

Media Computing Project

Prof. Dr. Jan Borchers
M.Sc. René Schäfer



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INTRODUCTION

Media Computing Group

<https://hci.rwth-aachen.de/mcp>

Here you find
all information
regarding the
lab

Team



Prof. Dr. Jan Borchers



René Schäfer

rschaefer@cs.rwth-aachen.de

**Please mail
René for any
questions**

Start E-mail with
[MCP] tag.

Tangible Interfaces

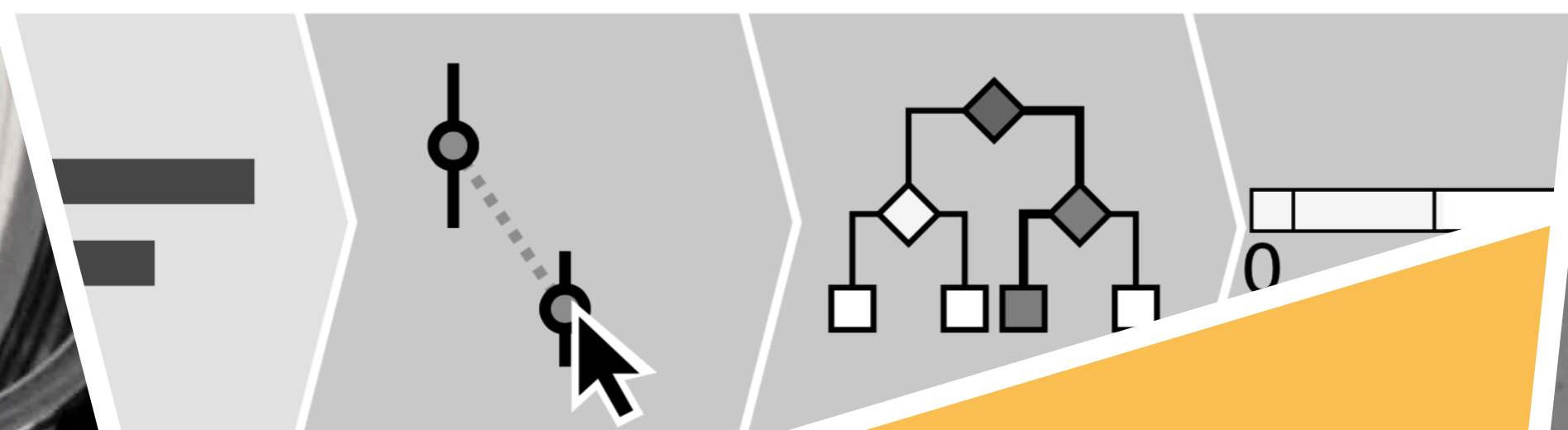
Interactions in AR

Physical Computing



Statsplorer

Interactive
Surfaces



Statistical
Analysis in HCI

Audio/Video
Interaction



FabLab

Interactive Exhibits



Student Projects



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Thesis

- Get in contact with us
- Mail to Clarissa (degavarelli@cs.rwth-aachen.de) including
 - CV
 - Transcript of Records
 - Some information about yourself and your interests

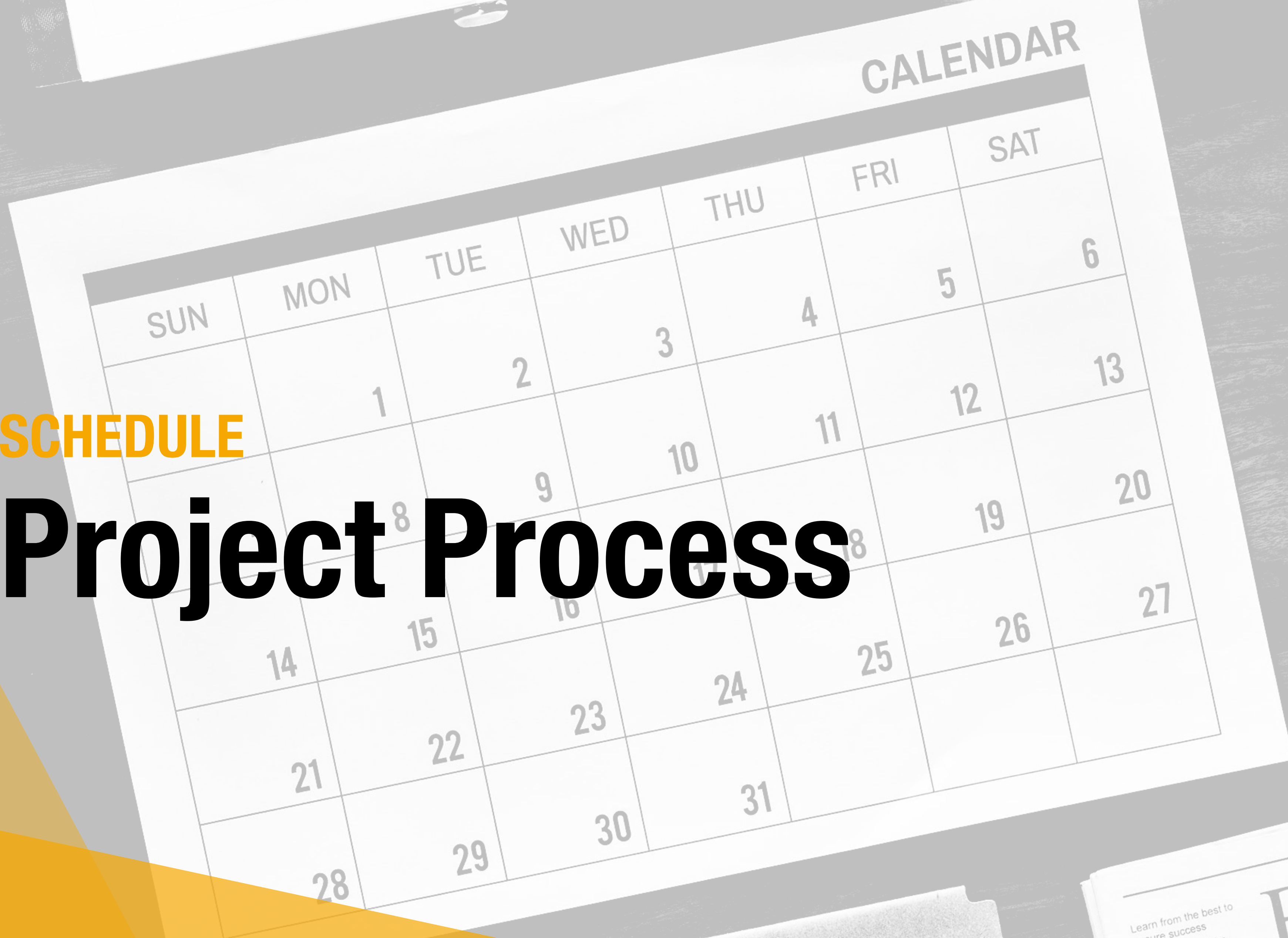


THE MAT

A wide-angle photograph of a modern building with a facade of vertical slats and glass panels. The building is set on a concrete base with a ramp on the right. In the foreground, a small mat with various items is on a paved area. The text 'THE MAT' is overlaid in the center of the image.

