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Isolation and social exclusion: how can technology help?

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What have we been doing?

1. CUHTEC Advanced Telecare Users Group

A telecare model

(What these guys are doing successfully right now)

2. An ethnographic study involving older people and the professionals who have to look after them when things go wrong.

(What technology should not do)

3. Combating loneliness and social isolation

(What technology might do)

CUHTEC Advanced Telecare Users Group Telecare Model

Services to the client that technology can provide

Mobility
Remote control
Prompting

Reassurance / Safety / Response
Security

Automated remote diagnosis
Remote treatment

Mobility

(Assistance with activities of daily living, "stand alone technology")

Remote control

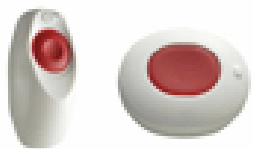**Prompting**

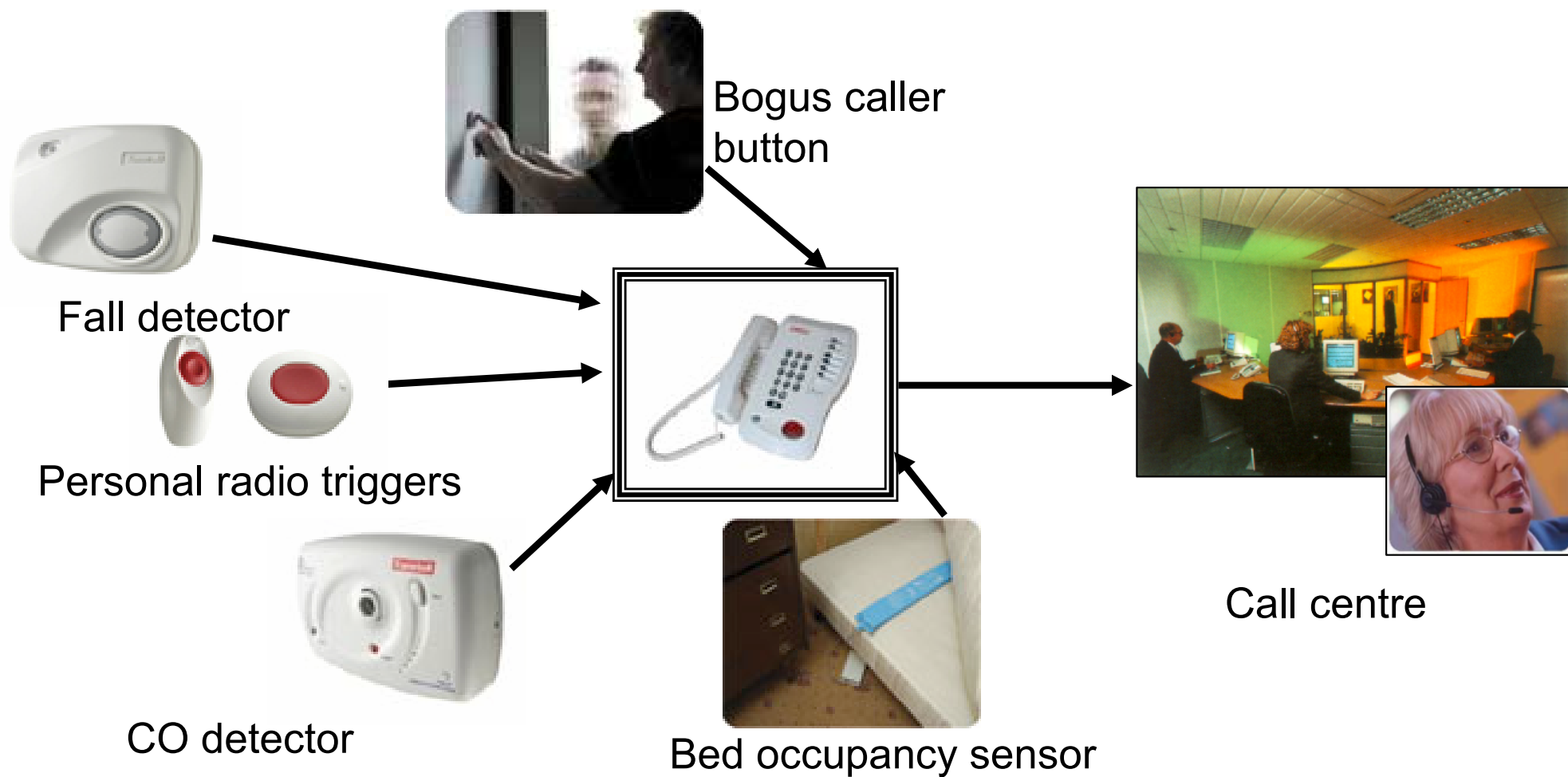# The community alarm service (Lifeline)
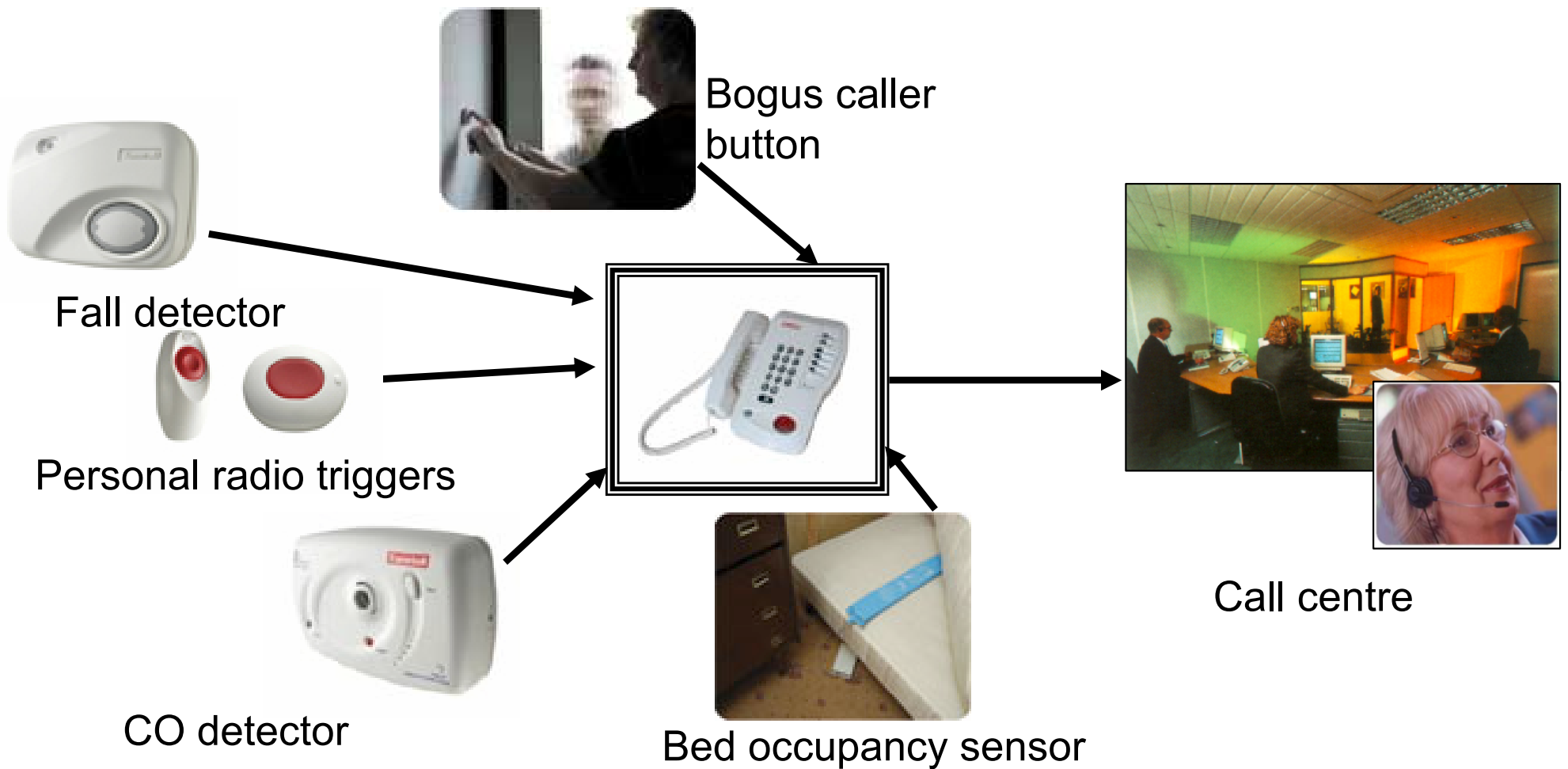
Personal radio triggers

