Human Computer Interaction

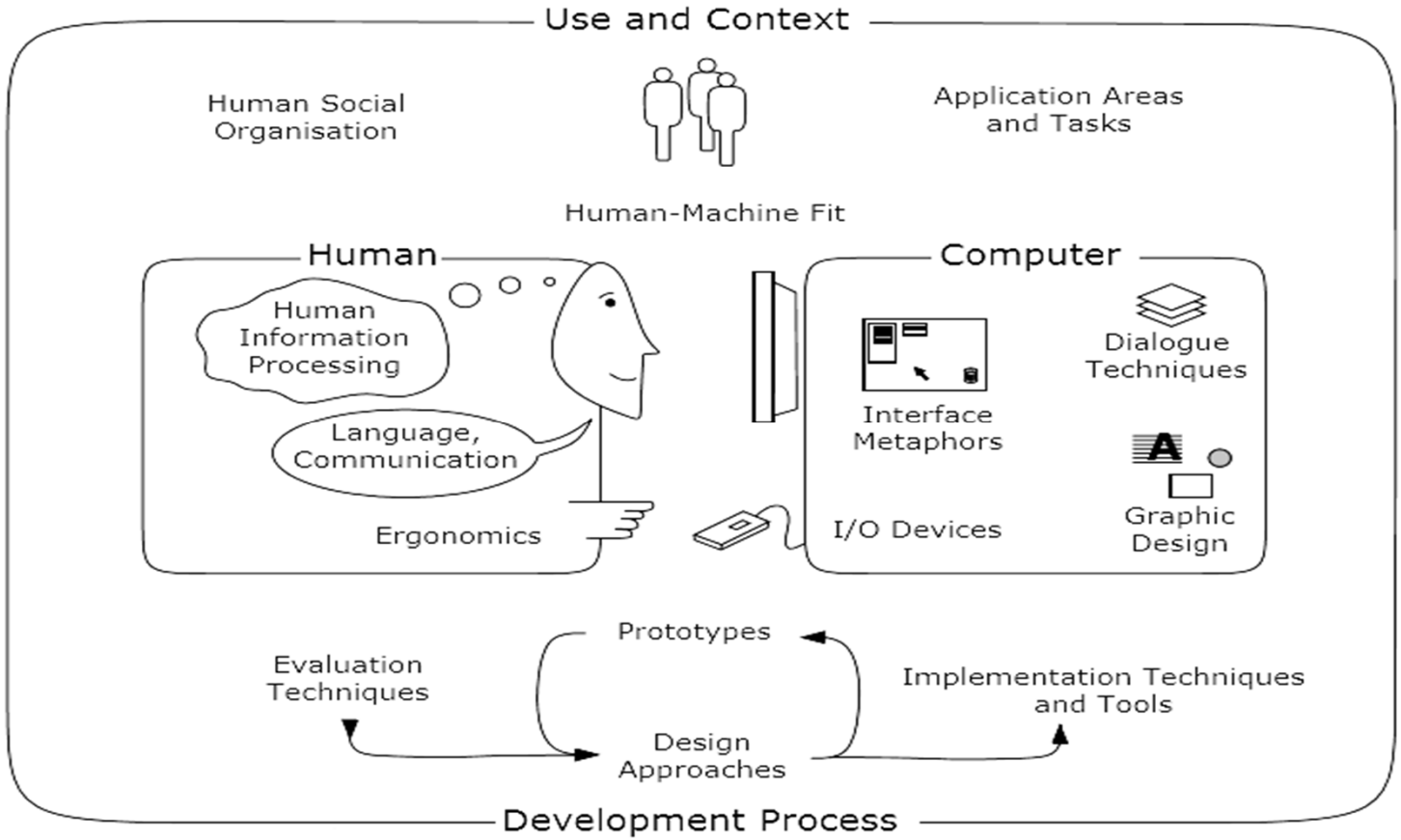
APPLYING GESTALT PRINCIPLES TO UX DESIGN

Hoan Ng

Reference

- DonaldNorman, **The Design of Everyday Things, MITPress, 23 Dec 2013**
- **Tutorial Teaching** of Prof. Dr. Keith Andrews, Graz University of Technology
- http://www.gridd.nl/en/2016/05/apply-gestalt-principles-ux-design/

Content



The nature of Human-Computer Interaction. Adapted from the ACM SIGCHI Curricula for Human-Computer Interaction [Hewett et al., 2002]

Agenda

- Visual Perception Structure
- Gestalt principles:
  1. Principle of proximity
  2. Principle of similarity
  3. Principle of closure
  4. Principle of continuation
  5. Principle of enclosure
  6. Figure-ground principle
  7. Principle of symmetry
  8. Principle of connection
  9. Principle of common fate

Visual Perception Structure

- Structure guides a user's visual activity -- their path across a display

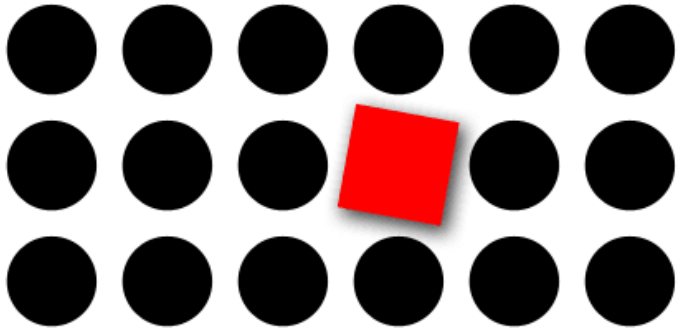
Gestalt principle

- Why designers should care about the Gestalt principles?
- Great designers understand the powerful role that psychology plays in visual perception. What happens when someone's eye meets your design creations? How does their mind react to the message your piece is sharing?

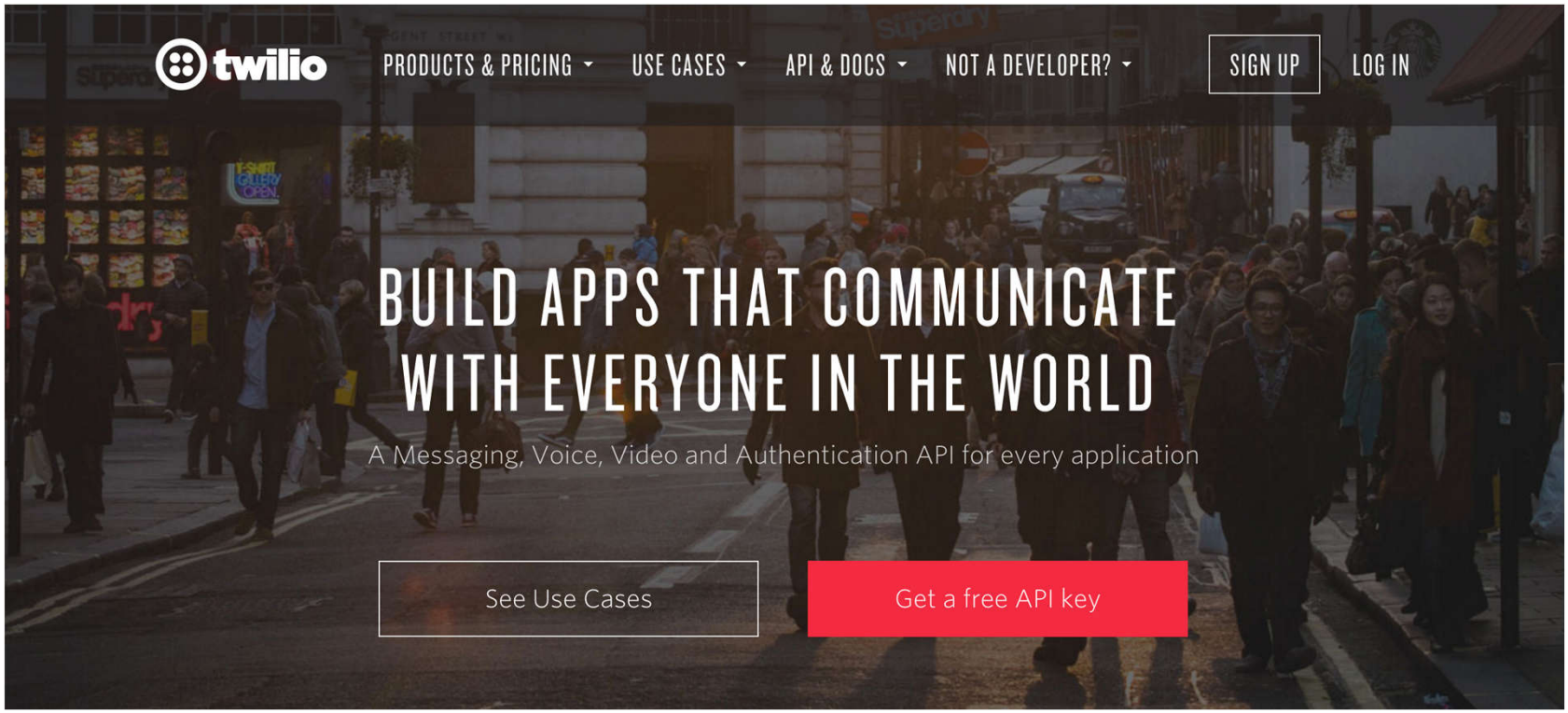
  - Laura Busche, Brand Content Strategist at Autodesk

