Medical
Assistance Systems
AG 2

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## Development and evaluation of a visual programming environment in joint-attention training for medical/therapeutic end-users

In the development of a software architecture for robotic, configurable and autonomous scenario development, with a focus on supporting autism therapy, a problem emerged in the creation of XML-based scenario descriptions. These should be created by professionals with a medical background, but not necessarily with a particular technical understanding.

This Master's thesis builds on this issue. With a focus on the target group, an interface for the creation of the scenarios, based on visual programming environments, was created and evaluated against the standard for the visual development of robot behavior choreography.

In this study, only staff, people with a medical background were asked to perform different tasks, which were to test the required functionalities and their manageability with increasing complexity.

## Resulting publication:

Christian Schütze, André Groß, Britta Wrede, and Birte Richter. 2022. Enabling Non-Technical Domain Experts to Create Robot-Assisted Therapeutic Scenarios via Visual Programming. In Companion Publication of the 2022 International Conference on Multimodal Interaction (ICMI '22 Companion). Association for Computing Machinery, New York, NY, USA, 166–170. `https://doi.org/10.1145/3536220.3558072`

*Medical assistance systems* ranging from robots to smart home devices and apps provide support for people in physical and cognitive tasks. Based on a deep understanding of social interaction and human cognition, we develop effective intelligent assistance systems with the flexibility to co-construct interaction with different user groups (patients, relatives, doctors, nurses, etc.). This is achieved through a consistent *user-centered co-design*. Our goal is to support people in their well-being and participation through *studies and technology development* so that they can live autonomously and healthily.

More information is available at: `https://www.uni-bielefeld.de/fakultaeten/medizin/fakultaet/arbeitsgruppen/assistenzsysteme/`

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