iAging: Optimizing Health, Design and Well Being for Older Adults Using Technology

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iAging: Optimizing Health, Design and Well Being for Older Adults Using Technology

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TECH RESEARCH

Past - Present - Future

PAST
• The Tech Tutor Model

PRESENT
• NSERC & other
• Community-based research
• Industry partnerships

THROUGH THE YEARS

THE STUDENT RESEARCH EXPERIENCE

FUTURE
• Final thoughts on iAging
• What’s next?
The Centre for Elder Research conducts innovative ‘Lab to Life’ research that enhances the quality of life of older adults while serving as an education and resource hub for Sheridan and the broader community.
The world has changed

If someone from the 1950s suddenly appeared today, what would be the most difficult thing to explain to them about life today?

self.AskReddit • 10637 comments

nuseramed

I possess a device, in my pocket, that is capable of accessing the entirety of information known to man.

I use it to look at pictures of cats and get in arguments with strangers.
SETTING THE STAGE

The world has changed
‘Older Adults Embracing Technology: Leave No One Behind’

1. Sheridan College

2. Two Satellite sites:
   Sunrise Senior Living - Oakville
   Shalom Village - Hamilton

Objectives:

• to explore effective ways to provide both initial computer training and ongoing technical support for elders with little or no computer experience

• to explore whether the accomplishment of acquiring computer skills had an impact on the older adults’ quality of life
Five-year grant (2010-2015) from NSERC’s CCI funding program:

*Aging in Place: Optimizing Health Outcomes through Technology, Design and Social Innovation*
Using web-based technology to create opportunities for education and instruction, especially as it relates to health, fitness and post-op rehabilitation

Exploring how to improve home monitoring systems (i.e. for persons with an impairment), and how this might integrate with a web-based support tool for caregivers

Designing and evaluating the effects of purposeful gaming, particularly as it might maintain independence or assist with the caregiving process

Improving technologies on multiple platforms (i.e. web-based, mobile devices, touch-screen kiosks in public spaces, etc.) to ensure accessibility for individuals of all ages and abilities
NSERC GRANT
Partner relationships

Attune
Vintage Fitness
Recreational Respite

PointerWare
Tertec Enterprises
Jibestream

LifeTimes - The Game of Reminiscence
Dynamic Brain/Posit Science

Acclaim Health
Schlegel Villages
Leisureworld

pigeon* branding + design
COMMUNITY PARTNERS

Benefits

• Access to prototype products and services
• Engagement with different community and business agencies or partners
• Evidence-based evaluations of products/services
• Unique cross-promotional opportunities
• Access to college students/staff/expertise
NSERC PARTNERS

Benefits in action!
INDUSTRY PARTNERS

Pointerware

As seen on Dragon’s Den!

Simplifying the computing experience and making it suitable for older adults of multiple ethnicities
A 12-week trial evaluated the impact of access to the software on a socially isolated older gentleman living in long-term care. The participant went from spending his days in bed ‘daydreaming’, to rating his mood a 10.5 out of 10 and wanting to start up a men’s club.
• Interviewed over 200 residents across all the Schlegel Village homes to determine patterns of computer use

• Developed a tech tutor training manual that can be used to establish training centres within each home

• Conducted a pilot project with the Nintendo Wii, exploring its usefulness as a tool to enhance physical health and social well-being
The science behind ‘brain training’ is well documented, but how do we increase access to, and awareness of, its potential?

If brain training was like physical training, would older adults take advantage of this personalized and progressive training opportunity?
‘Brain gym’ approach – a community-based model for brain training

Gym Locations: Internet Café, Seniors’ Centre, Retirement Residence, Public Library

Gym members: 11 participants ages 68-78

Training schedule: 40 hours each (1hr/day, 5 days/week)

Results: Enjoyment and subjective improvement reported by all participants; the Oakville Public Library picked up the ‘brain gym’ and offered it as a regular activity
INDUSTRY PARTNERS

LifeTimes

Using the iPad as a reminiscence tool

Tested in the field with Social Service Worker-Gerontology students and at an Alzheimer Day Program

Reported benefits for individual and group use
People lost in public spaces is a big, expensive problem.

This problem is compounded by sensory, cognitive and physical access barriers.

With Jibestream, we have supported their work to create accessible designs.

See their software at work at the PanAm Games!
Mon Ami™ is a unique, integrated plug-and-play support system that enables a caregiver to remotely support loved ones through a host of services.
INDUSTRY PARTNERS

Leisureworld

• Online Community of Learners: Engaging residents with lifelong learning opportunities and connecting them to like-minded individuals

• A retirement home in Ontario connected to one in BC – all participants were provided with iPads to support their learning and communication throughout the project

• The project will roll out to 3 more homes in 2015
TECH PROJECTS

Through the Years

- **Crystal Memories**: a digital archival tool that can be used to create a digital collection of artifacts and narratives (2006 – present)

- **Lifelong Learning**: Exploring the learning needs and interests of older adults and using technology to support them (2007 – present)

- **iPad and Osteoarthritis**: Using the iPad to promote dexterity and support traditional exercise programs for those living with osteoarthritis (2013)

- **Aging in a Foreign Land**: Using Technology to Support Older Immigrants Living in Mississauga (2014)

- **Suvien**: Working with the Alzheimer Society of Ontario and the Ontario Brain Institute to evaluate the effectiveness and usability of an app designed to facilitate conversation with individuals suffering from dementia (2015)
STUDENT EXPERIENCE

Training

The Centre’s formal student Training protocol includes:

- Trends in the field of aging
- Applied Research 101
  - Lab to Life™ Game
- Communication/presentation skills
- Report writing & critical thinking
- TCPS2 ethics compliance
- Intellectual Property
- Confidentiality
- Professionalism
- Health & Safety (WHMIS)
- Communicating with older adults
- AODA compliance

65 students from 16 Sheridan programs have worked with us on NSERC-funded projects
From Lab to Life™
The Adventure of Applied Research

An interactive training tool for individuals learning about the applied research process
Older adults usually need to truly understand the value of a technology before they fully ‘buy in’ to its use as a tool.

A variety of options (i.e. types of programs to suit interests, languages, opportunities for use) increases willingness to engage with technology.

Poor production quality of a product (audio/visual) or an inappropriate space for use can result in immediate abandonment of the technology.

Barriers are not always visible or obvious.
• Make the learning personal and relevant
• Get to know the starting point of the individual
• Use repetition effectively
• Create one-on-one opportunities
• Resist the urge do do things for people
• Adjust your pace to the pace of the learner
• Avoid the use of technical jargon
• Use different methods to convey concepts
FUTURE: What’s next?

1. **Sprint project**: a collaboration with the Bachelor of Game Design program. Over 200 1\textsuperscript{st}, 2\textsuperscript{nd} and 3\textsuperscript{rd} year students will create prototypes of intergenerational games that will be tested by community stakeholders.

2. **Arts and Technology**: Further investigation about how technology can increase access to the arts by older adults living in remote geographic areas, who are homebound or who are, in other ways, socially and/or physically isolated.

3. **Family Channel**: Working with an award-winning student team from the Faculty of Applied Science and Technology to evaluate and develop a TV-based social networking tool to help older adults stay connected.

4. **Members of the AGE-WELL NCE**: A newly funded group of private and public companies, government bodies, care providers, end-users and academic partners who will leverage the power of technology to enhance the independence, social participation and quality of life of older adults.
Thank you for joining us!

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