

Lecture 11: Graphic Design

Guidelines for Good Graphic Design

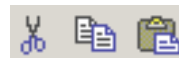
- Simplicity
- Contrast
- White space
- Balance
- Alignment

Simplicity

- "Perfection is achieved not when there is nothing more to add, but when there is nothing left to take away." (Antoine de St-Exupery)
- "Simplicity does not mean the absence of any decor... It only means that the decor should belong intimately to the design proper, and that anything foreign to it should be taken away." (Paul Jacques Grillo)
- "Keep it simple, stupid." (KISS)
- "Less is more."
- "When in doubt, leave it out."

Techniques for Simplicity: Reduction

- Remove inessential elements



Techniques for Simplicity: Regularity

- Use a regular pattern
- Limit inessential variation among elements



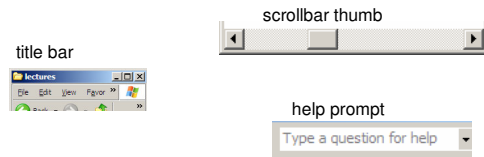
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Techniques for Simplicity: Double-Duty

- Combine elements for leverage
 - Find a way for one element to play multiple roles



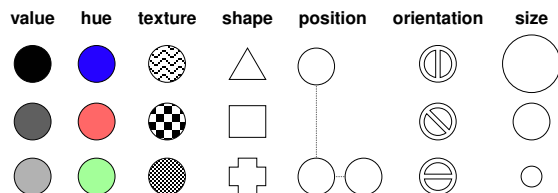
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Contrast & Visual Variables

- Contrast encodes information along visual dimensions



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Characteristics of Visual Variables

- Scale = kinds of comparisons possible
 - Nominal (=)
 - All variables
 - Ordered (<, >)
 - Ordered: position, size, value, texture granularity
 - Not ordered: orientation, hue, shape
 - Quantitative (amount of difference)
 - Quantitative: position, size
 - Not quantitative: value, texture, orientation, hue, shape
- Length = number of distinguishable levels
 - Shape is very long (infinite variety)
 - Position is long and fine-grained
 - Orientation is very short (~ 4 levels)
 - Other variables are in between (~ 10 levels)

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Attention

- Recall the spotlight metaphor
 - Attention spotlight moves serially from one input channel to another
 - All stimuli within spotlighted channel are processed in parallel
- Input channel = one or more visual variables
 - e.g., position, hue

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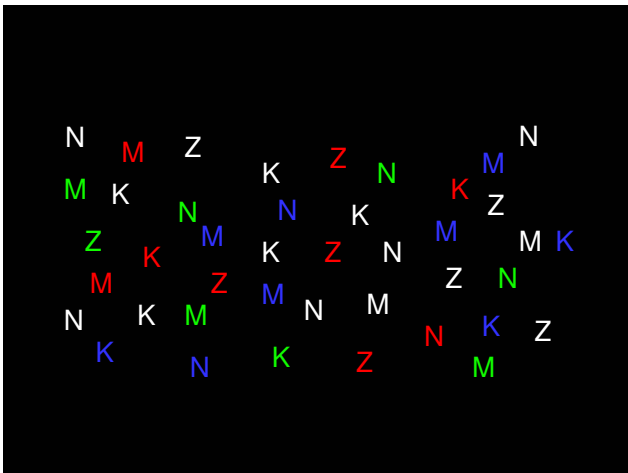
Selectivity

- Selective perception: can attention be focused on one value of the variable, excluding other variables and values?
 - Selective: position, size, orientation, hue, value, texture
 - **Not selective**: shape

