

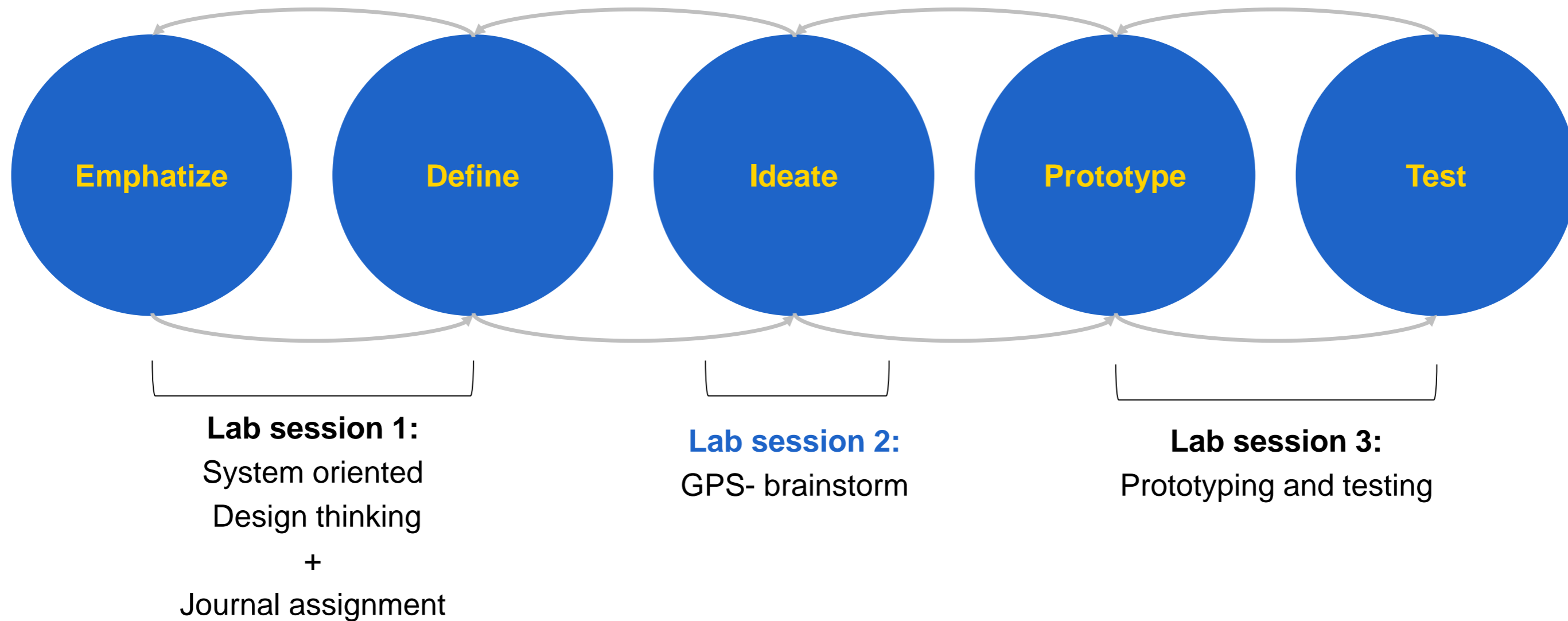
# **LAB SESSION 2: SYSTEMS**

# **ORIENTED DESIGN THINKING**

# **IDEATION**

What solution can we come up with?