SCHEDULE

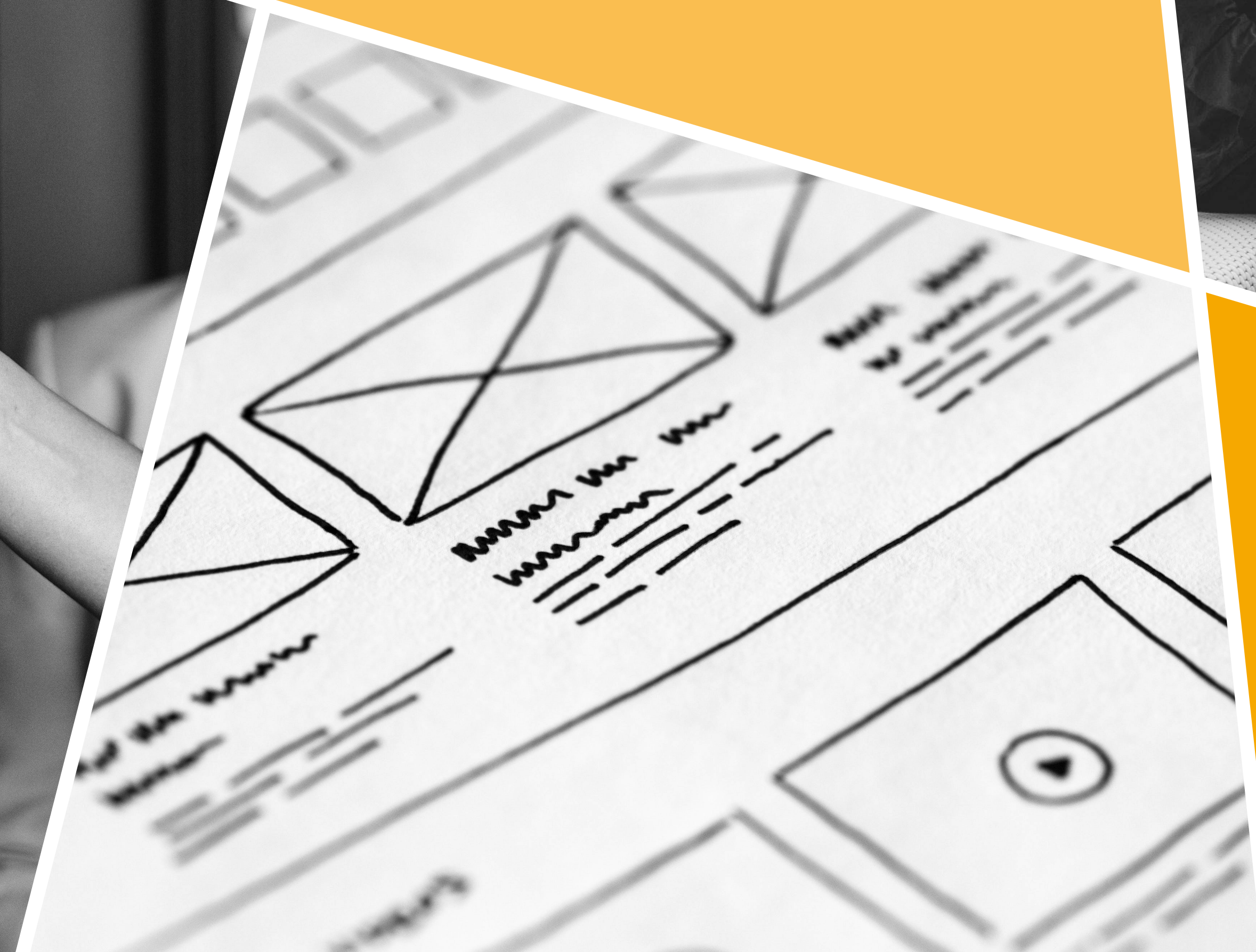
Project Process



Brainstorming



Prototyping



Evaluation





Presentation



Finalization

Development



Lab Format

- 14 weekly meetings
 - **Mandatory attendance**
 - Wednesdays 13:30 until 15:30
- Final presentation Feb 10th
- ~ 13h work per week and per person
- **Registration:** Is everybody registered?
 - Access to RWTHmoodle
 - Last day for **dropout:** Nov 5th



Schedule

Date	Topic	Assignment for next week
28.10	Introduction, Groups	Storyboard
4.11	Project Management, Git Lab RWTH, Basics Software Tools	Elevator Pitch
11.11	2D Design & Lasercutting	Fusion Week
18.11	3D Design & 3D Printing (Fusion, mit Start TinkerCAD)	Mini Plug-in
25.11	Phyton, Scripting, Packaging	Alpha Plug-in
2.12	Phyton, Scripting, Packaging	
9.12	Work on Project	Pivot Point (User Feedback)
16.12	Midterm Pitch	Beta Plug-in
6.01	Work on Project	
13.01	Work on Project	
20.01	Work on Project	Final Documentation
27.01	Video Trailer Infos	Video-Trailer Plan
3.02	Work on Project	Video-Trailer
10.02	Final Presentation	



INTRODUCTION

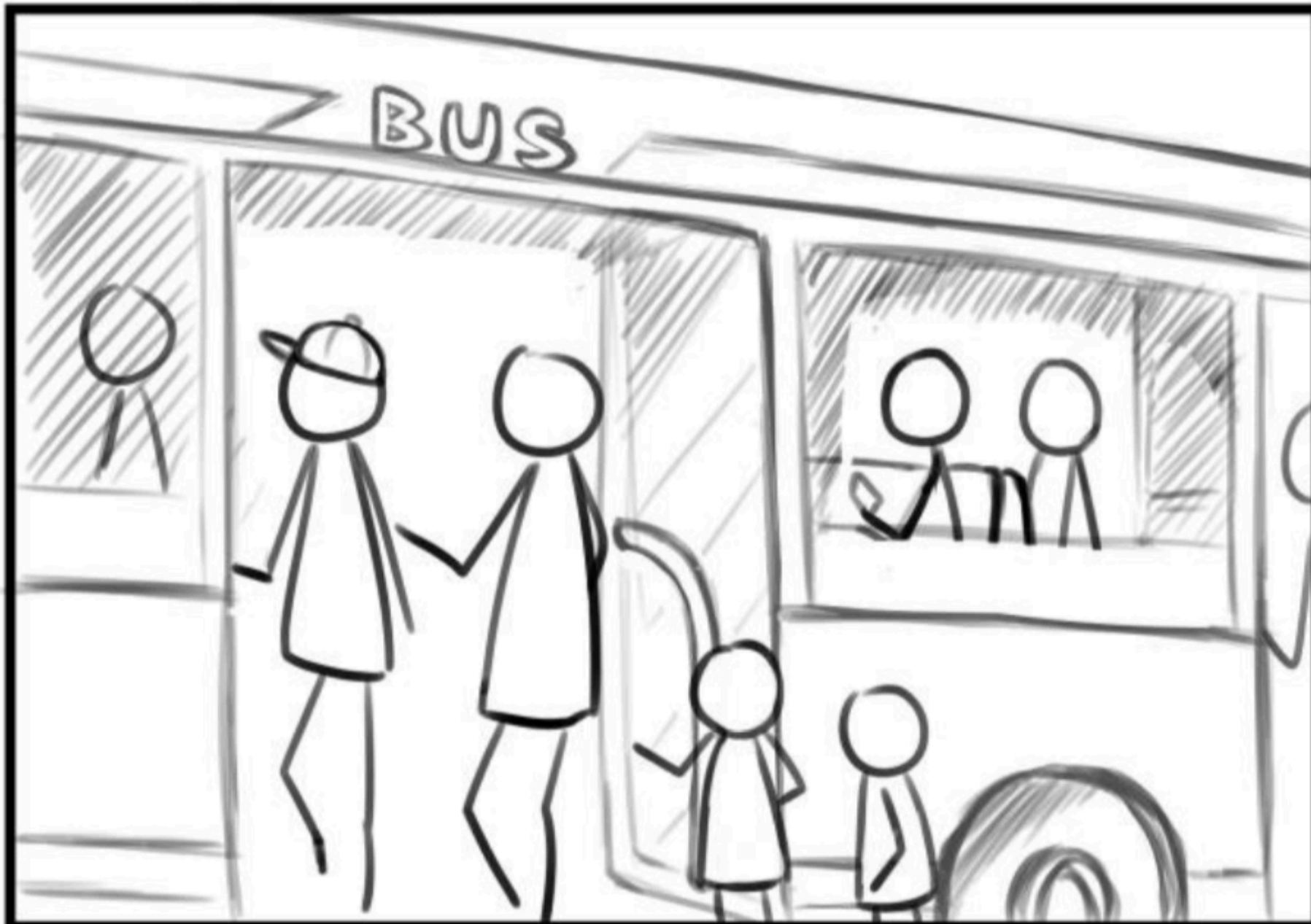
Prototyping



Storyboard

- What is it?
 - Sequence of pictures (**drawn**)
 - **Little** text
- Why use it?
 - Shows activity in its context
 - Shows UI
 - **Detailed** presentation of **interaction**





