DESIGN HEURISTICS
77 CARDS
Start with a problem
Research and gather information
Generate concepts
Start with a problem
Research and gather information
Generate concepts
Further develop concepts
Design problem

Design space exploration

Challenges with concept generation

- Fixation
  - existing products
  - previous experiences
  - first idea

- Difficulty generating multiple ideas

- Stuck in routine design
Design problem → Design space exploration → C → F
Narrow design space
How do we promote creativity and diversity that could lead to innovation?

Design Space Exploration

- A
- B
- C
- D
- E
How do we promote creativity and diversity that could lead to innovation?

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.
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DESIGN SOLUTION SPACE

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

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.

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

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

980 TATOU
Annika Luber
The laces wrap around the bottom of this shoe and connect with the sole.
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.

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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.

AKIRA TABLES
Coalesse Vecta
This table features a folding top that can flip up or down, making it useful as a room divider.
Questions?

The cards?

The process?

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

Any other observations?
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.
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 name on each sheet. Fill out the concept description and origin. Identify which cards you used.

SHARE WITH YOUR TEAM