

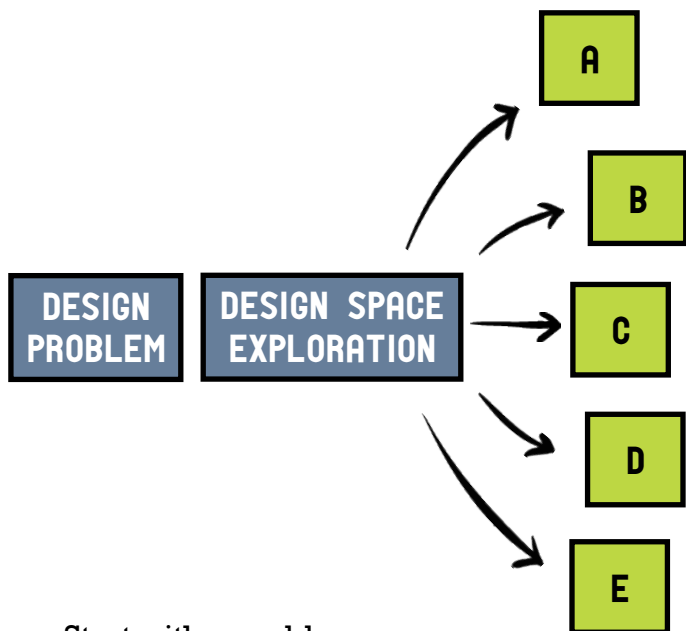
DESIGN HEURISTICS

77 CARDS

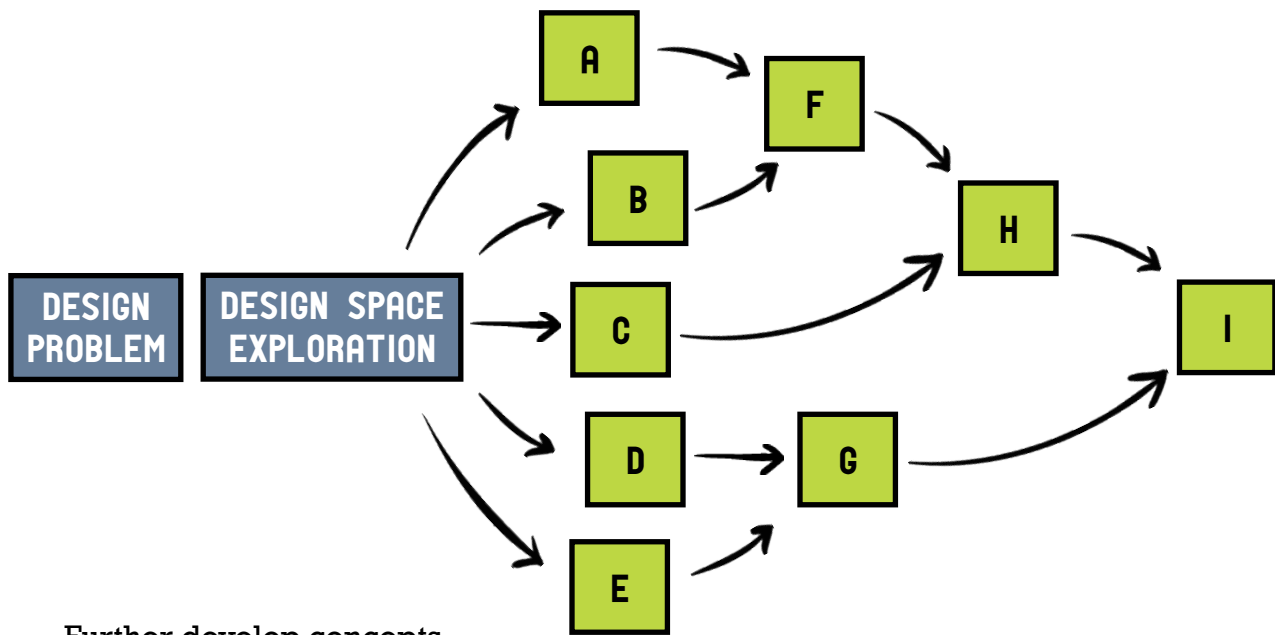
**DESIGN
PROBLEM**

**DESIGN SPACE
EXPLORATION**

Start with a problem
Research and gather information
Generate concepts



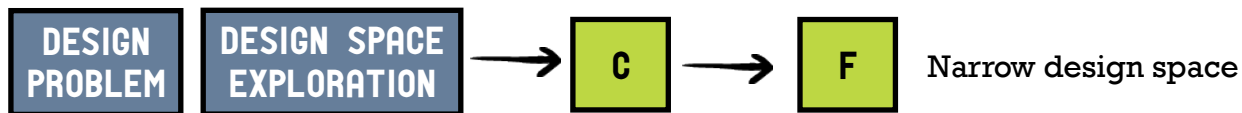
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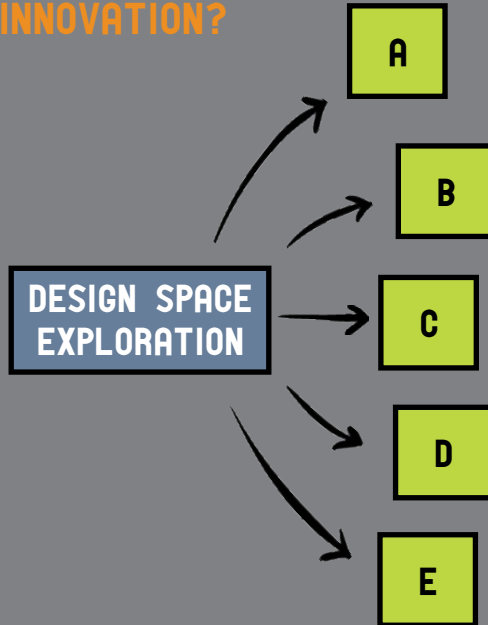


CHALLENGES WITH CONCEPT GENERATION

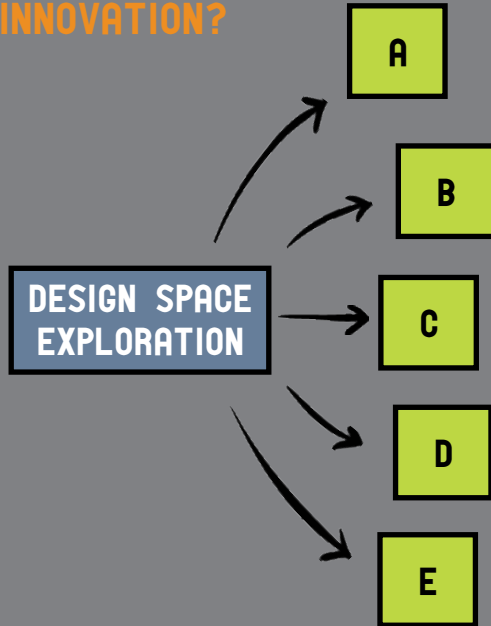
- Fixation
 - existing products
 - previous experiences
 - first idea
- Difficulty generating multiple ideas
- Stuck in routine design



HOW DO WE PROMOTE
CREATIVITY AND DIVERSITY
THAT COULD LEAD TO
INNOVATION?



HOW DO WE PROMOTE
CREATIVITY AND DIVERSITY
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Use concept generation techniques to generate multiple, different ideas

Do not evaluate until later stages of design

COGNITIVE HEURISTICS

Reasoning processes that do not guarantee the best solution, but often lead to potential solutions by providing a short-cut.

DESIGN HEURISTICS

Concept modifiers that quickly lead to a potential solution, providing the opportunity for a novel design to occur.

