IDEAShub

TOOLS FOR CREATIVE IDEAS

Lesson 5:
Idea Initiation

IRISH RESEARCH COUNCIL
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OLLSCOIL LUIMNIGH

By the end of this lesson

Pupils should be able to:

- Understand how to generate ideas.
- Understand the purpose of the Design Heuristic tool.
- Understand how to use Design Heuristics to generate initial ideas.
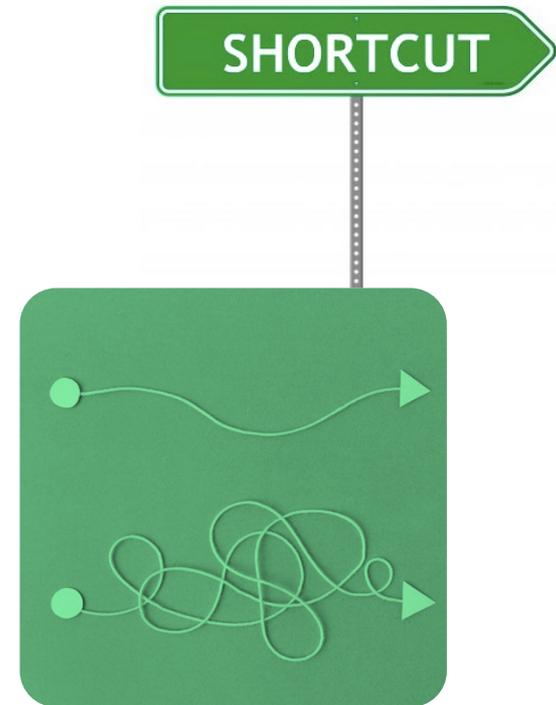
Introduction to Design Heuristics

Cognitive Heuristics:

- Reasoning (thinking) processes.
- Do not guarantee the best solution, but often lead to potential solutions.
- Provide a short cut.

Design Heuristics:

- Idea modifiers.
- Quickly lead to a potential solution.
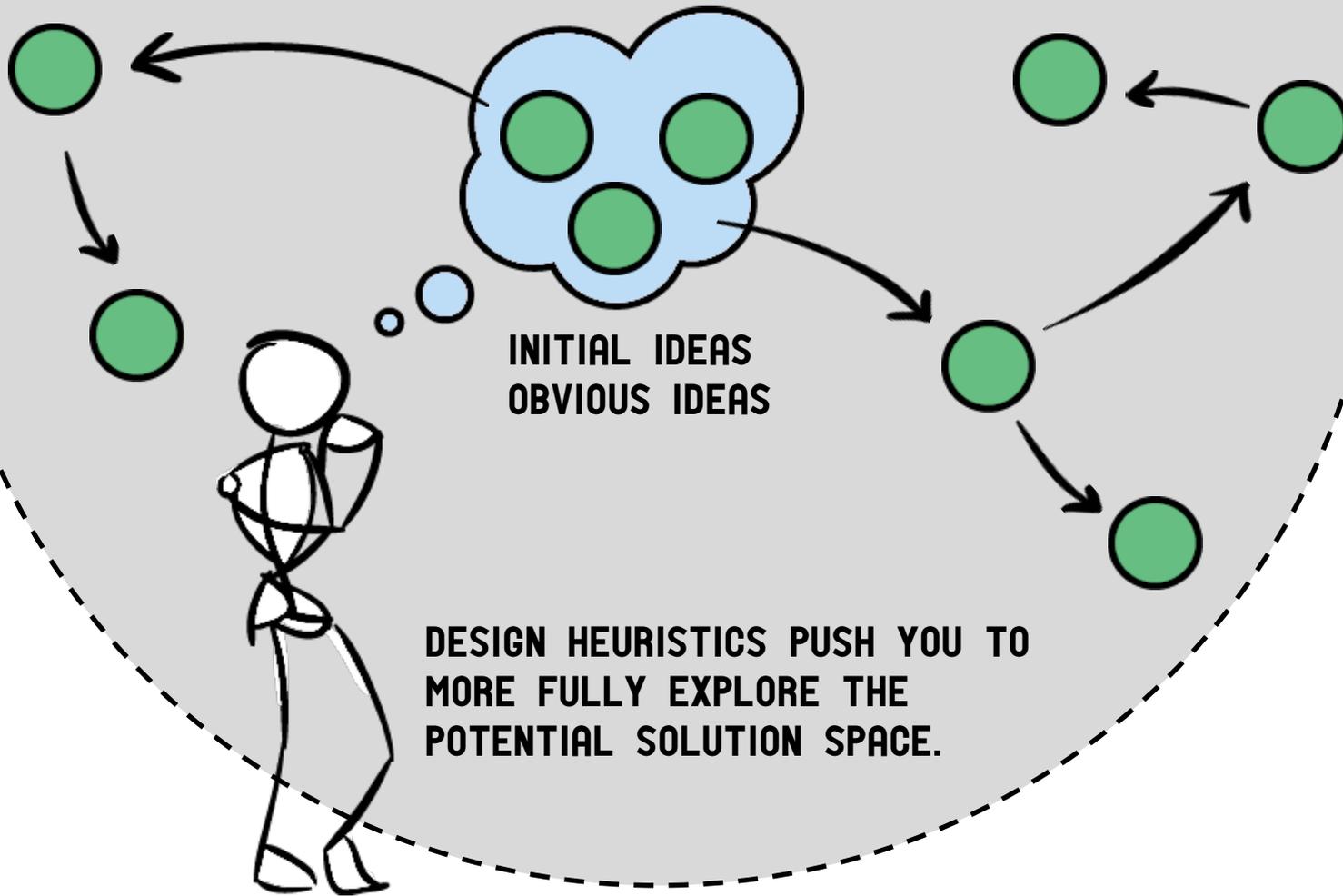- Provide opportunity for a novel design to occur.

