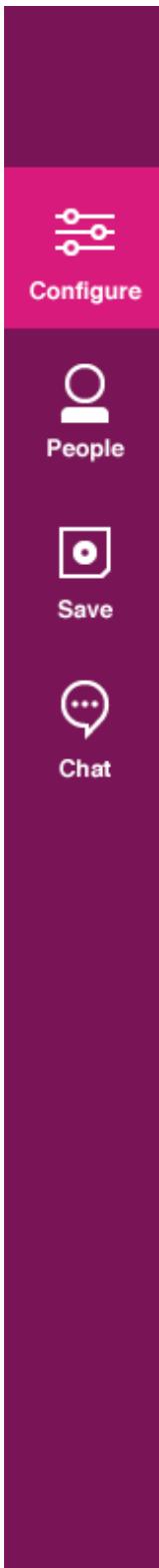


# Examples: IBM

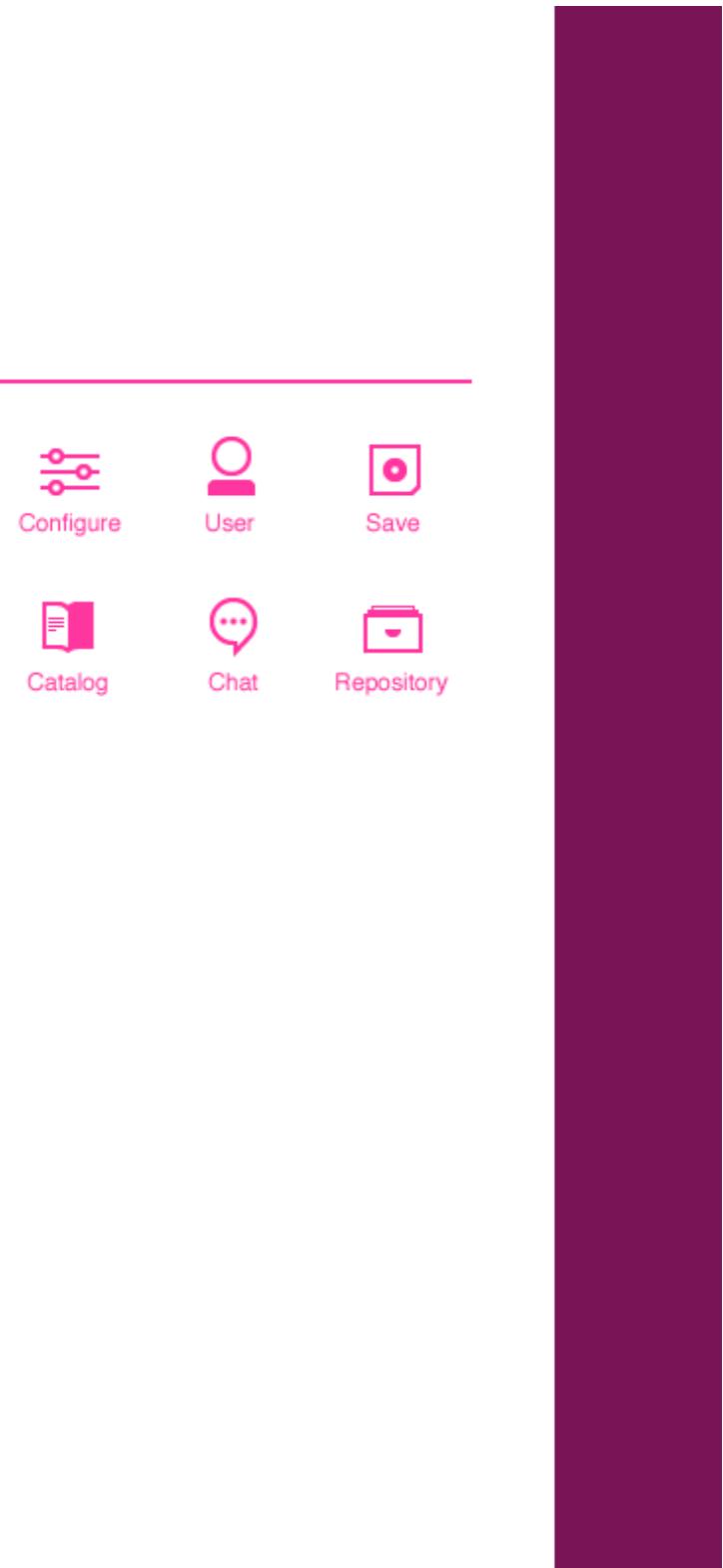


# Examples: IBM

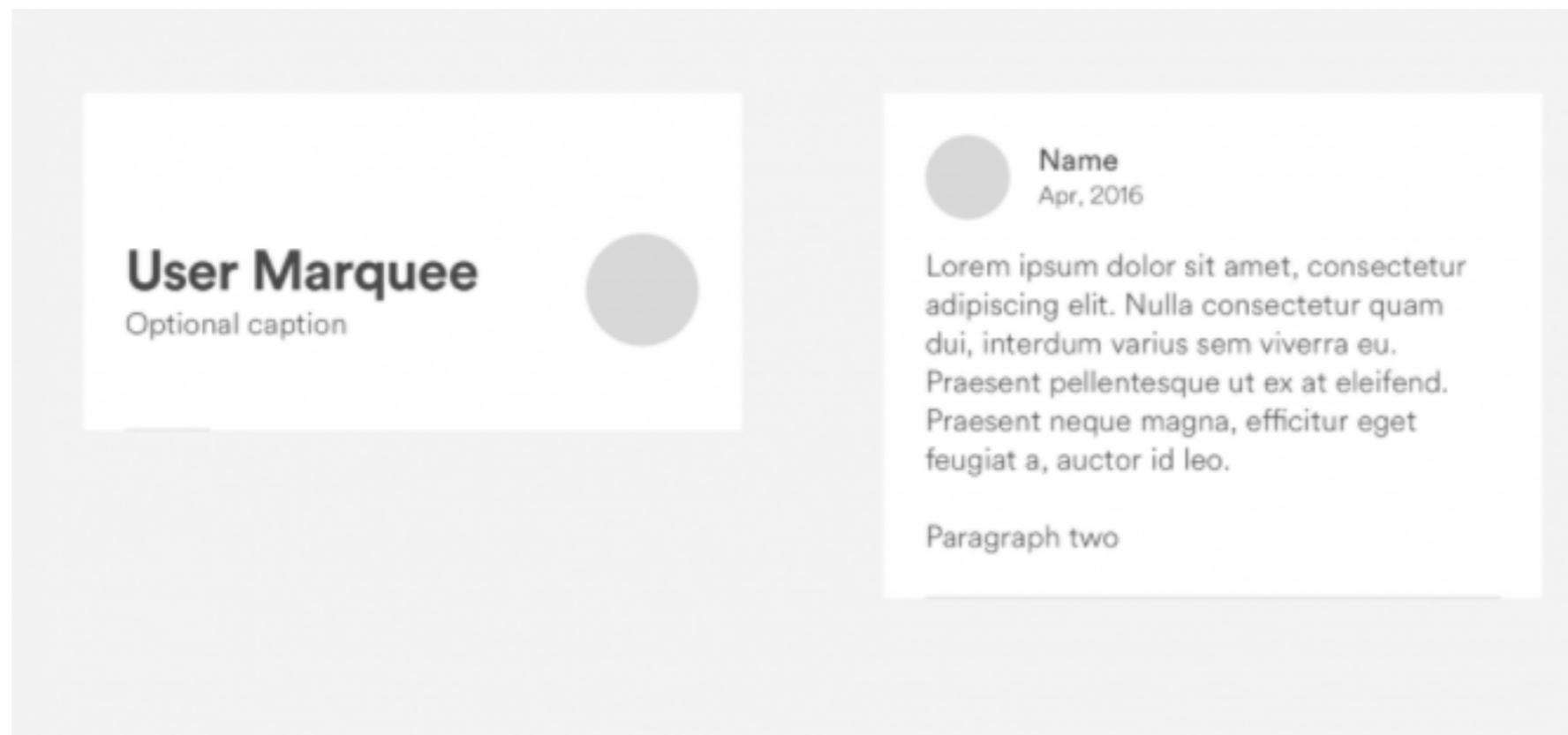
## Application data



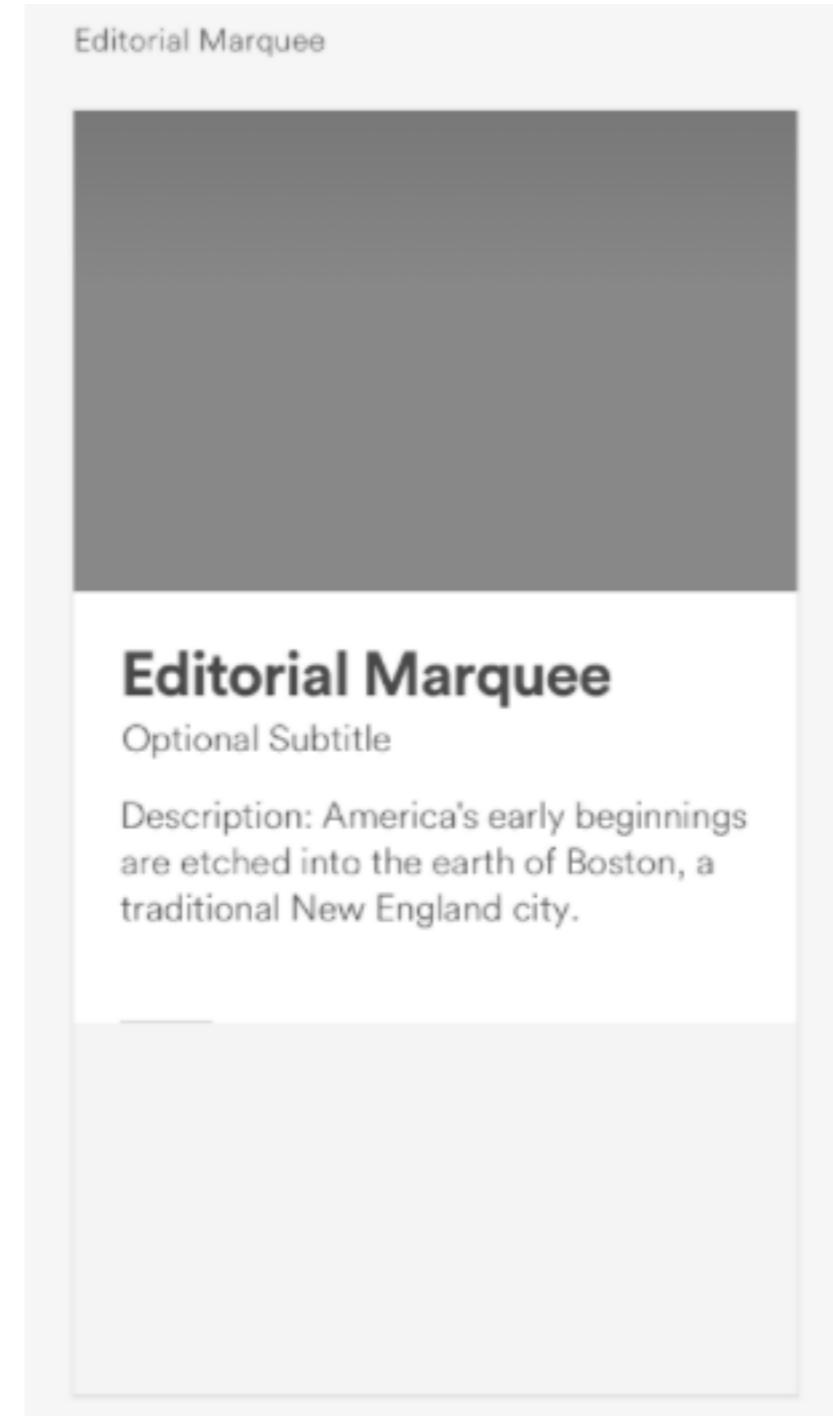
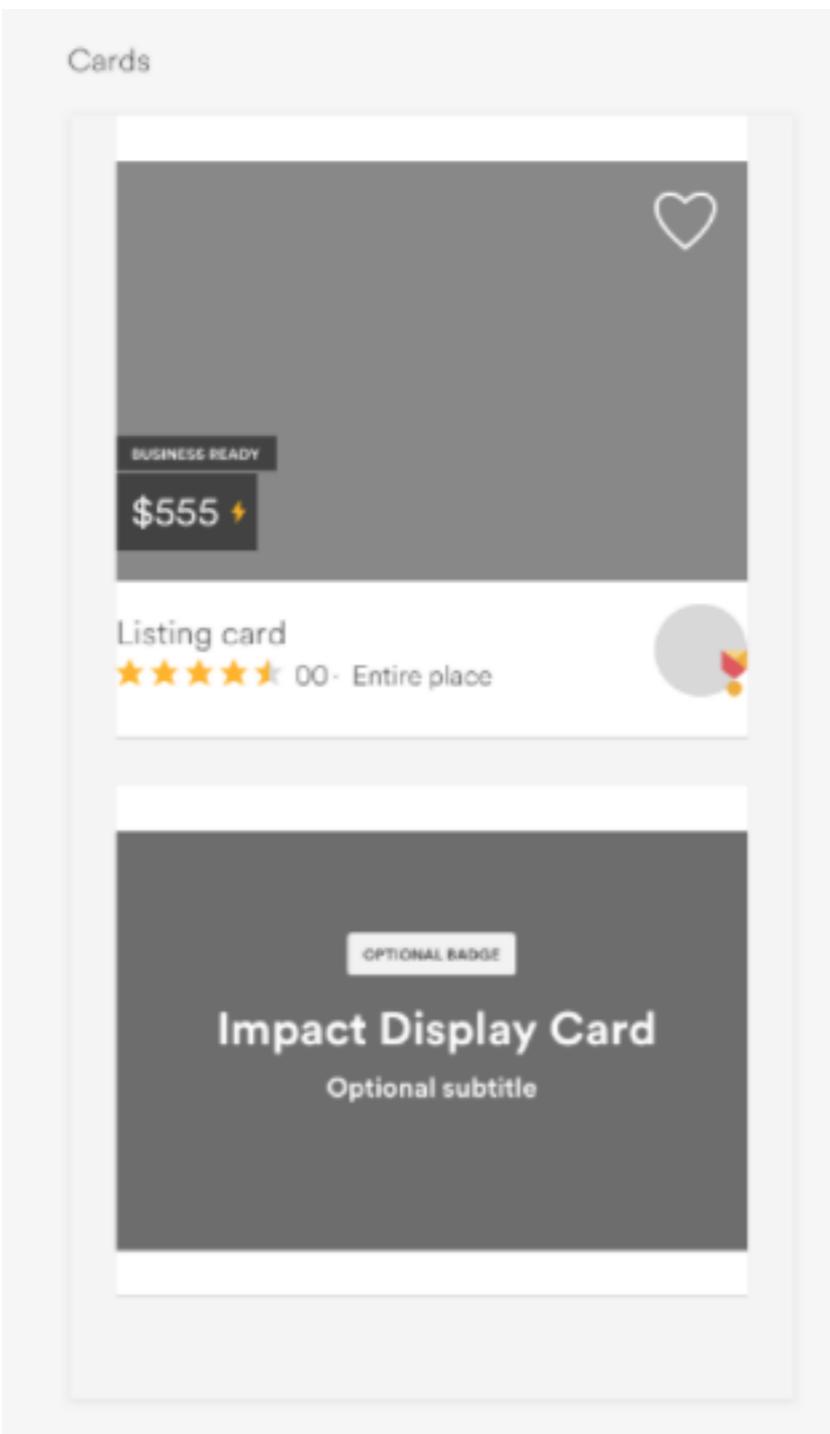
Title	Title	Value	Date	Value
Imperial	true	9 456 234	21. Feb 2014	9 456 234
Hard	false	987 345	21. Feb 2014	987 345
Cider	false	43 567	21. Feb 2014	43 567
Anaerobic	true	324 543	21. Feb 2014	324 543
Cold filter	false	432 456	20. Feb 2014	432 456
Barrel hand	true	32 432	20. Feb 2014	32 432
Pump wort	true	4 567	20. Feb 2014	4 567
Dry hopping	false	34 567	20. Feb 2014	34 567
Carbonation	true	434 567	20. Feb 2014	434 567
Mash tun	false	9 456 234	20. Feb 2014	9 456 234
Bittering hops	true	987 345	20. Feb 2014	987 345
Heat exchanger	false	43 567	19. Feb 2014	43 567
Lauter aerobic	false	324 543	19. Feb 2014	324 543
Abbey seidel	true	432 456	19. Feb 2014	432 456
Brewhouse	false	32 432	19. Feb 2014	32 432
Brewpub adjunct	true	4 567	19. Feb 2014	4 567
Dextrin seidel	true	34 567	19. Feb 2014	34 567
Aau beer	false	434 567	19. Feb 2014	434 567
Krug abv	true	434	19. Feb 2014	434