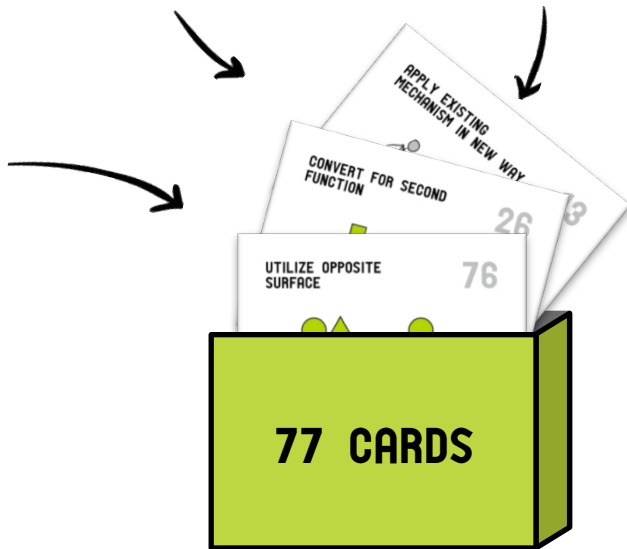
Award-winning
Products

Think-aloud
Design Task

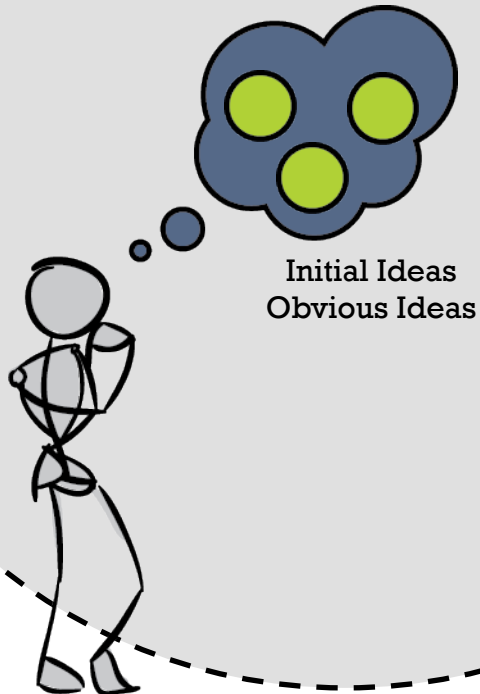
Professional
Designer

DESIGN HEURISTICS

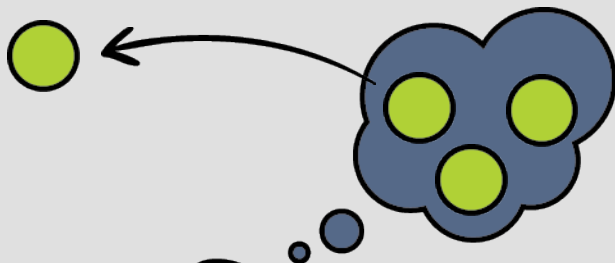
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DESIGN SOLUTION SPACE

