



FH

University of
Applied Sciences

TECHNIKUM

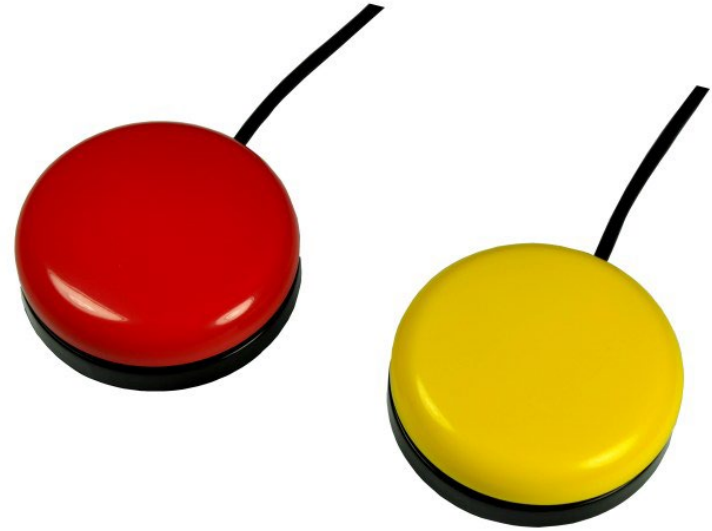
WIEN

Kissenschalter project

UNIKATE Ideas Competition WS2020
Muzquiz, Deinhofer, Machek

Problem: Pushbutton

- No analog control
- Hard
- For permanent application
 - Disturbing?
 - Danger for pressure point?



Idea: air cushion

- Soft
 - No pressure point?
 - Can be applied permanently?
- Air pressure individually adjustable
- Analog control
- Disadvantage
 - Must be inflated
 - Tightness
 - Space requirement



