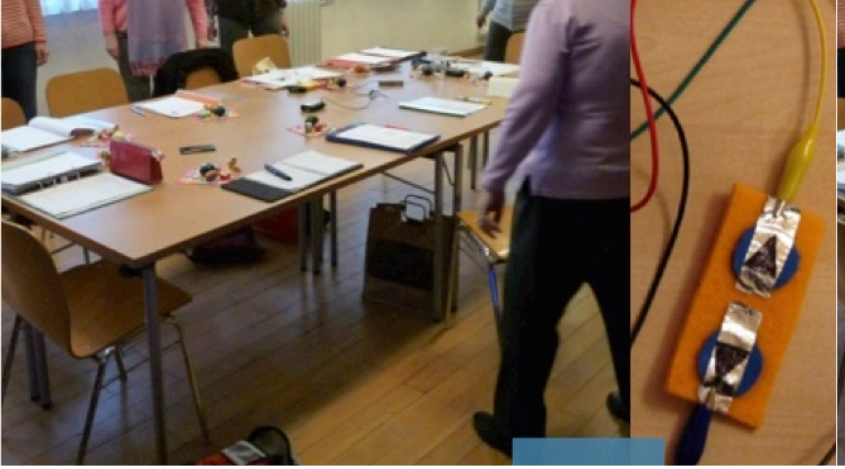
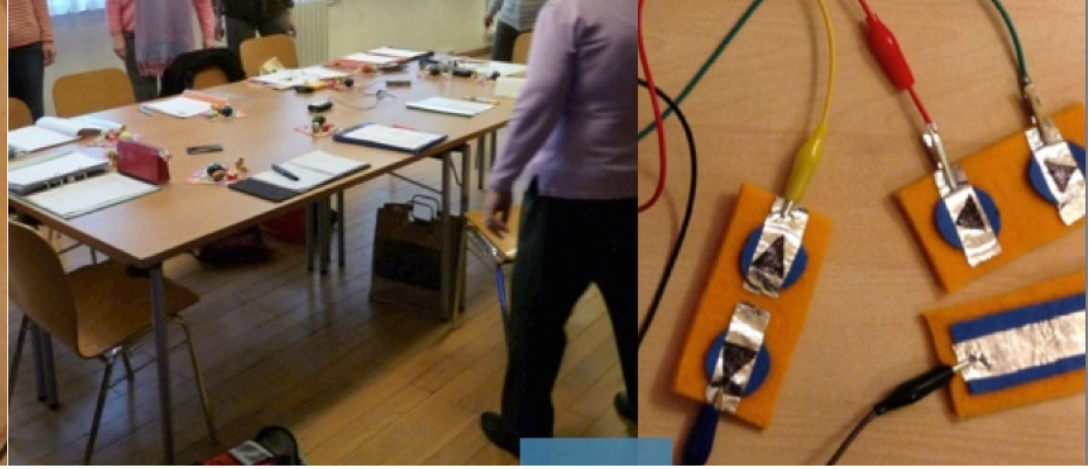




Responsible design/ers – inscribing futures

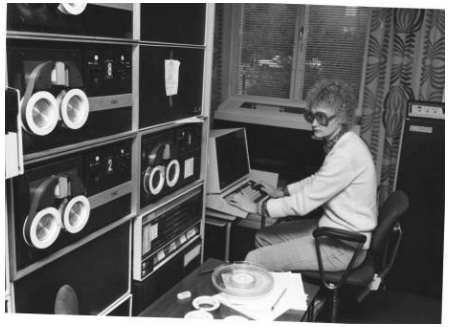
Geraldine Fitzpatrick

HCI Group, Institute for Design and Assessment of Technology
Vienna University of Technology

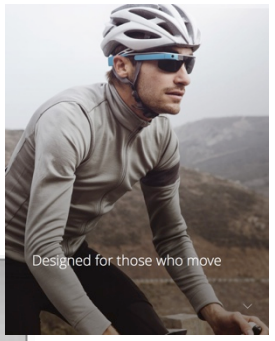
Photos courtesy Boris Markovic

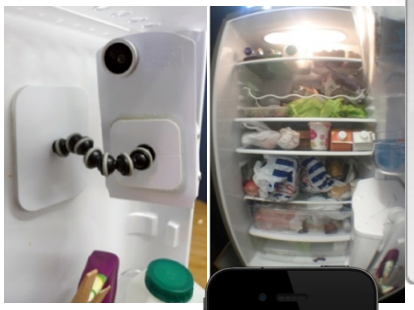
Expanding Scope of 'Human Computer Interaction' Concerns

Courtesy of Christina Mortberg, Uni of Oslo



HUMAN-COMPUTER INTERACTION





BEING HUMAN

HUMAN-COMPUTER INTERACTION IN THE YEAR 2020

Interaction paradigm

Practice paradigm

http://www.google.com/glass/start/what-it-does/;

A Responsible design approach?

