



Assistive Technology that Cares for the Caregiver

**Janet Fast
Megan Strickfaden**

Research on Aging, Policies, & Practice (RAPP)
Dept. of Human Ecology, University of Alberta,
Edmonton AB Canada T6G 2N1





Aging Gracefully across Environments Using Technology to Support Wellness, Engagement and Long Life

- ❖ Canadian Network of Centres of Excellence
- ❖ 26 universities, 75 industrial, government, NGO partners
- ❖ Over-arching goals:
 - ✧ Determine needs of older adults and caregivers that may be met through assistive technology (AT)
 - ✧ Develop and commercialize new AT that can
 - ✧ enhance the health and well-being of older adults & caregivers
 - ✧ support independent living
 - ✧ Benefit health care providers and Canadian industry

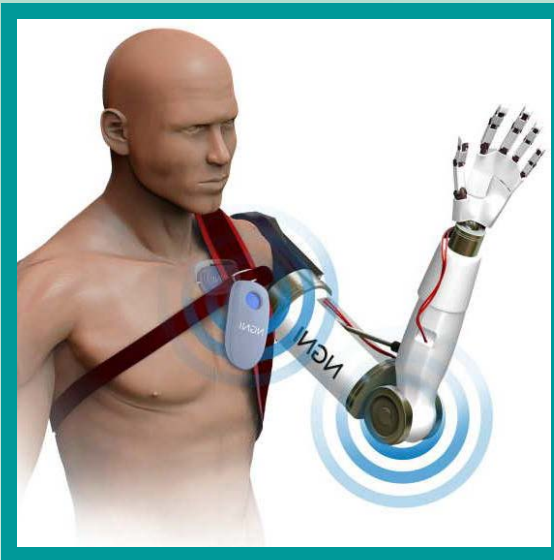


AT that Cares for the Caregiver (ATaCC)

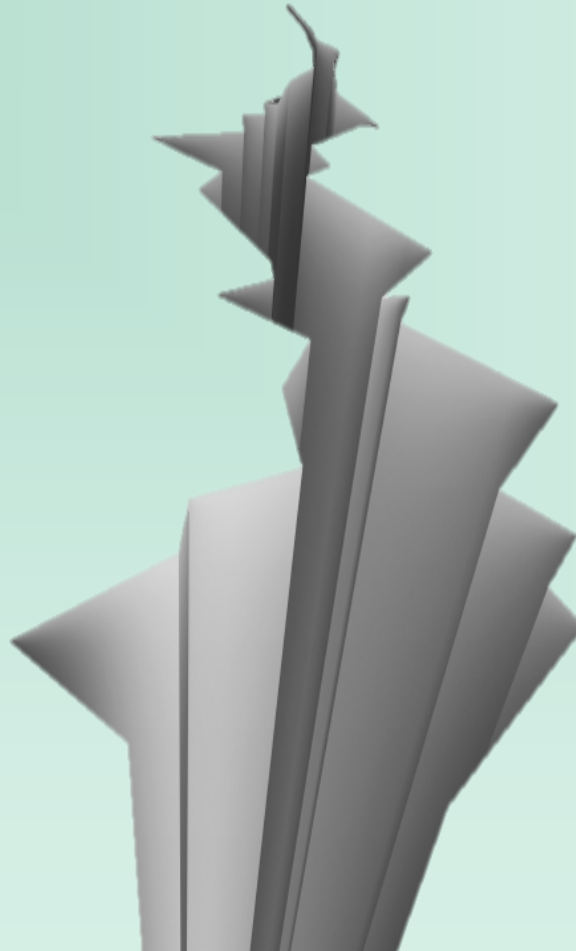
- ❖ One of 25 AGE-WELL projects funded 2015-2018
- ❖ Objective: to assess what innovative technological solutions currently exist, can be adapted, or can be developed to address the unique needs of family caregivers



