Design

Scott Klemmer, Bill Verplank
TA: Björn Hartmann

09 February 2006
Today: Meet together

1:15 – 1:20 Announcements
1:20 – 1:30 P3 questions & discussion
1:30 – 2:00 Visual Design
2:00 – 2:20 Interaction Design
2:20 – 2:25 Split into sections
2:25 – 3:05 Work w/mentors on refining idea
Announcements

- Pairs & mentors have been finalized
- d.tools tutorial will be next week
10 min

P3 Discussions & Questions
Today

1:15 – 1:20  Announcements
1:20 – 1:30  P3 questions & discussion
1:30 – 2:00  Visual Design
2:00 – 2:20  Interaction Design
2:20 – 2:25  Split into sections
2:25 – 3:05  Work w/mentors on refining idea
Gill Sans, designed by Eric Gill and released by the Monotype Corporation in 1928
Quotes: Mullet and Sano

“Design is not something that can be applied after the fact, when the fundamental organization of the product has already been determined—though this is indeed a common misconception. To be effective, design must be an integral part of the product development lifecycle.”
“Method helps intuition when it is not transformed into dictatorship. Intuition augments method if it does not instill anarchy. In every moment of our semiotic existence, method and intuition complement one another.”
“In anything at all, perfection is attained not when there is no longer anything to add, but when there is no longer anything to take away.”
Jan Tschichold’s Revolution

• Champion of Modernist Typography
## Type Classifications

<table>
<thead>
<tr>
<th></th>
<th>Sans Serif</th>
<th>Serif</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Optim</td>
<td>Fenice Bold</td>
</tr>
<tr>
<td>Roman</td>
<td>answ</td>
<td>answ</td>
</tr>
<tr>
<td>Obliqued</td>
<td>answ</td>
<td>answ</td>
</tr>
<tr>
<td>True italic</td>
<td>answ</td>
<td>answ</td>
</tr>
</tbody>
</table>

14. Weight and character distortion in oblique type
Asymmetric Typography

How blocks used to be arranged in magazines. Schematic, thoughtless centering of blocks (= ugly).

The same blocks, correctly arranged in the same type-area. Constructive, meaningful, and economical (= beautiful).
Grid Systems

- A key pattern for implementing rationality, modernism, asymmetry
- Note that no elements are “centered”

Java Look and Feel Design Guidelines
“Some space must be narrow so that other space may be wide, and some space must be emptied so that other space may be filled.”

- Robert Bringhurst
  *The Elements of Typographic Style*

“Information consists of differences that make a difference.”

- Edward Tufte
  *Envisioning Information*
Small Multiples

- Economy of line
- Many similarities enable us to notice differences
International Women’s Day

Echeverria, Heriberto  1971  
March 8 - International Women’s Day  

Diaz, Estela  1974  
March 8 - International Women’s Day  

Cuban Poster Art Gallery, http://www.sims.berkeley.edu/~lcush/GenCat.html/
SMALL MULTIPLES

Reid Miles, Blue Note Cover

Freddie Hubbard, Duke Jordan, Sam Jones, Art Taylor

84041 BLUE NOTE TRUE BLUE TINA BROOKS

Blue In and Out

Gabriel Blue

Alice Blue

Blue-Hoo

Sticks like Blue

Blue Away

True Blue

Too Blue
Tree Maps (SmartMoney)
Tree Maps (PhotoMesa)
Design Galleries

Figure 15: A DG for a particle system.
Design Galleries

Figure 13: A DG with different opacity transfer functions.
Color Spaces

Color Plate 5  RGB and HSV cubes. (a) The RGB cube has fully saturated colors along the edges connecting the RGB vertices to CMY. Grays run through the center diagonally between the black and the white vertices. Note that the top of the HSV cone can be seen as a projection along the white-black diagonal of the RGB cube. (b) The HSV cube has maximally saturated colors along the hue axis, with saturation and value at their maximum value. Grays run along the value axis and have no hue or saturation components.

Color Plate 6  Use of a double-hexcone color space in a 2D color picker. (a) In a double-hexcone HLS space, the white vertex is pulled up to create a cone symmetrical to the one formed by the black vertex.

(b) MetaCreations Painter uses a circle from the middle of an HSL space with a cross section of the space showing the area between a given hue and the white and black extremes of the double hexcone. (Painter is a registered trademark of MetaCreations. These materials copyrighted 1998.)
Technology-Centered Colors

- Nice Hex codes, “evenly” distributed
- But yowch! Lime green and hot pink?
Human-Centered Colors

- Munsell (left): Perceptually based
- Pantone (right): Functionally based

Anne Spalter, *The Computer in the Visual Arts*
Color is problematic

- On-screen color varies widely from device to device for two reasons
- The device may not be able to display that color (e.g. #AF5234), replacing it with something else
  - Web safe sometimes helps here
- The presentation of that color
Color (Java L&F)

- Six color semantic scheme
- Clean, consistent look
- Easy on eyes (mostly gray)
Color: Edward Tufte

IMAGE REMOVED
Color: Edward Tufte
FILM CLIPS
Also opening today

Mick LaSalle, Edward Guthmann, C.W. Nevius

Friday, June 13, 2003
San Francisco Chronicle

'RESPIRO'

Drama. Starring Valeria Golino and Francesco Casisa. Directed by Emanuele Crialese. (PG-13. 90 minutes. In Italian and Sicilian with English subtitles. At Bay Area theaters.)

