

Supporting
communication and
stimulating activity

Dr Arlene J. Astell

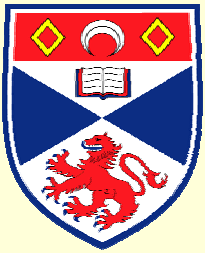
Dementia Research Group

School of Psychology

University of St. Andrews

Cognitive prostheses

- "computational systems that leverage and **extend** human intellectual **capacities**... systems that fit the human and machine components together in ways that **synergistically exploit** their respective **strengths** and **mitigate** their respective **weaknesses**." Institute for Human and Machine Cognition (IHMC).
- **How can we extend capacities of people with dementia?**



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CIRCA

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- Arlene Astell & Maggie Ellis
- Psychology, University of St. Andrews
- Norman Alm & Richard Dye
- Applied Computing, University of Dundee
- Gary Gowans & Jim Campbell
- Graphic Design, Duncan of Jordanstone College of Art,
- Partners
 - Alzheimer Scotland - Action on Dementia
 - Dundee Social Work Department

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The problem

- "Perhaps *the* most devastating consequence of dementia, to both caregivers and patients, is the progressive decline in communicative ability." (Azuma & Bayles, 1997, p.58)
- People with dementia - affects personhood
- Families - affects relationships
- Care staff - affects development of relationships

CIRCA Guiding principles

- Use technology to find a way round impaired cognitive processes
- Maximise relatively well-retained cognitive processes
- Promote communication and positive interactions between people with dementia and caregivers

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LIFE EDITION THE CIRCA TIMES 6^d STILL ONLY

Listen to favourite radio themes

The Archers
 Desert Island Discs
 ITMA
 Billy Cotton Band
 Housewives' Choice
 Come In
 Harry Lauder Medley

Stop and Talk
 Touch here to stop music

Recreation

Entertainment

Dundee Life

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Volume LOW [|||||] [|||||] HIGH

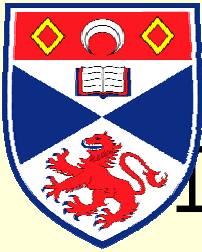
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Reaction to CIRCA

- Families enjoy seeing their relative achieving things and 'back to their old selves"
- Staff like CIRCA because it is easy to use - no preparation time
- CIRCA supports successful/positive 1-2-1 sessions

Conclusions

- People with dementia can be engaged by the computer and concentrate on activities
- Positive reinforcement is crucial
- Must not feel de-skilled/disabled - i.e. control taken away
- Can system provide support for people with dementia to use it independently for engaging and stimulating activities?



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Living in the Moment

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 - NHS Tayside

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Living in the Moment

- Aims :
- Provide activities and pastimes for people with dementia
- Enable people with dementia to use the system independently

Conclusions

- Computer technology can be harnessed to provide cognitive prosthetics for people with dementia
- Computer technology can support people with dementia and caregivers to engage in an enjoyable shared activity (CIRCA)
- Computer technology can enable people with dementia to engage in and enjoy activities independently