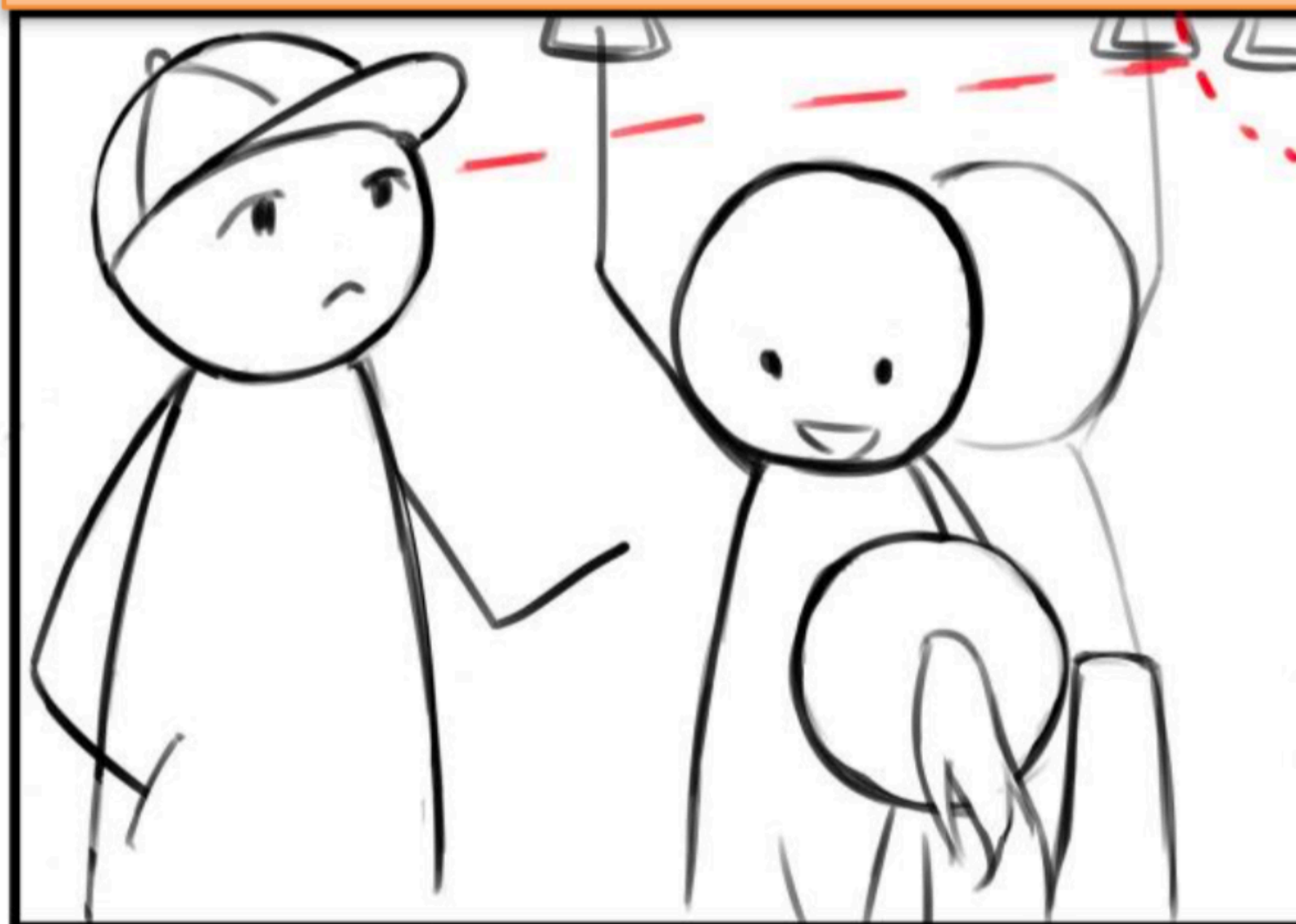
All the people get on the bus through the same door.



Entering the bus.



18 Where is a handle or even better a free seat?

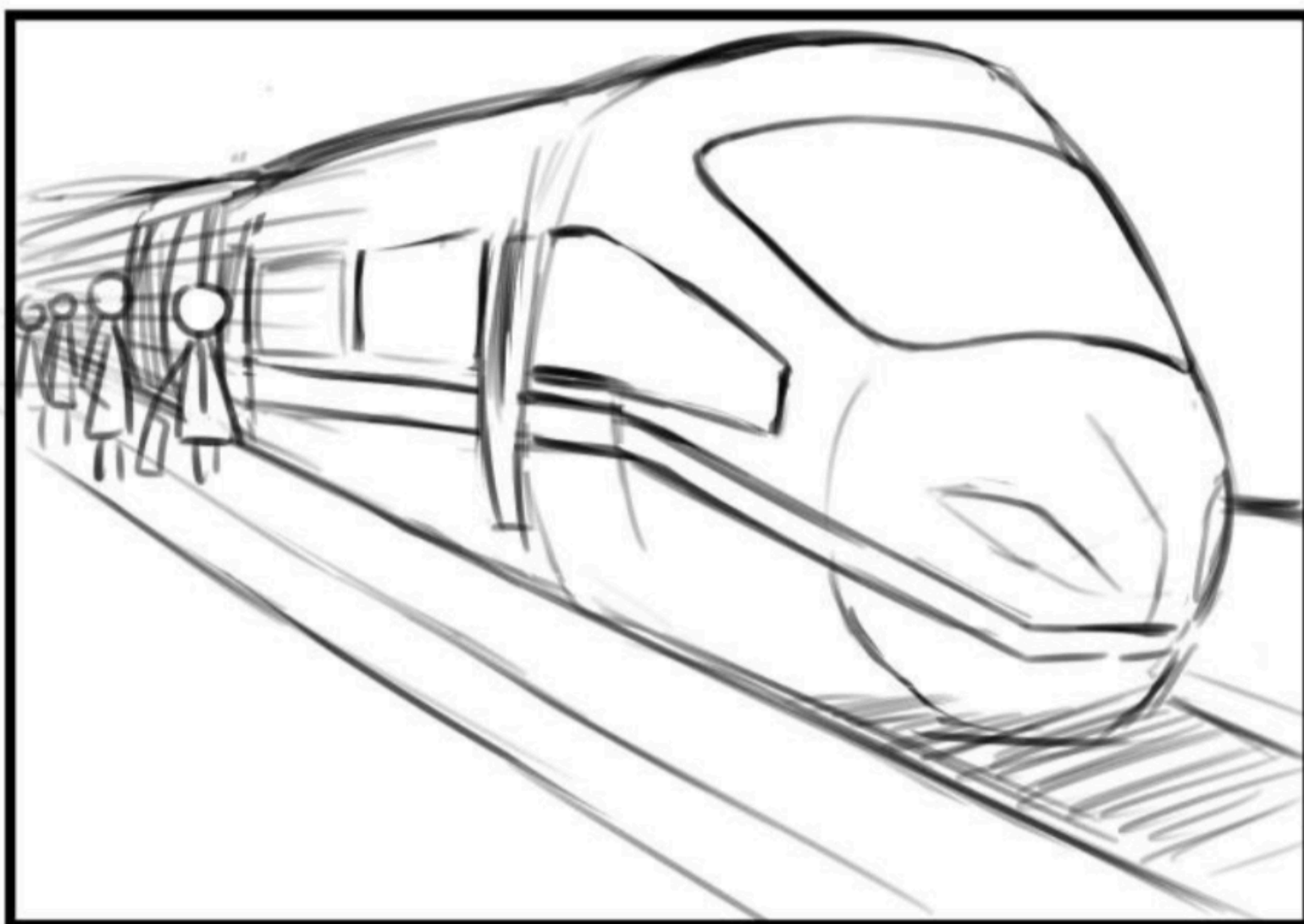


It is too crowded to reach handles or free seats.

