

3.0 Interaction Design

USER-CENTERED DESIGN (HUMAN CENTERED DESIGN)

SIX PRINCIPLES OF UCD

1. The design is based upon an explicit understanding of users, tasks, and environments.

SIX PRINCIPLES OF UCD

2. Users are involved throughout design and development.

SIX PRINCIPLES OF UCD

3. The design is driven and refined by user-centered evaluation.

SIX PRINCIPLES OF UCD

4. The process is iterative.

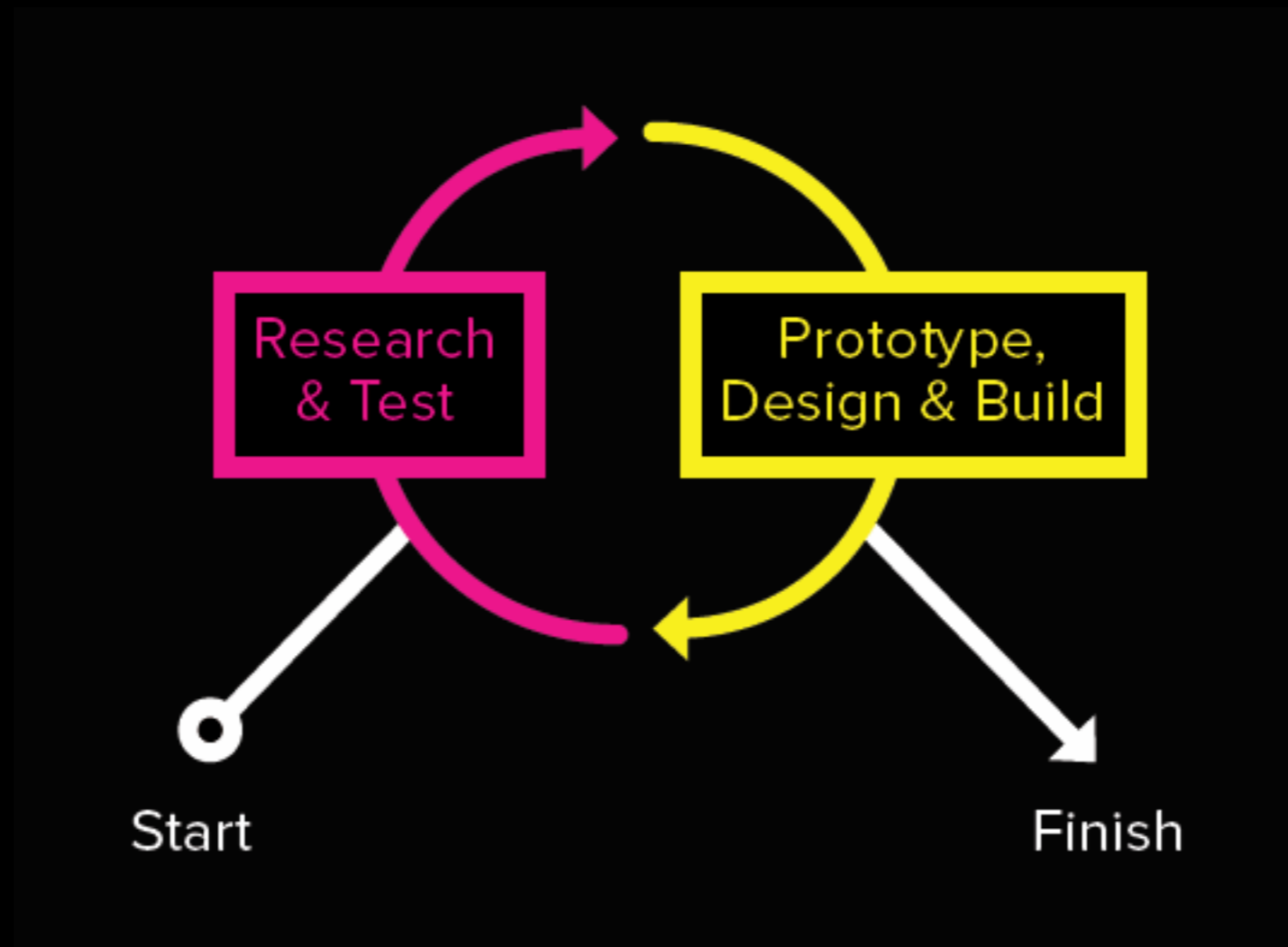
SIX PRINCIPLES OF UCD

5. The design addresses the whole user experience.

SIX PRINCIPLES OF UCD

6. The design team includes multidisciplinary skills and perspectives.

