HTHT SCIENCE 2 SOCIETY

MINOR 1
FROM IDEA TO PROTOTYPE

Contact Person: Kostas Nizamis
k.nizamis@utwente.nl

MINOR 2
FROM PROTOTYPE TO SOCIETY

Contact Person: Maximilian Goethner
m.goethner@utwente.nl

MINOR(S)

- High-Tech Human-Touch minor: Science 2 Society

- Collaboration of faculties ET and BMS

FOR WHOM?

- Students from all programmes who:
  - Want to make a project their own
  - Are not afraid to take action
  - Are flexible
  - Want to work in an international and multidisciplinary team
  - Want to work with open-ended meaningful societal/research problems!

GOAL

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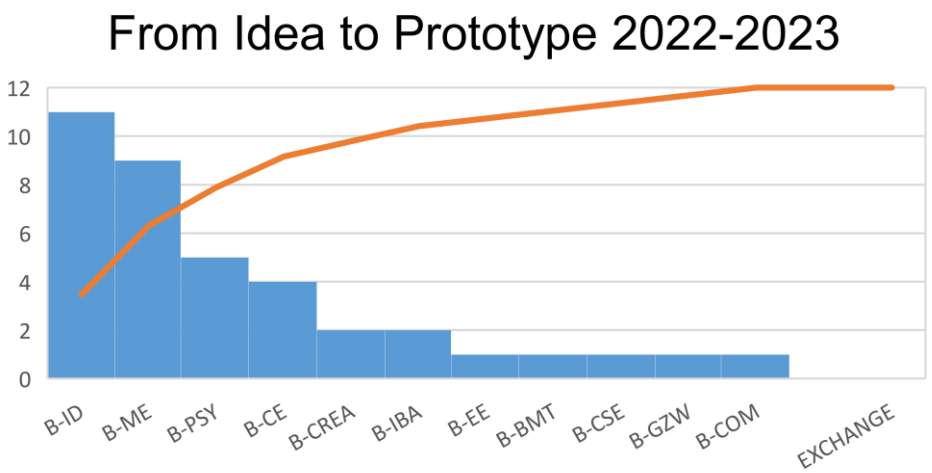
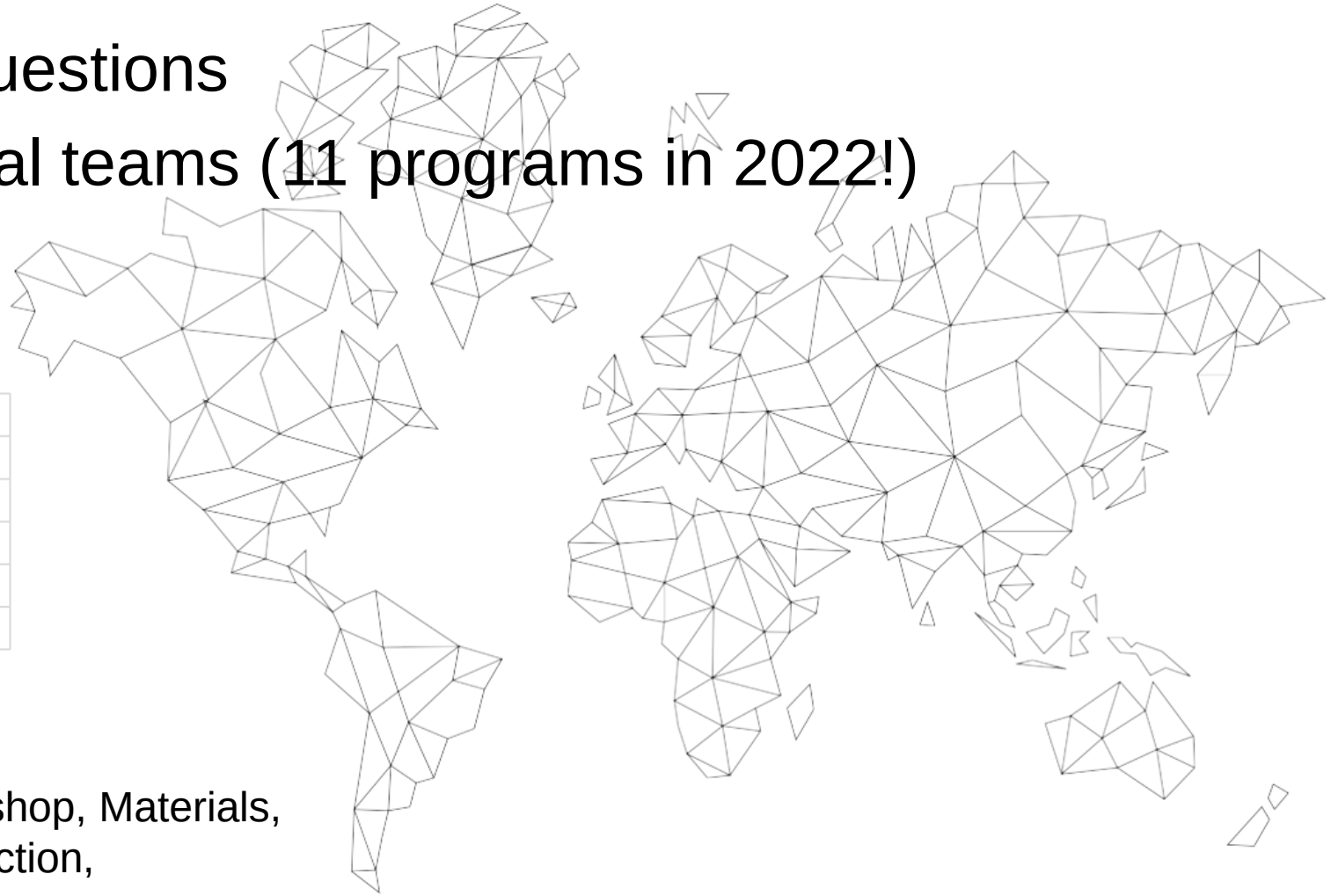
- Find answers to complex questions
- Multidisciplinary international teams (11 programs in 2022!)
- From Idea to Society