Top-Down

Policy, accountability, organisational/societal change agendas

Middle-Out

Putting technologies & policies to work in everyday practice

Responsible design of enabling infrastructures

for ongoing co-evolution

Bottom-Up

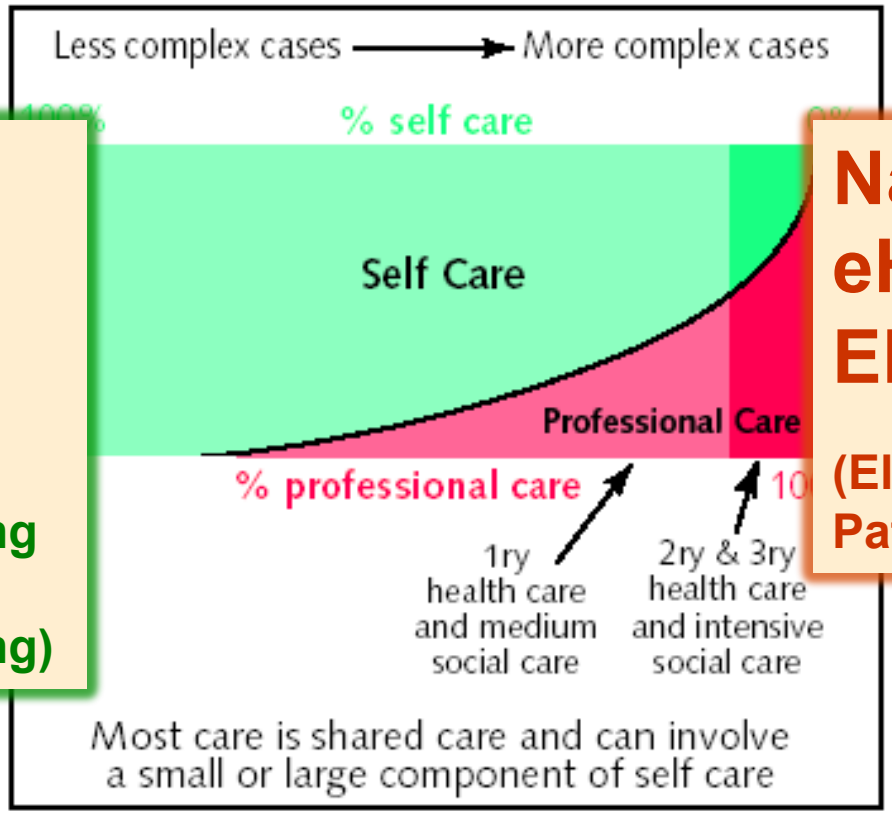
Interactions with systems in situated contexts

Responsible care

- AAL/telecare systems

Large scale IT/policy initiatives to meet healthcare challenges

Everyday life — At 'home' — In the community — In hospital / institution



mHealth Telecare AAL

(Ambient Assisted Living Active & Assisted Living)

National eHealth – EPRs

(Electronic Patient Records)

Health & Wellbeing — Chronic care — Acute care

http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4101702.pdf

AAL AUSTRIA
Innovationsplattform für intelligente Assistenz im Alltag

Login

HOME | ÜBER AAL AUSTRIA | ARBEITSKREISE | DOWNLOADS | SUMMIT 2014

Warum AAL AUSTRIA?

Auf Initiative des Bundesministeriums für Verkehr, Innovation und Technologie wurde im April 2012 die Plattform AAL AUSTRIA gegründet, mit dem Ziel, den Aufbau einer Ambient Assisted Living-Community in Österreich zu etablieren, das Zusammenführen von Anbietern und Anwendern/-innen zu fördern und einen effizienten Erfahrungsaustausch zwischen den Stakeholdern zu erreichen.

News

- Wie wollen wir (bzw. unsere Kinder und Enkel) im Alter leben? JETZT ABSTIMMEN! - Die Ergebnisse der...
- IntegrAAL widmet sich AAL-Testregionen in Österreich - Das Projekt IntegrAAL entwickelt einen Leitfaden...
- First International Symposium on "Soft Robotics", 23-24 June - The research areas as well as the knowledge...
- AAL Jobbörse - Das AIT (Austrian Institute for Technology) sucht zur Verstärkung des Teams im Department...

Termine

Weitere

3.06.2014 all day-5.06.2014
Uppsala Health Summit

3.06.2014 all day-7.06.2014
AUTOMATICA 2014
München, Deutschland

11.06.2014 all day-12.06.2014
ASSTeH - Austrian Scientific Society for Telemedicine and eHealth

zum Kalender

3millionlives
Improving your access to telehealth and telecare

About 3millionlives | About Telecare & Telehealth | Get involved | Resources | Contact Us

<http://3millionlives.co.uk>

CCG Potential Cost Savings

At the recent NHS Innovations Expo, 3millionlives featured a summary of the potential cost savings that CCG's could

Help for Health and Social Care Services

Health and Social Care organisations considering commissioning a Telehealth, Telecare or Telecoaching

3millionlives - NHS England Vision Statement

NHS England have issued their vision statement for 3millionlives. This statement reflects the importance of

NHS Dorset Clinical Commissioning Group Telehealth Case Studies

NHS Dorset Clinical Commissioning Group have provided a number of case studies and patient

Despite huge Investments in Telecare/AAL … experiences

Service implementation challenge

Not just tech but processes, roles, responsibilities…

To establish in the first place:

