



Database for 3D printed
educational materials

3D printing

- Do you know what 3D printing is?
- Is there a 3D printer in school?
- Did you ever use a 3D printer?
- Did you draw a 3D model?
- Do you like it?

Experiences Visio

Getting familiar with the technique
Trail and error

A printer in every school
a 3D printing group

Knowledge and skills needed
for target group VI



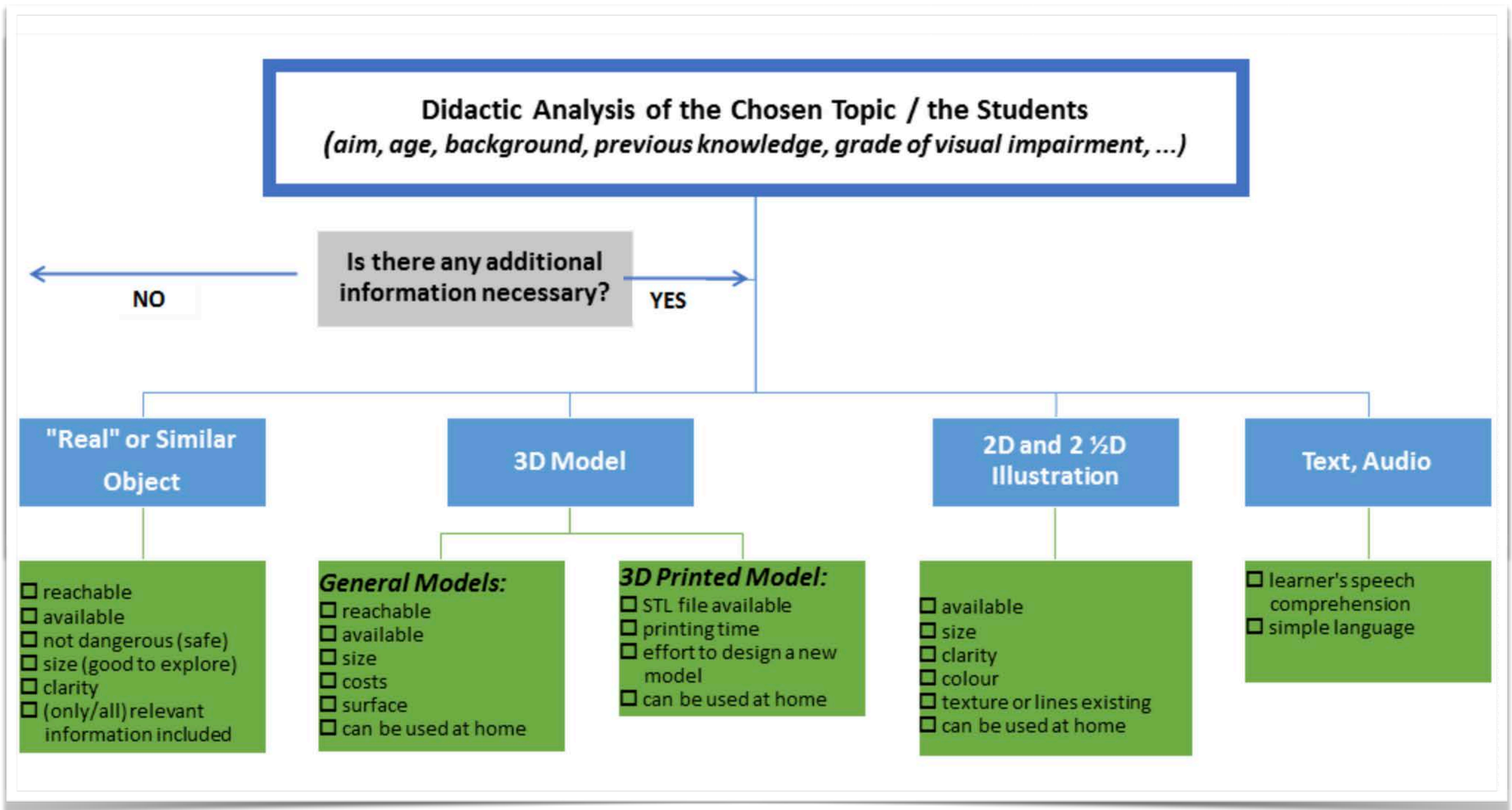
Universal information containers for Blind and Visual impaired Students

