

PROGRAMMING INTERACTIVE EXPERIENCES

FABRIC



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Programming interactive experiences

F2018: Explore the "intelligent" home

About

Explore the dream of an intelligent home. In the future, we will have internet connectivity in everything from our coffee cups to our bodies. This course explores the potential of connectivity of interactive technology. What possibilities do connected embedded devices have in our home and everyday life?

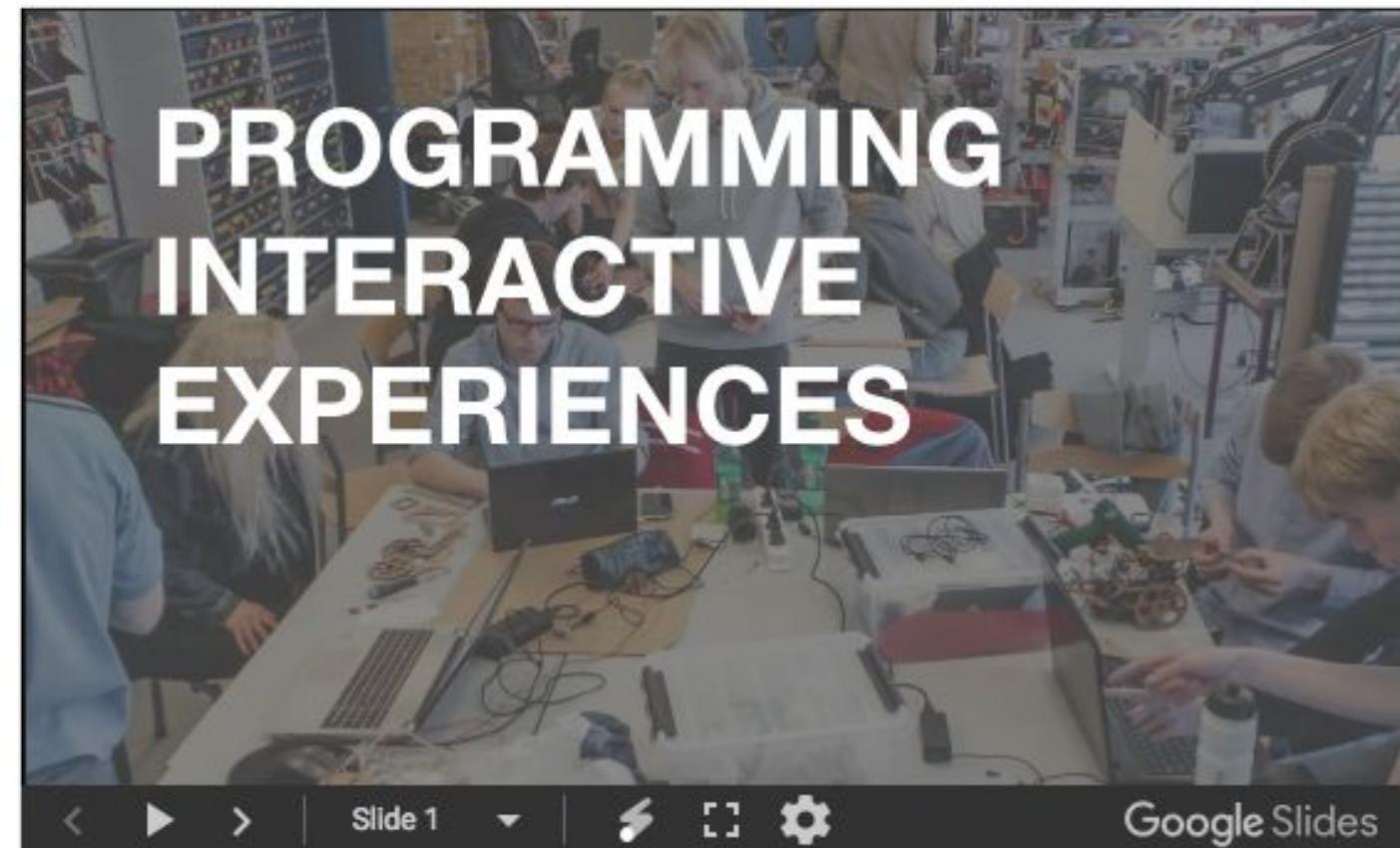
This course is not about making a finished product, but about exploring potential new ways of using technology. You are expected to create quick and dirty prototypes to try out. Through the prototypes, you will get a greater understanding of the problem domain you are researching.

We take a speculative approach by asking "what if" questions. What if our home reacts to our body state like pulse? What if our home reacts to our presence and makes "intelligent" decisions about light and music? What if we can stay connected to our pets or loved ones while on the road? What if we use technology to enhance our wakeup rituals?

During the course, you are expected to design and build multiple small prototypes with your group that uses embedded microcontrollers and light. You will need to do simple tests in your own home or friends home.

The project and your reflections will serve as a basis for your examination. There will be a budget for you to buy lamps, furniture, curtains, etc. to use as materials to hack for your prototypes.

Introduction presentation



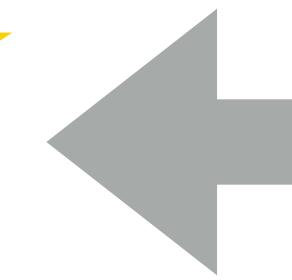
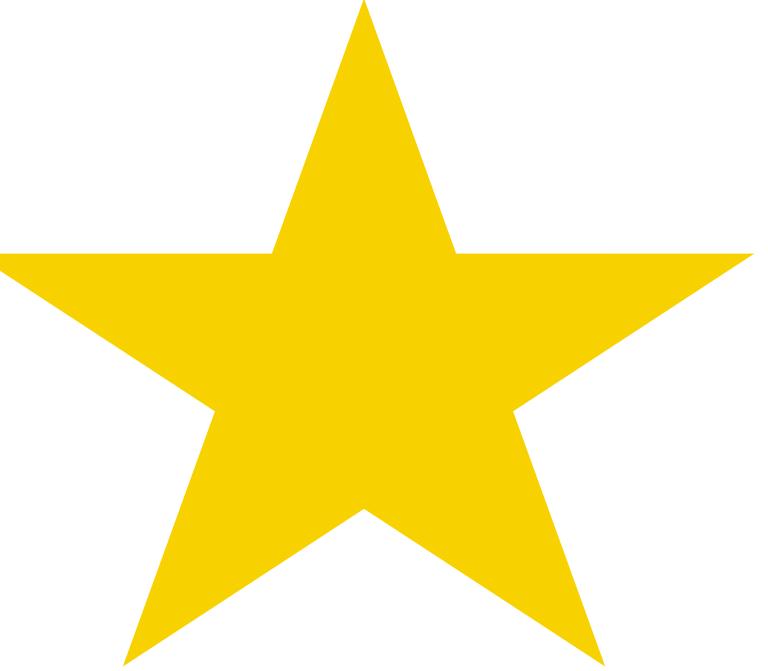
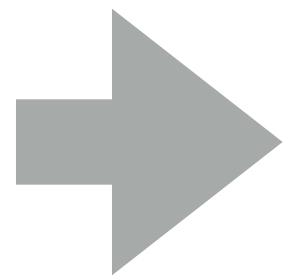