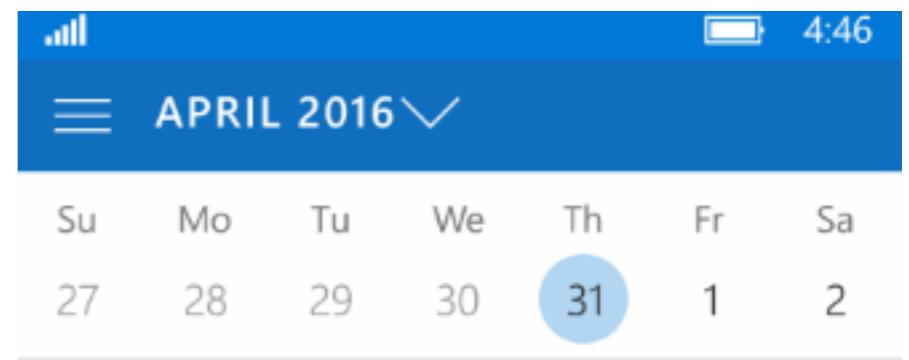
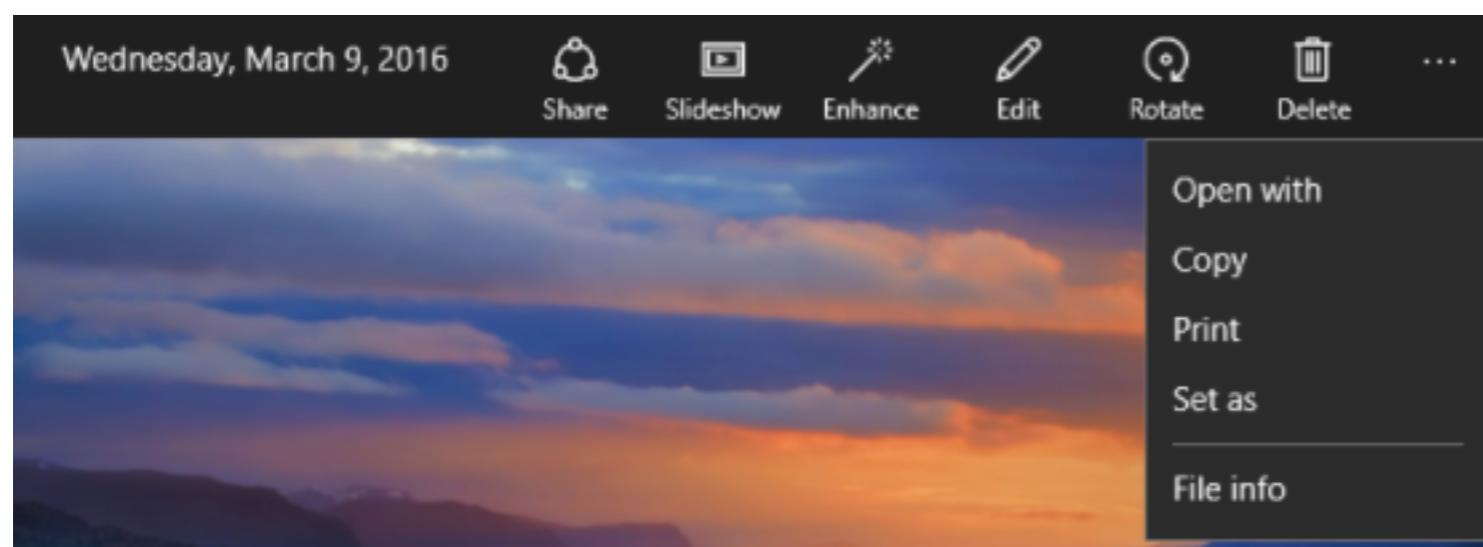
# Examples: AirBnb



# Examples: AirBnb



# Examples: Microsoft



Thursday 31

Friday 1

Saturday 2

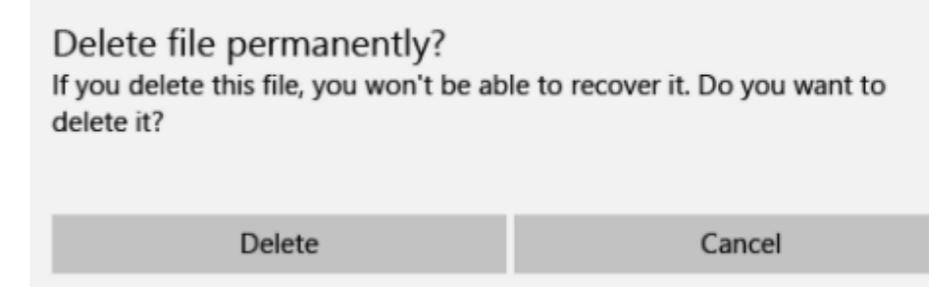
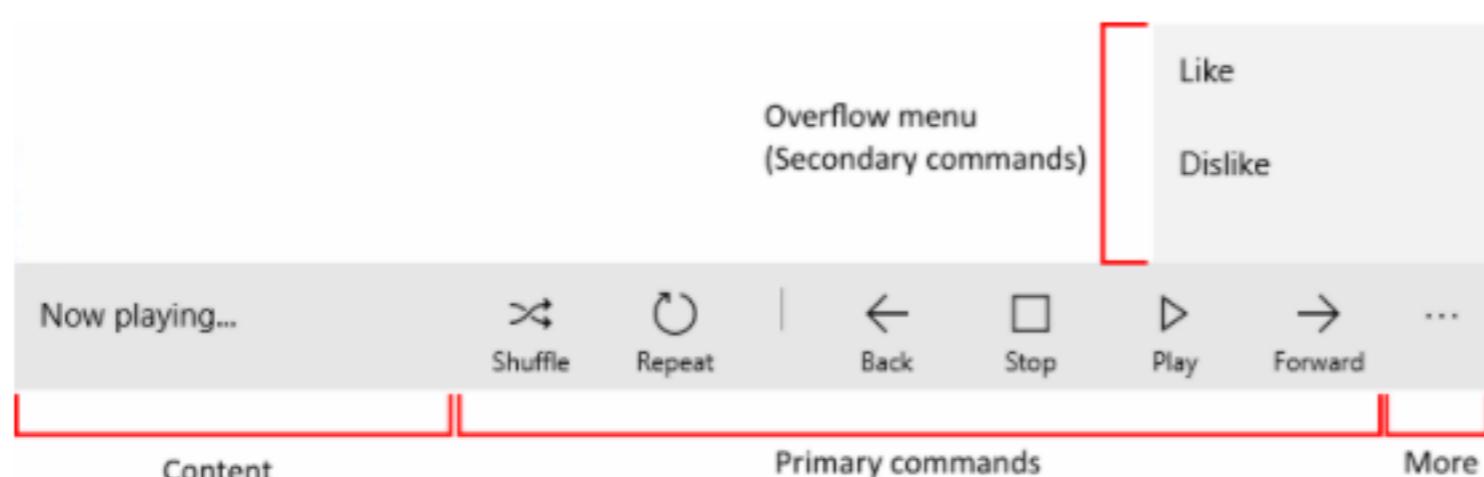
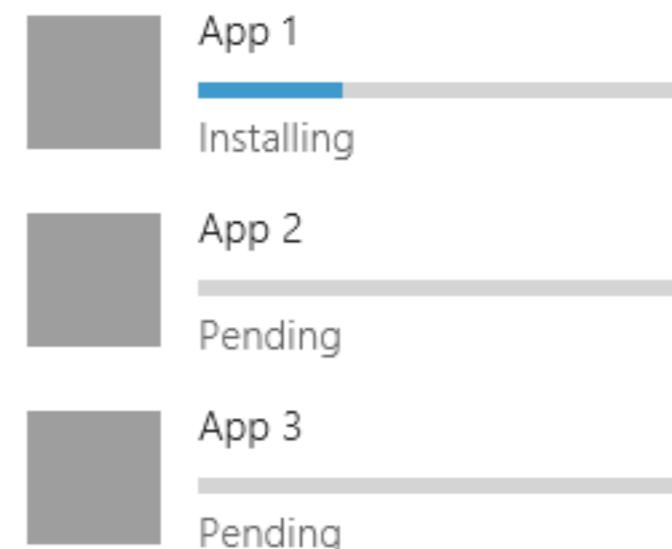
Sunday 3

