PROTOTYPING & PROTOTYPES IN PARTICIPATORY DESIGN

Plan
1. Prototypes & Prototyping
2. Experiences and examples from master thesis
3. Literature

PROTOTYPING

Any activity involving creation or modification of prototypes

PROTOTYPES

A preliminary type, form, or instance of a system that serves as a model for later stages or for the final, complete version of the system. A prototype is a usable product. (ISO)

PROTOTYPES

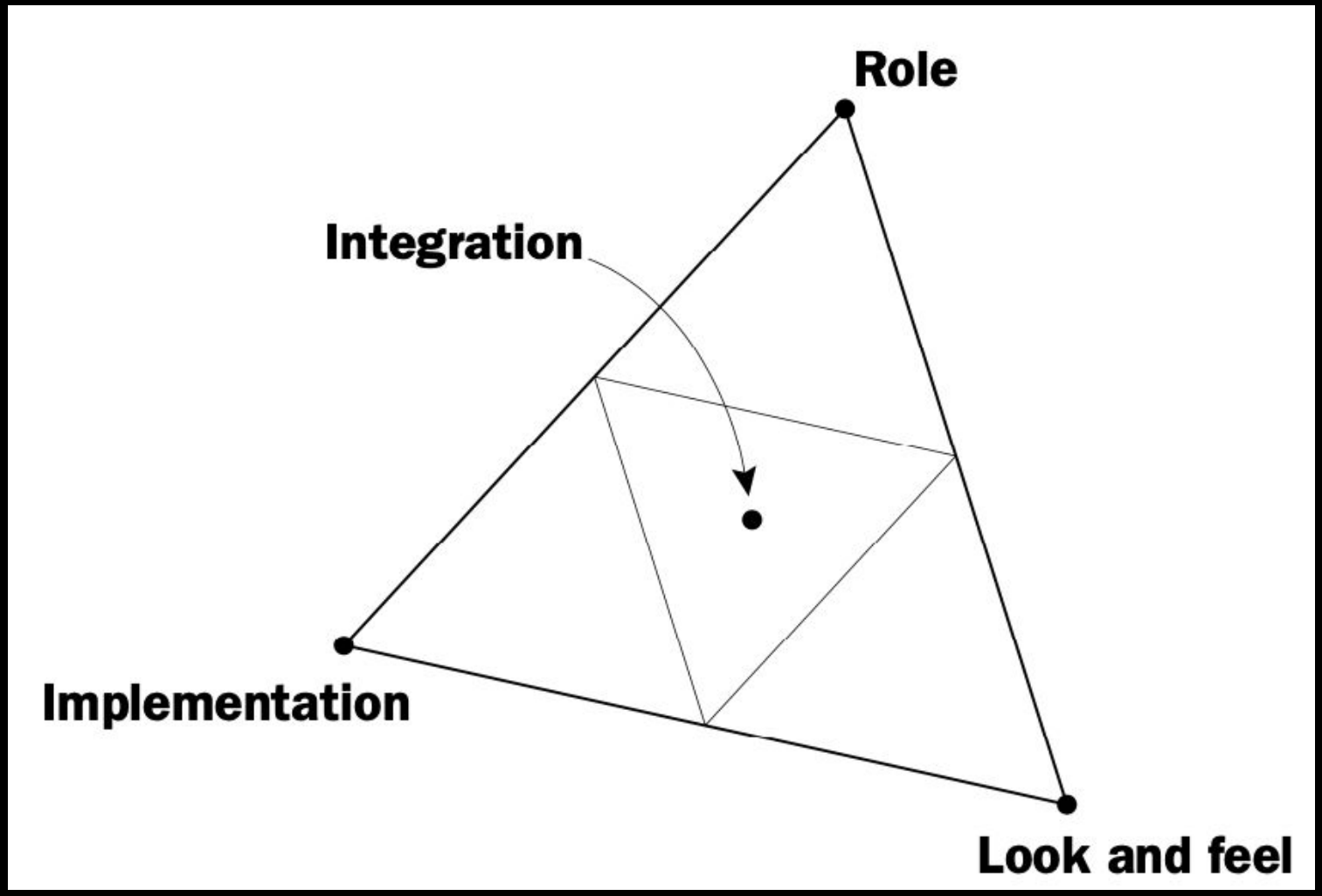
A tool for testing and evaluation (HCI)