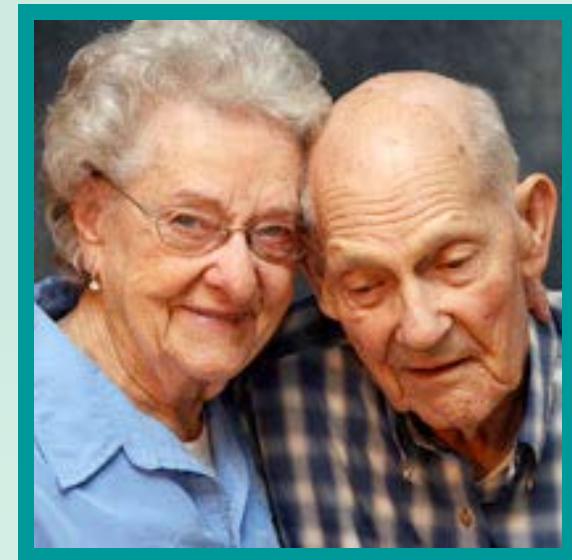
The Designer-User Divide



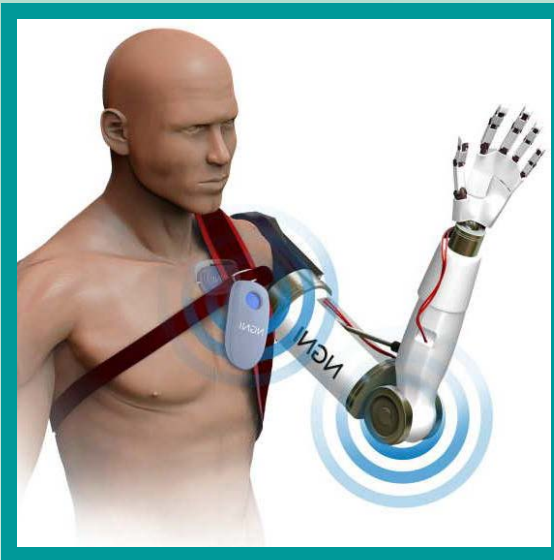
Assistive technologies
(AT)