Research, Development, Design, ..

Workshop, Materials, Interaction,

APPROACH

- Work with your group on a real problem (Challenge-Based Learning)
  - Provided by companies or research departments
  - Relevant for society
  - Open-ended problems

- Determine your own challenge
  - How will you approach the problem
  - How to achieve your proposed approach
  - Be curious
  - Learn together with the challenge provider

CHALLENGE BASED LEARNING

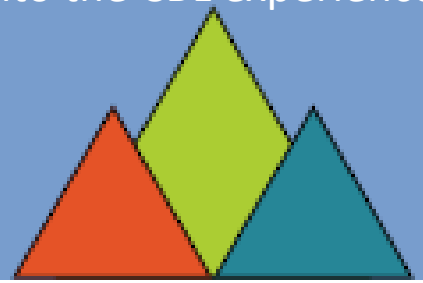
VOICE

CBL gives voice to all the **Learners** community members, administrators, teachers, and students. CBL helps the Learners to explore meaningful Ideas, build contextual learning informed by multiple perspectives. The result is confident learners, and better solutions.

CBL in a nutshell: https://vimeo.com/226547662

ENGAGE • INVESTIGATE • ACT

Challenge Based Learning provides the perfect framework to develop and support personalized learning (PL). The four key ideas of PL are infused into the CBL experience.



SOCIAL CONSTRUCTION

Creating social and emotional connections between the **Learners** is a foundational idea of CBL. The Learners move in and out of collaborative groups to investigate a Challenge, develop solutions and put them into action.

CO-CREATION

All the **stakeholders** take an active role in participating in the challenge and the learning experience. The framework supports co-creation

SELF-DISCOVERY

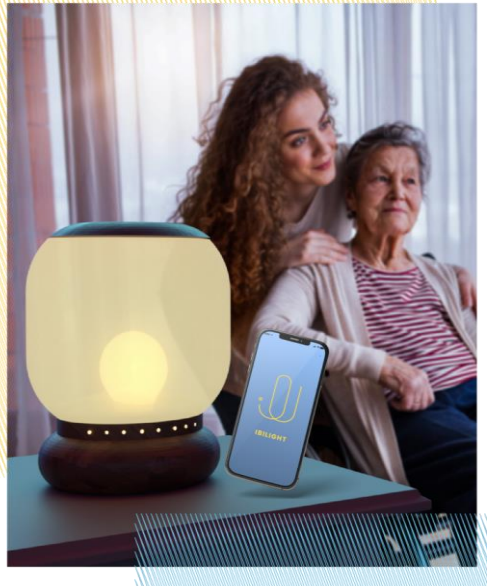
CBL allows full participation, reflection, and self-discovery. As the **Learners** work together to solve Challenges, they are learning about themselves and developing a personal learning framework that will equip them to face future Challenges inside and outside of the classroom.