PROTOTYPES

Any representation of a design idea, regardless of medium (Houde & Hill 1997)

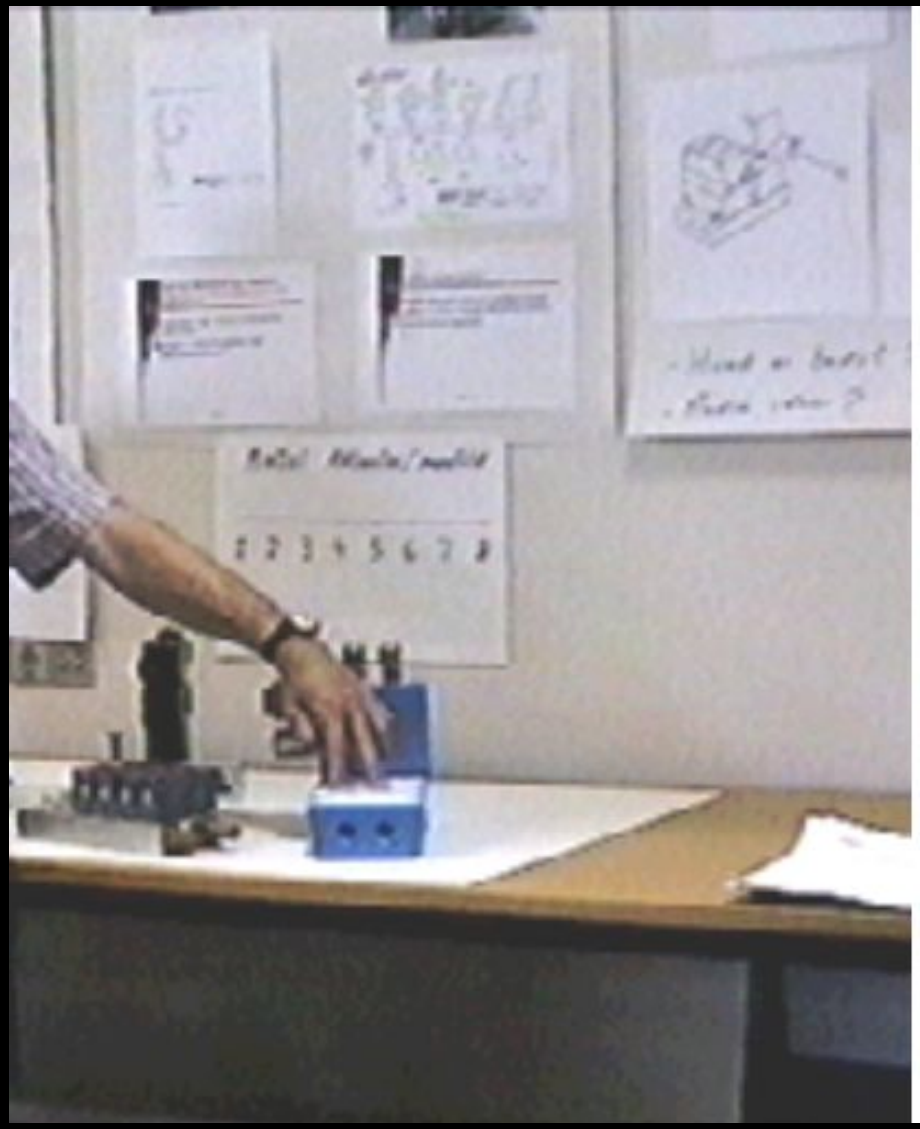

Ny tekstmelding
fra Harald:
God dag!