- Bundes-Blindenziehungsinsitut, Vienna
- Royal Dutch Visio, Huizen
- Johanitterschule, Duisburg
- Blista, Marburg
- CDV, Luxembourg

Funded by the
Erasmus+ Programme
of the European Union



First things first



The heart



Information

"Real" or Similar Object

- ☐ reachable
- ☐ available
- ☐ not dangerous (safe)
- ☐ size (good to explore)
- ☐ clarity
- ☐ (only/all) relevant information included

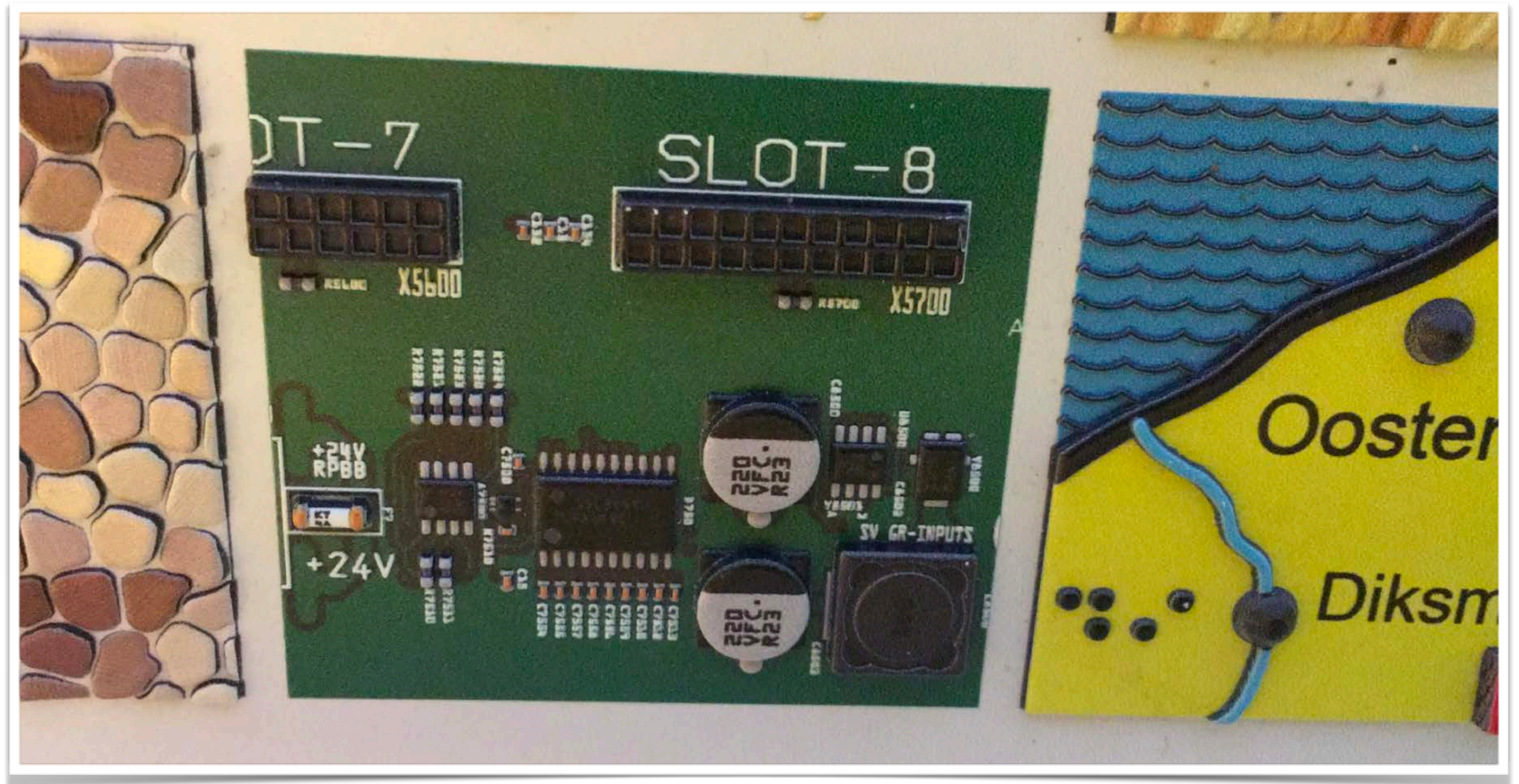
2D and 2 ½D Illustration

- ☐ available
- ☐ size
- ☐ clarity
- ☐ colour
- ☐ texture or lines existing
- ☐ can be used at home