ITERATIVE PROCESS

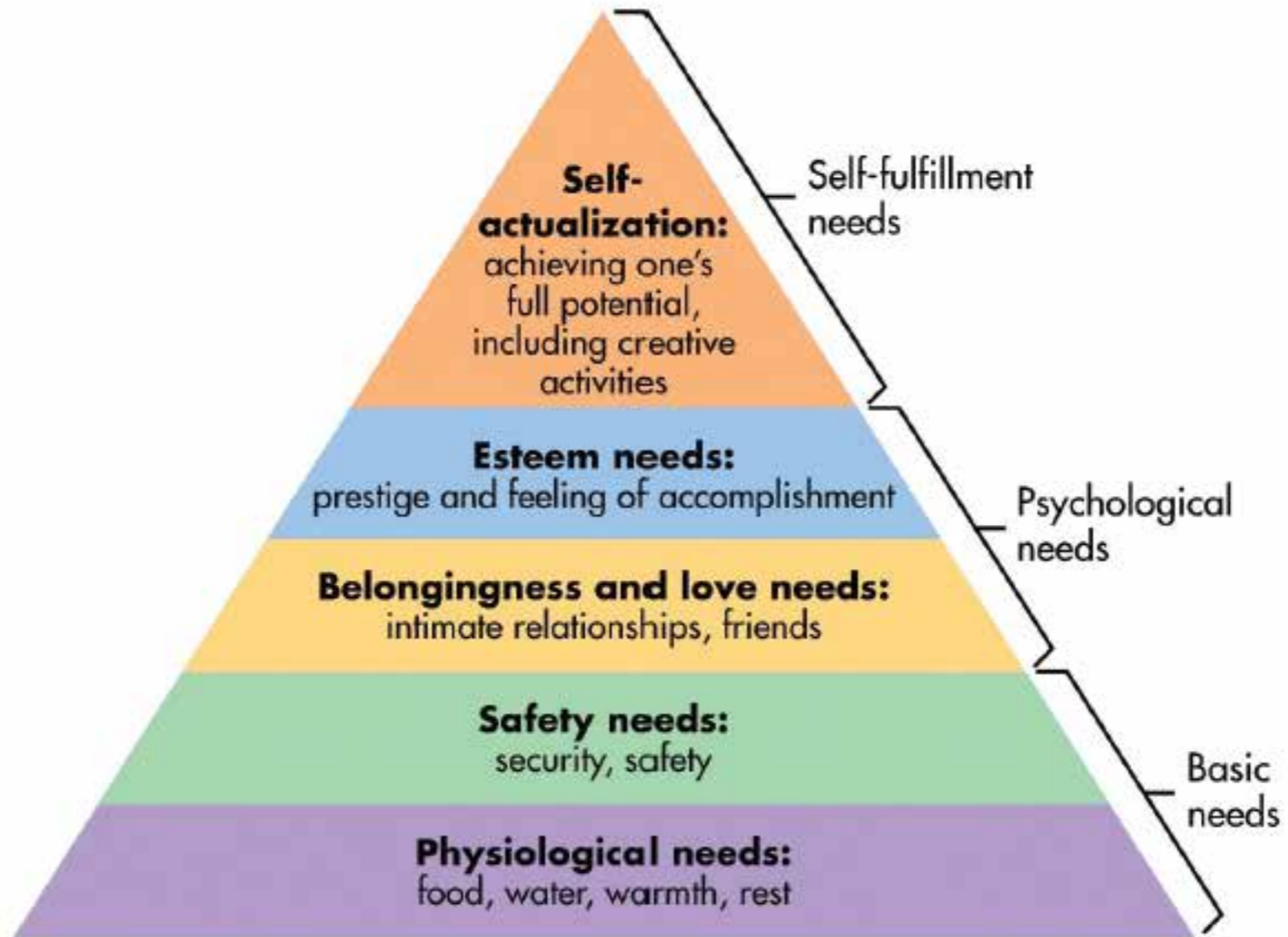


MASLOW'S HIERARCHY OF NEEDS: A theory of human motivation

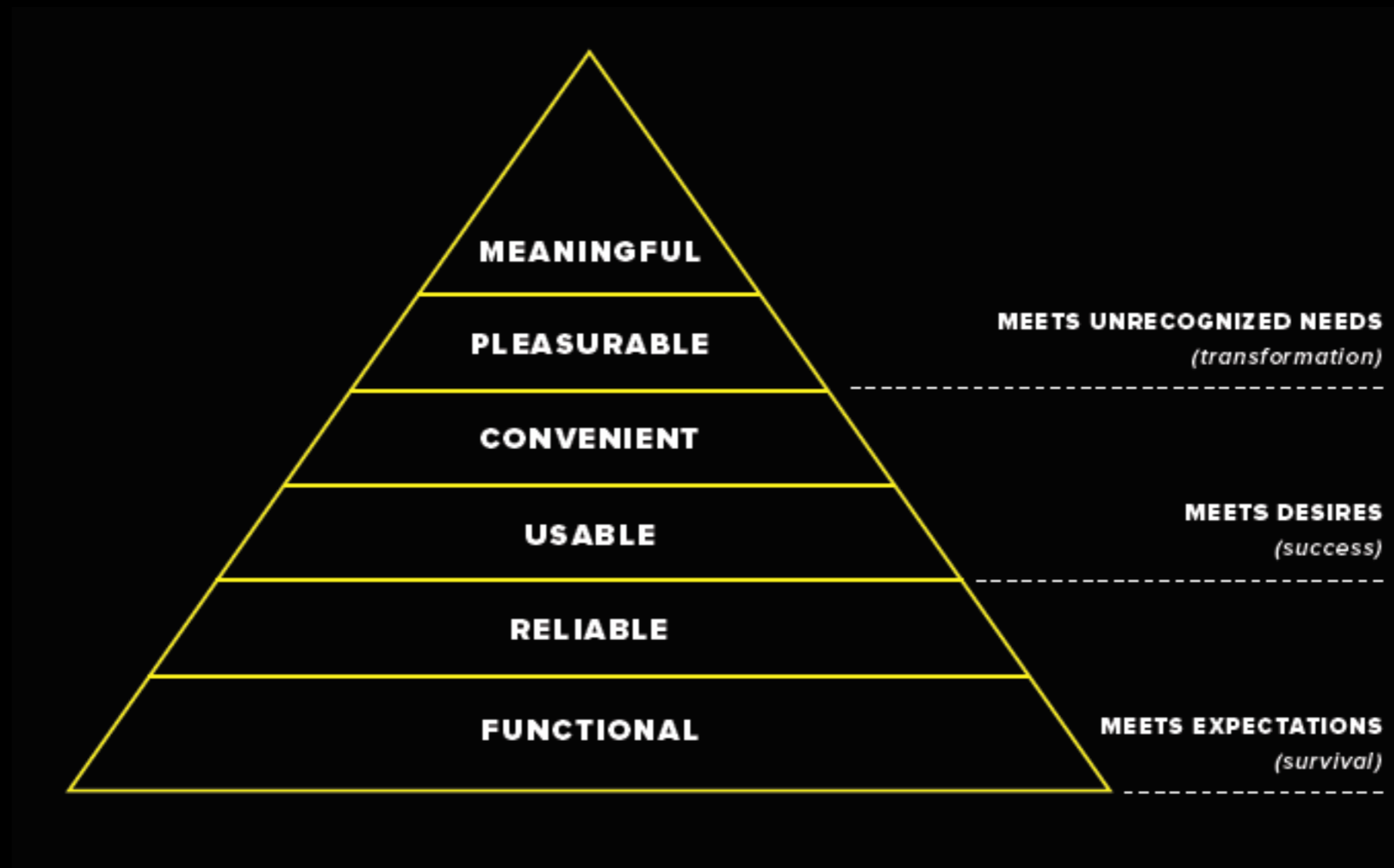
Abraham Maslow
American psychologist
1943

MASLOW'S HIERARCHY OF NEEDS

Based on Maslow's hierarchy of needs, the idea of a design hierarchy of needs rests on the assumption that in order to be successful, a design must meet basic needs before it can satisfy higher-level needs.



DESIGN HIERARCHY



COGNITIVE FRAMEWORKS DEFINITION

Explains and predicts user behavior based on theories of cognition.