Focal Point

- The focal point principle states that **whatever stands out visually will capture and hold the viewer's attention first.**



Tip #0: Focal Point – Highlight what user attention to



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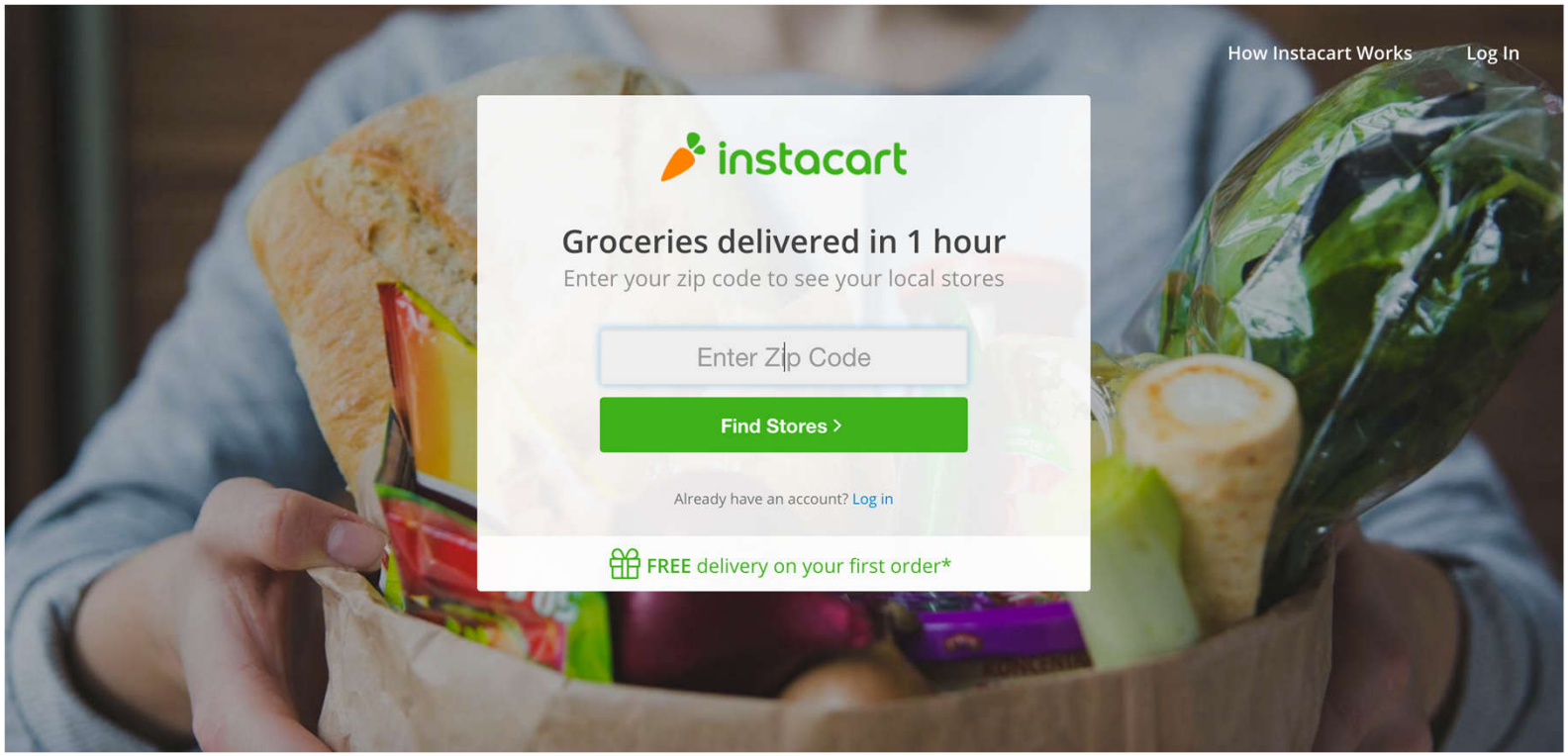


Principle of proximity

- When everything else is equal, elements that are closer together are seen as a group. In the image you will see one large group of dots to the left and three equal, smaller groups to the right

Principle of proximity

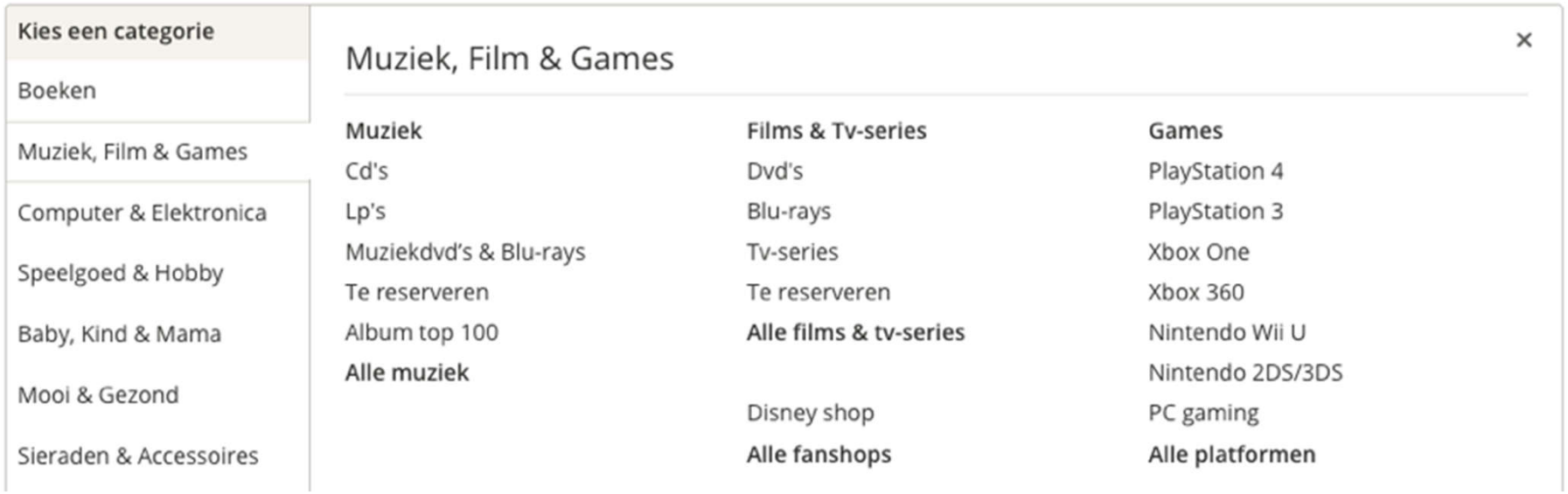
- The principle of proximity states that **things that are close together appear to be more related than things that are spaced farther apart.**

Source: Andy Rutledge

Principle of proximity

- Proximity is so powerful, that it overrides similarity of color, shape, and other factors that might differentiate a group of objects

