Design Languages

SWE 432, Fall 2017
Design and Implementation of Software for the Web
Today

• What is a design language?
• Course evaluations.

• Next time: Final review
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

New York Times - all 633 related »

cmu [definition]  (0.48 seconds)  1 - 37 of 37
4,285,199,774 web p;
id 16 minutes ago

Graduating? Cor more » at CMU Inbox (2) Compose Mail

Invite 7 frie New Featu New! Never lose ai act now
Example: Syntax, Google 2004
Examples: Google 2016
Examples: Google 2016
Examples: IBM

Product Analytics

New Onboarding Statistics

- Completion time (Avg): 38 days
- Error rate (Avg): 18%
- Type of industry: Automotive
- Client feedback score (Avg): 3.5 - 4
- Busiest month: May

New Onboarding Statistics

- Rejected: 21
- Completed: 186
- Pending: 54
- Active: 315
- Total: 576

Service Industry Breakdown

- Automotive: 42%
- Travel: 23%
- Healthcare: 20%
- Retail: 15%
- Total: 100%

Graph showing monthly updates and key updates.
Examples: IBM

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

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

### Operators
- 5671

### Jobs
- 96

### Hosts
- 7945
- 5671

### PEs
- 5671

### Streams
- 10000+
Examples: IBM

**Application data**

<table>
<thead>
<tr>
<th>Title</th>
<th>Value</th>
<th>Date</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperial</td>
<td>true</td>
<td>21. Feb 2014</td>
<td>9 456 234</td>
</tr>
<tr>
<td>Hard</td>
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<td>21. Feb 2014</td>
<td>987 345</td>
</tr>
<tr>
<td>Order</td>
<td>false</td>
<td>21. Feb 2014</td>
<td>43 567</td>
</tr>
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<td>21. Feb 2014</td>
<td>324 543</td>
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<tr>
<td>Cold filter</td>
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<td>20. Feb 2014</td>
<td>432 456</td>
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<tr>
<td>Barrel hand</td>
<td>true</td>
<td>20. Feb 2014</td>
<td>32 432</td>
</tr>
<tr>
<td>Pump wort</td>
<td>true</td>
<td>20. Feb 2014</td>
<td>4 567</td>
</tr>
<tr>
<td>Dry hopping</td>
<td>false</td>
<td>20. Feb 2014</td>
<td>34 567</td>
</tr>
<tr>
<td>Carbonation</td>
<td>true</td>
<td>20. Feb 2014</td>
<td>434 567</td>
</tr>
<tr>
<td>Mash tun</td>
<td>false</td>
<td>20. Feb 2014</td>
<td>9 456 234</td>
</tr>
<tr>
<td>Bittering hops</td>
<td>true</td>
<td>20. Feb 2014</td>
<td>987 345</td>
</tr>
<tr>
<td>Heat exchanger</td>
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<td>43 567</td>
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<tr>
<td>Lauter aerobic</td>
<td>false</td>
<td>19. Feb 2014</td>
<td>324 543</td>
</tr>
<tr>
<td>Abbey seidel</td>
<td>true</td>
<td>19. Feb 2014</td>
<td>432 456</td>
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<tr>
<td>Brewhouse</td>
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<td>32 432</td>
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<tr>
<td>Brewpub adjunct</td>
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<td>19. Feb 2014</td>
<td>4 567</td>
</tr>
<tr>
<td>Dextrin seidel</td>
<td>true</td>
<td>19. Feb 2014</td>
<td>34 567</td>
</tr>
<tr>
<td>Aau beer</td>
<td>false</td>
<td>19. Feb 2014</td>
<td>434 567</td>
</tr>
<tr>
<td>Krug abv</td>
<td>true</td>
<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
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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
Activity: Identify Design Language

• In groups of two or three:
  • Pick a website.
  • Identify key design language elements.
  • For each element you identify
    • What differentiates its appearance?
    • What does its appearance mean?
    • In what situations can it be used?
Design Critiques

• Opportunity to offer feedback on interaction designs
• Often done in group context, where many will offer feedback together
• Important to offer feedback constructively
  • Critique the design ideas, not the designers
• Important to consider who is the user, what are their goals, and in what ways does the web app help (or not help) in accomplishing these goals
• Can use full range of interaction design principles
  • Heuristic evaluation, interaction techniques, site design, visual design, ...
Activity: Design Critique

- Form groups of two or three where each member is from a **different project group**

- Take turns. For each web app you have built
  - Bring up and demo the web app. Let group members try it.
  - Critique the interaction design, identifying positive elements and potential ideas for improvement.
Discussion of course structure

• Open ended assignments vs. canned programming assignments?
• 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?