"Carephone"

Call centre

Telecare - The preventative technology grant

£80m in England, 2006-2008, allocated to Local Councils by formula.

Bogus caller button

Fall detector

Personal radio triggers

CO detector

Bed occupancy sensor

Call centre

Reassurance / Safety / Response

Security

Bogus caller button

Fall detector

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CO detector

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Call centre
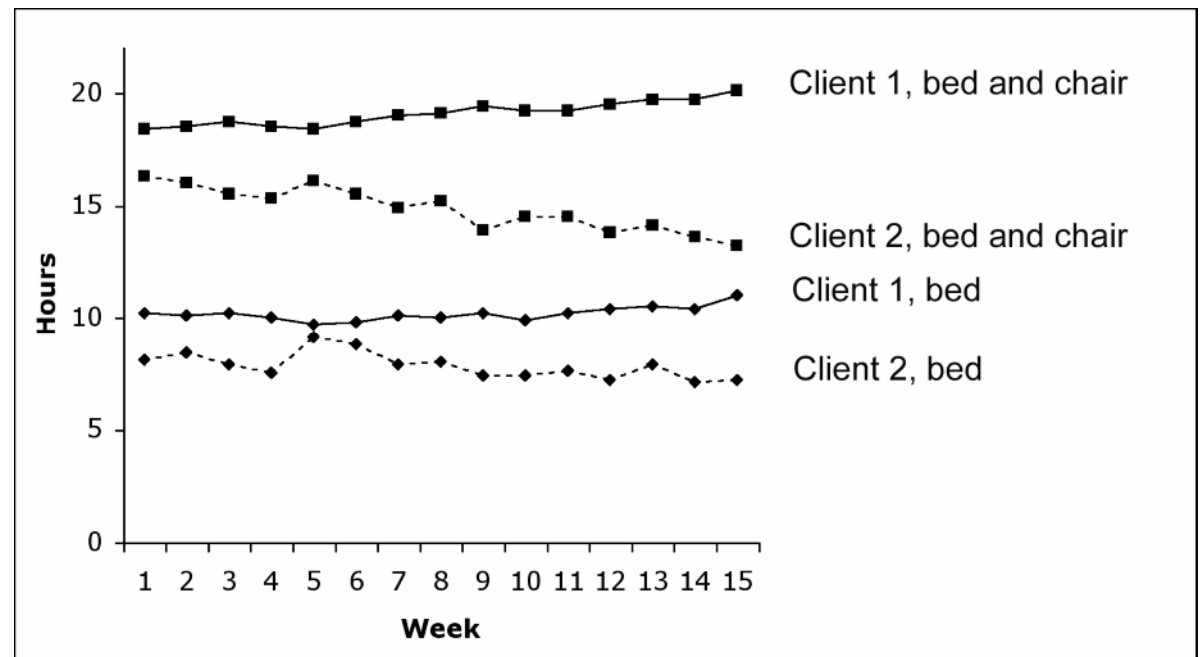
Telecare: Activity ("Lifestyle") monitoring
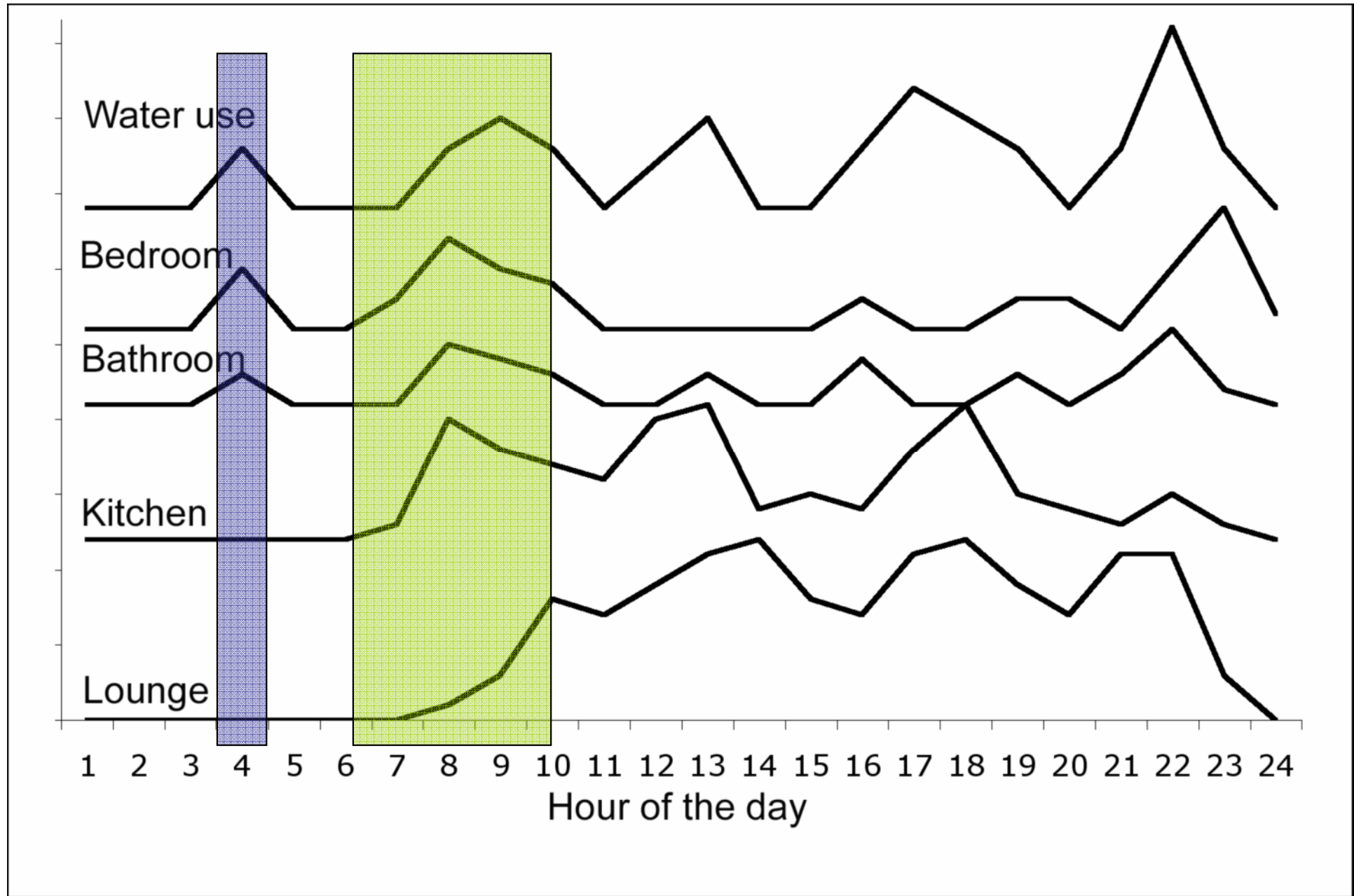
Activity monitoring for diagnostic purposes

Automated remote diagnosis

Remote treatment

CUHTEC Advanced Telecare Users Group Telecare Model

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Baxter, G. Bayliss, C., Daniels, J., Doughty, K., Jones, M., Little, J. Lowe, C. McAllister, L., Mills, P., Monk, A., Taylor, B. and Ward, D. (2005) Making the case for telecare services, Poster presented at the Accessible Design in the Digital World Conference, held in Dundee, Scotland, 23-25 August, 2005

2. An ethnographic study involving older people and the professionals who have to look after them when things go wrong.

(What technology should not do)

Blythe, M., Monk, A.F. and Doughty, K. (2005) Socially Dependable Design: The Challenge of Ageing Populations for HCI, *Interacting with Computers*, 17, 672-689.