Tip #1: Principle of proximity - Make sure elements which belong to each other, are grouped together



(Source: Bol.com, http://www.bol.com)

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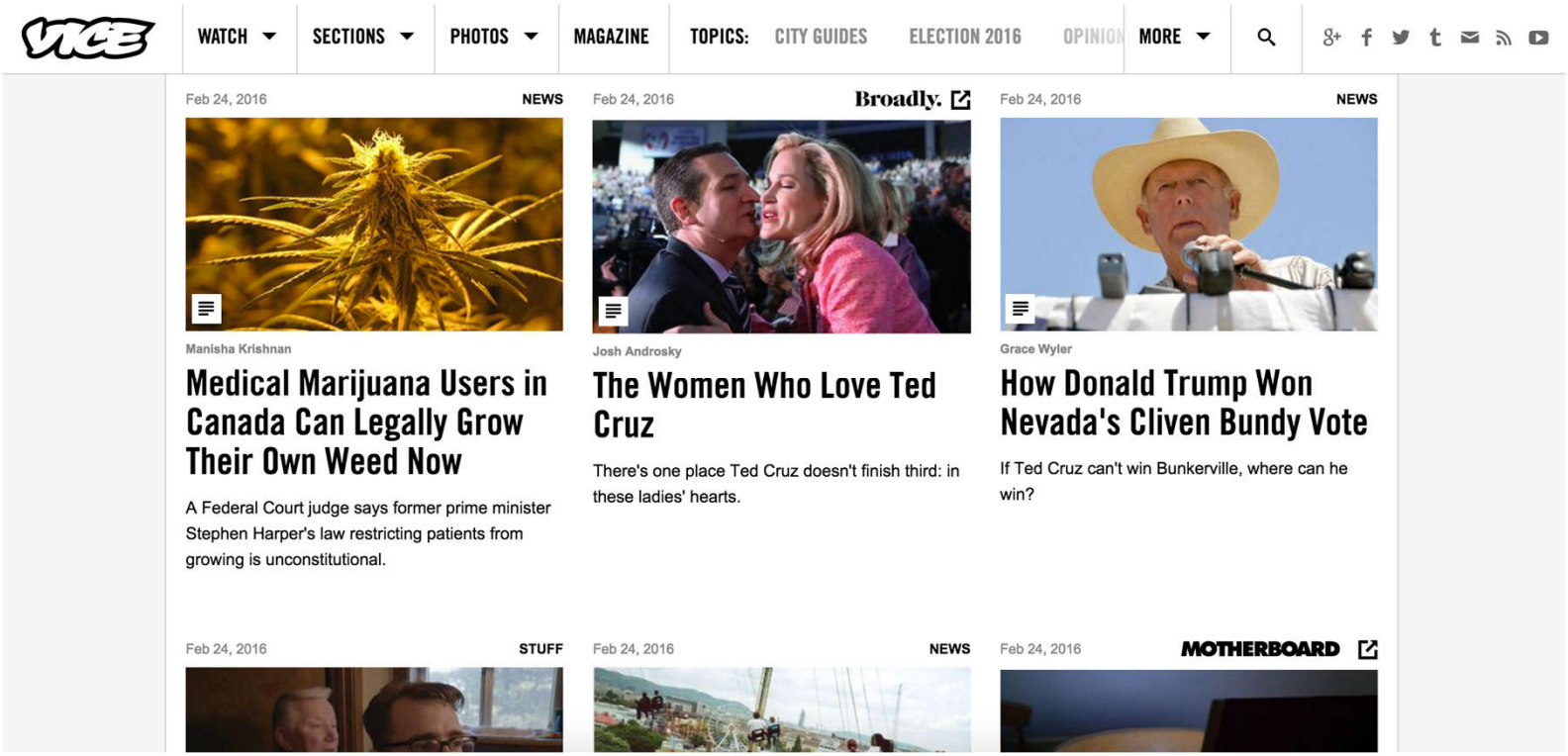

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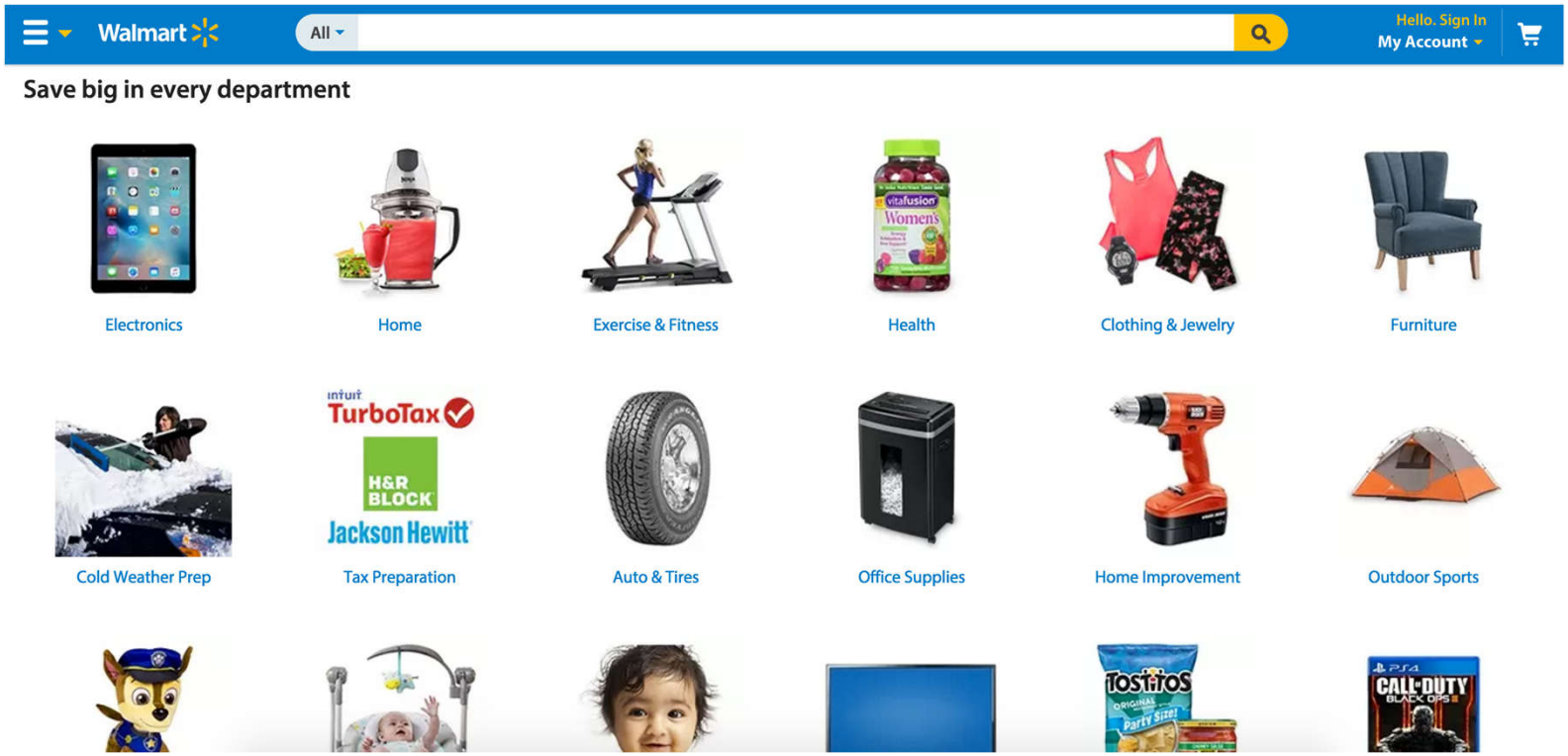
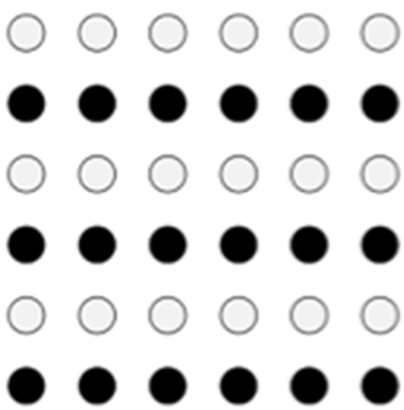
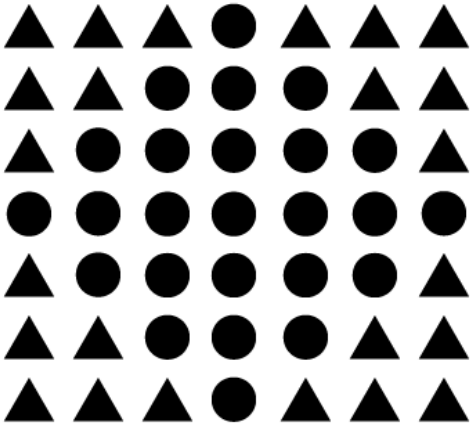


Principle of similarity

- All else being equal, elements that look similar are seen as the same object and elements that look different as as part of a different object. The image will be interpreted as three horizontal lines with white dots and three rows with black dots. Few will think the vertical lines with both black and white dots belong together.





