

Z

hdk

Zürcher Hochschule der Künste
Bachelor of Arts in Design

Kick-Off Week 3









Service Design I | 24th of April 2025

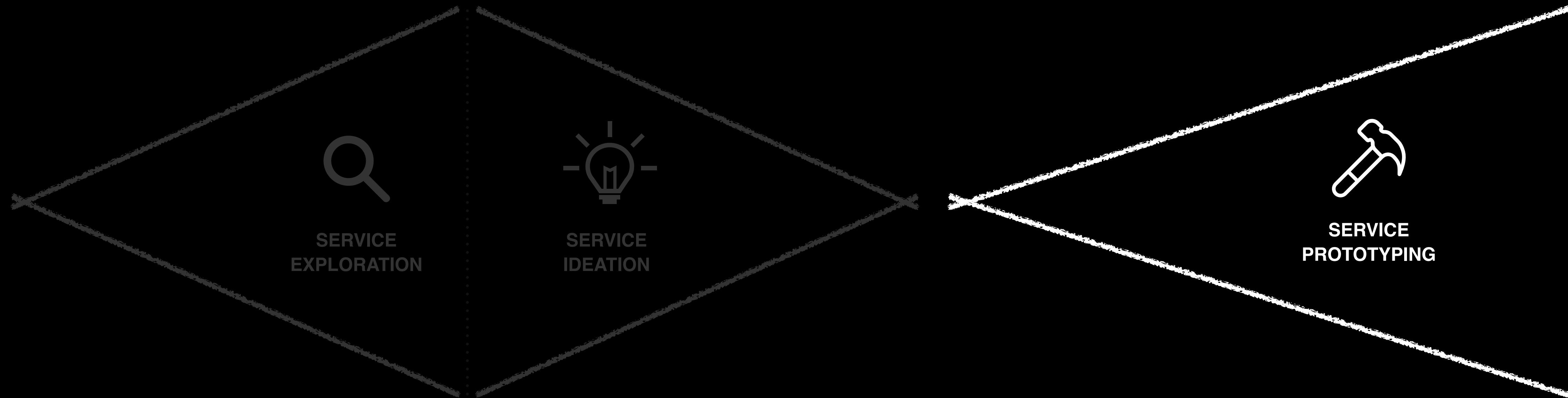
Florian Wille

Check-in

—

Course Structure

WEEK 1 – Exploration					WEEK 2 – Ideation					WEEK 3 – Prototyping				
MON	TUE	WED	THUR	FRI	MON	TUE	WED	THUR	FRI	MON	TUE	WED	THUR	FRI
 Kick Off			 Team Mentoring		 Kick Off W2	 Excursion to Unic	 Team Mentoring	 Presentation of Service Concepts		 Kick Off W3		 Team Mentoring		



What is a Prototype?

a Boundary Object?

a «Motzvorlage?»»

„A boundary object is a ‘thing’ that is both defined enough that several communities can recognise it as the same thing, yet flexible enough that each community can use it according to their own needs.“

Matt Cooper-Wright

„The best prototype is one that, in the simplest and the most efficient way, makes the possibilities and limitations of a design idea visible and measurable.“

Lim & Stolterman (2008)

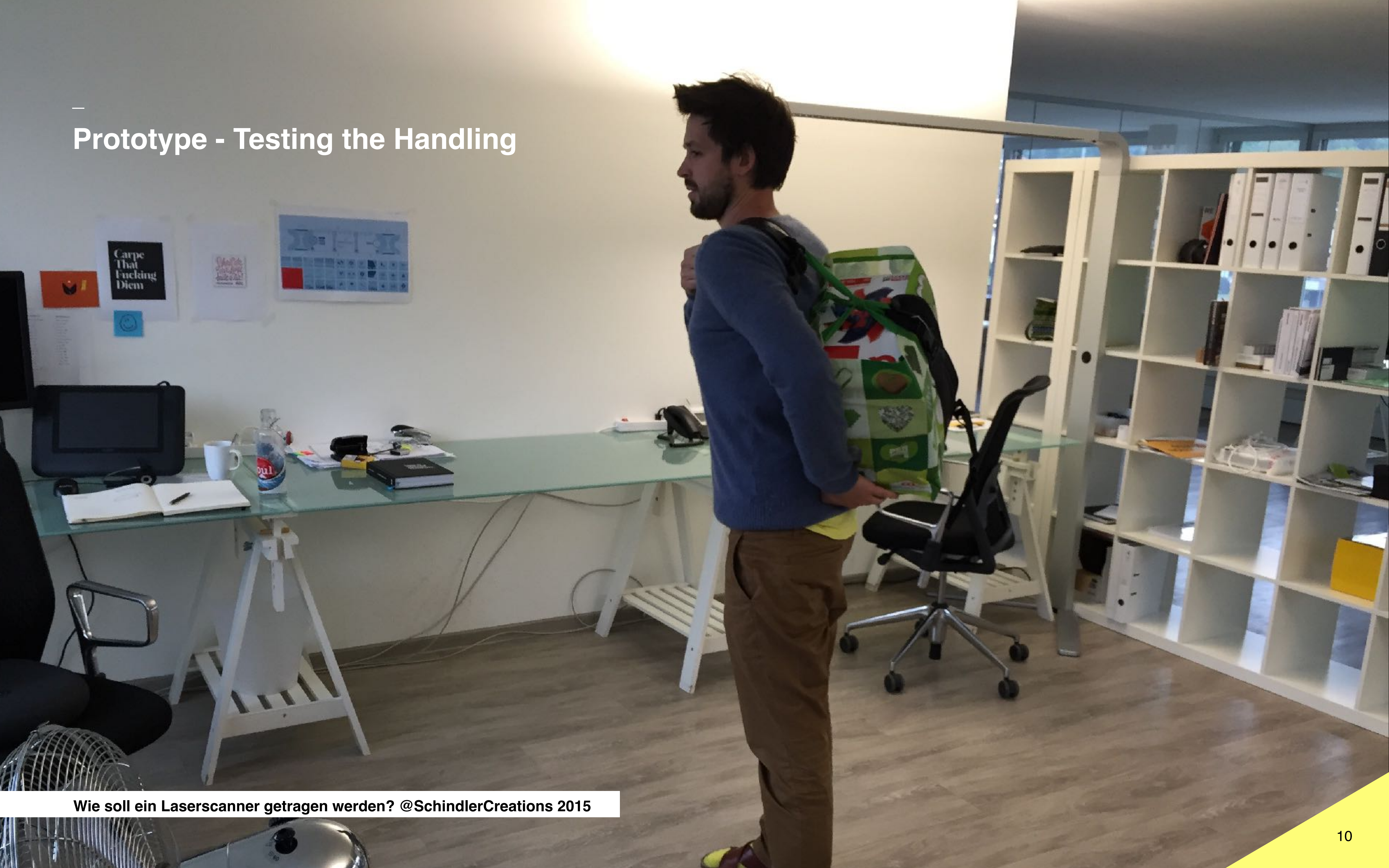
Prototyping is the making of a representation of a solution to a design problem in such a way that a user can experience it. Prototypes are not meant to function but rather to let users interact with them so as to provide feedback. Prototyping is a crucial part of iterative design processes, design thinking, and user-centered design.