# Lab sessions! design thinking methodology





# GPS-brainstorming

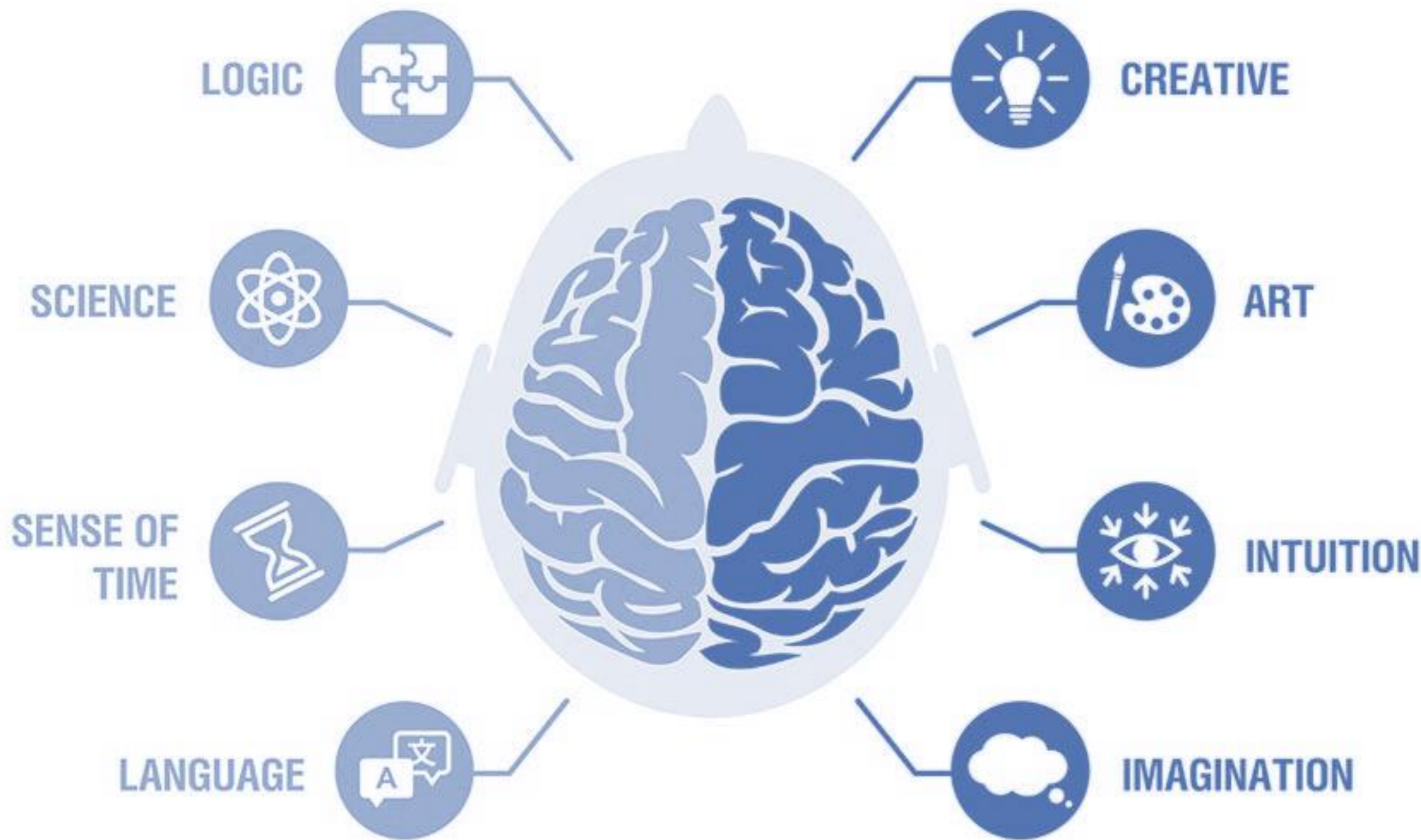
# GPS steps

**Idea  
generation**

**Choose **best**  
ideas**