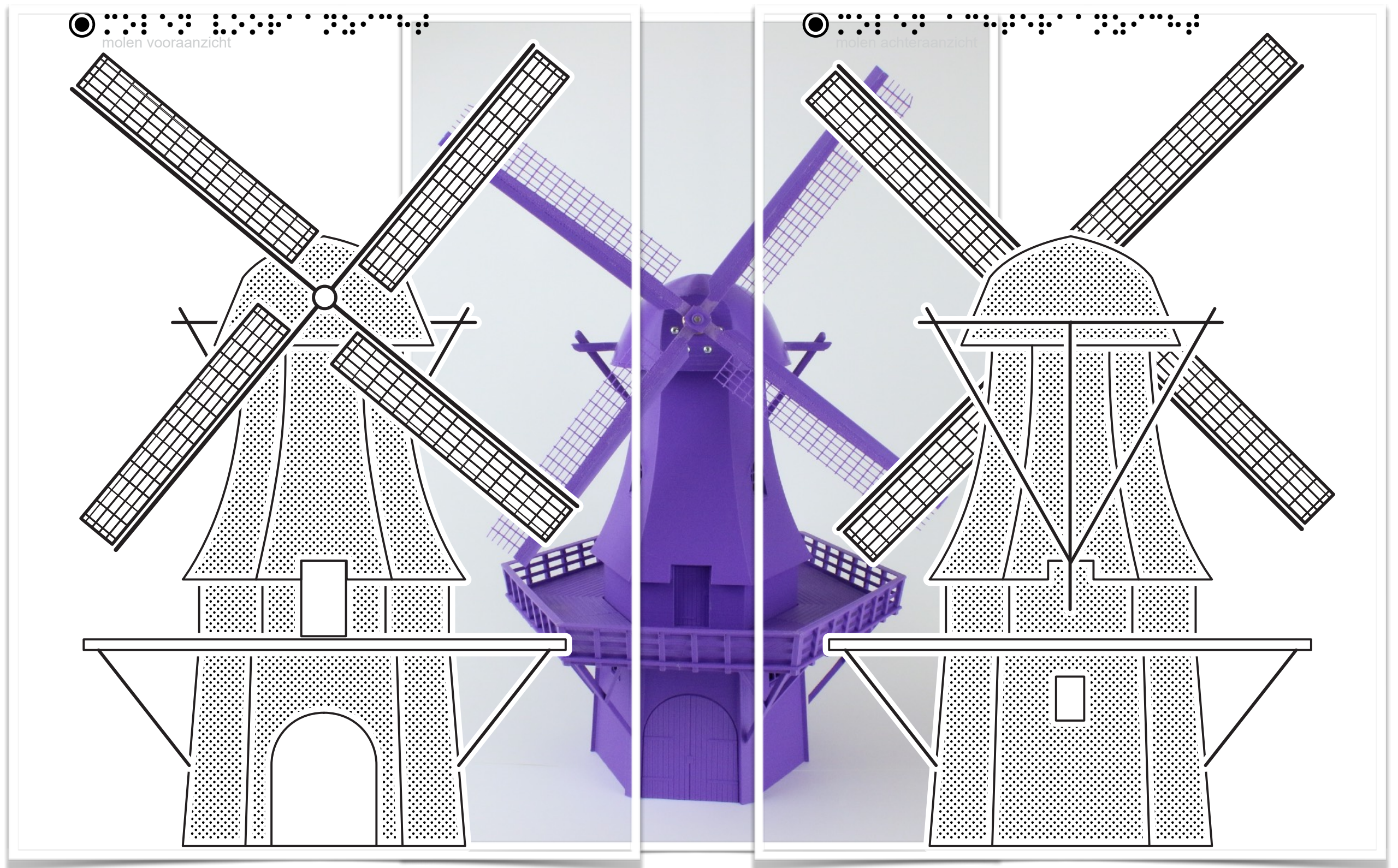
Text, Audio

- ☐ learner's speech comprehension
- ☐ simple language

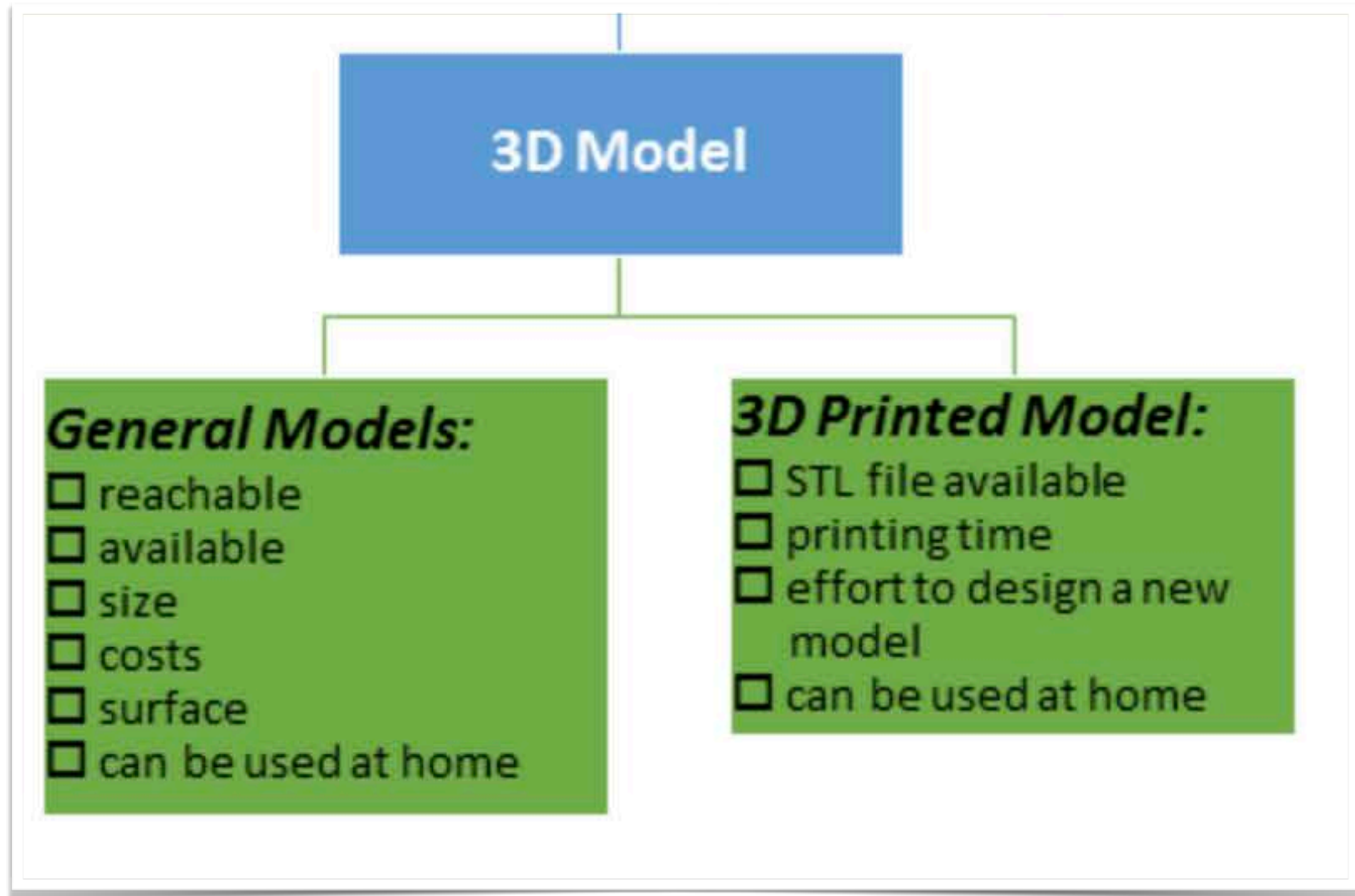