EVALUATION



What do prototypes prototype? (Houde & Hill 1997)

COMMUNICATION



LEARN

Things to think with

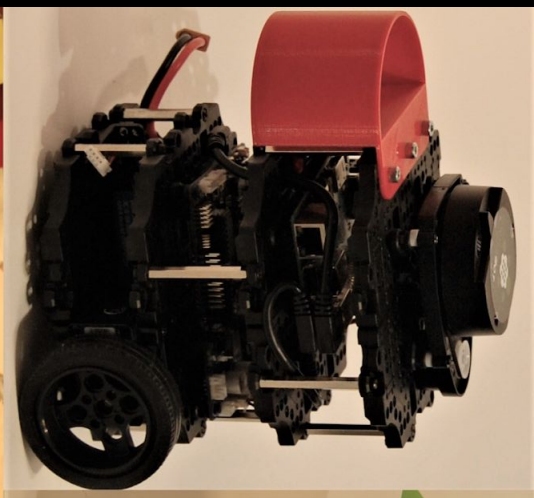
Experience with technology

Open up design space,
dismantle limitations, Generative

PROTOTYPING

Co-construction



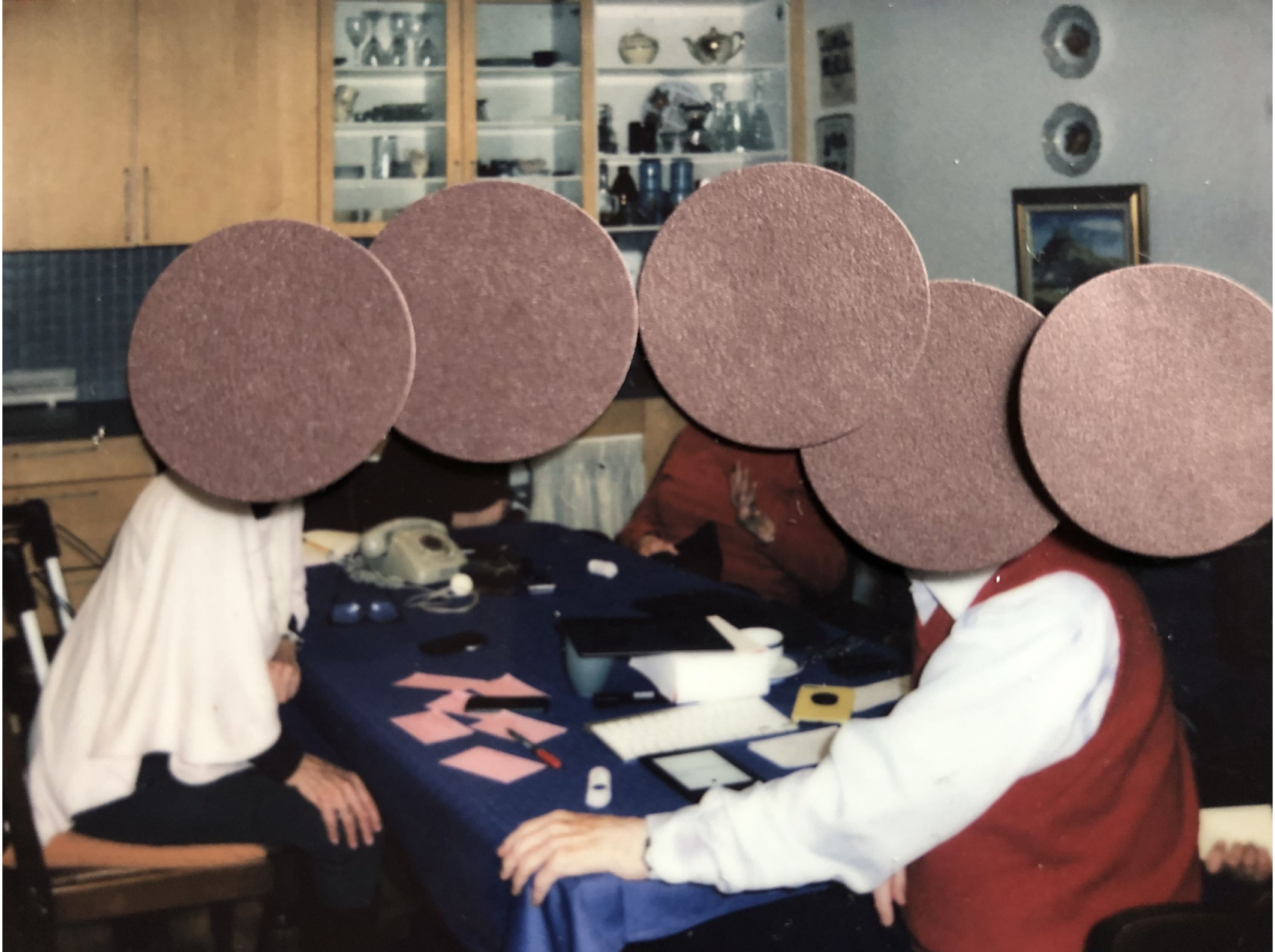









Master thesis example and experiences




En av Norges dyreste gater
rett inn i ubykkestoppen


Melding
Høre apparat + telefon
SNICKERS
SNICKERS


SONY


Du kan prøve å si
noe nå Kan jeg få
kaffekopper Ja men
fikk skrevet ned en


Ny tekstmelding
fra Harald:
God dag!

