

UI & UX Design

SWE 4833

Our Vision is Optimized to See Structure (Chapter 2)

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Visual Perception



Gestalt Principles

Gestalt Principles are principles/laws of human visual perception.

- **How** humans **group** similar elements, **recognize patterns** and **simplify complex** images when we perceive objects.
- Designers use these principles to **organize content** on websites and other interfaces so it is **aesthetically pleasing** and **easy to understand**.

1. Proximity

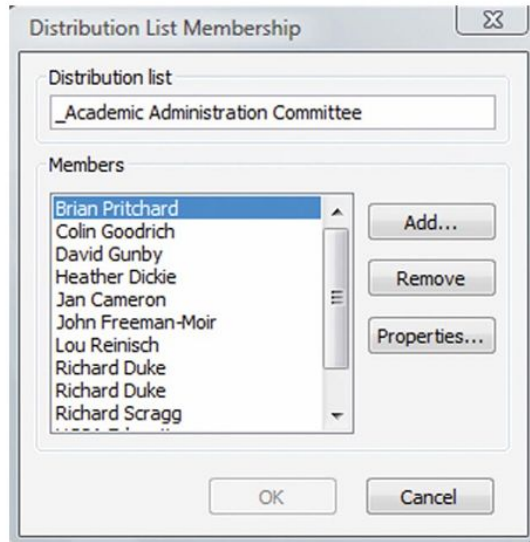
- ❖ The relative distance between objects in a display affects our perception.
- ❖ Objects that are near each other (relative to other objects) appear grouped, while those that are farther apart do not.



1. Proximity (Design Implication)

❖ Design relevance to this principle:

- Related links in navigation menus,
- Form fields following their respective labels
- Content cards grouped by category.



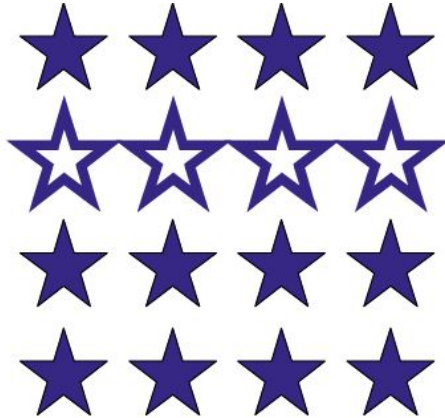
Grouping (has borders)



Grouping (even with no border)

2. Similarity

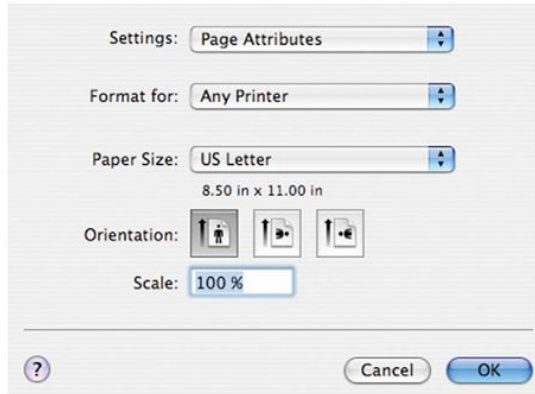
- ❖ Objects that look similar appear grouped, all other things being equal.



2. Similarity (Design Implication)

❖ Design relevance to this principle:

- Similar Labels, Text fields, buttons, etc in a Form.
- Color codes that illustrate relationships, e.g., blue for links and green for success messages.