**Work out  
the best ideas**

# BUT FIRST... CREATIVITY!



# Grown ups VS Kids

**98% left brain**

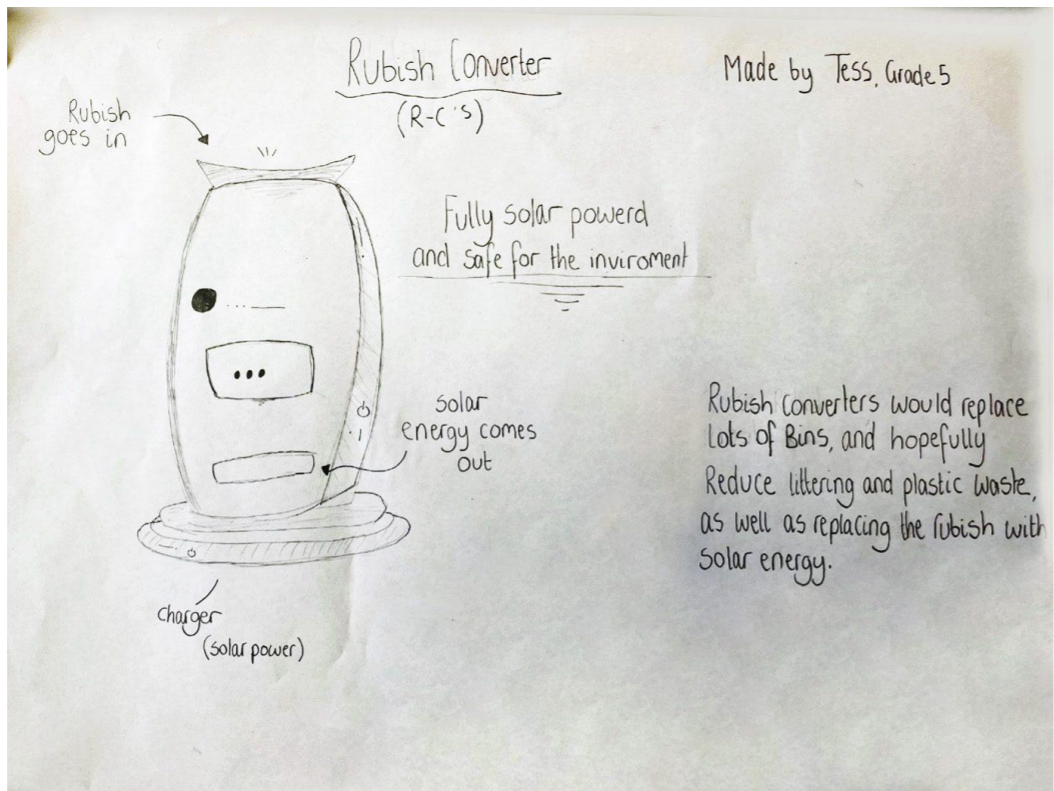
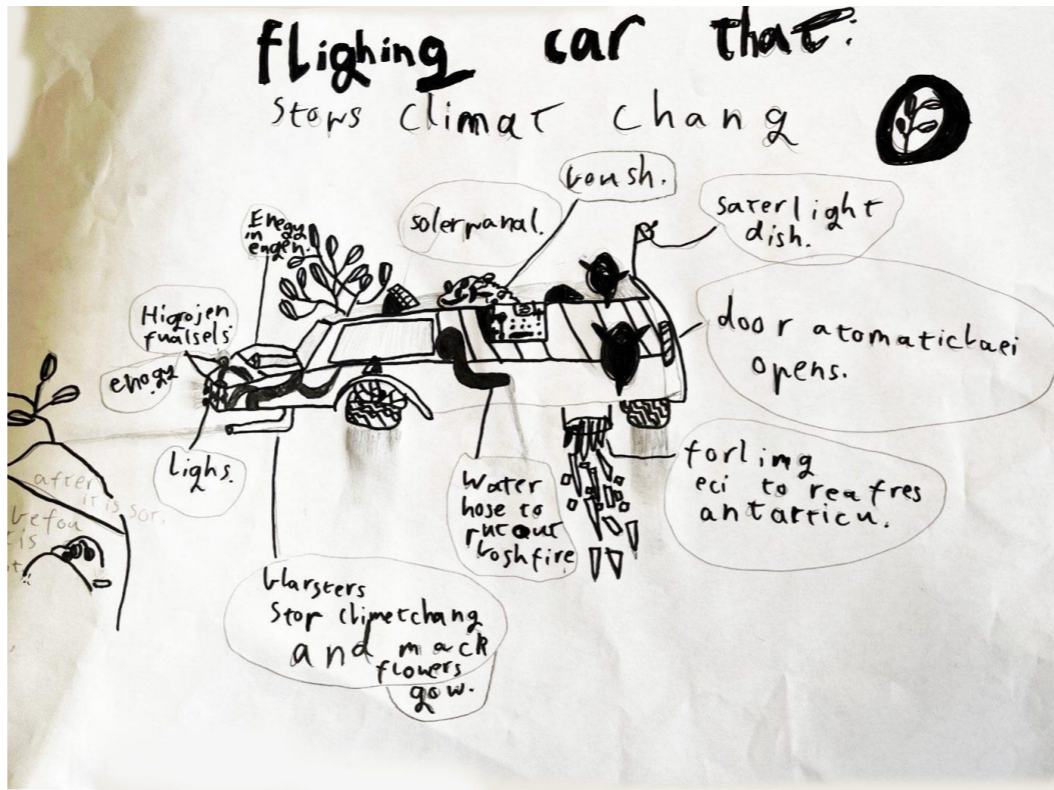
**2% right brain**