Storyboard

Comparison to before





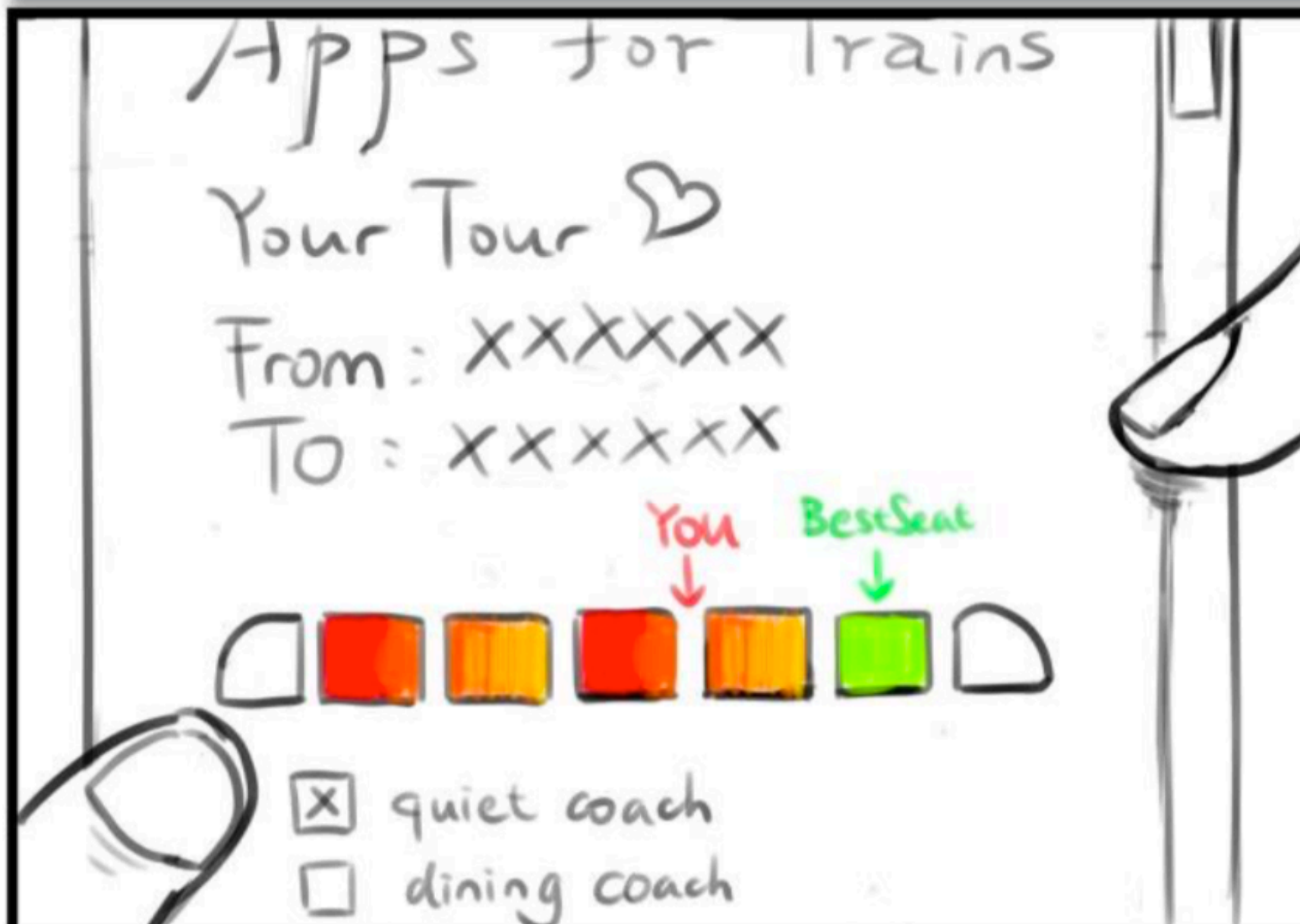
Many people are boarding at the same time.



With the help of the app, the user knows where to go.



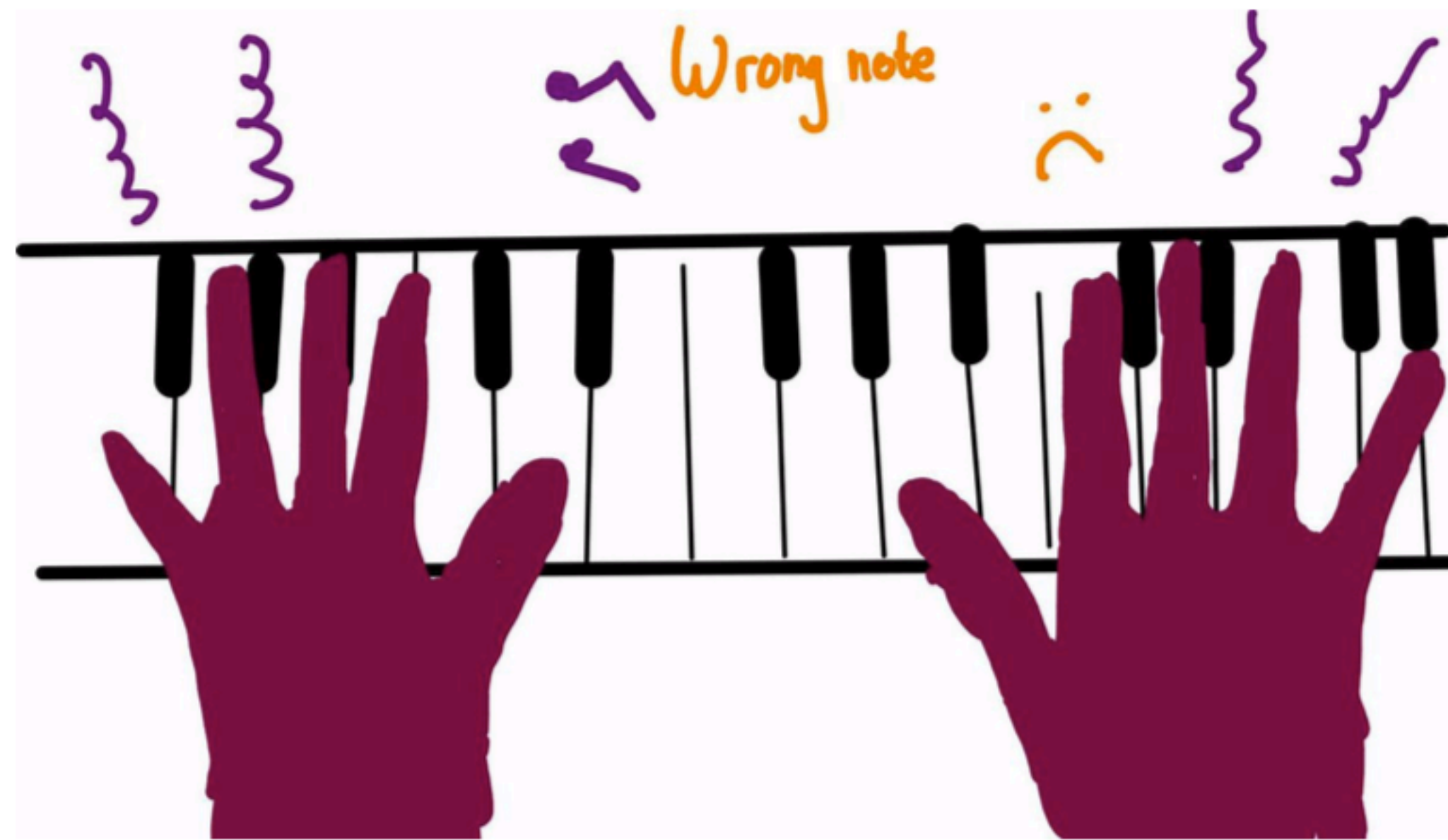
The app knows the user's position on the train.



Based on previously defined preferences, the app reserves a suitable and free seat that meets the user's needs.

Storyboard

Focus on interaction



Storyboard

Style of drawing should fit the situation



Drawing Users

- Reference: <https://hci.rwth-aachen.de/verplank>
 - Part 1
 - Starting at about 18min 25sec



Paper-Prototype

- What is it?
 - **Drawing** on [several] paper sheets
 - Storyboard prototype
 - Flipbook prototype
 - Post-It prototype
- Why use it?
 - Performing tasks within the right **context**
 - UI walkthrough with **users**

Recipe Suggestions:

2 Recipe(s) found:

- Broccoli Cheese Soup

- [wavy lines]
- [wavy lines]
- [wavy lines]
- [wavy lines]

Ingredients in cart:

Broccoli

Milk

Cheese

Post-It Prototype

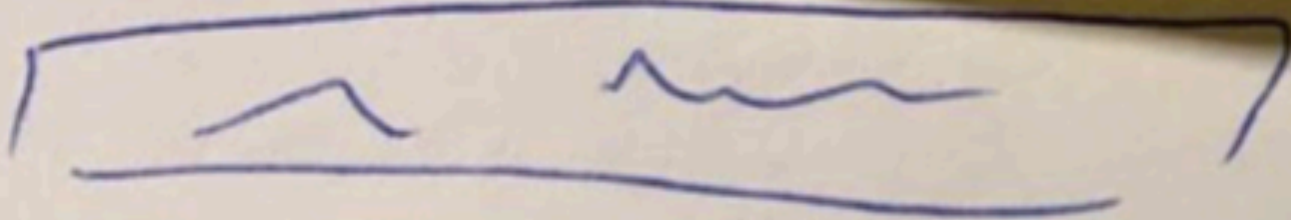
Before the user
interaction.