Blythe, M., Monk, A.F. and Doughty, K. (2005)

WHAT SHOULD TECHNOLOGY <u>NOT</u> DO FOR OLDER PEOPLE?

It should not stigmatize the user through poor design

• The objects in your home all say something about you.

• Existing equipment was developed from medical technology but we do not want our homes to look like hospitals or factories.

It should not reduce the freedom to choose between evils

• Care professionals - "non-compliance".

• Older person - balancing risks.

It should not obscure issues of privacy, informed consent and responsibility

• Does the user understand the nature of the data going out of the house

• Does the user understand who sees these data and what sort of decisions they will make on the basis of it?

• Who is responsible for interpreting the data and any resulting actions taken?

Is this all we need?

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How concerned are you about? (~1000 people 50+)

Weighted means from, "The ageing world: issues for older people - 2005-2025"

CODEWORKS ATL in association with Age Concern Research Services

Being able to be physically and mentally active in my own way and in my own home for as long as I can	66
Access to local health and care services	62
The role, that is the strength and value of the family in society	60
Your own physical health such as illness, disease and mobility	56
Availability and price of fuel and power such as gas and electricity	54
Crime and security in your area	54
Access to good public transport	50
Changes in climate and environment	50
Quality and price of food	49
Harmony and trust in your area between people of different ages and backgrounds	43
Being able to drive	39
Your longer term financial security	39
Your own mental health	38
Being lonely through ageing and bereavement	37

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Inventions for connecting people

Shopping and befriending

Net Neighbours

• Age Concern York administer the service

• A volunteer takes shopping orders over the phone, negotiates the site, places the order and has a chat too.

• The client sends a cheque or cash to the Age Concern who reimburse the volunteer.

Inventions for connecting people

Telephone conferencing as a recreational activity
Hackney Borough Council, RNIB
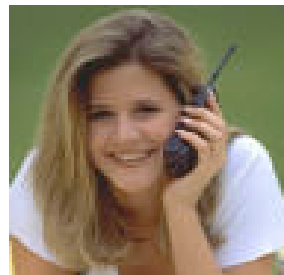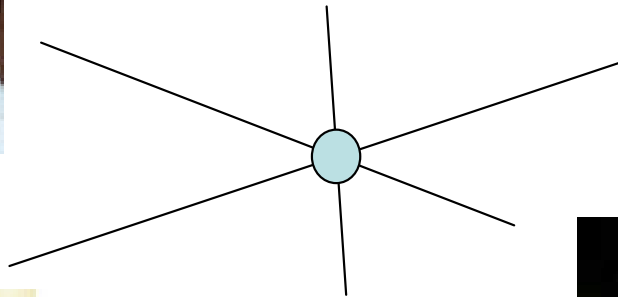
Inventions for connecting people

Inventions for connecting people

A TV with a phone number

Inventions for connecting people

Interpersonal awareness -
the virtual frosted window

Reciprocal communication:

I know what you know about me because it is what I know about you.