**2% left brain**

**98% right brain**



# Kids solutions



<https://www.revolentgroup.com/kids-draw-tech/>



# Kids solutions



# How grown ups think...

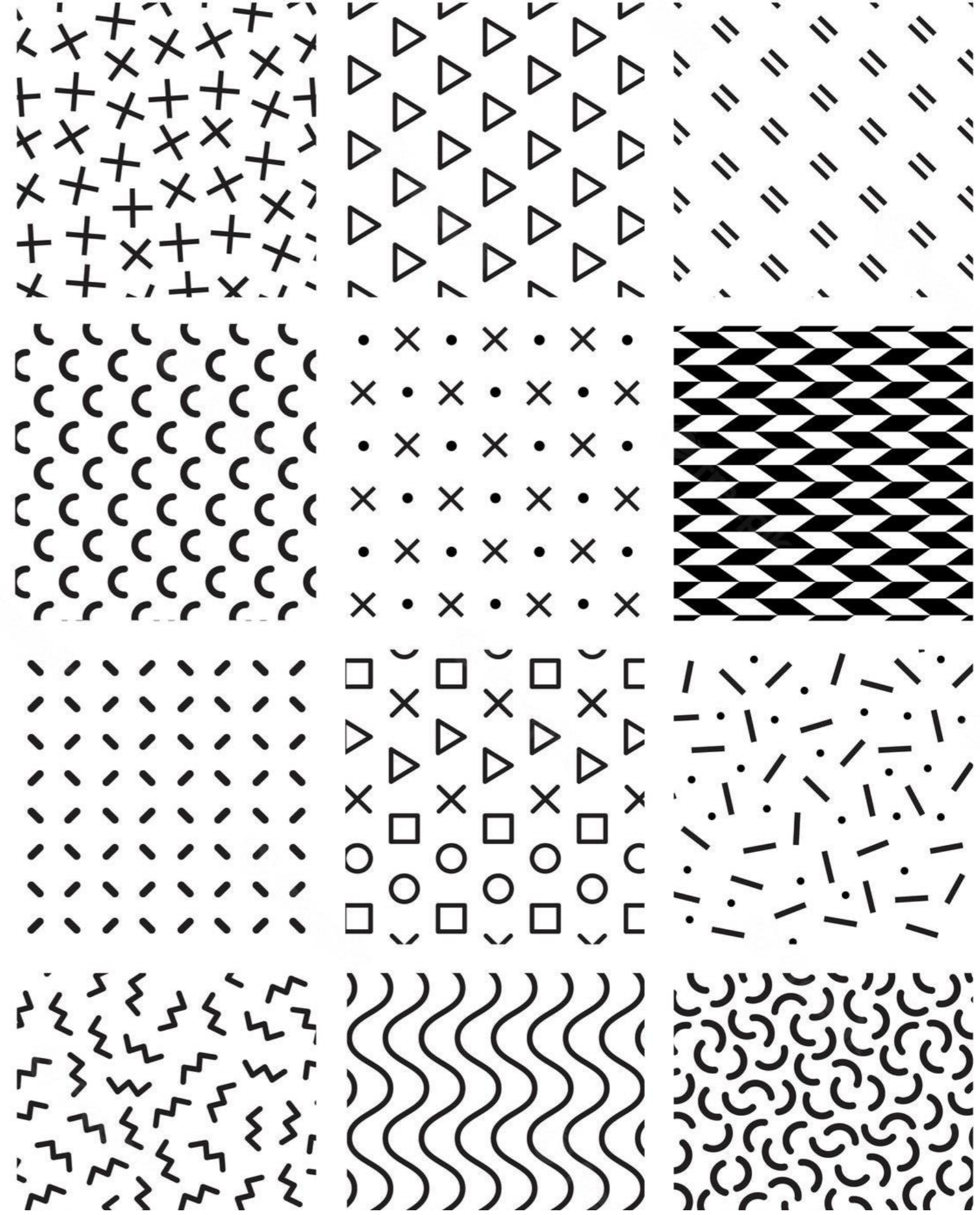
## Scientific research

According to a German student at an English University, it doesn't matter in what order letters in a word are positioned. The most important thing is that the first and last letter of a word are in the right order. The rest can be total gibberish, but you can still read the words in a proper order. This is because we read words in total, and not individually.

# Creativity is...

...the art of breaking patterns,

habits and certainties



# Creativity

3 basic skills

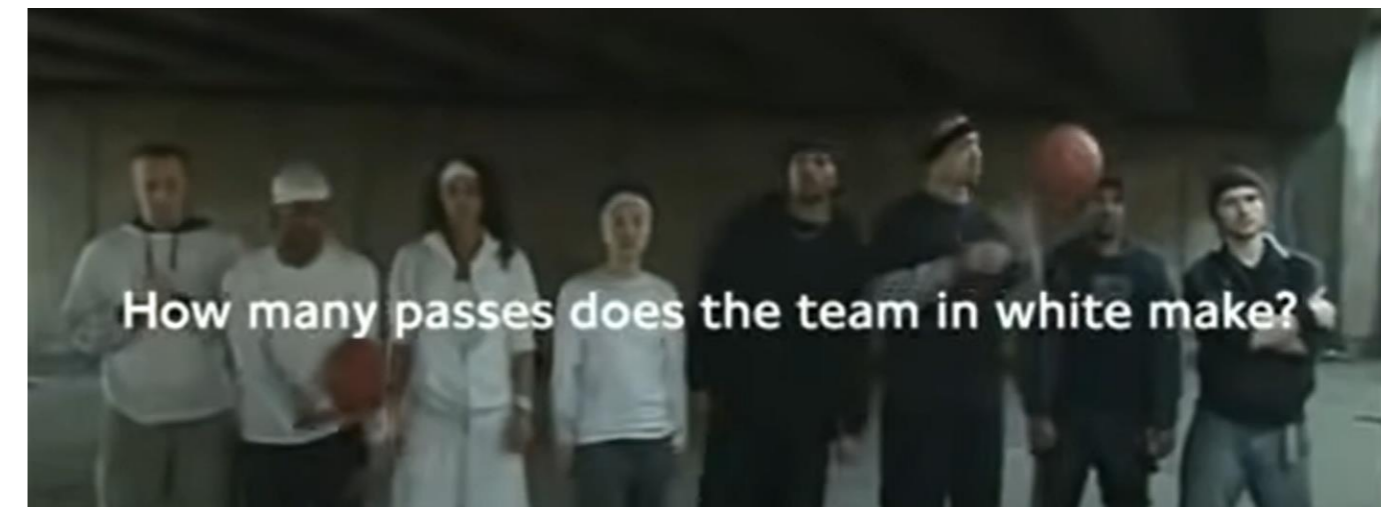
**observation**

**postpone  
judgement**

**thinking  
associative**

# Creativity Observation

**How many passes does  
the team in white  
make?**



# Creativity

Postpone judgement

What animal do you see?



# Creativity Postpone judgement

**This is too new...**

**The change is too big...**

**Let's be realistic...**

**There is no budget...**

**Older people will not like it...**

**I am not creative...**

**That is not logical...**

**Our user will not like it...**

**We can do it without...**

**I'd like to speak to the manager...**

# Creativity

Thinking associative





**AND NOW...**

**GPS-BRAINSTORMING!**

# GPS steps

**Idea  
generation**

**Choose best  
ideas**

**Work out  
the best ideas**

# Rules & tips for a qualitative GPS-brainstorm

## Rules

- **Postpone** judgement!
- Be open and be **enthusiastic**
- Be **open** for naïve and **crazy ideas**
- Try to **build upon** each others ideas

## Tips

- Remember your **goal**
- Choose with **guts**
- Trust your **intuition**
- Choose **things** that give you **energy**

step zero

# DEFINE A CENTRAL PROBLEM

# Define a central problem

- Start from the **central usecase** which your groups got during the first day
- Write down **all problems** your group has encountered during the **field research** (5')
- **Discuss** this with the **other group-members** (15')
- Choose the **most prominent problem** your groups want to **tackle** (10')
- Write this **problem down on a piece of paper**
  - Big enough for every member to be able to read it

step one

# IDEA GENERATION

# Idea generation 6 trends

1. Recycling thrown away food
2. Creative food remixes
3. Internet of things technology
4. Artificial intelligence (AI)
5. Smartphone applications
6. GO NUTS!