Design Heuristics are a tool that will help generate creative ideas. Use the cards to ignite your creative genius within.
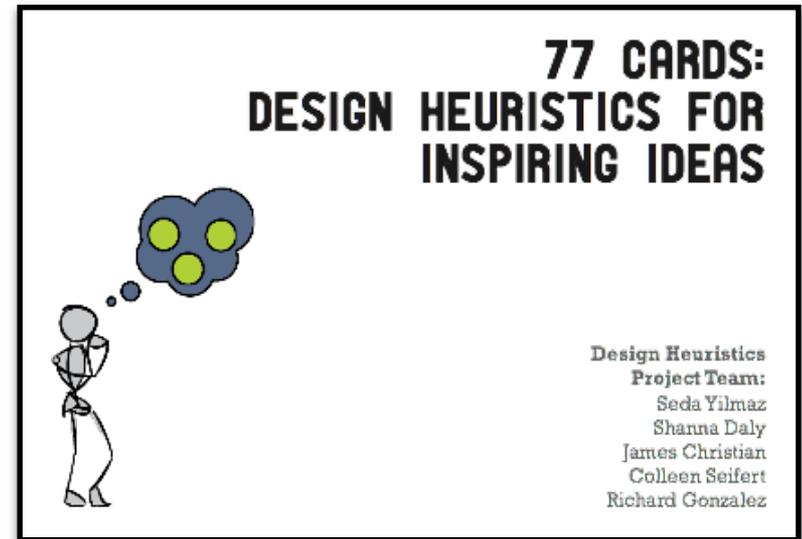
Design Heuristics

INITIAL IDEAS
OBVIOUS IDEAS

DESIGN HEURISTICS PUSH YOU TO
MORE FULLY EXPLORE THE
POTENTIAL SOLUTION SPACE.

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What are Design Heuristics?

- The 77 Design Heuristics were originally developed by a team from University of Michigan, and Iowa State University, in the USA.

- Each Design Heuristic was developed based on:
  - *How designers think of ideas.*
  - *Innovative award winning products.*
  - *How students and professionals generate and develop design ideas.*

77 CARDS:
DESIGN HEURISTICS FOR
INSPIRING IDEAS

Design Heuristics
Project Team:
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Each Design Heuristic card has a front and a back detailing key information.