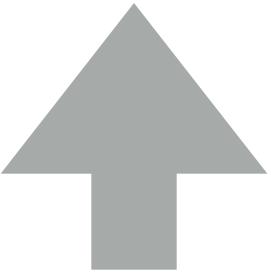
Explore the
intelligent home

VISION

CONTEXT



IDEA CONCEPT



TECHNOLOGY





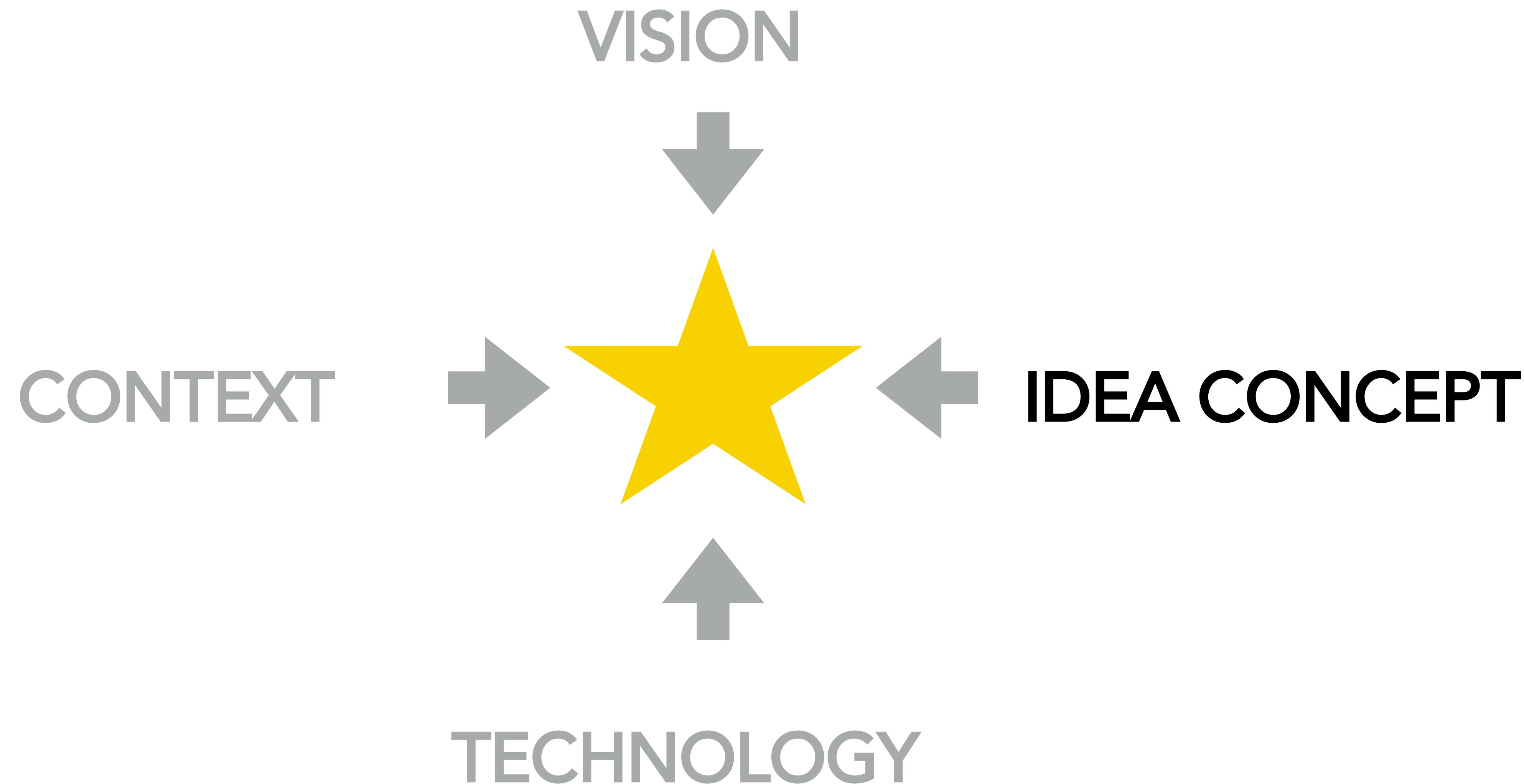
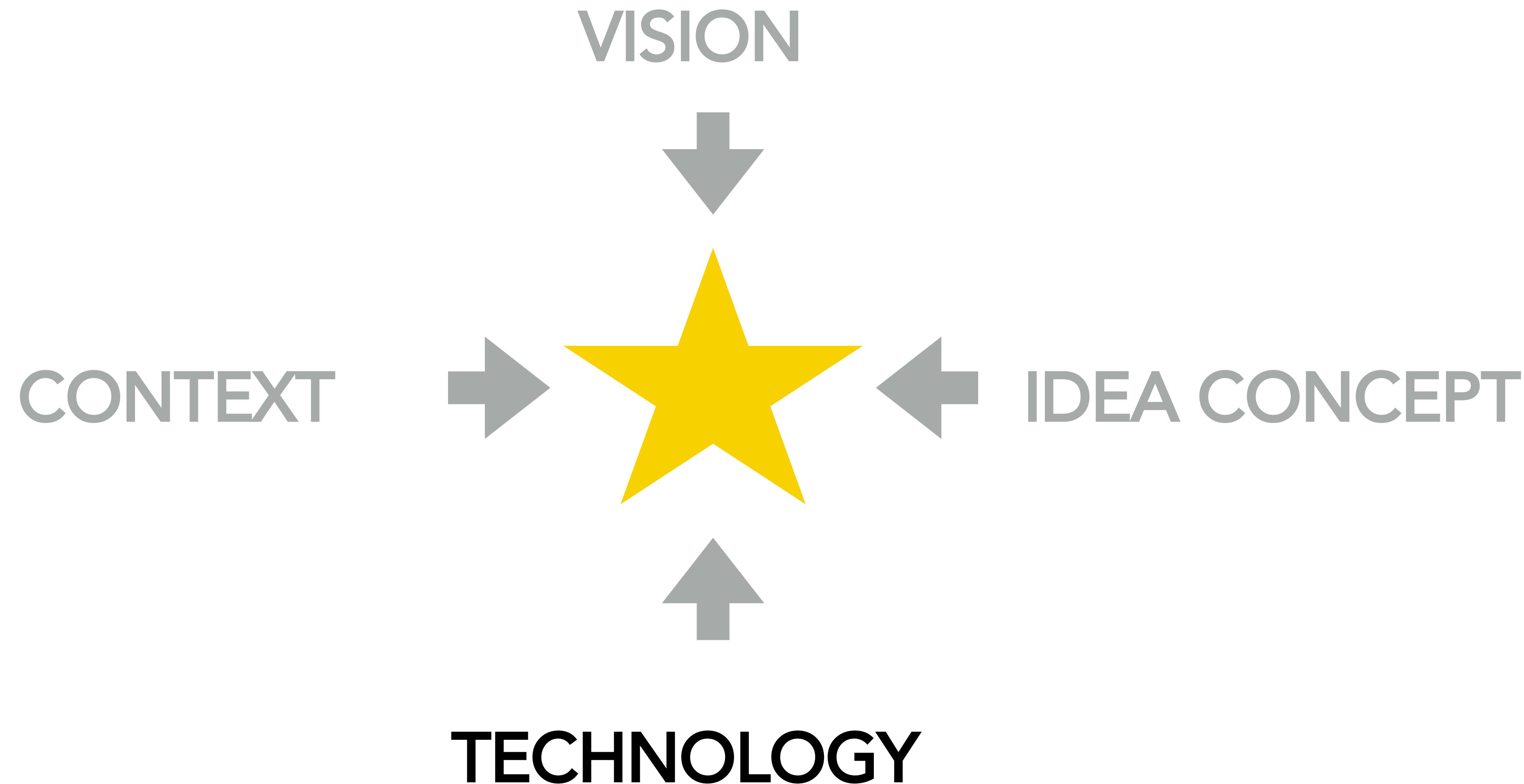
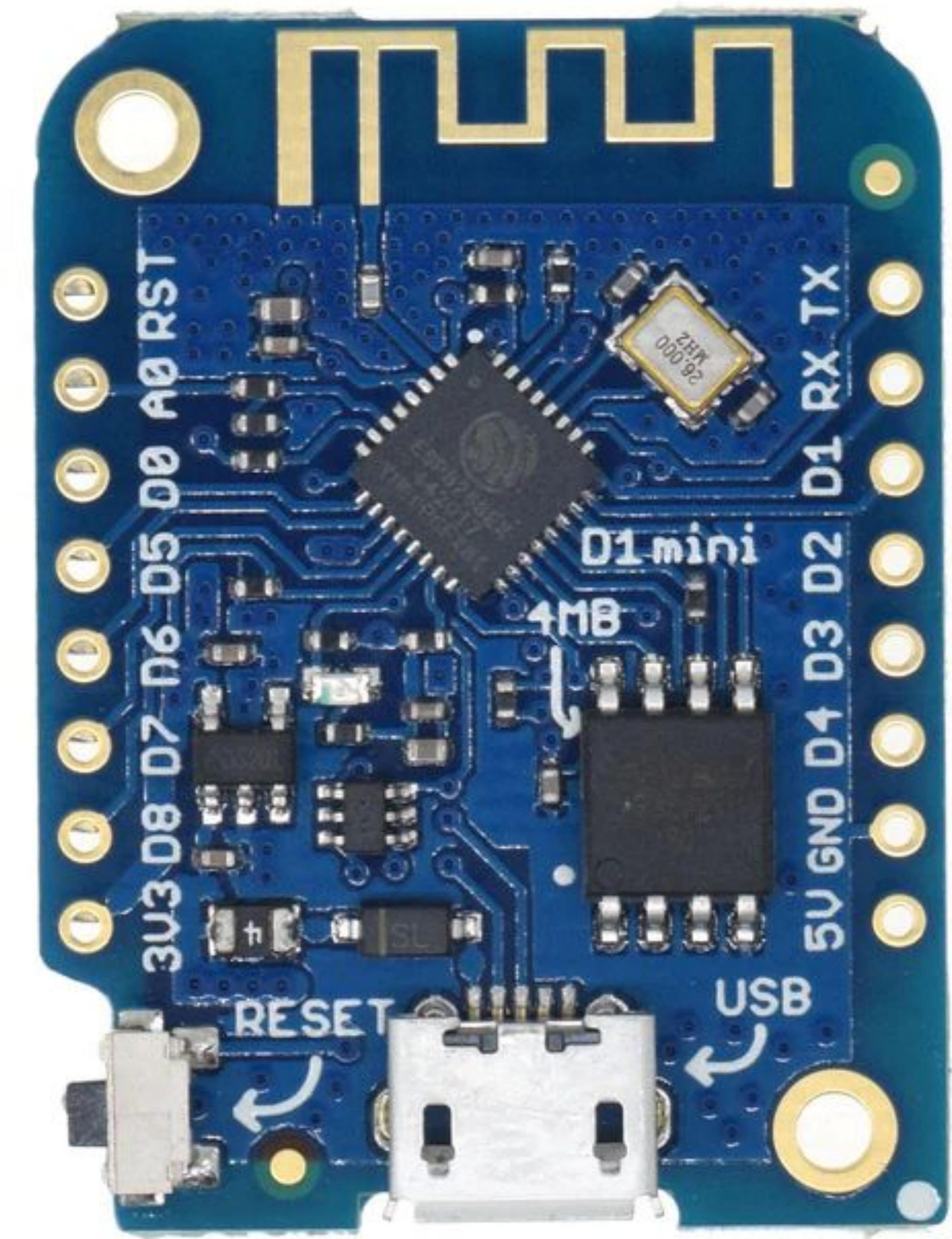
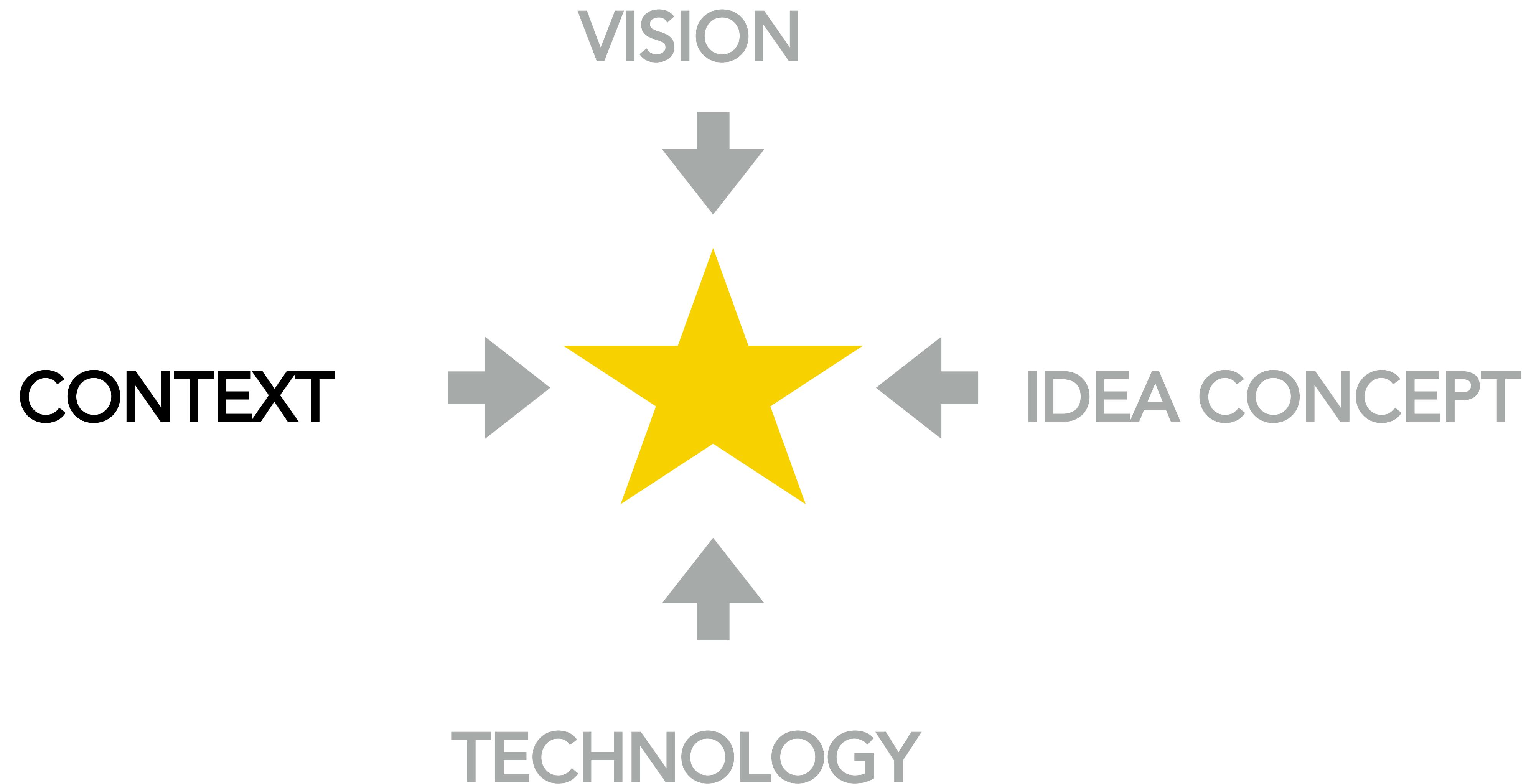