The purposes for which prototypes are used can be broadly categorized into the following areas:

- (1) evaluation and testing***
- (2) the understanding of user experience, needs, and values***
- (3) idea generation***
- (4) communication among designers***

Prototyping - Testing a Flow

Prototype - Testing the Handling



Wie soll ein Laserscanner getragen werden? @SchindlerCreations 2015

Prototype - Testing the Acceptance



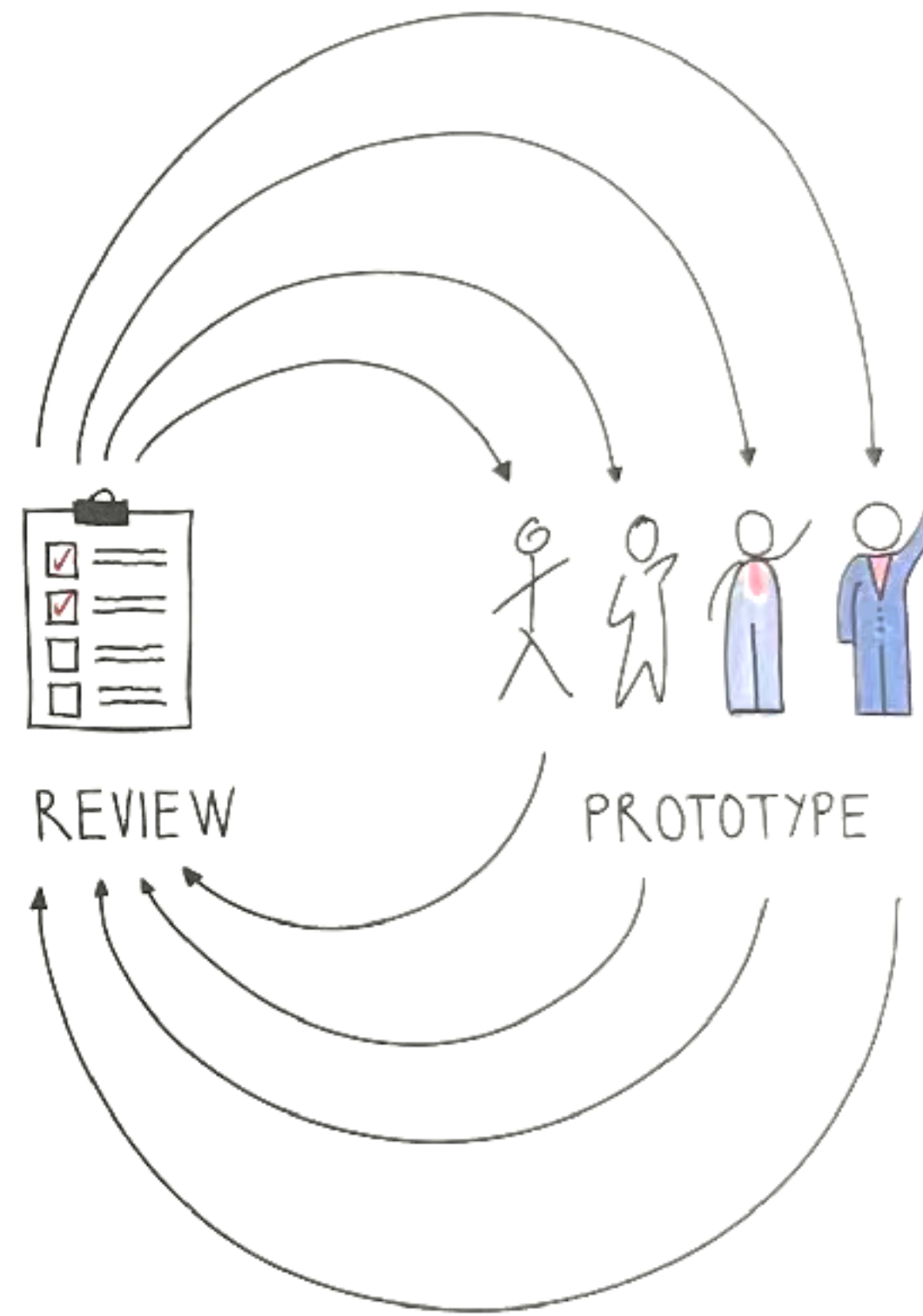
WARUM »PROBIERT« BESSER IST ALS »PERFEKT«