Monday 4

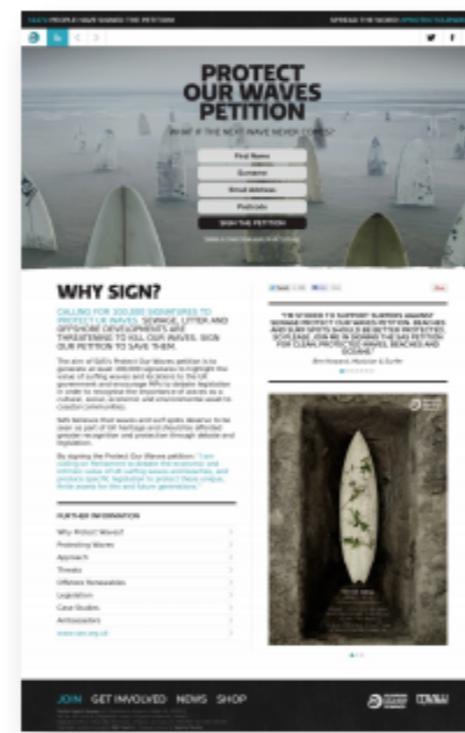
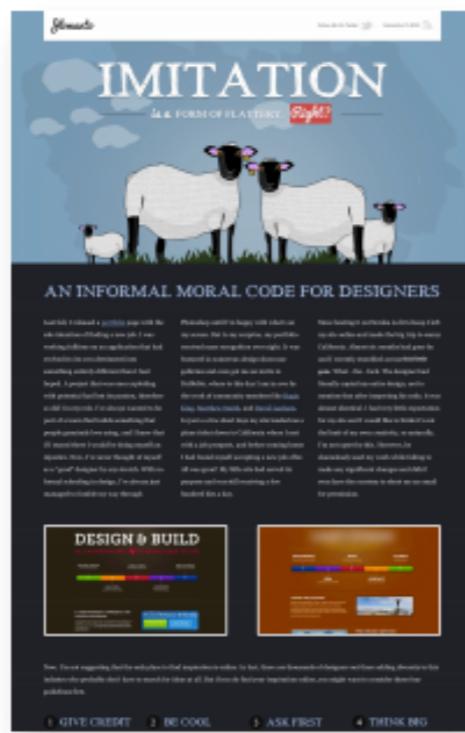
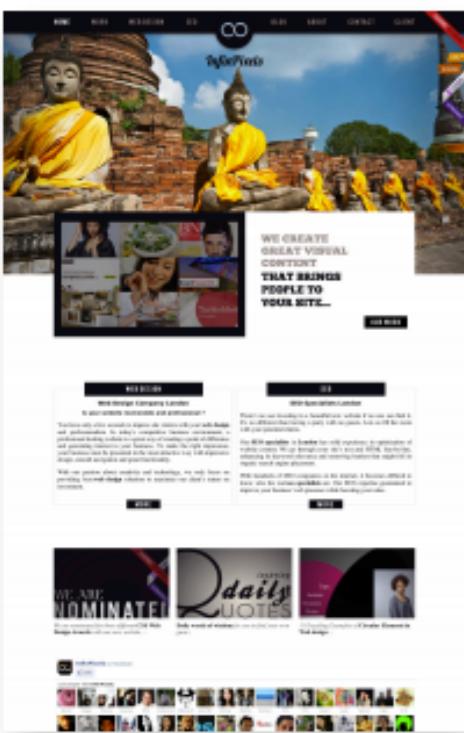
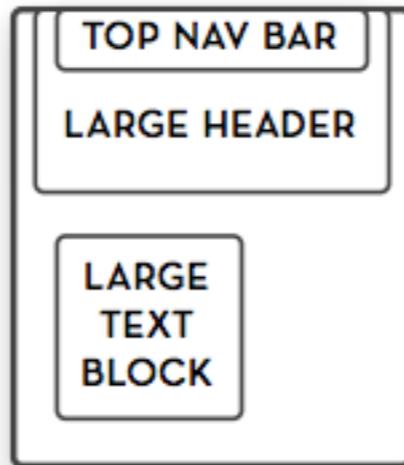
Tuesday 5



# Examples: Microsoft



# Example: Header with text blocks layout



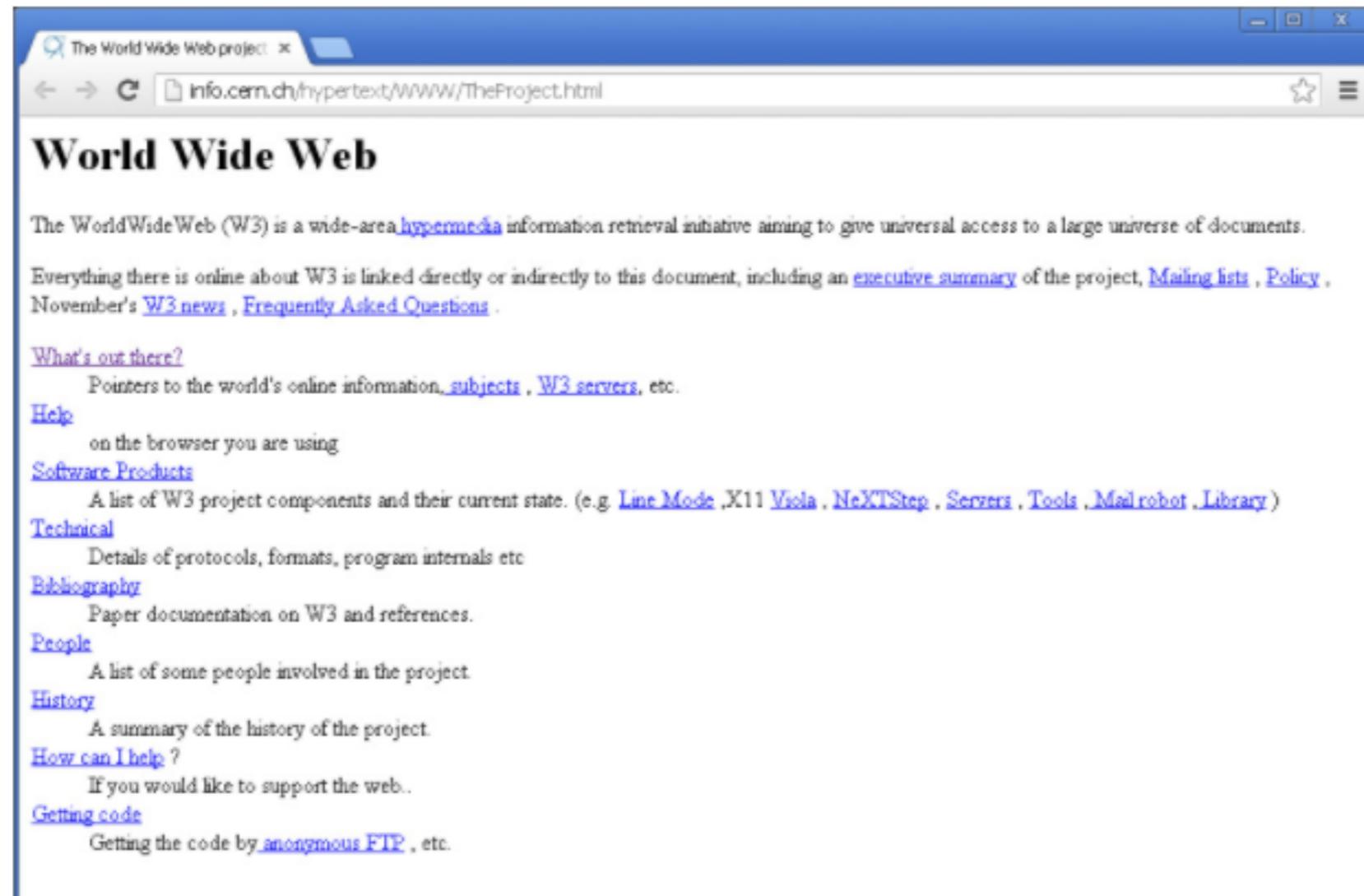
From: <http://ranjithakumar.net/resources/webzeitgeist.pdf>