Front of a Design Heuristic card

Heuristic title

UTILIZE OPPOSITE SURFACE

Heuristic number, *out of a total of 77*

76

Abstract visual

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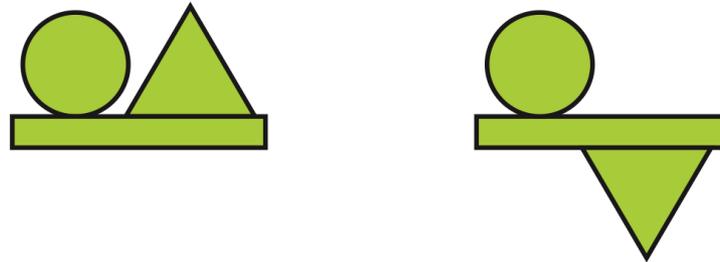
Create a distinction between exterior and interior, front and back, or bottom and top. Make use of both surfaces for complimentary or different functions. This can increase efficiency in the use of surfaces and materials, or facilitate a new way to achieve a function.

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Back of a Design Heuristic card

UTILIZE OPPOSITE SURFACE

76

Award winning product;
showing an example of the heuristic applied

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

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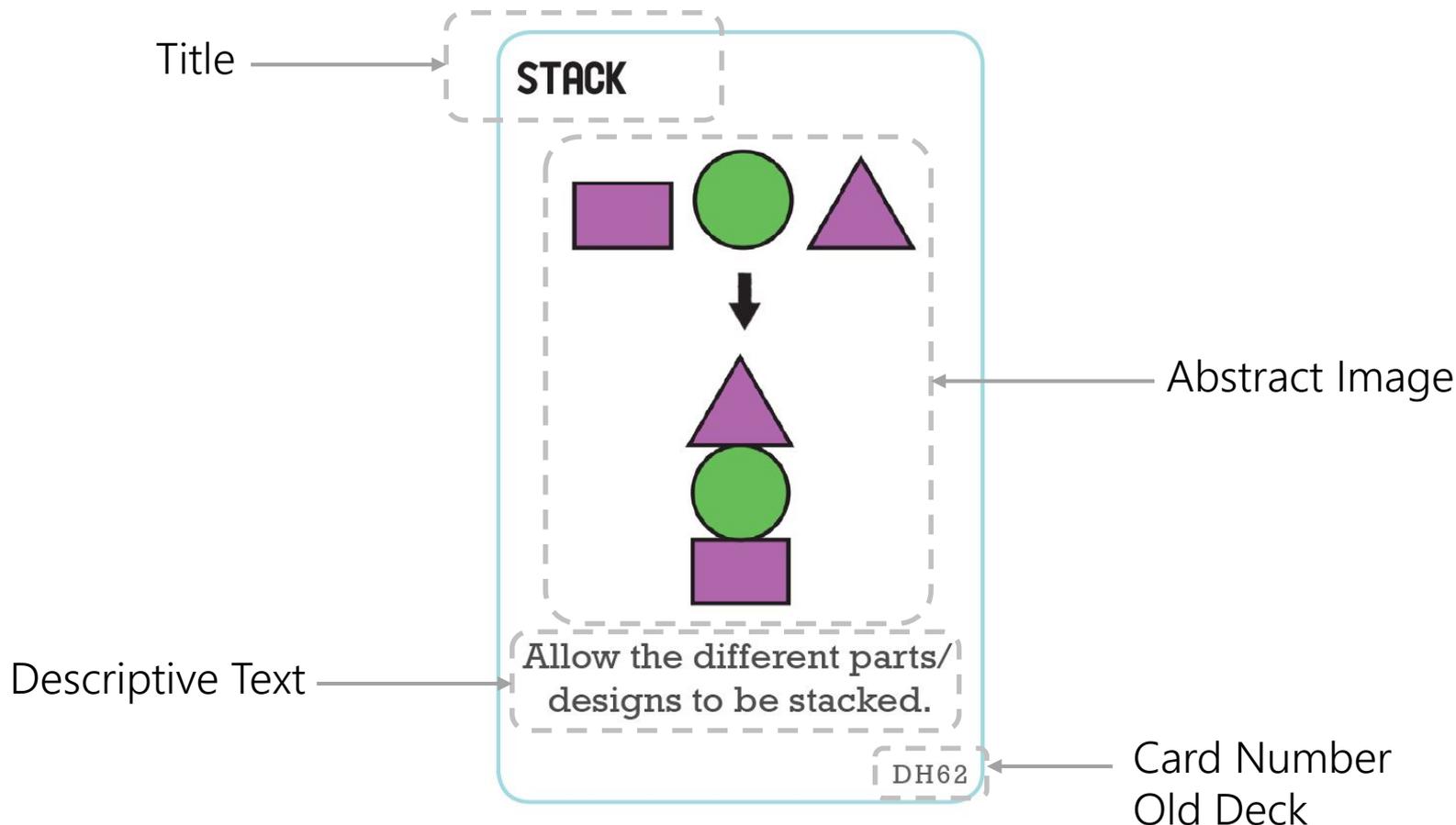The laces wrap around the bottom of this shoe and connect with the sole.