Eg Design of a COPD telehealth trial [Fitzsimmons et al, Jan 2011]

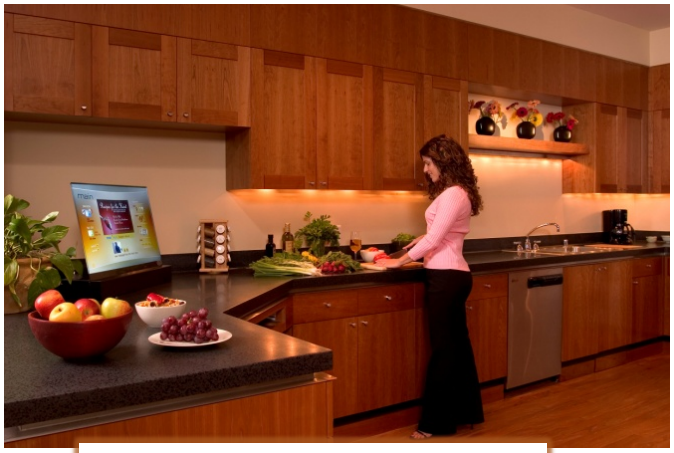
Required new arrangements between local authority & health care agency

To run in practice:

Eg Running a COPD telehealth trial [Sharma & Clarke 2014]

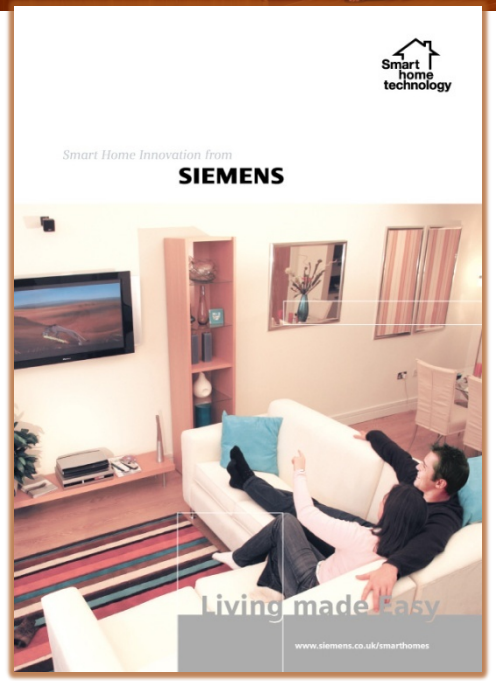
Nurses & community support workers' experience of telehealth as disruptive and threatening

Case 1: Whose homes are these technologies for?



Kitchen

↬ bathroom



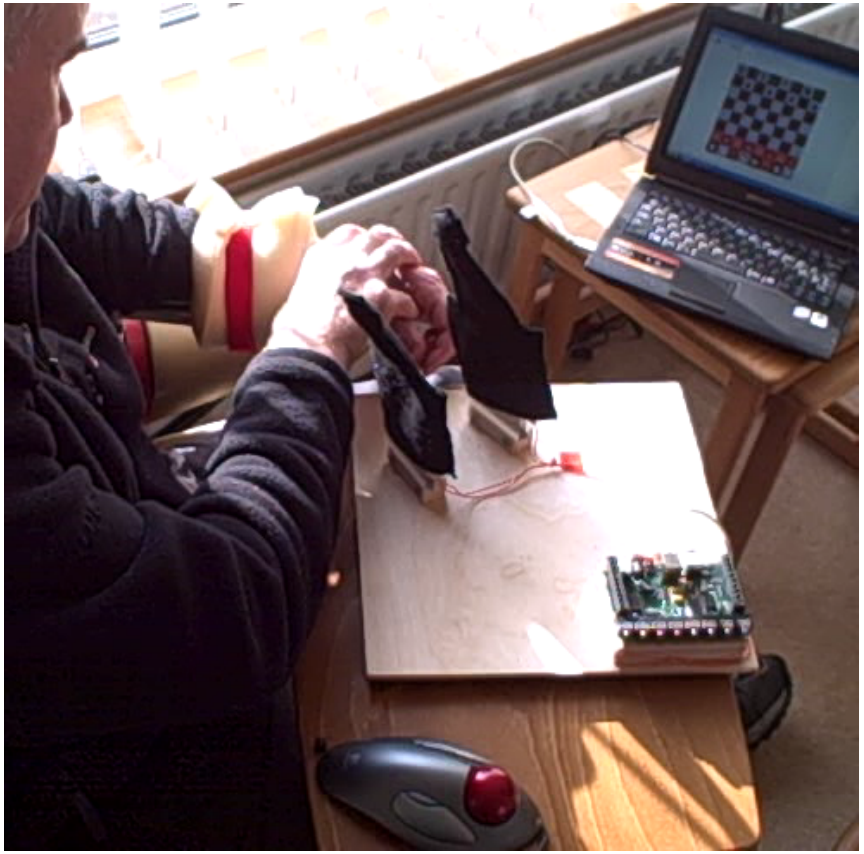
Sam's house

Sitting room

↬ bedroom

[Motivating Mobility project: Fitzpatrick, Axelrod, Balaam, et al]

