INSENSION

www.insension.eu

Pädagogische Hochschule HEIDELBERG University of Education

ASSISTIVE TECHNOLOGY FOR PEOPLE WITH PROFOUND INTELLECTUAL AND MULTIPLE DISABILITIES

Teresa Sansour, Marlen Marzini, Meike Engelhardt, Torsten Krämer, Peter Zentel

INSENSION

www.insension.eu

Personalized intelligent platform enabling interaction with digital services to individuals with profound intellectual and multiple disabilities

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 780819.

PARTNERS:

PSNC

Pädagogische Hochschule HEIDELBERG University of Education

Jožef Stefan Institute

CTIC

na tak

HARPO

INSENSION

www.insension.eu

Financing: EU-Project supported by the Horizon 2020 program

Period: 01/2018 – 12/2020

Consortium: International & interdiscliplinary

Objectives: Design and develop an ICT platform that enables persons with PIMD to use digital applications and services that:

- can enhance the quality of their life
- increase their ability to self-determination
- enrich their life

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 780819.

PSNC

Pädagogische Hochschule HEIDELBERG University of Education

Jožef Stefan Institute

CTIC centro tecnológico

na tak

HARPO

INSENSION
www.insension.eu

Target Group

People with profound intellectual and multiple disabilities (PIMD):

- Profound intellectual disability
- Adaptive behaviour clearly below average

In addition:

- Motor impairment
- Sensory impairment
- Medical problems (e.g. epilepsy)

Communication:

- Usually no verbal language
- Mostly on a pre-symbolic level
- Often use of individual and unconventional behaviour signals

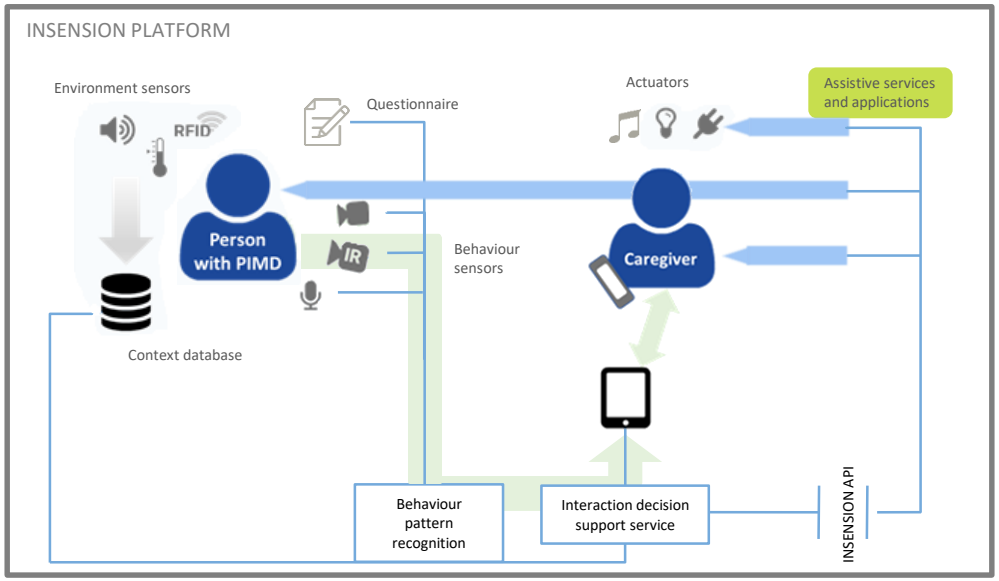
Extensive support needs & dependency

Concept of INSENSION Platform

Approach: Technology-supported responsive environment

- Analysis of behaviour signals and context factors
  a) Questionnaire for proxies
  b) Recognition Technologies
- Identification of potential needs for action