Another product example; Seating device which is the same product line on each card showing how heuristics can all be applied to one design task.

46 Design Heuristics Creativity Unfolded

Example of one Heuristic

Title

STACK

Abstract Image

Descriptive Text

Allow the different parts/ designs to be stacked.

DH62

Card Number
Old Deck

What informed these changes?

- ## UL Student Workshop
  - How many attended? 24 undergraduate students

- ## Post primary School Workshops
  - 800 pupils and 50 teachers.

- ## Teacher Workshops
  - 50 teachers in schools.
  - UL Workshops with 13 teachers
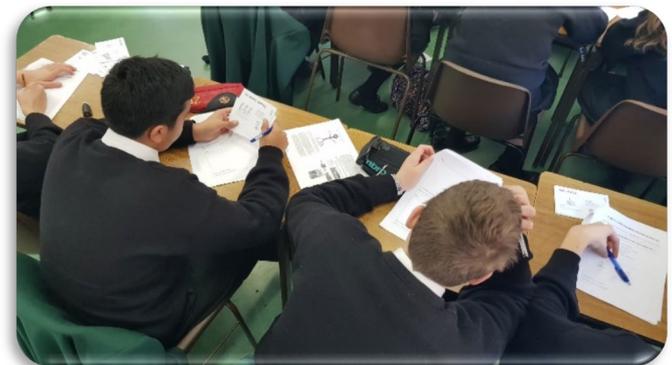
How can Design Heuristics help with generating ideas?

There are many different ways you can use the Design Heuristics.

The three main ways include:

- Generate initial ideas
- Transform ideas
- Change parts or sub-components of ideas

Idea Initiation

Idea Transformation

Subcomponent Design

Idea Initiation

It can be difficult to generate ideas.

Design Heuristics act as prompts, offering an inspiring way to generate initial ideas.

Use Design Heuristics when you are stuck, and cannot think of ideas.

UTILISE INNER SPACE	UTILISE OPPOSITE SURFACE	ADJUST FUNCTIONS FOR SPECIFIC USERS	ALLOW USER TO ASSEMBLE	ALLOW USER TO CUSTOMISE	ALLOW USER TO REARRANGE	ATTACH PRODUCT TO USER	INCORPORATE USER INPUT
Make use of the inside of the design.	Make use of another side/surface of the deisgn.	Change the design based on the needs of the user.	Allow the user put the design together.	Let the user personalise part of the design.	Let the user move/ rearragnge parts of the design.	Join the user and the design.	Include the user's wants and wishes.
DH75	DH76	DH6	DH8	DH9	DH10	DH15	DH40