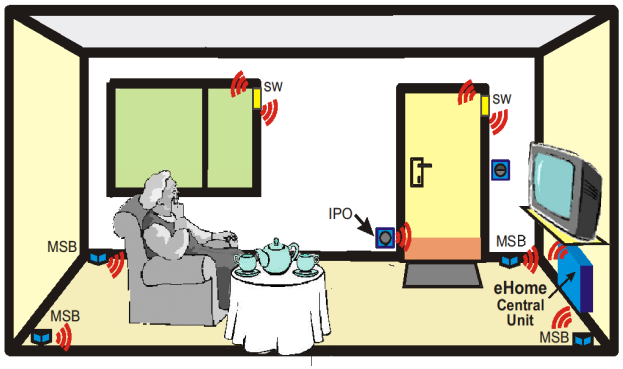
Who is being designed for or 'with'?



Home as a shared contended space
Autonomy vs control

eHome System

Case 2: Interpreting eHome AAL data?



[eHome project: M. Rauhala, W. Zagler, W. Hlauschek et al]

Making sense of everyday activities of life?

Disembodied

De-contextualised

De-personalised

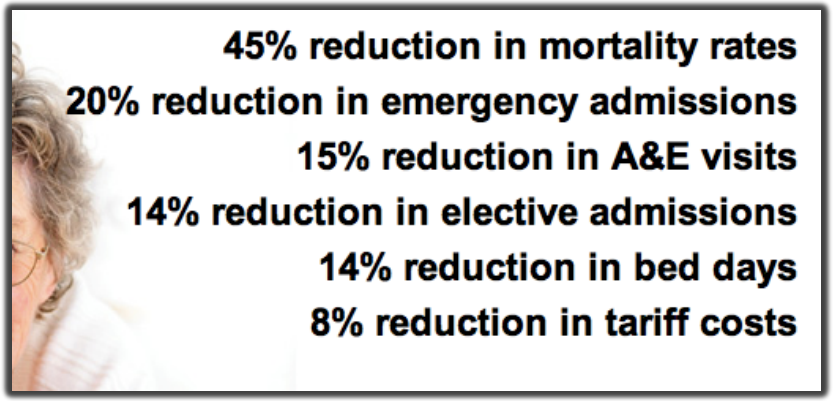
What outcomes and for whom?

Weak evidence base weak

2011 systematic review: of 1835 initial articles, 74 included in review; only 4 ran trials with >20 people
[Brownsell et al, 2011]

Service-oriented outcomes

Eg UK Whole Systems Demonstrator [Steventon et al 2012]



[But contested eg critiques of study design and cost]

Experiences of older people?

Acceptance challenge of telehealth and telecare
works for some but certainly not all

Barriers to participation and adoption [eg Sanders et al 2012; Draper & Sorell 2012]

- Perceived lack of technical competence,
- Threats to identity and independence,
- Concerns about disruptions to existing care services

"Not for me"

Experiences with the technology [eg Procter et al 2014]

- Medical appearances of devices
- Carry stigma attached to old age
- Need to alter daily routines
- Pragmatic adaptations

[Images: Fitzpatrick; Docobo; Ballegaard et al 08]

Photo courtesy of Stinne Aaløkke

How are technologies (inadvertently?) inscribing age, home, care?