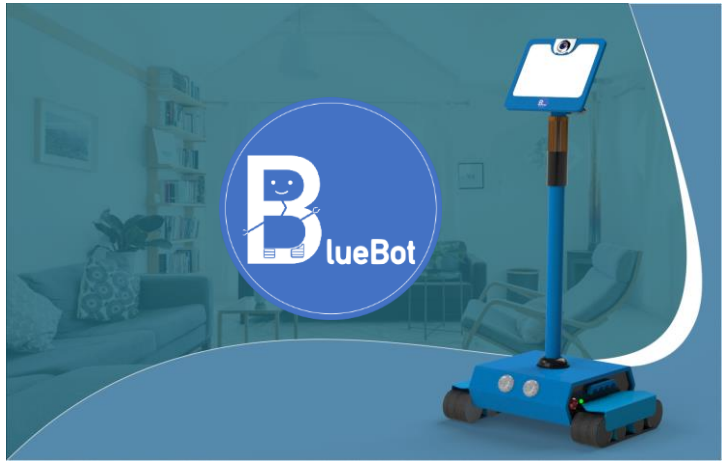
For more information check the website: https://www.challengebasedlearning.org/
And the CANVAS site of the minor

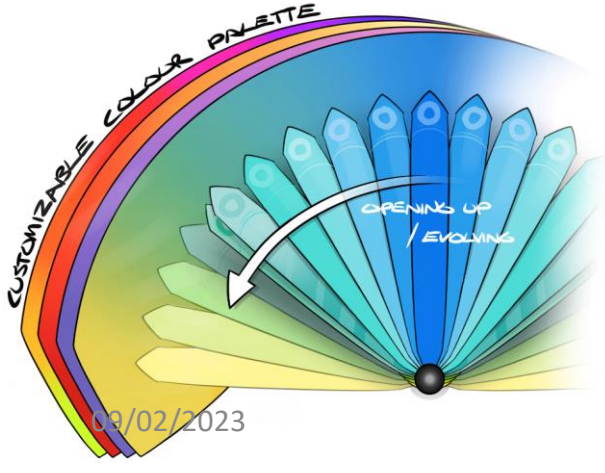
PROJECT

- Minor is one big project
  - All courses are integrated
- Project time is not in the schedule
- DesignLab is available to you
- Self-supporting