2,5D



3D-2D



3D models





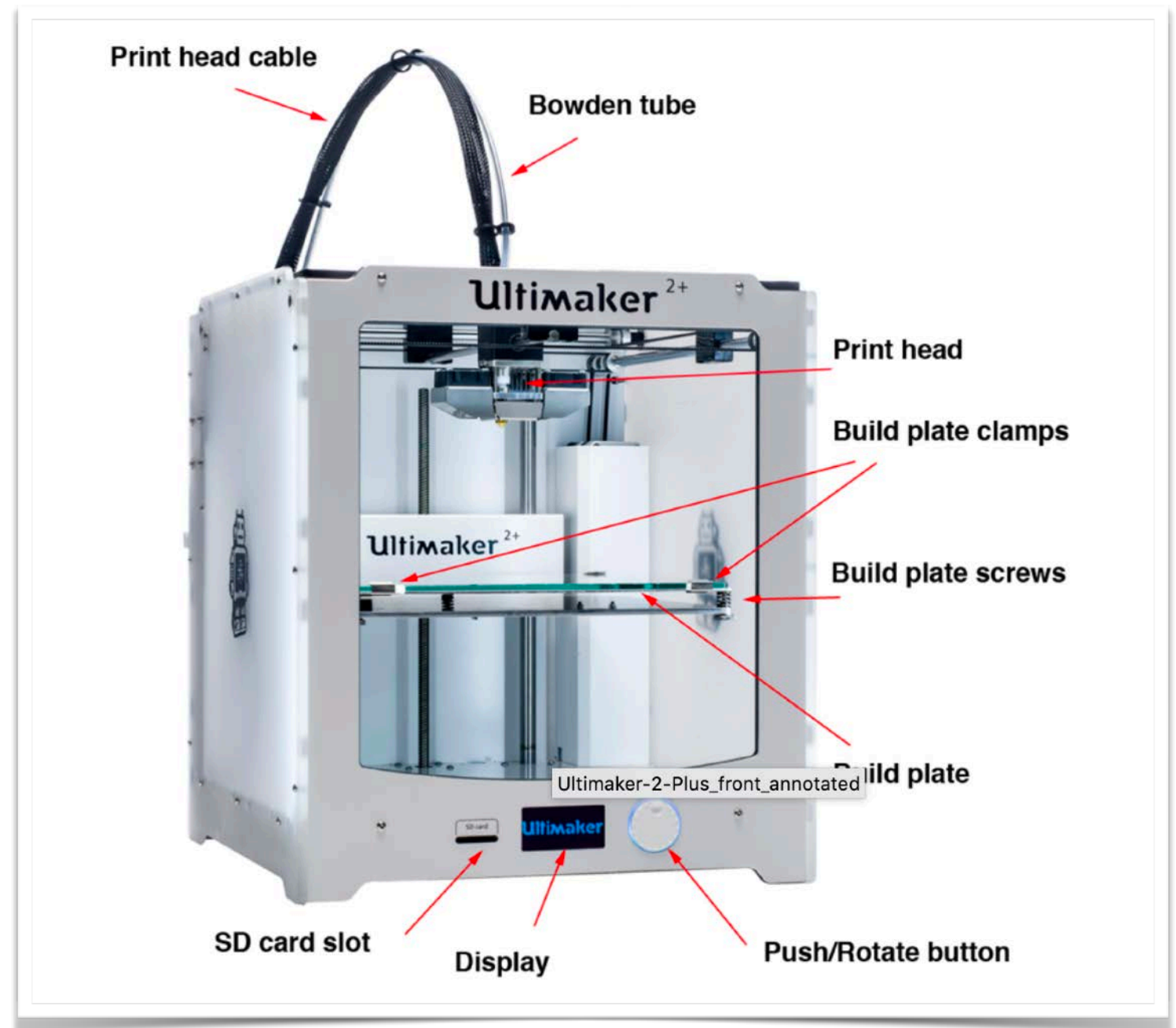
Skills

Printing a model

- Printer
- Filament
- Skills