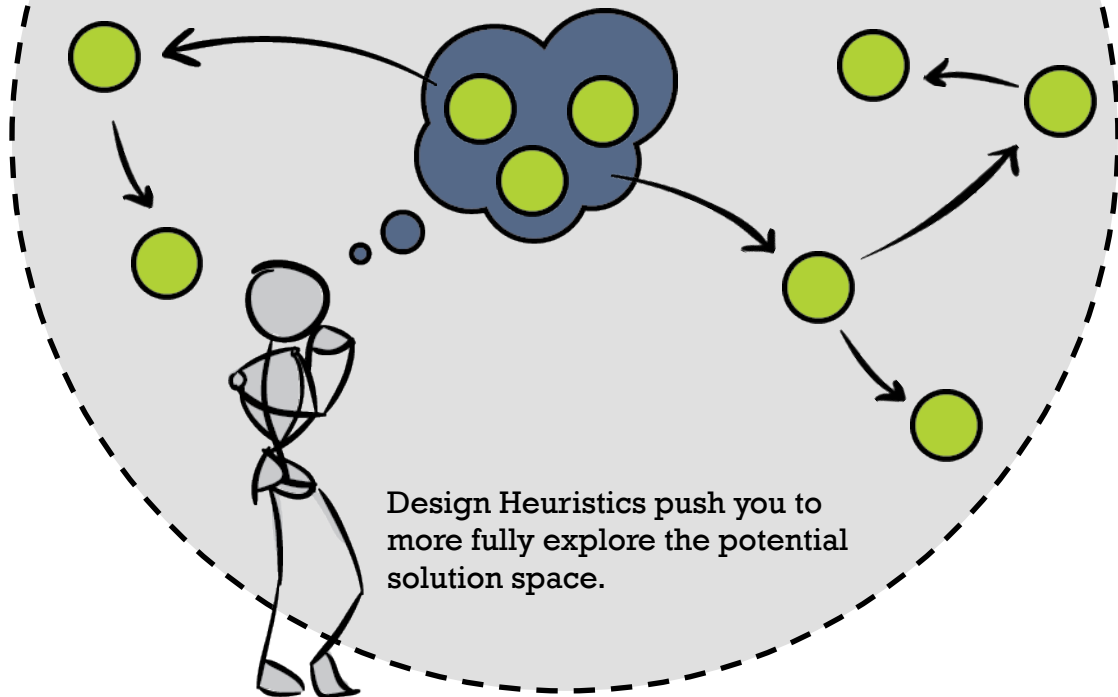


DESIGN SOLUTION SPACE



Design Heuristics push you to more fully explore the potential solution space.

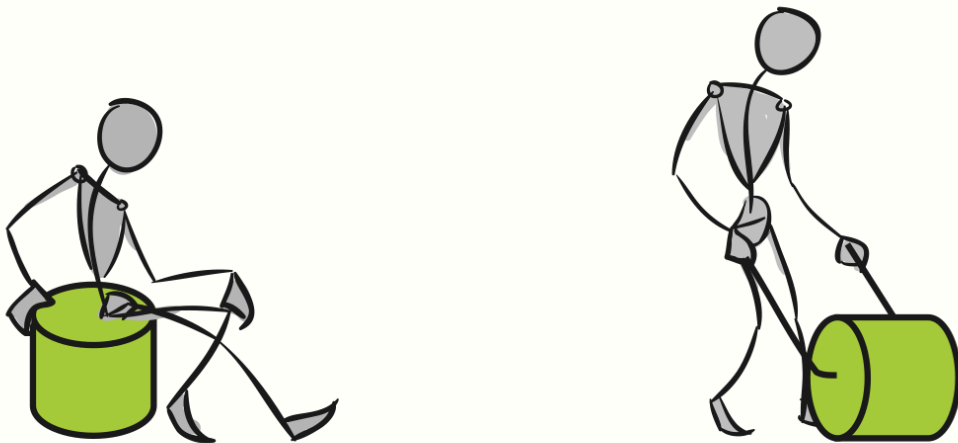
DESIGN SOLUTION SPACE



Design Heuristics push you to more fully explore the potential solution space.

APPLY EXISTING MECHANISM IN NEW WAY

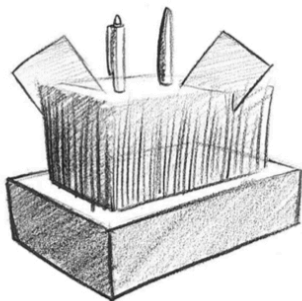
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Consider whether existing products or their components can fulfill the desired function. This can facilitate reuse of existing products, make the design process more efficient, and expand the pool of options.