MANY PROCESSES OF COGNITION

Attention

Perception

Memory

Learning

Reading, speaking, and listening

Problem solving, planning, reasoning,
and decision making

CONCEPTUAL MODEL

An abstraction outlining what people can do with a product and what concepts are needed to understand how to interact with it.

CORE COMPONENTS

Metaphors and analogies convey to people how to understand what the product is for, and how to use it.

Concepts that people are exposed to throughout the product.

Relationships between concepts

CORE COMPONENTS

How the various metaphors, concepts, and their relationships are organized determines the overall user experience.

COGNITIVE LOAD DEFINITION

The level of effort associated with thinking and reasoning (including perception, memory, language, etc.), thus potentially interfering with other thought processes.

COGNITIVE LOAD

A user interface strives to minimize the cognitive load associated with operating the interface itself so that all of a person's cognitive resources are available for their task.

SCHEMAS

A mental structure of preconceived ideas, a framework representing some aspect of the world, or a system of organizing and perceiving new information.

SCHEMAS: Good

New information that falls within an individual's schema is easily and quickly remembered and incorporated into their world view.

Schema can be helpful in providing information in an easy to understand, expected manner.

SCHEMAS: Bad

Can influence and hamper the uptake of new information, such as existing stereotypes giving rise to limited or biased expectations.

Individuals may “see” or “remember” something that has not happened because it fits into their own schema.

MENTAL MODELS

A mental model is what the user believes about the system at hand:

A mental model is based on belief, not facts; and individual users each have their own mental model.

Goes beyond schema theory to include perceptions of task demands and task performances.

ACTING ON MENTAL MODELS

When you see people making mistakes on your site, the reason is often because they've formed an erroneous mental model.

ACTING ON MENTAL MODELS: Options

1. You can teach users a more accurate mental model at the earlier stage of the user experience.
2. You might have to acknowledge that users won't understand certain distinctions, and then you must stop making those distinctions.

DESIGNism #7

**THE BEHAVIOR YOU'RE SEEING IS THE
BEHAVIOR YOU'VE DESIGNED FOR.**
(Whether intentional or not).

-Joshua Porter

VISUAL PATTERNS

We are pattern seekers.

We store patterns that influence our expectations.

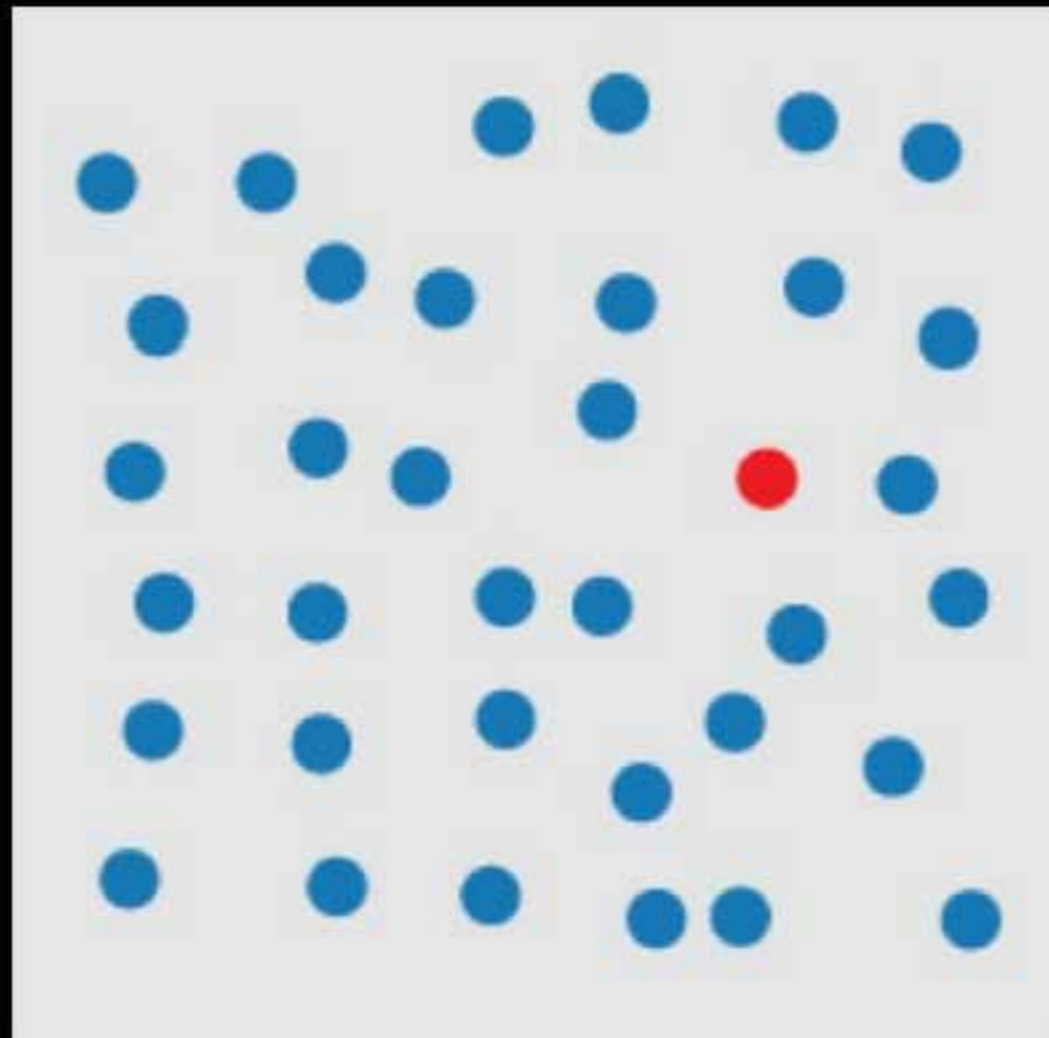
What we see is strongly influenced by our expectations.

