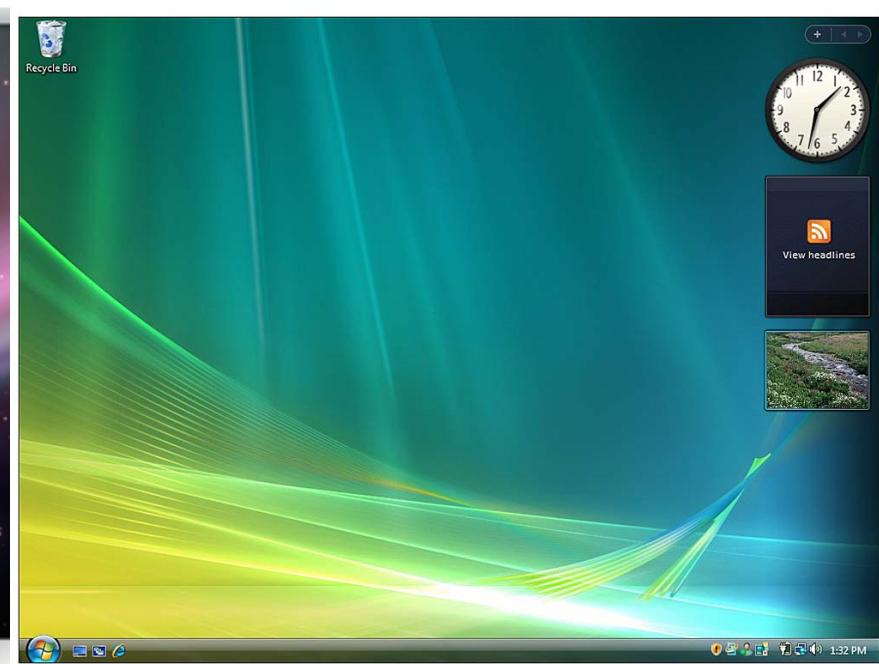


# **Graphic Design**

# Graphic design

## “Designing Visual Interfaces” Mullet and Sano

- Help users find their ways
  - Correct interaction sequencing
  - Correct mental model: organization of data, functions, and tasks
  - Consistency
  - Efficient and accurate search and understanding
- Provide a distinctive look (and feel)
  - Brand recognition



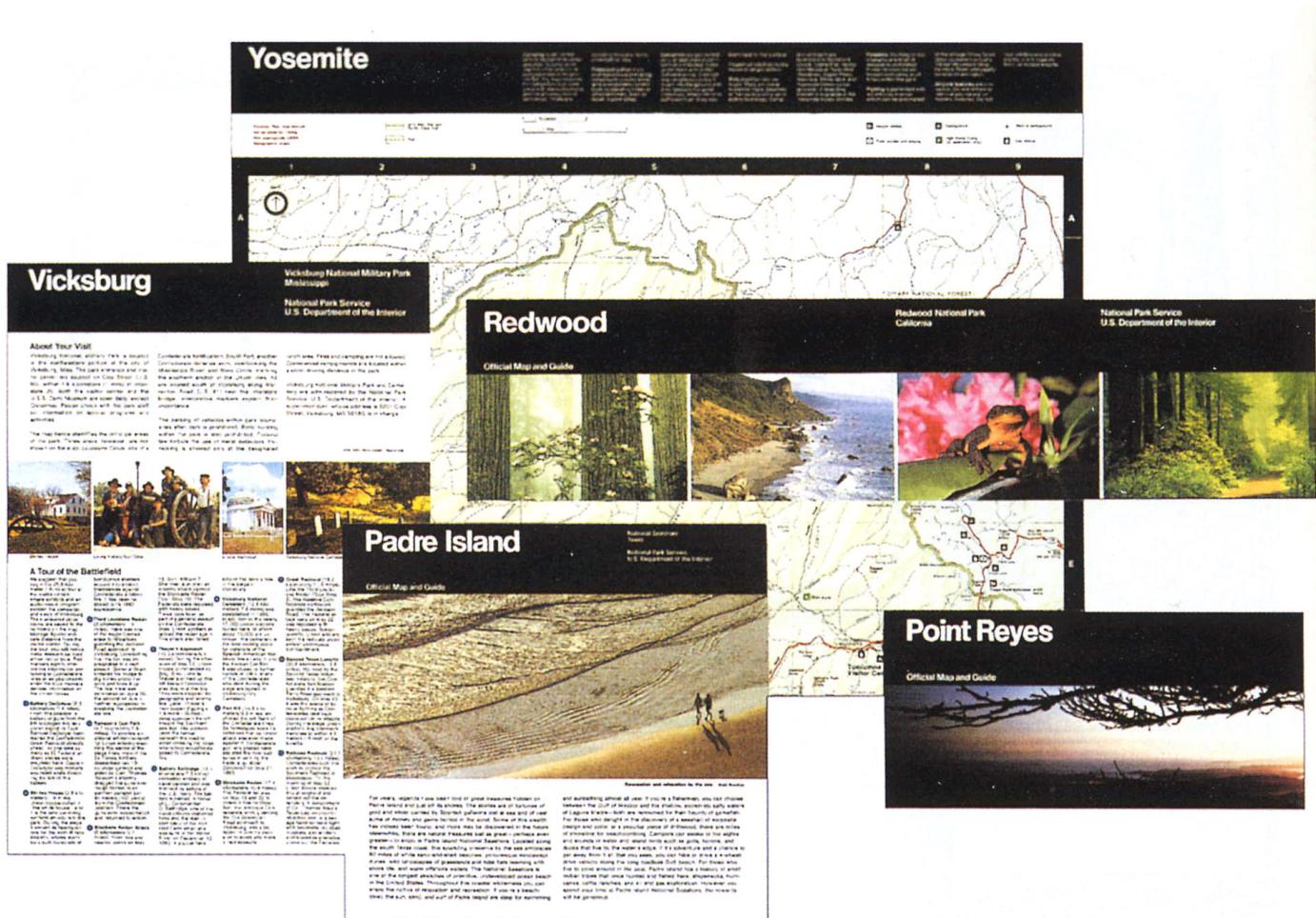
# Components of the visual language

- Layout
  - How the content is structured on the display
- Typography
  - Typefaces & typesetting
- Imagery
  - Visual identity, icons...
- Sequencing
  - How interactions unfold



