

Make People Fall in Love with your Data

A practical tutorial for data
visualization and UI design

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Friday, April 29, 2011



we craft applications that make
using data enjoyable and rewarding

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Today, we're covering

The importance of having a **message**

Squelch the noise

Context gives meaning

Keeping it **simple**

Our brain's ability to process data

How we judge amounts

6 Principles of visual comprehension

Applying **design** fundamentals

Rules of chart and table design

Choosing the right chart

Proper use of contrast

Understanding fonts

Color palette tips

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The importance of having a **message**

Keeping it **simple**

Applying **design** fundamentals

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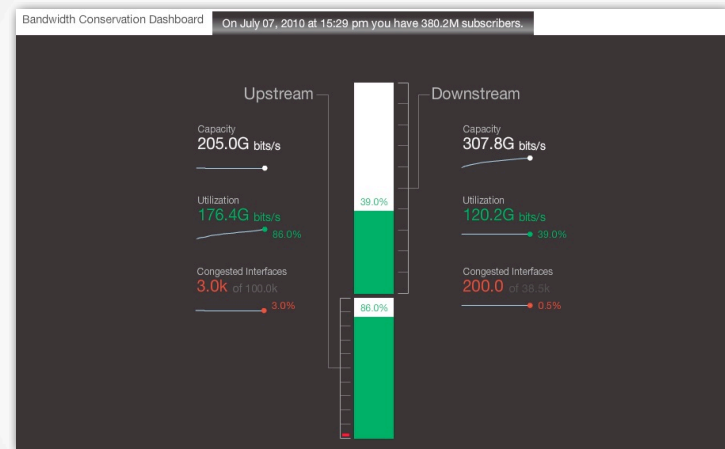
no

it will be partly cloudy with a high of 96°f today in atlanta, ga

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goingtorain.com

Show only what's needed - nothing more



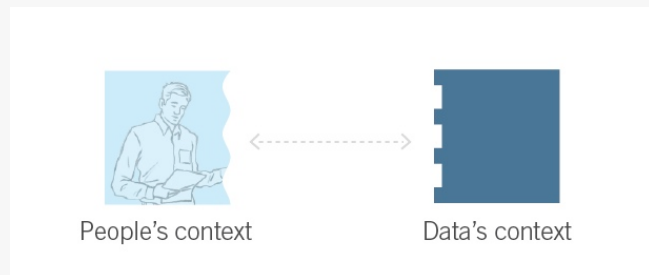
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Context gives data meaning



Without context: 100 people, 100 conclusions

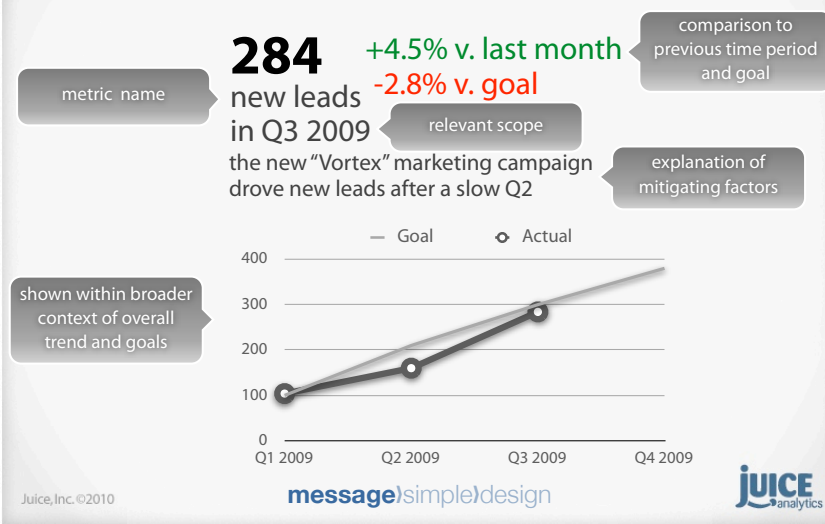
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Types of data context



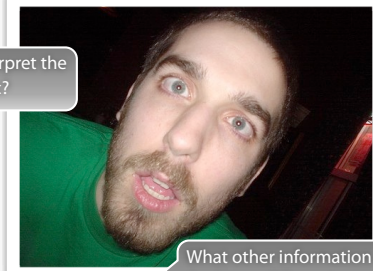
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People context

Who is sharing the data? Do they have credibility?