VISUAL PERCEPTION

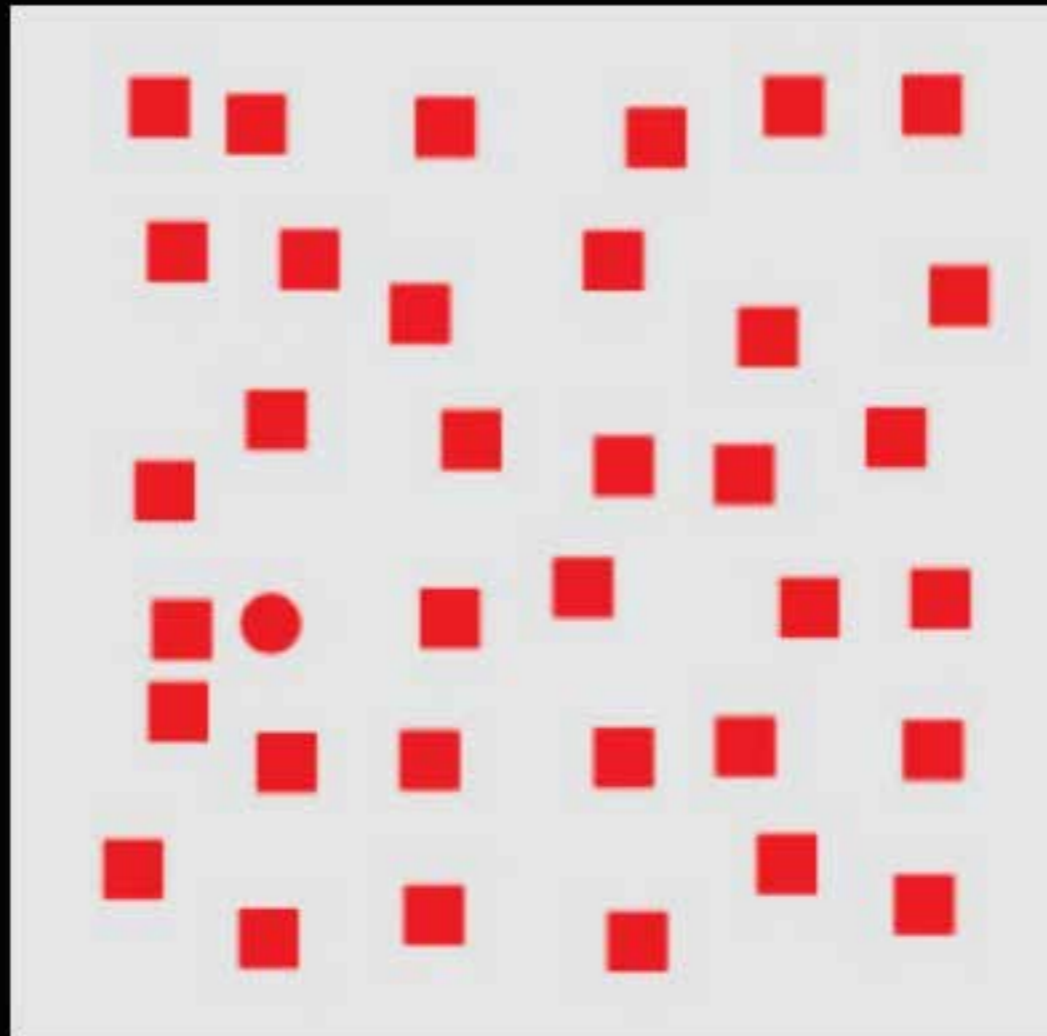
Perception is based on change. We scan, filter, and interpret differences.

We use differences to create understanding.

