

# GROUPING

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Organizing Information  
&  
Gestalt Principles of Perception

Mostly from Heim Chapter 6.6 and [usability.gov](http://usability.gov)

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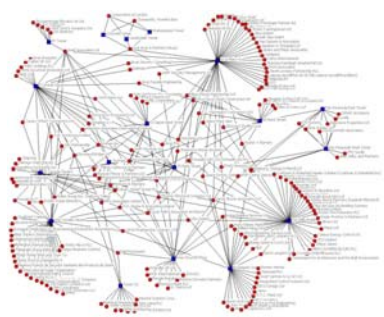
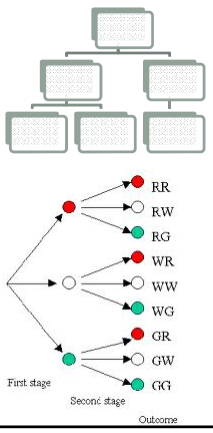
## Learning Outcomes

- When and where is grouping critical in UI design?
- What techniques can be used to sort things into groups?
- How can you visualize the groups?
- What visual clues can you use to indicate things belong together or apart?

# Information Architecture

- Recap from Conceptual design (Lecture 8)
  - If you have lots and lots of things to organize into a structure how can you do it?

- Hierarchy
- Network
- Tree



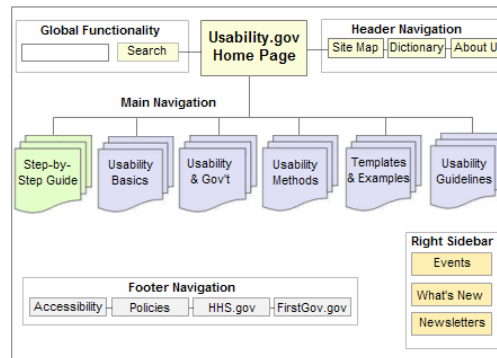
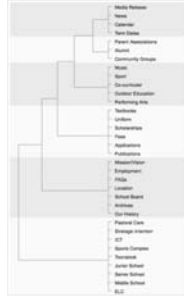
# Card sorting

- Card sorting is one of the most effective ways to group things.
- Although there are software tools moving physical things around is easier! (and probably more effective)
- [http://www.usability.gov/methods/design\\_site/cardsort.html](http://www.usability.gov/methods/design_site/cardsort.html)



## Site Map

- The sort translates into
  - Menu structure
  - Site map



- [http://www.usability.gov/methods/design\\_site/define.html](http://www.usability.gov/methods/design_site/define.html)

## Grouping on a screen

- **Low-level principles** - used to make decisions about specific screen controls, menus and layouts
- Use visual cues to support the logical structure of the interface

Similarity



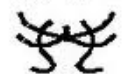
Proximity



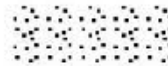
Good continuation



Symmetry



Periodicity



## Gestalt Principles of Perception



### Figure-Ground: Basic premise

We perceive our environment by differentiating between objects and their backgrounds

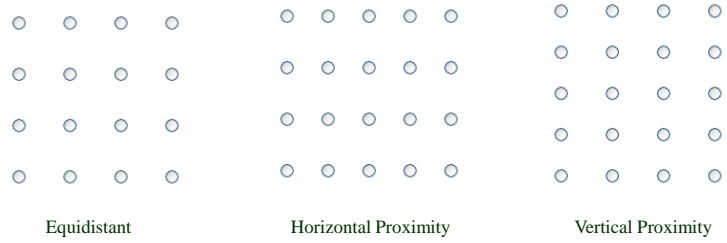
- Gestalt psychology strives to explain the factors involved in the way we group things
- At the heart of Gestalt psychology is the idea that we strive to find the simplest solutions to incomplete visual information (Prägnanz)

## Gestalt Principles of Perception

- Proximity
- Similarity
- Common Fate
- Closure
- Good Continuity
- Area
- Symmetry
- Surroundedness
- Prägnanz

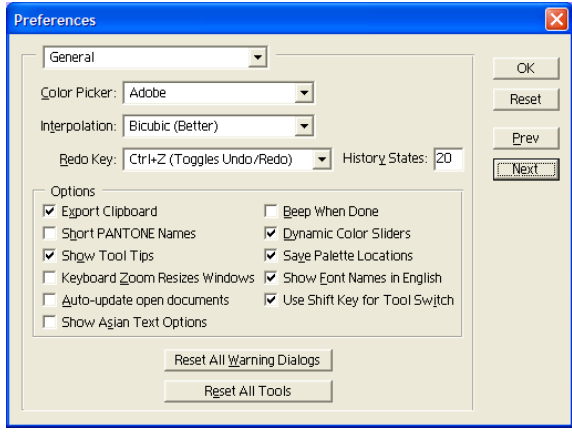
# Gestalt Principles of Perception

- **Proximity Principle** – Objects that are close to each other will be seen as belonging together



