PAge@Home – A digital Personal Agent for Chronically Sick in the Home Environment

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Presenter: Chris Schröer

HCMB – Institute for Health Care Systems Management Berlin eG

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M. Sc. Chris Schröer

Professional Experience:

- Doctoral Student at the University of Applied Sciences Münster
- Research Associate at HCMB – Institute for Health Care Systems Management Berlin eG

Publications & Activities

- “Measurement analysis of the stress on the hand-arm system caused by torques when setting up haemodialysis machines”, Documentation of the 68th Congress of the Society for Labour Studies in Magdeburg, Dortmund: GfA-Press. A.4.5. ISBN: 978-3-936804-31-7
- “Measurement analysis of the stress on the hand-arm system caused by compressive forces when setting up haemodialysis machines “, 62nd Annual Scientific Conference of the DGAUM, Munich 2022
- “Expert evaluation of the safety and ergonomic design of hospital beds “, Documentation of the 69th Congress of the Society for Labour Science in Hanover Dortmund: GfA-Press. A.1.16.
- “Investigation of the influence of a fifth castor and the castor diameter on the force required to push hospital beds”, 63rd Annual Scientific Conference of the DGAUM, Jena 2023.

Institute for Health Care Systems Management Berlin eG

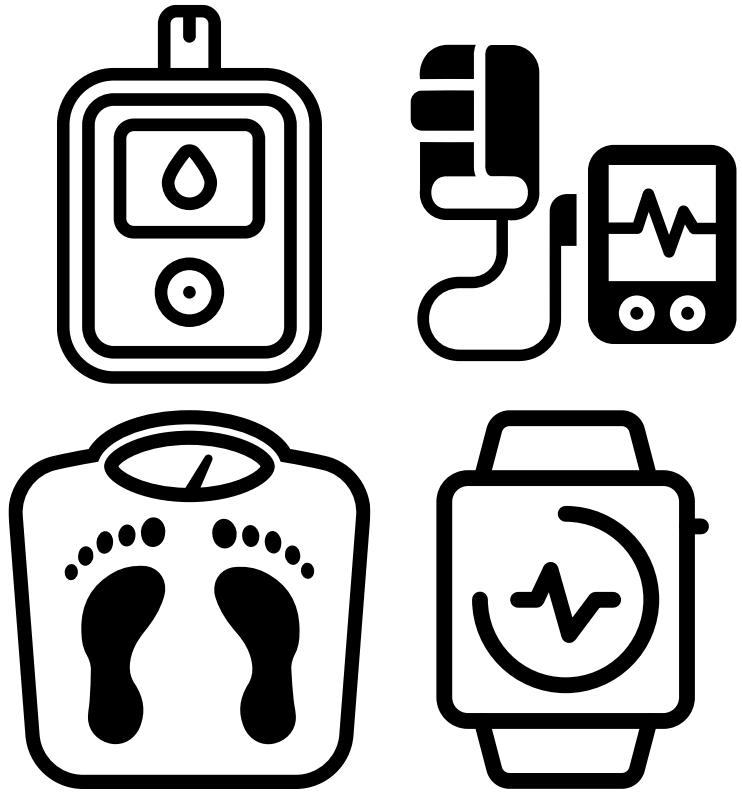
Other Projects:

- „Stay@Home – Treat@Home“
- Evaluation of the technical and organisational feasibility of a tracking system for beds in the clinical area
- Workplace design for perfusionists
- Evaluation of the health benefits of an app for carers
- Evaluation of a digital care application (DiPA)
- Evaluation of the performance of see-through displays

→ For more information about the individual projects visit: **https://www.hcmb.org**

Introduction

- Multiple health-related hardware and software for patients in the home environment are available
  - Solutions are either certified medical products or products of the second health market
  - In the most cases: Assessment of different data in different quality and for only one purpose
- Joint interpretation of the data hardly ever takes place



Introduction

- Combination of the different systems to one common solution could give a more complete overview about the patient health
- A combined system with a telemedical connection that correctly detects critical health conditions could prevent:
  - Worse health effects,
  - And reduce hospitalisations

Background

- Consortium consists of two **scientific** partners and four technology partners:

nexus/ag TERNARIS

ID Information und Dokumentation im Gesundheitswesen QOLware

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ID Information und Dokumentation im Gesundheitswesen