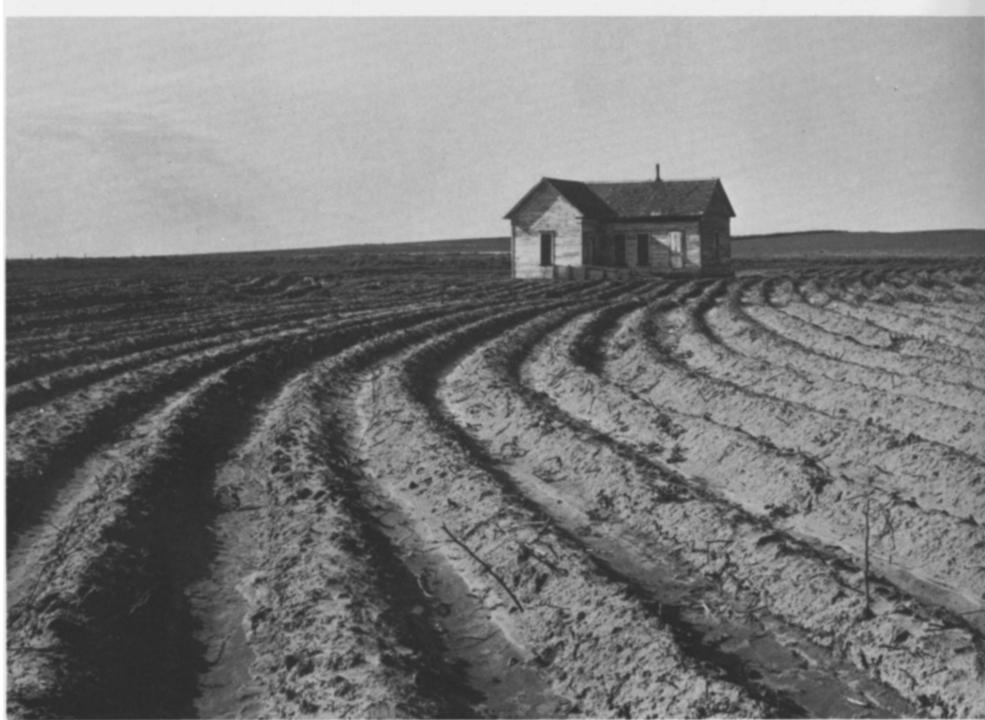
# US National Park Service

- Clear repetition of strong graphic elements in the header
- Identical modular units – column placement/dimension
  - Unifies the program & accommodate various presentation formats



# Parsing visual input

- Appropriate design can help the user parse your input
  - Layout/subject matter forces viewers to parse the picture in a certain way



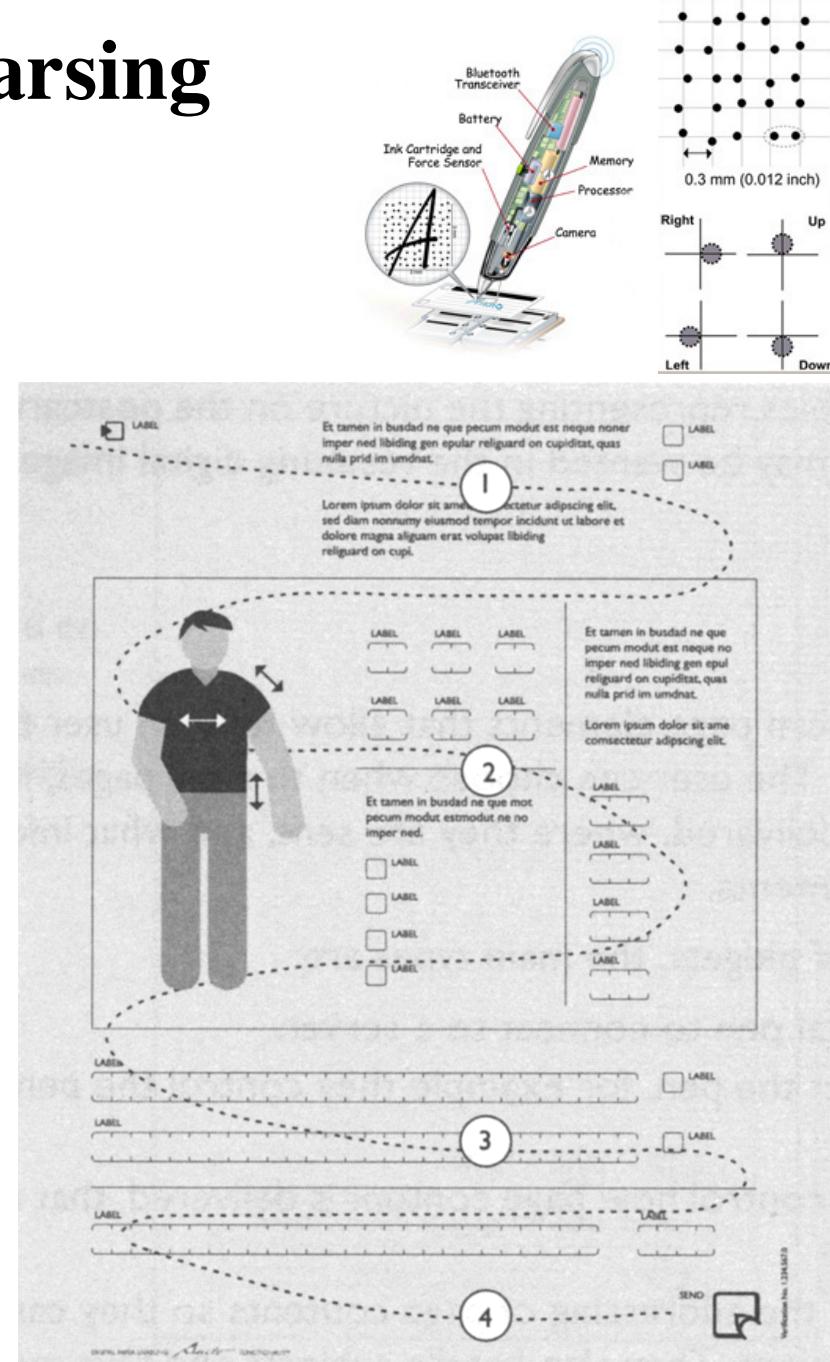
DOROTHEA LANGE. *Tractored Out, Childress County, Texas.* 1938. Gelatin-silver print. The Museum of Modern Art, New York.



PHILIP HENRY DELAMOTTE. *The Upper Gallery of the Crystal Palace, Sydenham, England.* ca. 1853. Salted paper print. Gernsheim Collection, Humanities Research Center, University of Texas, Austin.