Aging as physiological decline

- Costly healthcare problem

Home as extension to hospital

- Isolated, lonely, confined within home walls

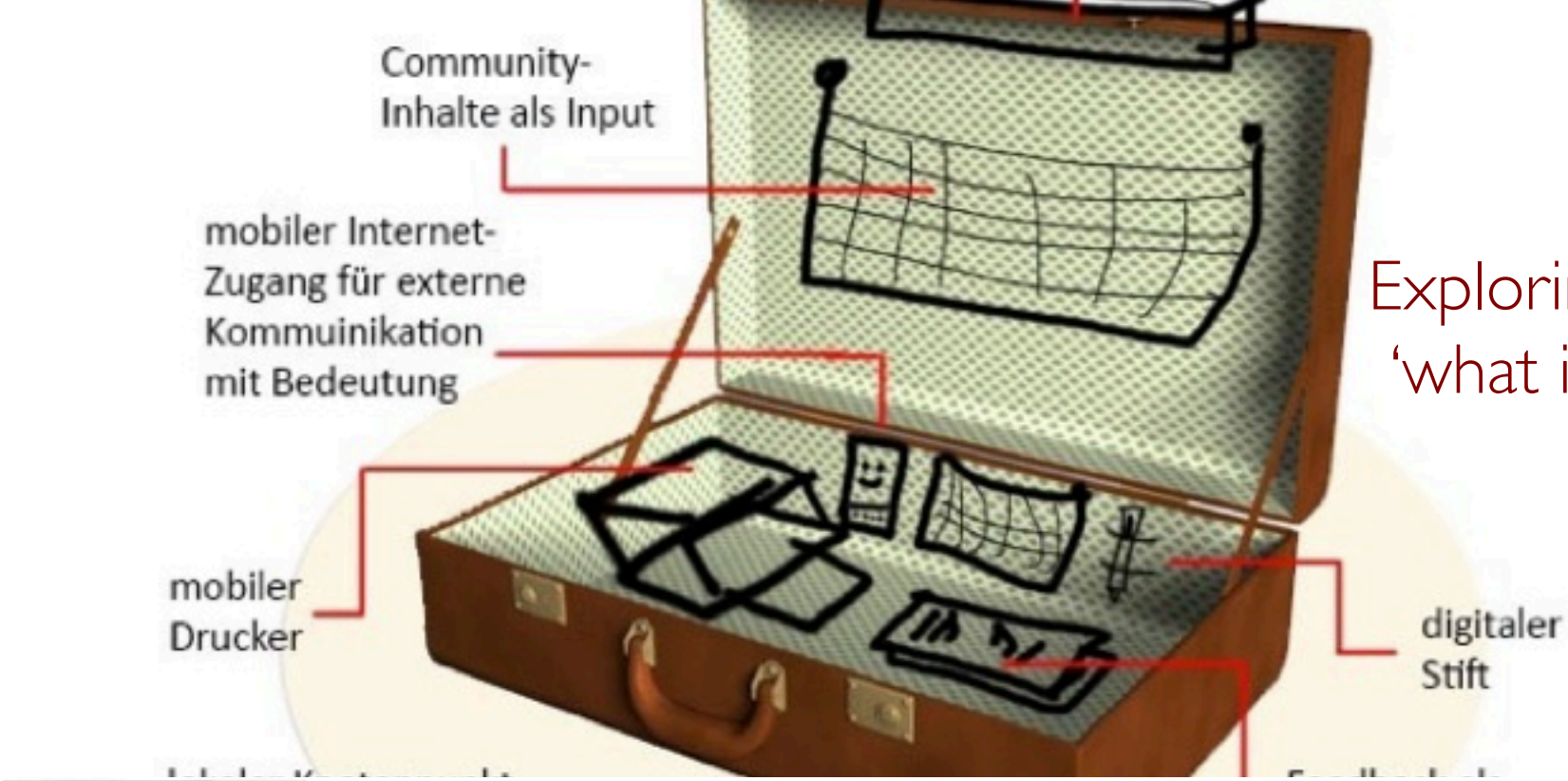
Technological vision of care

- Goal – absence of alerts, reduced service use, etc

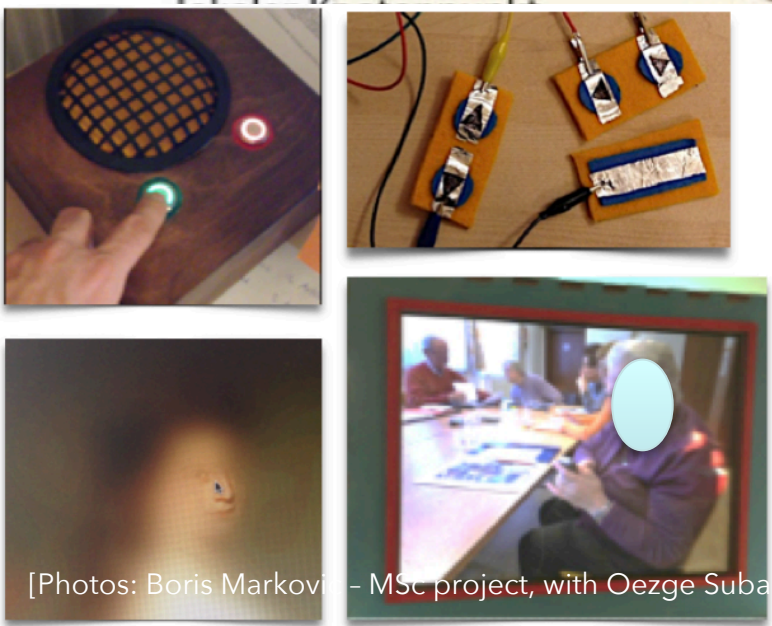
The monitored life worth living?

“And I’ll get old later but on my terms if I can keep learning and adapting and if we can keep compensating for the things that happen” [Jim]

Photo: Fitzpatrick (c)



Exploring values ‘what is for me’



[Photos: Boris Markovi – MSc project, with Oezge Suba

Embracing a 'middle out practice' perspective for AAL?

Re-thinking stakeholders, drivers, roles for tech

Everyday life practices
… habits, routines, values

&

Everyday org/work practices
…service re-design

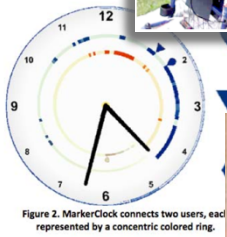
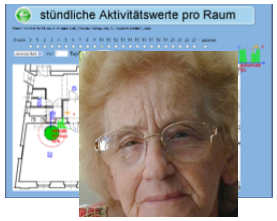


Figure 2. MarkerClock connects two users, eac
represented by a concentric colored ring.