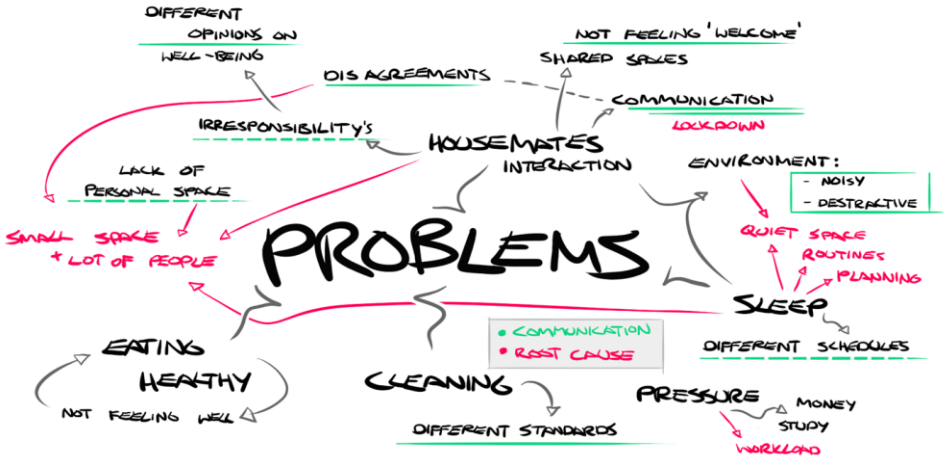
EXAMPLE CASES PREVIOUS YEARS

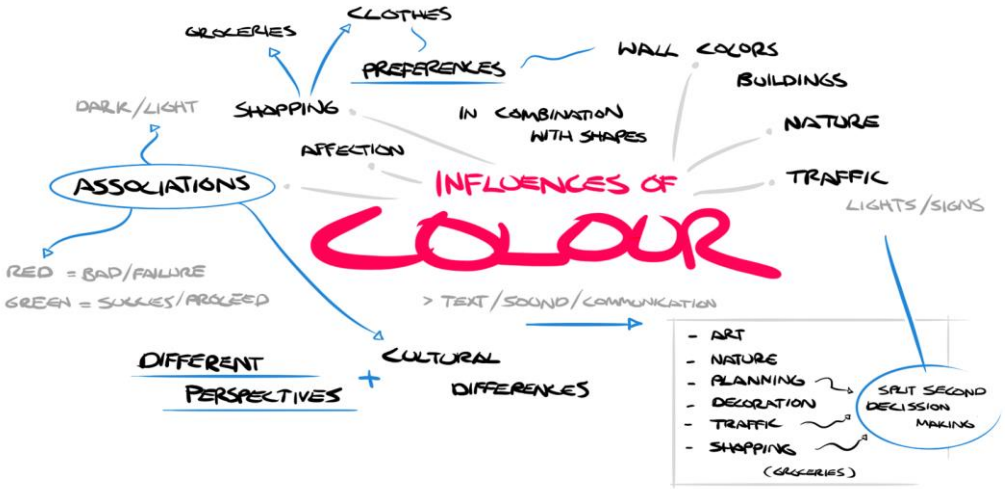






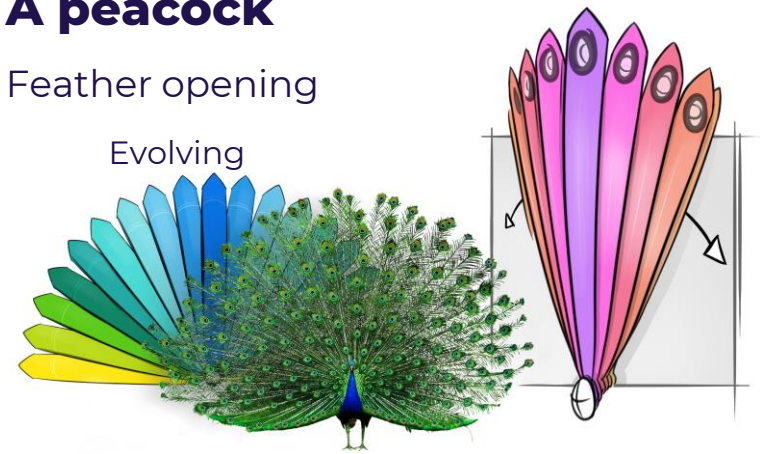
COLOR IN ACTION

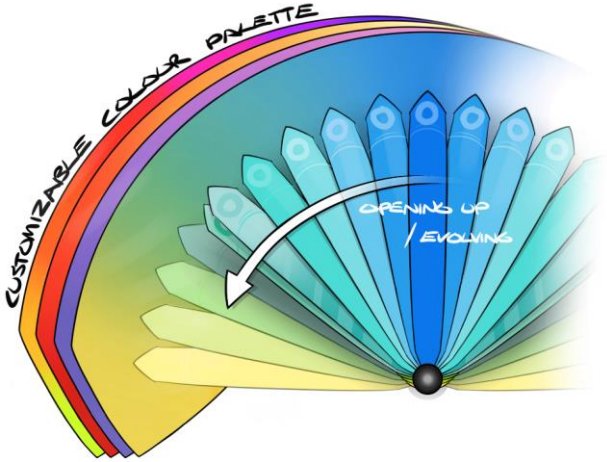


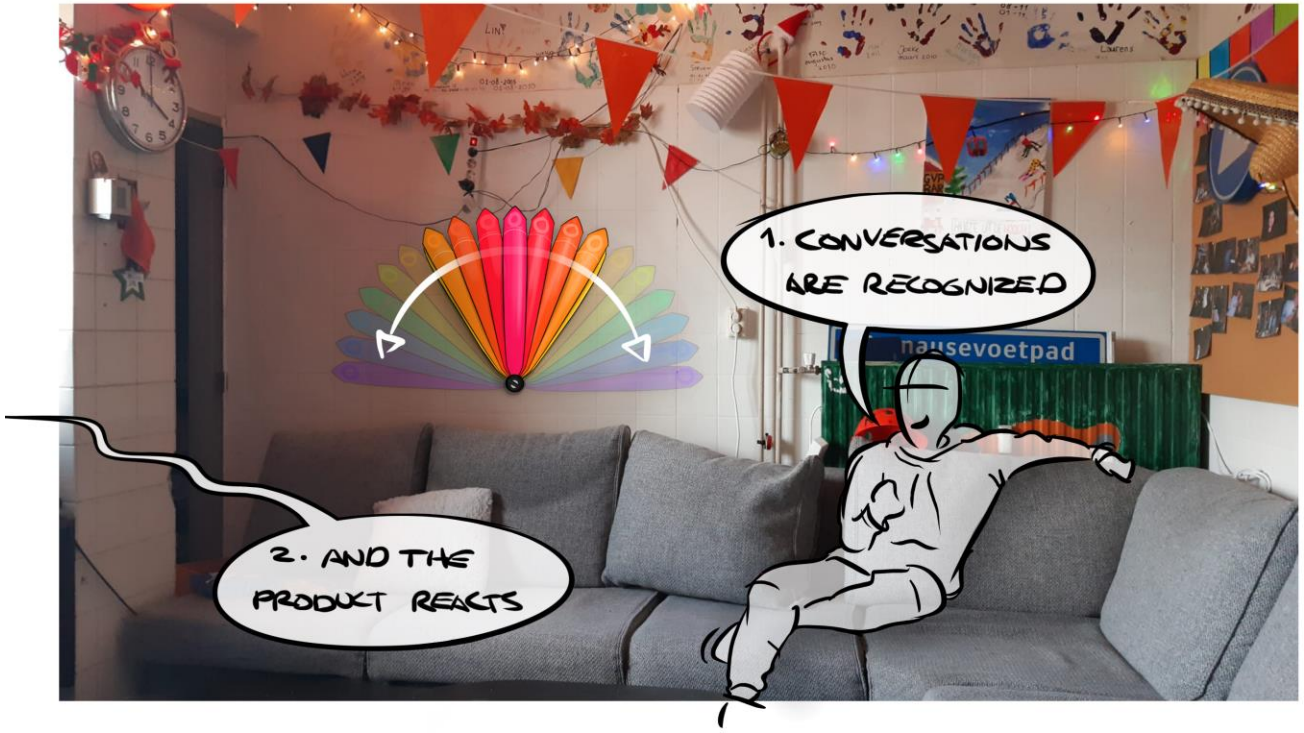


- **A peacock**
- Feather opening

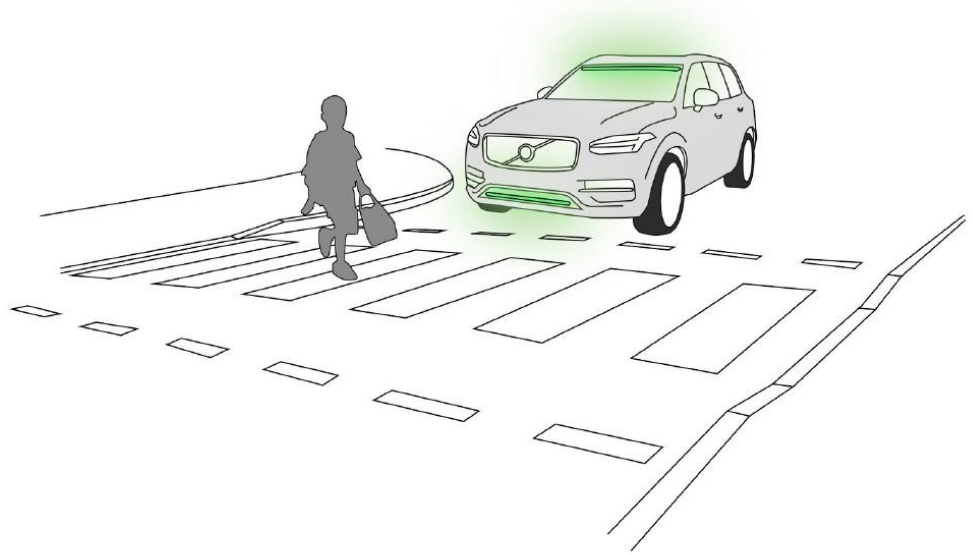
Evolving

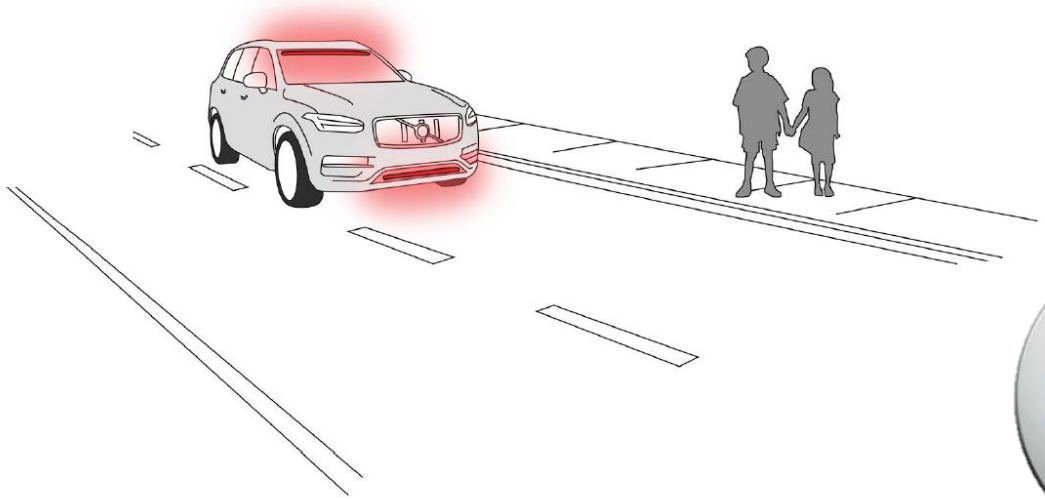






COMMUNICATION AUTONOMOUS CARS





STRESS AT THE WORKPLACE

VIVIFY

IMPROVING THE AWARENESS OF STRESS

Raising awareness of stress in a work environment. Cost of stress: 2 billion euros in 2016 for employers, 7 million days required away from work due to work-related stress, €7800 per absent employee. Solution: VIVIVF, a user-friendly system to raise awareness of stress.