→ Use of digital applications and services



Application Use Cases for the INSENSION System

Definition by means of Focus Group Workshops

Definition of Application Use Cases: Focus Group Workshops

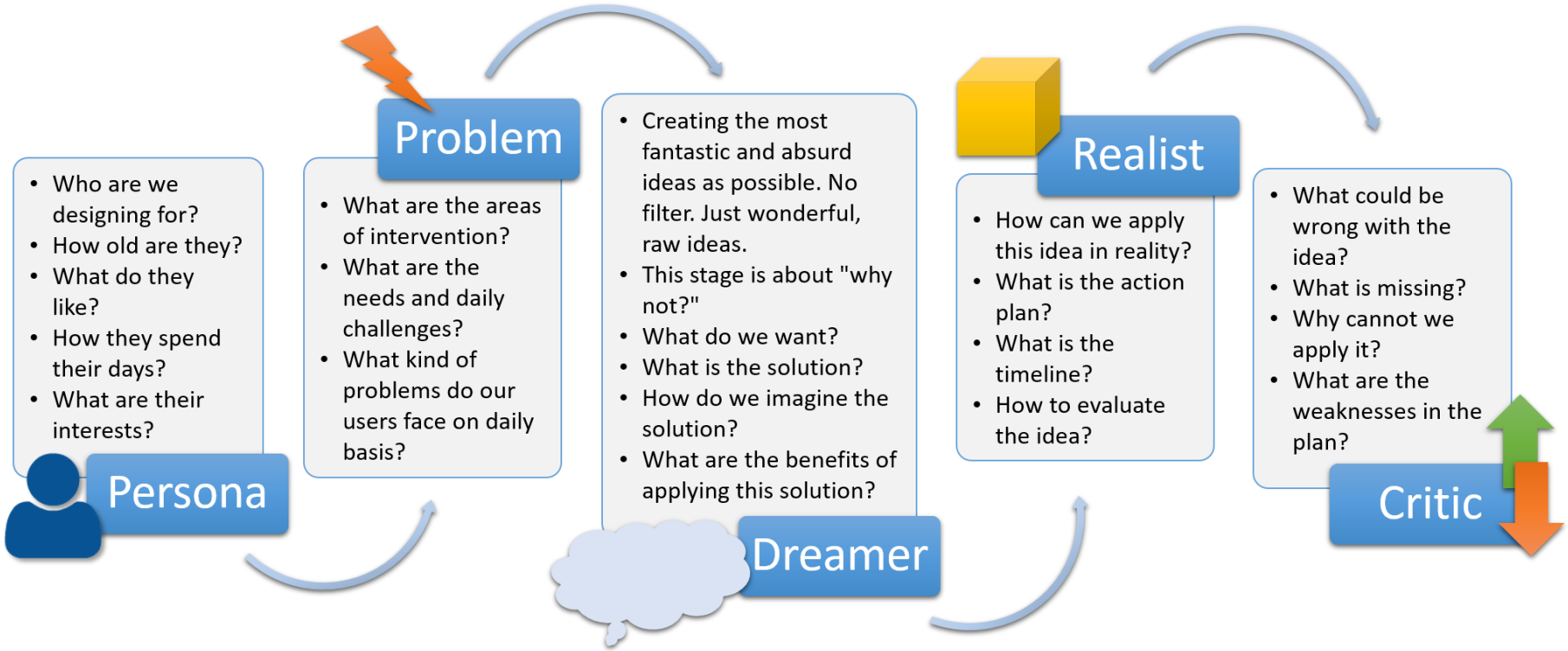
Aim:	Defining those situations, which are most challenging for people with PIMD and their caregivers
3 workshops:	Heidelberg (Germany), Poznań (Poland), Kraków (Poland)
Participants:	Relatives (e.g., parents), professional caregivers, ICT specialists