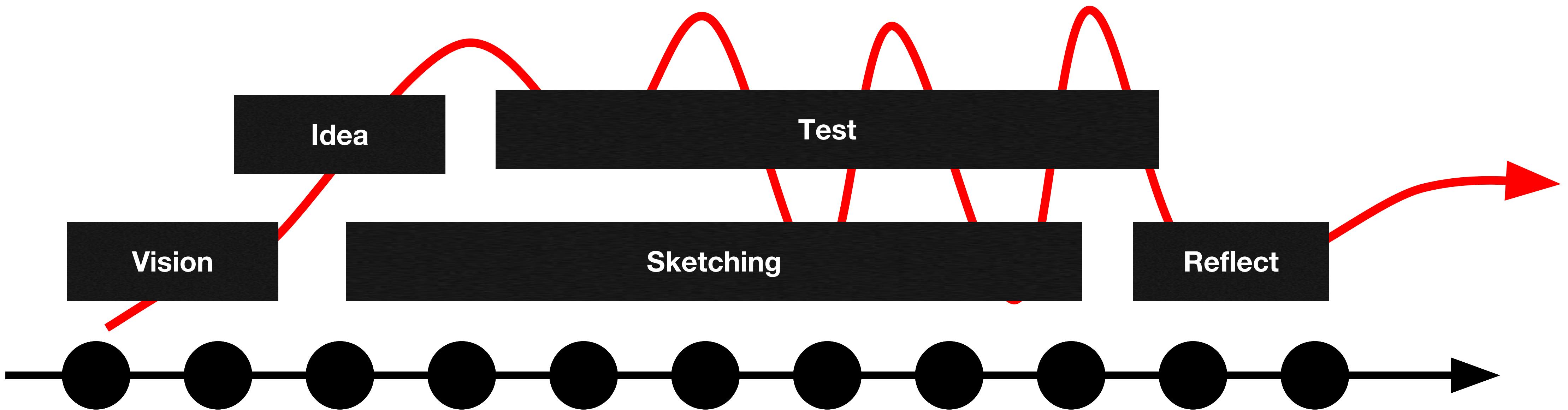
Figure 1: Two of the authors comparing the real-time value (white) with today's max (orange) & min (blue) values. The light spots can be arranged and projected in any direction seen fit.