# Idea generation

Recycling thrown away food

## FULL HARVEST



- Reselling “ugly vegetables”
- B2B
- Save 40% of the price



# Idea generation

Creative food remixes

- Households throw away a lot of food
- Ingredients that are not being used
- App that gives recipes with ingredients that you have at home



# Idea generation

Internet of things



- Restaurants throw away a lot of food, not knowing how much and why
- Vision (winnow) is a scale that measures how much is thrown away and why
- Data for reflection

# Idea generation Artificial intelligence (AI)



- A lot of products are thrown away because they are not sold
- Wasteless provides AI-tags driven by algorithms to dynamically change the price of the products according to its expiration date

# Idea generation

Smartphone applications

- Leftover food from restaurants, stores, bakeries,...
- App that shows leftover for a cheaper price. Leftovers are sold.



**Too Good To Go**

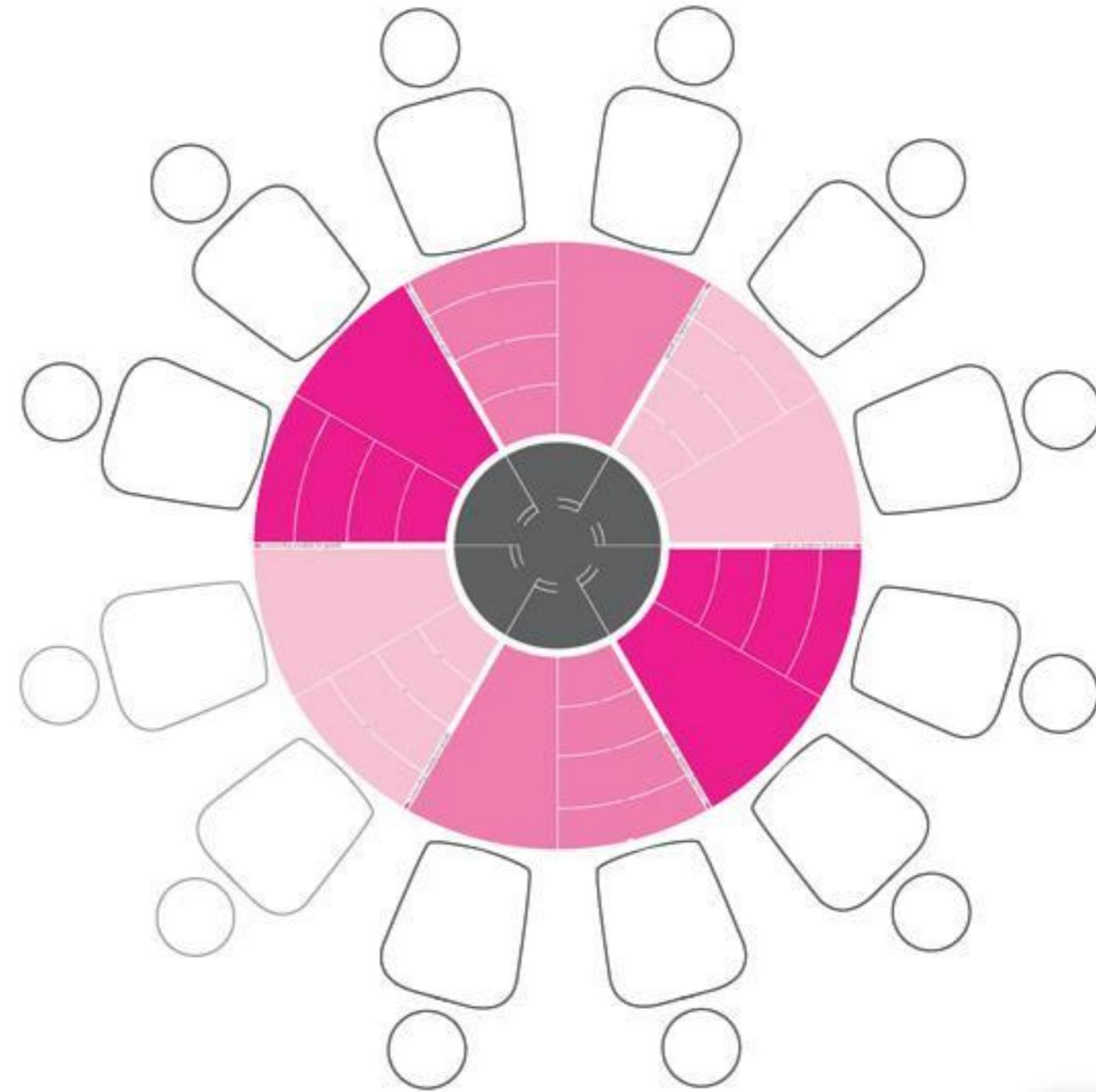
# Idea generation GO NUTS!