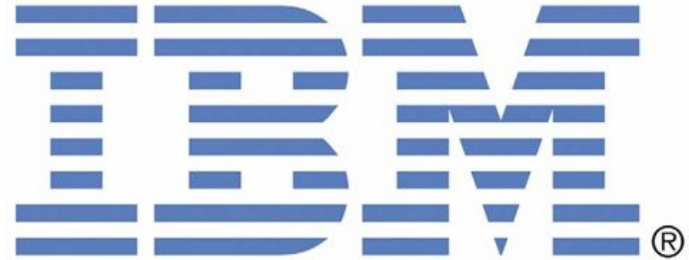
Not much proximity but similar

A screenshot of a registration form. It contains various fields: 'Title (Mr, Ms, Dr etc):' with a dropdown set to '**Please Select**'; 'First name:', 'Last name:', 'Job title:', 'Institution/Organisation:', 'Number and Street:', 'City:', 'State/County:', 'Zip Code/Postal Code:', 'Country:', 'Work phone:', 'Home phone:', 'Fax:', 'How did you find out about this Web site:', 'Other:', 'Please select the option which most closely describes you as a customer:', and 'E-mail:'. Each field has a corresponding text input or dropdown. The 'OK' button is highlighted in blue.

Labels and Text fields look similar

3. Continuity

- ❖ Our visual perception is biased to perceive continuous forms rather than disconnected segments.
- ❖ This principle states that whenever our eyes begin to follow something, they will continue to travel in that direction until they encounter another object.



3. Continuity (Design Implication)

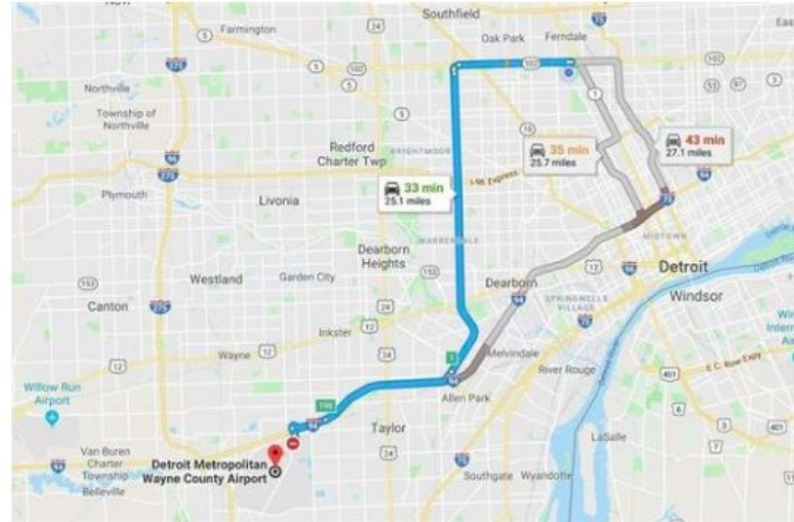
- ❖ Our visual perception is biased to perceive continuous forms rather than disconnected segments.
- ❖ **Design relevance to this principle:** Slider, typography etc.

**BACK SCHOOL
TO SALE**

Back School To Sale

**BACK TO
SCHOOL SALE**

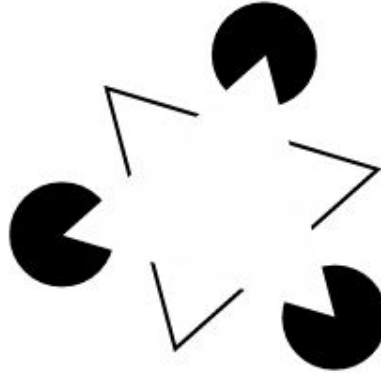
Back To School Sale



Our eyes keep following the directed path
ignoring other roads/streets

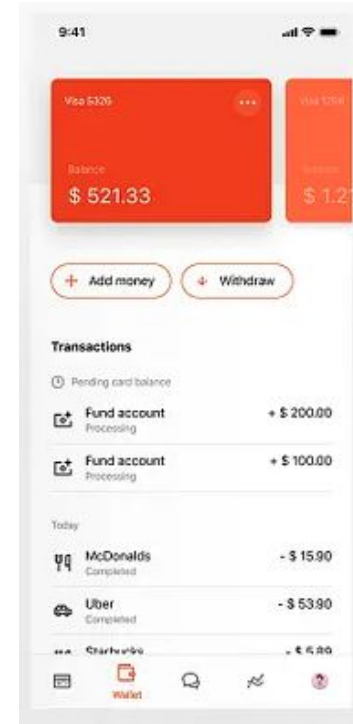
4. Closure

- ❖ Closure occurs when an element is incomplete or is not enclosed in space.
- ❖ It is frequently employed to achieve minimum design clutter while remaining visually appealing.
- ❖ When enough of the shape is shown and it is still incomplete, our minds tend to fill in the blanks and construct the whole of the shape.



