



Singapore Journal of

Scientific Research

ISSN: 2010-006x

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Digital Reminiscence Systems: Life-Logging Assists Dementia Sufferers, Research Finds

Digital reminiscence systems could improve quality of life for people with mild dementia, according to new research.

Dementia is on the increase, but for the sake of the quality of life of sufferers and their family and friends finding ways to allow the patient to remain in their own home and to live independently is an issue that must be addressed. At the same time, enabling independent living could also reduce the economic burden.

Sufferers of mild dementia often have difficulties with their daily lives, they cannot remember names, faces, details of their day, and how to navigate home or to other places? They might also be unable to do even mundane tasks such as preparing a meal, because they cannot remember the steps involved, and if they succeed they may forget to serve it. Their ability to maintain an independent living is thus reduced and they risk losing social contacts while becoming increasingly frustrated, affecting not only themselves but also the people around them. One approach to addressing this problem is to use memory aids, such as notebooks, calendars, diaries, alarms, whiteboards and other such equipment. Some people with mild dementia also rely heavily on their carers to cope with their memory problems, which can lead to depression in the carer.

A digital memory aid based on capturing images of the patient's surroundings automatically has been tested using Microsoft's SenseCam, known as ViconRevue, and other devices. However, such devices require substantial computer processing, and although tests have been

positive to some degree, digital memory aids of this time have not been adopted widely yet.

Basel Kikhia and colleagues at Luleå University of Technology and Johan E. Bengtsson of InterNIT, Luleå, Sweden, suggest that a more holistic approach to memory aid, known as life-logging, might be more effective and easier to implement. "Life-logging is recording activities that a person experiences for later retrieval, while context-awareness is reacting on changes in contexts," the team explains. "For example, logging a picture when a person changes location. The aim is to create a semi-automated system which helps persons with mild dementia in supporting and maintaining their life story." An entirely portable, lightweight and simple to use device that could be worn at all times would be ideal and the team has devised just such a system. The device will focus on support for reminiscence and having access to information about previous activities to support memory recollection as well as allowing the patient to annotate images, diary entries, and notes, either alone or with their carer.

"A digital reminiscence system will provide a visualization of life experiences and allow a person with mild dementia to reminisce on their life story based on persons, places, and images," Kikhia says

Source: Int. J. Computers in Healthcare, 2010; 1: 161-176