# Elements strongly associated with position



From: <http://ranjithakumar.net/resources/webzeitgeist.pdf>

# Web design languages over time



<https://blog.hubspot.com/marketing/look-back-20-years-website-design#sm.00000ip14jejk1d51u53crk6cwrns>

# Web design languages over time

The screenshot shows the Apple website from July 14, 1997. The header features the Apple logo and the text "Welcome to Apple 1997". The date "JULY 14" is in the top right. On the left, a sidebar has a "Find It" button and links: Product Information, Customer Support, Technology & Research, Developer World, Groups & Interests, Resources Online, and About Apple. Below this is a "Apple Sites Worldwide" section with links for Switzerland, Taiwan, Turkey, UK & Ireland, and the United States. The main content area has a "BMW" logo and the text "Introducing CyberDrive". Below it is the slogan "Register today for a free CD-ROM." To the right, there's a section for the iMac G3 with the text "EMATE 300" and "Mobile, Affordable, & Smart" next to an image of the laptop. Another section for "MOVIES FROM MARS" features the QuickTime VR logo and the text "QuickTime VR Takes You Out of this World". At the bottom, there's a "What's Hot" section with articles about Mac OS 8 and Macintosh software releases.

**Find It**

Product Information

Customer Support

Technology & Research

Developer World

Groups & Interests

Resources Online

About Apple

Apple Sites Worldwide

Switzerland

Taiwan

Turkey

UK & Ireland

United States

**BMW**

**Welcome to Apple 1997**

**JULY 14**

**Introducing CyberDrive**

*Register today for a free CD-ROM.*

**EMATE 300**

Mobile, Affordable, & Smart

**MOVIES FROM MARS**

QuickTime VR Takes You Out of this World

**What's Hot**

**Preorder Mac OS 8**

Now you can [preorder Mac OS 8](#), described by Macworld as "the most comprehensive update to the Mac OS in years, sporting a bold new look, a speedier Finder, more

**Be the First to Know**

Learn about new Macintosh software releases the moment they become available. Check [Hot Mac Products](#) to hear about programs like Speed Demon, ReBirth RB-338 and

# Web design languages over time



# Web design languages over time

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♦ CHECK THIS OUT



**600 Silver Express**

What would you do with a FREE pack of film? Check out our new commercial!

♦ Full Product Catalog

♦ OTHER POLAROID SITES:

 **i-Zone**

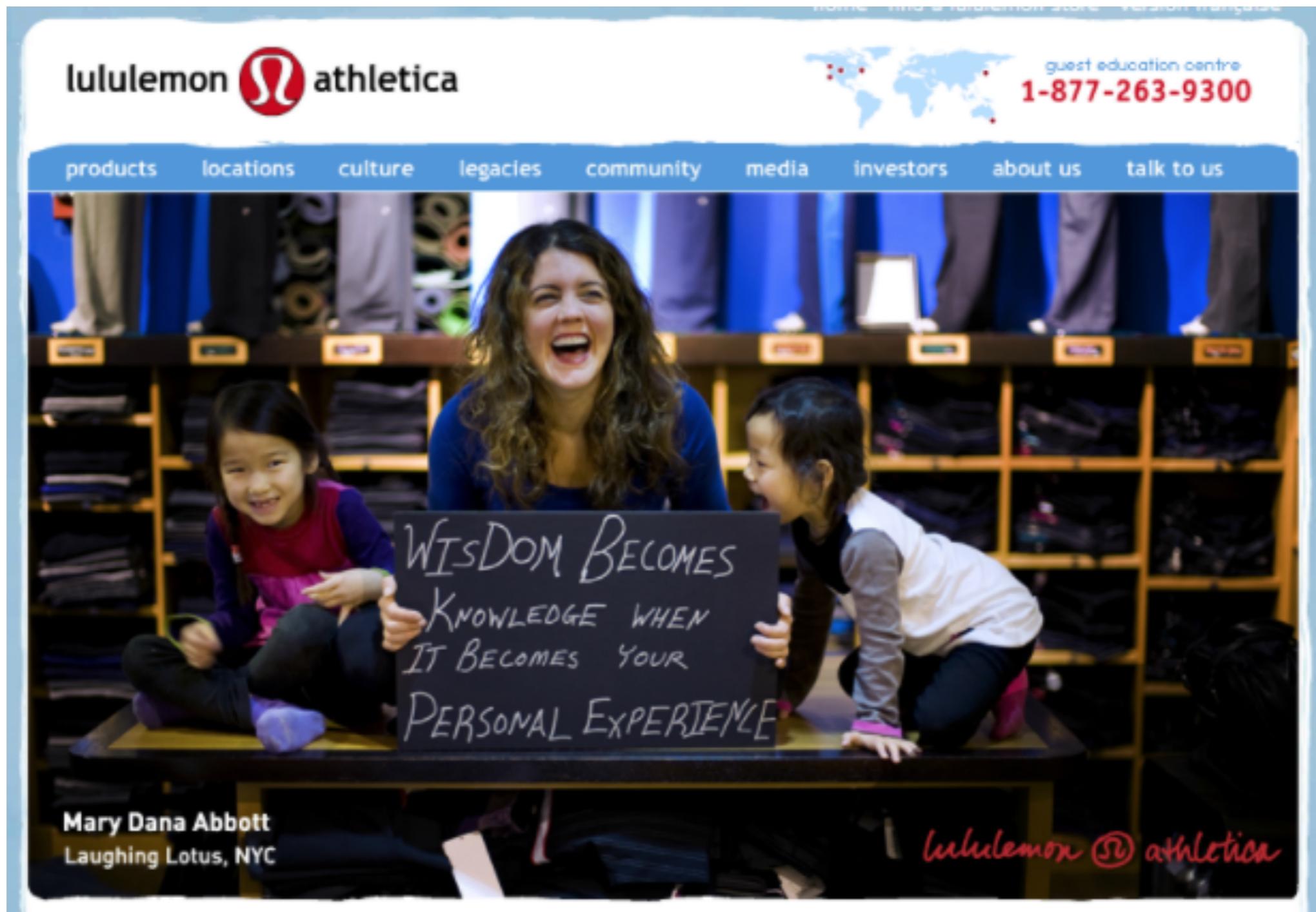
 **Digital**

 **Work**

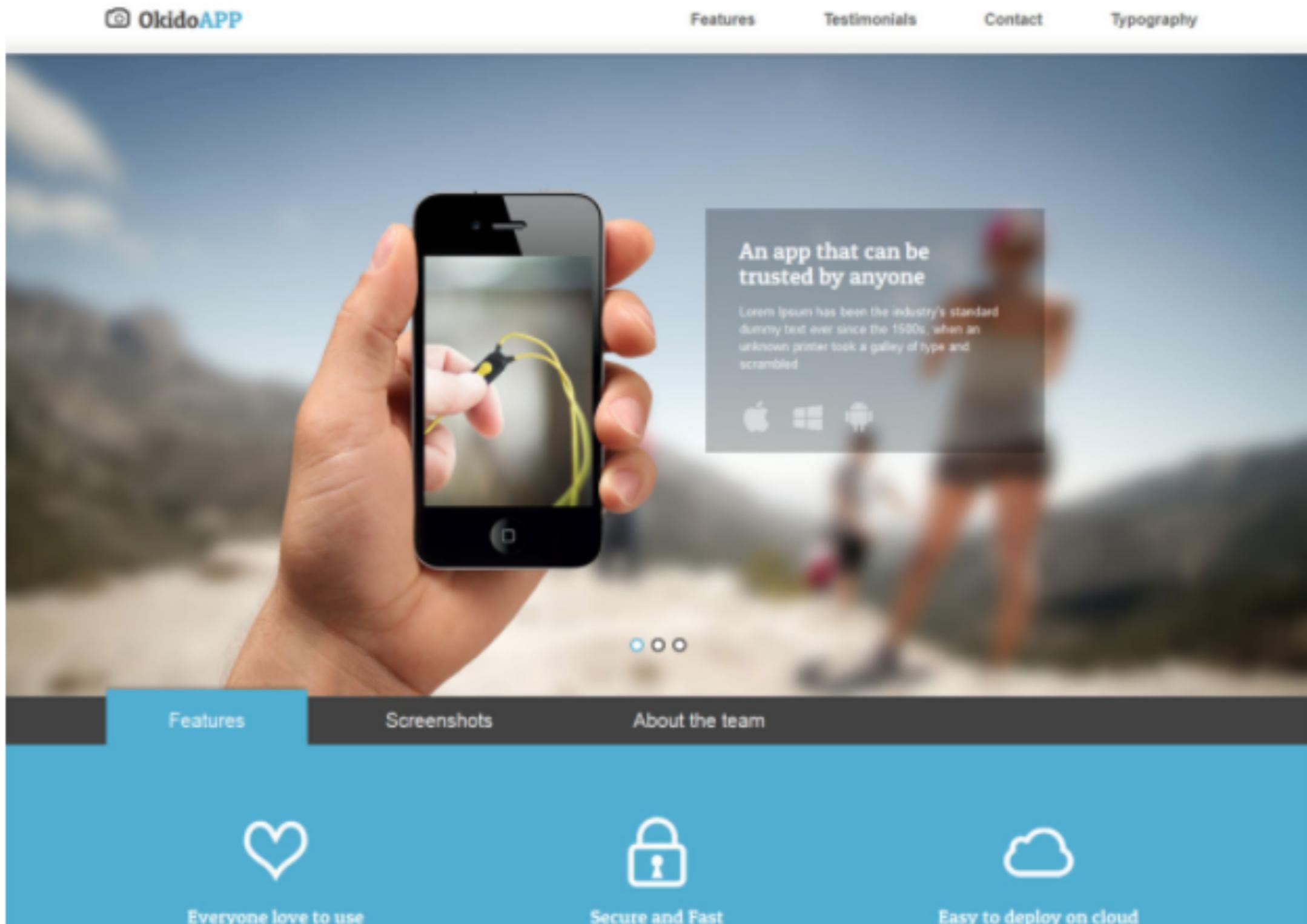
 **Worldwide**

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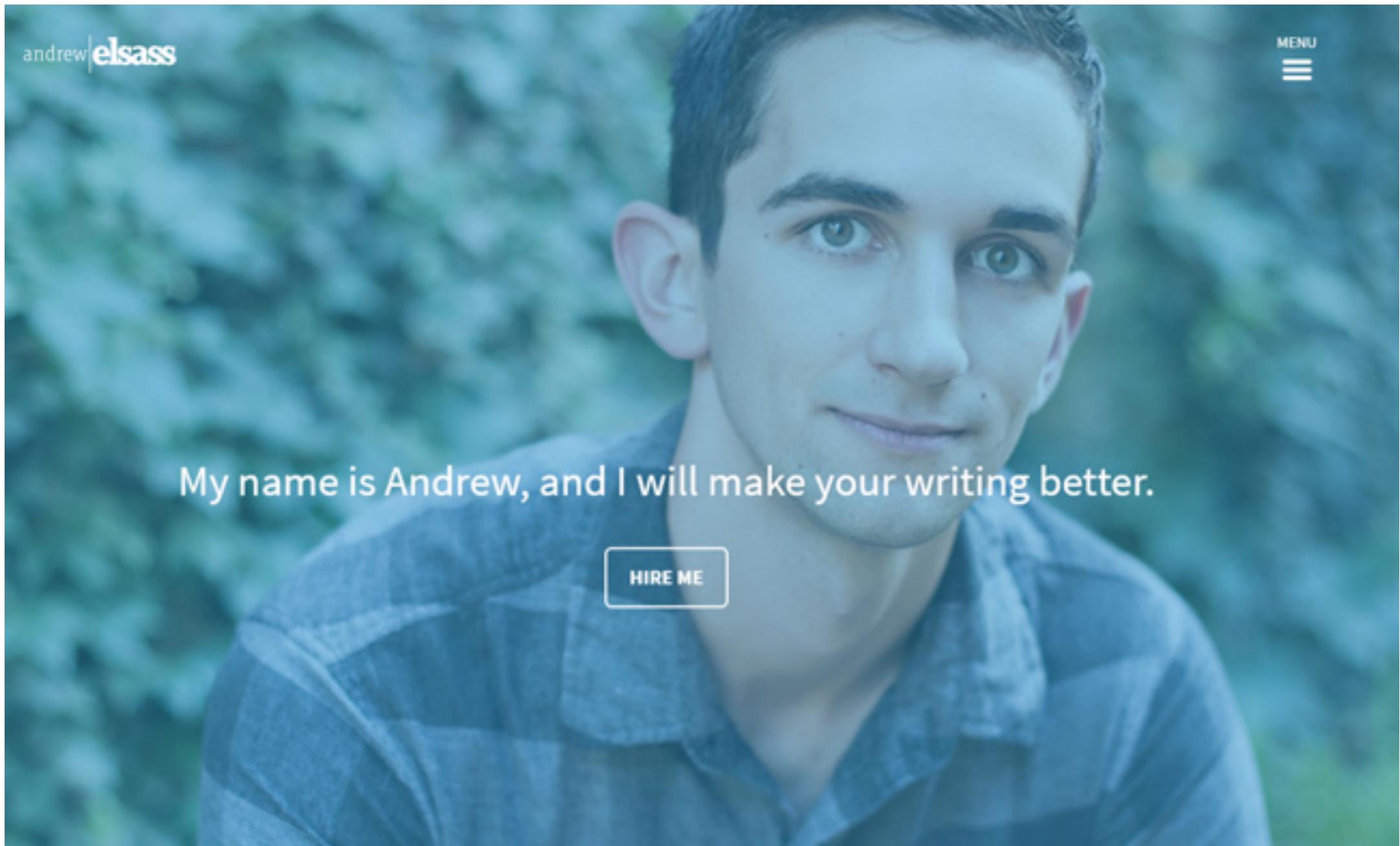
# Web design languages over time