How do I interpret the metric?



How does the data fit into my workflow?

What expectations or assumptions do I have?

What other information am I looking at? Does it support or contradict?

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Course check...

The importance of having a **message**

Keeping it **simple**

Applying **design** fundamentals

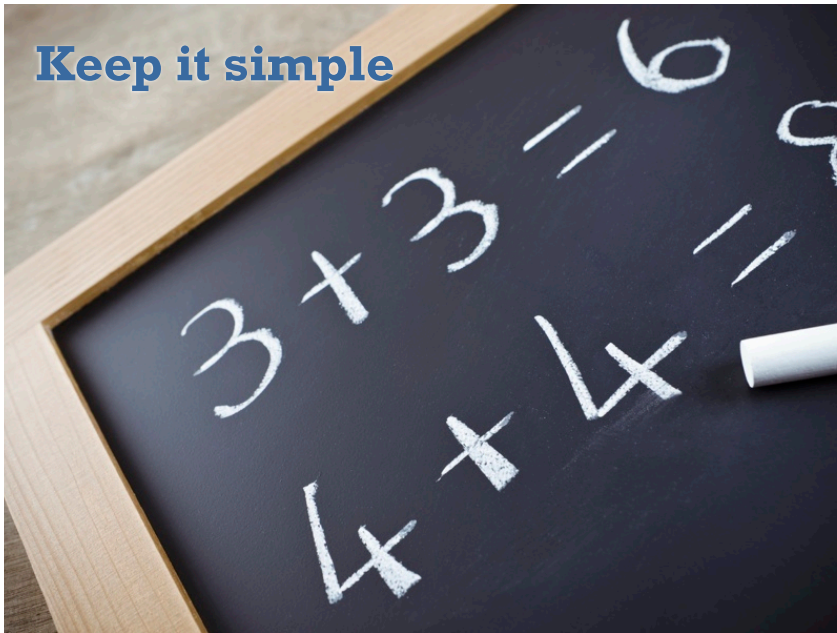
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Keep it simple



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“Don’t confuse ‘simplicity’...

...with ‘simplistic’ ”

Garr Reynolds

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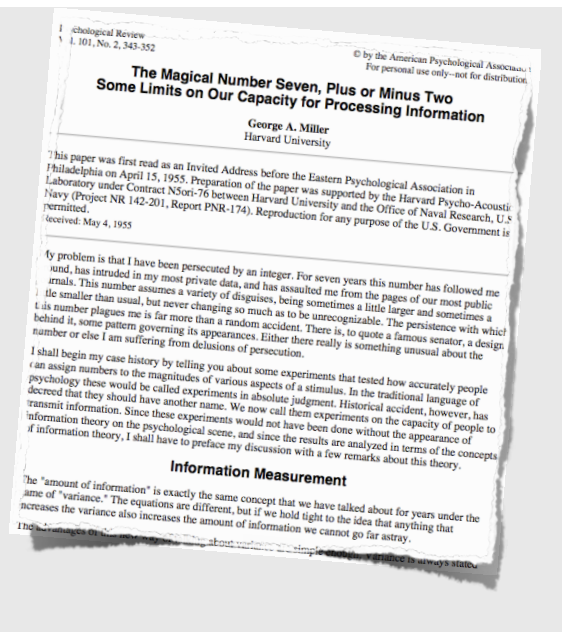
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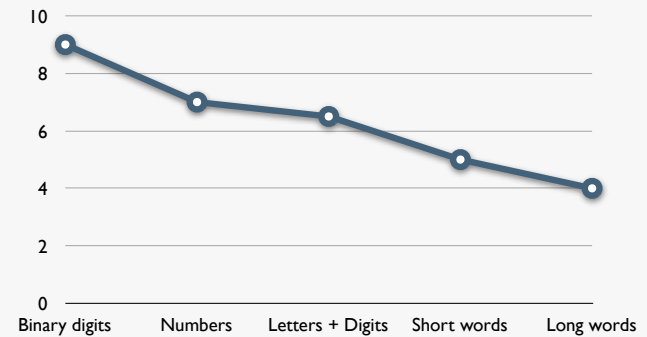
Surveying the results of psychological experiments in the 1950s

“My problem is that I have been persecuted by an integer.”