- Come up with your most crazy thoughts to tackle the central problem

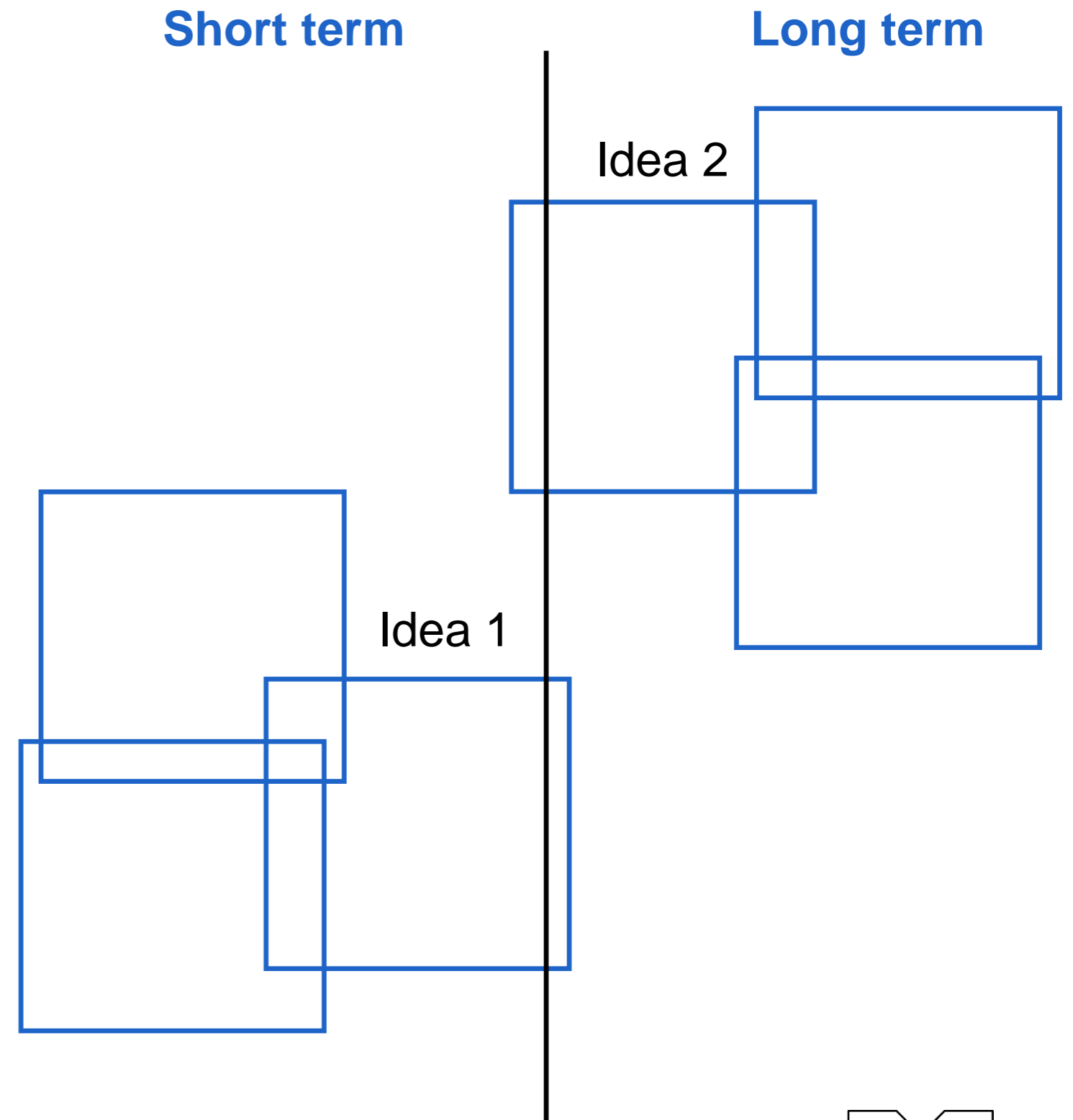
# Shoot ALL your solutions idea divergence

- **Position** yourself around the table
  - As is showed in the figure
  - Min. 2 persons at 1 trend
- **Flow:**
  - **Start:**
    - Write down all your ideas within the trend you are standing with two
  - **End:**
    - Go to the next trend (clockwise)
  - Repeat 6 times
- **6 rounds:**
  - Round 1: 8 mins
  - Round 2: 8 mins
  - Round 3: 6 mins
  - Round 4: 5 mins
  - Round 5: 4 mins
  - Round 6: 4 mins



# Clustering idea divergence

- **Cluster** similar ideas/ solutions like in the example
- Place **feasible ideas** on the **long term** go to the right and **short term** on the left
- 5 mins