APPLY EXISTING MECHANISM IN NEW WAY

13



PRATONZOLO

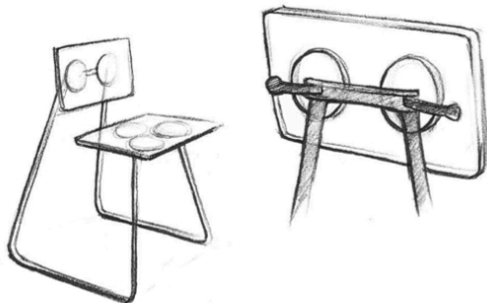
Max Battaglia

This desk organizer uses brush bristles to hold pens, pencils, and business cards.

WANTUZ

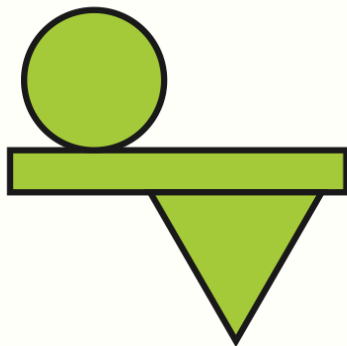
Reha Erdogan

Hand vacuum cups are used to transport large sheets of glass. Here, they are used to hold the seat and back of this chair in place.



UTILIZE OPPOSITE SURFACE

76



Create a distinction between exterior and interior, front and back, or bottom and top. Make use of both surfaces for complimentary or different functions. This can increase efficiency in the use of surfaces and materials, or facilitate a new way to achieve a function.

UTILIZE OPPOSITE SURFACE

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980 TATOU

Annika Luber

The laces wrap around the bottom of this shoe and connect with the sole.

FARALLON CHAIR

fuseproject

The back side of this chair has a pocket for storage.



CONVERT FOR SECOND FUNCTION

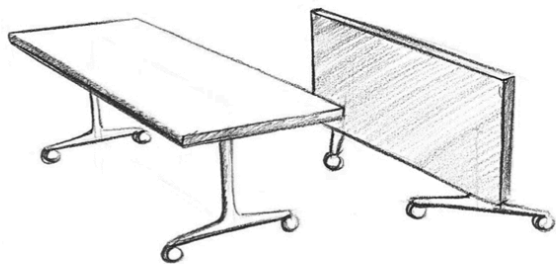
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Create multiple stable states of the product, where each state defines a separate function. Transitions between these states can be achieved through rearranging, reorienting, and attaching or detaching components. This can allow multiple functions to be incorporated into one product.

CONVERT FOR SECOND FUNCTION

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AKIRA TABLES

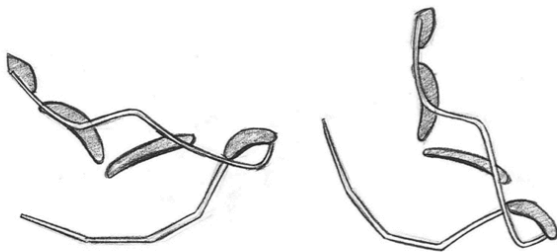
Coalesse Vecta

This table features a folding top that can flip up or down, making it useful as a room divider.

GRAVITY BALANS

Peter Opsvik

This recliner has multiple stable stages, allowing the user to kneel upright, or recline by leaning back and finding a balance point.



QUESTIONS?

The cards?

The process?

How does using Design Heuristics differ from
your normal mode of generating ideas?

Any other observations?

CONCEPT GENERATION WITH DESIGN HEURISTICS

Read through your set of 15 Design Heuristic Cards.
Be sure to look at both sides!

Use your set of cards to come up with ideas.
Do not worry about manufacturing details and materials.
Come up with as many ideas as you can.
Draw each concept on a new concept sheet.
Work individually.

Fill out the concept description and origin.
Identify which heuristics you used.

SHARE WITH YOUR TEAM

Each team member share your ideas with the team.
Briefly explain where the ideas came from.

Each team member select 2-3 Design Heuristic cards that
you feel would be useful to your class project.
Try to choose cards that you didn't already use.
Share these cards with the team.

As a team, generate at least 5 more concepts using the selected cards.

Document the team-generated concepts on the concept sheets.
Write your team's name on each sheet.
Fill out the concept description and origin.
Identify which cards you used.