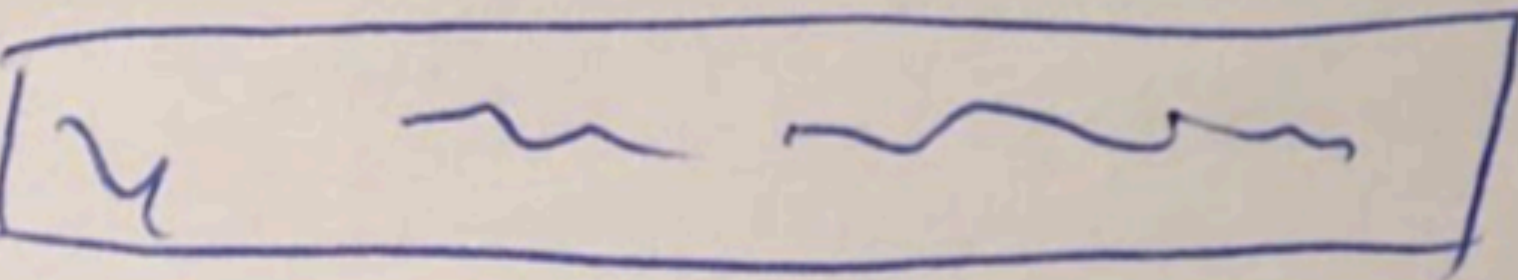
Recipe Suggestions:

15 Recipe(s) found:

• Broccoli Cheese Soup

• Bolognese with Broccoli

• 

• 

Ingredients in cart:

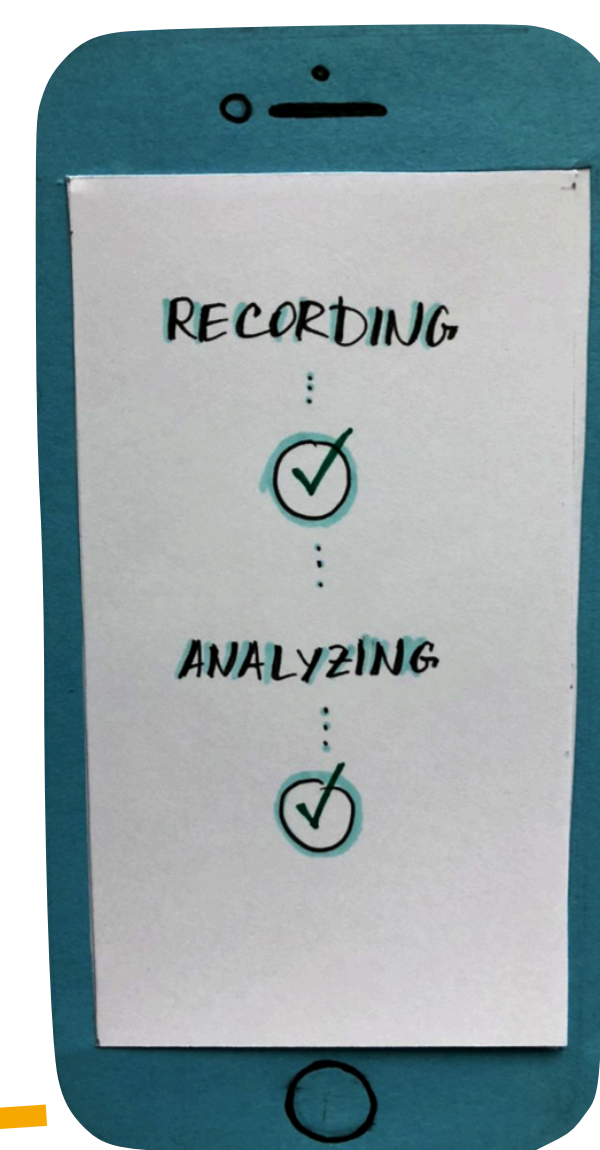
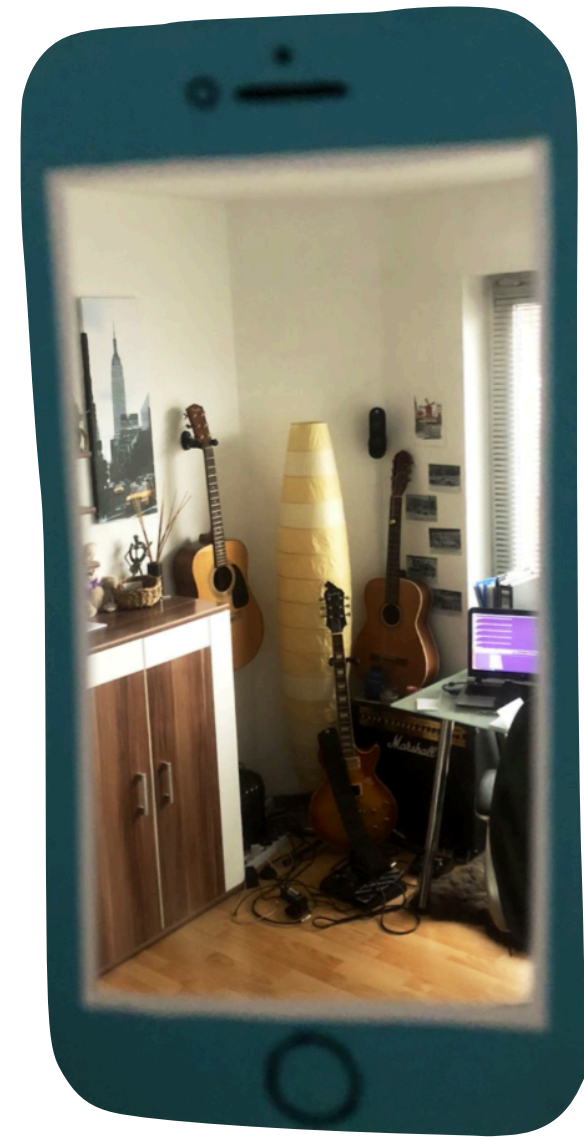
Broccoli

Milk

Cheese

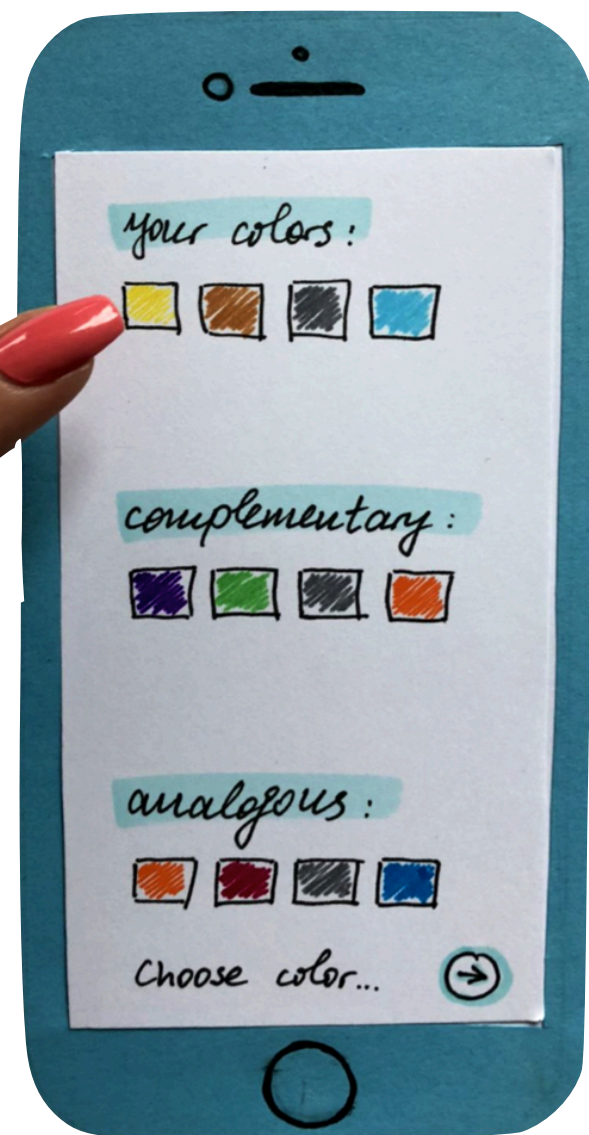
**Post-It
Prototype**

After the user
interaction.