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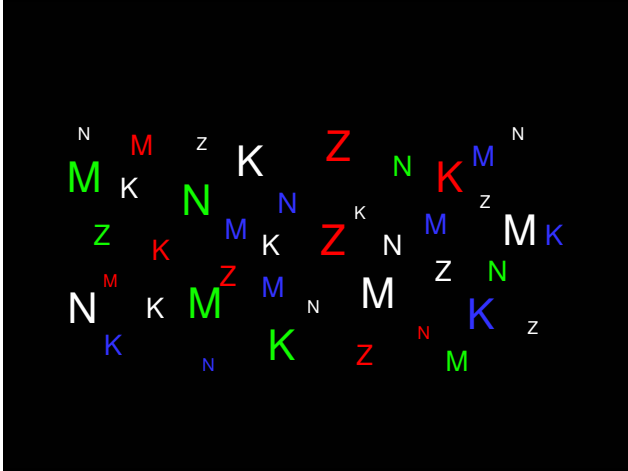
Associativity

- Associative perception: can variable be ignored when looking at other variables?
 - Associative: position, hue, value, texture, shape, orientation
 - **Not associative**: size, value
 - Small size and low value interfere with ability to perceive hue, value, texture, and shape

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Techniques for Contrast

- Choose appropriate visual variables
- Use as much length as possible
- Sharpen distinctions for easier perception
 - Multiplicative scaling, not additive
 - Redundant coding where needed
 - Cartoonish exaggeration where needed
- Use the “squint test”

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Choosing Visual Variables for a Display

Subject	Sender	Date
Содействие в трудоустройстве.	chao	10/15/2004 4:26...
Автоладелец	АвтоГранд	10/15/2004 4:45...
Обучение теннису	eliot	10/15/2004 7:16 AM
PITTSBURGH PA Silverton Home Services for...	Erica Gallenbeck	10/15/2004 7:21...
156 - 00 - 00 наш ...	XJFXLxmXqX@tdb.com	10/15/2004 10:4...
156-00-00	hucksterEOPIN	10/15/2004 11:12 ...
A Library A Dream...	Arthur GuoBin Yin	10/15/2004 6:38...
SAVE 20% on holiday cards by shopping early	Snapfish	5:18 AM
How are you	Ансимов К.И.	11:24 AM

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Designing Information Displays

Title: HCI Bibliography : Human-Computer Interaction / User Interface ...

Summary: The HCI Bibliography (HCIBIB) is a free-access bibliography on Human-Computer Interaction, with over 20000 records in a searchable database. ... Learn about HCI ...

Keywords: HCI

URL: www.hcibib.org/

Size: 14k

[HCI Bibliography : Human-Computer Interaction / User Interface ...](#)
 The HCI Bibliography (HCIBIB) is a free-access bibliography on Human-Computer Interaction, with over 20000 records in a searchable database. ... Learn about HCI ...
www.hcibib.org/ - 14k - [Cached](#) - [Similar pages](#)

[Human-Computer Interaction Resources on the Net](#)
 ... This is a collection of information related to Human-Computer Interaction (HCI). ...
 Collections of resources for HCI researchers and practitioners ...
www.ida.liu.se/labs/aslab/groups/um/hci/ - 9k - [Cached](#) - [Similar pages](#)

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Contrast in Publication Styles

Title

Heading

This is body text. It's smaller than the heading, lighter in weight, and longer in line length. We've also changed its shape to a serif font, because serifs make small text easier to read. Redundant encoding produces an effective contrast that makes it easy to scan the headings and distinguish headings from body text.¹

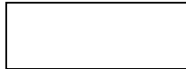
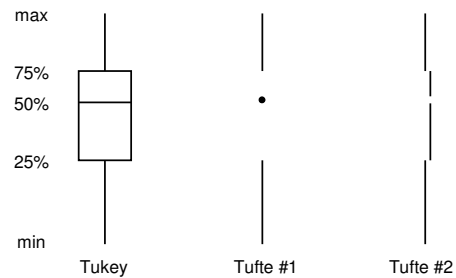


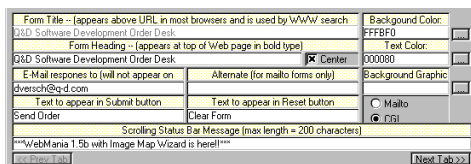
Figure 1. This is a caption, which is smaller than body text, and set off by position, centering, and line length.