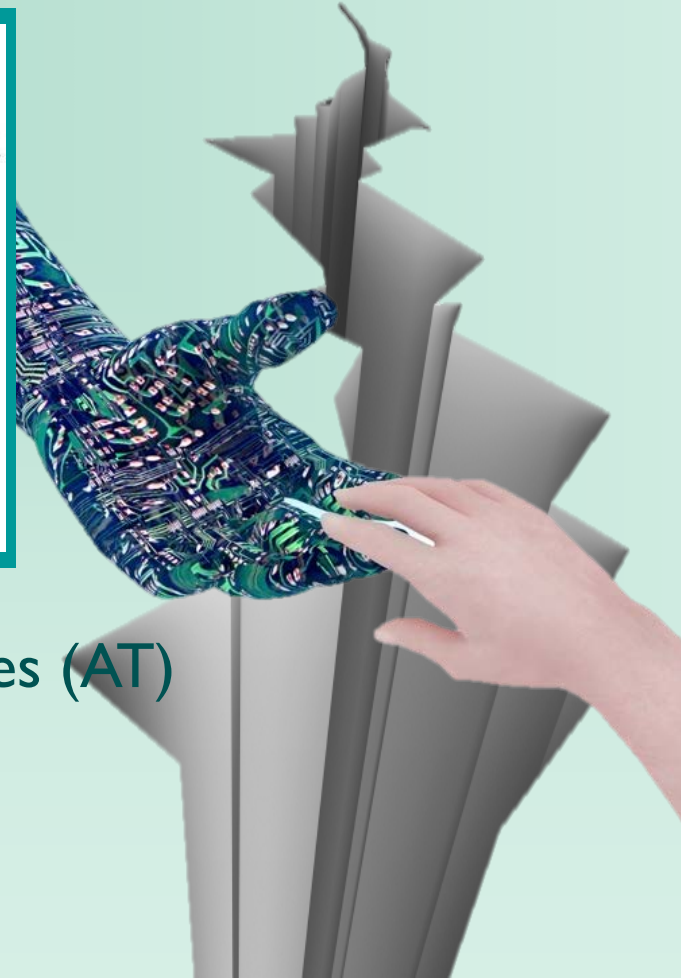
Family caregivers



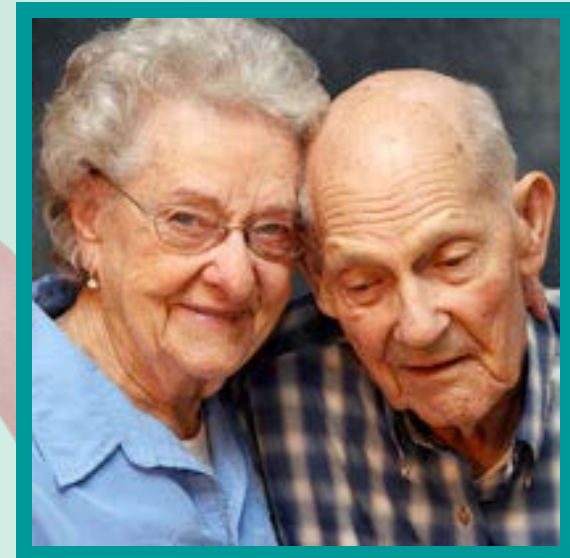
Bridging the Divide



Assistive technologies (AT)