Flipbook Prototype

User has a run through the prototype



Hardware Prototype

- What is it?
 - Model out of
 - Styrofoam
 - Cardboard
 - Paper
- Why use it?
 - Execution of task in its **context**
 - **Physical interaction** is the main thing



Hardware Prototype

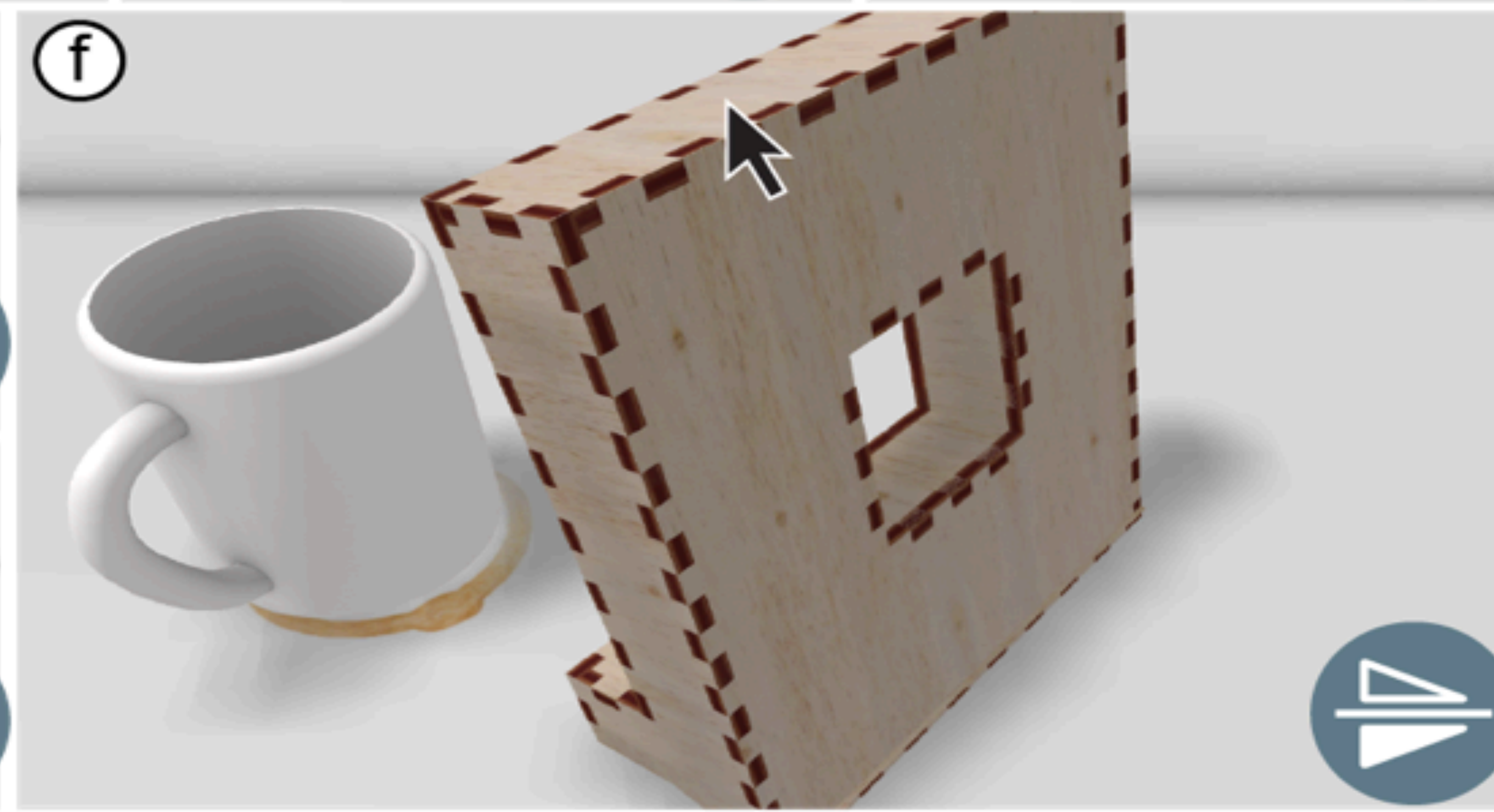
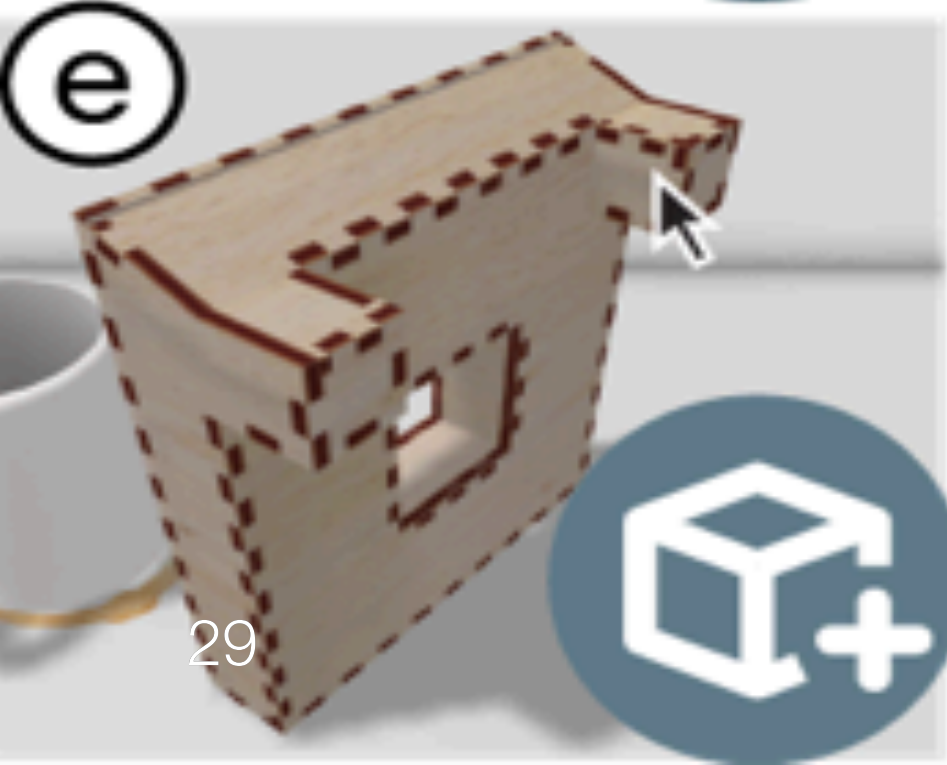
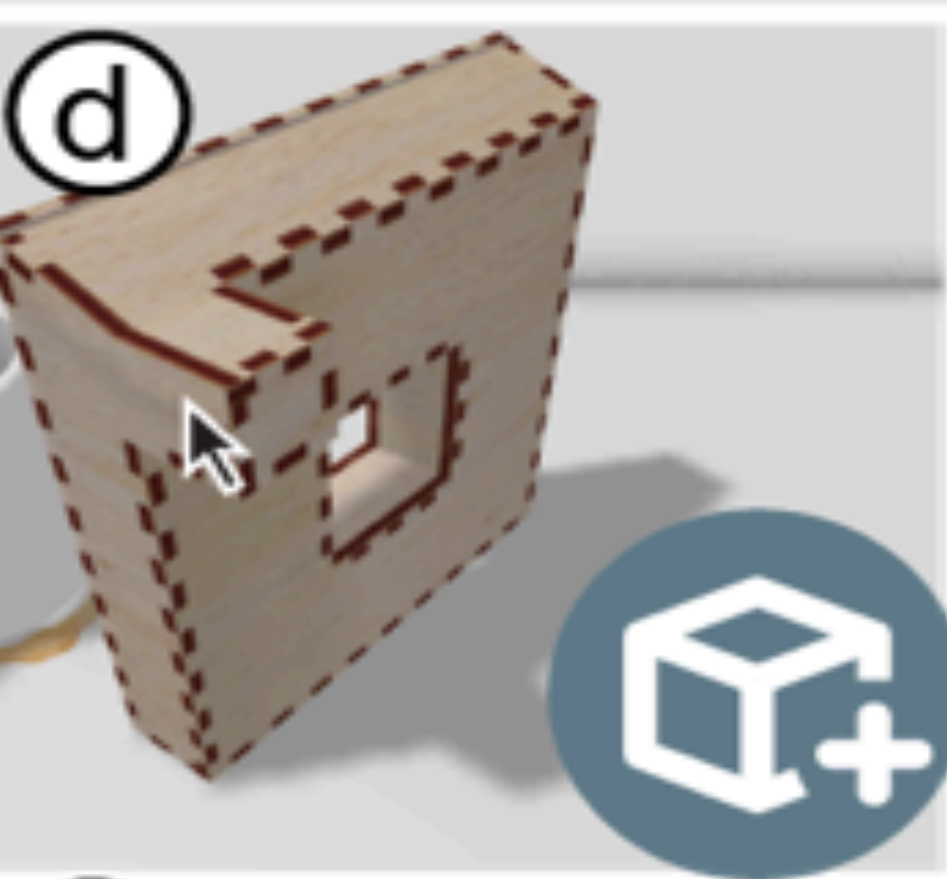
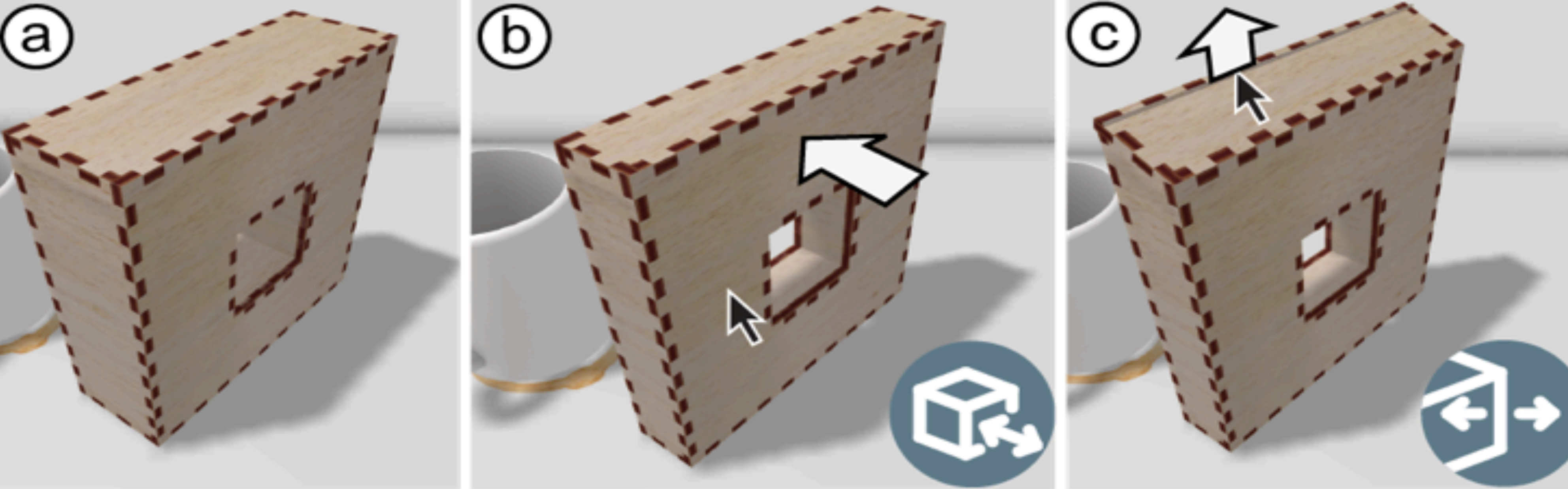
Wizard of Oz an
option.