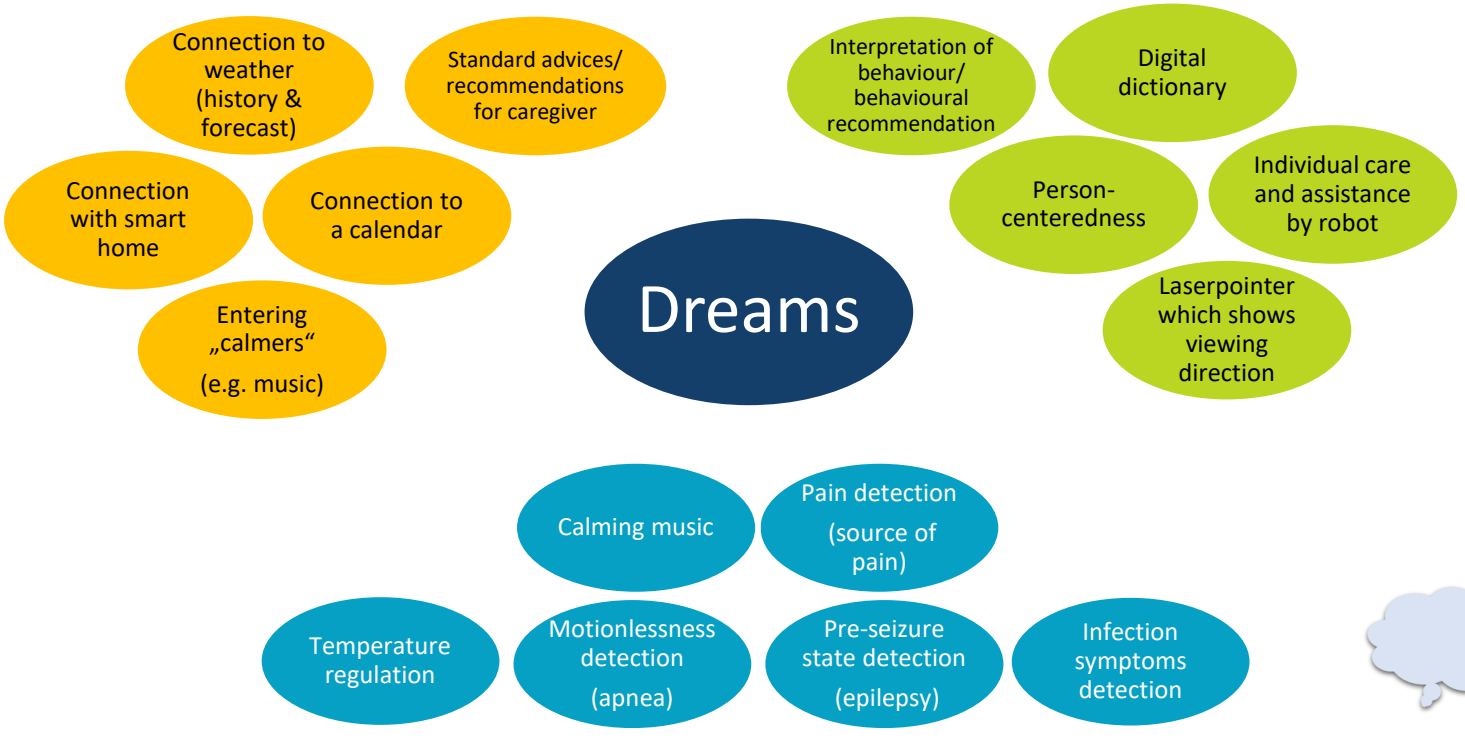
Overview of the Focus Group Workshops

Workshop	Focus scenarios	Participants			
		Relatives	Professional Caregiver	ICT specialitsts	**Sum**
I. Heidelberg, Germany (30.11.2018)	Guaranteeing a high quality of care during **transitions**	3	4	2	**9**
II. Poznań, Poland (11.12.2018)	Guaranteeing a high quality of care during **night**	4	3	5	**12**
III. Kraków, Poland (11.02.2019)	Impact of **external factors** on a person's mood	4	4	2	**10**