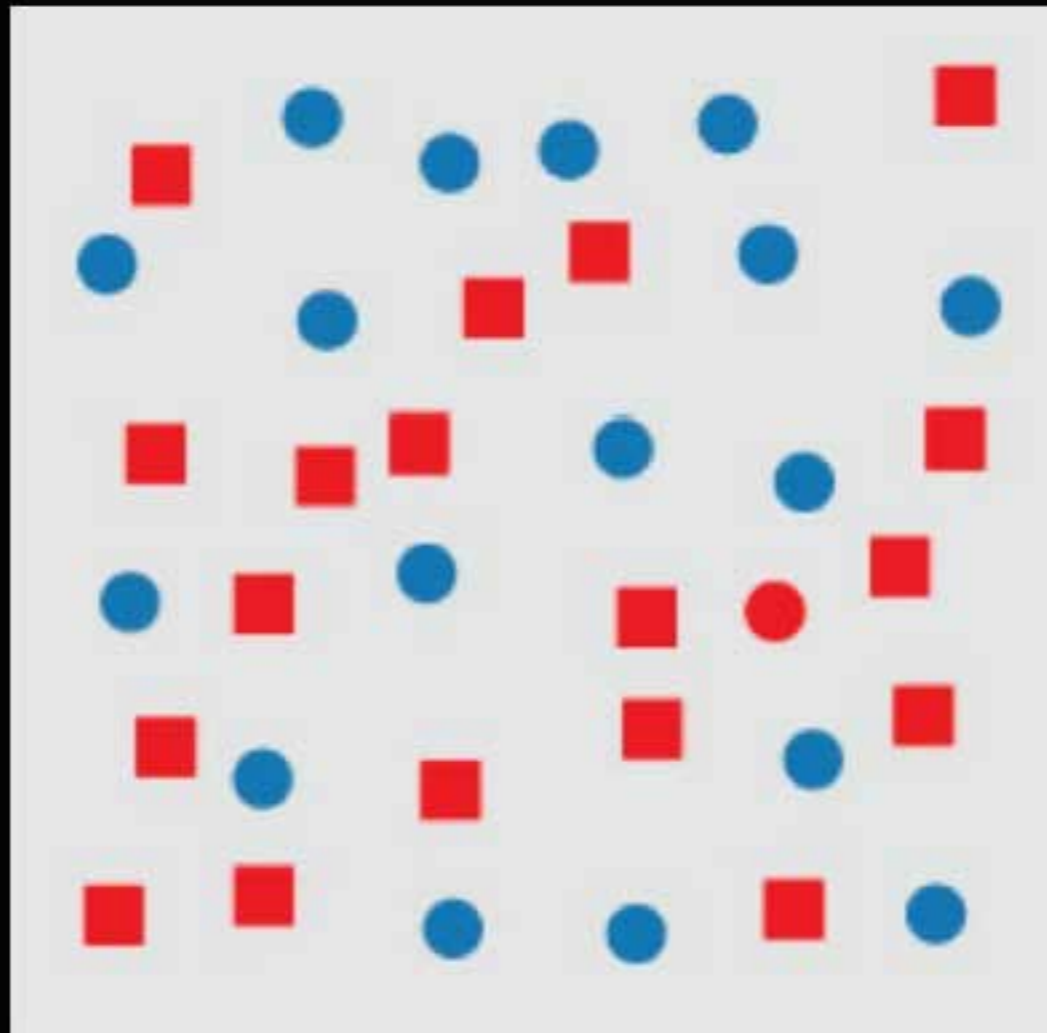
FIND THE RED CIRCLE



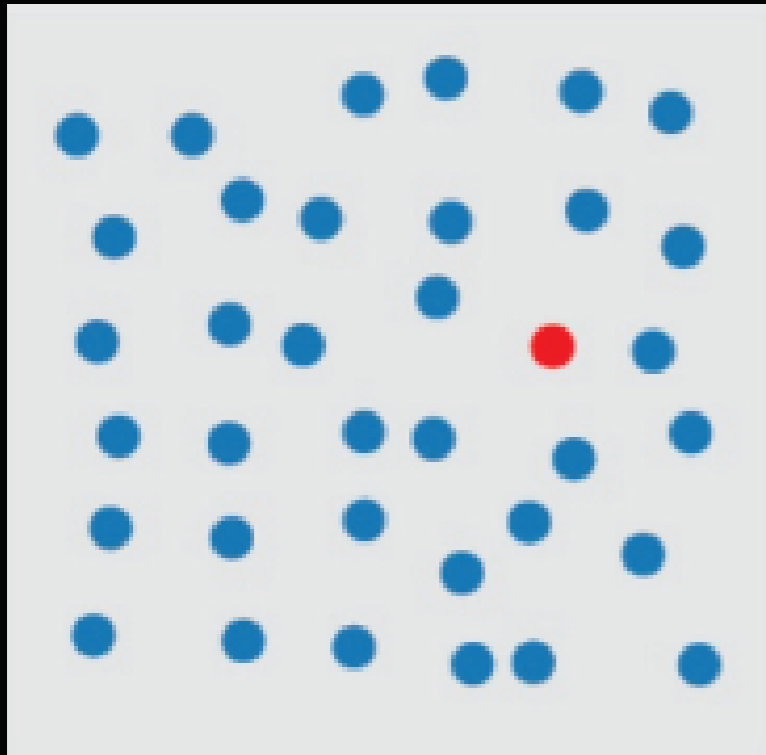
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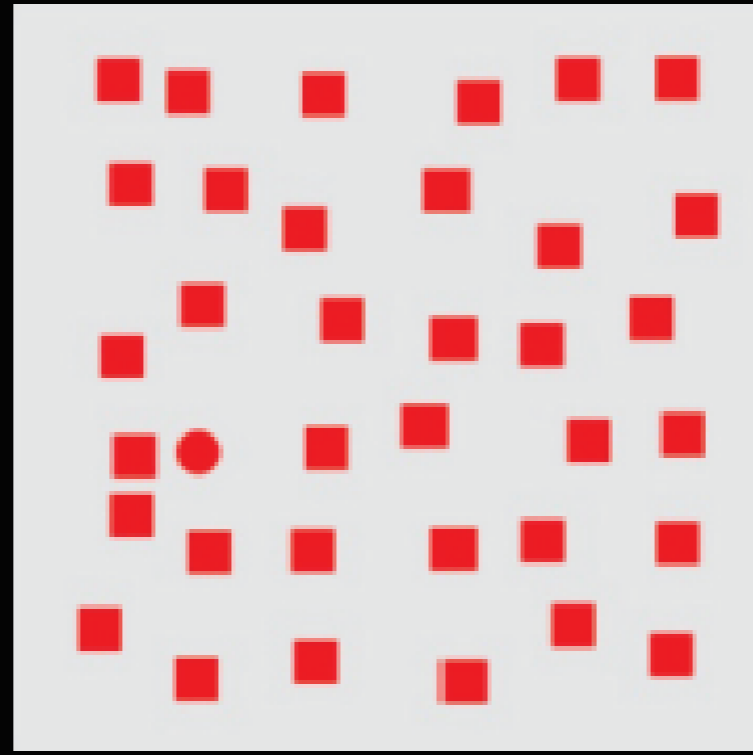
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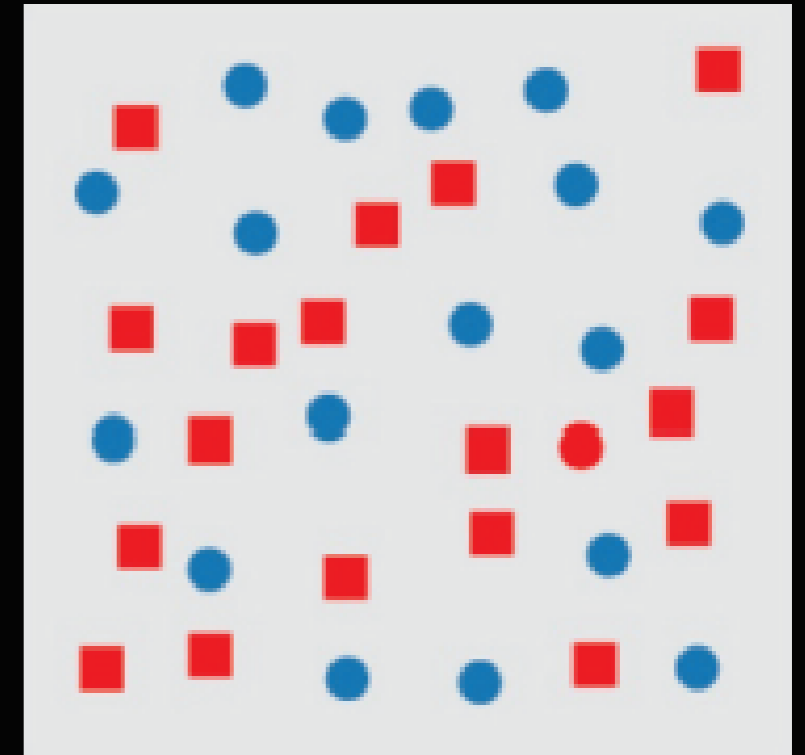
DON'T MAKE ME THINK



NO THINKING



SOME THINKING



FUHGEDDABOUTIT

An interaction is intuitive when the user doesn't have to think.

Guided via visual + interactive elements.

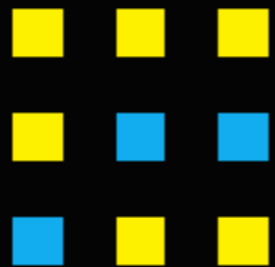
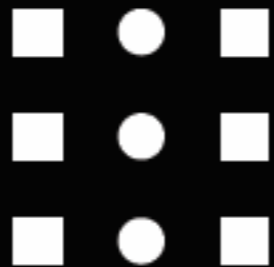
PERCEPTION: GESTALT PRINCIPLES

The whole is different than the sum of its parts.