Drawing a model

- Software
- Guidelines
- Skills



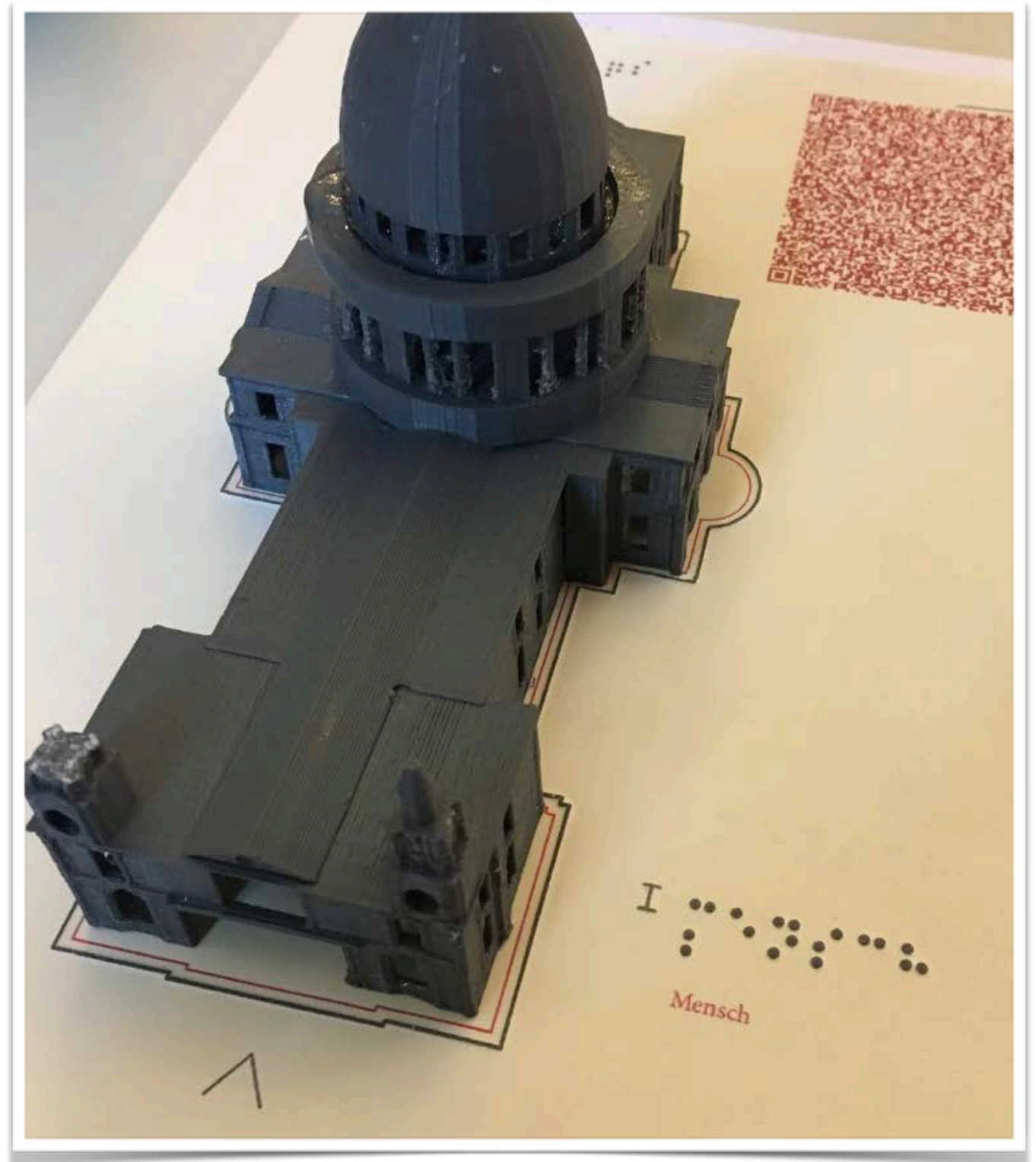
Basic knowledge printing

- Proces steps (drawing, slicer and printing)
- Printing time (infill, layer height)
- Supports needed bij overhangs
- Filament material and color
- Finishing