PROGRAM

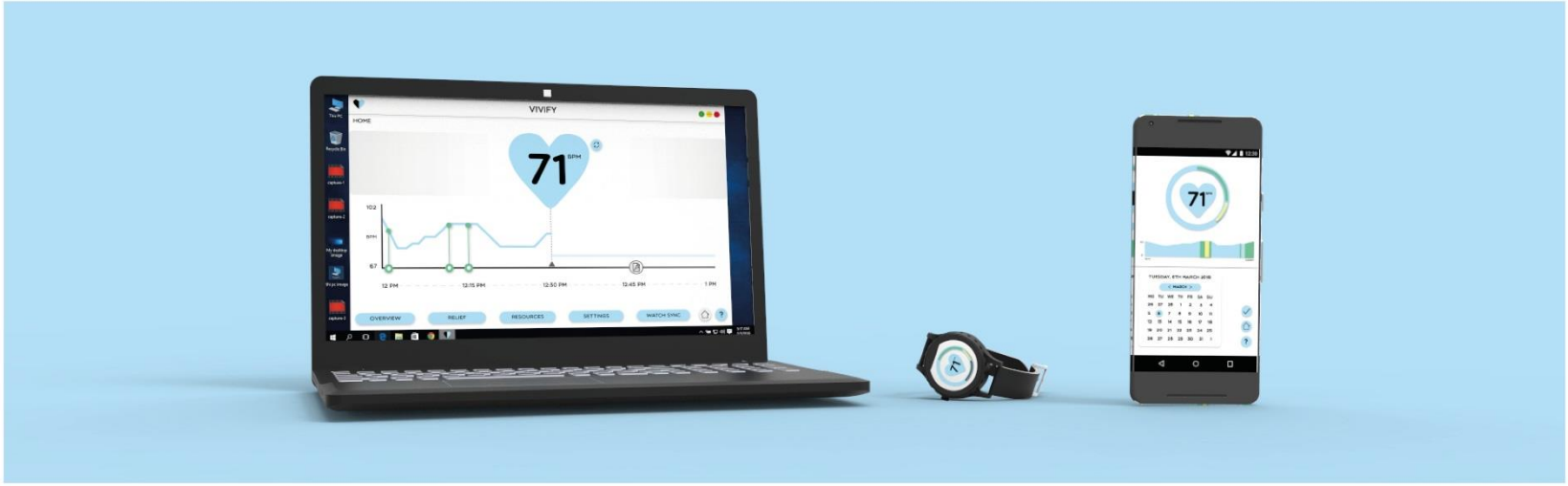
VIVIFY will enable users to monitor their heart rate. The user can tap on the graph to add recollection notes to their peaks. This way users can be more aware of how much stress they go through.

SMARTWATCH

Working alongside smartwatch sensors, the watch will be used to measure and record the user´s heart rate, which can be signs of work-related stress.