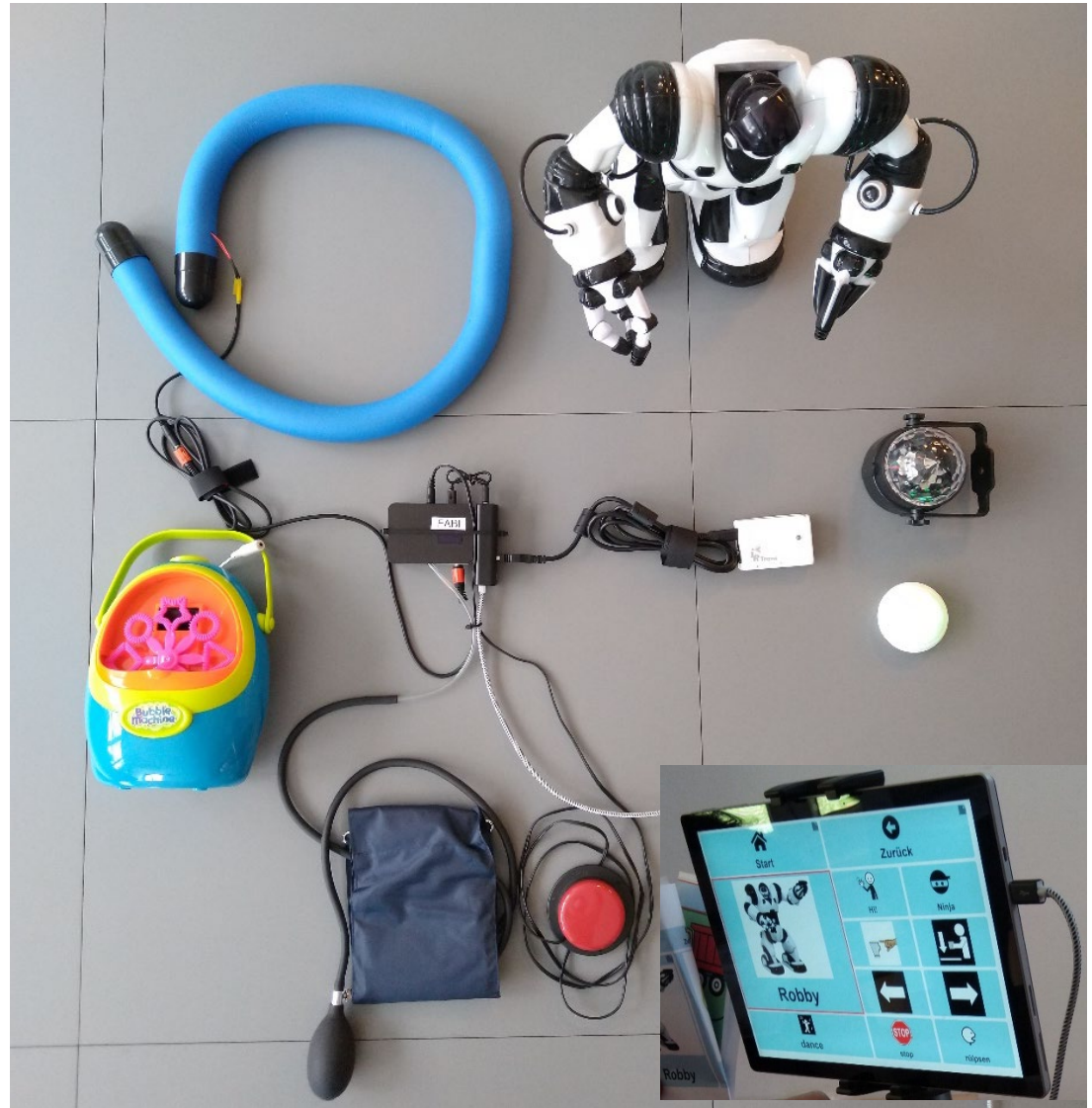
Solution: Blood pressure cuff

- Cushion for blood pressure monitor
- Low cost: €15,- to €40,-
- Available everywhere
- Contains hand pump
- Second hose connection for sensor
- Incl. velcro fastener for appliqué



UNICAT: Components

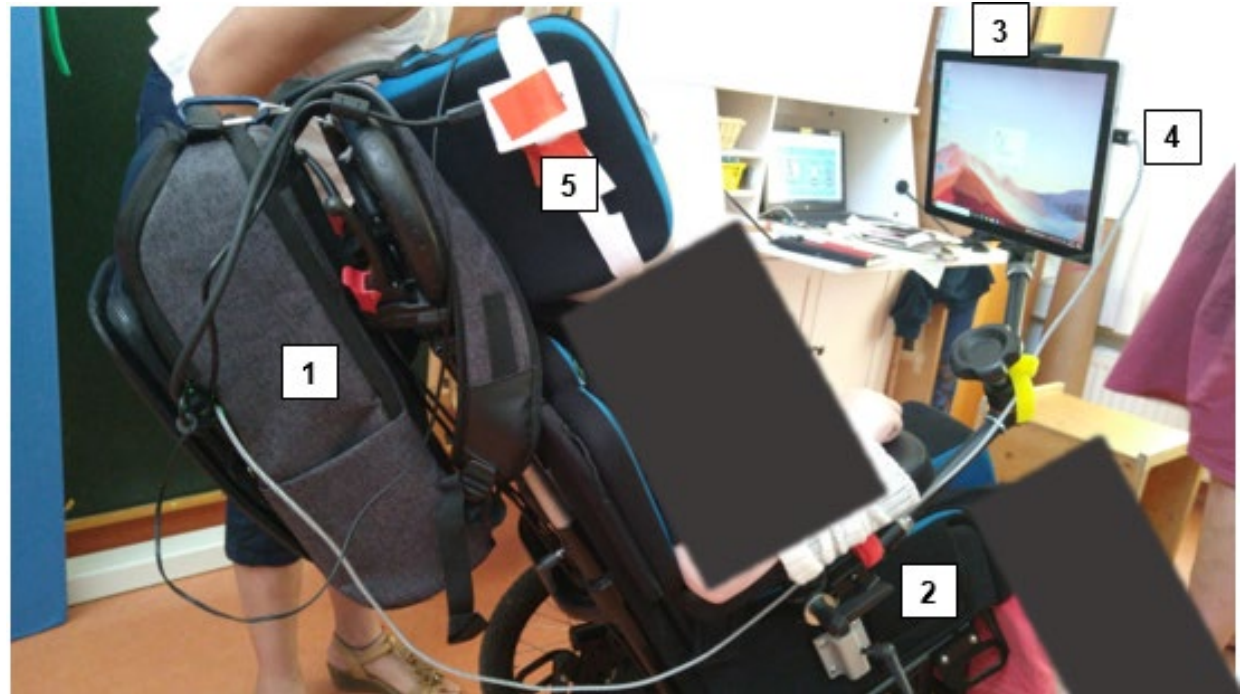
- FABI - Pushbutton interface¹
- MS Surface Pro 7 Tablet
- Lights
- Toy robot
- Bubble machine
- Massage tube
- Infrared transmitter



