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
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 & colorer 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)
Examples: Google 2016
Examples: Google 2016

App Engine

Dashboard

- Services
- Versions
- Instances
- Task queues
- Security scans
- Quotas
- Blobstore
- Memcache
- Search
- Settings
Examples: IBM
**Examples: IBM**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Instances</th>
<th>Jobs</th>
<th>Hosts</th>
<th>PEs</th>
<th>Operators</th>
<th>Streams</th>
</tr>
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<tbody>
<tr>
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<td>96</td>
<td>7945</td>
<td>5671</td>
<td>5671</td>
<td>10000+</td>
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</tbody>
</table>

**Alerts**
- PE 157 failed
- Service SWS failed
- Host streams8.sv1.ibm.com failed
- Stream connection broken
- Stream “Wattage filtered” congested
- Host streams8.sv1.ibm.com overloaded
- Stream “Wattage filtered” congested
- Host streams8.sv1.ibm.com overloaded
- Stream “Wattage filtered” low on memory
- Host streams8.sv1.ibm.com overloaded

**Streams**
- Wattage
- SG Filter
- Zero usage
- Cust high val
- Kxz
- Time sequence
- NE region usage
- SE region usage
- SW region usage
- Scracum

**Jobs**
- Height
- Width
- Color
- Health

**Hosts**

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### Examples: IBM

#### Application data

<table>
<thead>
<tr>
<th>Title</th>
<th>Title</th>
<th>Value</th>
<th>Date</th>
<th>Value</th>
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<td>987 345</td>
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<td>21. Feb 2014</td>
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<tr>
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<td>20. Feb 2014</td>
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</tr>
<tr>
<td>Pump wort</td>
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<td>4 567</td>
<td>20. Feb 2014</td>
<td>4 567</td>
</tr>
<tr>
<td>Dry hopping</td>
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<td>19. Feb 2014</td>
<td>434</td>
</tr>
</tbody>
</table>
Examples: AirBnb
Examples: AirBnb
Examples: Microsoft
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
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Web design languages over time

![Web design example]

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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/](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?