Max Wertheimer,
German psychologist, 1910

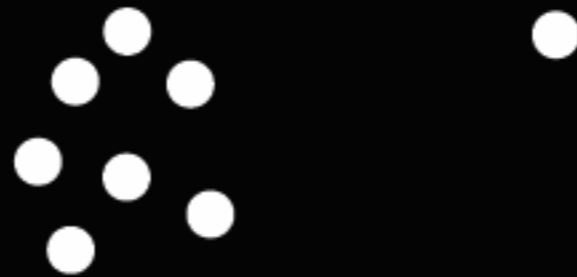
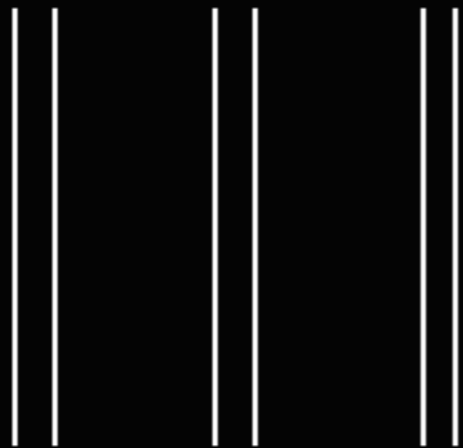
SIMILARITY

Objects that look similar are grouped together.



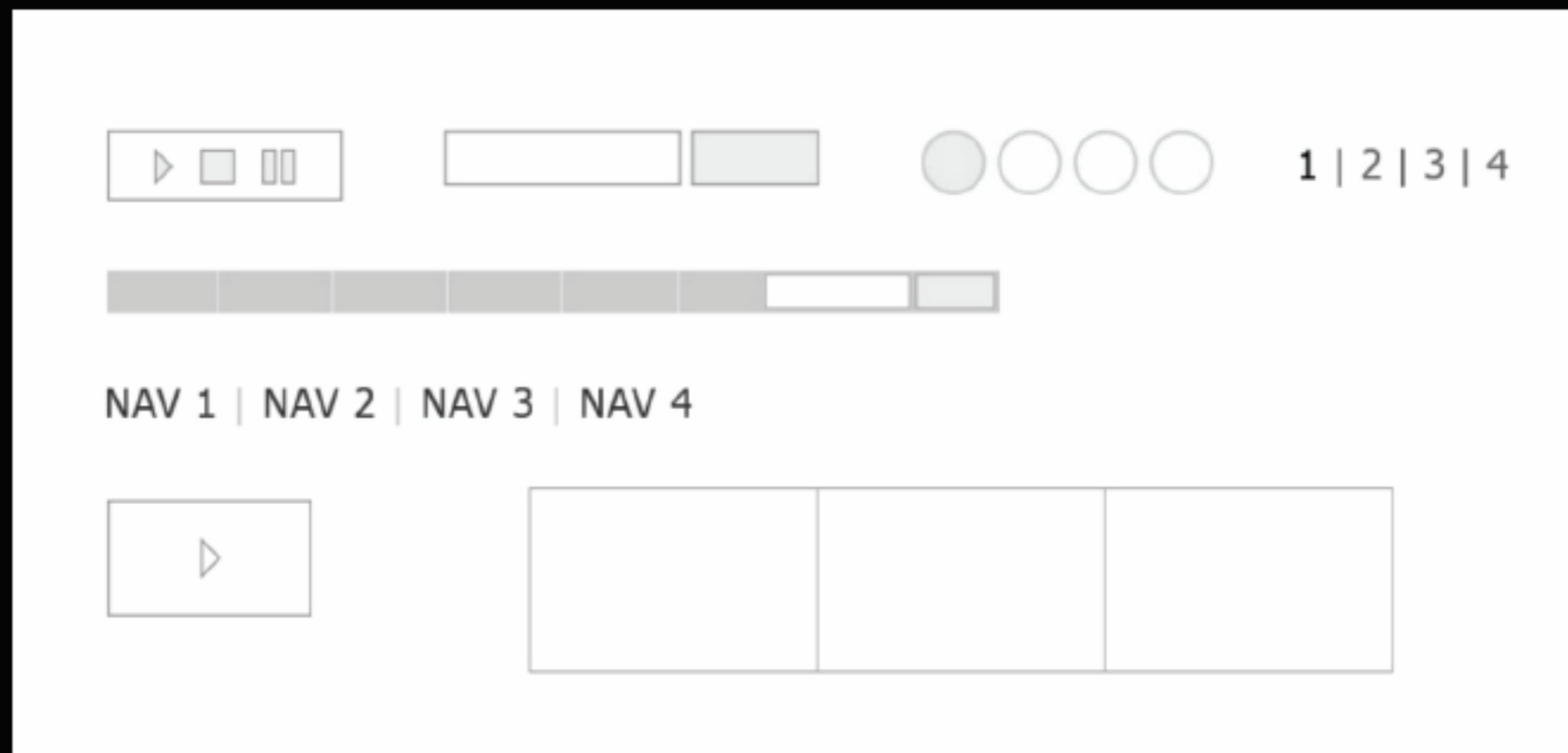
PROXIMITY

Objects positioned close together appear grouped.



APPLYING SIMILARITY AND PROXIMITY

Similarity in appearance indicates a likeness in functionality.



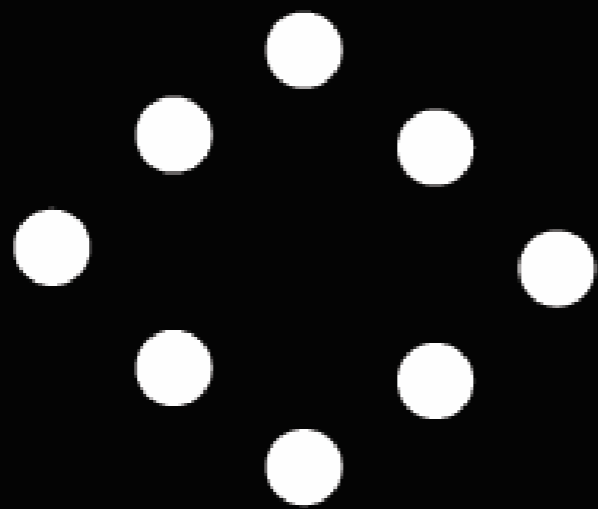
APPLYING SIMILARITY AND PROXIMITY

Proximity helps us to imply relationships between similar objects.