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Number of items we can recall



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2,147,483,648 bytes

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2,147,483,648 bytes

7 digits
5 one syllable words
2 seconds audio
3 visual images

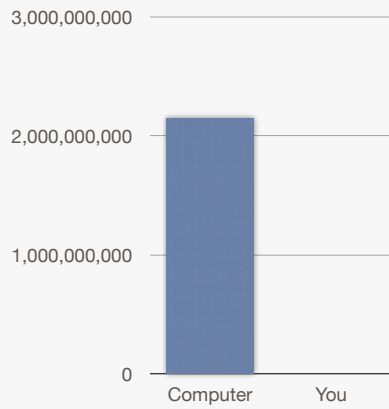
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Working memory capacity



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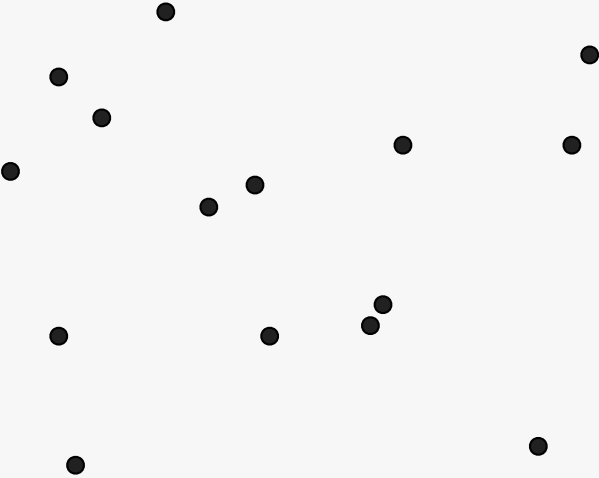
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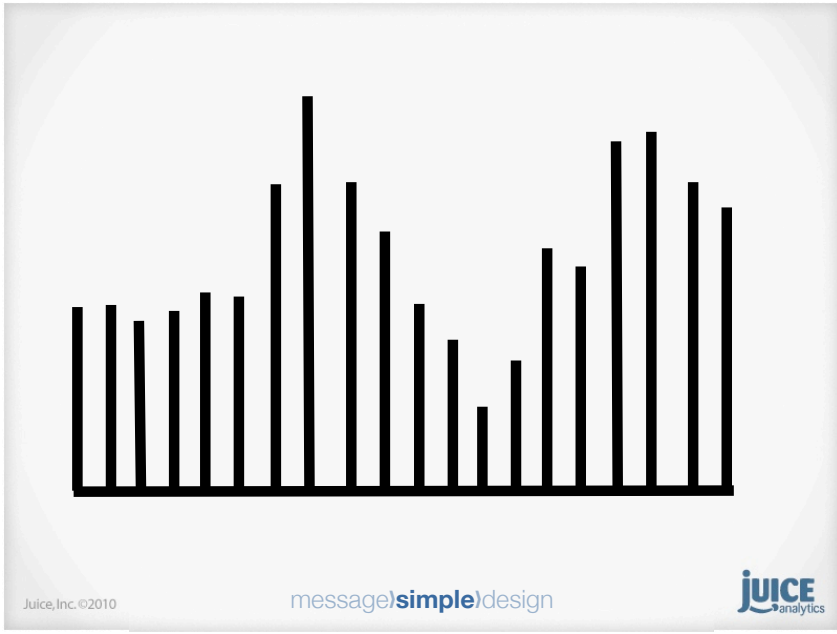
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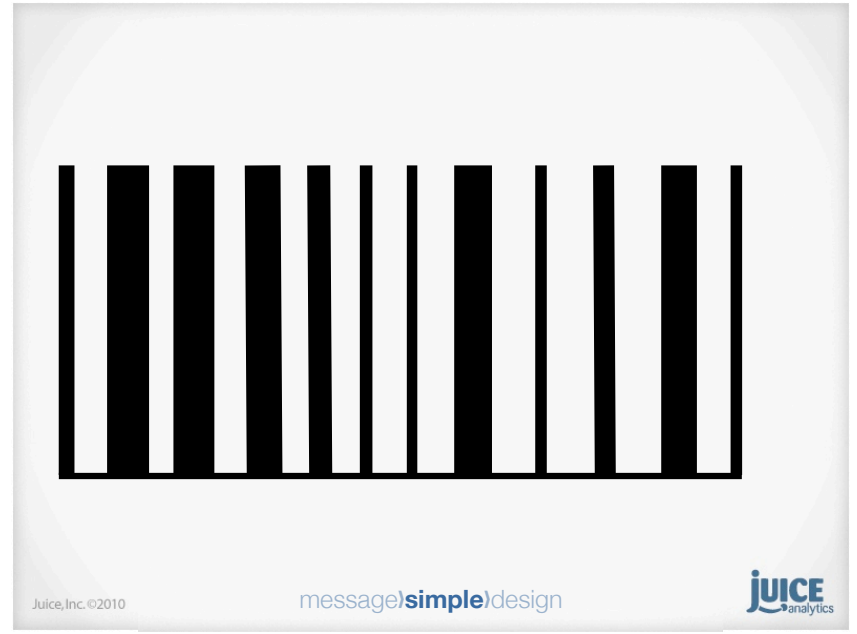
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How we judge amounts