step two

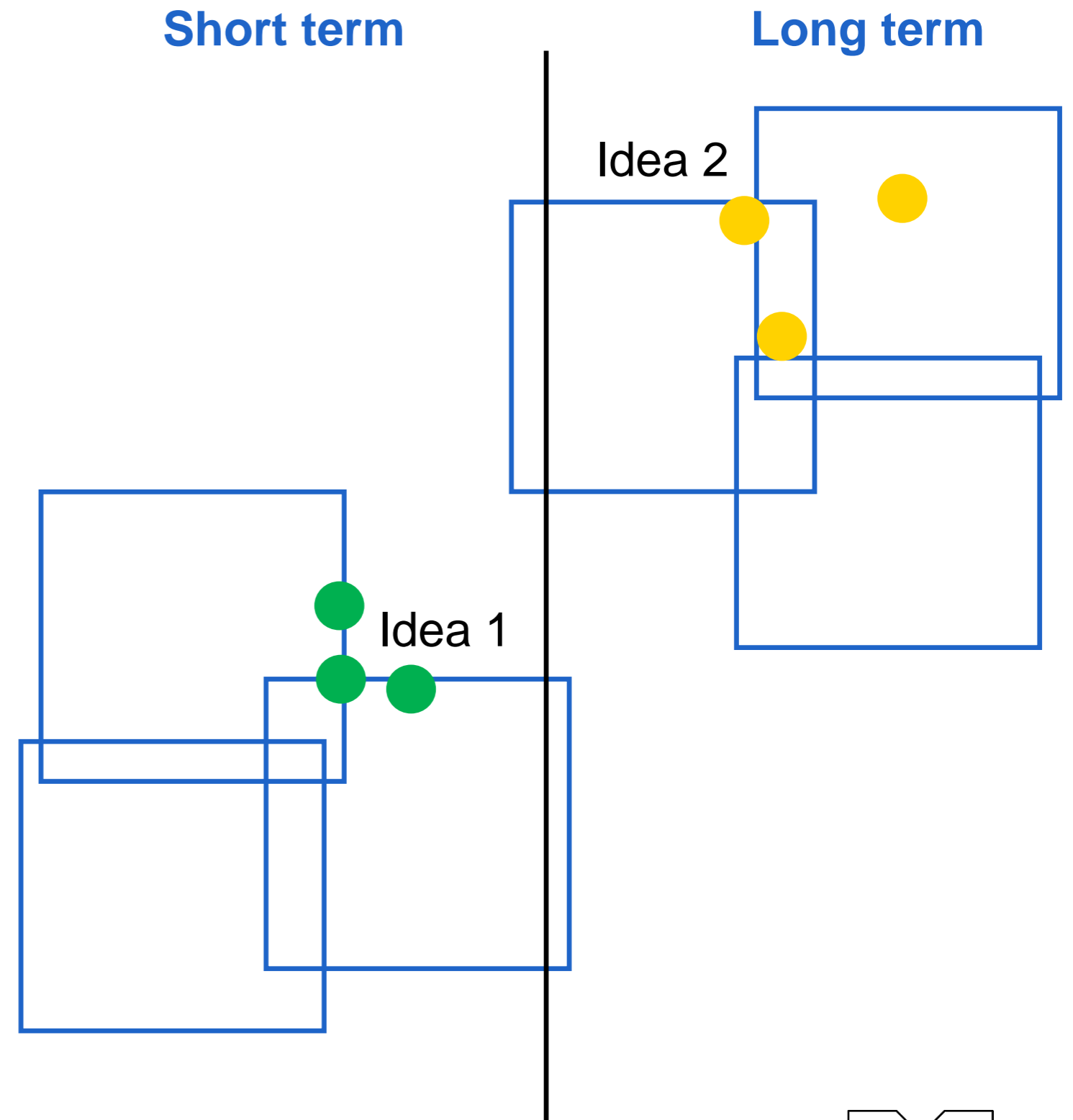
# CHOOSE THE BEST IDEAS



# Dot-voting

idea convergence

- **In duo, place** the dot-votes on the ideas that you want to realize
  - **8 Green:** Short term
  - **8 Yellow:** Long term
  - Max 2 votes per idea
- 10 mins



# Filter best ideas

idea convergence

- **Fill in at least the best 12 ideas** (5 mins)
  - Choose the ideas with at least three votes
  - Cluster similar ideas
- When done, take note of your **top 3** ideas (don't tell them to the others) (1min)
- **Individually share** the top 3 with the group (10 min)
  - One person tallies on the form

## Best ideas Top 12 best ideas

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.

step three

# WORK OUT THE BEST

# IDEAS

# Pick the best idea

## idea convergence

- Together with your group, **pick one of the ideas** that you want to develop during the summerschool with the most votes
- Once decided
  1. Work the idea out on **the project canvas**
  2. Make a **concept poster**
  3. **Pitch** your solution in 2 mins
- 35 mins

### Project canvas

Fill in the project canvas with your idea

1. Problem / Issue	What problem do you want to tackle with your idea?	Who is your target audience?
2. Idea	Describe your idea	
3. Impact	What impact do you intend to have with your idea? What are the benefits?	
4. Pitfalls	What pitfalls does your idea have?	What can be a potential solution for these pitfalls?
5. Stakeholders	Which stakeholders are necessary to realize your idea?	What role do these stakeholders fulfill?



# Work out the best idea Idea canvas

- Fill in the idea canvas in group
  - Most important conceptual elements of your idea

## Project canvas Fancy name for your idea

Fill in the project canvas with your idea

1. Problem / issue	What problem do you want to tackle with your idea?	Who is your target audience?
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# Work out the best idea Concept poster

- Draw a **poster** of you concept
- **Purpose:** make it **tangible** and **easy to explain** to other people (e.g. your grandma)

**smartfm** is like a scavenger hunt for knowledge!

Collect, create and share nuggets of knowledge! "Nuggets" are a way of thinking about "facts" as concrete, tangible artifacts that are exciting to discover and collect.