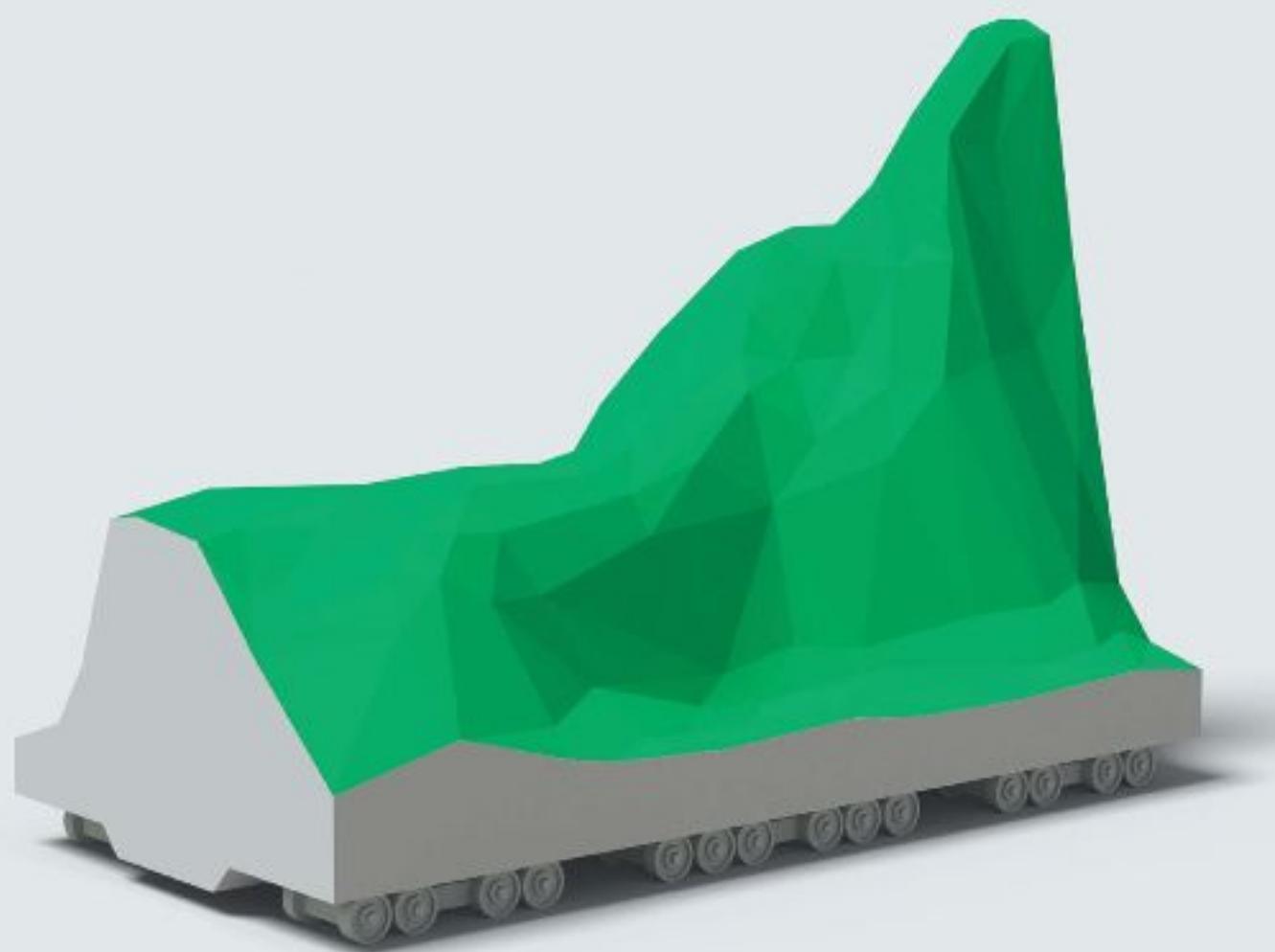




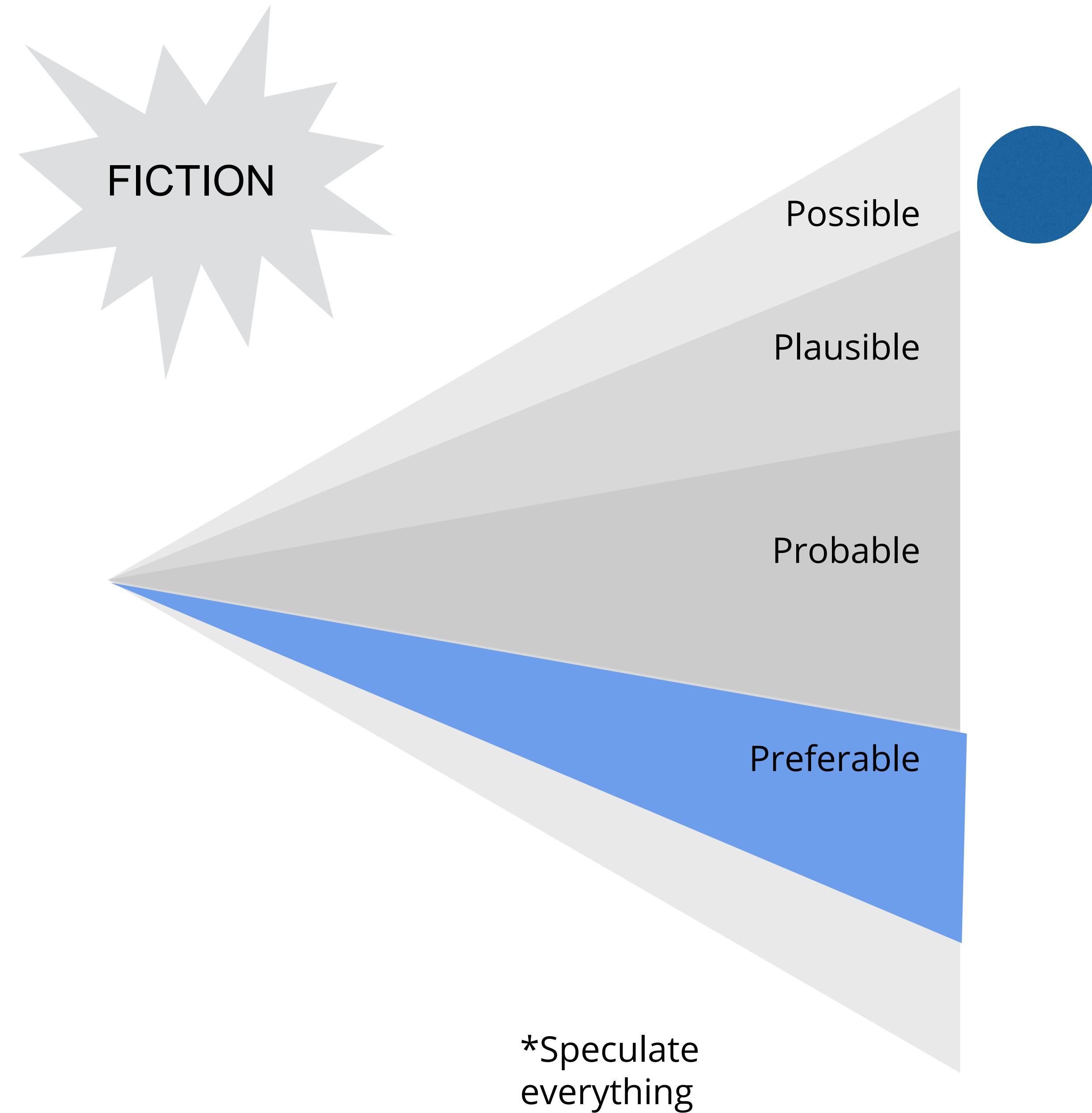
Future speculation

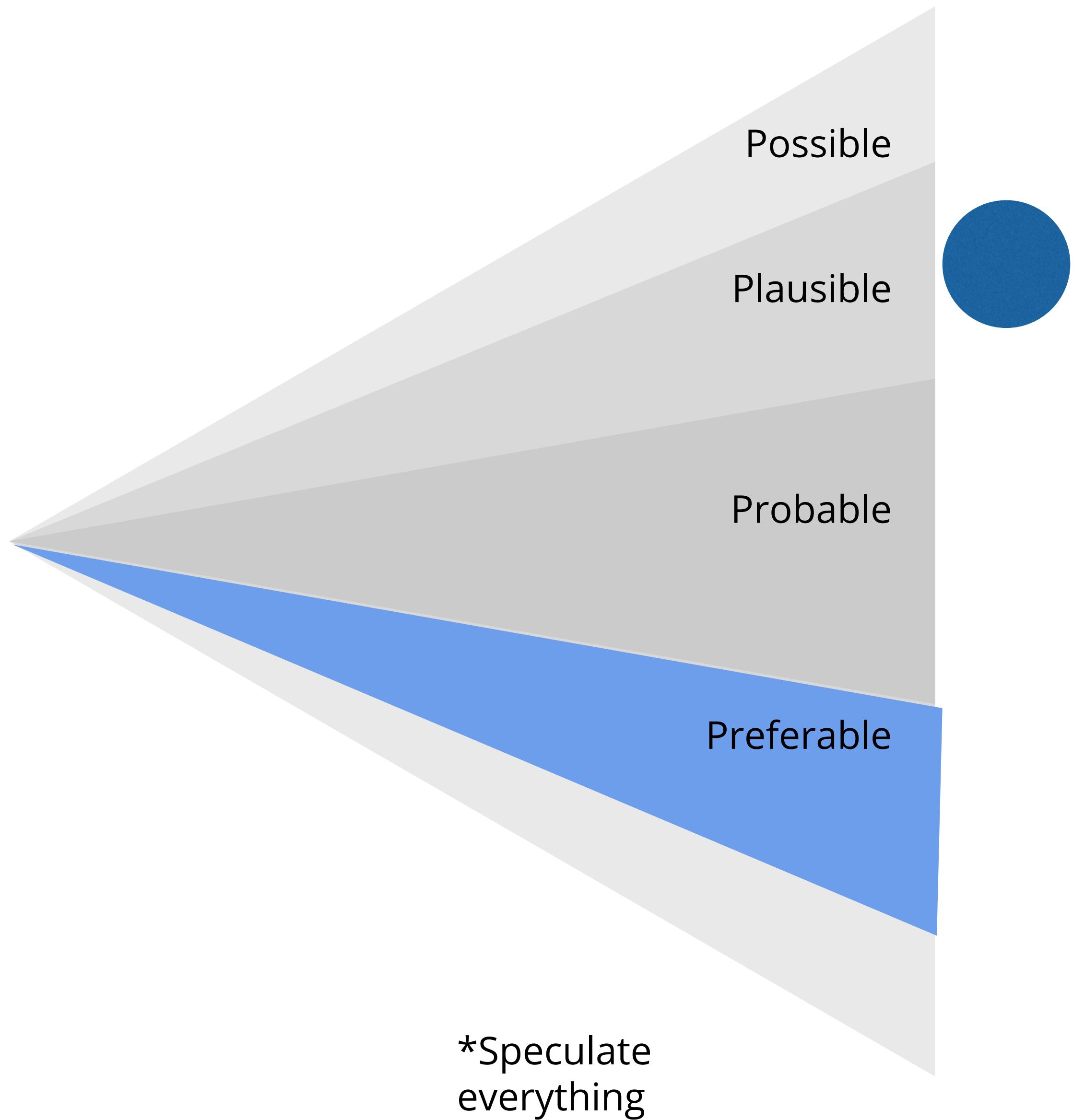
SPECULATIVE EVERYTHING

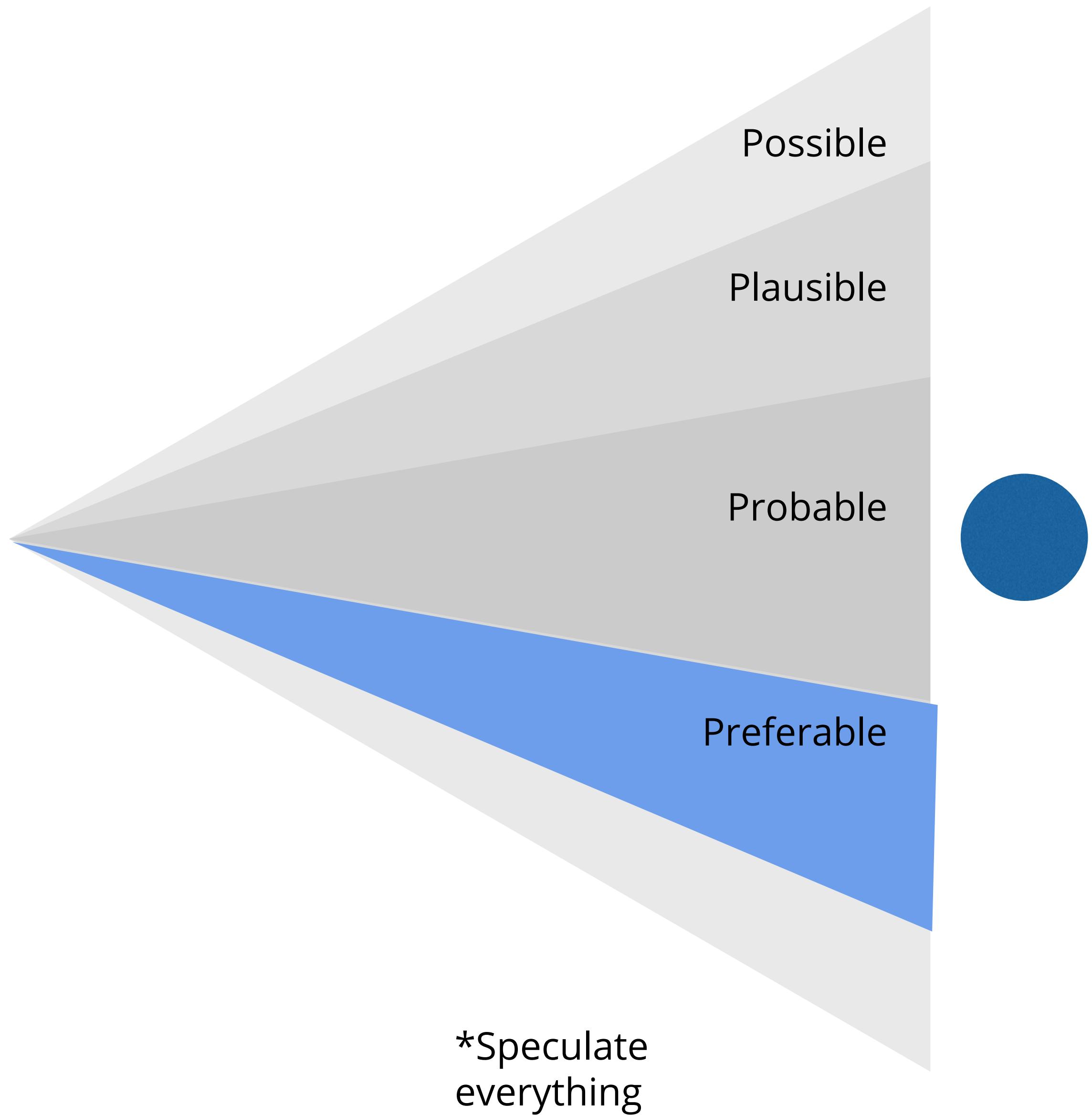
DESIGN, FICTION, AND SOCIAL DREAMING



ANTHONY DUNNE & FIONA RABY







Electronic agent

Home automation

Video streaming

Intelligent home

E newspaper

Synchronised calendars

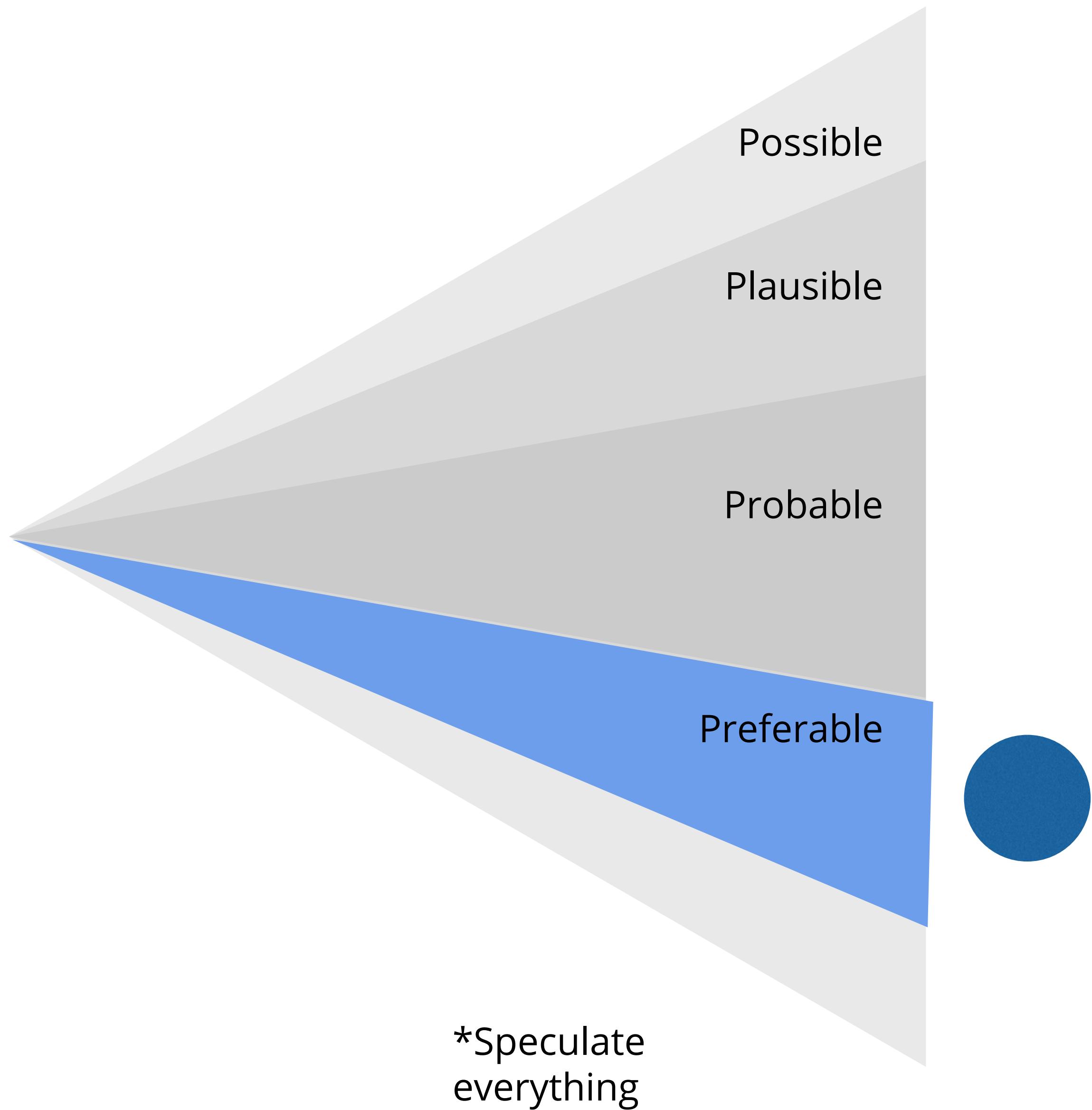
Online shopping

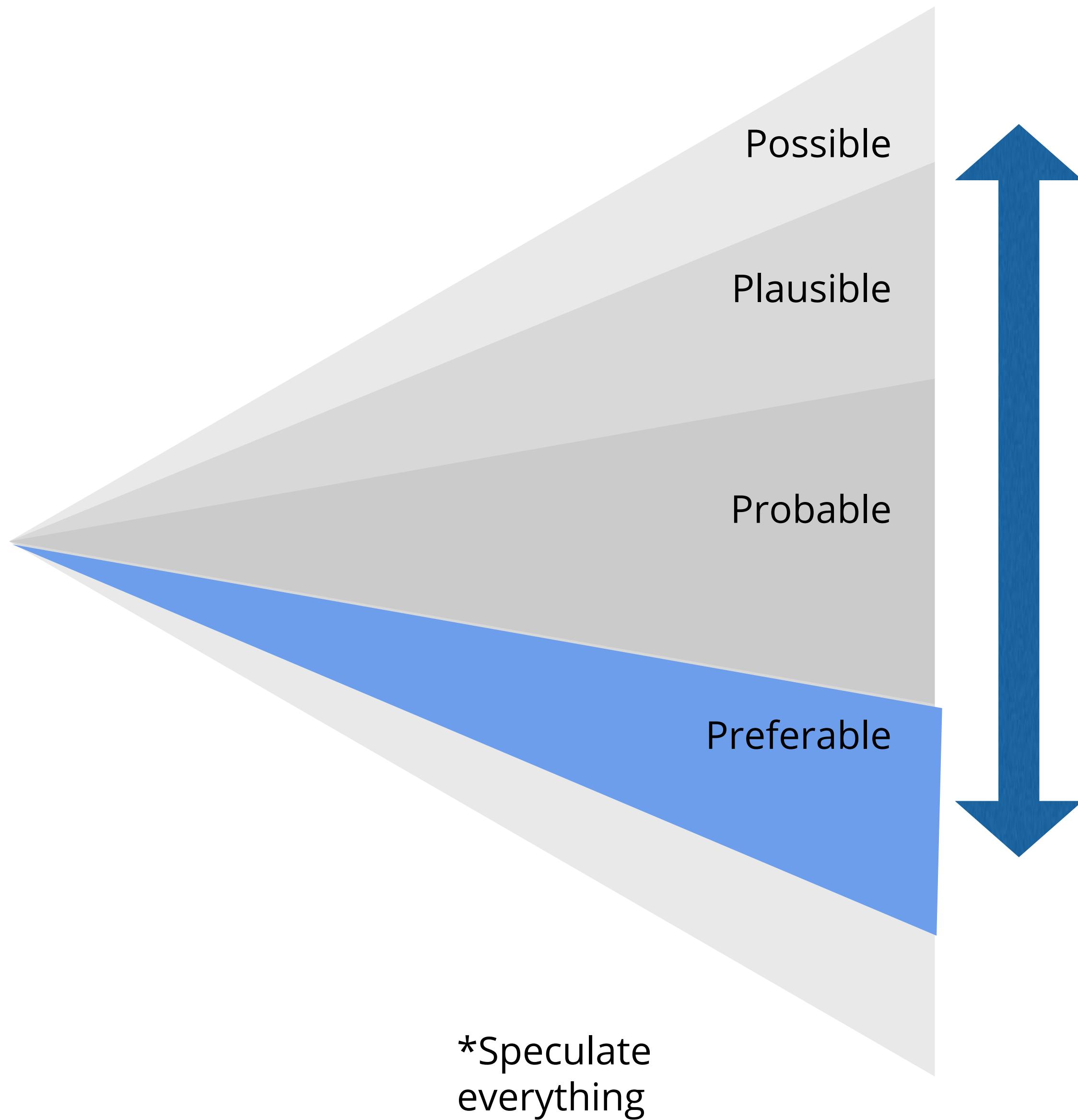
The internet

- the dog still shits on the carpet

En dag i pers liv...

A day in Pers life





Remix Utopia

Eleven propositions on Design and Social Fantasy

Roskilde University

**Michael Haldrup, Mads Hobye,
Kristine Samson, Nicolas Padfield**



Shifting away from a problem-oriented paradigm to a paradigm where we can begin to rethink the fundamental norms that underpin our society.

What if?

We move from a conceptual idea to a multitude of design prototypes to explore the overall concept, replacing the question ‘how?’ with ‘what if?’