INDEPENDENT PROTOTYPES

Design work on their own terms
- “having a bad day”
- Time & energy

Experience and Mutual learning

Design decision competence

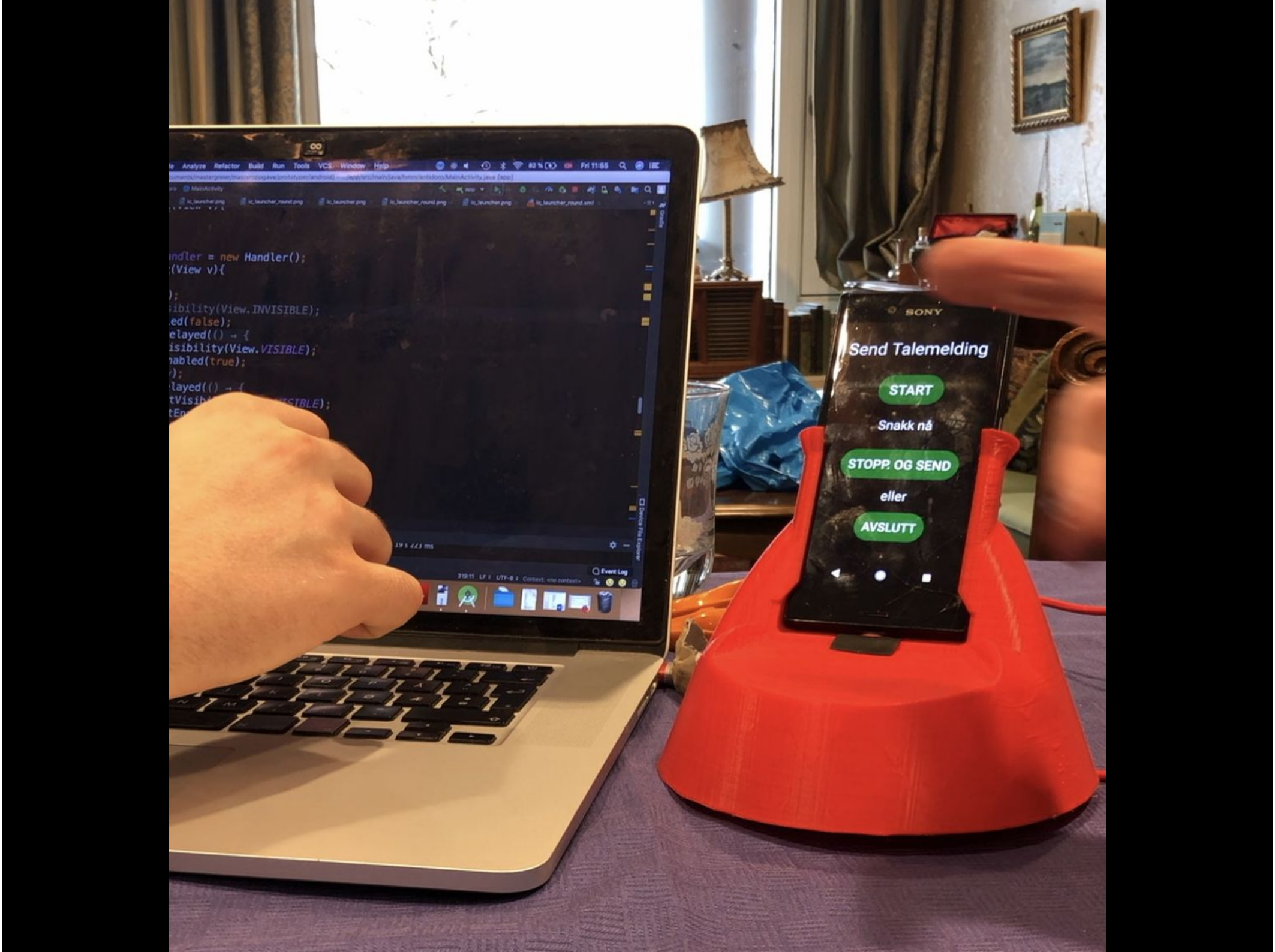
Having a say & co-construction

Power & Participation
- E.g. concrete design

SEND
Hans Moe
Beskjeden ble slettet.