Source: Creative Beacon

Principle of similarity

- The principle of similarity states that **when things appear to be similar to each other we group them together. And we also tend to think they have the same function.**

Tip #2: Principle of similarity - Elements which match in function or content, should visually match as well

(Source: Twitter, http://www.twitter.com)

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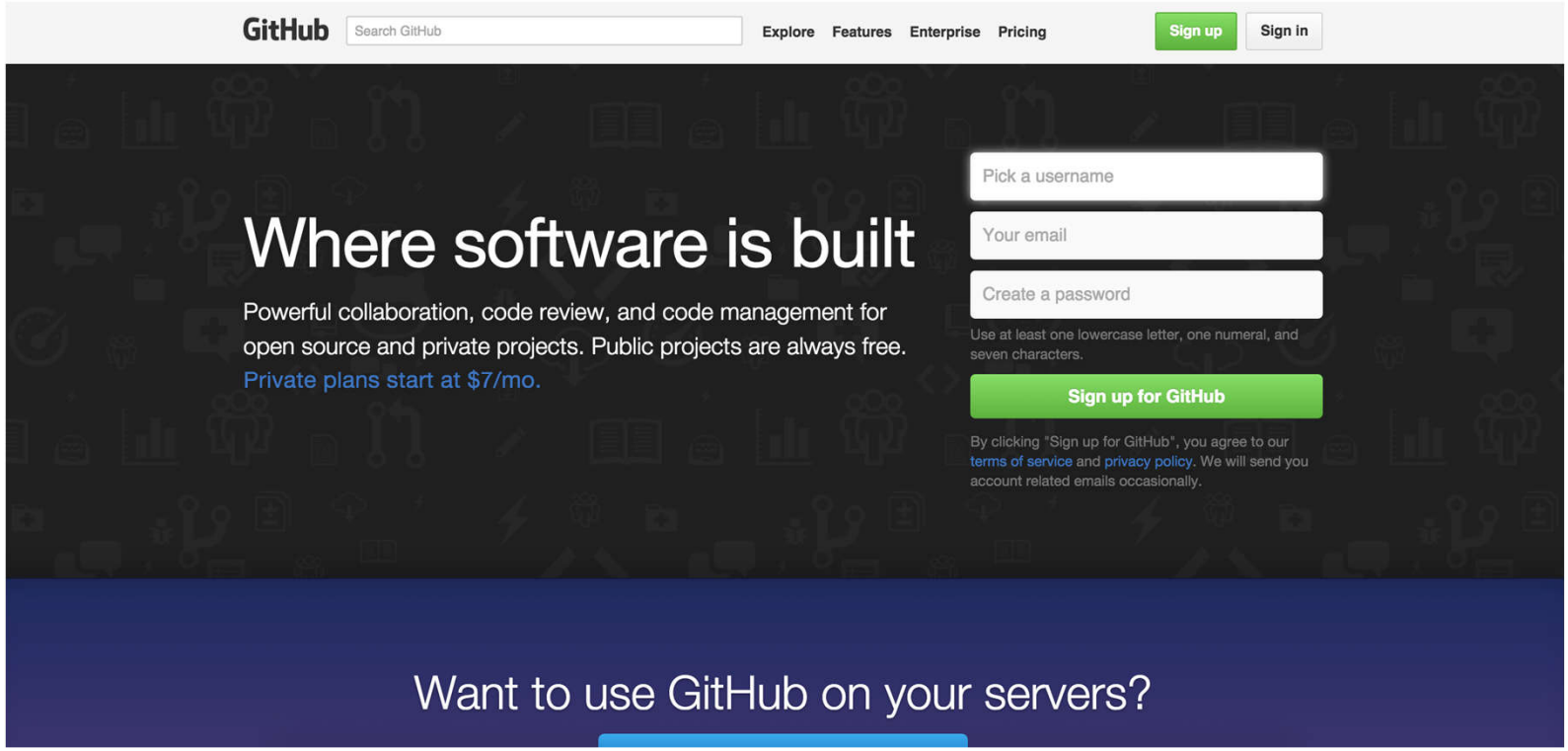
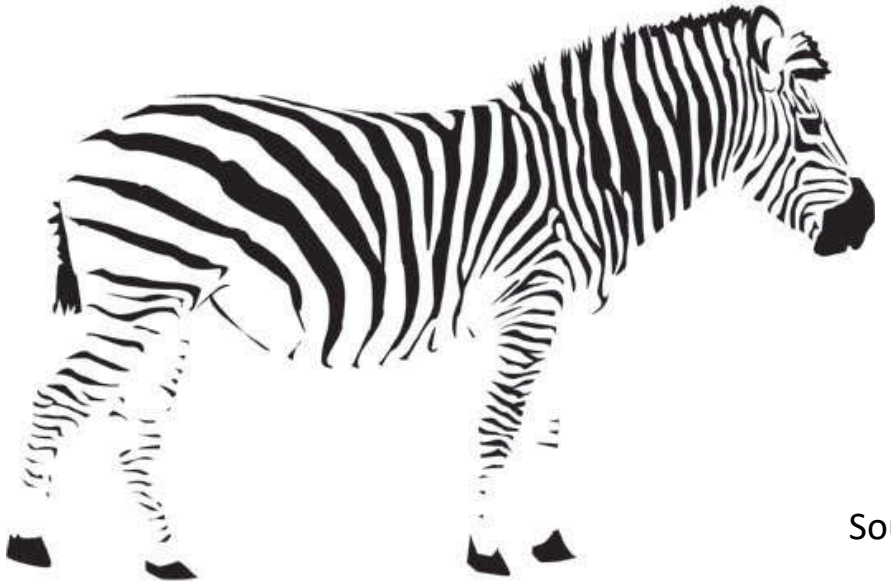


Principle of closure

- This principle refers to the tendency to see incomplete or partly covered figures as complete. Despite the fact that the figures in the image are incomplete, people will still recognize a circle and rectangle.