INTRODUCTION

Project Topic

```
20
21 def run(context):
22     ui = None
23     try:
24         app = adsk.core.Application.get()
25         ui = app.userInterface
26         ui.messageBox('Start Color Wheel Add-In')
27
28         cleanUI()
29
30         # Get the CommandDefinitions collection.
31         cmdDefs = ui.commandDefinitions
32
33         # Create a button command definition.
34         buttonSample = cmdDefs.addButtonDefinition('MyButtonDefIdPython', 'Color Wheel', 'Creates a row of swatches')
35
36         # Connect to the commandCreated event.
37         sampleCommandCreated = SampleCommandCreatedEventHandler()
38         buttonSample.commandCreated.add(sampleCommandCreated)
39         handlers.append(sampleCommandCreated)
40
41         # Get the ADD-INS panel in the model workspace.
42         addInsPanel = ui.allToolBarPanels.itemById('SolidScriptsAddinsPanel')
43
44         # Add the button to the bottom of the panel.
45         buttonControl = addInsPanel.controls.addCommand(buttonSample)
46     except:
47         if ui:
48             ui.messageBox('Failed:\n{}'.format(traceback.format_exc()))
49
50     # Event handler for the commandCreated event.
51     class SampleCommandCreatedEventHandler(adsk.core.CommandCreatedEventHandler):
52         def __init__(self):
53             super().__init__()
54             self._app = None
55             self._ui = None
```