# Gestalt Principles of Perception

- **Proximity** - Adobe PhotoShop Preferences Dialog



## Half time entertainment

- [http://www.nzherald.co.nz/business/news/article.cfm?c\\_id=3&objectid=11189192](http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11189192)
- Online news papers circa 1981

## Gestalt Principles of Perception

- **Similarity Principle** – Objects that have similar visual characteristics, such as size, shape or color will be seen as a group and therefore related



Rows of Similar Objects



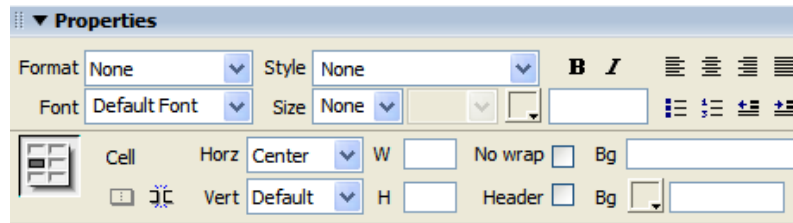
Columns of Similar Objects



Grouped Columns

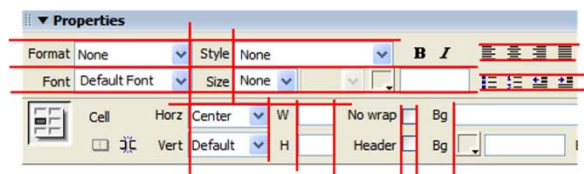
## Gestalt Principles of Perception

- Property Pane from Macromedia's Dreamweaver
  - Our eyes pick up all of the text boxes because of the strong blue squares and the white areas that they have in common



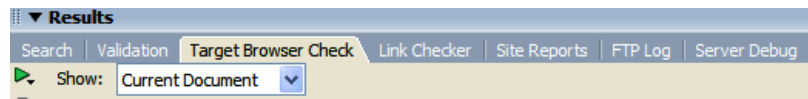
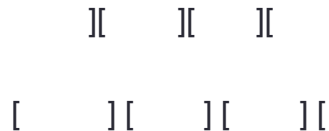
## Gestalt Principles of Perception

- **Common Fate Principle** – Objects that move together are seen as related



## Gestalt Principles of Perception

- **Closure Principle** – We tend to see things as complete objects even though there may be gaps in the shape of the objects



## Gestalt Principles of Perception

- **Good Continuity Principle** – We tend to see things as smooth, continuous representations rather than abrupt changes





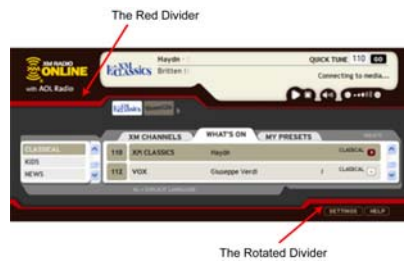
# Gestalt Principles of Perception

- **The Area Principle** – Objects with small area tend to be seen as the figure, not the ground (also called the smallness principle)



# Gestalt Principles of Perception

- **Symmetry Principle** – Symmetrical areas tend to be seen as complete figures that form around their middle



## Gestalt Principles of Perception

- **Surroundedness Principle** – An area that is surrounded will be seen as the figure and the area that surrounds will be seen as the ground



## Gestalt Principles of Perception

- **Prägnanz Principle** – We tend to perceive things based on the simplest and most stable or complete interpretation (the literal translation from German is precise).



Visual Conflict with Common Fate



Visual Conflict with Surroundedness

## Lines and borders

- Are immediate visual clues to grouping
- Lines, may be lines or changes in background colour
- White space also has the same effect
- More on this next lecture

## Summary

- When and where is grouping critical in UI design?
  - Grouping happens at many levels and places
    - Menus
    - Sitemaps
    - Pages
- What techniques can be used to sort things into groups?
  - Card sorts
- How can you visualize the groups?
  - Trees and hierarchy charts

## Summary

- What visual clues can you use to indicate things belong together or apart?
  - The Gestalt Principles of Perception:
    - Proximity
    - Similarity
    - Common Fate
    - Closure
    - Good Continuity
    - Area
    - Symmetry
    - Surroundedness
    - Prägnanz
  - Borders and Lines
- Apply this in your assignment