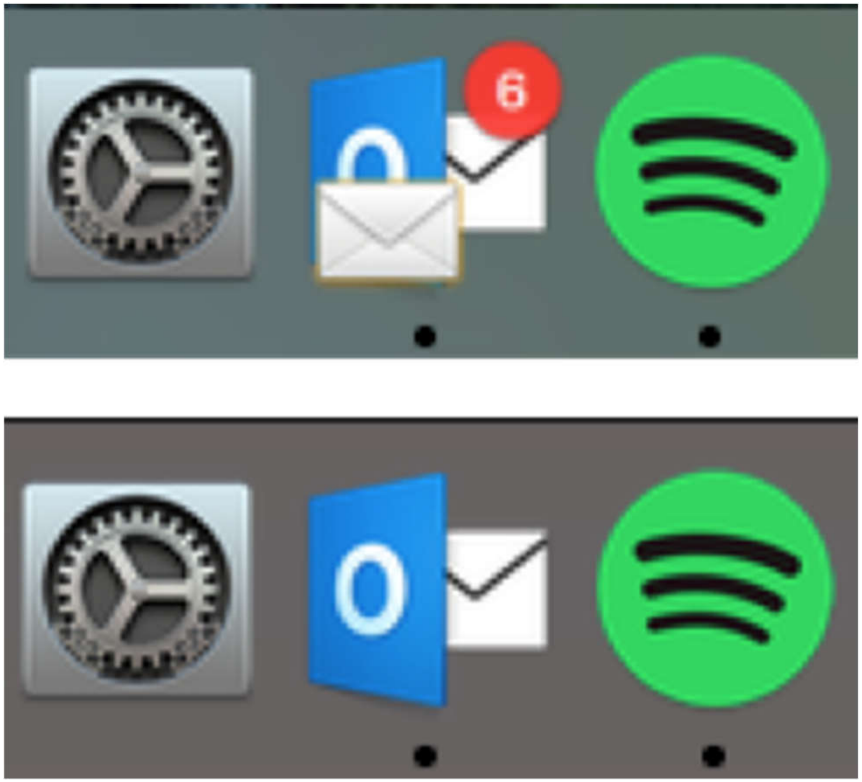
Principle of closure

- The principle of closure states that **when we look at a complex arrangement of visual elements, we tend to look for a single, recognizable pattern.**



Source: Eduard Volianskyi

Tip #3: Principle of closure - When there is little space to display information, it is possible to let figures overlap. Make sure that the bottom figure can still be recognized though



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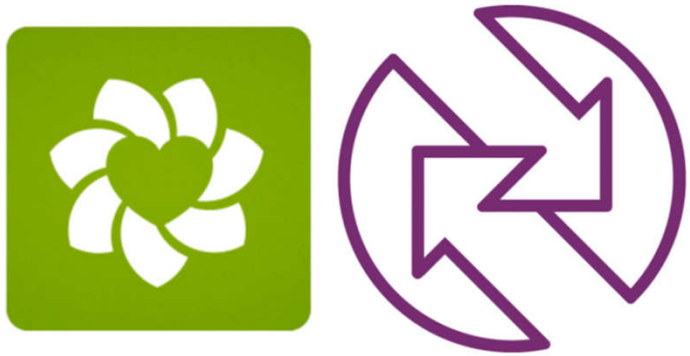
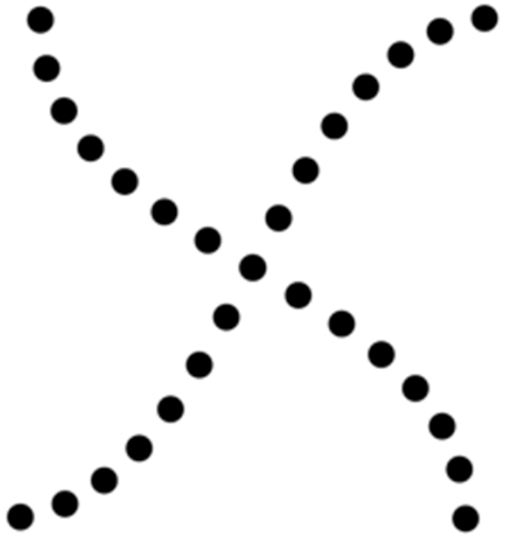


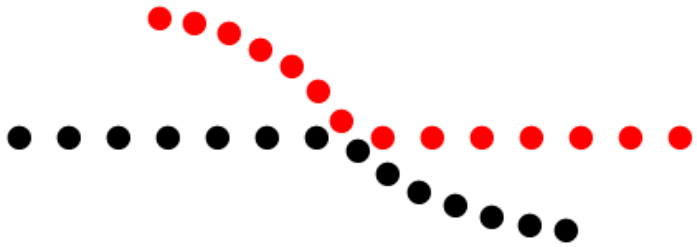
Principle of continuation

- Our brain will see a path in elements which have been grouped in a certain way and will expect the path to continue in its general direction. In the image most people will see two lines crossing each other, instead of four lines which meet in the middle



Principle of continuation

- The principle of continuity states that **elements that are arranged on a line or curve are perceived to be more related than elements not on the line or curve.**



Source: Smashing Magazine

Tip #4: Principle of continuation - When you need to display a path or movement in a certain direction, you can place figures in a line to achieve this

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Step 1

Choose your meals, drinks and treats from our daily rotating menu.

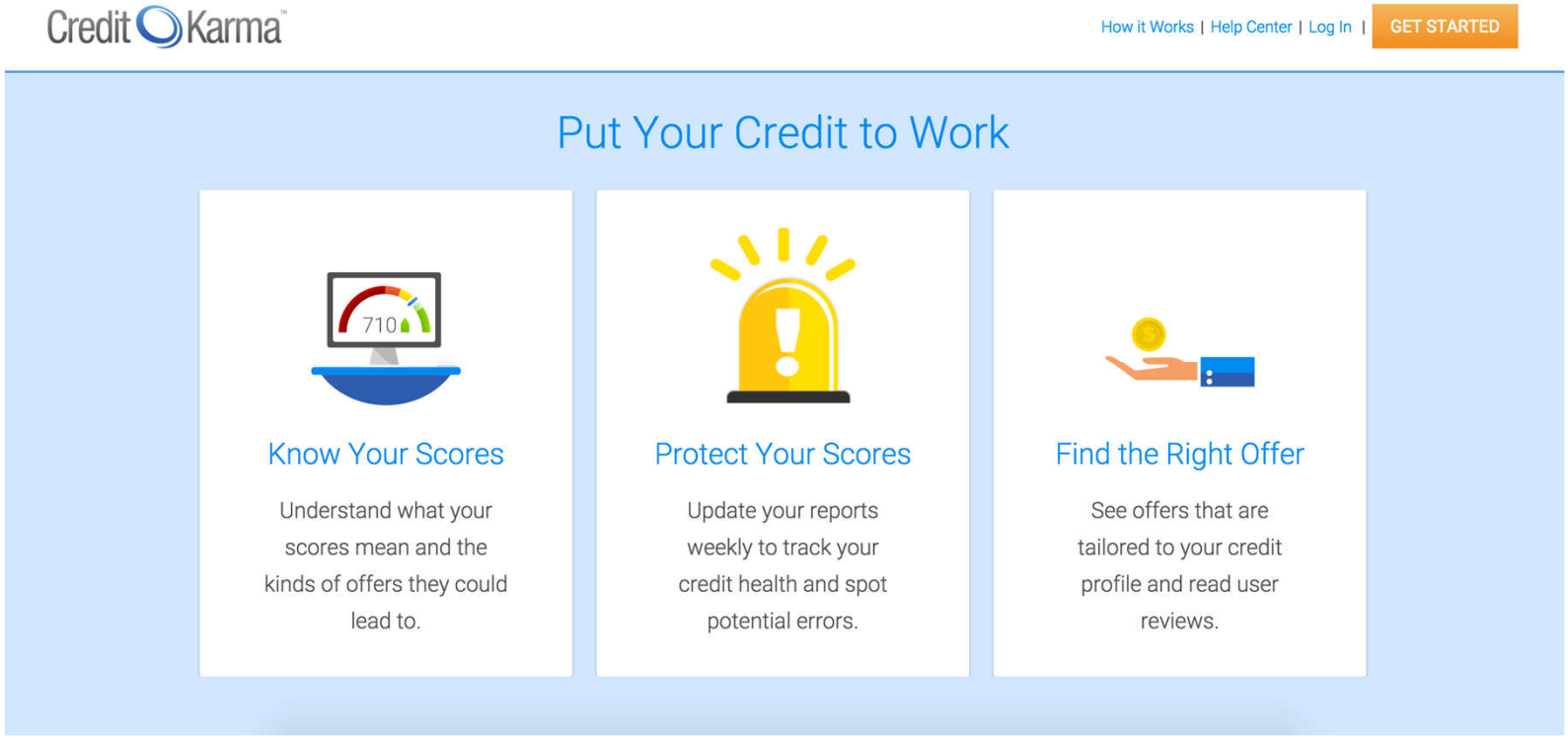
Step 2

Our friendly servers organize your food for delivery - hot and ready to eat!