**Highlights**  
**Paper & rewards collector!** Add a game like dimension to learning, engaging people's deeply rooted core desire to collect things and discover new things.  
**Extends beyond smart.fm!** Whenever you encounter a fact, on any website or out in the physical world, you can bring it into smart.fm. Smart.fm becomes a repository or aggregator of nuggets, a Wikipedia of facts. It integrates with the ways people are already processing knowledge.  
**Expands knowledge intelligently!** Forces nuggets and assigns "scavenger hunts" based on what it knows about someone. People can pursue topics that pique their interest while expanding smart.fm's knowledge base.  
**Makes the abstract concrete!** Makes the notion of constructing and retaining items out of interchangeable parts into a "hands on" experience that people can wrap their minds around easily.

**Inspiration**  
 Easter Egg Hunt, Free Paper Reader, Scaville Upon, Scavens & Collections, Markin playing to win, Modular Top, like legend, Portfolio of Knowledge, Augmented Reality

**Qualities**  
 Serendipitous, Integrated, Interchangeable parts, Concrete, Exploratory, Surprising, Fluid, Lightweight

**Find Nuggets**  
Whenever there are facts, nuggets can be found! Nuggets are facts that you can store for future reference like a second brain's, study and share off to others.

**Collect Nuggets**  
Every time you come across a new fact, at smart.fm or anywhere, you can collect it! Use our buckets to dynamically (or manually) sort nuggets.

**Discover Nuggets Everywhere**  
Smart.fm can transform any content into bite-sized nuggets, highlighting nuggets that seem relevant to you based on your interests.

**YOUR QUEST!**  
 Find the tallest building in San Francisco  
 Learn who invented the cable car  
 Take a picture of a shiny lady bee

**This is the Pyramid Building.**

**NEWEST NUGGETS**  
 The capital of South Korea is Seoul - 100 yrs ago  
 A group of kittens is a Clutter - 100 yrs ago  
 John James Garret invented the Adaptive Rub - 500 yrs ago  
 Enigmas is a six-shaped - 1000 yrs ago

**Scavenger Hunts**  
Explore new nuggets through scavenger hunts! These fact-finding missions are created for you based on your interests & existing knowledge.

**Real World Integration**  
The quest for nuggets can take you beyond the digital world to the real world - where you can see anything you discover or learn as a nugget!

**Live Nugget Reports**  
Nuggets you've collected and nuggets others collected appear in a live stream. You can also filter the stream to see only nuggets likely to be of interest!

**Create & Remix Nuggets**  
To build a nugget from scratch, simply create or connect two related bits of info. We'll help you find related bits!

**Fill Nuggets**  
You can also add examples to any nugget. Sounds, images - whatever is meaningful to you!

**Study Nuggets**  
You can easily turn nuggets into knowledge by studying a bucket of nuggets using sophisticated learning tools.

# Pick the best idea idea convergence

- Together with your group, **pick one of the ideas** that you want to develop during the summerschool
- Once decided
  1. Work the idea out on **the idea canvas**
  2. Make a **concept poster**
  3. **Pitch** your solution in 2 mins
- 30 mins

## Project canvas Fill in the project canvas with your idea

1. Problem / Issue	What problem do you want to tackle with your idea?	Who is your target audience?
2. Idea	Describe your idea	
3. Impact	What impact do you intend to have with your idea? What are the benefits?	
4. Pitfalls	What pitfalls does your idea have?	What can be a potential solution for these pitfalls?
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<b>Highlights</b> Points & research overview. Acts as a guide for discoverers to learning engaging people's already created content. Discover things you didn't know. <b>Research beyond smartfm</b> Showcases your encounter of facts, so any website or link in the physical world you can. Don't miss anything! Smartfm becomes a repository of nuggets, a 3D library of facts. It converges with the map people are already possessing knowledge. <b>Expand knowledge and improve</b> Further explore and expand "knowledge" based on what "others" about someone. People can connect topics that give their interest while expanding smartfm's knowledge base. <b>Make the abstract concrete</b> Make the notion of connecting and exploring facts into a tangible form. People can enter a "library" of resources that people can explore their needs around easily.	<b>Inspiration</b> Game Experience Flashcard System Knowledge Graph Systems & Collections Mobile Learning in work Modular Type (Starburst) Portals of Knowledge Augmented Reality	<b>Qualities</b> Serendipitous Integrated Interdisciplinary paths Curious Exploratory Stimulating Playful Lightweight
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**Find Nuggets**  
Whenever there are facts, nuggets can be found! Nuggets are facts that you can store to future reference. After a search, study and share of your facts.

**Collect Nuggets**  
Every time you discover a new fact, or expand on an experience, you can collect it to the web and let it be discovered by other people's nuggets.

**Discover Nuggets Everywhere**  
Share the facts that you are interested in and let others discover them. Highlighting nuggets that are relevant to you based on your interests.

**Share & Remix Nuggets**  
To build a nugget from scratch, simply create or connect two related nuggets. You can also remix any nugget to create a new one.

**Fill Nuggets**  
You can also remix any nugget to create a new one.

**Study Nuggets**  
You can study from nuggets that are relevant to you. You can also study from nuggets that are relevant to you.

30 mins

step four

# PRESENTATION TIME