QOLware

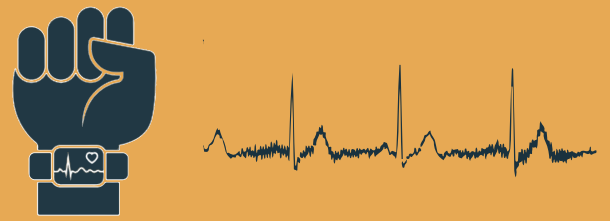
Overall Objective

- Development of a digital-connected health care system for chronically sick in the home environment
- Merging relevant data from different devices and recognition of critical health changes
- The system should integrate, validate and monitor all relevant patient data
- Subdivision of the main objective into four subobjectives

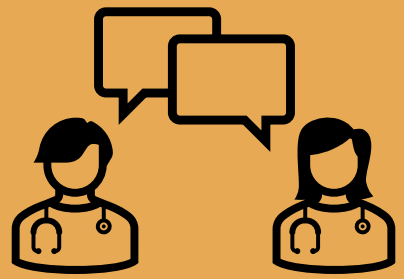
Subobjectives

1. Digital Support:

2. Digital Therapies:



3. Integrated Care Chain:



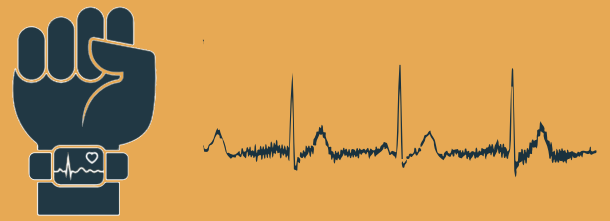
4. Structures of a digital health care:

Subobjectives

1. Digital Support:

- Development of a front-end, that allows a direct and inclusive access
- Ergonomic and accessible design

2. Digital Therapies:



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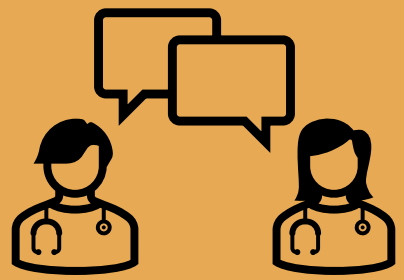


4. Structures of a digital health care:

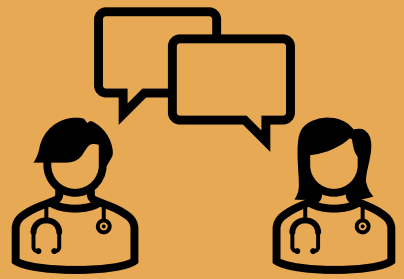
Subobjectives

1. Digital Support:

2. Digital Therapies:

- The Page should monitor the course of treatment, adjust the treatment to defined limits and set alarms (if necessary)

3. Integrated Care Chain:



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Subobjectives

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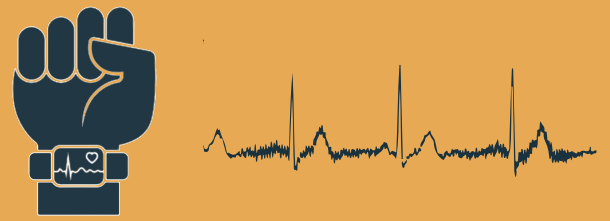

3. Integrated Care Chain:

- If an inpatient treatment is necessary:
  - The PAge should accompany the patient through the care process
- Reduction of information loss between the care structures

4. Structures of a digital health care:

Subobjectives

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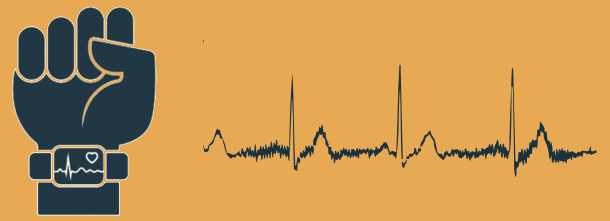
2. Digital Therapies:



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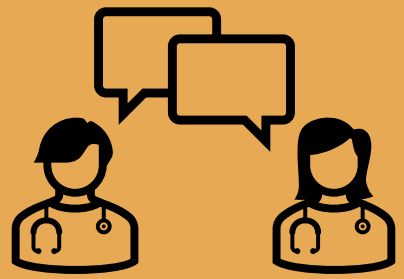
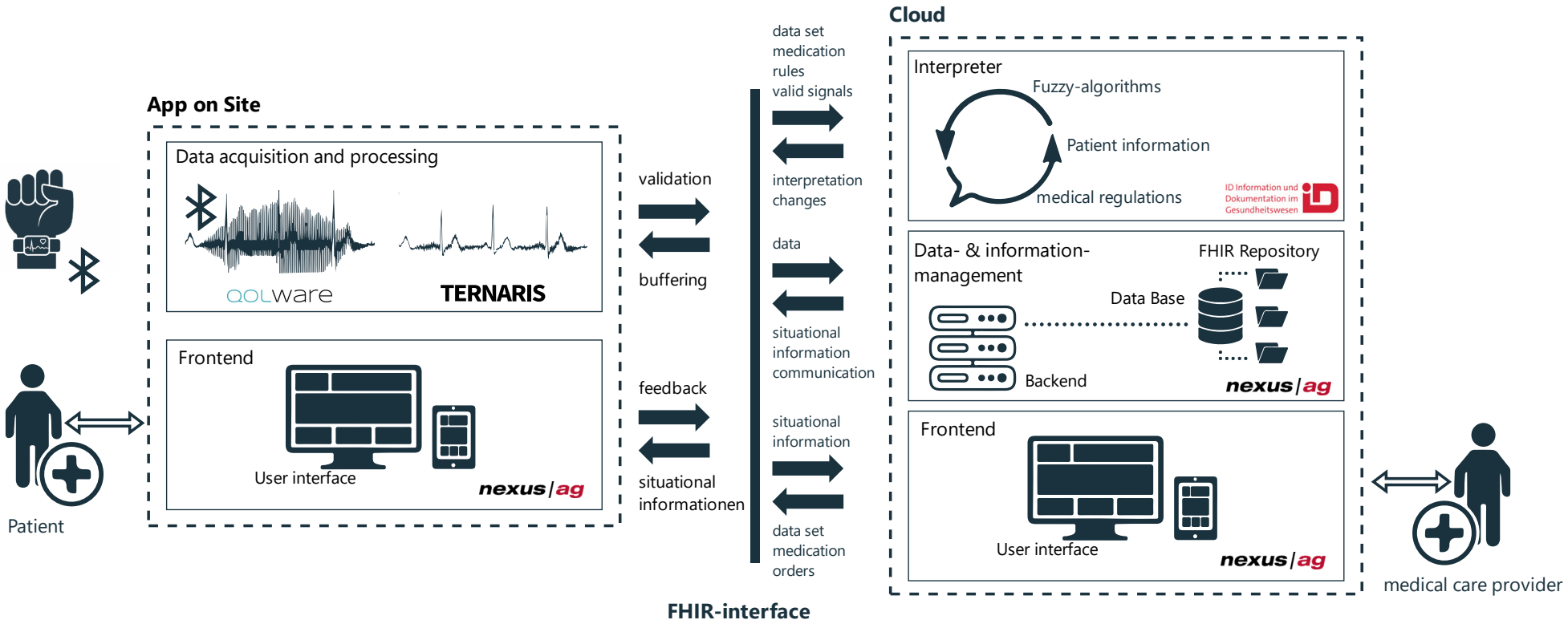


4. Structures of a digital health care:

- The PAge is open to other projects of digitalization
- It should be possible to integrate other medical technology solutions into the system