»The best way to experience an experience, is to experience it«, sagte Bill Moggridge (1943–2012), Mitgründer des legendären Designberatungsbüros IDEO. Was meinte er damit? Nun, dass es sehr schwer ist, eine neue Erfahrung – sei es ein Produkt, eine Dienstleistung oder auch eine Softwarelösung – in Worten zu beschreiben. Man müsse sie *erfahren*, um zu wissen, ob man bereit ist, dafür Geld auszugeben. Er ermunterte deshalb seine Designer*innen, Ideen nicht zu beschreiben, sondern lieber gleich herzustellen. Denn ein physisches Objekt, und sei es bloß eine grobe Skizze oder klobige Maquette, gebastelt aus einem alten Pizzakarton, hat die erstaunliche Fähigkeit, die Fantasie in eine unerwartete Richtung zu lenken.


Die Qualität eines solchen Prototyps, stellten die Designer*innen fest, ist dabei zweitrangig. Viel wichtiger ist es, dass der Inhalt (oder die Funktion) »fassbar« wird, damit man eine konkrete Vorstellung von dem Produkt oder Angebot bekommt. »Hold it, use it, talk about it«, sagte Moggridge über die Bastelarbeiten seiner Leute.

Die Herstellung eines solchen ersten Musters nennt man *Rapid Prototyping*. Gemäß IDEO sollte ein *Rapid Prototyp* drei Eigenschaften erfüllen: Es sollte **rough** sein, **rapid** und **right**.

Er muss also nicht perfekt sein, er muss bloß ungefähr (**rough**) sein, sodass wir die Kerneigenschaften des Produk-

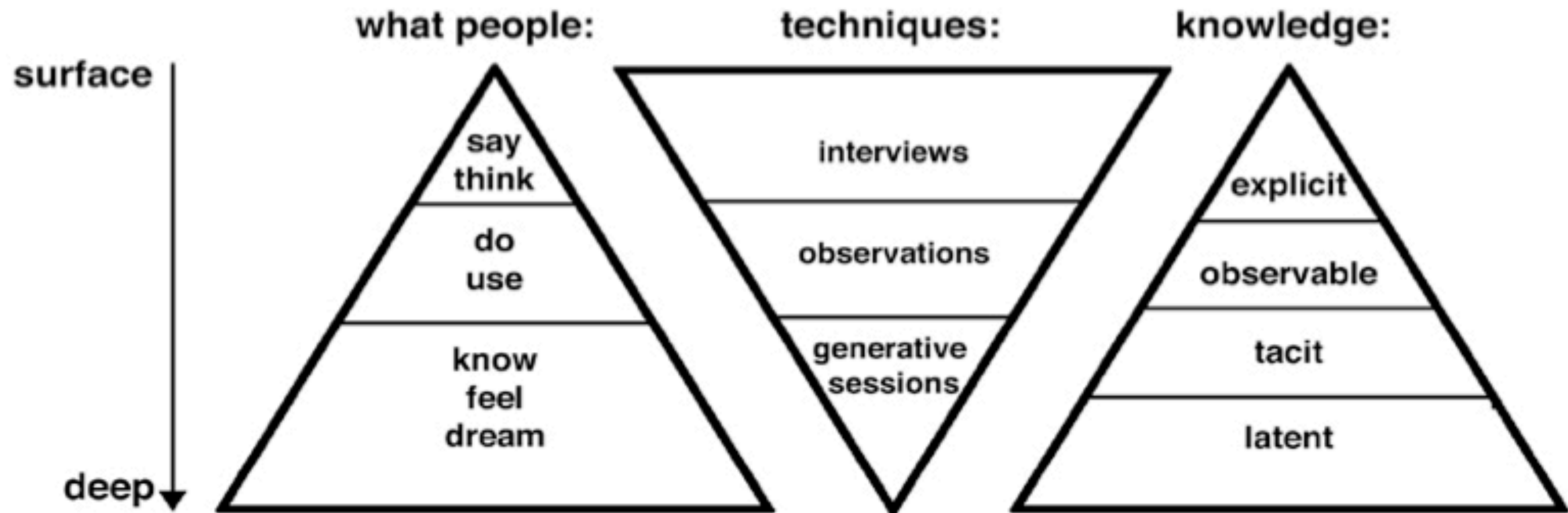


Probieren, Feedback einholen, verbessern: iterative Produktion.

A photograph of Tim Brown, CEO of IDEO, speaking on a stage. He is wearing a dark blazer over a white t-shirt and has a small microphone in his ear. He is holding a black mobile phone in his right hand, which has a red and green button on the back. His left hand is raised in a gesture. The background is a blurred stage with red and purple lighting.

„Design thinking rapidly moves on to learning by making. Instead of thinking about what to build, building in order to think.“

Tim Brown (TED 2009)



Prototyping Dimensions

What determines the specifics of how to form prototypes are the issues of what prototypes should be composed or made out of, that is, the materials (whether visible or invisible) by which the prototype is made manifest; what level of fidelity the prototype should be, that is, the resolution of a prototype; and how complete the prototype should be, that is, the scope of a prototype.