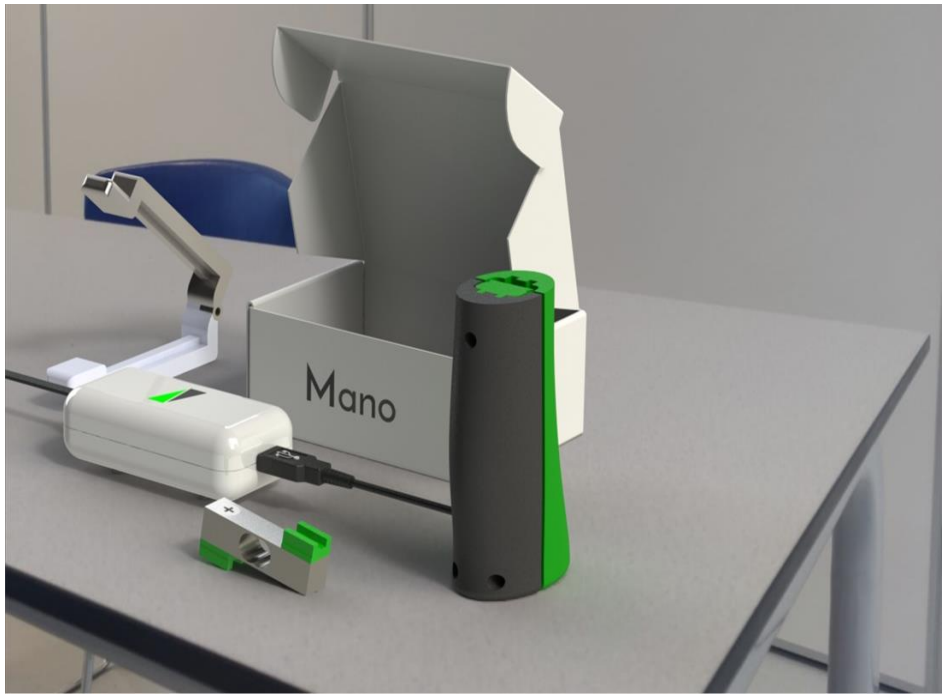
APPLICATION

Supporting smartphone application works alongside system and watch to help the user continue the awareness system outside of the work environment.