Expected Results - PAge@Home



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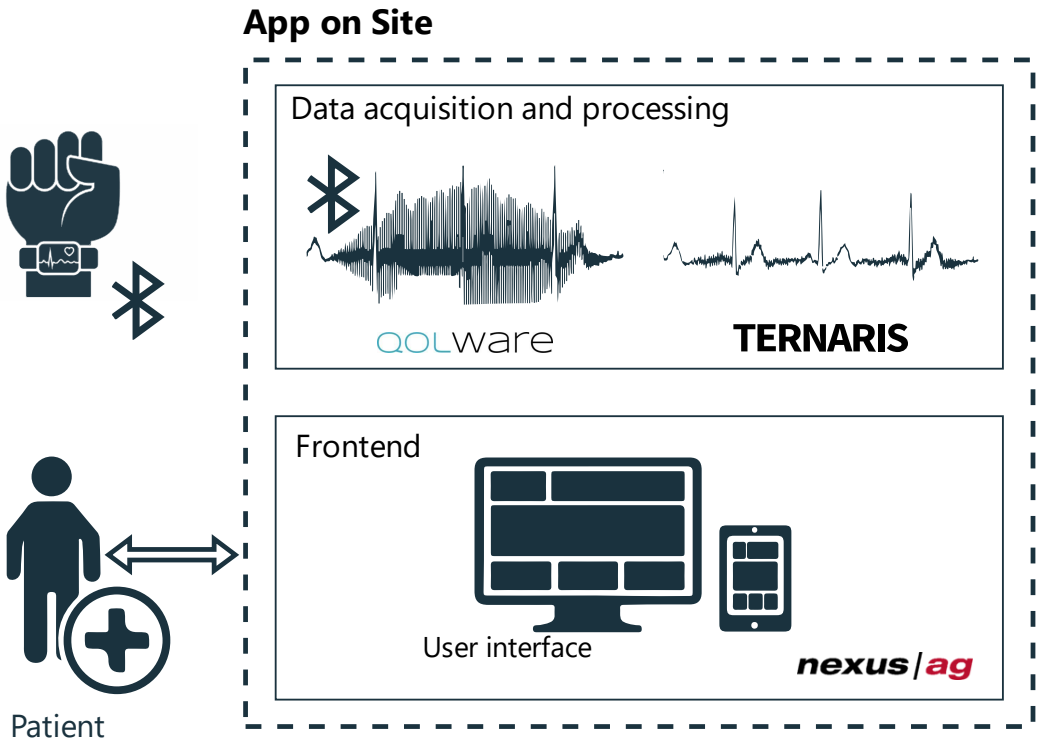
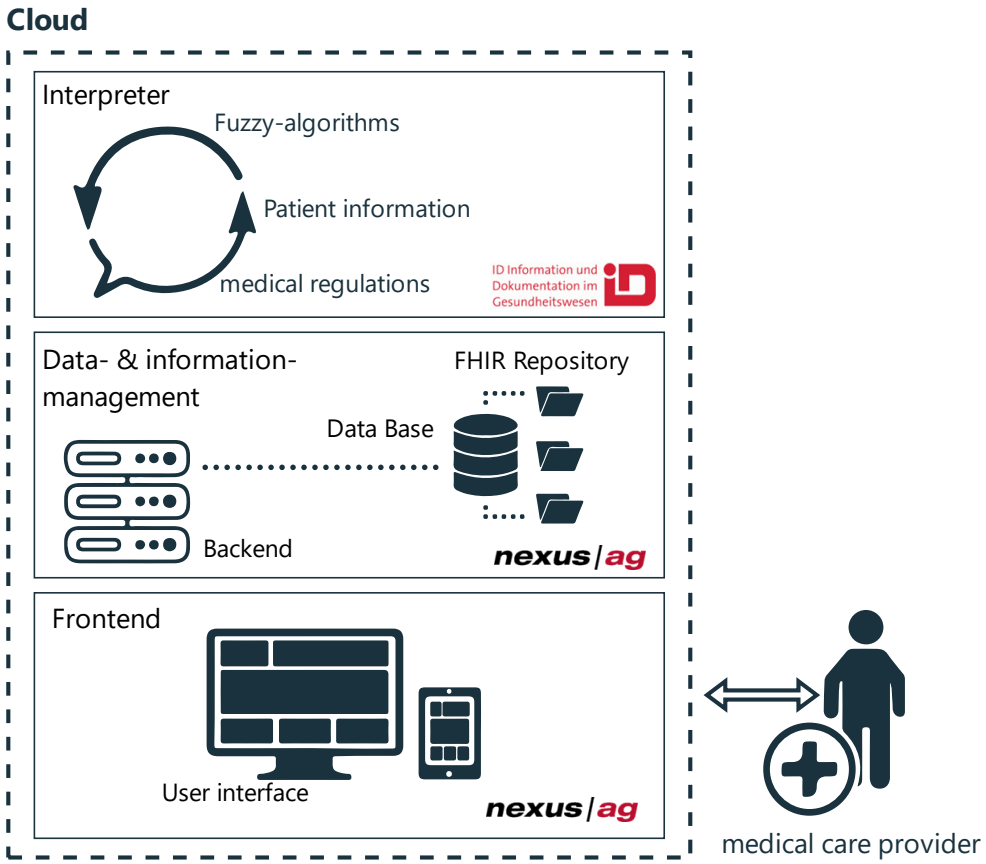


- A usable and user-friendly software for both patients and medical staff
- Multiple devices and wearables are integrated and merged into one system

Expected Results - PAge@Home



- The data are assessed and saved on the backend in compliance with data protection requirements
- The artificial intelligence can interpret the data to detect pathological health changes
- Training concepts for the telemedical connection are created

Outlook

- Project has been going on for about a year
- First smaller milestones have been achieved
- More results can be expected in this and the following year

Acknowledgment:

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Thank You for your Attention!