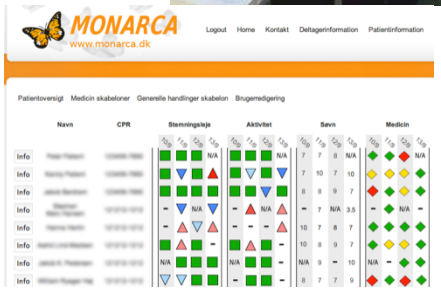
Self / peer care

AAL/telehealth



~~Passive monitoring~~
~~Reactive care~~

Professional care



Tools for active appropriation
Social engagement… GIVE & TAKE

Tools for collaborative sensemaking, new roles

[Yann Riche – Marker Clock; Nazzi & Sokoler – instrumented rollator]

[EU MONARCA project: Frost et al, under review 2014]

Responsible sustainability
- The case of food waste

Current approaches to motivation & behaviour change

Policy

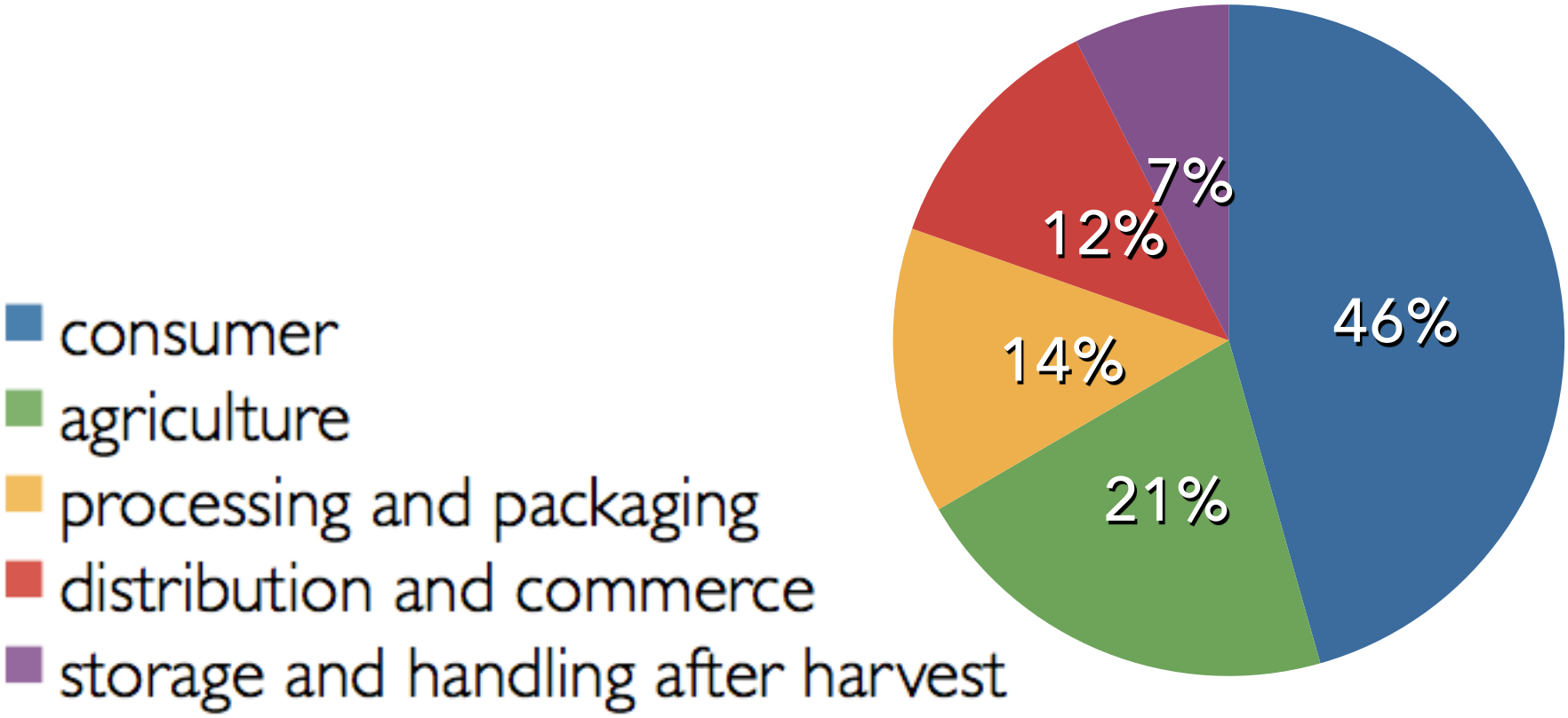
Individualistic, rationalistic

Behaviour

Design

[Ubifit - Consolvo et al 2008]

Food wasted – 1/3-1/2 in industrial countries (Germany)



Gustavsson J., Cederberg, C., and Sonesson, U. 2011. Cutting food waste to feed the world global food losses and food waste, United Nations Food and Agriculture Organisation.

Understand mundane everyday practices around food and wasted food

Interviews & home tours in 14 households (Austria & UK)

- Practices around food and wasted food
- Values and key aspects in sourcing food
- Why food gets spoiled in the end

[Eva Ganglbauer –PhD work]

Technology Probe

Fridge cam

Picture taken by cam

Hutchinson et al., 2003. Technology probes: Inspiring design for and with families. In Proc. of CHI'03. ACM Press, New York, 17–24.