4. Closure (Design Implication)

- ❖ **Design relevance to this principle:**
 - Progress markers on loading animations.
 - Carousel



5. Symmetry

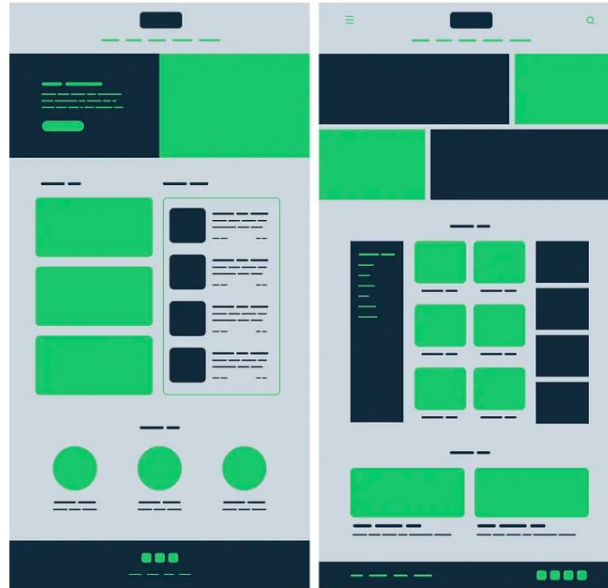
- ❖ It states that we tend to parse complex scenes in a way that reduces the complexity.
- ❖ Symmetrical elements tend to be perceived as belonging together regardless of their distance, giving us a feeling of solidity and order.



5. Symmetry (Design Implication)

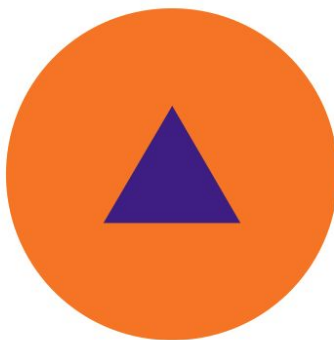
❖ Design relevance to this principle:

- Portfolios, galleries, product displays,
- Listings, navigation, banners, and any content-heavy page



6. Figure/Ground

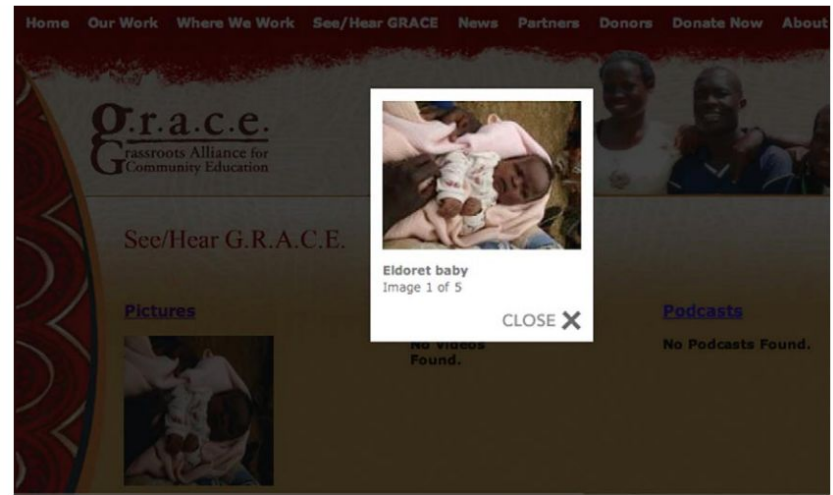
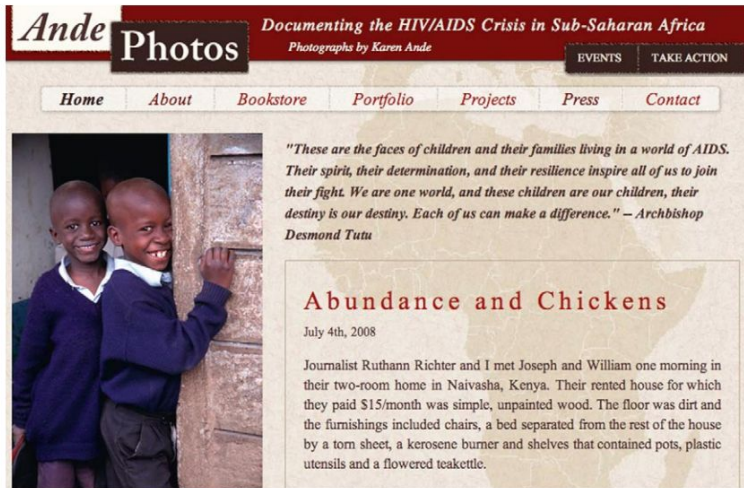
- ❖ Managing the distinction between foreground and background elements helps users focus on what's important.
- ❖ This principle is convenient in establishing hierarchy and clearing visual clutter.