Example idea generated using Design Heuristics

This student used many different design heuristics to design a solar cooker.
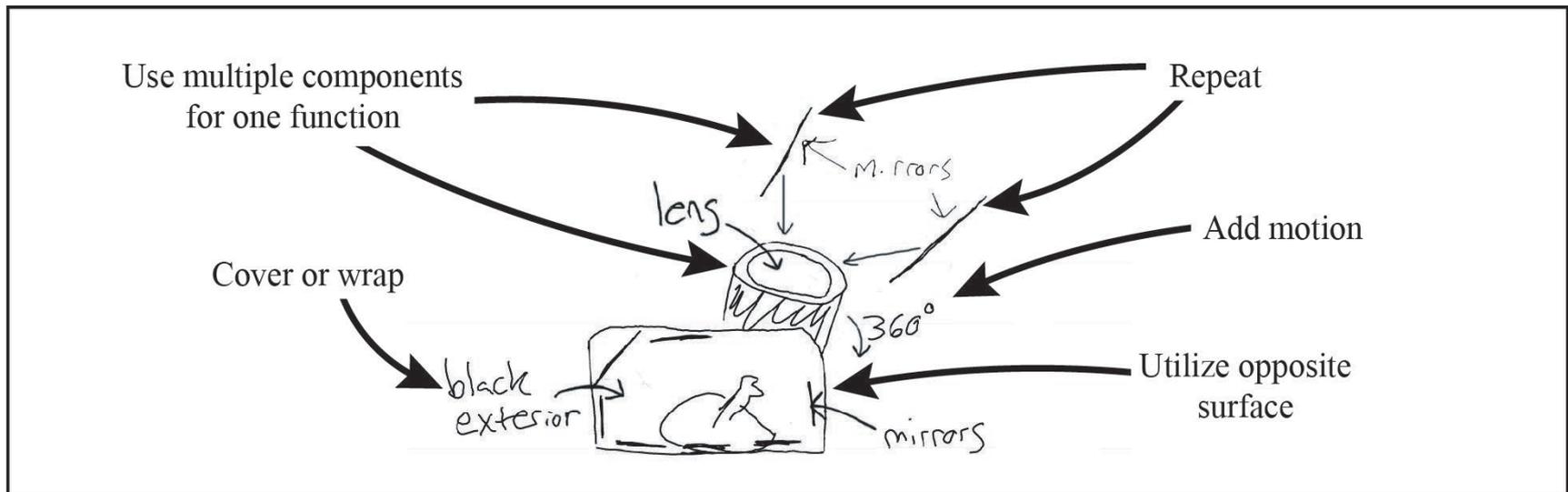
Design Heuristic guidelines for use

- Use any part of a card to generate a new idea

- Generate new ideas by applying a card to a previous idea

- Use the abstract image to inspire ideas

- Use the title to inspire ideas

- Use the description to inspire ideas

Practice using Design Heuristics

Remember in Lesson 4 we outlined the *importance of recording your own initial ideas first*, natural idea generation.

Lesson 5: Idea Initiation

Activity 1 – Natural Idea Initiation

Spend 20 minutes generating ideas for the following design problem:

Design a new Super Hero

Marvel comics have hired you to design their next big super hero for its next generation of movies. Amongst other things, you must pay particular attention to the superhero's super power and outfit.

Record your initial ideas in the space provided.

Activity 1 – Natural Idea Initiation

Spend 15 minutes generating ideas for the following problem:

Design a new Super Hero

Marvel comics have hired you to design their next big super hero for its next generation of movies. Amongst other things, you must pay particular attention to the superhero's super power and outfit.

Practice using Design Heuristics

You may have experienced *exhaustion* while recording your own initial ideas first. You simply could not think of any more ideas.

To help you overcome exhaustion, we will use Design Heuristics to push your thinking a little further to generate more ideas.

Lesson 5: Idea Initiation

Activity 2 – Idea Initiation using Design Heuristics

Spend 20 minutes generating ideas for the following design problem:

Design a new Super Hero

Marvel comics have hired you to design their next big super hero for its next generation of movies. Amongst other things, you must pay particular attention to the superhero's super power and outfit.

Using Design Heuristics, generate more initial ideas. Record ideas in the space provided.

Did you record your own natural ideas first? _____

Did the DH cards help you generate more initial ideas? _____

Did the cards help you generate an idea you didn't think of previously? _____

To help you overcome exhaustion, use Design Heuristics to push your thinking a little further to generate more ideas.

Spend 15 minutes generating more ideas for the following problem:

Design a new Super Hero

Marvel comics have hired you to design their next big super hero for its next generation of movies. Amongst other things, you must pay particular attention to the superhero's super power and outfit.

Idea Initiation - Reflection

- Did the Design Heuristic cards help you generate more initial ideas?

- Did the cards help you develop an idea you did not think of previously?

- How did the Design Heuristics help with your idea generation?

- Other thoughts on using the Design Heuristics to push your thinking further?

Recap – Sharing Ideas

- Share your ideas with your classmate sitting beside you.

- Explain how you used the Design Heuristics to help with your idea generation?

Recap

- Explain the purpose of the Design Heuristic tool.

- Explain how to use Design Heuristics to generate initial ideas.