Table III. The Definition and Variables of Each Manifestation Dimension

Manifestation Dimension	Definition	Example Variables
<i>Material</i>	Medium (either visible or invisible) used to form a prototype	Physical media, e.g., paper, wood, and plastic; tools for manipulating physical matters, e.g., knife, scissors, pen, and sandpaper; computational prototyping tools, e.g., Macromedia Flash and Visual Basic; physical computing tools, e.g., Phidgets and Basic Stamps; available existing artifacts, e.g., a beeper to simulate an heart attack
<i>Resolution</i>	Level of detail or sophistication of what is manifested (corresponding to fidelity)	Accuracy of performance, e.g., feedback time responding to an input by a user—giving user feedback in a paper prototype is slower than in a computer-based one); appearance details; interactivity details; realistic versus faked data
<i>Scope</i>	Range of what is covered to be manifested	Level of contextualization, e.g., website color scheme testing with only color scheme charts or color schemes placed in a website layout structure; book search navigation usability testing with only the book search related interface or the whole navigation interface

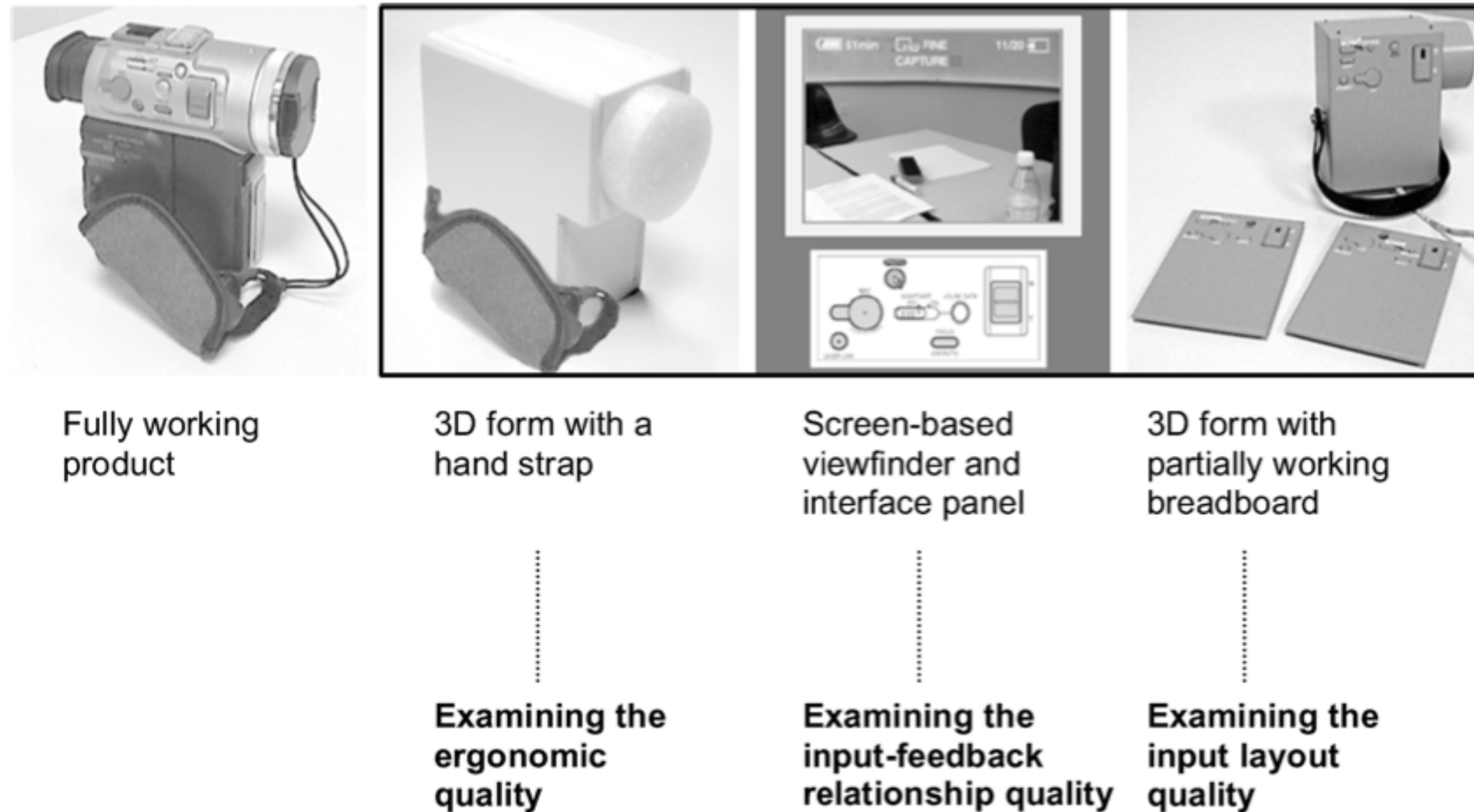
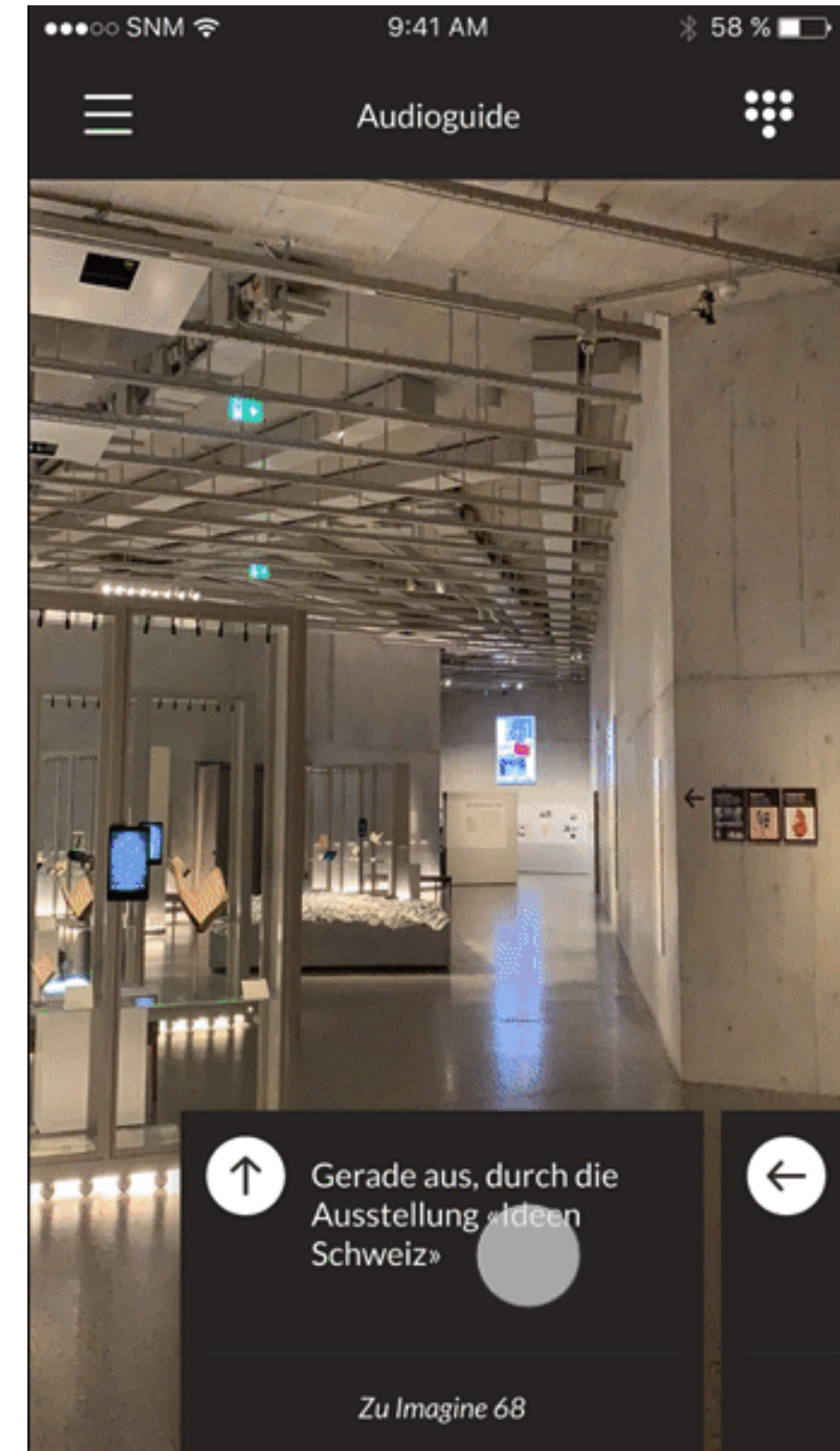
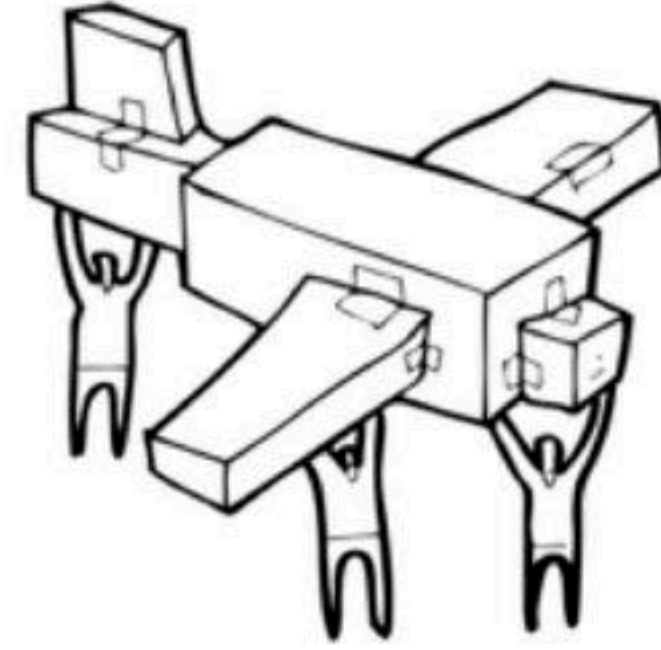