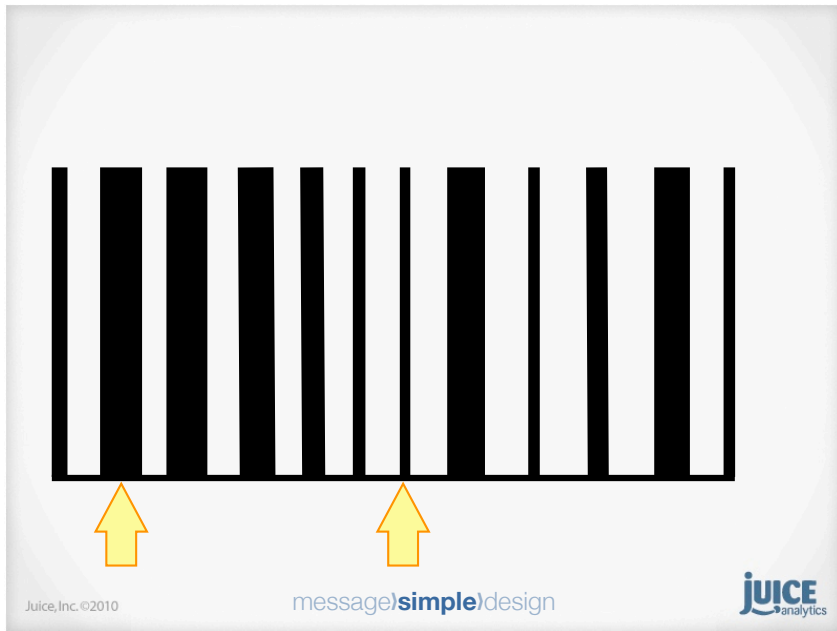




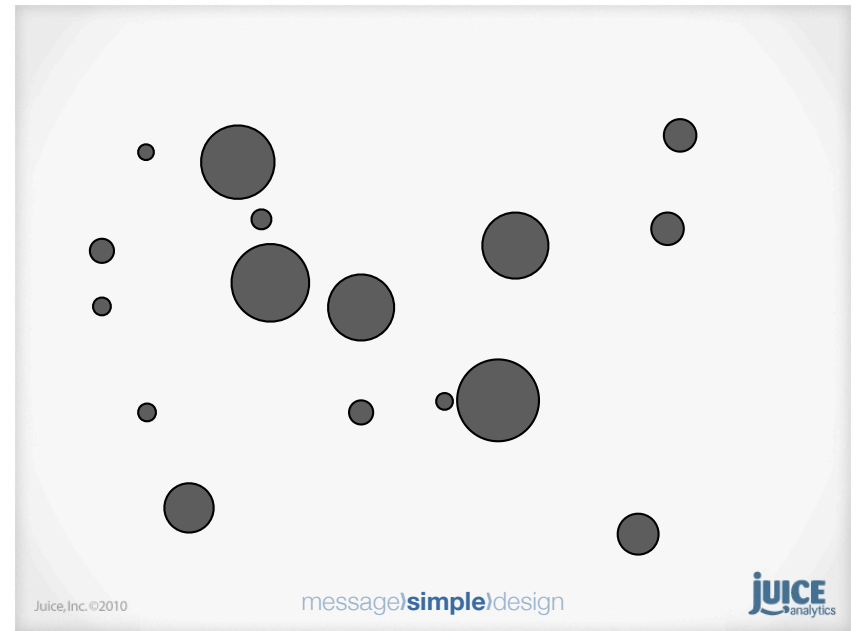
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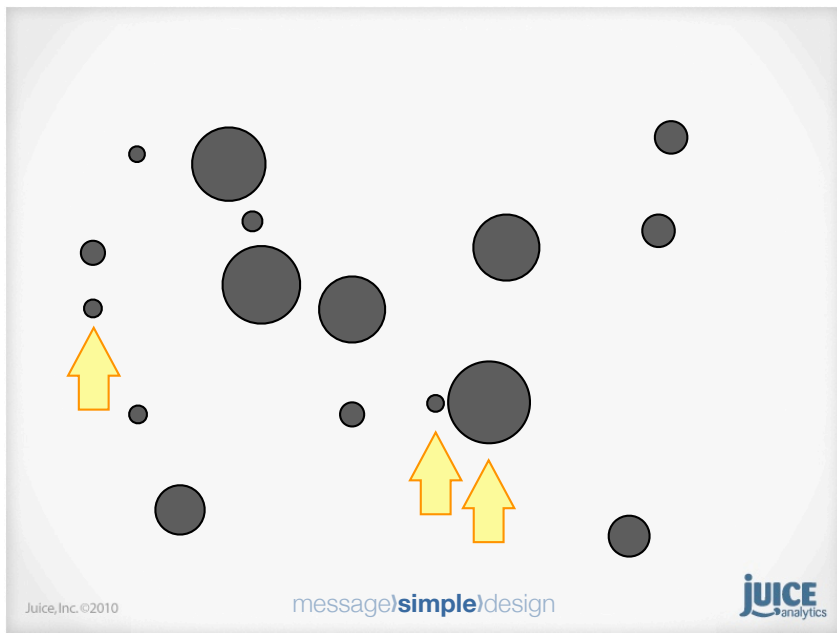
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