1) <https://www.asterics-foundation.org/projekte-2/fabi/>

UNICAT: Structure

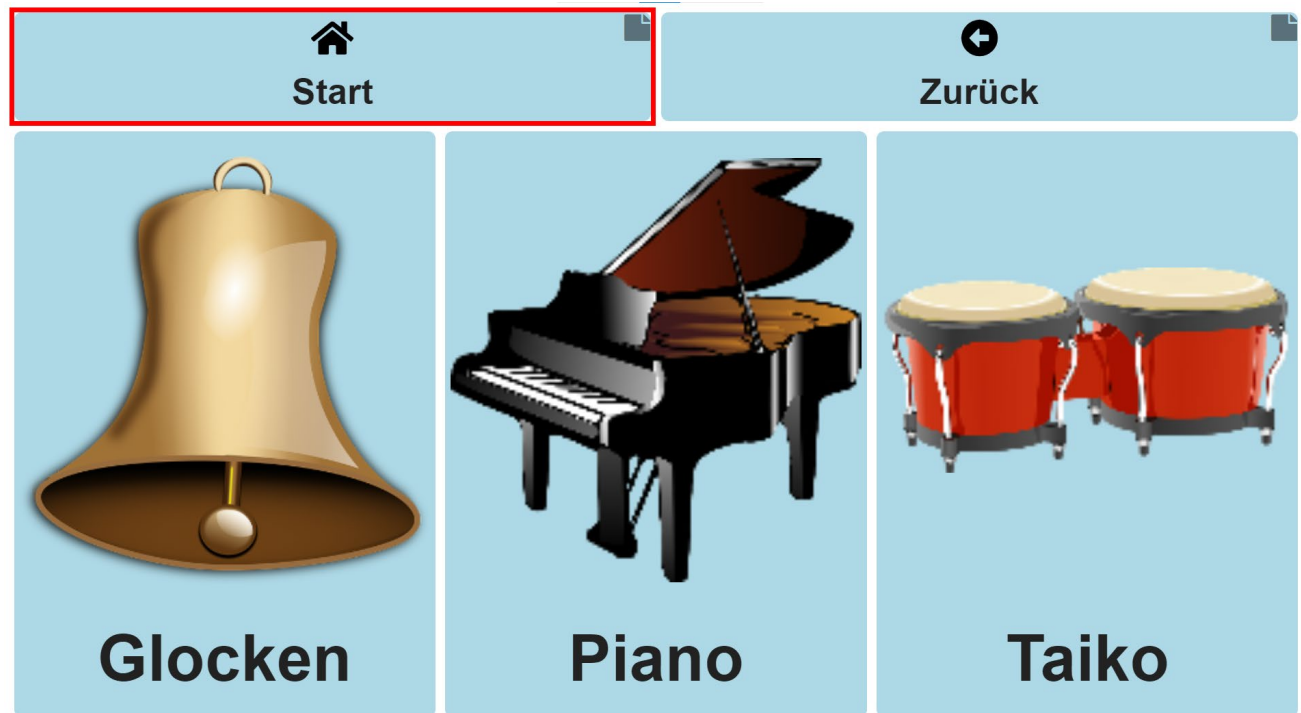
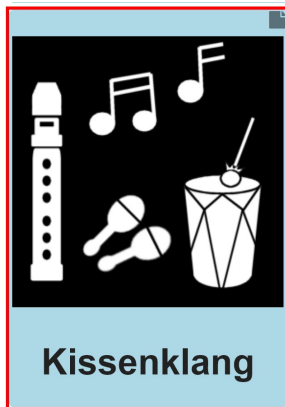
1. Backpack with FABI + accessories
2. Manfrotto mount
3. MS Surface Pro 7 Tablet
4. USB port
5. Infrared transmitter IrTrans



6. Cushion integrated in headrest
7. Button for menu navigation

UNICAT: Pillow sound

- Pitch depending on air pressure
- 3 tones selectable



User interface realized with <https://grid.asterics.eu/>

UNICAT: Toy control

- Infrared remote control
 - Control lights, robot
- Battery interrupter for
 - Bubble machine
 - Massage tube





Thank you