Fig. 1. A series of prototypes that represent different qualities of interest to a designer to filter out different aspects of a design [Lim 2003].

Low vs. High Fidelity





"A great
PROTOTYPE
has already
FAIL'D"

Adam's thoughts on Prototyping

Fail-able

A great prototype can be **tested** in action, and is able to fail the test to teach me something.

(inter)Active

A great prototype can be **interacted** with, just like I would interact with the final offering: "try this", not "look at this".

Informative

All prototypes must **teach** the builder something. If it doesn't teach me anything, why did I build it?

Lo-Fi

A great prototype is at the lowest meaningful level of fidelity. It's clear, but often **ugly** and built to be replaced.

Disposable

There is never "the prototype". There is never "the final prototype". There is only "the **latest** prototype".

"If my prototype is non-interactive,
nicely polished and cannot fail,
it's not a prototype - **it's a visual aid.**"

identity. It's clear, but often **ugly** and built to be replaced.

Disposable

There is never "the prototype". There is never "the final prototype". There is only "the **latest** prototype".

"If my prototype is non-interactive,
nicely polished and cannot fail,
it's not a prototype - **it's a visual aid.**"

globalservicejam.org

#gsjam

image Adrian Paulsen

Usability Testing

-



Formative vs. Summative Testing

–

Formative

Formative testing, is conducted during the design and development process. Its goal is to gather insights and feedback to inform and shape the design. It is more exploratory and qualitative in nature, focusing on understanding user behaviors, preferences, and needs. The findings from formative testing are used to make iterative improvements to the design.

Summative Testing

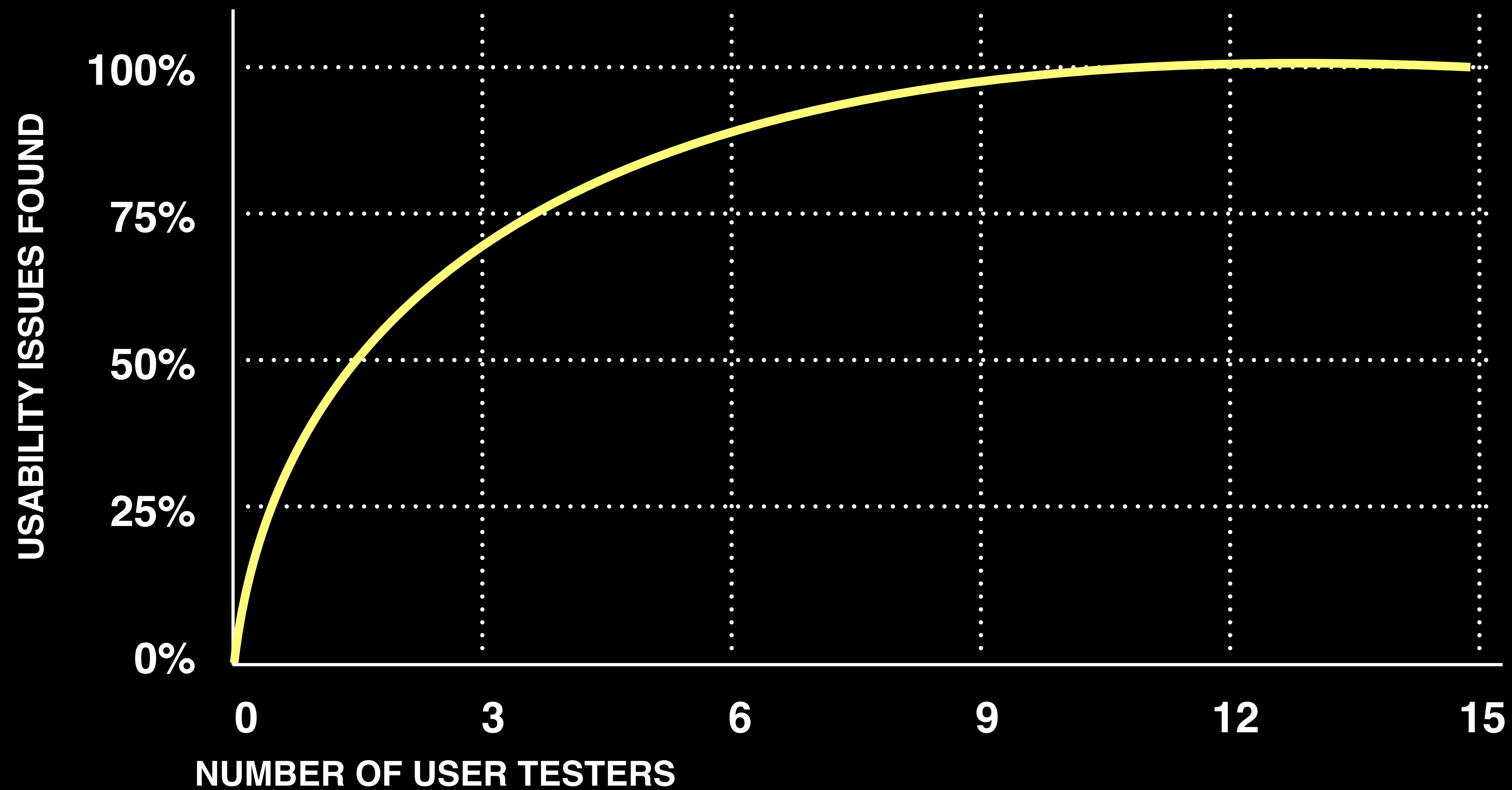
Summative testing is conducted at the end of a design process or project. Its purpose is to evaluate the overall effectiveness and success of a product or design. Summative testing typically involves gathering quantitative data and feedback from users to assess the product's usability, performance, and user satisfaction.

The truth of the matter is that pretty much of all our methodologies for quantitatively evaluating user interfaces suck.

Henry Lieberman (2008)

Testing

Number of User Testers



See: [Nielsen Norman Group - Why you only need to test with 5 users](#)


Summary: Elaborate usability tests are a waste of resources. The best results come from testing no more than 5 users and running as many small tests as you can afford.

Nielsen Norman Group

Testing

Formulate a hypothesis through a Test Card


Test Card



Test Name	Deadline
Assigned to	Duration



STEP 1: HYPOTHESIS

We believe that

Critical: 


STEP 2: TEST

To verify that, we will

Test Cost:  Data Reliability: 

STEP 3: METRIC

And measure

Time Required: 

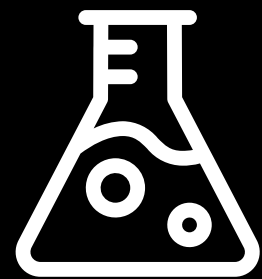
STEP 4: CRITERIA

We are right if

Copyright Strategyzer AG The makers of Business Model Generation and Strategyzer

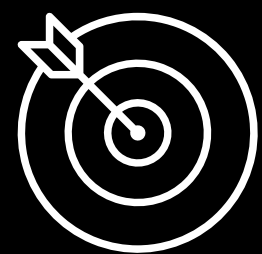
Hypotheses

Charakteristica of a good Hypothesis



Testable

Your hypothesis is testable when it can be shown true (validated) or false (invalidated), based on evidence (and guided by experience).