Family caregivers



User-driven Design Solutions



1. Consultations with caregiver-consumers to determine their needs.
2. **Engaging in Precedent-based Design Research.**

Definition of AT

Family/friend caregivers and/or care recipients

Tool, piece of equipment, product system, and/or service

Burden **Assistive Technology**

Support, maintenance and/or improves

Autonomy, privacy and dignity

Choice of Daily lives

Functional capabilities

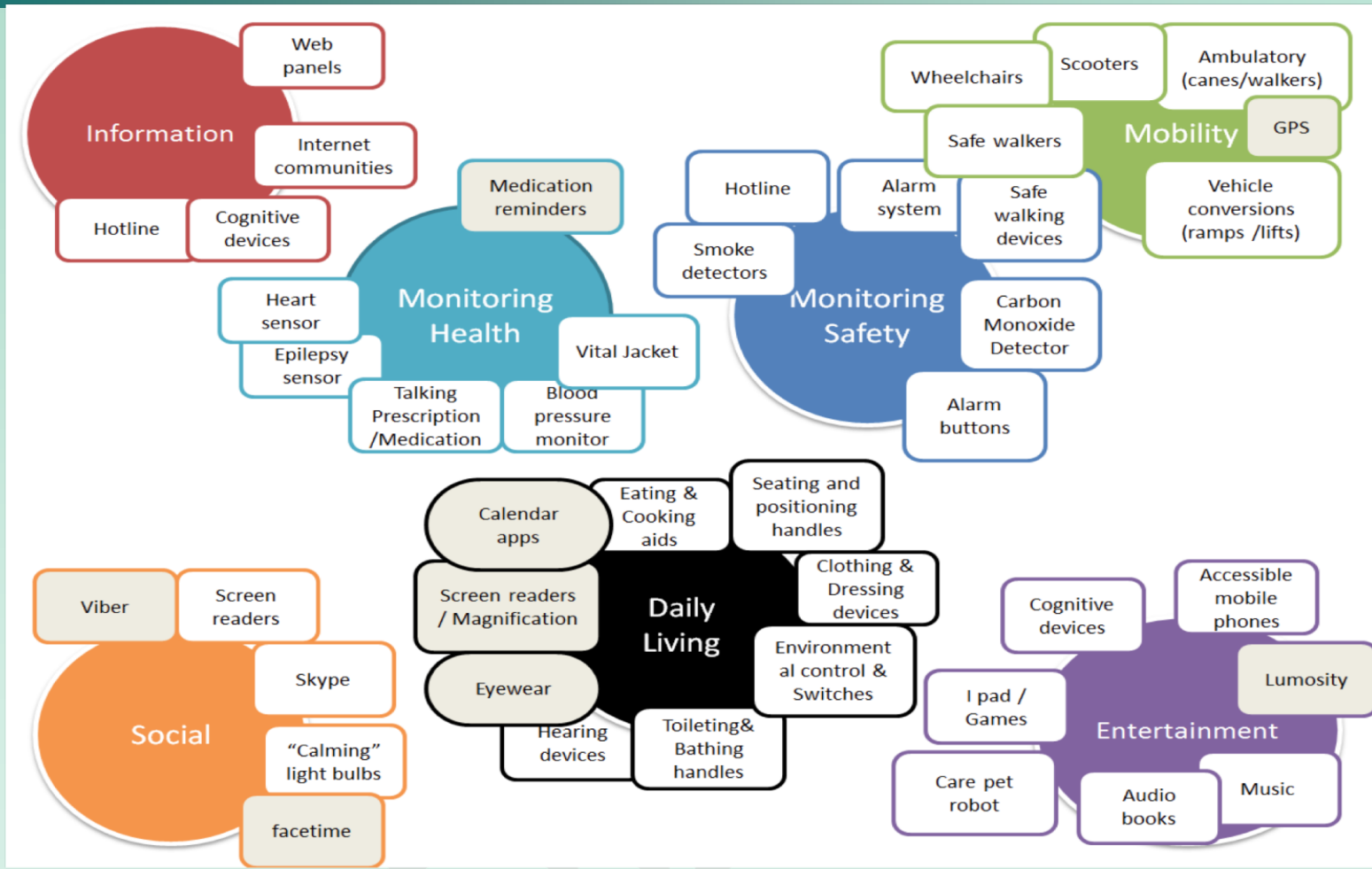
Participation and engagement

Safety and/or health monitoring

information



Seven AT Domains with Examples



Precedent-based Research Tool

Observation Sheet of Precedent AT device

Date May 19/15 Time 9:00
Site SEW

SIMPLE MUSIC PLAYER
WWW.RCINNOVATION.COM

Art. #	Price	Size	Fabric/Material	Type
Brand <i>innovates Centre for health support</i>	\$?	(L) M S	<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Wood <input type="checkbox"/> Carbon <input type="checkbox"/> Glassfiber <input type="checkbox"/> Thermoplastic	Target user <input checked="" type="checkbox"/> Care recipient Caregiver User context <input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor <input type="checkbox"/> Connected to body <input checked="" type="checkbox"/> Put on table/chair/floor
Domain	<input type="checkbox"/> Information <input checked="" type="checkbox"/> Social <input checked="" type="checkbox"/> Entertainment	<input type="checkbox"/> Mobility <input checked="" type="checkbox"/> Daily living <input type="checkbox"/> Monitoring Health Monitoring Safety		
Interface	Object - Object <input type="checkbox"/> Fixed <input checked="" type="checkbox"/> Variable	Object - person (S) <input checked="" type="checkbox"/> Fixed <input type="checkbox"/> Variable	Object - people (P) <input checked="" type="checkbox"/> Fixed <input type="checkbox"/> Variable	
Detail	Battery charged/ Electronic <i>plug.</i>	Handheld <i>table</i>	Performance <input type="checkbox"/> Poor <input type="checkbox"/> Good <input checked="" type="checkbox"/> Excellent	Rotation <i>Possible.</i>
Individualization	<input checked="" type="checkbox"/> Product simplicity (configuration, documentation, maintenance) <input checked="" type="checkbox"/> Portability <input type="checkbox"/> Can be replaced or upgraded ?	<input checked="" type="checkbox"/> Autonomous <input checked="" type="checkbox"/> Familiar <input type="checkbox"/> Unobtrusive	<input checked="" type="checkbox"/> Easily integrated into day-to-day tasks <input type="checkbox"/> Two way communication <input type="checkbox"/> Flexible in use	
Information	Information and training <input type="checkbox"/> about care recipient condition <input type="checkbox"/> services & access, <input type="checkbox"/> how to provide care <input type="checkbox"/> self-care Other: <i>b252.</i>	Professional support <input type="checkbox"/> recruitment <input type="checkbox"/> social help free time <input type="checkbox"/> emotional support <input checked="" type="checkbox"/> confidence & recognition Other:	Improving communication with <input type="checkbox"/> care professional(s) Other:	Legal financial support <input type="checkbox"/> financial issues & insurance <input type="checkbox"/> management of finances & planning Other:
	Caregiver education or resource referrals? <i>unknown. - check website</i>			
<input type="checkbox"/> Keeps care recipient safe <input checked="" type="checkbox"/> Manages stress <input checked="" type="checkbox"/> Easy activity to do with care recipient		<input checked="" type="checkbox"/> Maintain independence		

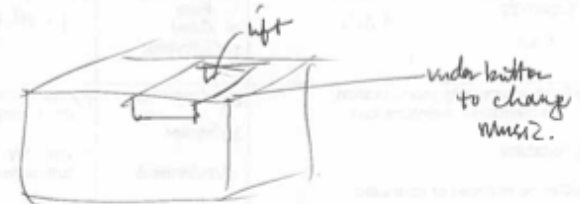
Finishing details	Buttons	Wires	Handles	Reinforcements
	<i>one button</i>	<i>one plug</i>	<i>n/a</i>	<i>n/a</i>

