

TexgAT – Textile-integrated, emotional expression mediator for therapy for people with disabilities

Objective

The Communication with severely multiply disabled individuals poses a major challenge in caregiving. Due to lack of time, caregivers often focus only on medical aspects, exacerbating the social isolation of those affected and negatively impacting their well-being. Functional textiles provide an innovative solution. They allow new forms of interaction and communication while meeting the high demands of the intended applications.

Within the scope of the project, efforts were focused on developing and integrating electrically conductive materials into elastic textiles. The aim was the creation of intelligent, stretchable surfaces, specifically intended for use in music therapy for individuals with profound multiple disabilities.



Approach and results

In the course of the project, profiles for sensor and textile parameters were developed and suitable materials were integrated into elastic textile surfaces. The resulting knitted surfaces with multi-part, electrically conductive and stretchable structures were tested for their functional properties and their suitability after mechanical stress and washing processes, especially in the context of music therapy. The project led to the development of intelligent textiles that are specifically tailored to the needs of disabled people. It provides valuable insights for future applications in the field of smart textiles.



Function pattern test between two people

The results of the project were functional prototypes consisting of electronic hardware, combined with various sizes of robust, sensitive arm sleeves developed for music therapy. It was possible to ensure



Sensitive arm sleeve developed in the project

that the knitted functional samples fulfil the high requirements of the intended applications. The careful selection and testing of the materials contribute significantly to the quality and performance of the final products. This allows their use not only in music therapy, but also in further applications of other fields, such as medical technology, sport and consumer electronics.

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The final report on this project is available on request.

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