Step 3

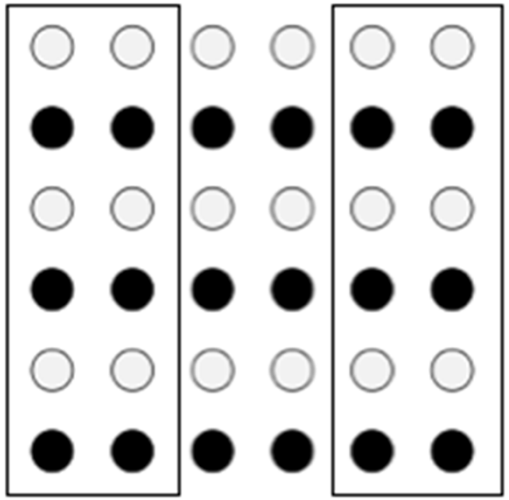
Your meal arrives in around 20 minutes - like a home-cooked meal without the effort!

Tip #4: Principle of continuation - When you need to display a path or movement in a certain direction, you can place figures in a line to achieve this



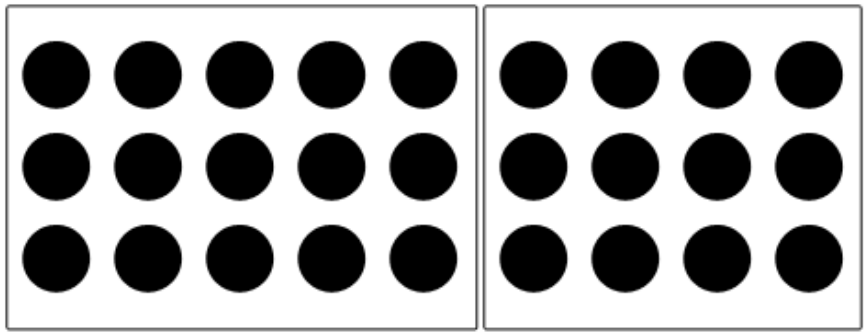
Principle of enclosure

- By enclosing a group of similar elements with another visual element (often a border), this enclosed group will be seen as one. In the example the enclosed dots seem to belong to the same group, the borders even overrule the principle of similarity



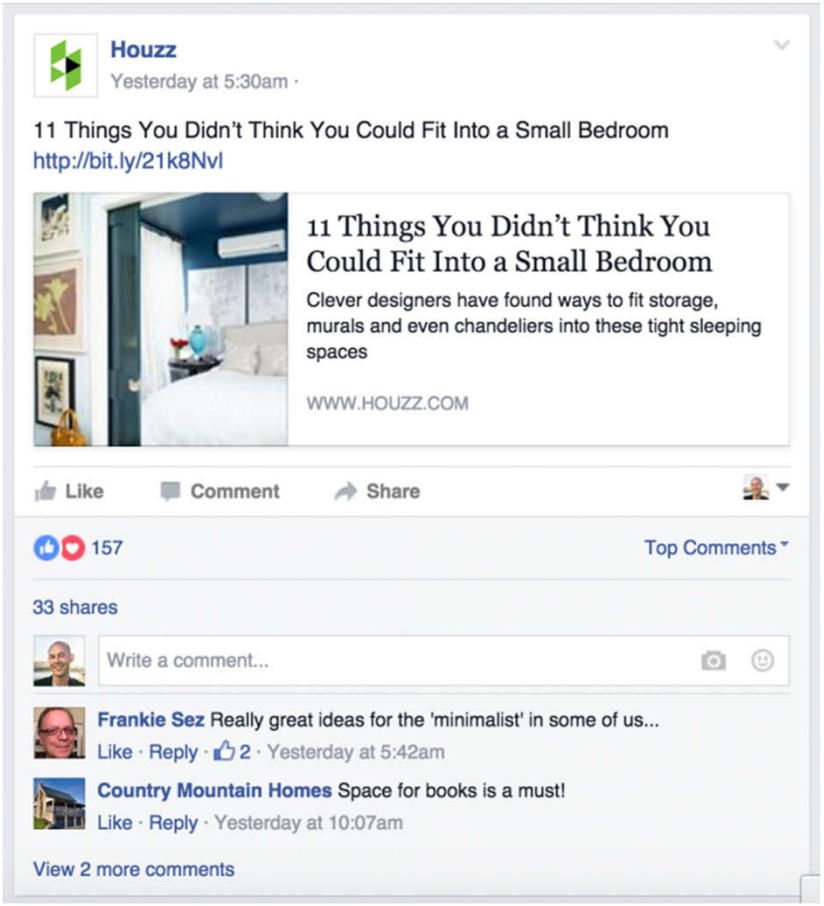
Principle of enclosure

- The principle of common region is highly related to proximity. It states that **when objects are located within the same closed region, we perceive them as being grouped together.**



Source: Smashing Magazine

Tip #5: Principle of enclosure - Use frames to separate functionalities and elements from other, equal elements



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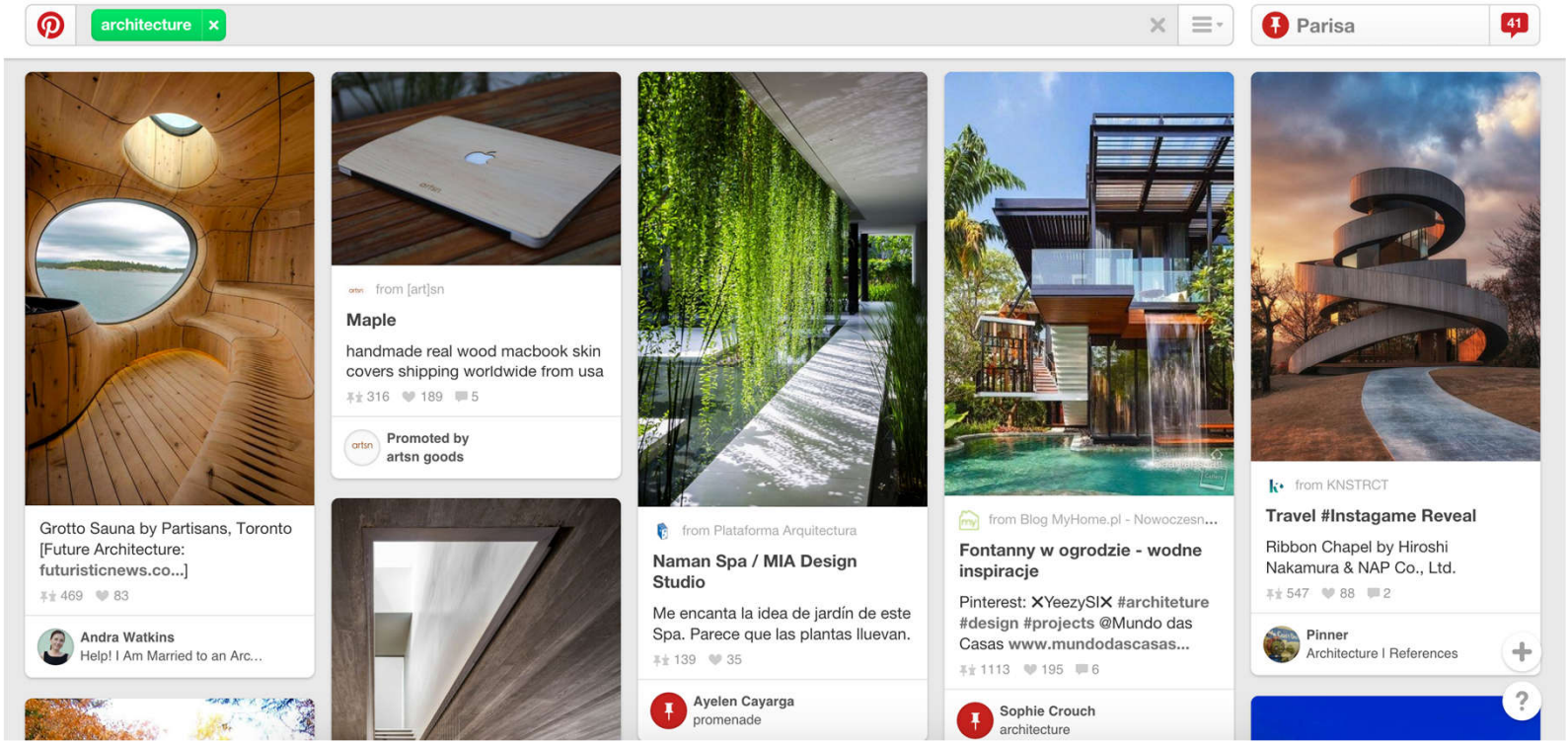