# Web design languages over time

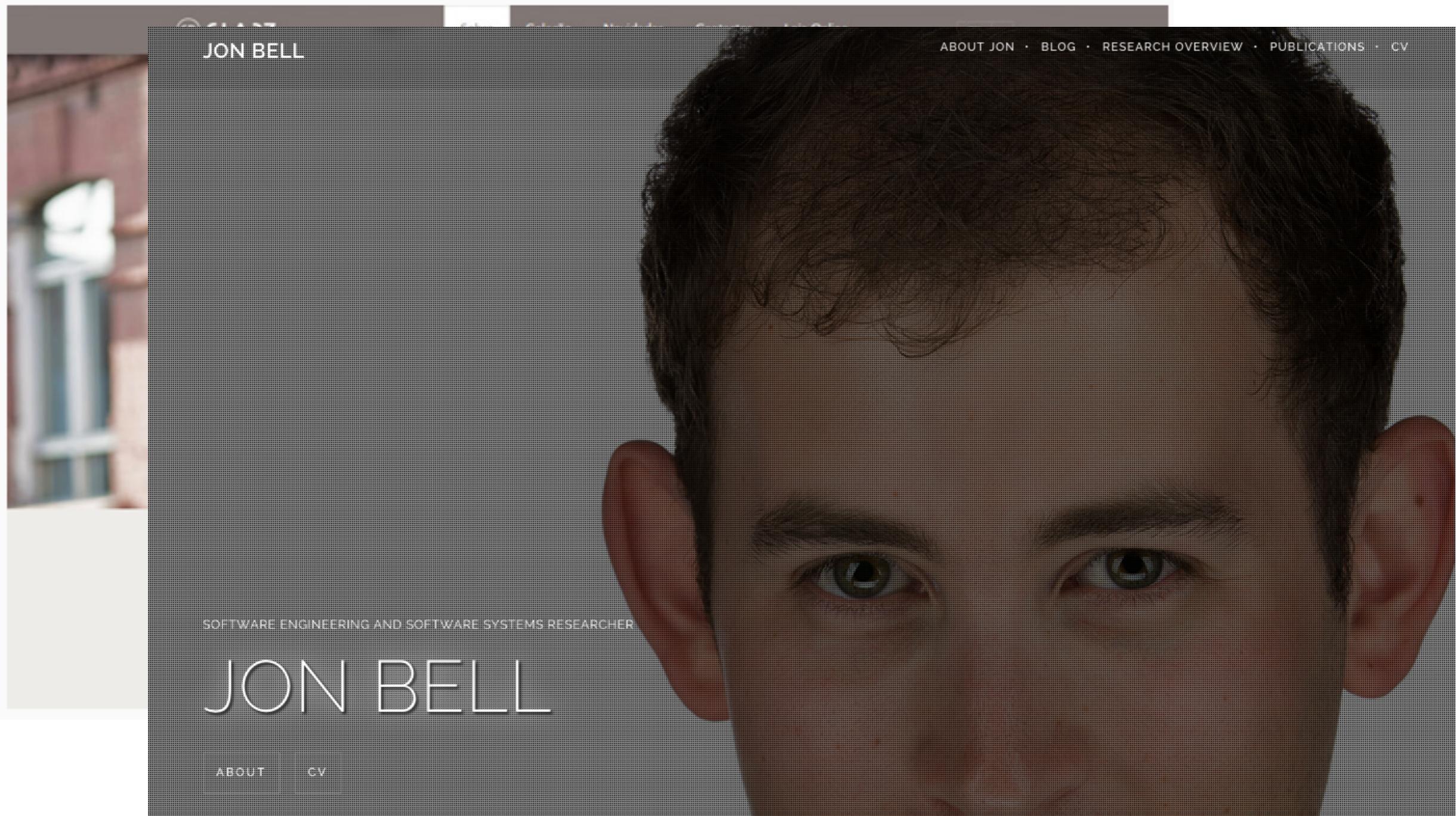


# Common visual idioms, circa 2016



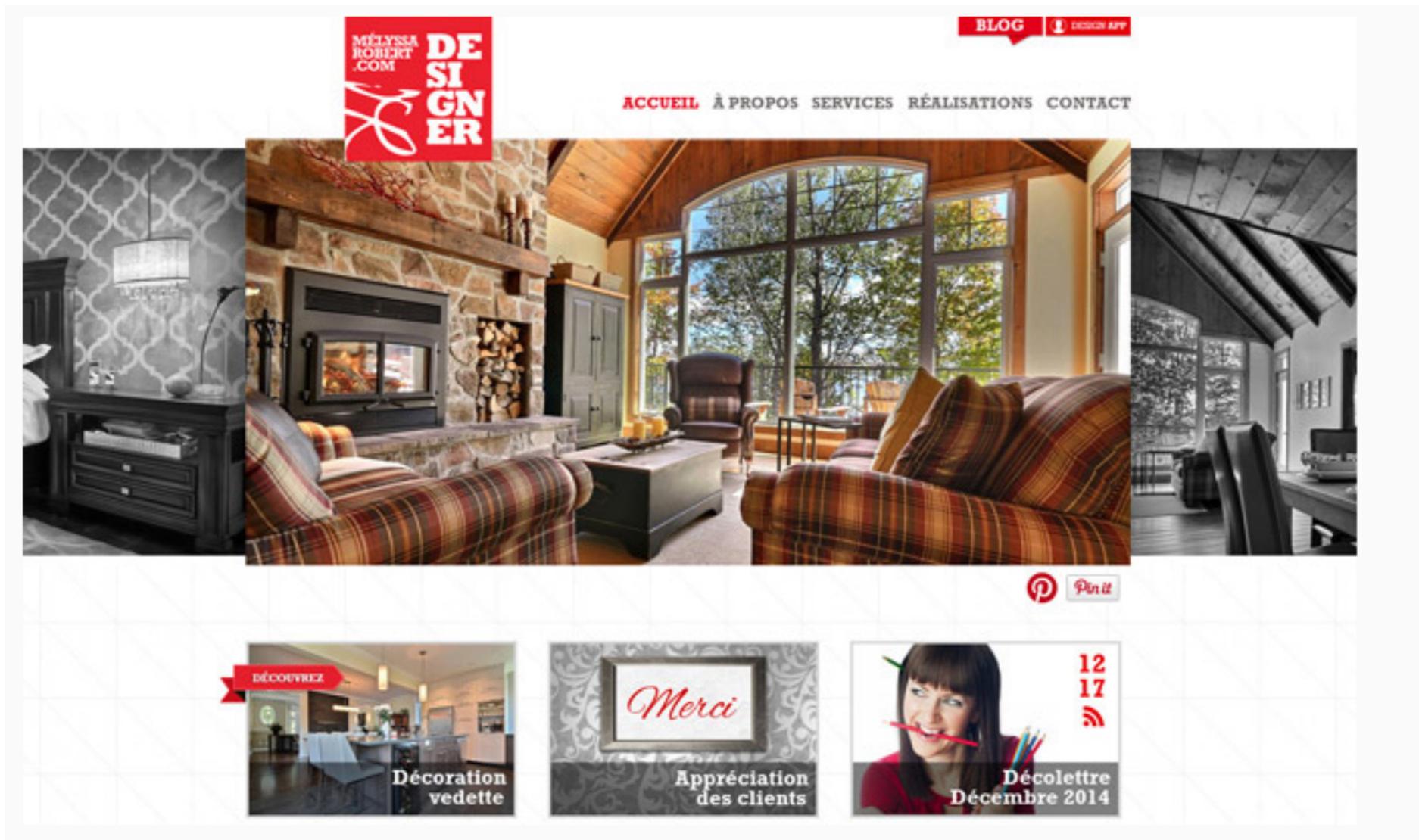
- Hero images: large attractive header image
- <https://envato.com/blog/exploring-hero-image-trend-web-design/>

# Common visual idioms, circa 2016



- Single page designs: hero image with a navbar
- <https://envato.com/blog/exploring-hero-image-trend-web-design/>