Precise

Your hypothesis is precise when you know what success looks like. Ideally, it describes the precise what, who, and when of your assumptions.



Discrete

Your hypothesis is discrete when it describes only one distinct, testable, and precise thing you want to investigate.

Overview

Example of hypotheses for the Use Case 'Kunsthhaus Floorplan'

CASE: WHICH FLOOR?

We believe that...

Visitors are aware of which floor they are on during the visit.

To test this we will...

Ask 10 visitors (from teenagers to seniors) on the first and second floor, if they know what floor they are on.

We are right if...

If 4 out of 5 visitors answer correctly.

Additional question: "How did you orientate yourself?"

CASE: FINDING THEMSELVES ON THE MAP

We believe that...

Visitors will find where they are on our map, within a floor.

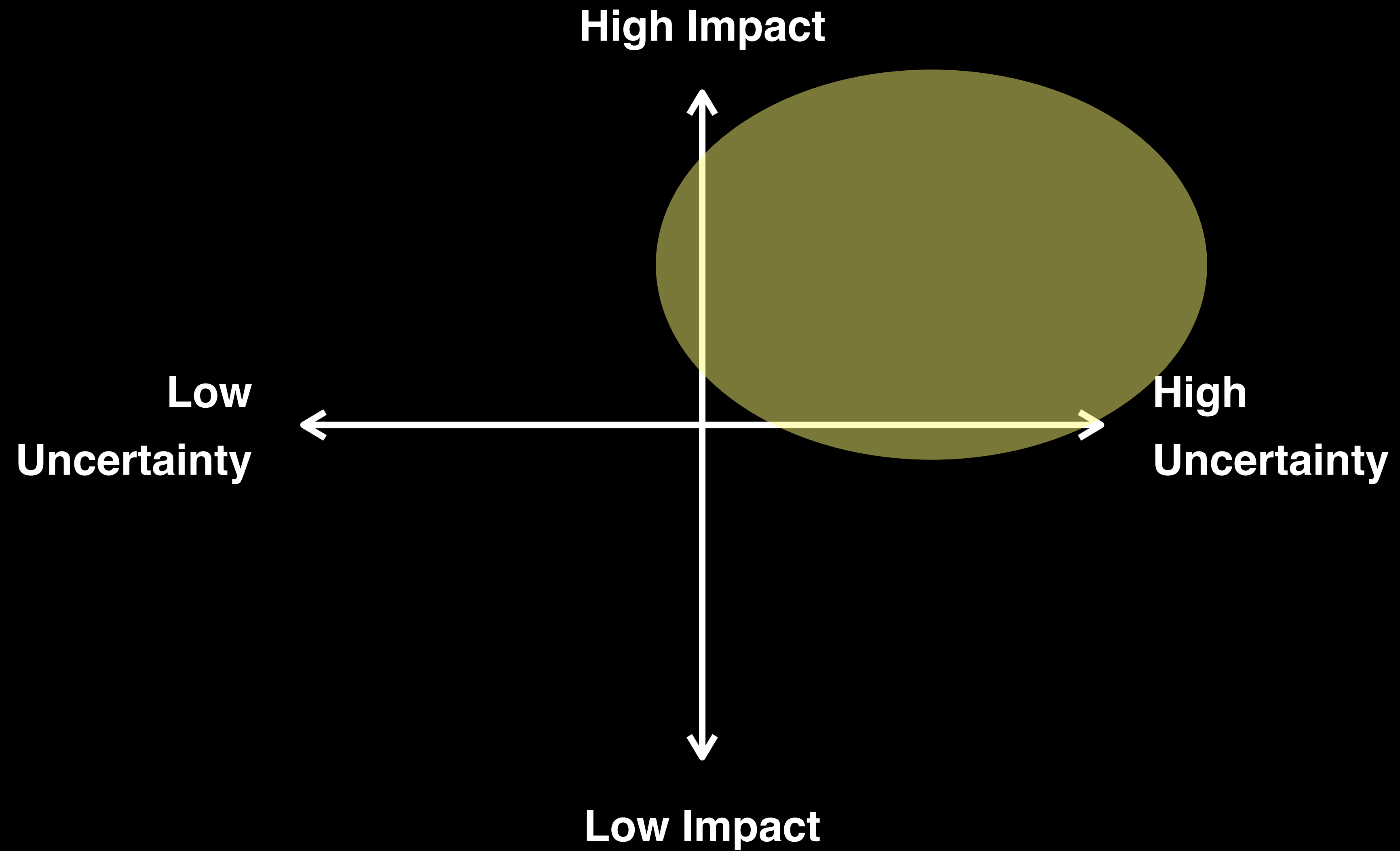
To test this we will...

Show 10 visitors (from teenagers to seniors) on the first and second floor, a map and ask them if they know where they are.

We are right if...

If 4 out of 5 visitors can point to their correct location (section) on map.