LYTT

Sven Tonning


Start


SONY
Send Talemelding
START
Snakk nå
STOPP OG SEND
eller
AVSLUTT

Prototypes giving participants experience with their own design proposals

Power - having a say

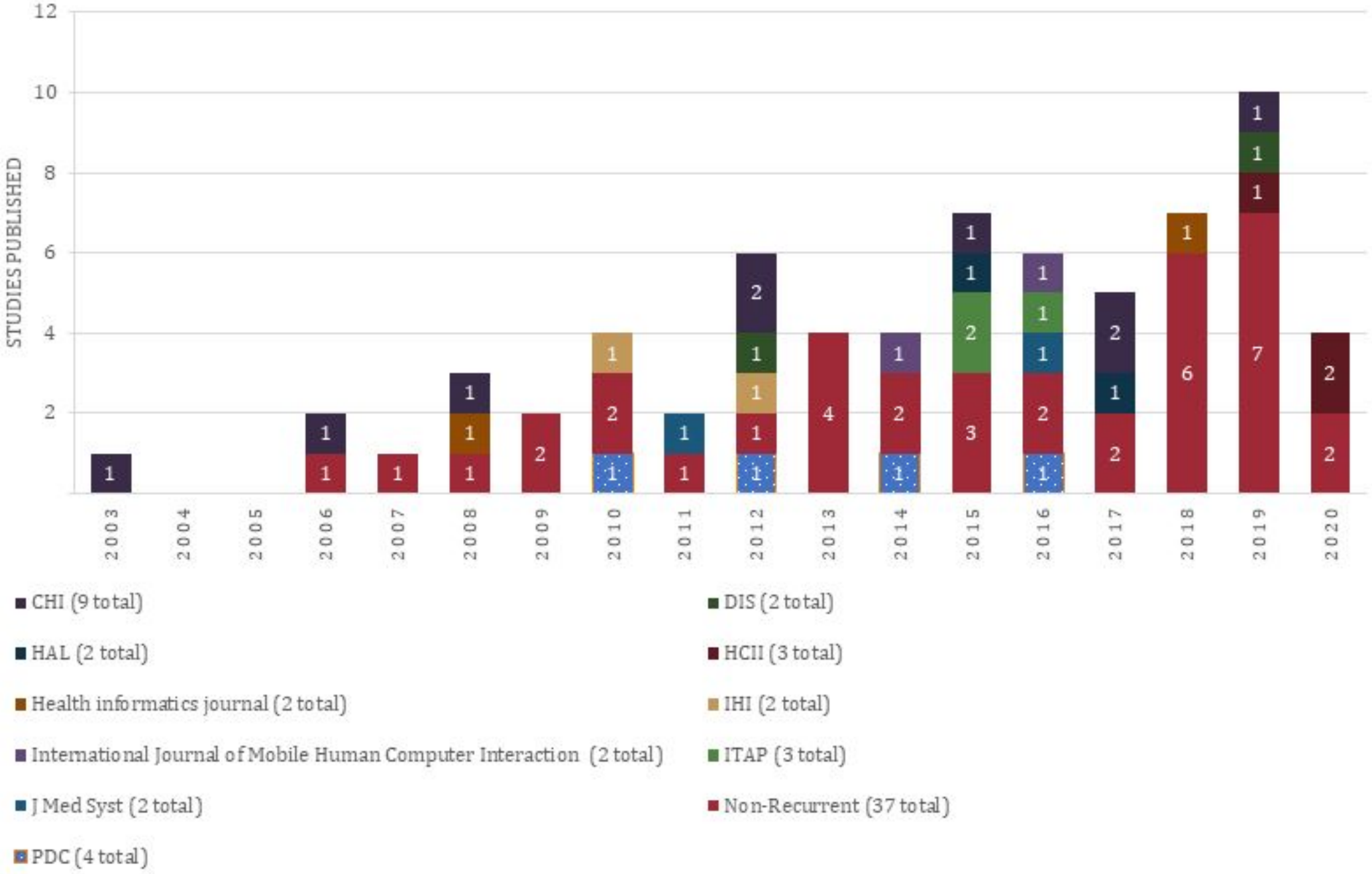
Demonstrating that they are valued and have influence