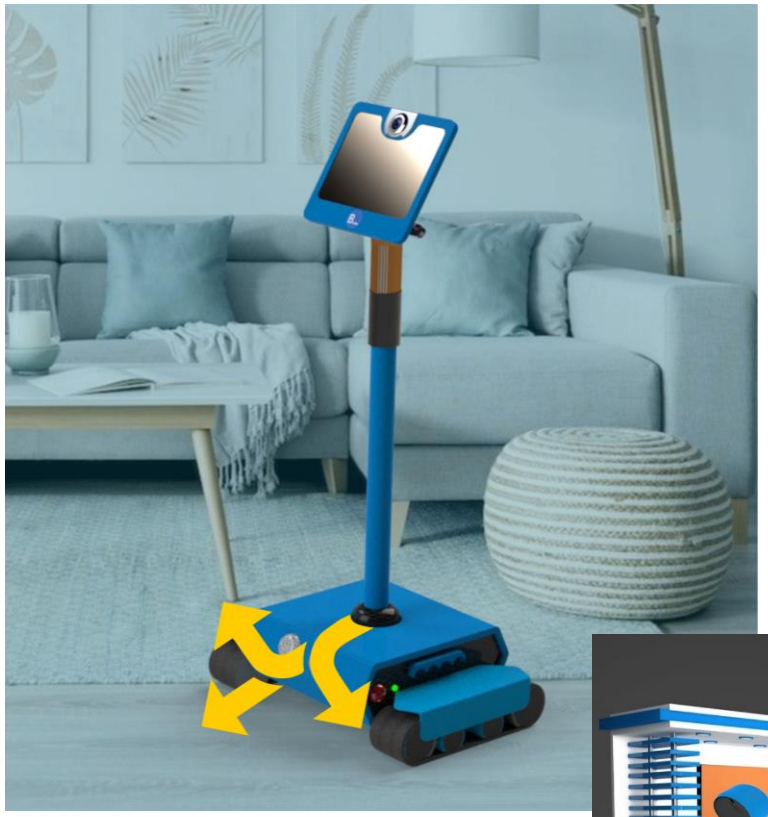
e-Health group

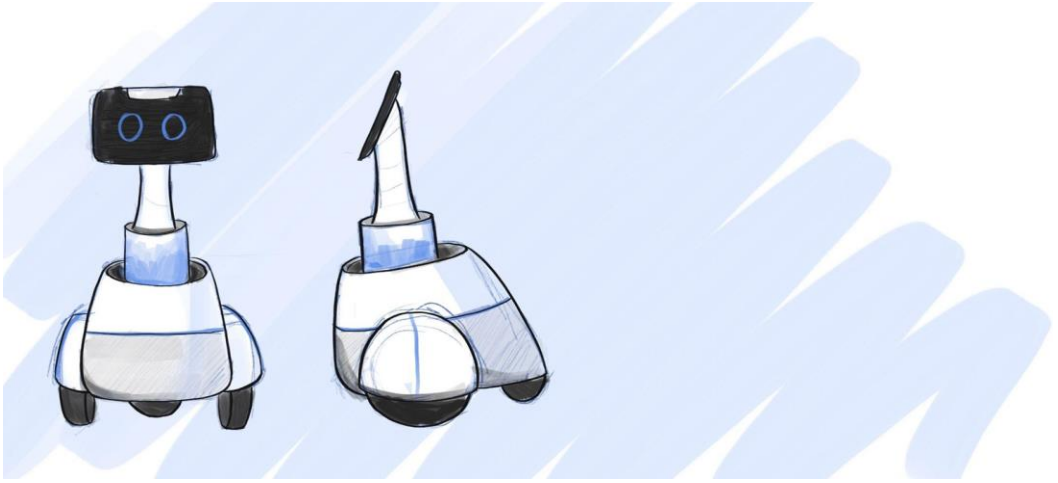
MANO: RELIABLE HAND FORCE MEASUREMENT



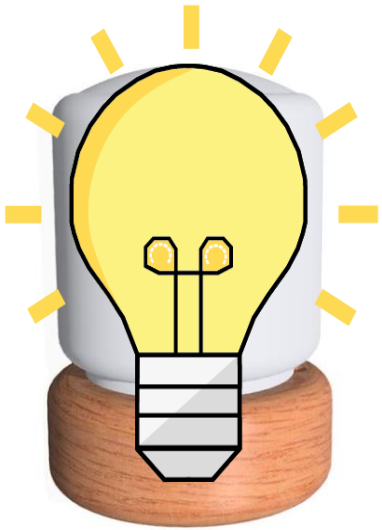
Helping Physiotherapists assess the hand function of people with Impairments

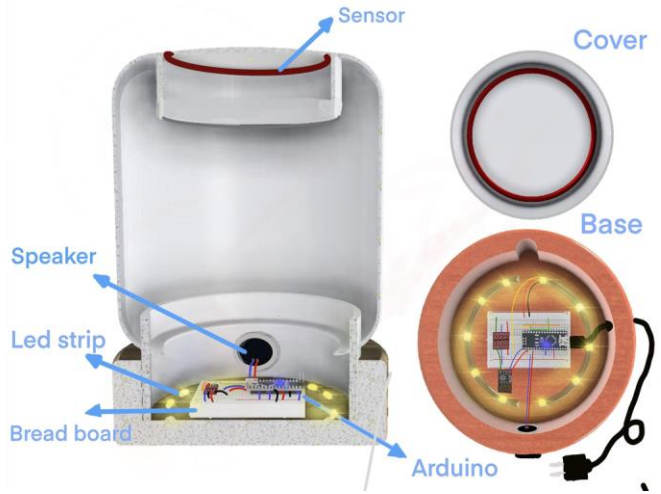
DISABLED PEOPLE INCLUSION



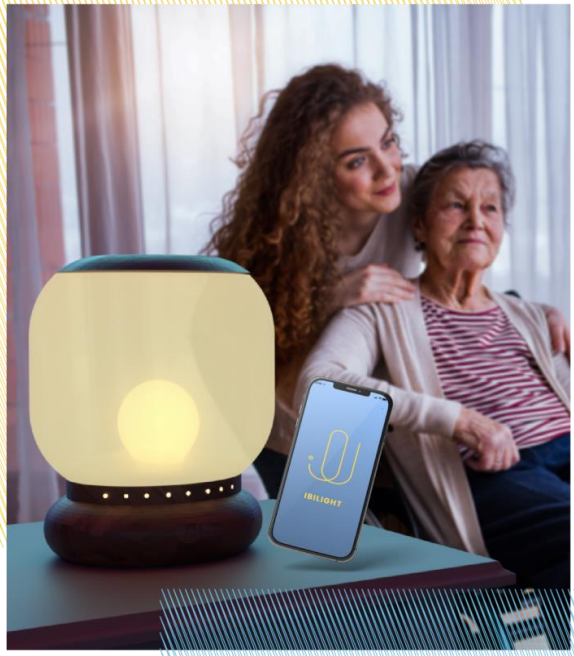


IBILIGHT




Sensor
Cover
Base
Speaker
Led strip
Bread board
Arduino

Product human interaction
Volume button
Display for the name



SUPPORT

- Problem Provider
  - The organization that provides the problem. Treat the providers as members of the team and learn together!
- Process tutor
  - Experienced Staff Members that help you with the process and act as a bridge between the student and the problem provider if needed. **We strongly encourage you to have weekly meetings!**
- Project group (students)
    - Responsible to use the network of people offered by us!
    - Responsible to use your own network!

EXPLORE

- Use the UT community

ORGANISATION

- Coordinators:

Kostas Nizamis

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Maximilian Goethner

FINAL REMARKS

- THIS IS FOR REAL!
  - Think realistic
  - Be flexible
  - Ask for feedback
  - Don’t expect us to know the answer!
  - Different groups might get different answers to the same question
  - Timely raise your questions or concerns
  - Keep in mind that you have to opportunity to continue your challenge in the second part of the minor!

PLAYGROUND