

Presentation: Music player for dementia

I. SCHMID, B. MARKS, A.J. SIXSMITH, K. JUNG, S. BAINES, J. CARSON. **Music player for dementia care homes.** *Gerontechnology* 2012;11(2):419; doi:10.4017/gt.2012.11.02.205.00 **Purpose** Academic research and clinical observation suggests that music, especially from the early decades of life, evokes powerful memories¹. These memories are emotionally anchored and deteriorate more slowly than peripheral memory functions. Persons with dementia may recognize a song and know the words while they struggle with visual recollection and speech in other contexts^{2,3}. The purpose of the research was to design a music player that engages residents of dementia care homes by individually recognizing them and playing music that is personally relevant. The device comprises (i) a chair with music speakers, basic controls, an RFID-sensor, a micro-controller and communication technology; (ii) customizable generic playlists for specific cultural contexts based on an age of 75 in 2012; and (iii) server-based software to record musical tastes of residents as they use the player (to potentially allow playlists to be updated using an internet-based preference engine). **Method** The research involved a multi-method approach (observation and interviews). The initial phase of our research explored the degree to which persons with moderate to severe dementia respond to music that is specifically relevant to them. A sample group of 8 residents from European and South Asian cultural backgrounds were identified at the German Canadian Care Home in Vancouver, Canada. Residents met with family caregivers, staff and researchers to customize a playlist of some 60 songs to suit their personal preferences. Songs from the customized list were played to residents, but included 3 unfamiliar songs from different cultural contexts. Reactions to the unfamiliar songs were compared to known songs, to determine whether customizing playlists is of benefit to persons with moderate to severe dementia. The second phase explored the degree to which the same cohort of residents could learn to independently operate simple controls on the chair (sit and be recognized, mute, increase/decrease volume, skip to next song). Individual use of controls was recorded electronically and data was analyzed for consistency and compared between residents. The final phase was to observe the social dynamics around the use of the music chair by leaving it in a common area over a 10-day period with no staff assistance. Observations from care staff on duty were compared with comments from the residents themselves. **Results & Discussion** Results from the analysis of direct observation, oral feedback from residents, comments from care staff on duty, and electronic data on use of controls are presented. The research confirms that people with moderate to severe dementia recognize specific songs that they heard during their lives. The discussion addresses the impact of the music player on family interaction in the initial phase of creating playlists and during consequent visits. Issues of usability by people with different levels of cognitive status are presented.

References

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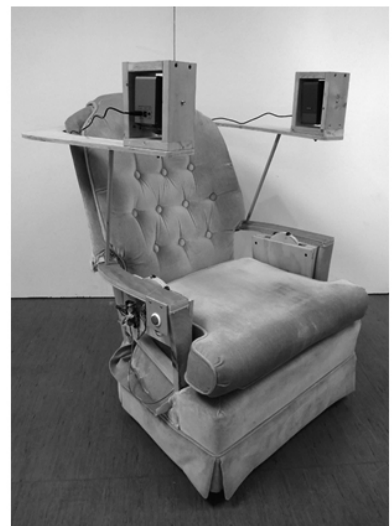


Figure 1. Early prototype with functioning speakers and controls