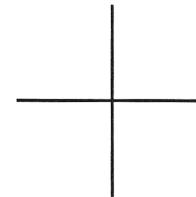
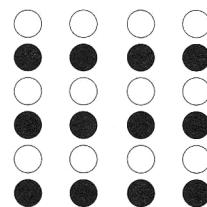
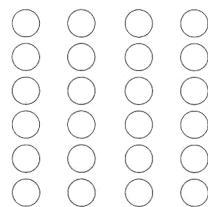
# Document parsing

- Top to bottom
- Left to right
- Anoto design handbook
  - No undo button
  - Design of paper based electronic forms

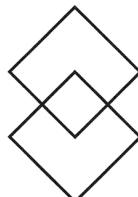
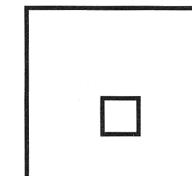
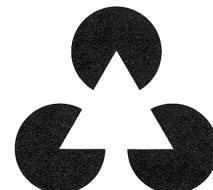


# Gestalt principles

- Grouping
  - **Proximity:** tendency of elements to be associated with nearby elements
  - **Similarity:** tendency of elements to be associated with similar elements
  - **Continuity:** preference for continuous, unbroken contours with the simplest possible physical explanation



- Perception of Forms
  - **Closure:** complete, closed figures
  - **Area:** smaller one as figure, larger one as ground
  - **Symmetry:** symmetrical components will tend to group together



# Proximity Example



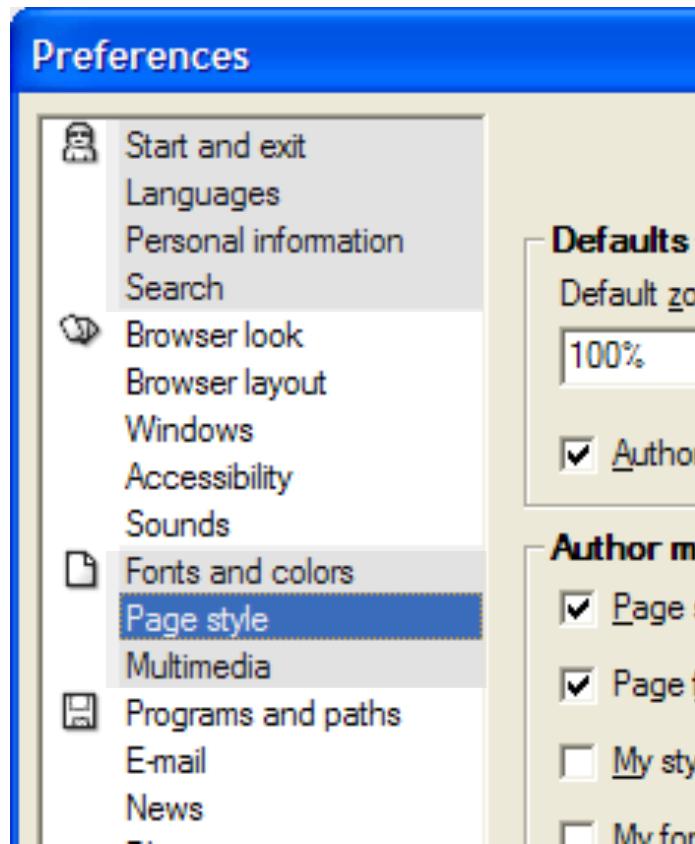
MTV Music Awards 2002

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- Everything
  - Audio
  - Video
  - Images
  - Documents
  - Software
  - Playlists

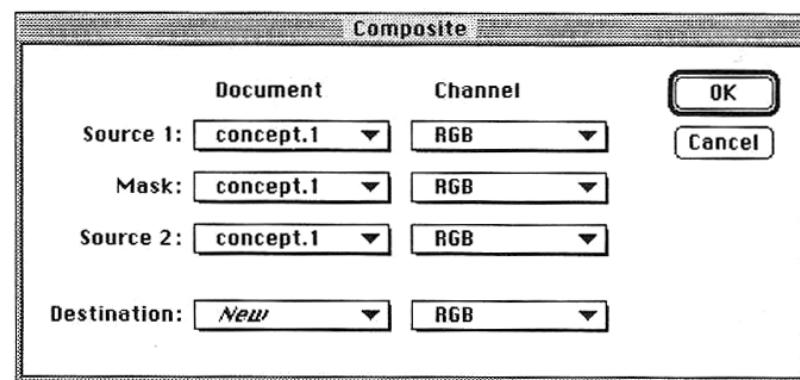
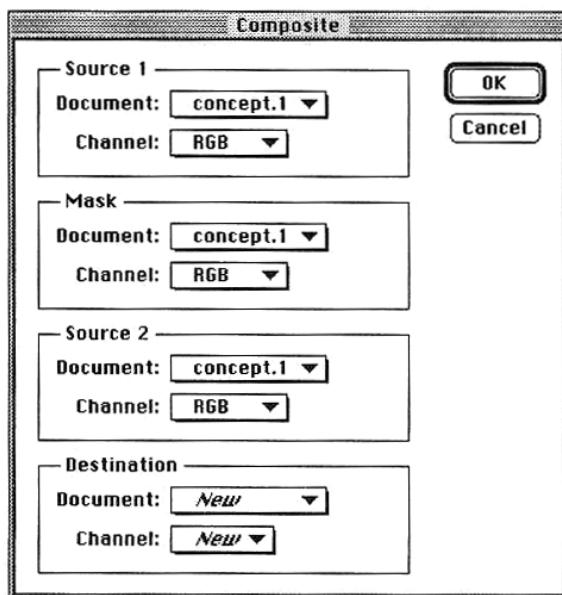
# Similarity Example



[http://www.interaction-design.org/encyclopedia/gestalt\\_principles\\_of\\_form\\_perception.html](http://www.interaction-design.org/encyclopedia/gestalt_principles_of_form_perception.html)

# Relating structure: Grouping

- Help users parse the display into sub-units
  - Rely on Gestalt principles
  - Avoid explicit grouping
  - Spatial logic is always more powerful than graphical embellishment in producing effective perceptual grouping



# Relating structure: Hierarchy

- Provide a (hierarchical) context for each piece of information
  - Example: distinctive style for labels

