Gestalt Principles

- Proximity
- Similarity
- Continuity
- Closure
- Symmetry
- Figure/Ground
- Common Fate

Gestalt is the German word for “shape” or “figure”
Proximity

- The relative distance between objects in a display affects our perception of whether and how objects are organized into sub-groups.
Proximity
Boxes should appear unrelated to each other
Proximity

Boxes should now appear to be a group
Proximity

Boxes should now appear to be grouped by row
Proximity

Boxes should now appear to be grouped by column
Proximity

- UI designers want to group similar things. This firewall policy.

In Outlook Distribution List Membership dialog box, list buttons are in a group box, separate from the control buttons – (from J Johnson “Designing with the mind in mind”, p 14)
Similarity

- Objects that look similar appear grouped.
Similarity

Your brain naturally tries to put circles in one group and boxes in another.
Similarity

Circles should look very grouped now
Similarity

Same story with the stars, they different looking ones should appear grouped
Similarity

Text boxes all look similar which is good.

Proximity a bit far on top box
Continuity

- We resolve ambiguity by adding in missing data in such a way that we perceive whole objects. We are biased towards perceiving continuous forms rather than disconnected pieces.
Continuity

Is this 40 lines?
Or is it the letters IBM?
Continuity

Your brain fills in the gaps to create whole structures.
Continuity

Continuity: we see a slider as a single slot with a handle somewhere on it, not as two slots separated by a handle: (A) Mac OS and (B) ComponentOne. – (from J Johnson “Designing with the mind in mind”, p 19)
Closure

• We automatically try and close open figures so they are seen as whole objects rather than bits of line.
Closure

What shape is this?

Try and make your brain see 5 lines.
Closure

What shapes do you see?

One of the shapes doesn’t even have any ink representing it.
Closure

How many envelopes you see in the figure?

Icon depicting stacks of objects exhibit the Closure principle: partially visible objects are perceived as whole – (from J Johnson “Designing with the mind in mind”, p 20)
Symmetry

- We tend to parse complex images in a way that reduces complexity. Even if there are multiple interpretations, our brain tries to pick the simplest one.
Symmetry

What does this shape look like to you?
Symmetry
Most people probably saw two rectangles overlapping.
Symmetry

It could be a small rectangle overlapping a more complex shape
Symmetry

It could be two L shaped angles
Symmetry

Our brains like simplicity, so we are most likely to pick two overlapping rectangles
Symmetry, Closure and Continuity

“Coherence in Thought and Action” (Thagard, 2002)

The cover of the book Coherence in Thought and Action (Thagard, 2002) uses the symmetry, Closure, and continuity to depict a cube – (from J Johnson “Designing with the mind in mind”, p 21)
Figure/Ground

- Our brains try and separate images into a foreground and a background.
Figure/Ground

Bigger image looks like background, and smaller image looks like foreground
Figure/Ground

This image is also an example of figure/ground, your brain naturally picks one as the foreground and one as the background.
Figure/Ground

This image is also an example of figure/ground, your brain naturally picks one as the foreground and one as the background.

Example of Figure/Ground from Interaction Design Foundation, Available at: https://www.interaction-design.org
Figure/Ground

M. C. Escher is one of the more famous artists to use this principle
Figure/Ground

Figure/Ground is used to bring more information over other content

Figure/Ground is used at AndePhotos.com to display a thematic watermark “behind” the content – (from J Johnson “Designing with the mind in mind”, p 23)
Common Fate

- Similar to proximity and similarity, but concerning moving objects. Things that move with similar patterns are seen as grouped.
Common Fate

Boxes that move together naturally seem grouped
Common Fate

A flock of birds is viewed as a single unit when flying in the same direction.

(by Martin Adams on Unsplash)
Principles often happen together
Life expectancy, years

Income per person, $/year (GDP/capita)

https://www.gapminder.org/tools/#_chart-type=bubbles
Bruno Catalano *In Search of Missing Pieces*
https://mymodernmet.com/in-search-of-missing-pieces-13
Katsushika Hokusai, *The Great Wave Off Kanagawa*
From "Thirty-six Views of Mount Fuji"; 1823-29
Questions?