

# A digital app could improve the bathing experience for people with dementia

**Digital applications can improve the bathing experience for both the caregiver and the resident with dementia at long-term care facilities. This master thesis presents several concepts for how this can be done. Some are visualized as in Figure 1.**



**Figure 1.** Three pages of the prototype visualizing the concepts for facilitating the bathing procedure.

The population is getting older. People of 80 years or over will increase globally more than threefold between 2017 and 2050. An ageing population results in an increased demand on long-term care facilities. There is an increasing risk that showering and in bed washing will be done more frequently, which are less relaxing and less dignified. A first version of a new digital app has been developed. It will work with the bathtub system from the medical technology company Arjo, see Figure 2. The app is intended to add value to the practical workflow for the bathing procedure of residents with dementia at long-term care facilities.

Imagine that you are a caregiver about to conduct a bath session for a resident with dementia, which is a situation where the resident is very exposed. The resident might express behaviors like aggression and agitation during the bath, which can make you feel insecure and uncomfortable

with conducting baths. After the bath, you as a caregiver might write notes on a paper regarding how the resident reacted during the bath session. Now, imagine that this procedure can be complemented with a digital tool in the form of an app on a smartphone. This app provides information regarding a resident's preferences during a bath. It can help the caregiver conduct the bath and be able to contribute to a relaxing experience with a wellness approach. Further, regular baths are important for residents with dementia. The app can facilitate this by its booking function. This is what this prototype to an app is showing, see Figure 1, that was created with consideration to design- and usability principles. The prototype visualizes different concepts to support caregivers when conducting baths.

The real workflow with bathing at long-term care facilities was observed to generate these concepts. The focus has been on concepts that provide an aid pre- and post a bath session in order to not be a disturbing moment during the bath session. Evaluation of the bath session can easily be done afterwards by answering a few questions regarding the experience, such as if the temperature of the water was too high or if anxiety could be detected. This, instead of writing notes on a paper sheet in an unstructured way. The information from the evaluation will be used for the next bath session, in order to for instance suggest settings for the water temperature. This will facilitate for the caregivers and the resident will have a bath experience based on their preferences.



**Figure 2.** Bath system consisting of a bathtub and a hygiene lifter by Arjo.