SLR

Use of Prototypes & Prototyping with older adults in PD

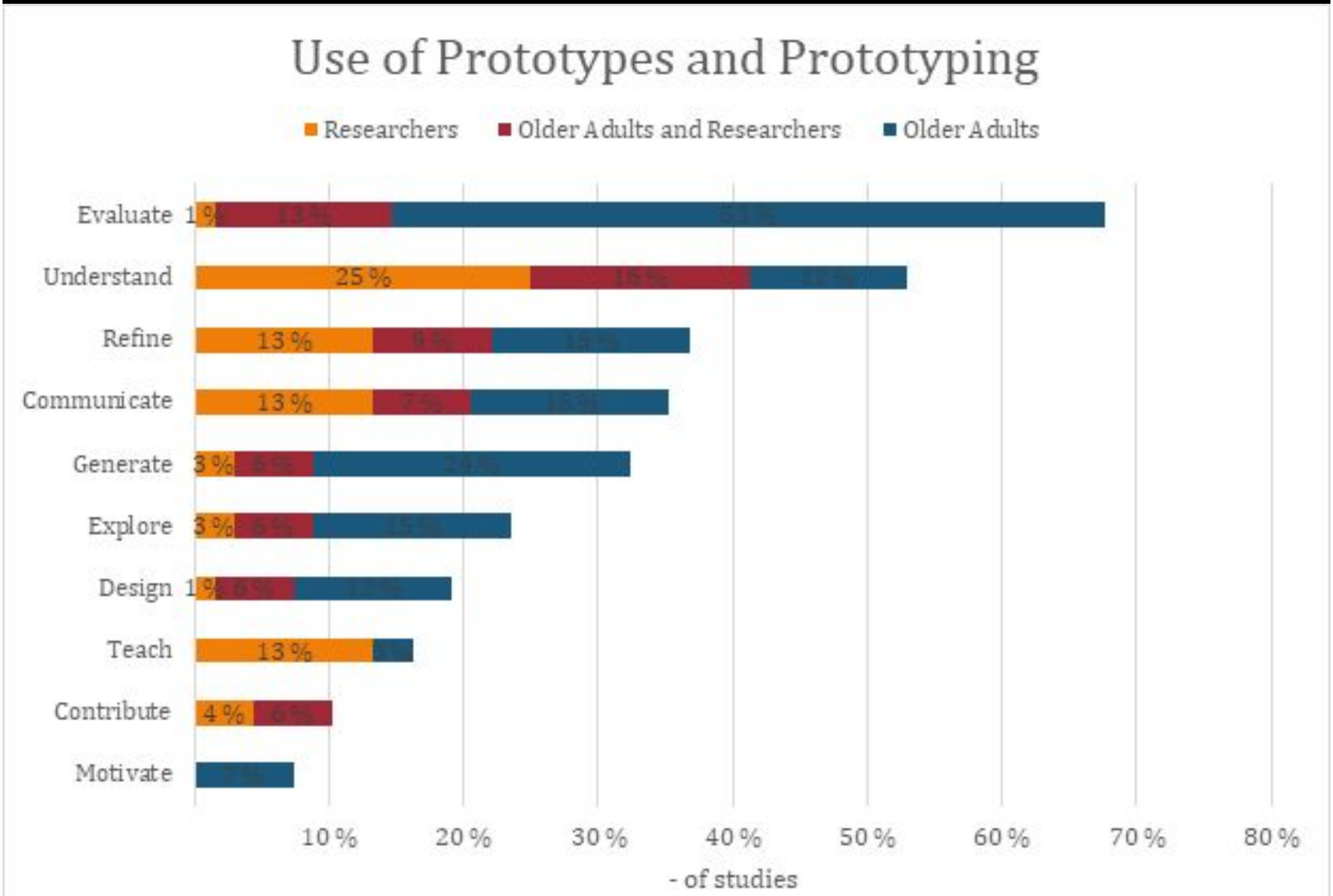
Search
1. Participatory Design
2. Prototypes or Prototyping
3. Older adults

