ERASMUS +
DT.Uni. Design Thinking University
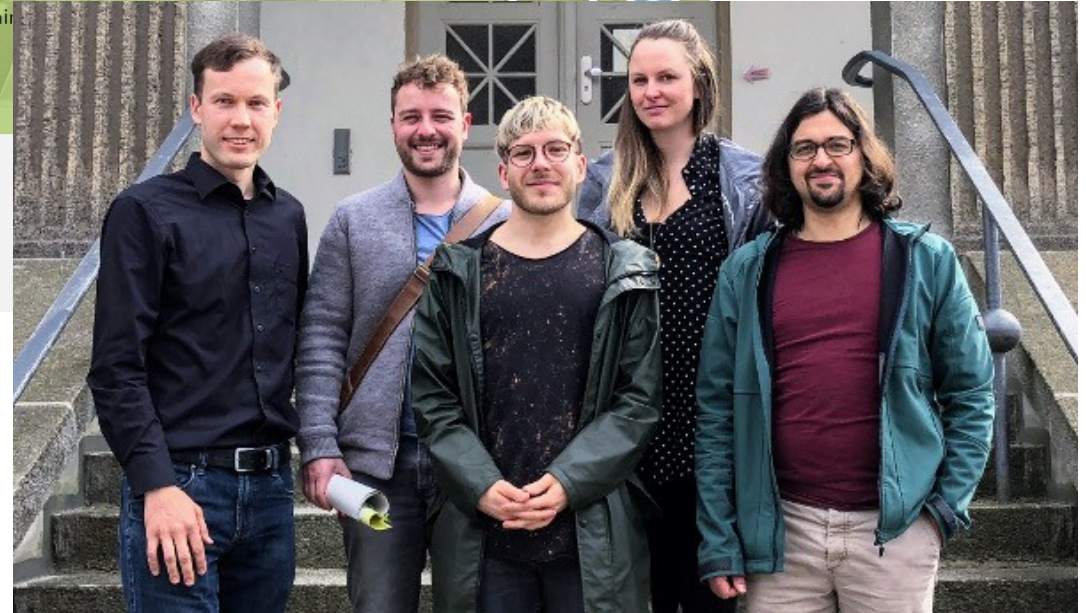
Applying Design Thinking
A Workbook for Researchers and Academics

Dr. des. Robert Fischer // November 2020

Chair Industrial Design Engineering, TU Dresden

Applying Design Thinking
Team
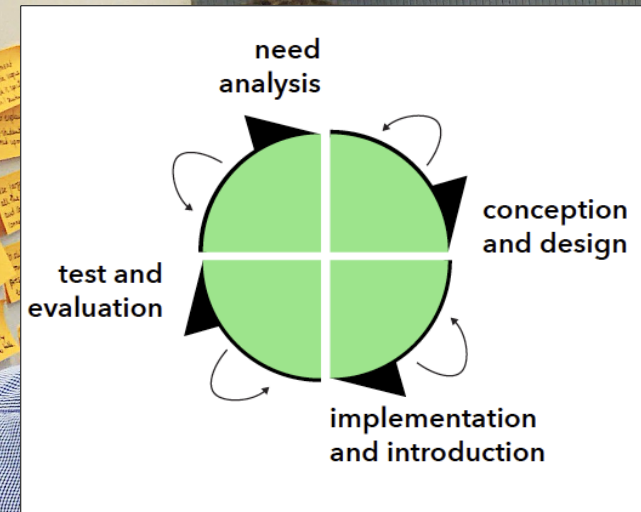
An interdisciplinary Team

- Christian Bruchatz
  (physicist, mechatronics engineer)

- Pierre Herzer
  (business engineer)

- Martin Meyer
  (graphics designer)

- Janine Stelzer
  (German philologist, artist)

- Robert Fischer
  (historian, English philologist)
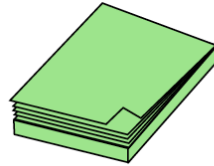

Applying Design Thinking

A Workbook for Academics and Researchers
in Higher Education

Christian Bruchatz, Robert Fischer, Janin[...]

DT.Uni.
Design Thinking Approach
for an Interdisciplinary University

Co-funded by the
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Applying Design Thinking
The Workbook

Process and Mindset

Use sticky notes!

Sticky notes – available in different sizes, shapes and colors – help you to share your thoughts within the team and visualize knowledge. Use them to bundle information as chunks, each on one sticky note. They are flexible and re-arrangeable so the team does not always have to write new notes, but can transform the old ones into a new scheme.

- Minimum 2, maximum 5 words on one sticky note
- Draw & write
- Everyone writes & draws, not just the one with the most beautiful handwriting
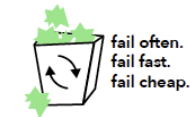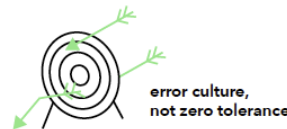- Capital letters are easier to read

Co-creating new ideas

In order to co-create successfully, participants need to be able to express their thoughts and accept different perspectives. Rather than focus on a single idea, the Design Thinking approach harnesses the individual input from the team members to produce an array of ideas which may be dismissed or further developed as a group.

need analysis

conception and design

test and evaluation

implementation and introduction

easy access to information about Design Thinking
using Design Thinking principles

work visually

only one person speaks at a time

encourage WILD ideas

Working Culture

go for quantity

fail often. fail fast. fail cheap.

error culture, not zero tolerance

stay on topic

build on the ideas of other

don't be a perfectionist (Pareto principle) 80:20 rule (result:effort)

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The Workbook

Teaching

Why establish Design Thinking in educational system?

Develop Design Thinking competencies

focus on teaching at HEI

Customer

Teacher's perspective

- Reasoning processes that are being used to formulate lesson strategies
- Fostering peer collaboration: shifting from didactic-oriented material to constructivist-oriented material
- Design a design experience as critical competency for teachers

Effects on students

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Phases

Explore

What can the team discover about the challenge and the users affected by it?

Research Mindmap
Who? What? How? Why?
Stakeholder Map
Interview
Persona
User Motivation Analysis
Customer Journey
Value Proposition Canvas
How might we... to solve...

Create

How can the team create a useful idea that might solve the challenge?

Brain Storming
Brain Writing
Kill your Idea
Interview
Matrix Scale
Send a Postcard

Prototype

How can the team represent the idea in a haptic format so that the solution can be tested?

What is a prototype?
How does a prototype look?
Prototype: Papercraft
Prototype: LEGO
Prototype: Storyboard
Prototype: Video
Prototype: Wireframing

Evaluate

How well did the prototype of the solution resonate with the users affected by the challenge?

Test Grid Planning
Interview
Brain Storming
How might we... to solve...

quick overview and easy navigation regarding different phases and inter-connected methods

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Methods

Research Mindmap

explaining methods in
recurring categories

exemplary templates and
empty templates ready to
print out

workshop scenarios

4-days DT.Shop
at TU Dresden, Germany

INTRODUCTION	1/2 DAY
WHO? WHAT? HOW? WHY? INTERVIEW PERSONAS HOW MIGHT WE...?	1 DAY
BRAINSTORMING BRAINWRITING MATRIX SCALE SEND A POSTCARD GROUP PRESENTATION	1 DAY
PROTOTYPE CREATION	1 DAY
TESTING GROUP PRESENTATION	1/2 DAY
REFLECTION	

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