Findings – intention-behaviour gap!

Evans, D. 2012. Beyond the throwaway society: Ordinary domestic practice and a sociological approach to household food. European *J. of Sociology. 46*, 1, 41–56.

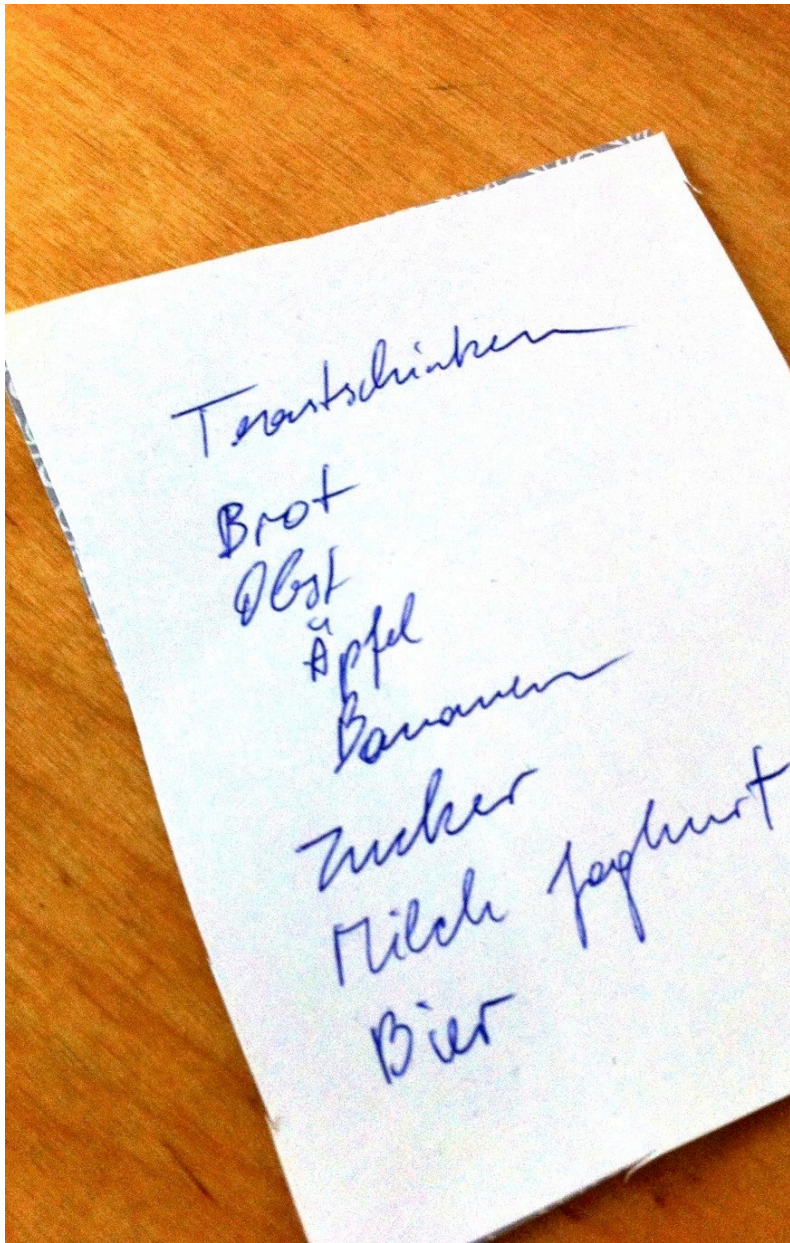
Temporal & social organisation of everyday life

"Well you never know what there is exactly in the fridge.

So shopping is nothing that is a planned act.

If there is time after work one grabs something."

(Wilma)



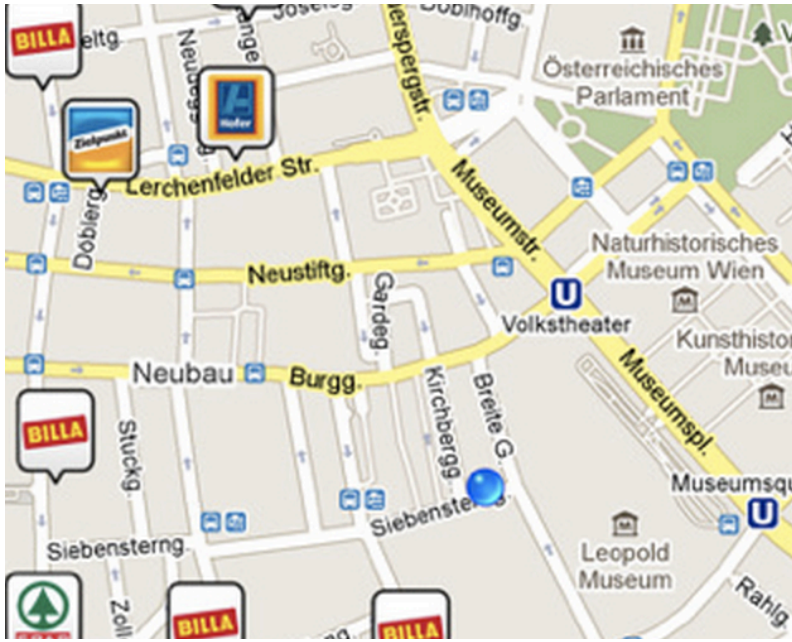
Issues

- Planned/coordinated… or not
- Opportunistic shopping
- Unpredictability of social life, family needs

Geographical & spatial organisation of everyday life

"Luckily there are many food retailers around the corner"

(Sandra)



Issues

- Access & transportation
- Available space storage

Material organisation of everyday life

"Well if I can have a big package for a little more money, why should I buy the smaller one?