INTEREST AND COMMUNITY



Refine	Converge, Adjust a precursor to a product
Evaluate	Feedback, Validate, Test, Verify, Criticize
Motivate	Induce enthusiasm, Inspire
Design	
Generate	Ideate, Inspire
Explore	Try out, Experiment
Teach	Demonstrate, Explain
Communicate	Articulate, Represent, Visualize, Clarify, Demonstrate
Understand	Investigate, Gain insight, Test, Experience, Think with
Contribute	Practical contribution, Research contribution

Reference	Refine	Evaluate	Motivate	Generate	Explore	Teach	Design	Communicate	Understand	Contribute
O. Nilsson et al., 2020	OA&R*	OA								
Fischer & Östlund, 2020	OA			OA						
Brookfield et al., 2020	OA		OA	OA&R			OA	OA&R	R	
Azevedo Gomes et al., 2020		OA		OA				OA		
van Velsen et al., 2019	R*	OA&R*			R		OA	OA	R	
Knowles et al., 2019		OA		R*		R				
King, 2019	OA	OA&R						OA	R	
Joshi, 2019	R	OA&R		OA	OA	R			OA&R	
Jean et al., 2019								R		
Harrington et al., 2019					OA&R			R		
Guerrero et al., 2019		OA				R				
Baker et al., 2019	OA	OA					R*	R		
Amado et al., 2019		OA		OA*						
Alexandrakis et al., 2019								OA		
Oude Weernink et al., 2018				OA				OA	R	
Maaß & Buchmüller, 2018	OA	OA		OA	OA	R		OA&R	R	
Lorraine James & Saville-Smith, 2018	OA	OA							OA*&R*	
Kopeć, Nielek, et al., 2018			OA		OA	R				
Kopeć, Kopeć, et al., 2018		OA								
Ferati et al., 2018	OA	OA							OA	
de Podestá Gaspar et al., 2018		OA&R		R					OA&R	
Sorgalla et al., 2017	OA&R	OA&R								
Richards, 2017			OA			R		R	OA	
Pontual Falcão et al., 2017	R	OA&R					OA&R		OA	
Lee et al., 2017		OA		OA	OA	R		R	OA&R	
L. M. Muriana & Hornung, 2017		OA	OA	OA	OA	R				
Verhoeven et al., 2016		OA					OA	R	R	
Sjölinder et al., 2016		OA					OA		R	
Nicol et al., 2016				OA		R	OA	OA	R	
Frennert & Östlund, 2016										
Duh et al., 2016	OA	OA		OA*					OA	
Cozza et al., 2016		OA		OA		OA			OA&R	
Widyanuri & Octavia, 2015	OA	OA								
Tsai et al., 2015							OA			
Sjölinder & Scandurra, 2015		OA								
Orso et al., 2015		OA								
Müller et al., 2015		OA								
Lumsden et al., 2015								OA	OA	
Coelho et al., 2015		OA								
Subasi et al., 2014									R	
Rodil et al., 2014		R			OA&R	OA		OA		
Lumsden et al., 2014	OA			OA	OA				OA	
Alaoui & Lewkowicz, 2014	R	OA&R								
J. Davidson & Jensen, 2013								OA&R*	R	
Grönvall et al., 2013					OA					OA&R
Byrne et al., 2013									OA&R	
Botero & Hyysalo, 2013	OA&R*	OA		OA&R	OA		OA&R	OA	OA&R	
Taylor et al., 2012		OA							R	R
Rodil et al., 2012		OA		OA			OA&R	OA&R	R	
Lindsay et al., 2012				OA&R	OA			OA	OA&R	
J. L. Davidson, 2012									R	OA&R
Briggs et al., 2012		OA		OA	OA					
Alaoui et al., 2012	R	OA&R						R	OA	
Siek et al., 2011	R	OA							R	
Menschner et al., 2011		OA								R
Khan et al., 2010	OA&R	OA							R	R
Bowen et al., 2010									OA&R	
Batu Salman et al., 2010	R	OA					OA			
Alm, 2010	OA&R	OA								
Robinson et al., 2009	OA&R	OA							R	
Blythe et al., 2009	R			OA&R	OA&R				OA&R	
Vimarlund et al., 2008		OA						R		OA&R
Rice & Alm, 2008	R	OA	OA	OA	OA&R				R	
Ballegaard et al., 2008		OA					OA&R			
Massimi et al., 2007		OA					OA	R	OA&R	
Vanden Abeele & Van Rompaey, 2006								OA&R		
Stephens et al., 2006		OA								
M. Nilsson et al., 2003		OA&R		OA	R				OA	OA&R