Weight & visibility

Accessories

	YES	NO
Universal design?	<input checked="" type="checkbox"/>	
Simple to use?	<input checked="" type="checkbox"/>	
Flexible in use?		<input checked="" type="checkbox"/>
Provided with user guide or instructions?	<input type="checkbox"/>	<input type="checkbox"/>
Saves time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Monitors care recipient / able to communicate?		

Sketch



Examples of Precedents: sock aid

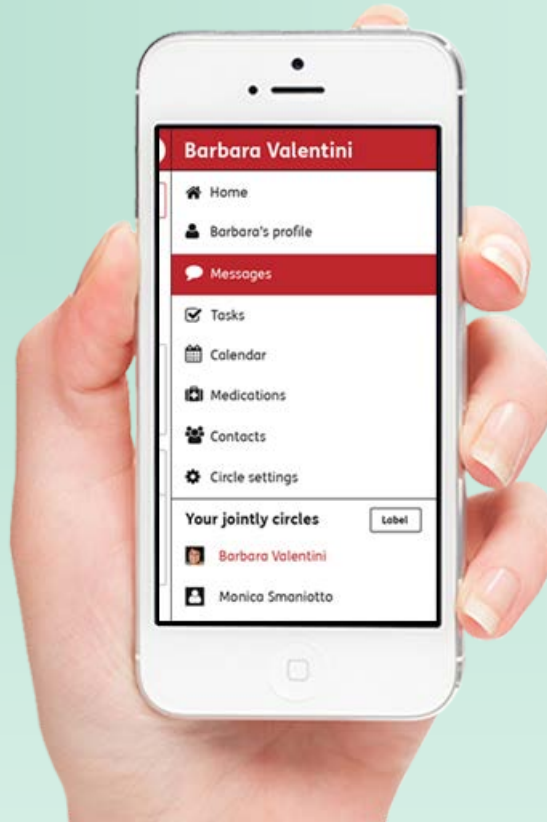


Examples of Precedents: swivel cushion

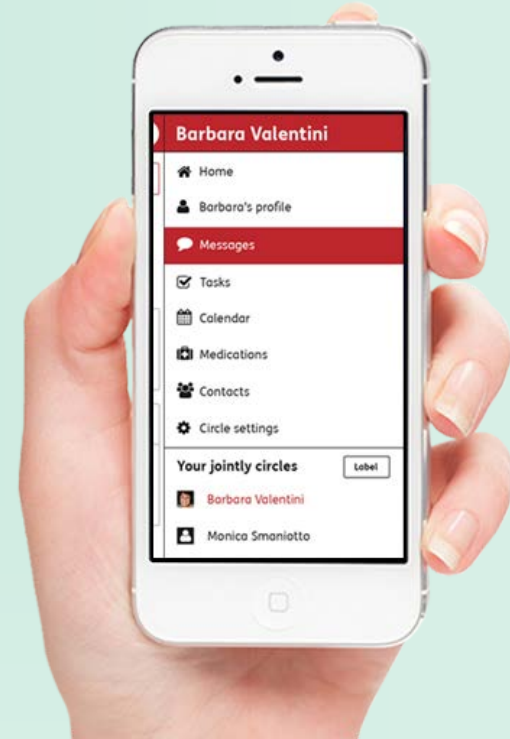


Examples of Precedents: networking app

Jointly



Learning from AT Precedents



Next Steps

- ❖ Pilot tool on more AT products/services
- ❖ Design & create tablet/computer-based app
- ❖ Test usability with caregivers (can they input data?)
- ❖ Crowd source tool to collect data on more products/services
- ❖ Develop data-base for designers (towards innovation) and consumers (to find suitable products and services)



Acknowledgements

Funder: Networks of Centres of Excellence of Canada

Contact: Megan Strickfaden

Megan.strickfaden@ualberta.ca

Research on Aging, Policies, & Practice (RAPP)

Room 3-02 Human Ecology Bldg.

University of Alberta

Edmonton AB CANADA T6G 2N1