CLOSURE

Objects grouped together are seen as a whole shape, our brain fills in any missing information.



APPLYING CLOSURE

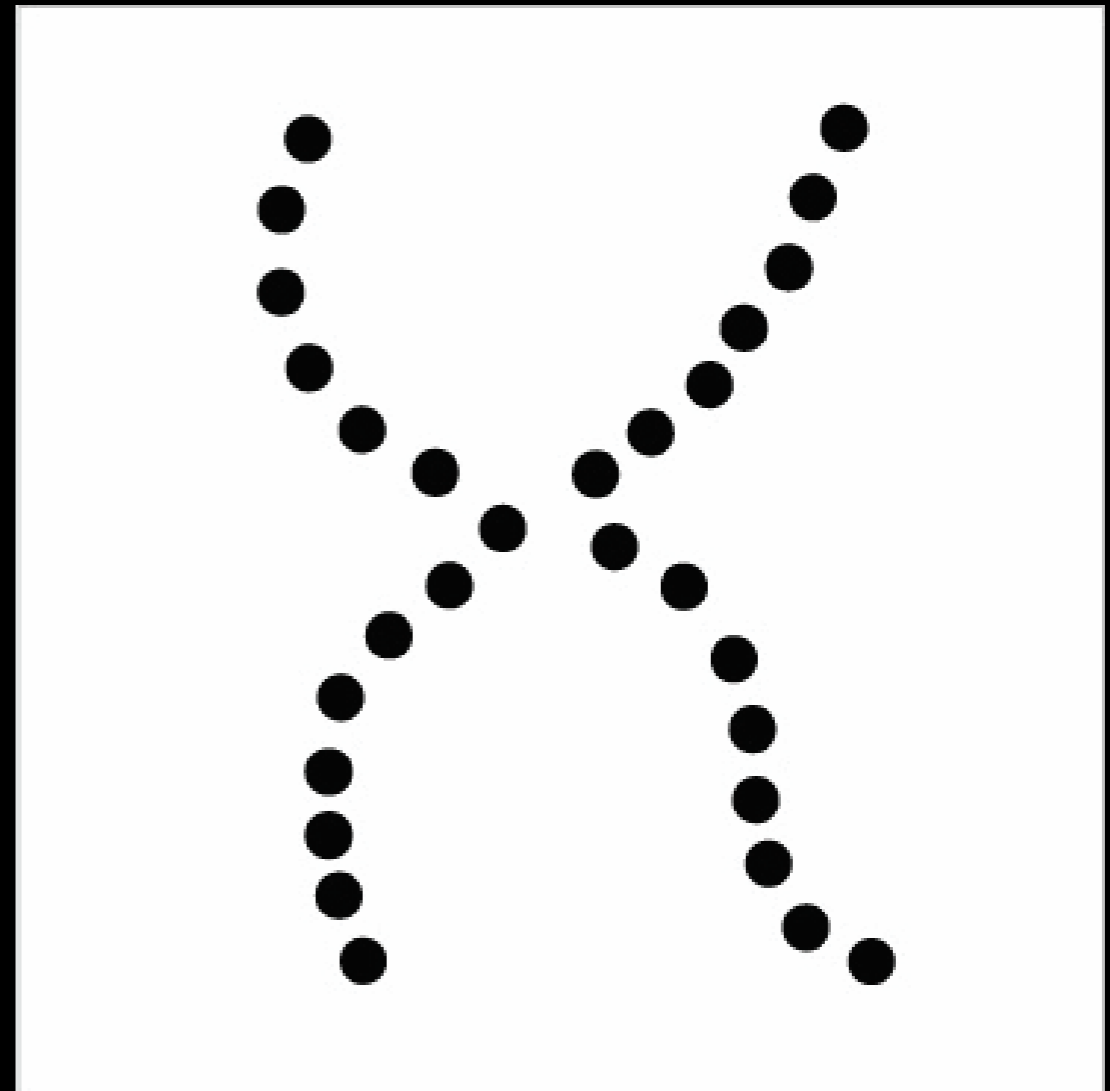
Closure allows us to view the bottom columns as rectangular shapes, because they are surrounded by white space.



The screenshot displays the CuroSphere website interface. At the top, there is a search bar and a contact number: 1.800.800.8403. The main navigation includes links for 'Explore CuroSphere', 'Industry Perspective', 'Experience That Counts', and 'Get CuroSphere'. A sidebar on the left lists 'Product Features' with categories like Overview, Setup, Registration, Clinical, Scheduling, Billing, Documents, Streamlining Processes, Implementation, Support, and Training & Education. The main content area features a large image of a smiling female healthcare worker in orange scrubs. To her right is the 'Overview' section, which describes CuroSphere as an extensible, intelligent home care software solution. Below this, there are tabs for 'For Clinicians' and 'For Managers', followed by a headline: 'Home care IT solution CuroSphere™ makes home care clinicians more effective and improves patient care.' The page also includes a 'Get to Know CuroSphere' button, a 'Experience that Counts' section with a link to 'Are we hunters or home-care providers?', and an 'Industry Perspectives' section with links to 'FY 2012 Budget Proposals Across Care Settings' and 'CMS Open Door Forum'.