"Novel telecare" Digital jewellery project

Jayne Wallace, Patrick Olivier, Peter Wright, Andrew Monk

How do we make the remote monitoring of someone else's activity :
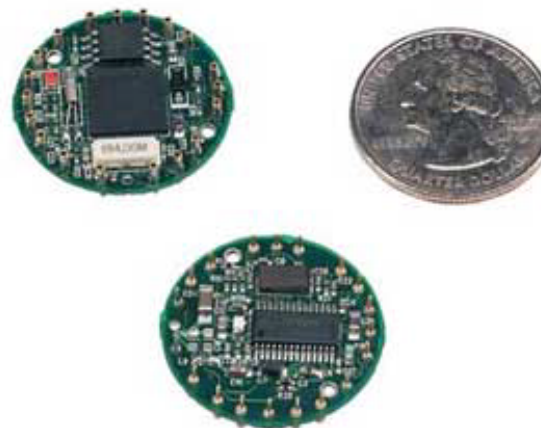
social

attractive

enchanting

Reciprocal view
Real communication function

Mote Architecture

Self organising network of computers with wireless connectivity

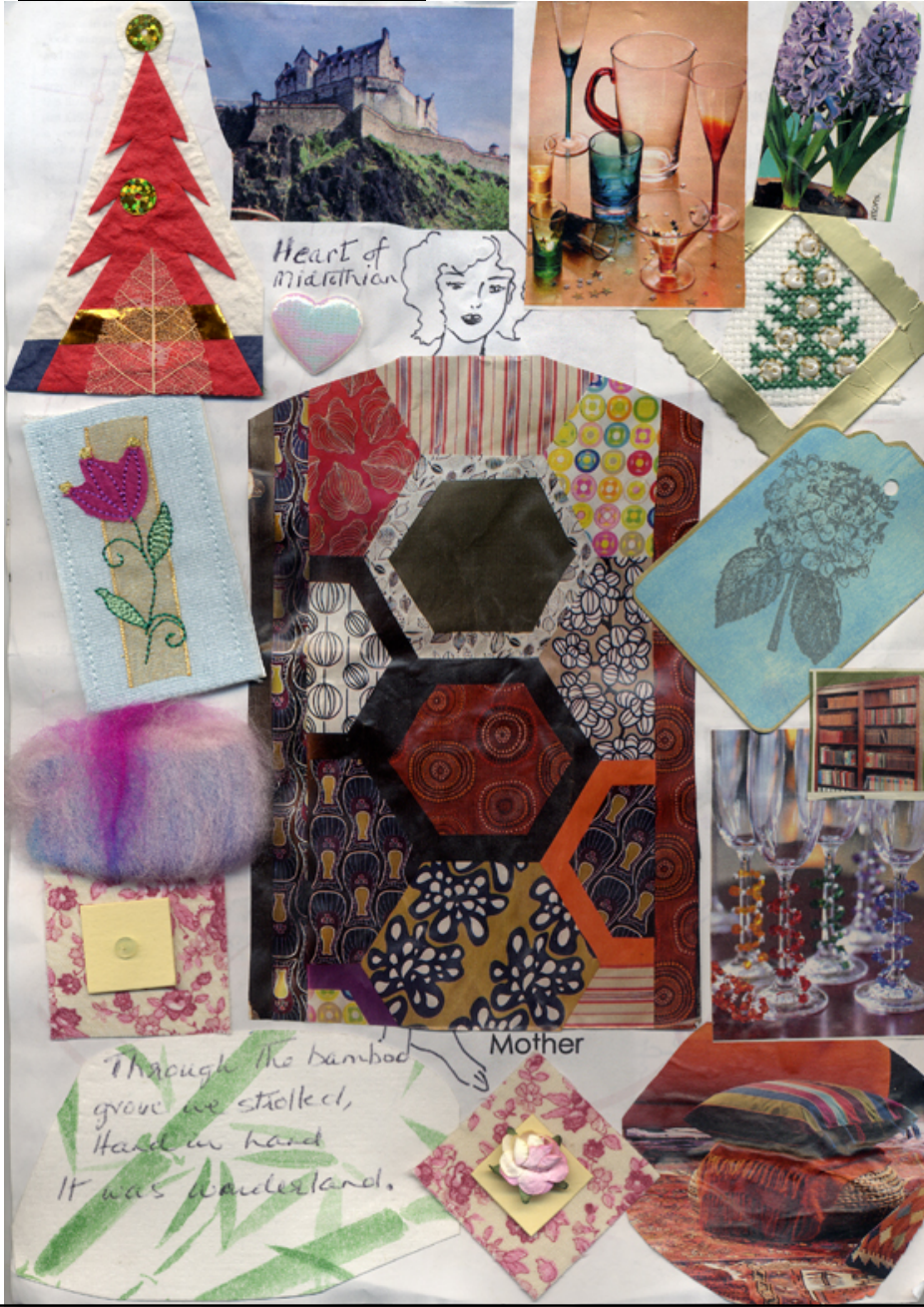Crossbow MICA2 Dot (1" diameter) (batteries and antenna not shown)