6. Figure/Ground (Design Implication)

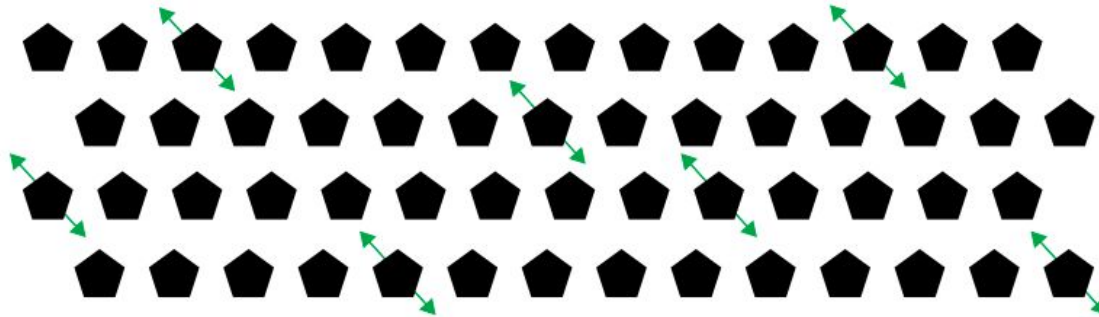
❖ Design relevance to this principle:

- Modal windows where the dimmed background content fails to capture the user's focus.
- When a search bar is clicked on and the contrast is increased between it and the rest of the site



7. Common Fate

- ❖ This principle refers to the human tendency to perceive visual elements moving in the same direction or in unison as grouped.
- ❖ Visuals need not be moving to convey motion. Cues such as **arrows** and the **rotation angle** can indicate the direction in which the elements are perceived to move.



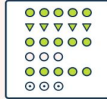
7. Common Fate (Design Implication)

- ❖ **Design relevance to this principle:**
 - Drop-down menu



Gestalt principles

Gestalt Principles of Design



Similarity

Human eye tends to link similar elements within a composition.



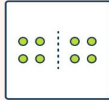
Continuation

Human eye tends to follow a continuous path be it lines, curves, or intersections.



Closure

Human eye tends to complete the missing part in a design.



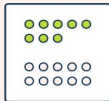
Symmetry

Human eye tends to prefer design where elements are made up of equivalent parts.



Figure-ground

Designs are always differentiated by our perception of figure(subject) and ground(background).



Proximity

Human eye tends to perceive objects that are placed together to be more related than the ones far apart.