According to Dunne and Raby the creation of one million (micro)utopias may stimulate and facilitate humankind in imagining desirable futures (2013). But are we too fed up with the small micro-utopias that people carve for themselves?



We must move out of the ivory tower, engaging with real people, real problems, real prospects.



The designer becomes an activist. (Dis)organizer.
Inventor. Subverter. Catalyst. Trickster. Jamming station.
Siren.



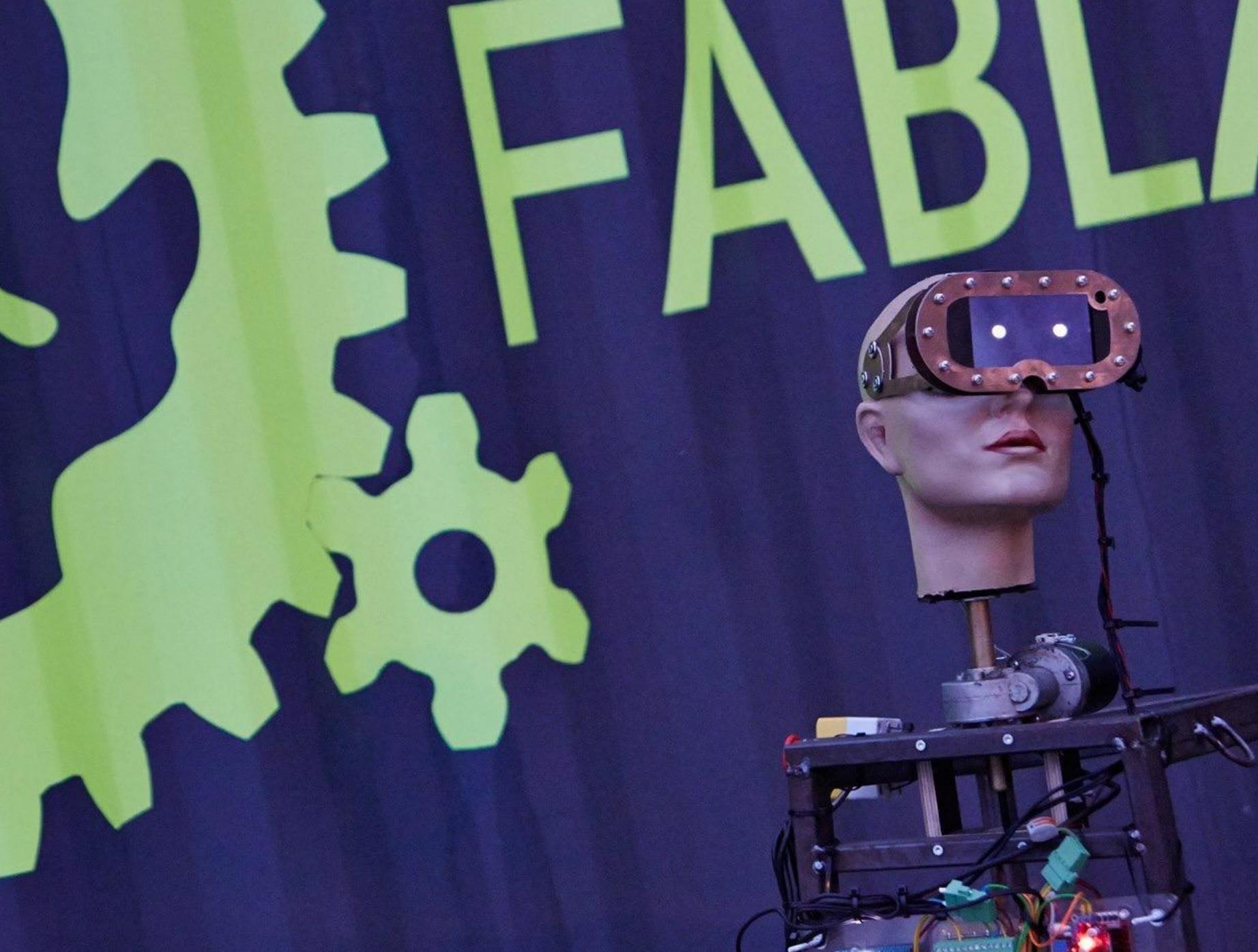
“Universities and art schools could become platforms for experimentation, speculation and the reimagining of everyday life” (Dunne & Raby 2013)



What if we empower academia to use prototyping as a part of their engagements with real world contexts?



Constructing a giant 3D printer is pushing the limits of traditional analytic academia.



Concrete and practiced utopias immanent in the world are generative towards “what might be” rather than statements of “what is”.



We suggest “remixing utopia”. To reclaim such latent material layouts and social fantasies as they emerge in the world.