Probes

Box with clay in it: Please make impressions in the clay from objects that are dear to you both (either as individuals or jointly). Please make as many or as few impressions as you wish. When we meet I will ask you to tell me the stories behind these objects and why you feel they are significant to you.

Please use one sheet to tell me about your own aesthetic taste and style. Use any... Then use the reverse to tell me about how you perceive your mother's/daughter's aesthetic taste and style.

<u>Mother about self</u>
<u>Mother about daughter</u>

Heart of Midlothian

Mother

Through the bamboo grove we strolled, Hand in hand It was wonderland.

Daughter

Please use the camera to take photographs in response to the set of prompts I've given you - respond to as many of the prompts as you feel happy to.

Daughter: Reminder of someone dear

Mother: Personally Precious

Input mechanism -
Light sensors (no buttons no lights)

The mote can be in three basic states:
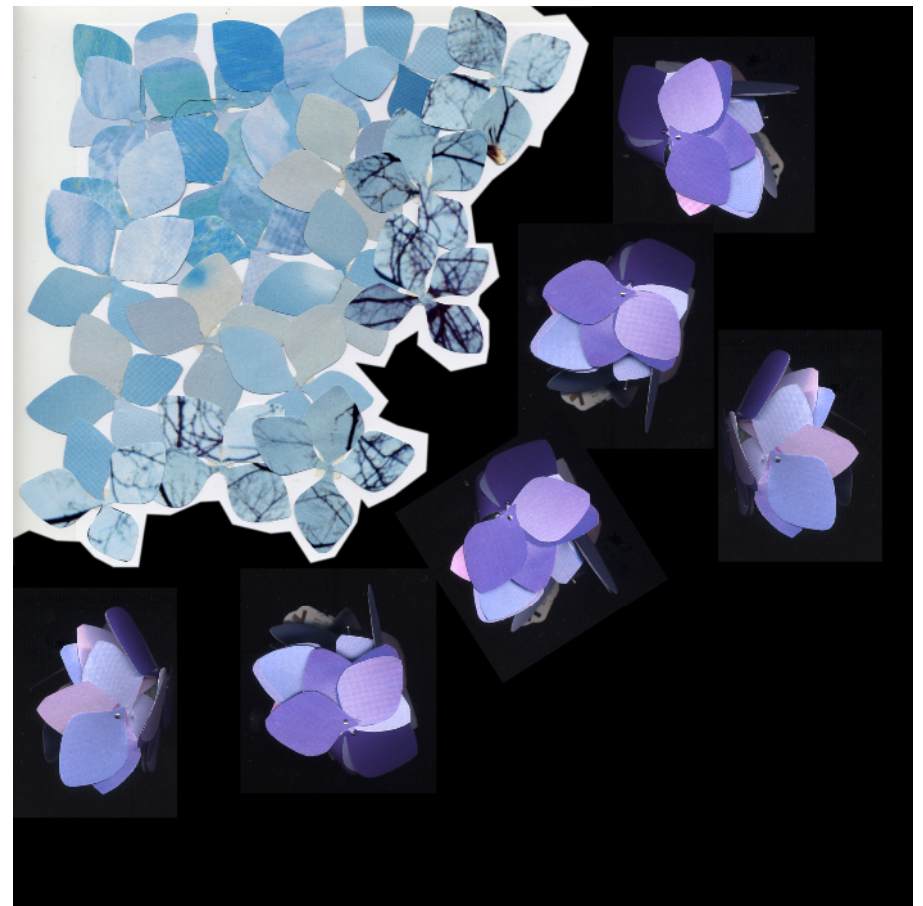
charging

no-motion

    no proximity

    proximity (with the other piece triggering chatter and replay)

in-motion

    light sensor change: stroke and cup. (each pattern with have duration and number of repetitions as parameters)

Output mechanism - Fluttering or trembling.