INSENSION
www.insension.eu

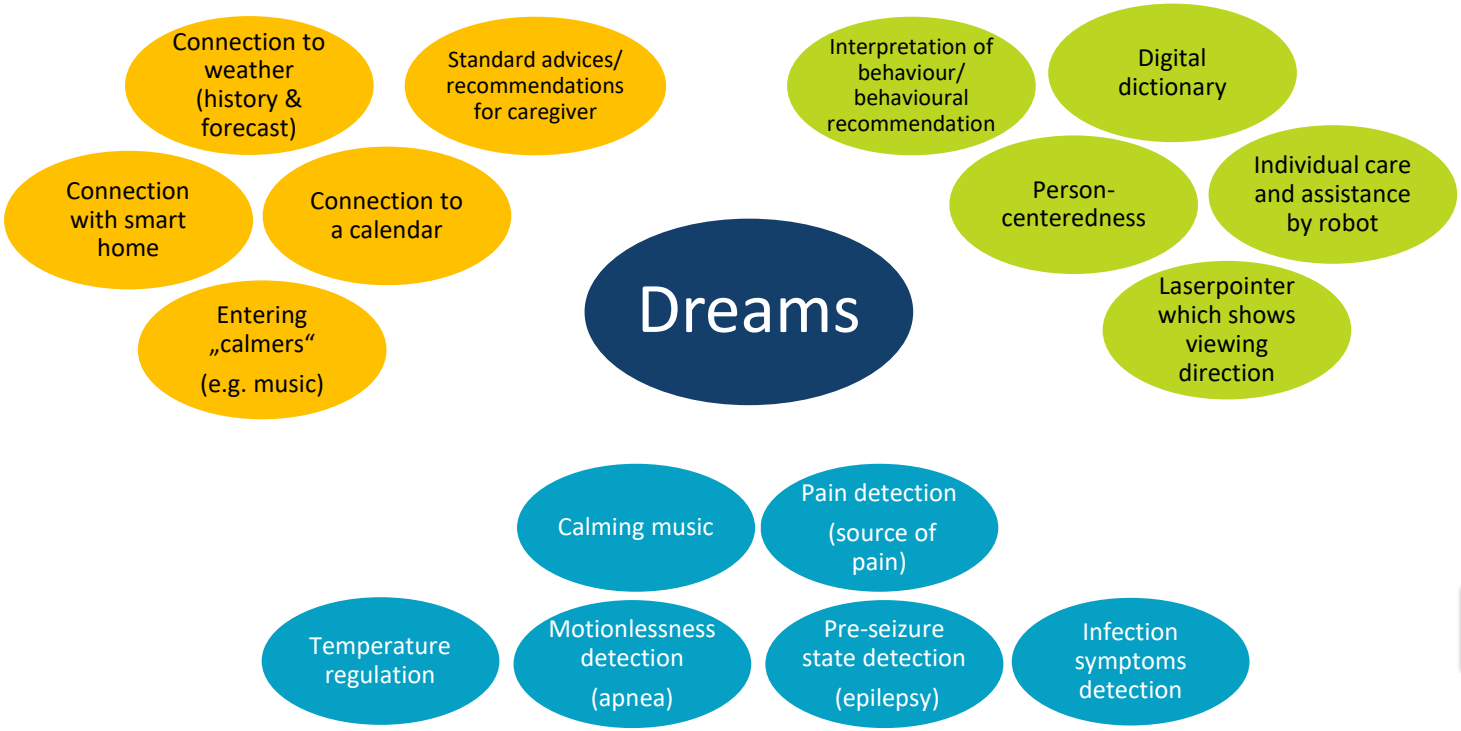
Focus Group Workshops - Phases





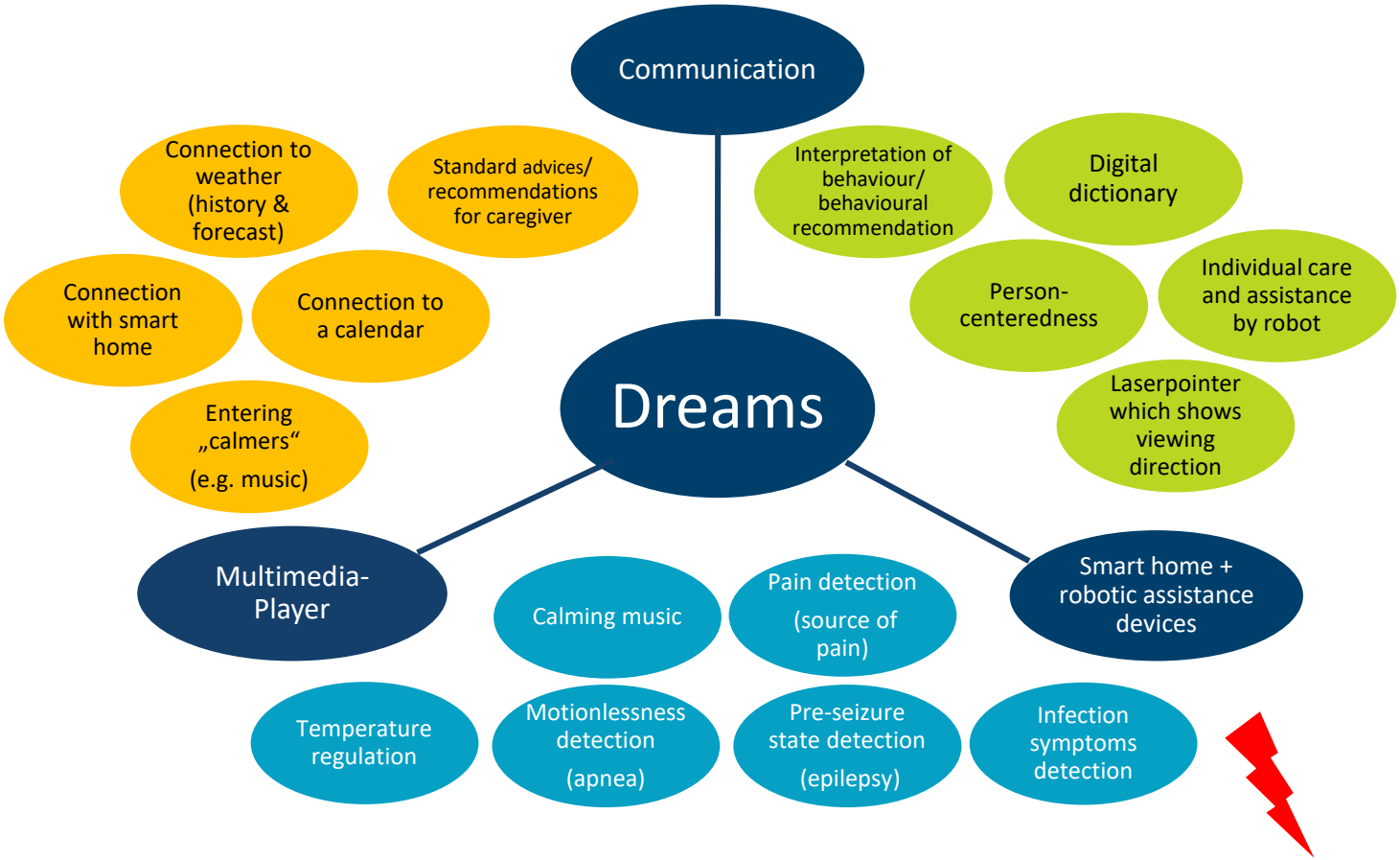
- Creating the most fantastic and absurd ideas. Just wonderful, raw ideas.
- This stage is about "why not?"
- What do we want?
- What is the solution?
- How do we imagine the solution?
- What are the benefits of applying this solution?