...it has earned its spot as the best innovation book of this year. — *strategy + business*

Sketching User Experiences

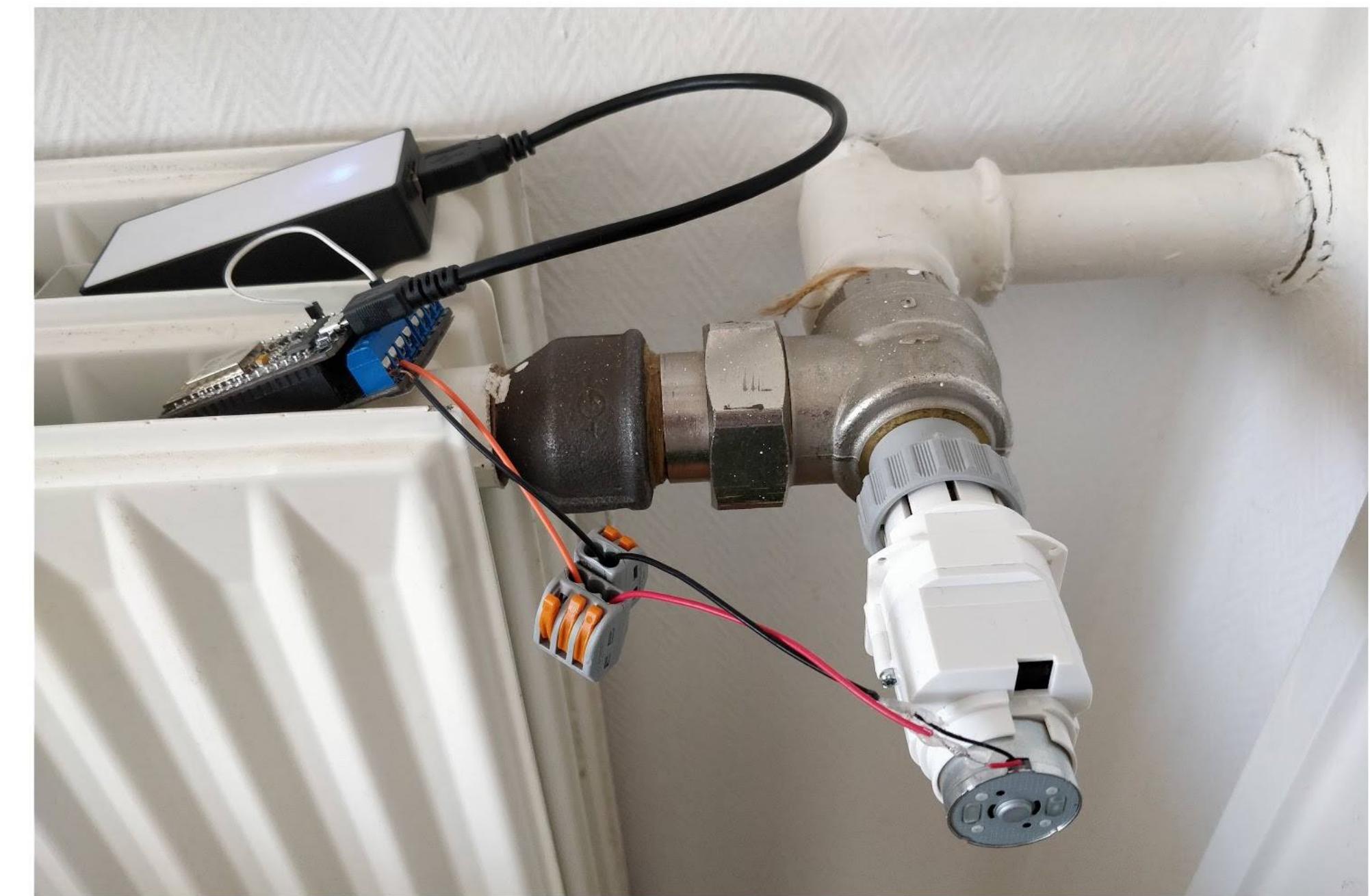
getting the design right and the right design

