



University of Dundee

LIM Games (Living in the Moment)

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LIM

Living in the Moment

Engineering and Physical Science Research Council (EPSRC)
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CONTEXT AND BACKGROUND

Dementia is an age related condition that is associated with an ongoing decline of the brain and its abilities; memory, thinking, language, understanding and judgement. Dementia progressively undermines the independence of a person to the extent that they become dependent on others for every aspect of their lives including how and where they spend their time.

However, people with dementia have lived full lives, have histories and stories to tell, and these can be used as the basis of interventions to maintain and in some cases restore personhood. Although short-term memory is impaired, the long-term memory of a person with dementia is often still functioning, even at the latter stages of the disease. In dementia older memories are better preserved than newer ones.

Living In the Moment (LIM) has been developed by the *CIRCA* team which investigates the efficacy of computer-based pastimes/activities for people with dementia. The multidisciplinary team brings together researchers from applied computing, the psychology of dementia, and computer aided design.

AIMS AND OBJECTIVES

The team aim to find ways to engage and stimulate people with dementia and to produce a computer system that they could interact with independently, without the presence of another person. This would be beneficial to them, and to their caregivers, and could offer insights into mechanisms for maintaining cognitive functions despite the lack of key components. The designed system aims to capitalise on the preserved skills of people with dementia whilst at the same time circumventing or compensating for diminished abilities.

MAIN PROJECT COLLABORATORS:

Dr Norman Alm, University of Dundee (Principal Investigator)
Dr Arlene Astell, University of St Andrews (Co-Investigator)
Gary Gowans, DJCAD, University of Dundee (Co-Investigator)

DJCAD TEAM:

Gary Gowans (Co-Investigator)

OUTPUTS

LIM is a series of bespoke computer games with an easy-to-use and engaging interface designed to accommodate first-time users. The innovative computer system, which utilises a large format touch screen and multi-media techniques, provides the user with engaging, stimulating and enjoyable activities.

The team use a human-centred approach to the design process, and actively seek input from various stakeholders including people with dementia, local government departments, personal and professional care providers and national charities like Alzheimer's Scotland, Action on Dementia and the Alzheimer's Society, UK. The team have field-tested many different types of games including navigable 3D environments, interactive QTVR and traditional games like pinball and ten-pin bowling. During user-testing, several fairground themed games proved popular, as did a number of more ambient, creative activities. The first commercial iteration of the system contains six games including, musical chimes, a shooting gallery, a painting activity, an interactive bubble-maker, beat-the-goalie and a coconut shy.

The intention of the project was to create a system in which the user is actively engaged, not passively immersed. The person with dementia is prompted to interact and explore the system stimulated by the multimedia, allowing them to keep using their remaining cognitive facilities to the best advantage. In addition, the system prompts continued interaction when the person is unable to take it further themselves.

CIRCA Connect is a new company founded by this multi-disciplinary team. The company is named after the team's internationally renowned conversation support system *CIRCA* (*Computer Interactive Reminiscence and Conversation Aid*).