"Respivo" is partly of interest for what it doesn't do. It's set on an Italian island south of Sicily, but it doesn't try to imbue the setting with romance. It's about a sexy young wife and mother who doesn't fit in with her neighbors, but the movie is not an indictment of village provinciality. She may be the prettiest and liveliest person on her island, but she is also a bit crazy.

NEW FLICKS ROUNDUP

How about a New Flicks newsletter? Sign up here

"Capturing the Friedmans" Superb.

"Dumb and Dumberer: When Harry Met Lloyd" Yep, dumb.

"The Eye" Plodding.

"Hollywood Homicide" Appealing.

"Manito" Low budget wonder.

"Respivo" Haunting.
How to get color right

- Design in grayscale first
- Keep luminance values from grayscale when moving to color
Proportion and Scale

52: Bertin’s “retinal variables” form the basis for all forms of visual coding. A visual code can be based on (from left to right) contrasts in size, value, orientation, texture, shape, or position in 2D or 3D space. Hue (chromatic color) provides an additional dimension not pictured here.

Kevin Mullet and Darrell Sano, Designing Visual Interfaces
“Pridefully Obvious Presentation”
Marks of Typographic Style

What to do with CAPITALS in your text? SMALL CAPITALS are the best solution. If they aren't available, reduce the point size of the full-size CAPITALS slightly and letterspace so they aren't crashing into each other. Small caps are designed to work with lowercase letters.

Ligatures
office flirt file afflict effect
office flirt file afflict effect

Upper and lower case numbers
0123456789 0123456789

http://www.adobe.com/type/topics/info5.html
Proper Quotes

- Distinguishing open from close makes reading easier
- Tags in HTML have open and close, e.g., `<html>` as opposed to `html`
- Spanish has open and close exclamation, question mark, e.g., ¡hay caramba!, ¿qué pasa?
- Quotes “ ” have open and close too

Quotes in HTML

```
4'6" = 4 feet, 6 inches
4'6" = 4 minutes, 6 seconds
“Typography is not an independent Art; it is a means to an end, not an end in itself. It must always be sub-servient to the text which is its ‘raison d’etre’…”
—HERBERT SPENCER
```

```
&amp;#8220; “ Left Double Quotation
&amp;#8221; ” Right Double Quotation
&amp;#8216; ‘ Left Single Quotation
&amp;#8217; ’ Right Single Quotation
```
I take pride withal in my humiliation, and as I am to this privilege condemned, almost I find joy in an abhorrent salvation; I am, I believe, alone of all our race, the only man in human memory to have been shipwrecked and cast up upon a deserted ship.

Thus, with unabashed conceits, wrote Roberto della Griva presumably in July or August of 1643.

How many days had he been tossed by the waves, feverish surely, bound to a plank, prone during the hours of light to avoid the blinding sun, his neck stiff, strained unnaturally so as not to imbibe the water, his lips burnt by the brine? His letters offer no answer to this question: though they suggest an eternity, the time cannot have been more than two days, for otherwise he would never have survived the lash of Phoebus (of which he so poetically complains), he, a sickly youth, as he describes himself, a creature condemned by a natural defect to live only at night.

He was unable to keep track of time, but I believe the sea grew calm immediately after the tempest swept him from the deck of the Amaryllis, on that makeshift raft a sailor had
Palm’s Design Economy
Some Starting Points

- Gather materials you find successful
  - Could be from a very different domain
  - “Good artists borrow, great artists steal” - Picasso
- Include visual design professionals in the iterative design cycle
Further Reading

- Kevin Mullet and Darrell Sano, *Designing Visual Interfaces*
- Edward Tufte’s books and course
- Anne Spalter, *The Computer in the Visual Arts*
- Robin Williams, *The Non-Designer’s Design Book*
- Typography
  - Jan Tschichold, *The New Typography*
  - Robert Bringhurst, *The Elements of Typographic Style*
  - http://www.adobe.com/type/
Further Reading

- Color: Charles Poynton, *A Technical Introduction to Digital Video*
  - also his SIGGRAPH course
  - web http://www.inforamp.net/~poynton/
- Typography on the web
  - http://www.microsoft.com/typography/
Interaction Design
Phases of Interaction Design

**Mental model**: how the expert thinks about it

**Conceptual model**: how we are led to think about it

**Interaction model**: how we interact with it, how we use it to get what we want

**Navigation scheme**: what kind of controls & orientation features do we have

**Storyboards**: how is all this presented on the screen
Degrees of Control

**Pace:** decide when to move on, how fast to go

**Sequence:** decide where to go next

**View:** change zoom, start/stop video

**Variables:** change an input, see effects on output

**Transaction:** send a message, login logout

**Objects:** move things around, build something

**Simulation:** change course of events
Six Components of Interactivity

**Feedback**: knowing where you are, seeing results of actions

**Control**: affect change in navigation, presentation

**Productivity**: creation tools, creation help

**Creativity/co-creativity**: make something; work better, faster

**Communication**: person to person, one to many

**Adaptivity**: Customization, personalization, apparent intelligence, agents
5 min

Split into sections
40 min

Work w/mentors to refine idea

remember: storyboards due on tuesday