**Pizza: Pizza Pie Properties**

**BOTTOM STUFF**

**Style:**  Thin  Thick crust

**Sauce:**  Regular  Spicy  Pesto

**TOPPING STUFF**

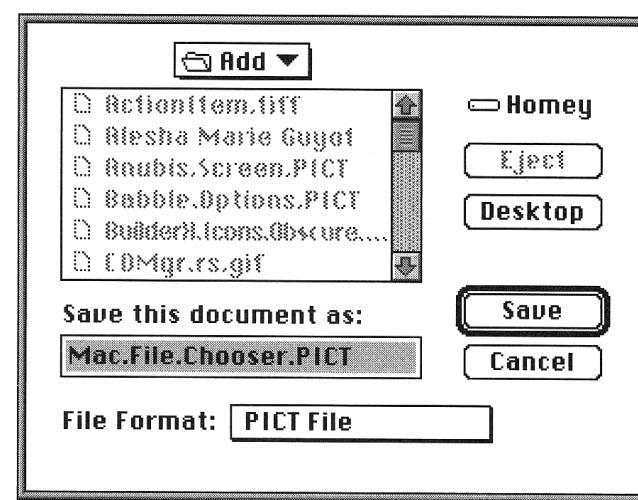
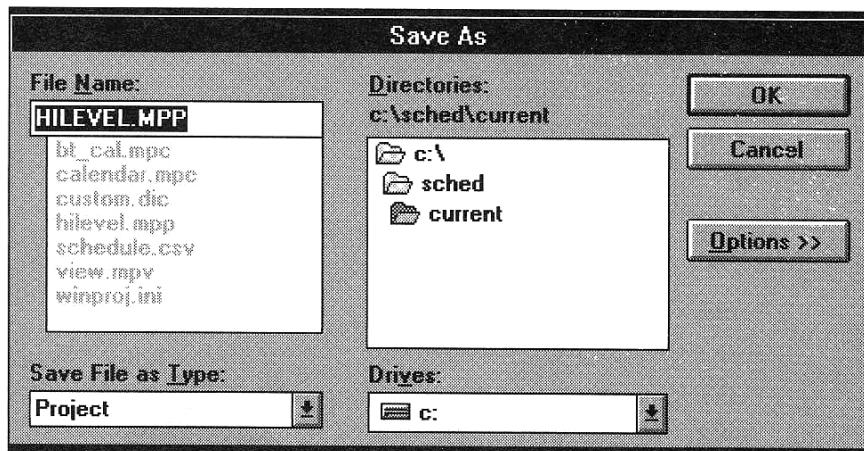
| Meat    | Veggies | Other   |
|---------|---------|---------|
| Ham     | Olive   | Cheese  |
| Bacon   | Pepper  | Pesto   |
| Sausage | Onion   | Anchovy |

**Options:**  Red Peppers  
 Extra Cheese

**Buttons:**

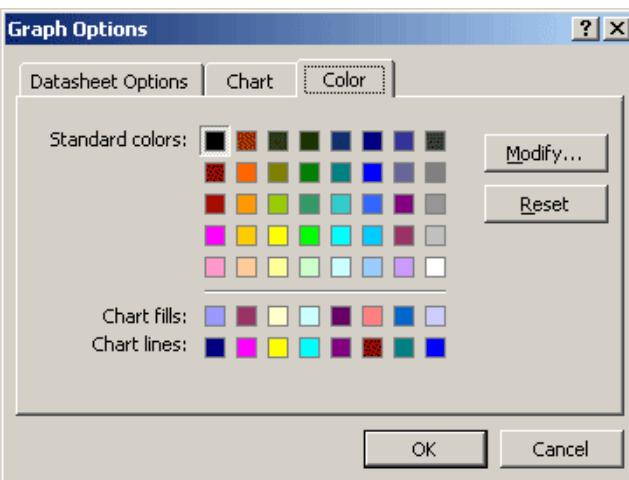
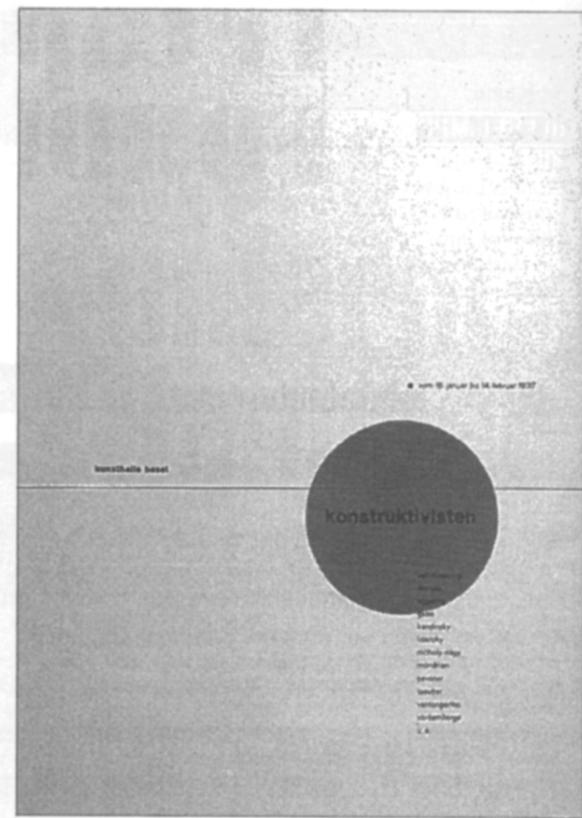
# Relating structure: Relationship

- Presentation and relationship
  - Provide good spatial analog to the logical information
  - Example: present folder before its content



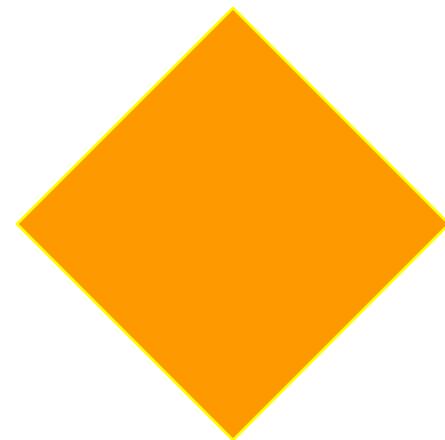
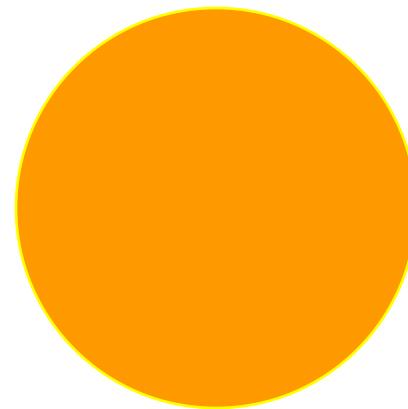
# Relating structure: Balance

- Harmonious global arrangement
  - Can be symmetrical or asymmetrical
  - Make the visual weight of the composition distributed across the center of balance
  - “felt axis”