Figure-ground principle

- This principle is all about recognizing the distinction between figure and (back)ground. In the example, most people will recognize a white square on a black background and vice versa

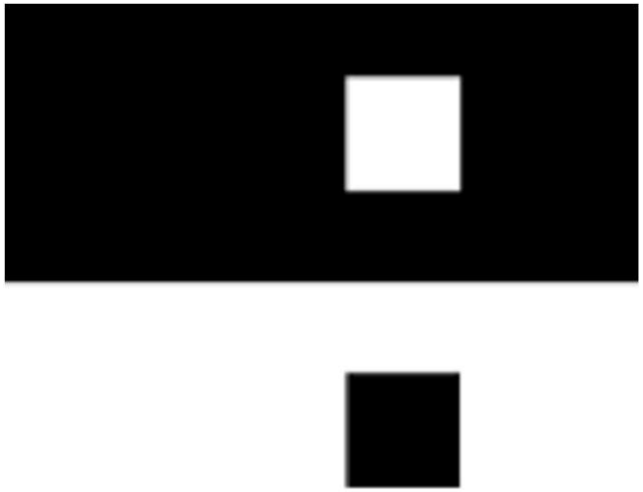
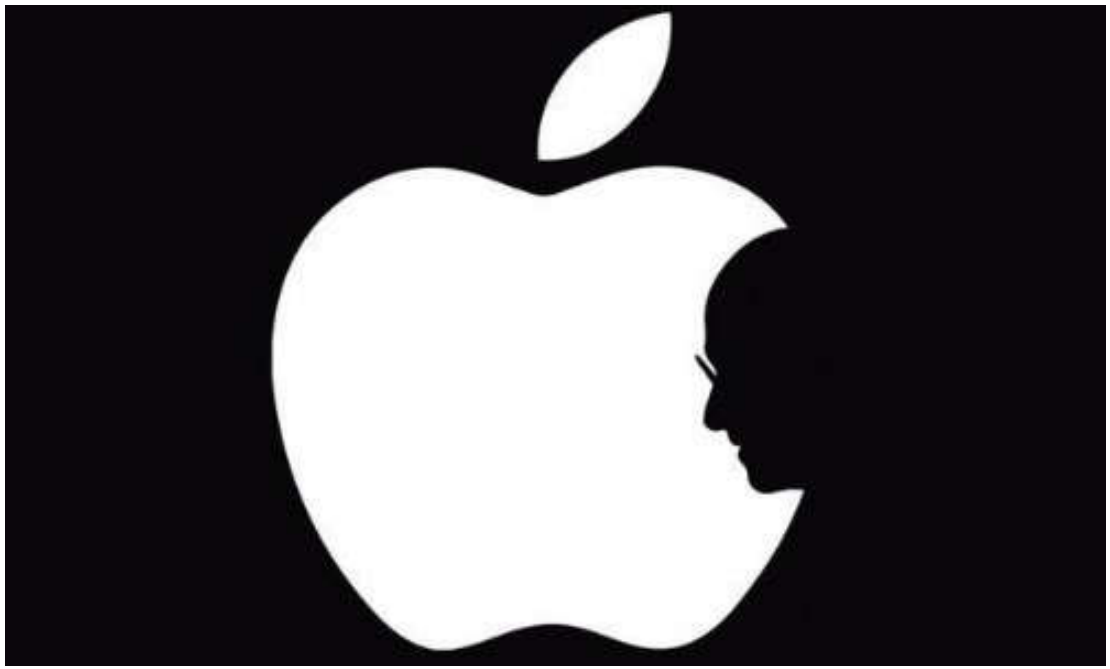
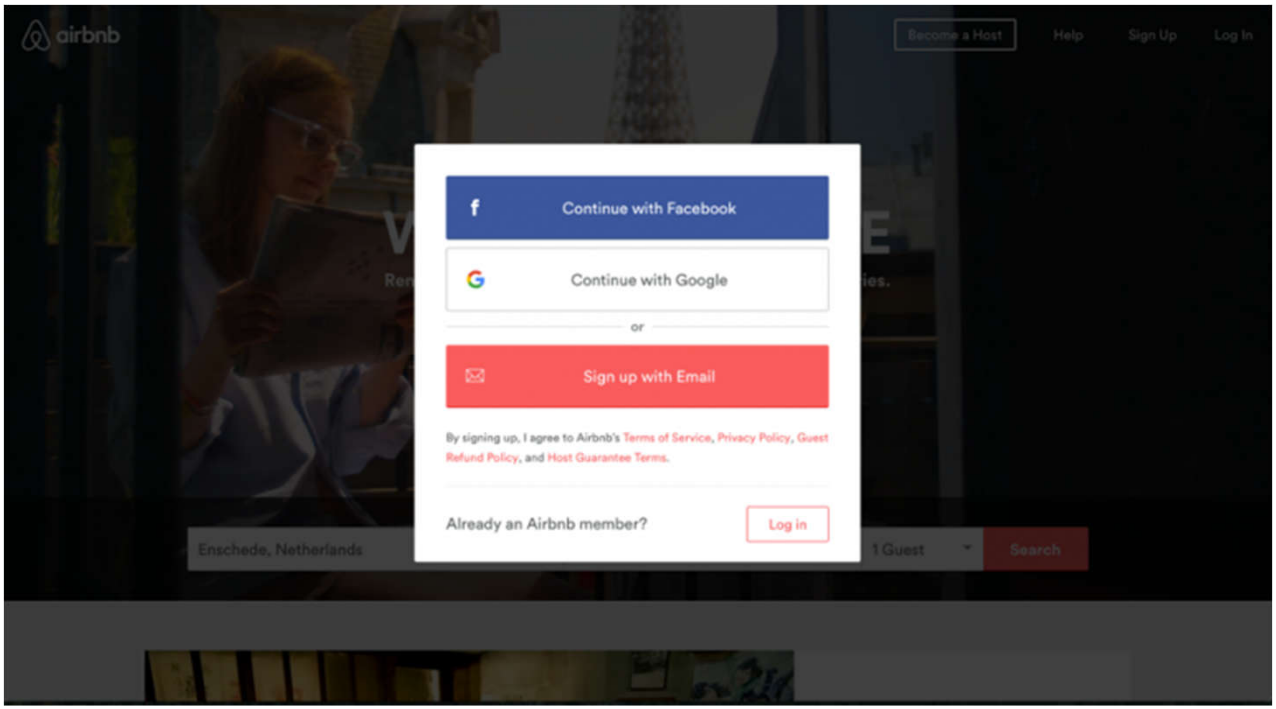


Figure-ground principle

- The figure-ground principle states that **people instinctively perceive objects as either being in the foreground or the background.** They either stand out prominently in the front (the figure) or recede into the back (the ground).