Prioritisation of Hypotheses



Testing

Syntheses via Testing Cards

Learning Card



Insight Name *Date of Learning*


Person Responsible

STEP 1: HYPOTHESIS

We believed that


STEP 2: OBSERVATION

We observed

Data Reliability: 

STEP 3: LEARNINGS AND INSIGHTS

From that we learned that

Action Required: 

STEP 4: DECISIONS AND ACTIONS

Therefore, we will

Copyright Strategyzer AG The makers of Business Model Generation and Strategyzer

Lab Testing

A photograph of a laboratory control room, overlaid with a semi-transparent green filter. In the foreground, a man in a white shirt is seated at a desk, viewed from behind, looking at a computer monitor. The desk is cluttered with a laptop, a glass of beer, sticky notes, and other items. In the background, a large window looks into a laboratory where another person is working. The room is filled with computer equipment, including multiple monitors and a large screen on the right displaying a software interface. The overall atmosphere is professional and technical.



Remote Testing

(moderated / unmoderated)

A man and a woman are sitting at a table in a coffee shop. The man is on the left, wearing a patterned sweater, looking at a laptop. The woman is on the right, wearing a black t-shirt, gesturing with her hands. On the table are a laptop, a smartphone, and a Starbucks coffee cup with a green straw. In the background, there is a coffee counter with menu boards and a barista. The entire image has a yellow-green tint.

Guerilla Testing Hallway Testing

—

Testing

Finding test subjects

- ✓ Try to find test subjects within the environment of where the product might be used
- ✓ Look for people who correspond to your target group, or are close to them
- ✓ Find around three to five candidates
- ✓ Look for diverse candidates where possible (extreme users)

Testing

Guerilla Testing Checklist

- ✓ **If possible, test with two people**
- ✓ **Make sure the test device is loaded and the prototype is functional**
- ✓ **Define clear tasks/scenarios that you want to test**
- ✓ **Make sure you can record the findings**

Testing

Tips & Tricks

- ✓ **Remind the testers that it is not them that are being tested, but the product. No answer given can be wrong.**
- ✓ **Don't say that the concept you're testing is your own (otherwise no one will give you honest feedback).**

Testing

Structure of a Testing Interview

- 1. Friendly Welcome**
- 2. Context Questions**
- 3. Introducing the Prototype**
- 4. Tasks**
- 5. Quick Debrief**

Book Tip

David J. Bland & Alex Osterwalder

You're holding a field guide for rapid experimentation.
Use the 44 experiments inside to find your path to scale.
Systematically win big with small bets by...

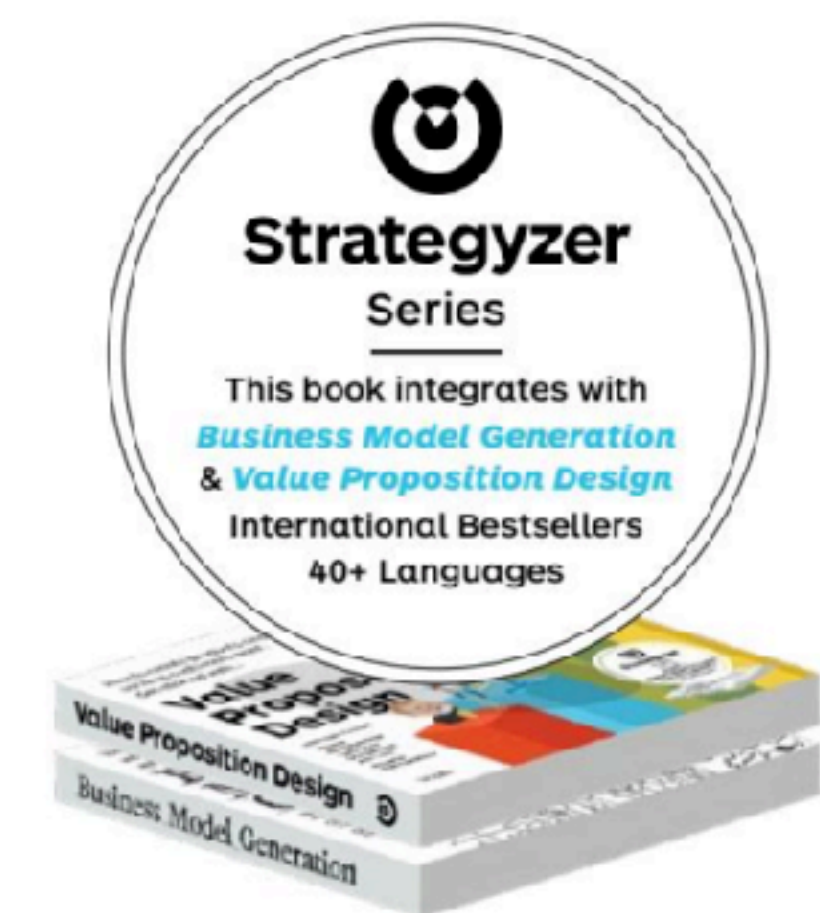
Testing Business Ideas

strategyzer.com/test

WRITTEN BY
David J. Bland
Alex Osterwalder

DESIGNED BY
Alan Smith
Trish Papadakos

WILEY



Buchtipp

Giff Constable

TALKING TO HUMANS

Success starts with understanding
your customers

GIFF CONSTABLE

with Frank Rimalovski
illustrations by Tom Fishburne
and foreword by Steve Blank

THE SEQUEL TO THE AWARD-WINNING BOOK *TALKING TO HUMANS*

TESTING WITH HUMANS



How to use experiments to drive faster,
more informed decision making.

GIFF CONSTABLE

with Frank Rimalovski

Thank you!

Contact:

Florian Wille

florian.wille@zhdk.ch

Z

hdk

Zürcher Hochschule der Künste
Bachelor of Arts in Design