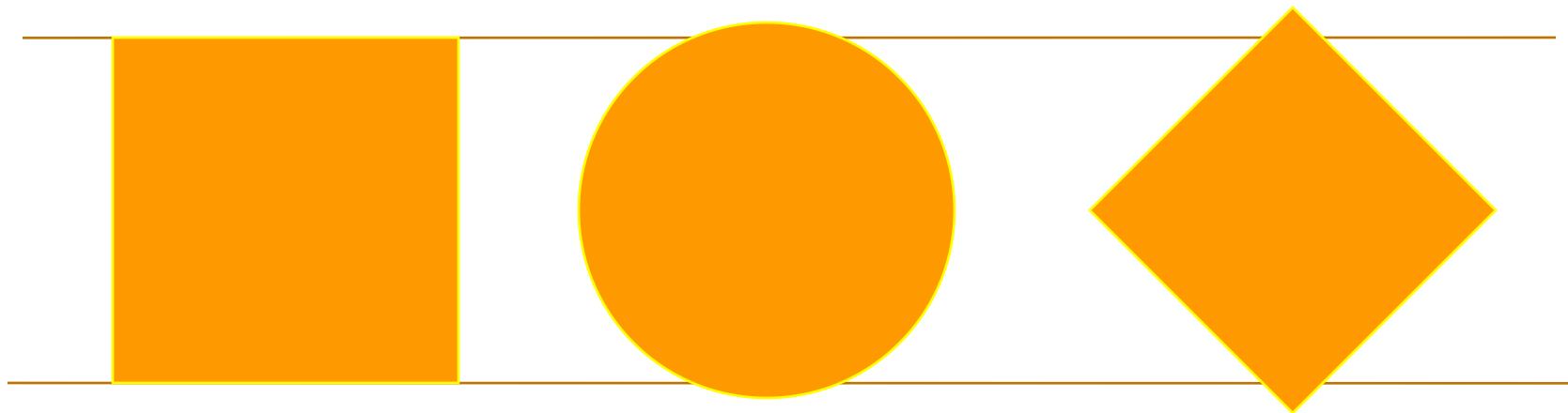
# Human Size Perception

- Straight edges appear larger than curved edges
- Curved edges appear larger than sharp edges
- Optical adjustment



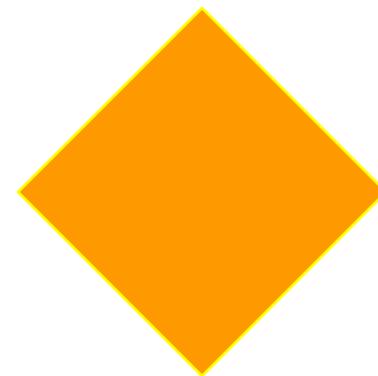
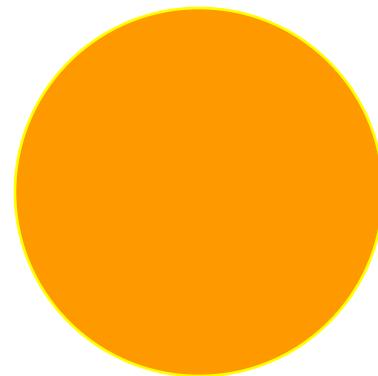
# Human Size Perception

- Straight edges appear larger than curved edges
- Curved edges appear larger than sharp edges
- Optical adjustment



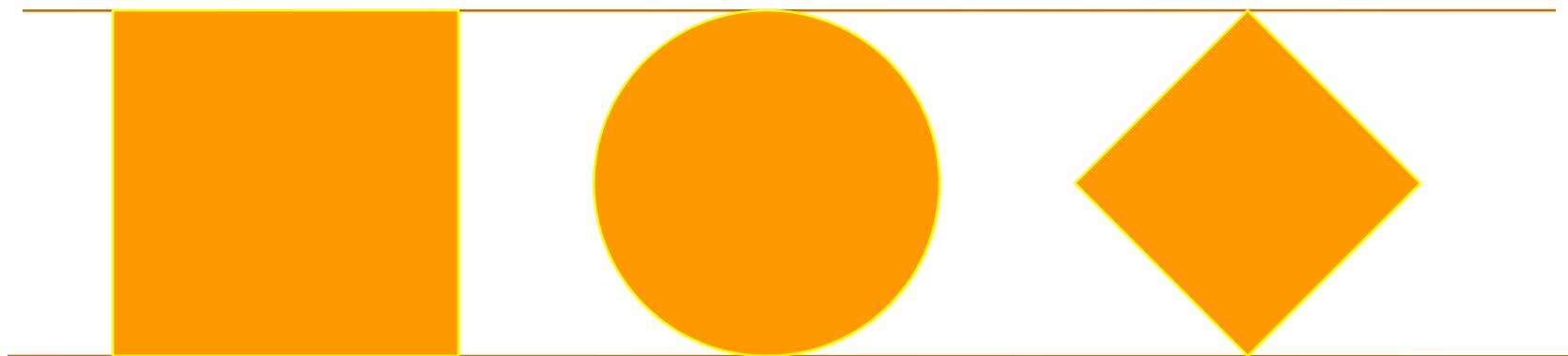
# Human Size Perception

- Straight edges appear larger than curved edges
- Curved edges appear larger than sharp edges
- Optical adjustment



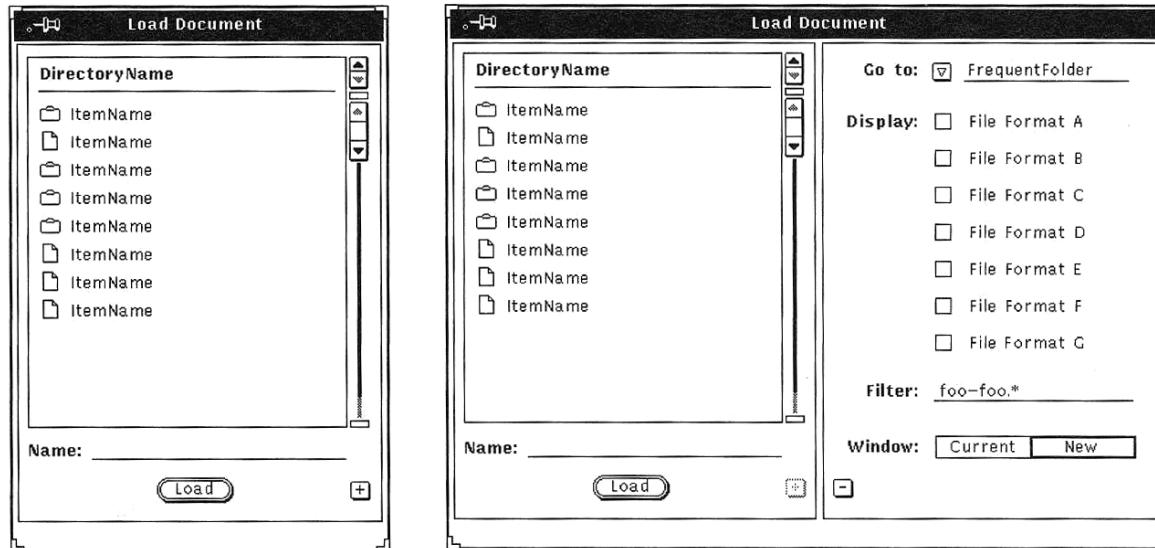
# Human Size Perception

- Straight edges appear larger than curved edges
- Curved edges appear larger than sharp edges
- Optical adjustment



