

Head-Mounted Display-based Intervention and Education Concepts for Patients Post-Stroke and Relatives in Domestic Care

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Figure 1: Data glasses-RealWear Navigator 520

1 Abstract

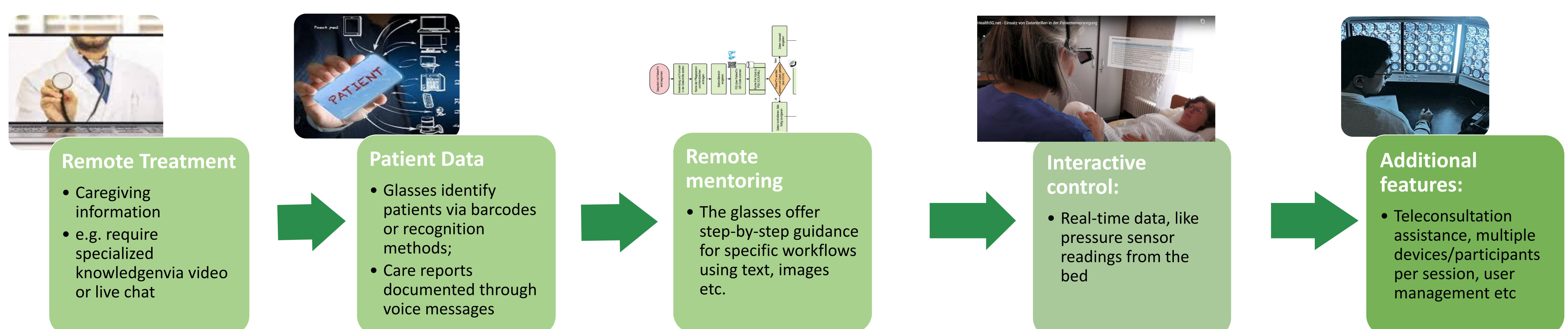
This work presents a demonstration system developed as part of an interdisciplinary research project to enhance health literacy and improve functional outcomes for post-stroke patients. The system comprises a head-mounted display. It enables remote treatment, counseling, mentoring, interactive control, clinical assessment, and documentation. The system promotes interprofessional information sharing, supports specific workflows, and enhances communication. Objectives include improving health literacy, functional outcomes, self-care abilities, and quality of life for patients and relatives. The study aims to develop a care concept to prevent rehospitalization, assess system adoption in clinical practices, and evaluate technology opportunities and risks. This work provides inspiration and direction for future AR-based interventions in clinical settings.

2 Technical Infrastructure

The HMD system includes AR glasses and a smartphone with gesture and voice control. Data collection involves diverse information using scoring systems, compared with routine clinical parameters. Data glasses are used for baseline assessment, education, and continuous consultations, including fall prevention measures and caregiver training.

3 Integration into Care & Case Management

The system provides versatile support in a hospital setting.



4 Conclusion & Outlook

The use of data glasses offers advantages for various stakeholders:

- (1) Patients receive tailored care, reducing fall risks, preventing health issues, and enhancing rehabilitation and social integration for improved overall care quality.
- (2) Relatives benefit from increased information flow and improved safety measures.
- (3) Broader society gains as individuals can stay home longer, reducing the burden on family caregivers, improving care quality, and easing strain on healthcare personnel with positive economic consequences. However, potential risks need consideration, including ethical, legal, and social implications, privacy, data security, and impact evaluation of these applications.