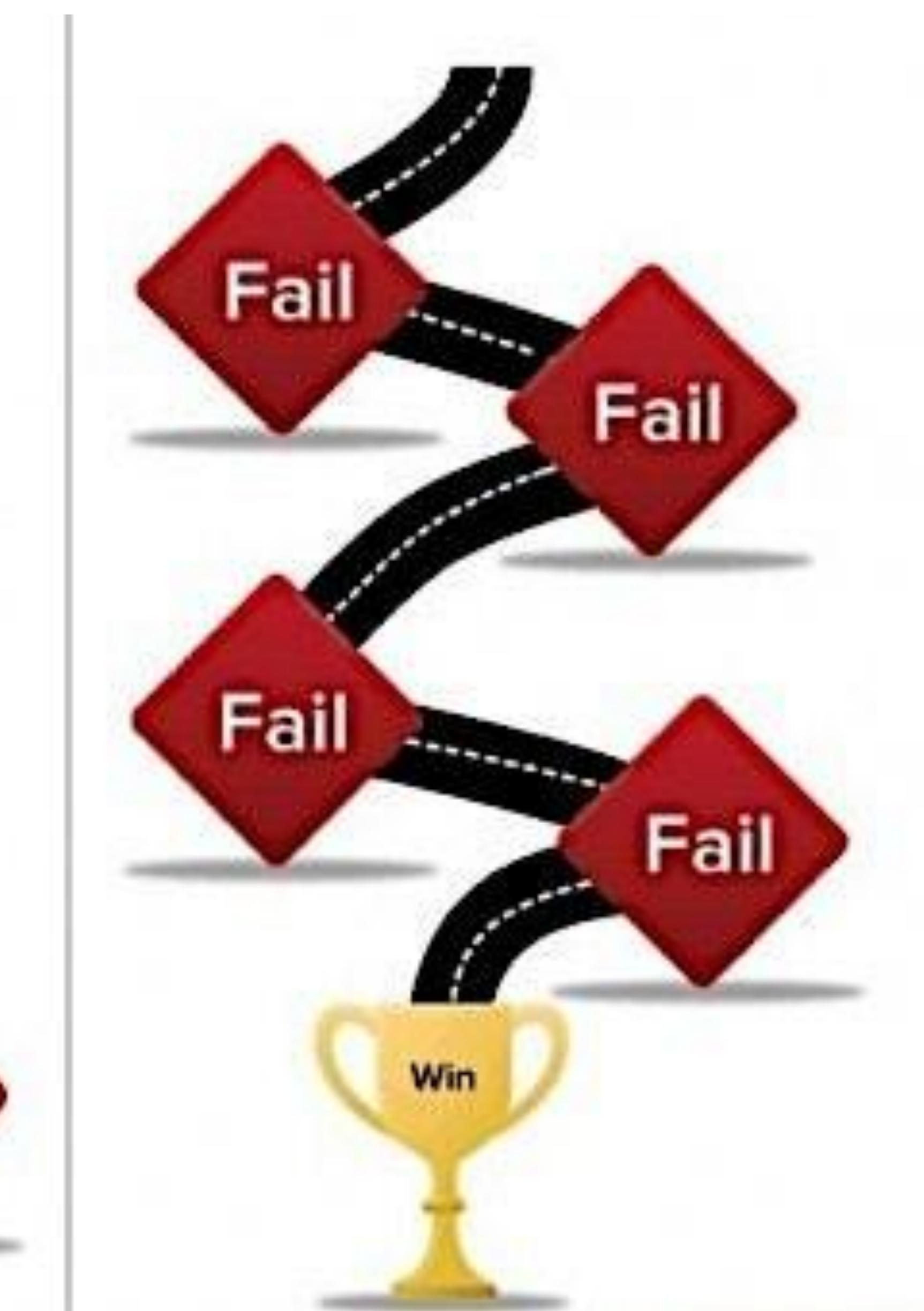


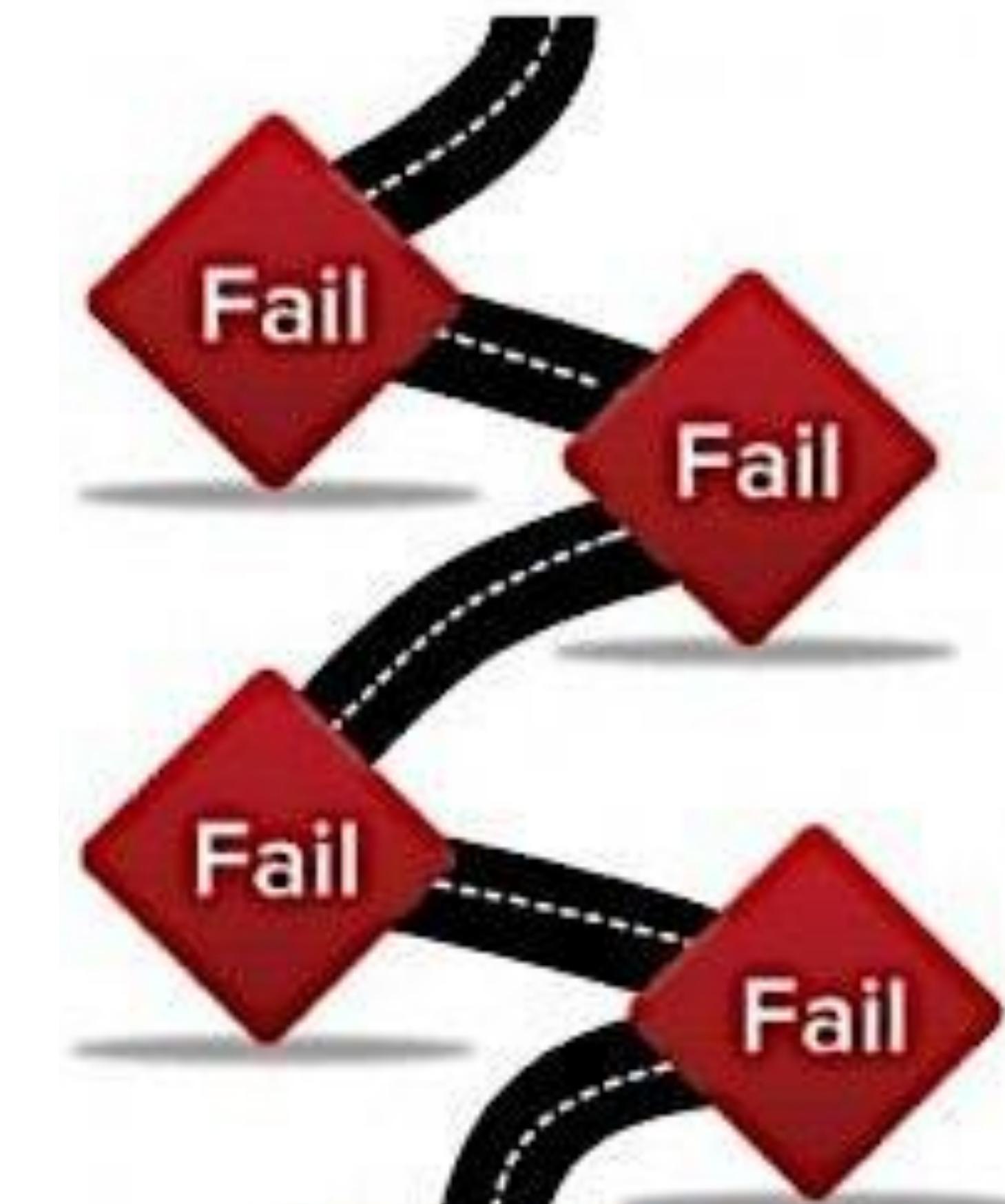
Bill Buxton



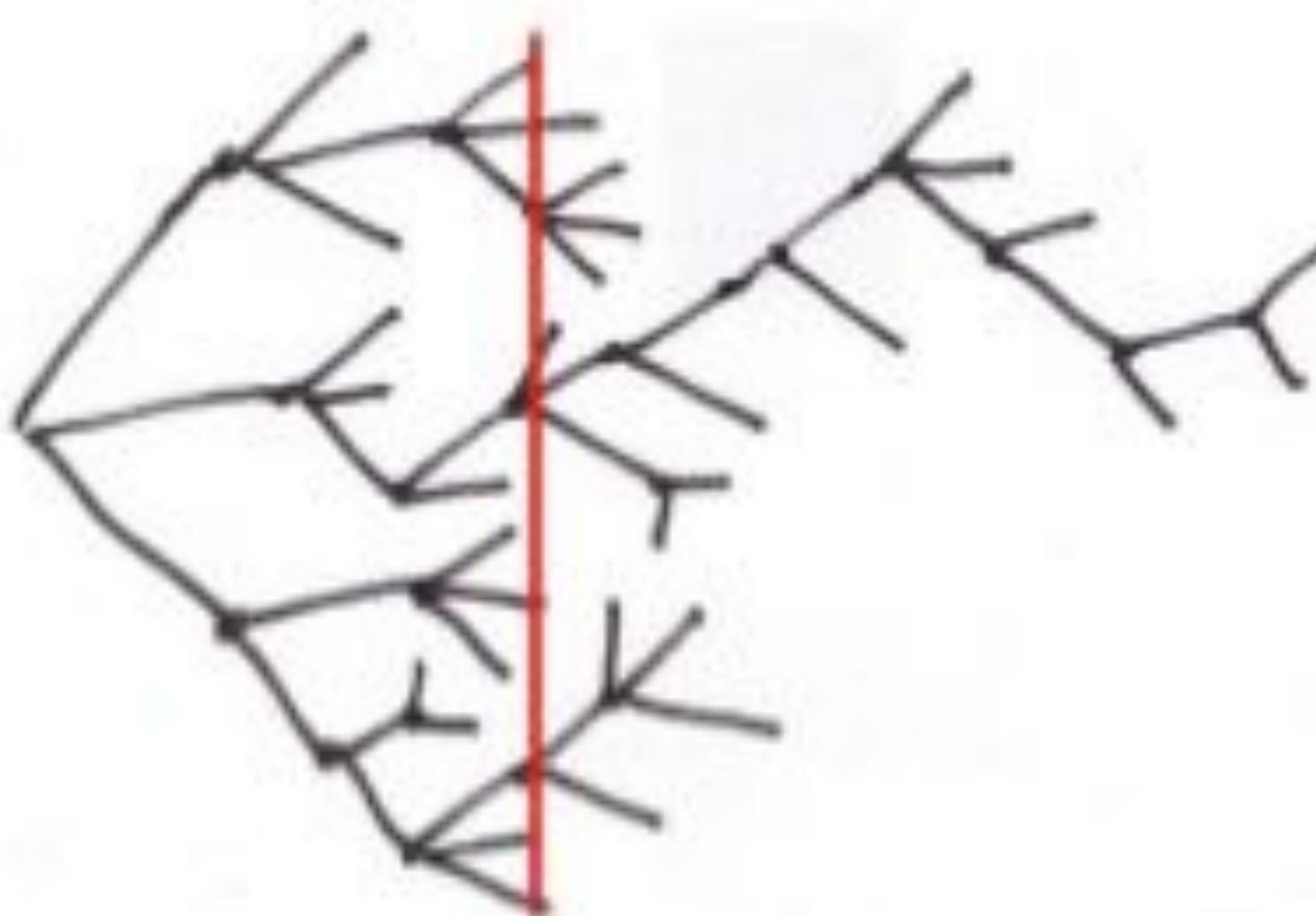
Sketching as exploration





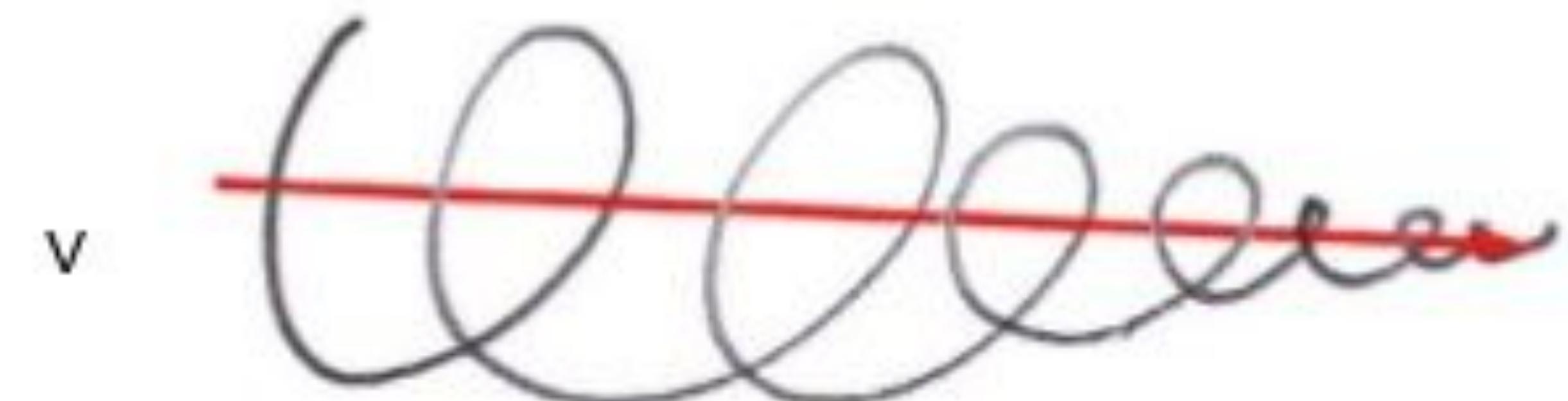


SKETCHING IS... EXPLORATORY



Design

"Branching Exploration"



Prototyping

"Incremental iterative refinement"