But in the end, if I throw away the rest of it, it doesn't add up, so this [buying big packages] is nonsense then."

(Susanna)

Issues:

- Balancing the budget
- The trap of big packages

Rituals & strategies

"There is a ritual that [. . .] I free them [the cereals] from their packaging and put them into big glass jars. It also looks more fancy that way. [. . .]

I do that deliberately to have a better overview of what I have."

(Susanna)

Positive strategies

- Creating visibility
- Creative cooking

Negotiating everyday practices

Food waste as…

Unintended/unwanted outcome of negotiations between practices

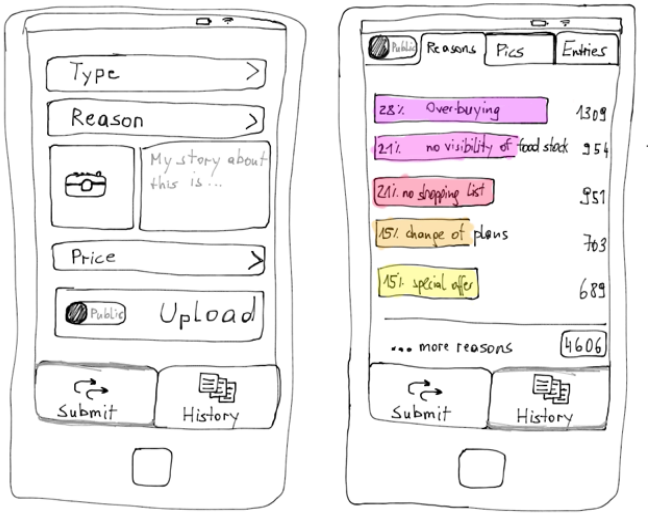
deeply embedded in everyday social, spatial, cultural and practical contexts [Blake 1999]

Not all within direct control

Ganglbauer, E. et al. 2013. From gardens to fridges: Negotiating food waste using a practice lens to inform design. In TOCHI

Supporting awareness & reflection on everyday practices

…Designing & evaluating a ‘food waste’ diary



Distributed via app stores

~1000 entries logged - currently being evaluated

From individuals/households to local communities…

…to shared-interest communities

… and social movements

Connect together people …

who can share strategies,

stories, food, resources,

values and campaigns.

Support social movements …

"Foodsharing *connects people* with each other – and this is the *basis for all other changes*. Foodsharing raises awareness, and *awareness is the key*."

[Hannah]

Ganglbauer, E. et al. 2014. Think globally, act locally: a case study of a free food sharing community and social networking In Proc of CSCW 2014, 911–921.

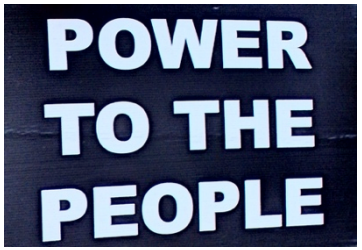
Embracing a 'middle out practice' perspective for food waste?

Beyond the individual
- re-thinking levels of engagement & spheres of control and influence…

Everyday life practices
… habits, routines, values

Embedded in

Everyday spaces &
politics & infrastructures



Beyond the individual
& 'behaviour' change…

to enabling communities…

and activism…

[CC:Flickr:otto-yamamoto]

Responsible design/ers

- Inscribing futures

Moving to a middle-out approach?

Top-Down

Policy, accountability, organisational/societal agendas

Middle-Out

Putting technologies & policies to work in everyday practices

Responsible design of enabling infrastructures

for ongoing co-evolution

Bottom-Up

Interactions with systems in situated contexts

Practice Paradigm

- Beyond the individual … to social, collective, pragmatic organisation of practices in everyday life
  - Real life as it unfolds
  - Situated in time and space
  - Diverse people, situations, experiences
  - Negotiations across multiple practices, stakeholders etc
- Technology just one aspect
  - Impacts of technology not given but a practical achievement
    - through being co-adapted, appropriated, put to work

Designers reflective about our own practices?

What futures are we ascribing by design? Whose voices, values? etc

Evolving methods to engage in 'middle out'?

- Understanding:
  - Broadening 'unit of analysis', stakeholders
  - Negotiating diverse values, drivers
  - Engaging with scale and 'larger' change processes

- Designing:
  - Focus on designing 'being human' (work, life, play) not technology
  - Smaller scale cycles, agile methods… learn by doing, reflecting

- Evaluating:
  - Not reifying technology or assuming 'fixed state'
  - Interpreting outcomes as *practical achievements in specific contexts*
  - Unpacking social/contextual processes and conditions

Thank you

Discussion? Comments?