# Tool: Symmetry

- Center information around the axis of symmetry
  - Using Symmetry to Ensure **Balance**
  - Vertical axis more prevalent in human perception  
→ more useful in visual displays



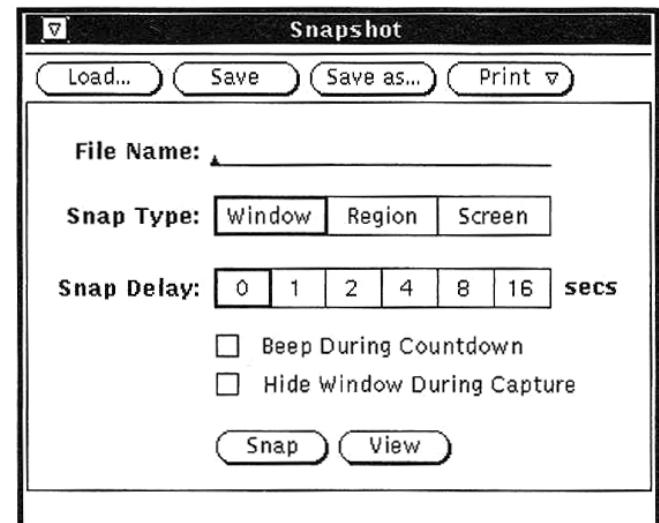
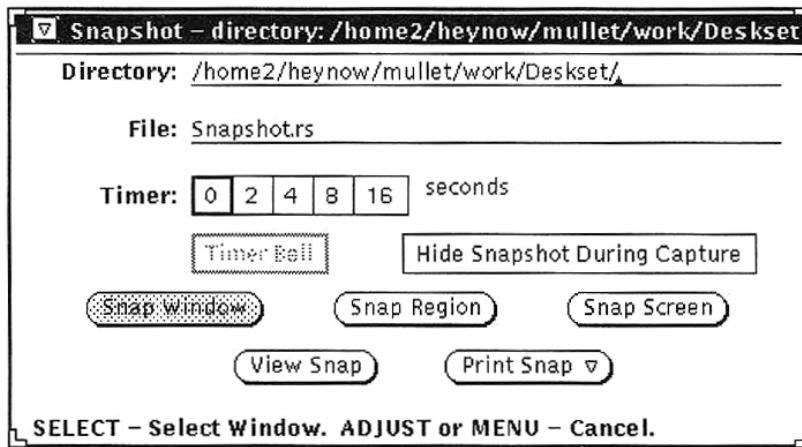
# Tool: Symmetry

- But be careful about text

**You are cordially invited,  
and strongly encouraged,  
to not use  
centered alignment  
for long passages of text.  
Save centering for  
invitations and cards,  
certificates,  
some headlines,  
and layouts with minimal text.**

# Tool: Alignment

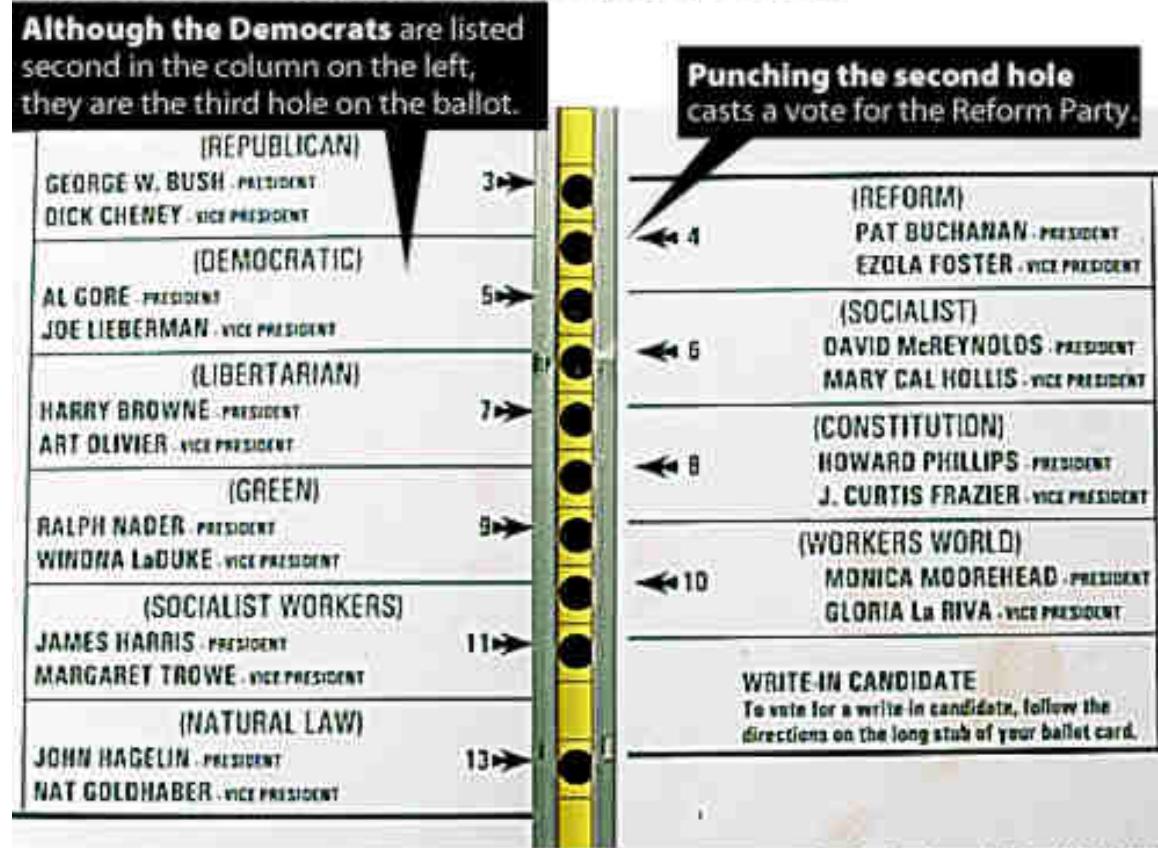
- Using Alignment to Establish Visual Relationships
- Enhance boundaries and grouping
- Pay attention to false alignment
  - Almost but not quite aligned
  - Free standing objects not to be aligned with other objects
  - Be aware of optical adjustment
    - *round-ended controls vs. rectangular elements*