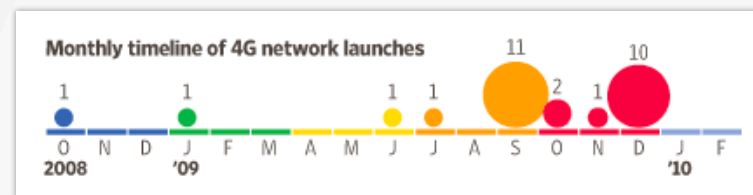


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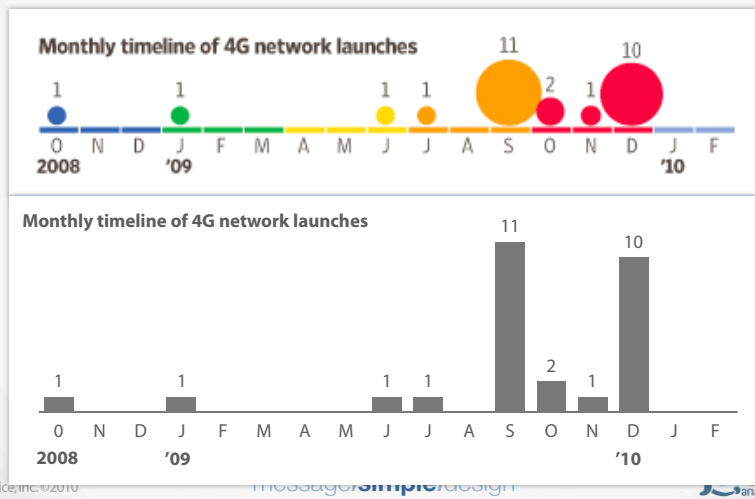
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An example