UBI S rules

- Educational information
- Base
 - North
 - Scale
 - Subject
- QR code
- Additional information
 - Audio
- Creative Commons



Guidelines

Braille

Details

Surfaces

Scale

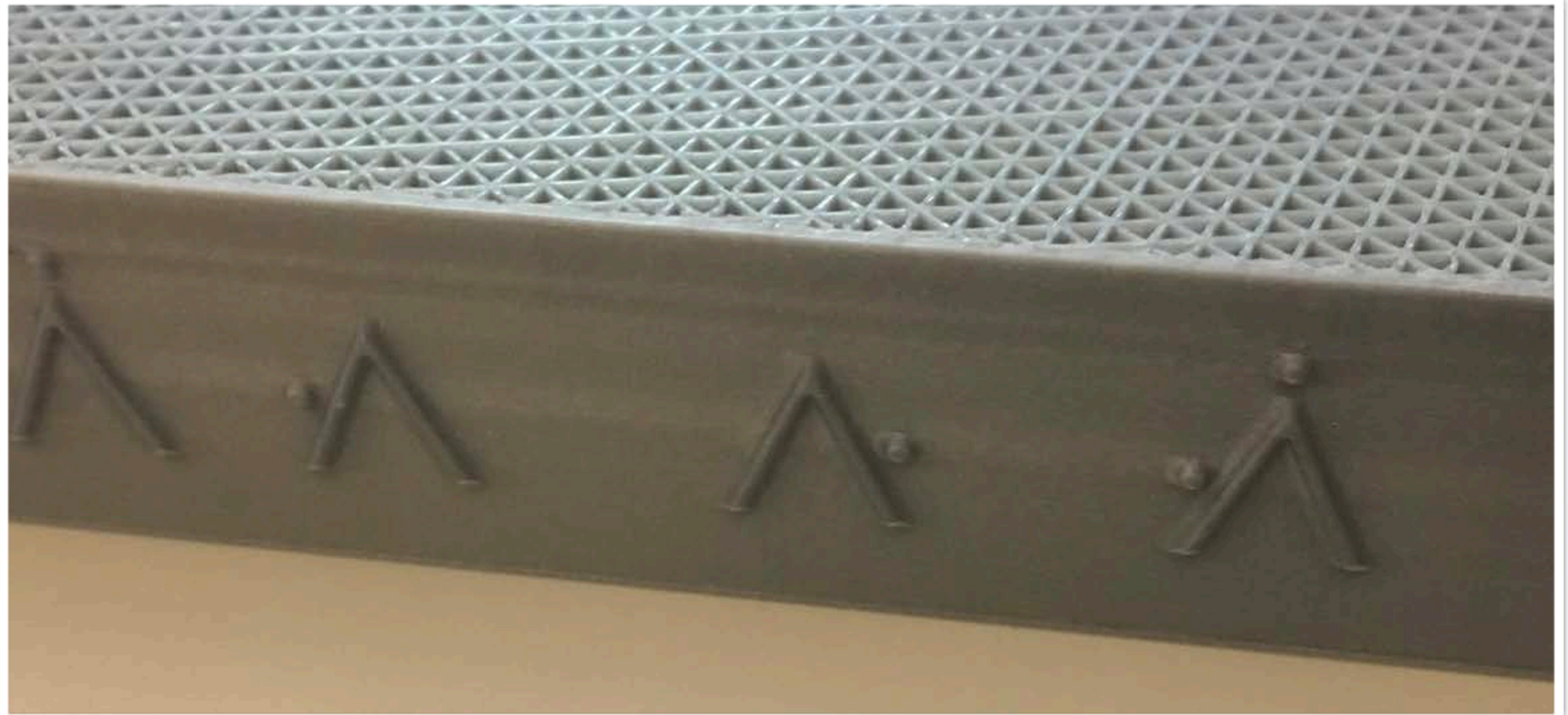
Dimension

Color and contrast

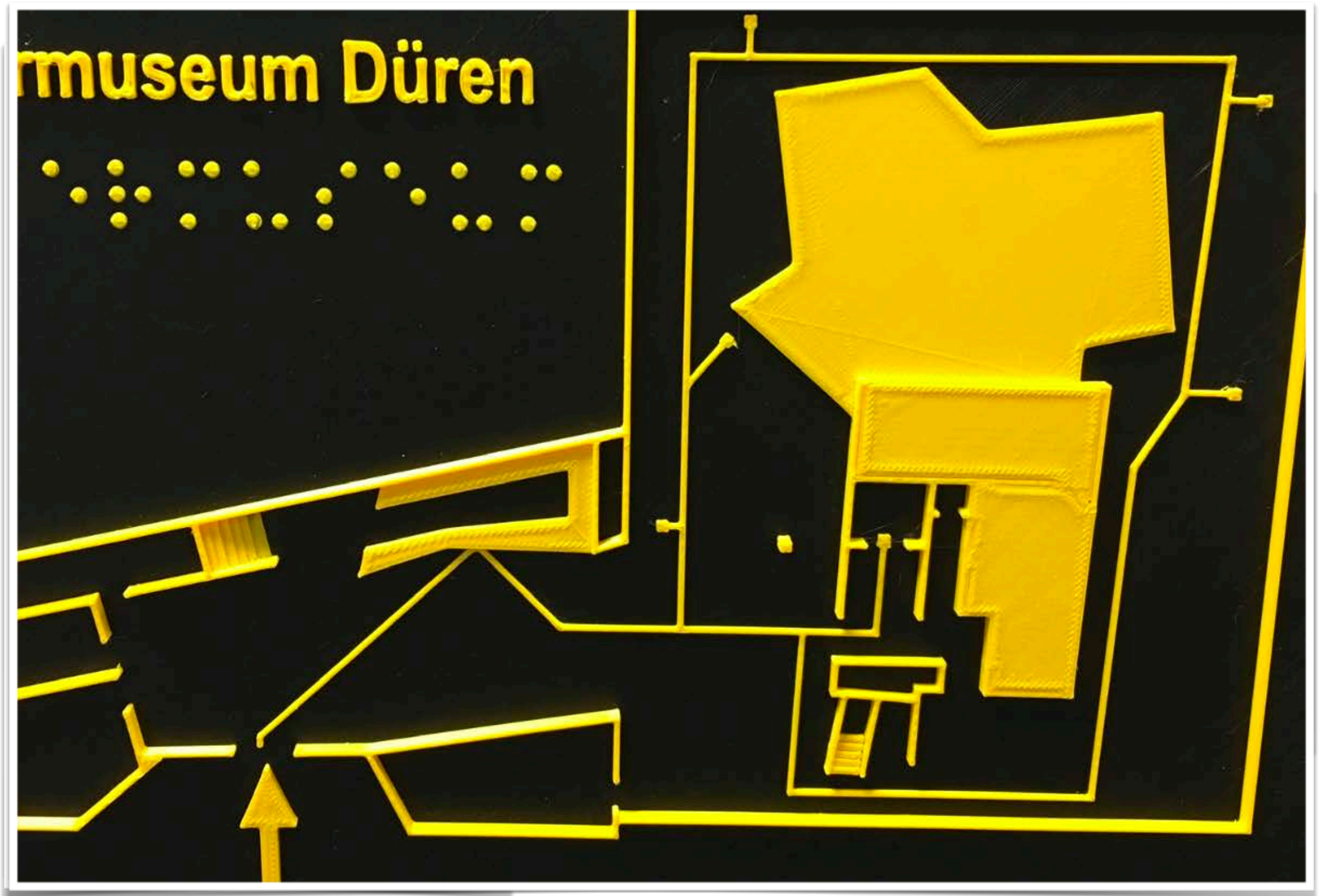
Qualify



Braille



Details



Additions

Chips
Magnets
Inserts
Movements



Great examples



Some trained specialists
Everybody knows the basics
Agreements about costs

DO

- Drawing simple models
- Printing a few models

NO production

NO complex / organic models



Evaluation

More requirements

- Braille
- Arrows
- Detailed information

Creating models

- STEAM subjects
- Co-creation with students



www.ubis-project.eu