SKETCH

PROTOTYPE

EVOCATIVE → DIDACTIC

SUGGEST → DESCRIBE

EXPLORE → REFINE

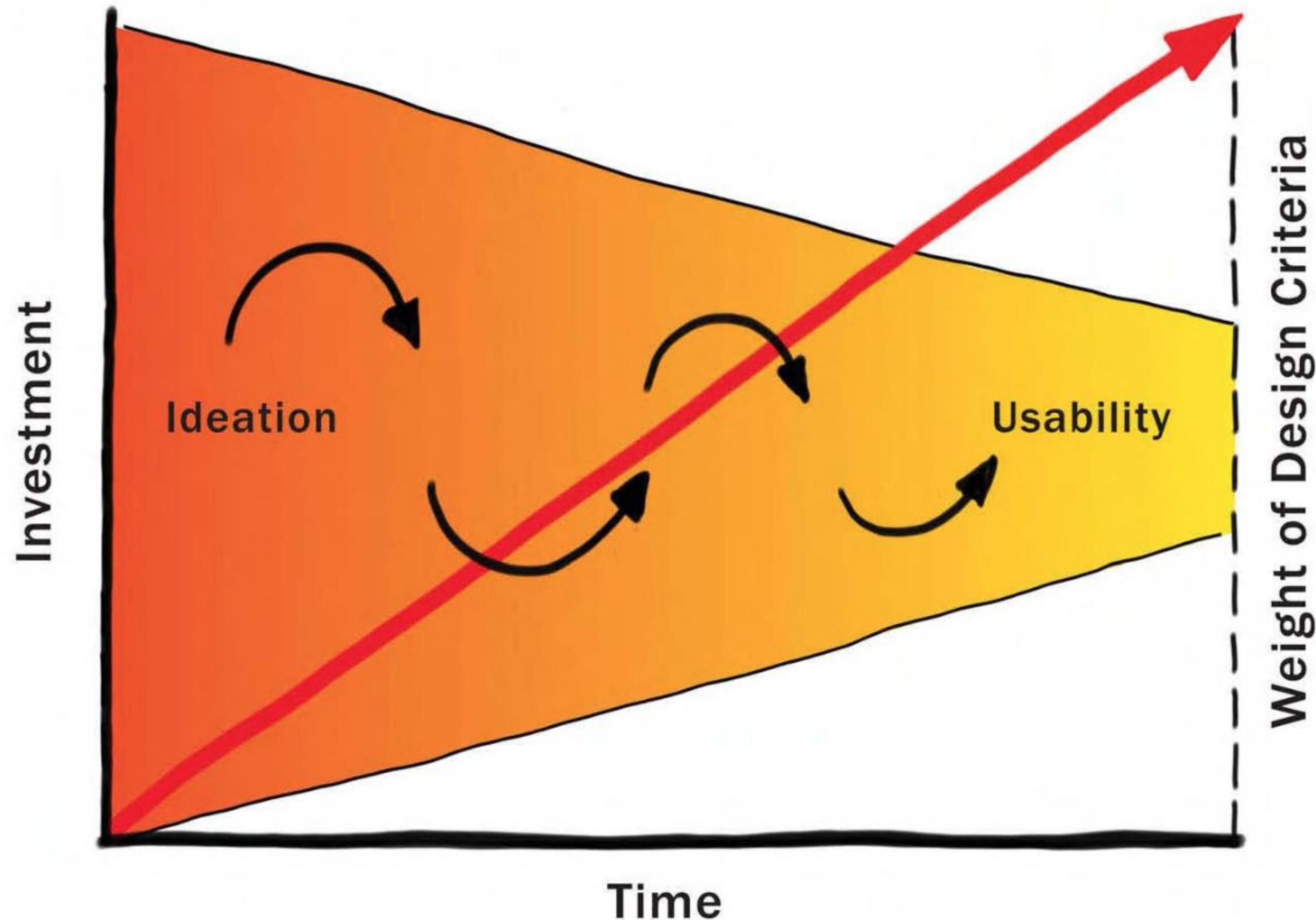
QUESTION → ANSWER

PROPOSE → TEST

PROVOKE → RESOLVE

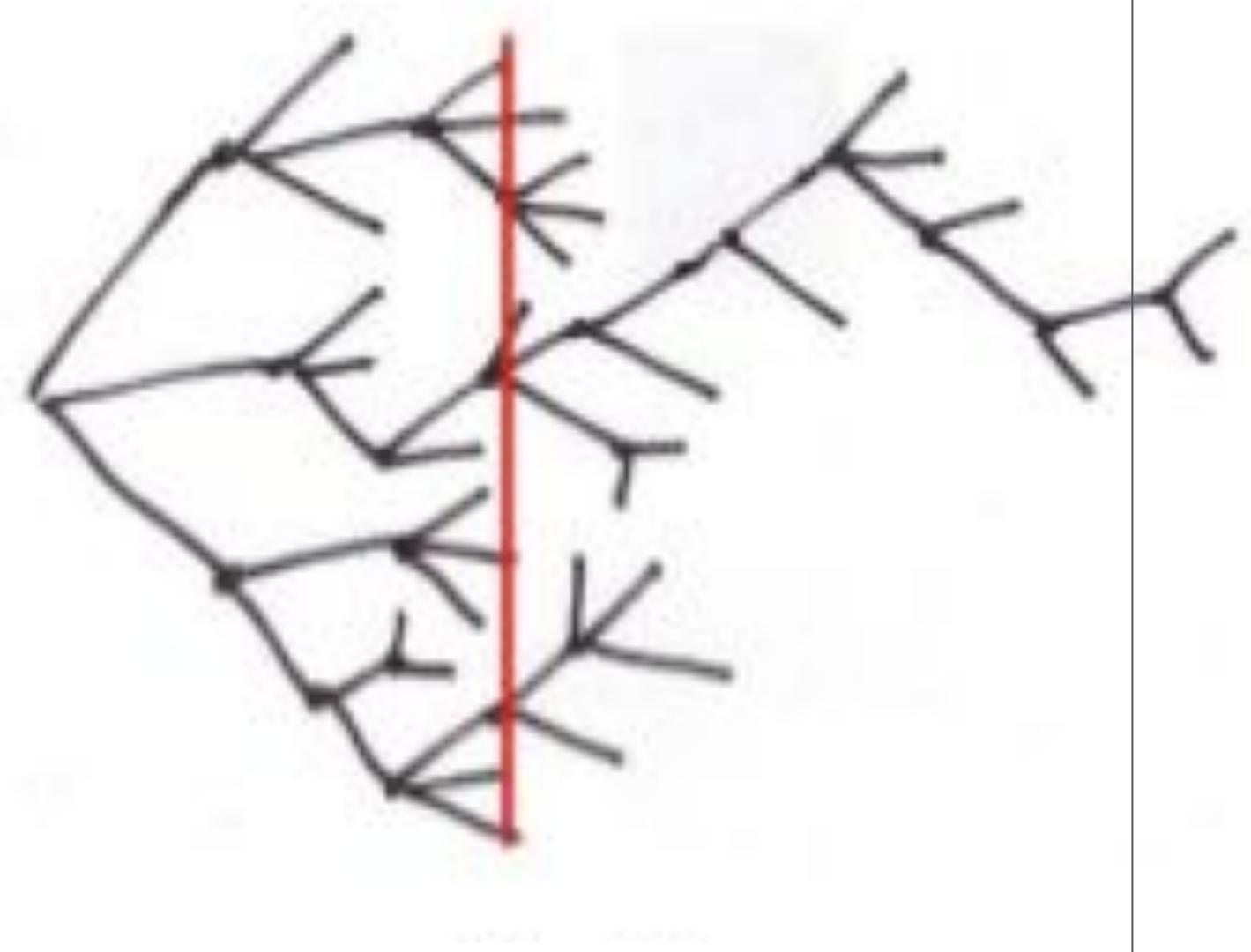
TENTATIVE → SPECIFIC

NONCOMMittal → DEPICTION

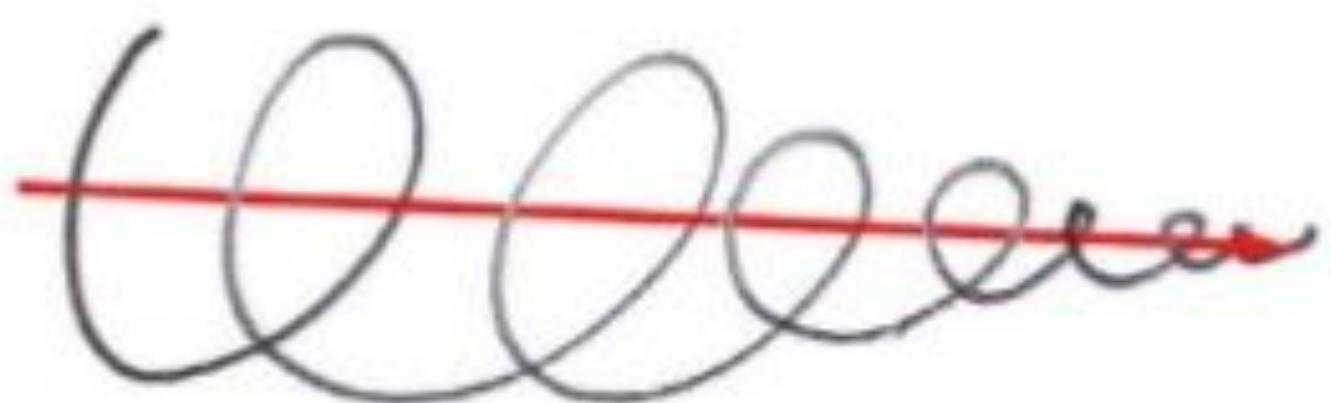


Sketch
Prototype

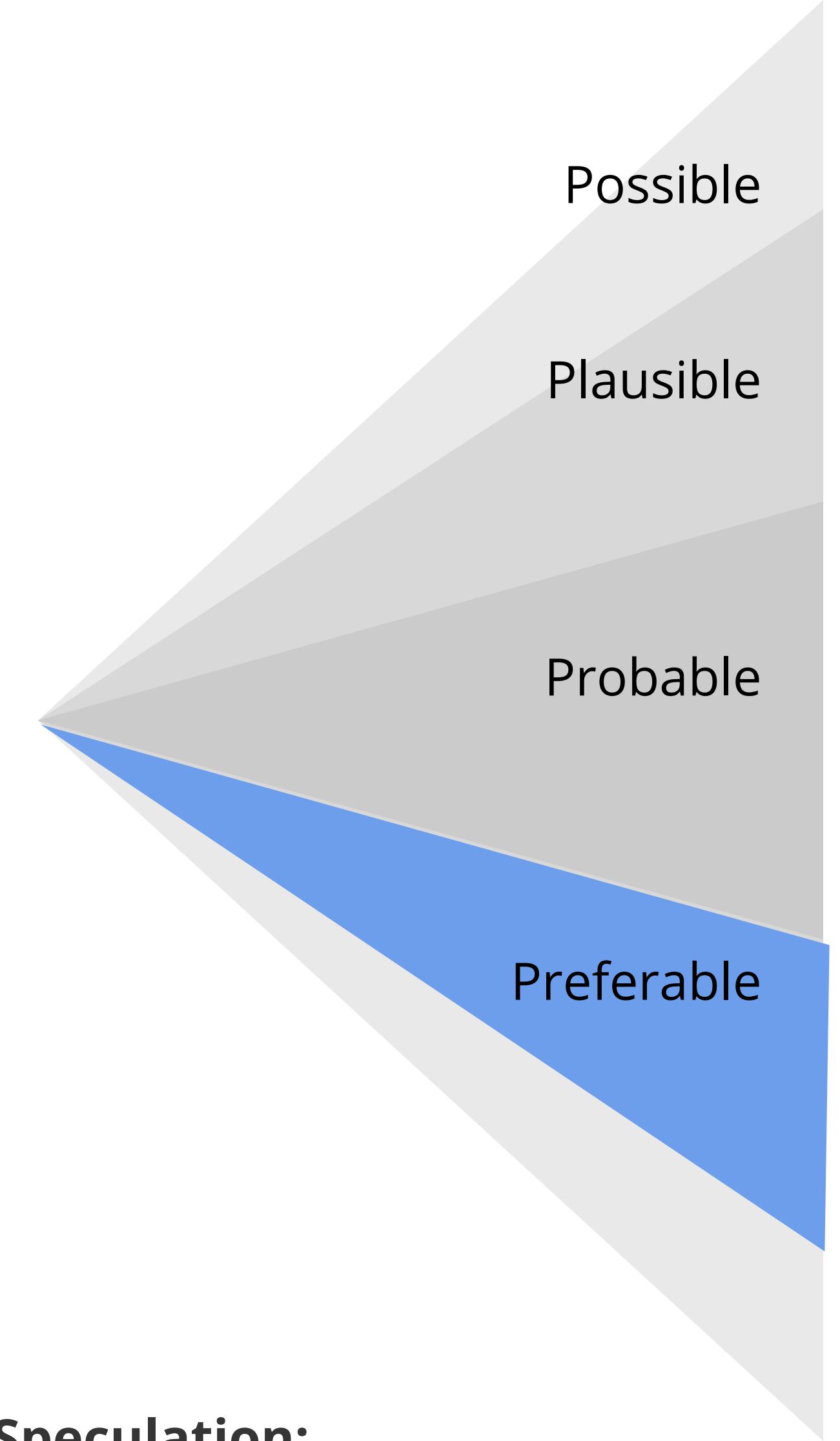
Bill Buxton (2007)



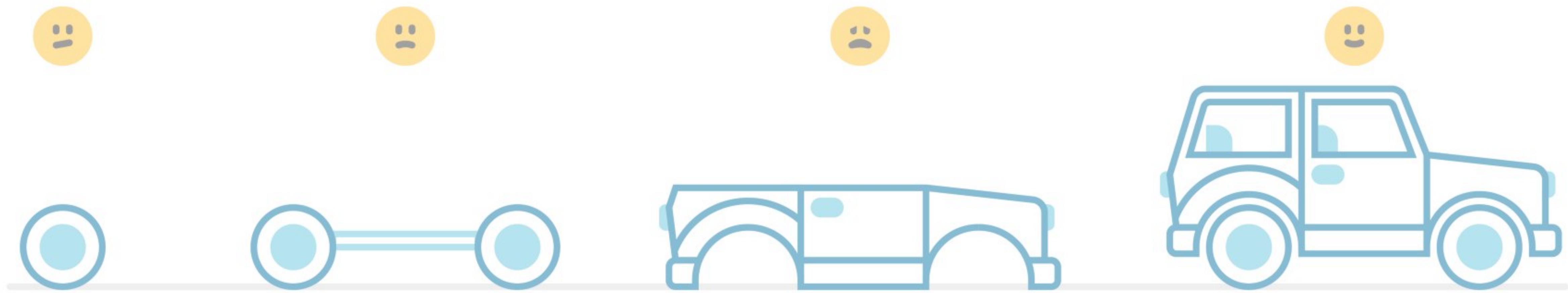
Sketching:
Exploring potentials



Prototyping:
Refining concrete
solutions



Speculation:
Imaging futures.
Through what-if
questions



This course is not about making a finished product, but about **exploring potential** new ways of using technology.

You are expected to create **quick and dirty prototypes/sketches** to try out.

Through the prototypes, you will get a greater **understanding of the problem domain** you are researching.

After completing the course, you will:

- Be able to do **studio-based design** exploration in interactive design.
- Be able to frame **exploratory design research** as a knowledge contribution in the form of an academic short paper.
- Be able to understand the basics of **embedded internet-enabled technology** (internet of things, sensors, actuators, internal logic).
- Be able to use **essential prototyping tools** like laser-cutting, soldering, embedded computing.

Assessment criterias

- To reflect on design knowledge
- Understanding your own code
- Publication on github
- CHI formating of the paper
- Academic references as a basis for your argument
- Knowledge contribution during your testing

Written assignment:

- Academic paper
- Tutorial + Source code on github



**Brainstorm about the future
through what-if questions**



<http://fablab.ruc.dk/ioglow/>

IO Glow

Programming interactive experiences