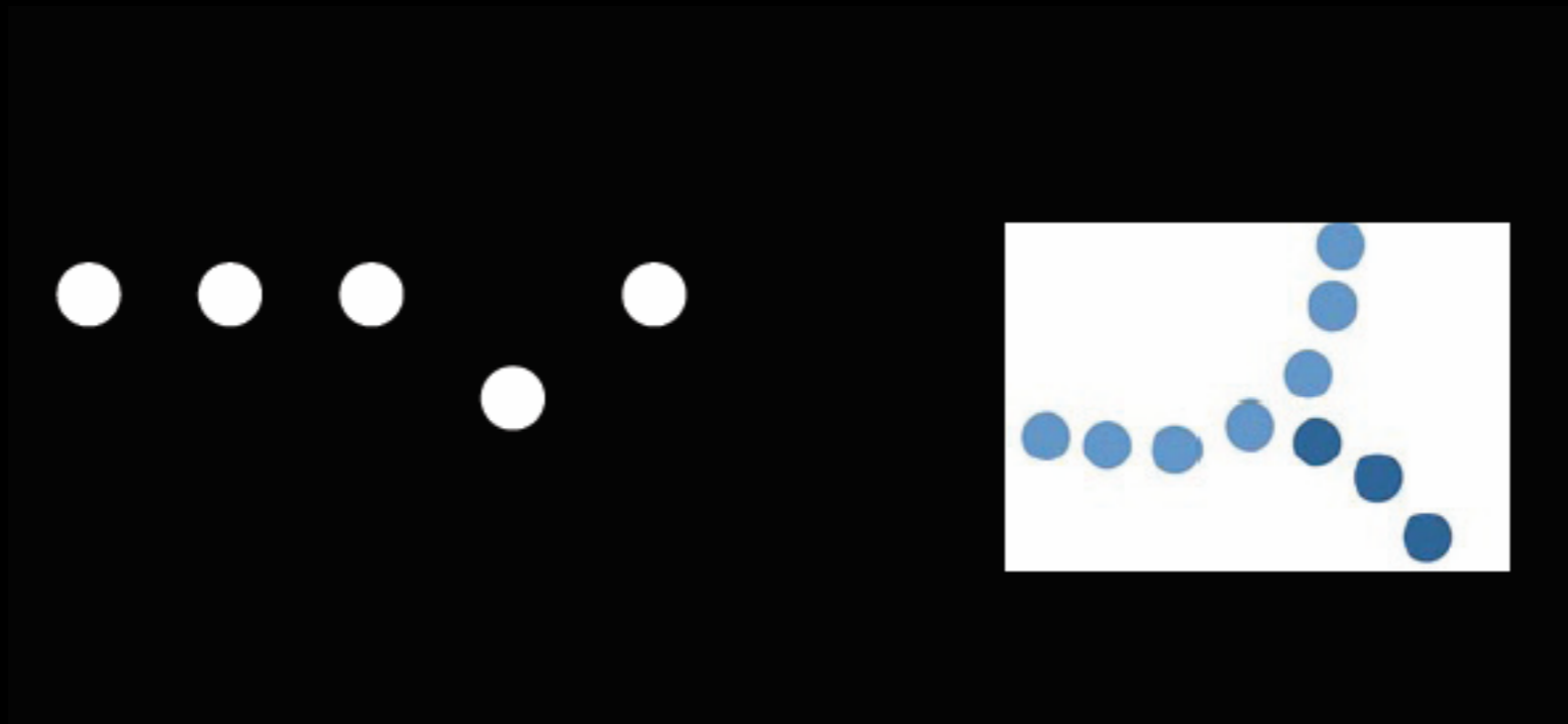
CONTINUATION

Objects arranged
in a continuous
line are grouped
together.



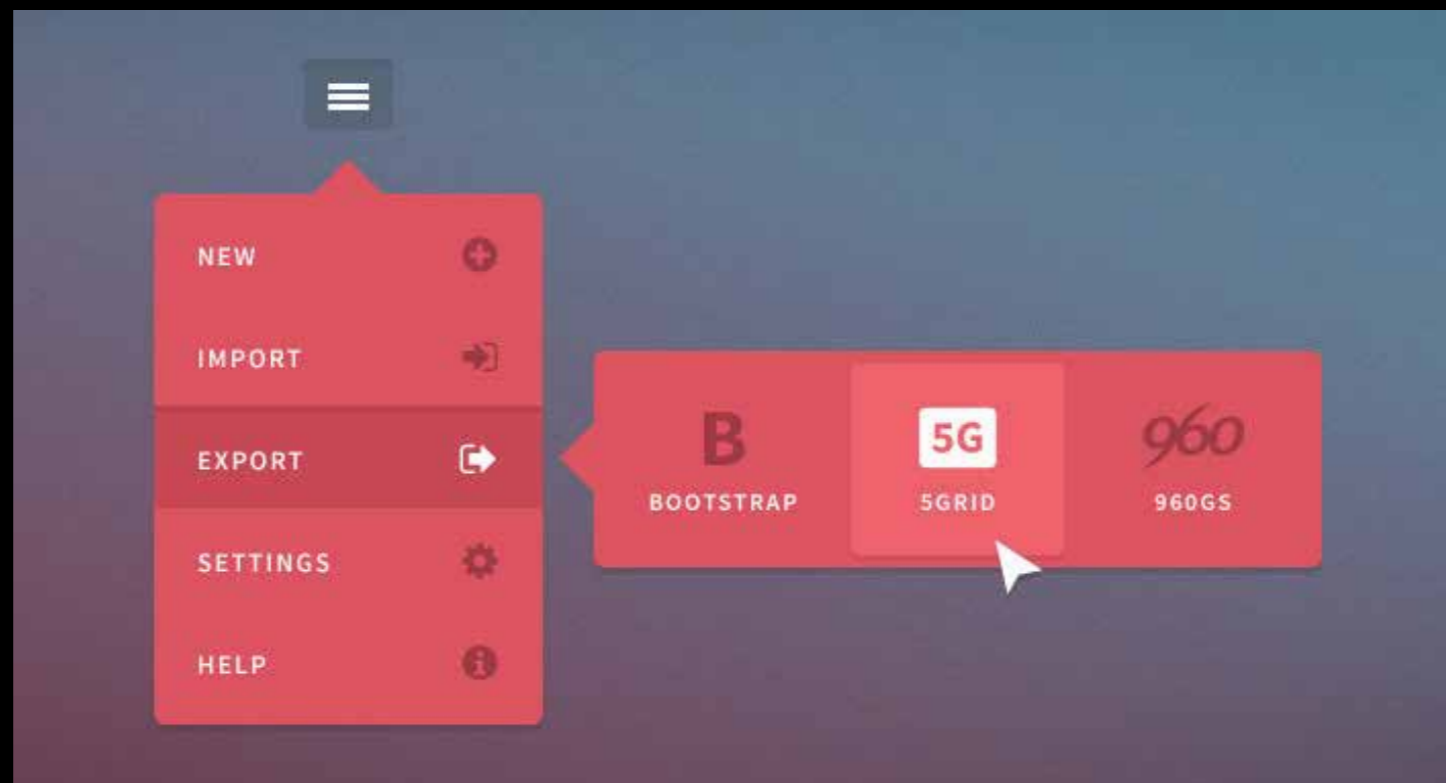
COMMON FATE

Objects facing the same direction are grouped together, any outsiders may create tension.



APPLYING CONTINUATION AND COMMON FATE

Continuation and Common Fate in interaction design, are commonly utilized by navigation and widgets.



DESIGNism #8

DON'T FIND CUSTOMERS FOR YOUR PRODUCTS, FIND PRODUCTS FOR YOUR CUSTOMERS.

-Seth Godin