Dreamer



- How can we apply this idea in reality?
- What is the action plan?
- What is the timeline?
- How to evaluate the idea?

Realist



- What could be wrong with the idea?
- What is missing?
- Why cannot we apply it?
- What are the weaknesses in the plan?

Critic

Conclusion

- Based on the findings and ideas of workshops:
  → 3 technological application use cases

- Aim of each application → remedy in challenging scenarios, increasing the self-determination and improving the quality of life
- Inclusion of secondary users plays an important role (e.g. in terms of usability)

INSENSION
www.insension.eu

Thanks for your attention!

Question, comments, remarks…?

www.insension.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 780819.

PSNC · Pädagogische Hochschule Heidelberg · Jožef Stefan Institute · CTIC · natak · HARPO

Contact Info:

Teresa Sansour
sansour@ph-heidelberg.de
Marlen Marzini
marzini@ph-heidelberg.de

Literature

- Aman, M. G., & Singh, N. N. (1986). Aberrant Behavior Checklist: Manual. New York: Slosson Educational Publications.
- Charlot, L., Deutsch, C., Hunt, A., Fletcher, K., & McLlvane, W. (2007). Validation of the Mood and Anxiety Semi-structured (MASS) Interview for patients with intellectual disabilities. Journal of Intellectual Disability Research, 51(10), 821–834.
- Dilts, R. B. [Robert B.], Epstein, T., & Dilts, R. W. [Robert W.]. (1991). Tools for Dreamers: Strategies for creativity and the structure of innovation. Capitola (California): Meta Publications.
- DIMDI German Institute of Medical Documentation and Information (2017, August 11). ICF. Retrieved from http://www.dimdi.de/static/en/klassi/icf/index.htm
- Fröhlich, A. (2010). Communico. In G. Grunick & N. Maier-Michalitsch (Eds.), Leben pur. Kommunikation (pp. 12–24). Düsseldorf: Verl. Selbstbestimmtes Leben.
- Kiernan, C., & Reid, B. (1987). Pre-verbal communication schedule (PVCS): Manual. Windsor: NFER- Nelson.
- Lancioni, G. E. (2013). Assistive technology: Interventions for individuals with severe/profound and multiple disabilities. New York: Springer.
- Lotan, M., Moe-Nilssen, R., Ljunggren, A. E., & Strand, L. I. (2009). Reliability of the Non-Communicating Adult Pain Checklist (NCAPC), assessed by different groups of health workers. Research in Developmental Disabilities, 30, 735–745.
- Regnard, C., Reynolds, J., Watson, B., Matthews, D., Gibson, L., & Clarke, C. (2007). Understanding distress in people with severe communication difficulties: developing and assessing the Disability Distress Assessment Tool (DisDAT). Journal of Intellectual Disability Research, 51(4), 277–292.