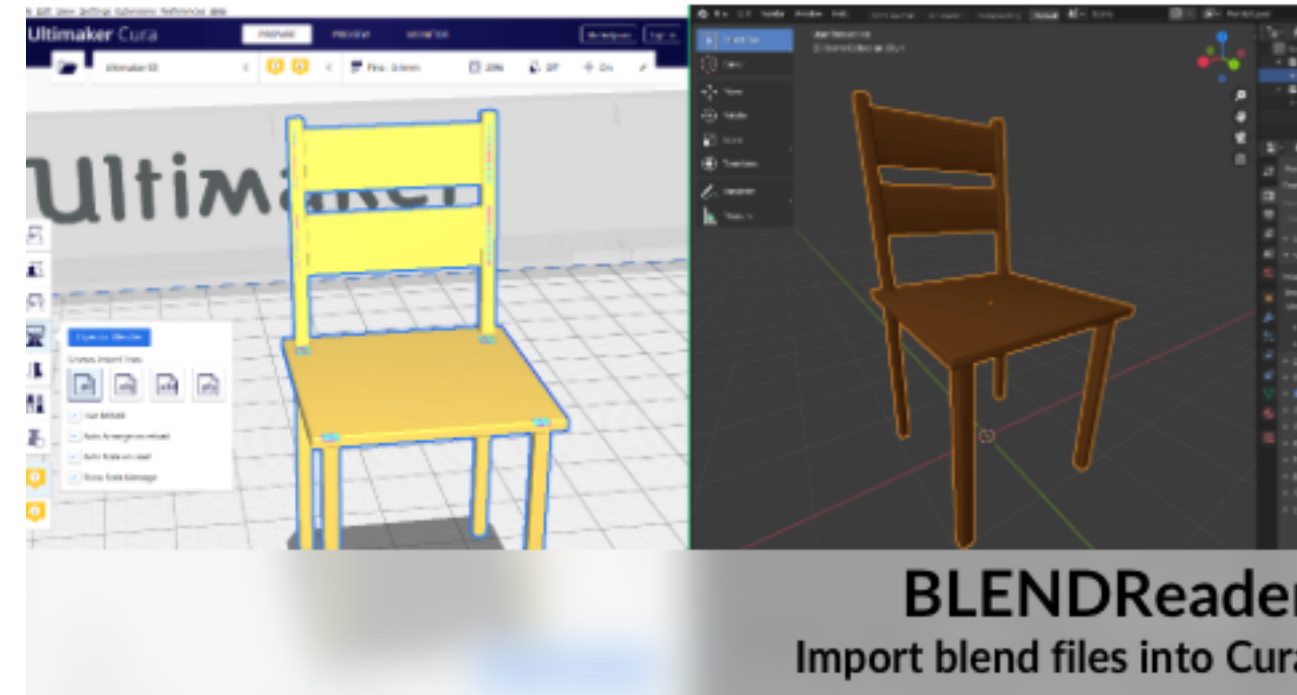
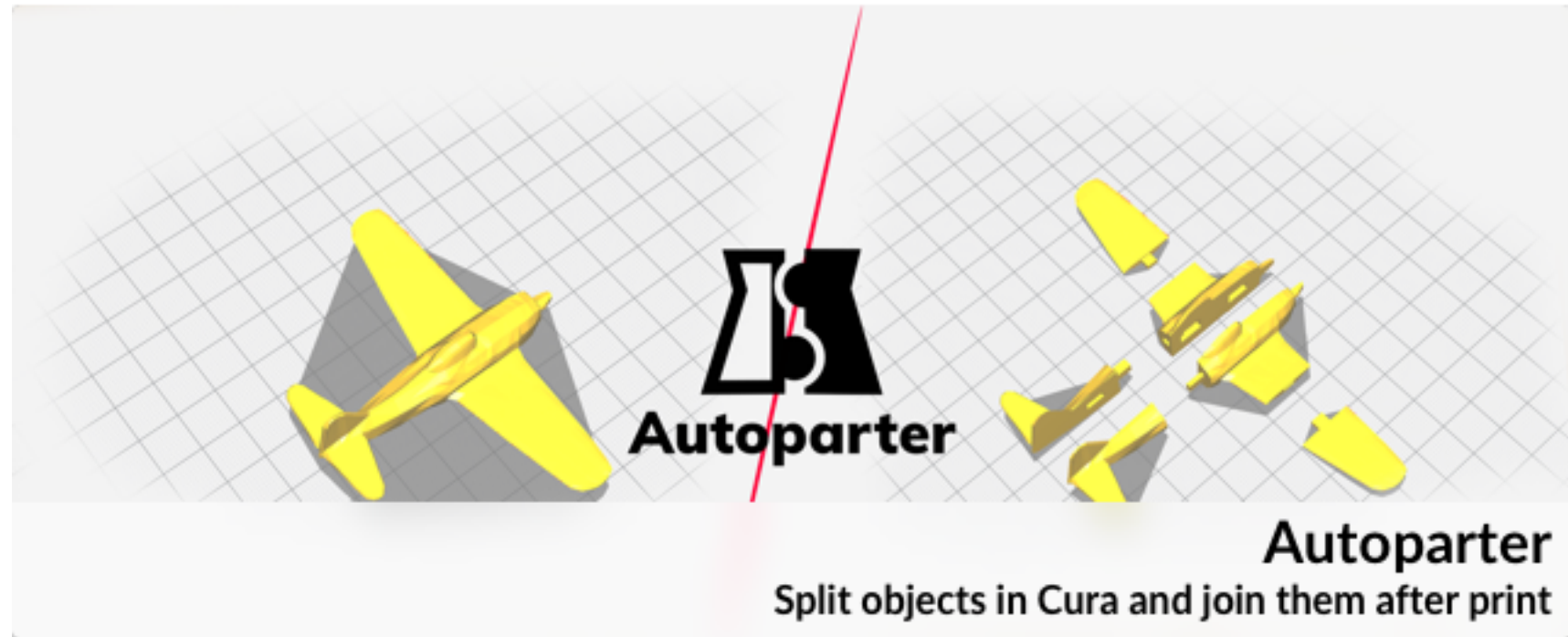


Kyub (CHI' 19) by Baudisch et al.

Create models with
cubes which unfold
for laser cutting

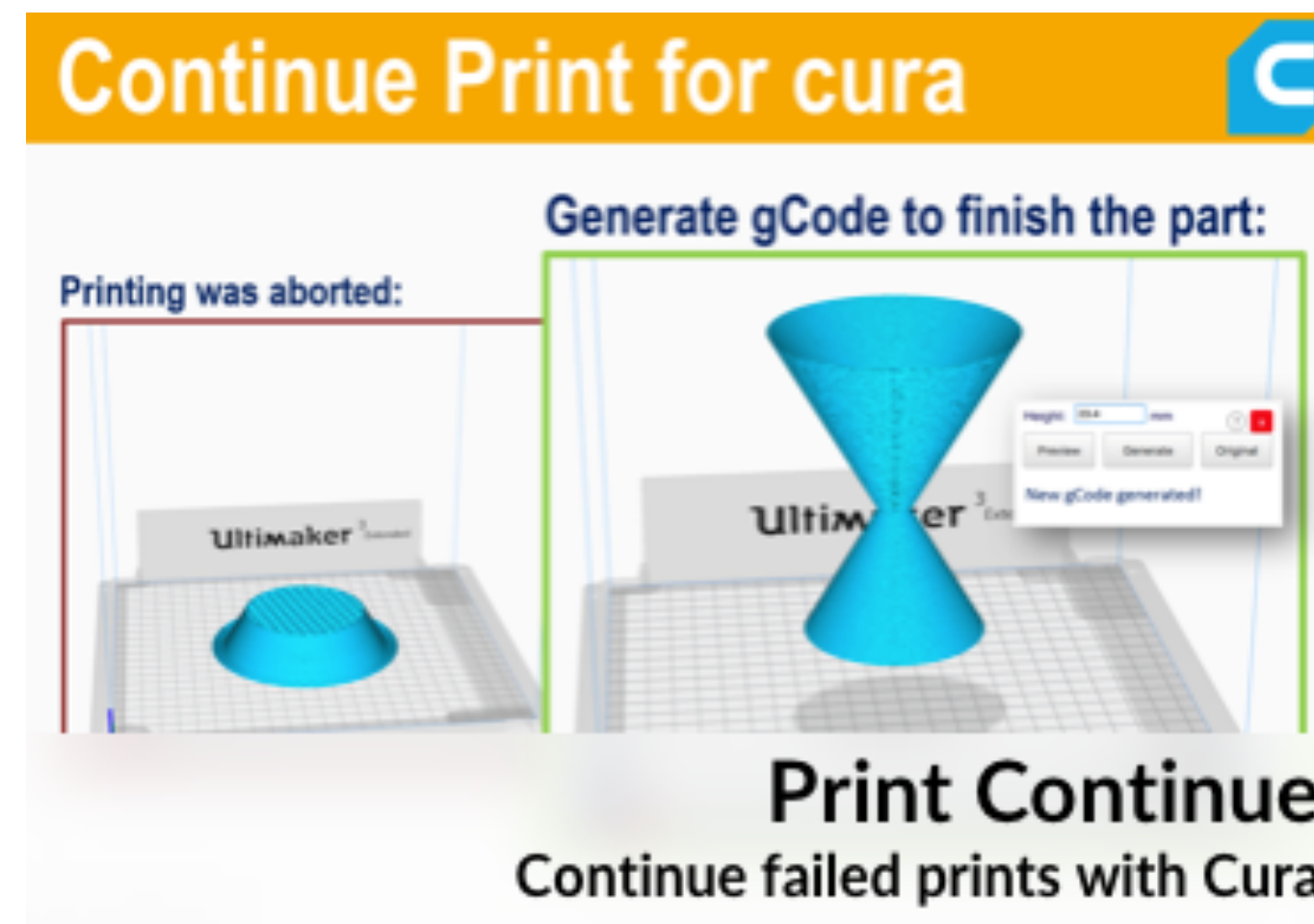


Cura Plugins (M3)



Cura Plugins

Created by students within the M3



Fusion360 Plugin

- Each group develops one plugin
- Important:
 - User input
 - User interaction
 - User experience
- Help the users with their workflow



Ideas

- Gaming tokens
- City creator
- Parametric programming
- Fit electronics into a case
- Noise interpreter (e.g. dynamic terrain building)
- Live sketching
- Convert models to Lego



TEAMS

Form Groups



Groups



9×2

ASSIGNMENT

Tasks for next week



Tasks for next week

- Register in RWTHonline (if you haven't already)
- Form groups over RWTHmoodle
- Brainstorm ideas and create 3 storyboards