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An example



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Visualization has limits

People perceive very accurately:

length of a line, position in 2D space

People perceive semi-accurately:

width, area, color intensity, radial distance

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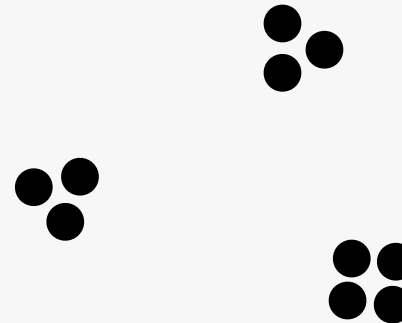
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6 principles of visual comprehension

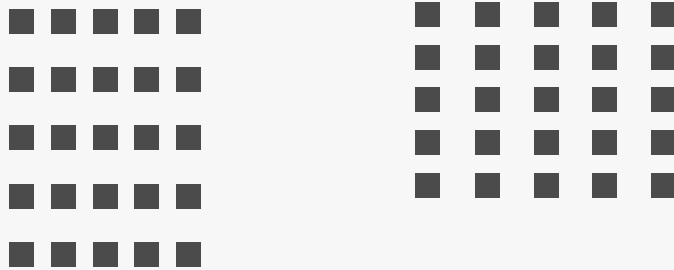
1) Principle of Proximity

Things that are spatially close belong to a group



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Things that are spatially close belong to a group



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2) Principle of Similarity

Things that share color, size or shape belong to a group



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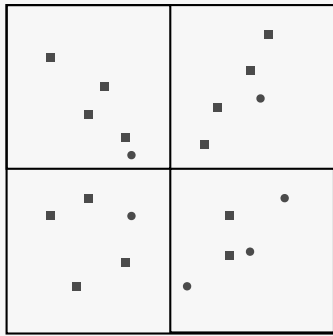
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3) Principle of Enclosure

Objects that are enclosed by a shape will be seen as a group



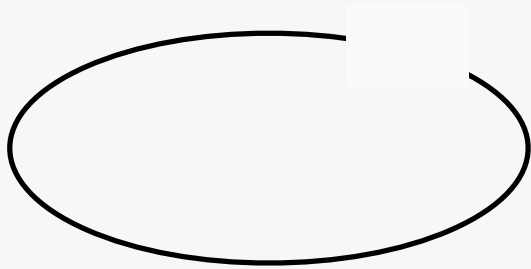
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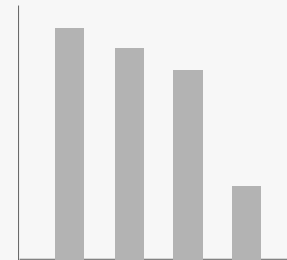
4) Principle of Closure

We strive to perceive shapes as complete



4) Principle of Closure

We strive to perceive shapes as complete



5) Principle of Continuity

Objects that are aligned are perceived as a group



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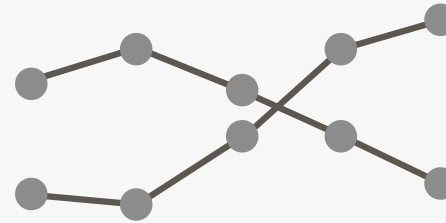
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6) Principle of Connection

Objects that are connected are part of the same group



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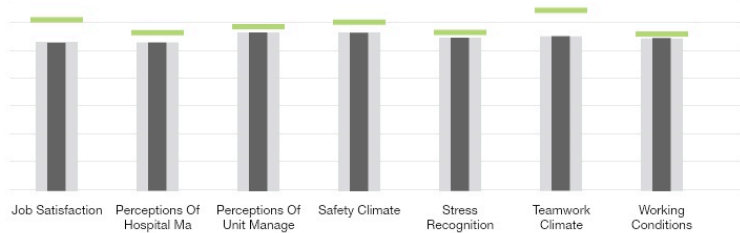
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Spike Chart Demo - Context

Current Survey: 2010 Previous Survey: 2008 [\(hide industry norm\)](#)



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Proximity

Things that are spatially close belong to a group

Similarity

Things that share color, size or shape belong to a group

Enclosure

Objects that are enclosed by a shape will be seen as a group

Closure

We strive to perceive shapes as complete

Continuity

Objects that are aligned are perceived as a group

Connection

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