"This images comes from Mother's childhood memories of hydrangea bushes in India" JW.

The final form:
Organic porcelain
necklace

To be continued!

Conclusions

1. Technology is providing valuable services to clients/patients/users.

2. But, the client/patient/user has different values and concerns to the professional carer (we could be more client centred).

3. Isolation and social exclusion are important.

4. The innovative use of new communication technologies could help.

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1. assistive technology and telecare as a service to the user/client/patient

2. a really user/client/patient-centred approach gives isolation and social exclusion a much more prominent priority
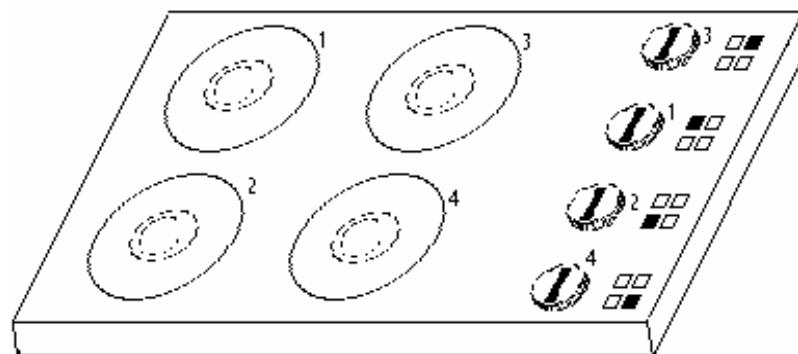
3. how technology can help

Joe Wherton's project - a diversion
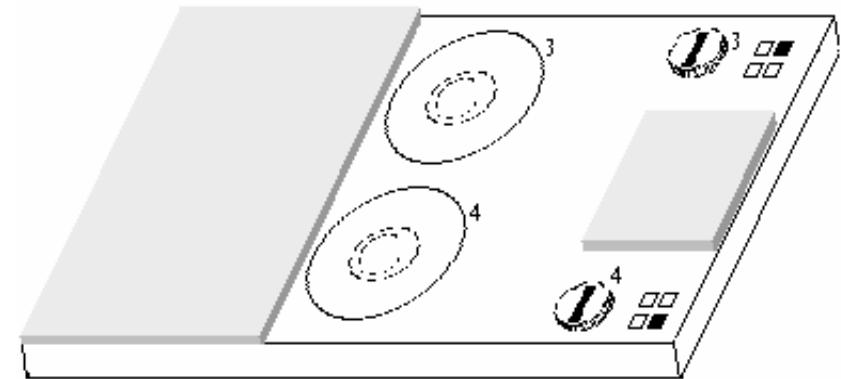
Level 1 Two burner cover

Conditions

1	Original design (symbols)
2	Verbal cues
3	Light cues
4	Original design (two burners)
5	Verbal cues (two burners)
6	Light cues (two burners)
7	One burner

Original design

Human contact
Fun

Second Life, WoW
(Massively
Multiplayer
Online Games)

Two
button
phone

CUHTec's "mission":
to ensure that future home technologies meet real social and personal needs

A   <u>user</u> / <u>client</u> / <u>patient</u> <u>-centred approach to the design of technology?</u>

Data from a telephone survey of 200 community alarm users, "where is your community alarm pendant at this moment?"

By my bed	31%
In a drawer	22%
Round my neck	**21%**
Round a door handle/peg	9%
Not sure	6%
Somewhere else	11%

WHY?

Data from a telephone survey of 200 community alarm users, "where is your community alarm pendant at this moment?"

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User experience - Identity

What does it reflect about me? (to me and to others)