Tip #6: Figure-ground principle - When something requires the user's attention, you can explicitly highlight it using the figure-ground principle. However, only use it when the user asked for it, because applying figure-ground randomly will lead to irritated users, since they are bothered on their journey



(Source: AirBnB, http://www.airbnb.com)

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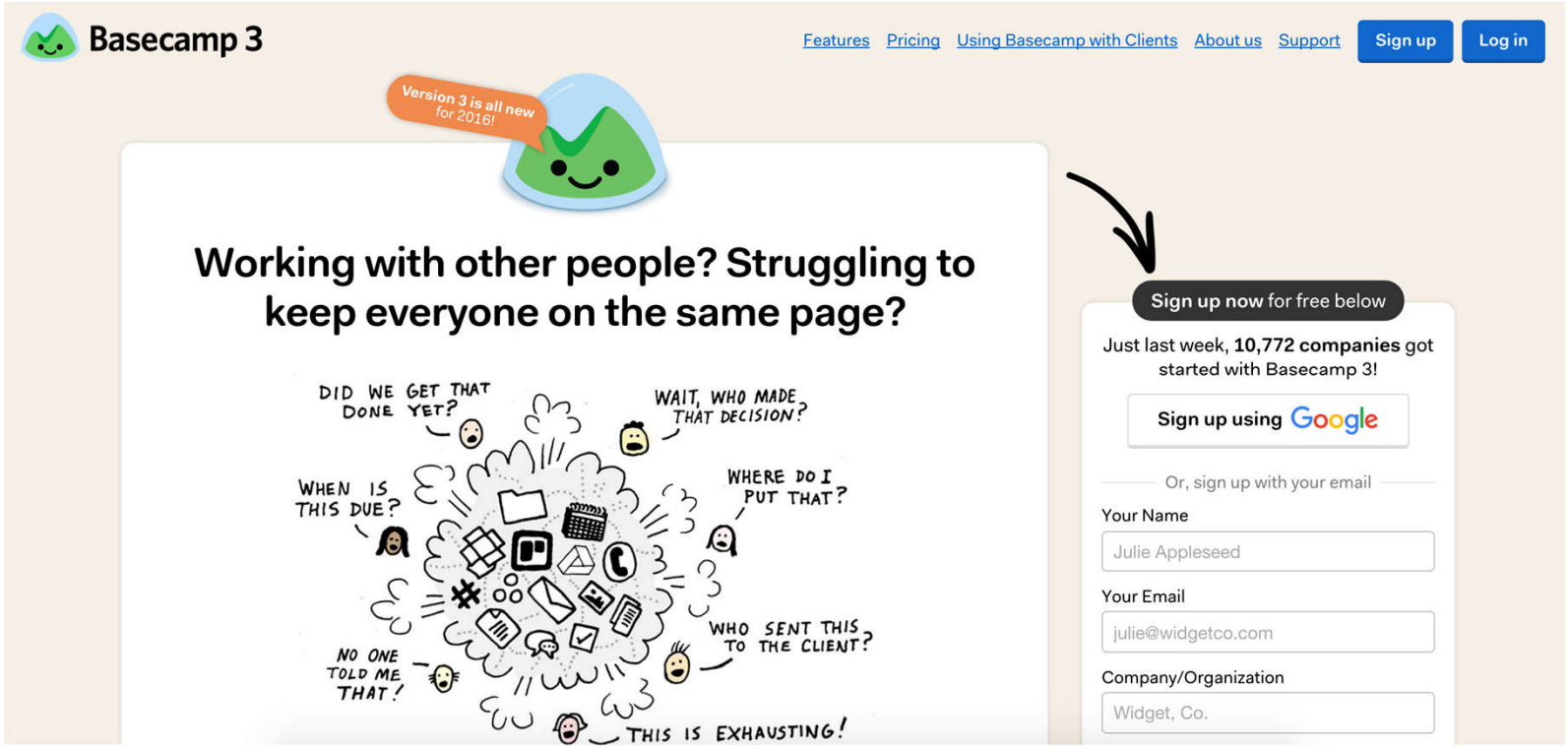

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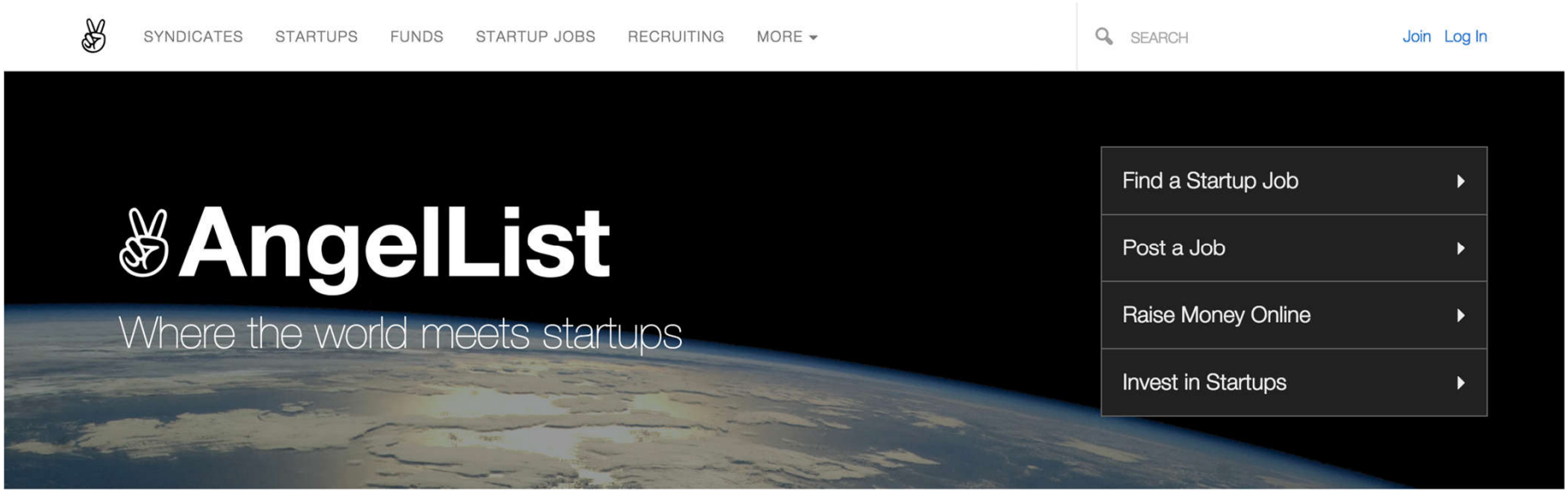


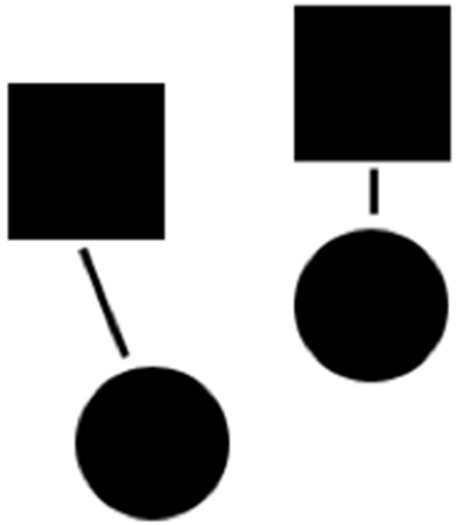
Principle of symmetry

- People like it when figures can be divided in groups of symmetrical elements. In the image you will see three pairs of brackets instead of six individual brackets.

Tip #7: Principle of symmetry - Symmetry is a strong principle to group elements

Principle of connection

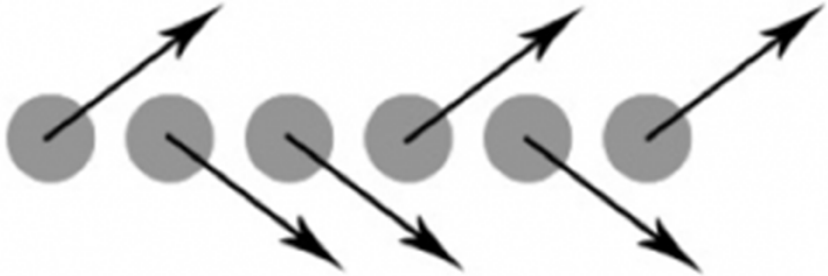
- When two figures are connected, they will also be perceived as related to each other. This principle is stronger than the principle of similarity, in the example you will see two pairs of a square and circle. Without the connection line the squares and circles would be seen as pairs.



Tip #8: Principle of connection - Connect elements to show that thev are related to each other

Principle of common fate

- The principle with this philosophical name explains that figures moving in the same direction are related to each other. In the example, the dots moving diagonally up, belong to a different group than those moving diagonally down



Tip #9: Principle of common fate - When possible, movement can be used to differentiate (groups of) elements

Q &A