Use of Prototypes and Prototyping
Researchers
Older Adults and Researchers
Older Adults
Evaluate
Understand
Refine
Communicate
Generate
Explore
Design
Teach
Contribute
Motivate
25 %
13 %
13 %
3 %
3 %
1 %
13 %
4 %
10 %
20 %
30 %
40 %
50 %
60 %
70 %
80 %
- of studies

	Refine	Evaluate	Motivate	Generate	Explore	Teach	Design	Communicate	Understand	Contribute
Refine	1,000	0,267	0,019	0,059	0,080	-0,169	0,095	-0,116	0,230	-0,158
Evaluate	0,267	1,000	-0,166	0,008	-0,061	0,048	0,096	-0,213	-0,085	0,027
Motivate	0,019	-0,166	1,000	0,166	0,242	0,335	0,006	0,028	0,040	-0,095
Generate	0,059	0,008	0,166	1,000	0,432	0,294	-0,016	0,081	0,274	-0,131
Explore	0,080	-0,061	0,242	0,432	1,000	0,321	-0,093	0,098	0,106	0,040
Teach	-0,169	0,048	0,335	0,294	0,321	1,000	-0,112	0,093	0,014	-0,149
Design	0,095	0,096	0,006	-0,016	-0,093	-0,112	1,000	0,267	0,159	-0,165
Communicate	-0,116	-0,213	0,028	0,081	0,098	0,093	0,267	1,000	0,203	-0,149
Understand	0,230	-0,085	0,040	0,274	0,106	0,014	0,159	0,203	1,000	0,029
Contribute	-0,158	0,027	-0,095	-0,131	0,040	-0,149	-0,165	-0,149	0,029	1,000

Component Matrix[a]				
	Component			
	1	2	3	4
Refine		0,590	0,564	
Evaluate	-0,188	0,247	0,663	-0,267
Motivate	0,554	-0,198		-0,237
Generate	0,707		0,236	0,162
Explore	0,687	-0,161	0,237	0,221
Teach	0,640	-0,333		-0,339
Design		0,674	-0,288	-0,207
Communicate	0,342	0,319	-0,650	
Understand	0,372	0,510		0,549
Contribute	-0,258	-0,340	0,104	0,689

CHALLENGES

VMS not used much at home

Prototypes perceived as homework/tasks where I knew they answer and they had to get it right

No robots built until the role was established (see article)