Pervasive assistive technology for people with dementia: a UCD case - DTU Orbit
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Pervasive assistive technology for people with dementia: a UCD case

Smart mobile and wearable technology offers exciting opportunities to support people with dementia (PwD). Its ubiquity and popularity could even benefit user adoption – a great challenge for assistive technology (AT) for PwD that calls for user-centred design (UCD) methods. This study describes a user-centred approach to developing and testing AT based on off-the-shelf pervasive technologies. A prototype is created by combining a smartphone, smartwatch and various applications to offer six support features. This is tested among five end-users (PwD) and their caregivers. Controlled usability testing was followed by field testing in a real-world context. Data is gathered from video recordings, interaction logs, system usability scale questionnaires, logbooks, application usage logs and interviews structured on the unified theory of acceptance and use of technology model. The data is analysed to evaluate usability, usefulness and user acceptance. Results show some promise for user adoption, but highlight challenges to be overcome, emphasising personalisation and familiarity as key considerations. The complete findings regarding usability issues, usefulness of support features and four identified adoption profiles are used to provide a set of recommendations for practitioners and further research. These contribute toward UCD practices for improved smart, pervasive AT for dementia.

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