¹This is a footnote. It's even smaller, and positioned at the bottom of the page.

Simplicity vs. Contrast



Contrast Problems

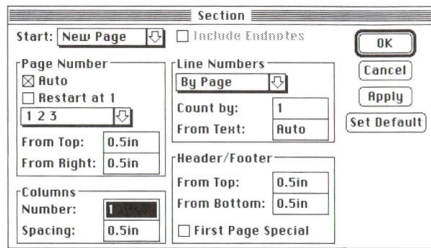


Source: Interface Hall of Shame

White Space

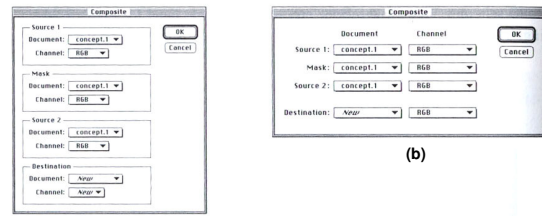
- Use white space for grouping, instead of lines
- Use margins to draw eye around design
- Integrate figure and ground
 - Object should be scaled proportionally to its background
- Don't crowd controls together
 - Crowding creates spatial tension and inhibits scanning

Crowded Dialog



Source: Mullet & Sano, p. 110

Using White Space to Set Off Labels



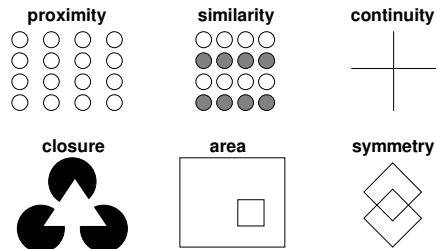
(a)

(b)

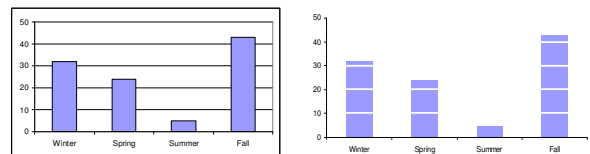
Source: Mullet & Sano, p. 96

The Gestalt Principles of Grouping

- Gestalt principles explain how eye creates a whole (*gestalt*) from parts



White Space Avoids Visual Noise



Balance & Symmetry

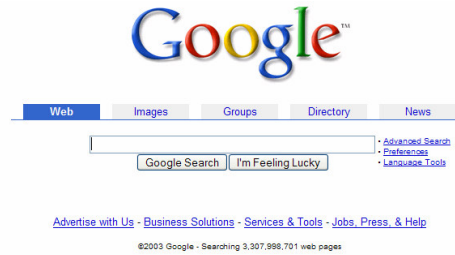
- Choose an axis (usually vertical)
- Distribute elements equally around the axis
 - Equalize both mass and extent

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Symmetry Example



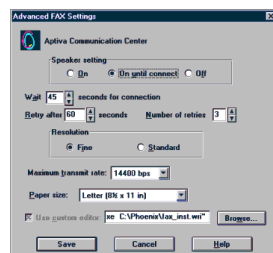
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Alignment

- Align labels on left or right
- Align controls on left *and* right
 - Expand as needed
- Align text baselines

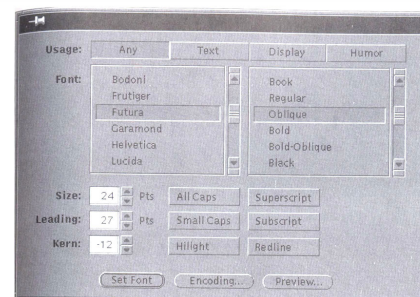


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Grids Are Effective



Source: Mullet & Sano, p. 165

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Color Guidelines

- Limitations of human vision
 - Color blindness, red-on-blue text, small blue text
- Use few colors
- Avoid saturated colors
- Be consistent and match expectations