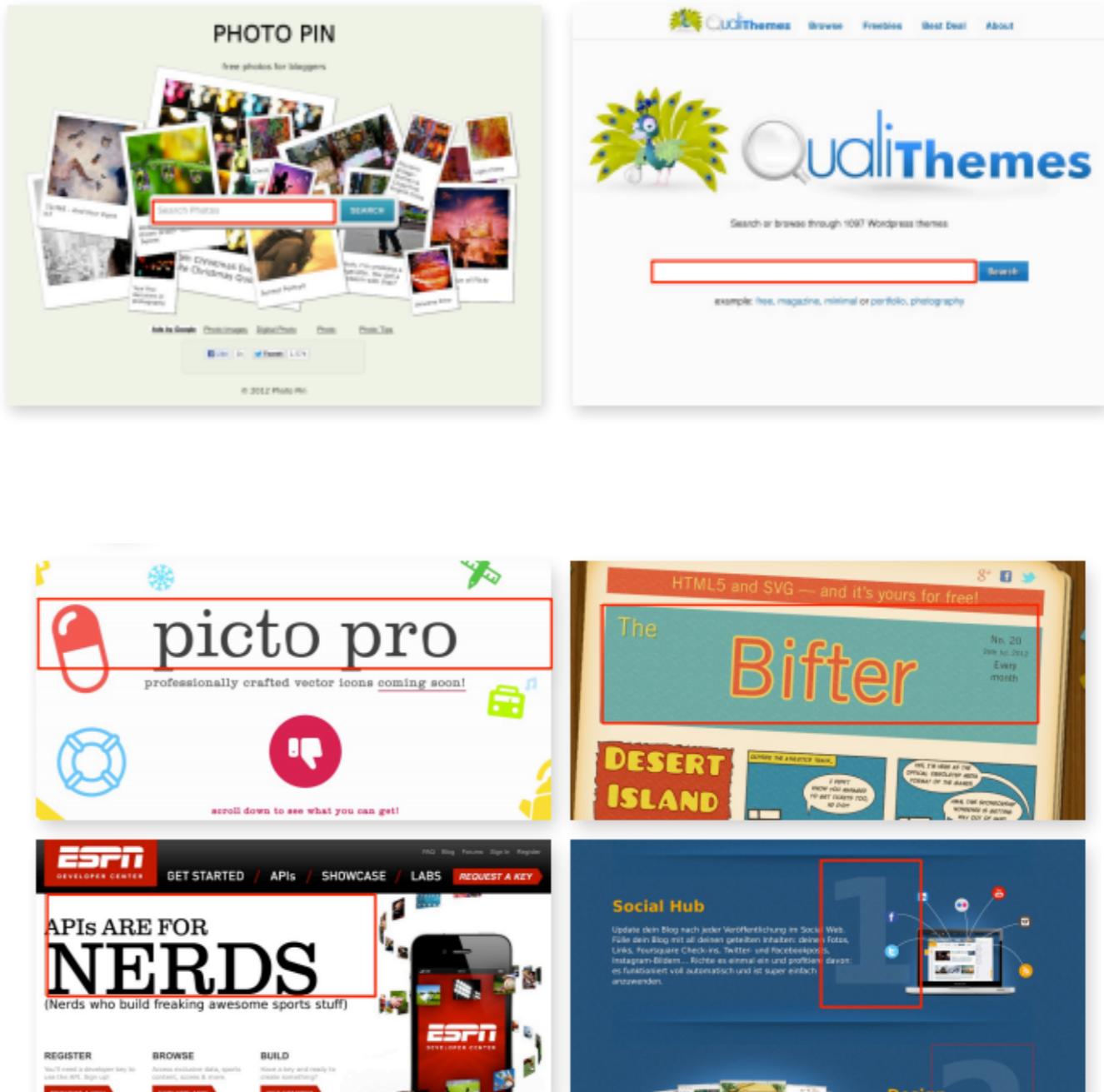
# Common visual idioms, circa 2016



- Rotating image galleries (carousels)
- <https://envato.com/blog/exploring-hero-image-trend-web-design/>

# Why it matters

- Users will have idioms they expect to see, particularly if suggested by other related elements
- Branding: Users will see your website and have particular associations based on what it exemplifies

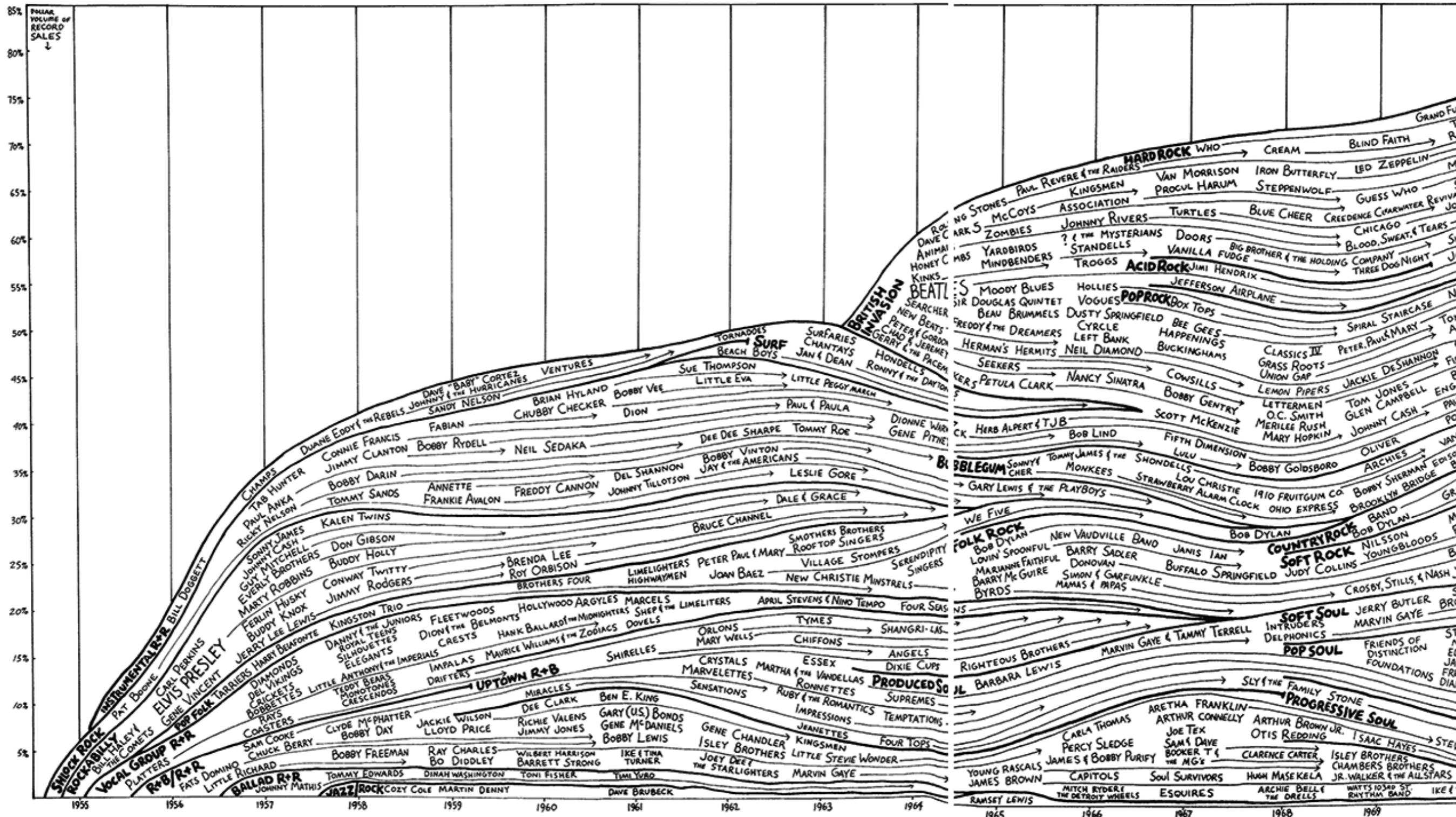


# Goals in designing a design language

- Offer guidance and options on
  - Colors: examples of color palettes
  - Typography: justification, sizes, fonts, different heading levels
  - Organization
- Support different resolutions, devices

# Design Values

# Example: Information Density



# Is this too much?

# Is this too much?

- If task is to show influence of Elvis Presley on subsequent bands, yes.
  - But what if task might also be to understand influences of pop soul?
- Flexibility / usability tradeoff
  - Can design more powerful flexible interfaces that trade effectiveness of a specific task for supporting a broad range of tasks
- What's the right answer?
  - A value choice, rather than a usability question.
  - Need to know what priorities are.
- Often called **experience design** rather than usability

# Activity: Identify Design Values

- In groups of two or three:
  - Pick a website.
  - Identify key tradeoffs in design approach.
  - Given the approach taken, what values does this final design reflect?

# Discussion of course structure

- Choosing project topic vs. canned assignment?
- Project split into 11 assignments vs fewer bigger deadlines?
- Teams vs. individual assignments?
- Pacing of assignments and lectures. Topics that were too fast or too slow?
- Quizzes vs. midterm?
- Previous offerings: 10 usability lectures, 3 PHP, 12 Java Servlets lectures
  - What did you think about usability last?
  - Alternative: Backend, asynchronous programming, Usability, then frontend?