# Tool: Alignment

- Butterfly Ballot
- Florida 2000

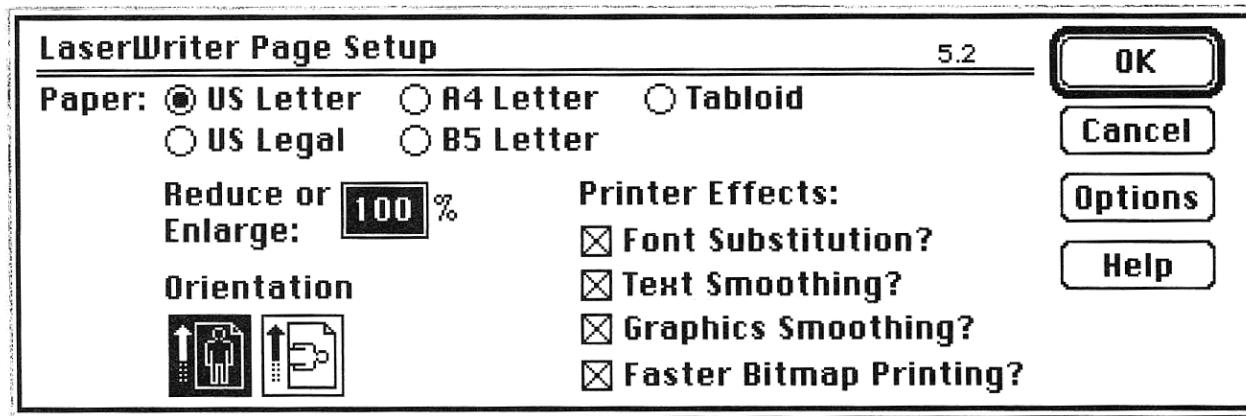
## Confusion over Palm Beach County ballot



Sun-Sentinel graphic/Daniel Niblock

# Tool: Negative space

- The ground on which the design appears
- Enhance/Enforce the structure of the display
  - Reduce the use of border



# Tool: Simplicity

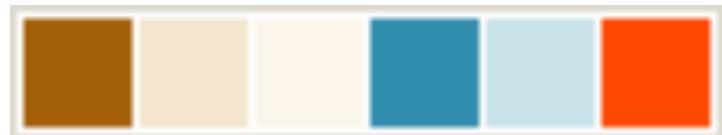
**“Entities should not be multiplied unnecessarily”**

“In anything at all, perfection is finally attained not when there is no longer anything to add, but when there is no longer anything to take away.”

**Antoine de Saint Exupery**

# Color

- Much bigger topic than we can cover here
- Technology: RGBA
- Components specified in [0-1], [0-255], [0-0xff]
- Requirements:
  - Contrast (luminance difference)
  - Avoid color-blindness problems
  - Attractive (avoid fully saturated colors)
- Advice: Use existing color palettes
  - [www.colorcombos.com](http://www.colorcombos.com)
  - [www.colourlovers.com](http://www.colourlovers.com)
  - [www.degraeve.com/color-palette/](http://www.degraeve.com/color-palette/)



# Redesign example

**xbugtool 2.0 Beta 2 Server: elmer-bb.Corp**

Bug Id: \_\_\_\_\_ Cc: \_\_\_\_\_ Mode:   Update lists

|                |                       |           |
|----------------|-----------------------|-----------|
| Category       | Priority:             | 1 2 3 4 5 |
| Subcategory... | Severity:             | 1 2 3 4 5 |
| Resp Mgr...    | Bug/Rfe:              | bug rfe   |
| State          | Responsible Engineer: | _____     |

Synopsis: \_\_\_\_\_

Keywords: \_\_\_\_\_

Description Work around Suggested fix Comments Public summary

**State triggers:**

- 
- 
- 
- 
- 
- 
- 
- 
- 

Duplicate of: \_\_\_\_\_ Interest list: \_\_\_\_\_

Patch id: \_\_\_\_\_ See also (bugids): \_\_\_\_\_

**History:**

|  |             |
|--|-------------|
| Submitter : _____  | Date: _____ |
| Generic SVR4 problem?: <input type="checkbox"/> no <input checked="" type="checkbox"/> yes |             |
| Dispatch operator : _____  | Date: _____ |
| Evaluator : _____  | Date: _____ |
| Commit operator : _____  | Date: _____ |
| Fix operator : _____   | Date: _____ |

(a)

**Bugtool**

Bug ID: \_\_\_\_\_ Type:

|   |  |
|---|--|
| Category: <input type="button" value="XView"/>      | Priority: 1 2 3 4 5                              |
| Subcategory: <input type="button" value="library"/> | Severity: 1 2 3 4 5                              |
| Release: <input type="button" value="1.0"/>         | Status: <input type="button" value="Submitted"/> |

Synopsis: \_\_\_\_\_

Keywords: \_\_\_\_\_

**Pub Summary:** \_\_\_\_\_

See also: \_\_\_\_\_

Interest List: \_\_\_\_\_

Description Work Around Suggested Fix Comments Evaluation

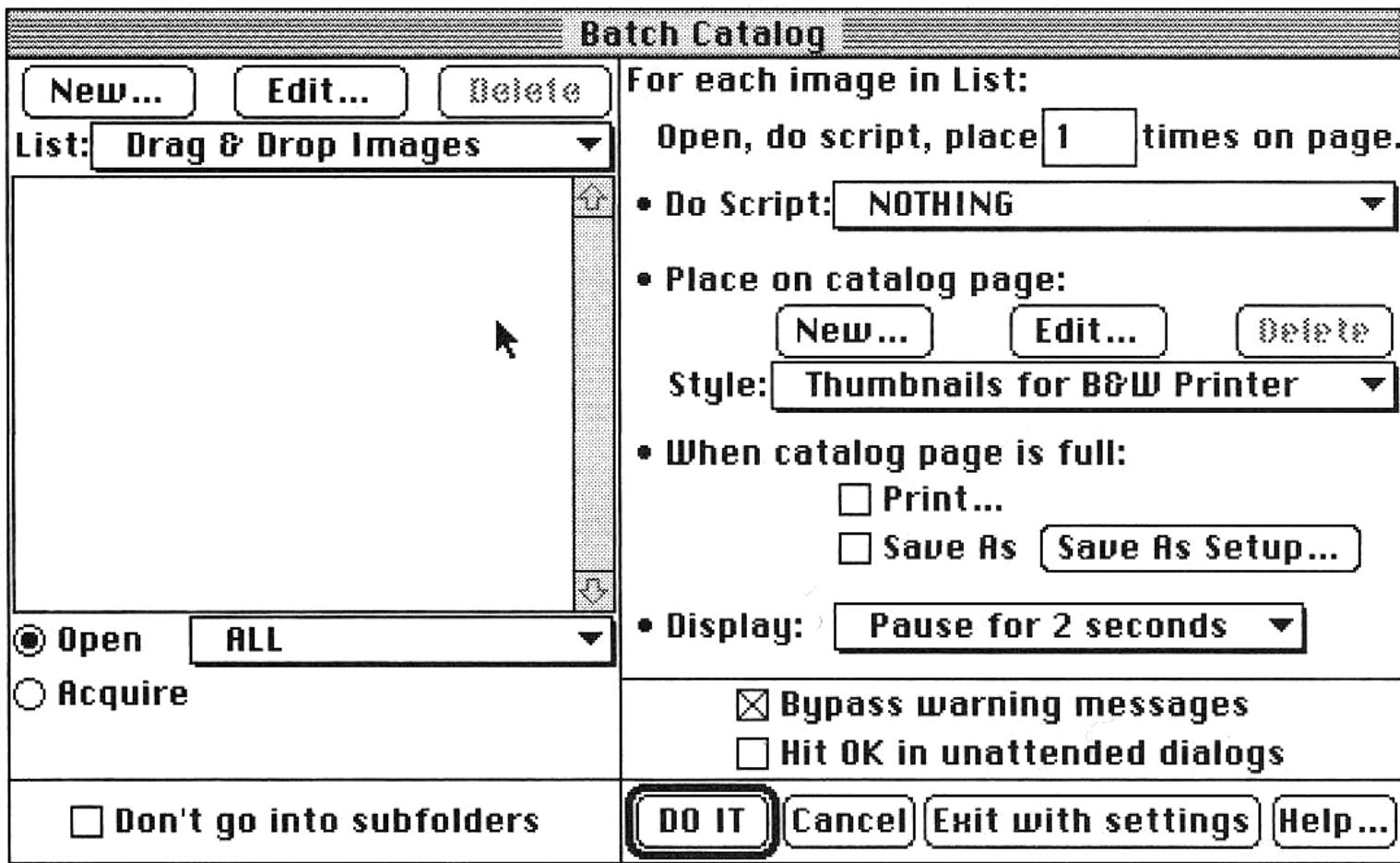
**Root Cause:**  documentation-confusing  
**Same as:** \_\_\_\_\_