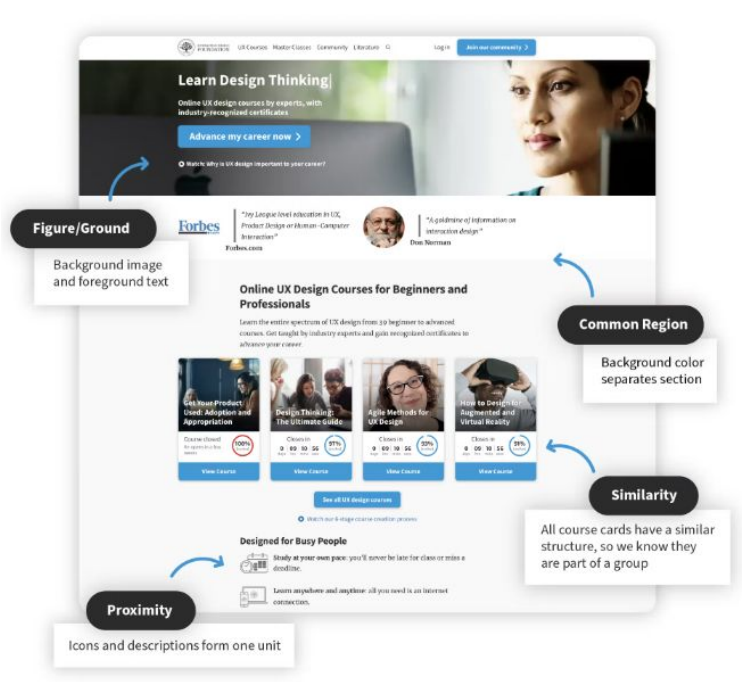


Common Fate

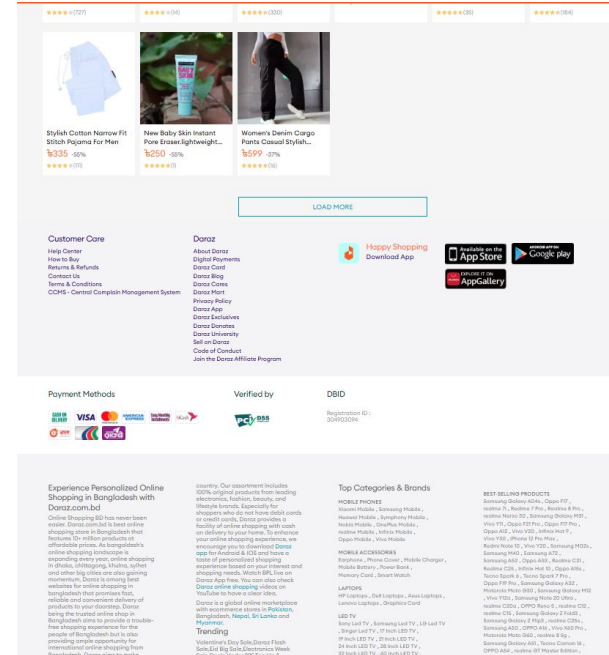
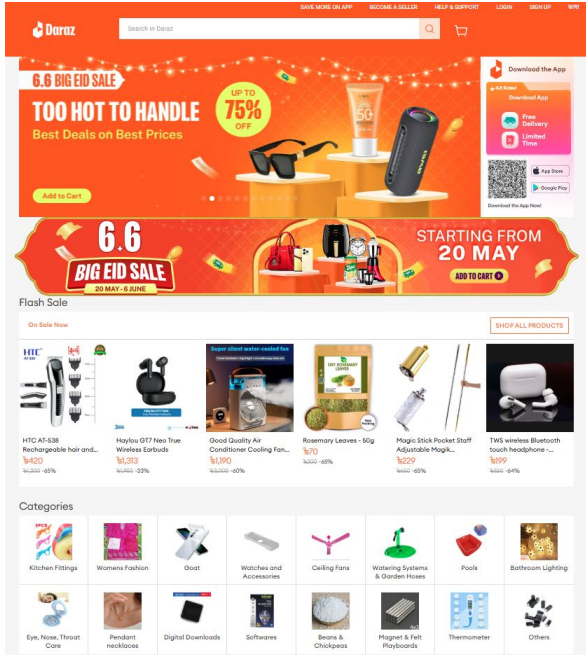
Human eye tends to perceive objects that coordinate movement similarly to be related.

Gestalt Principles are in the Mind, Not the Eye

When you design interfaces, users must be able to **understand** what they see and **find** what they want **at a glance**.



Find out implemented Gestalt principle



References

1. Designing with The Mind in Mind, Chapter 2.
2. <https://clay.global/blog/gestalt-design-principles>