**Resp Mgr:**  none **Hook 1:** \_\_\_\_\_  
**Resp Engr:**  none **Hook 2:** \_\_\_\_\_

**Flags:**  Fix Affects Documentation  
 Generic SVR4 Problem

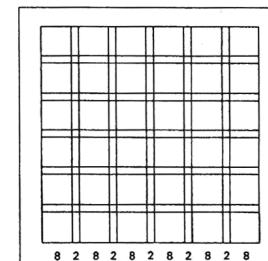
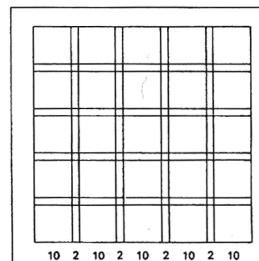
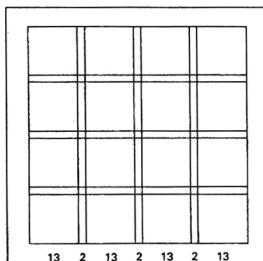
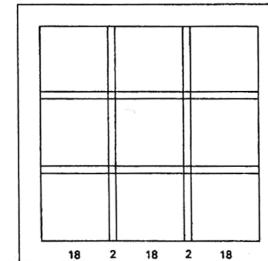
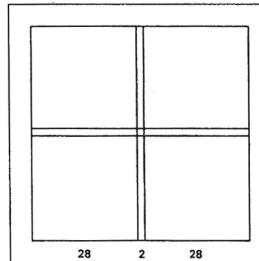
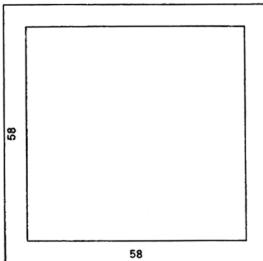
(b)

# What not to do!

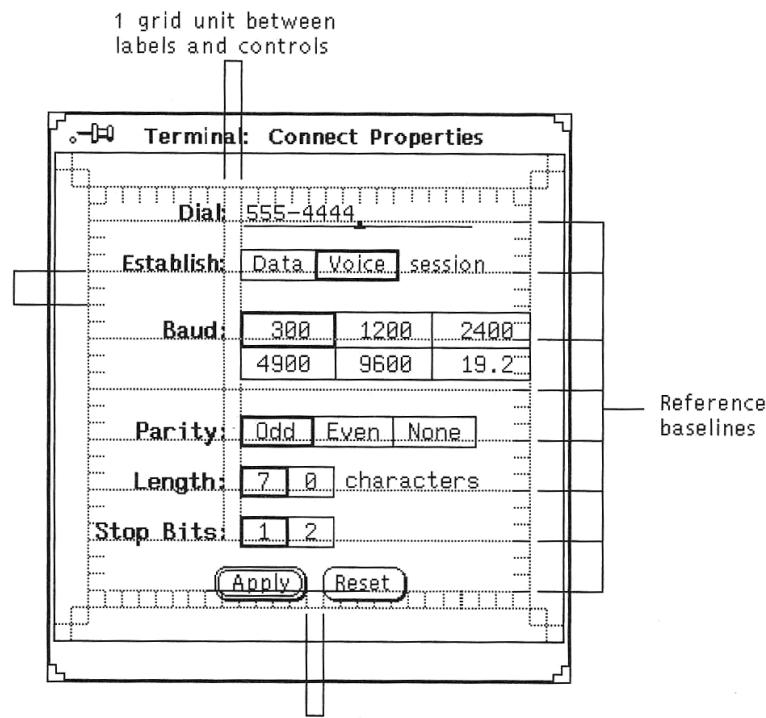


# Consistency

- Internal
  - Inside an application
- External
  - Platform and interface guideline conventions
- Using grids
  - Alignment



2 grid-units  
between groupings



# Consistency:

- Banner blindness
- Consistency
- 18,000 votes “lost”

OFFICIAL GENERAL ELECTION BALLOT  
SARASOTA COUNTY, FLORIDA  
NOVEMBER 7, 2006

**CONGRESSIONAL**  
UNITED STATES SENATOR  
(Vote for One)

Katherine Harris REP

**U.S. REPRESENTATIVE IN CONGRESS**  
13TH CONGRESSIONAL DISTRICT  
(Vote for One)

Vern Buchanan REP   
Christine Jennings DEM

**STATE**  
GOVERNOR AND LIEUTENANT GOVERNOR  
(Vote for One)

Charlie Crist REP   
Jeff Kottkamp   
Jim Davis DEM   
Daryl L. Jones   
Max Limn REP   
Tom Macklin   
Richard Paul Dembinsky NPA   
Dr. Joe Smith   
John Wayne Smith NPA   
James J. Kearney   
Karl C.C. Behn NPA   
Carol Castagnero   
Write-In

Previous Page Page 2 of 21 Public Count: 0 Next Page

[in Sarasota County, FL 2006]