



Exchanging Knowledge | Extending Quality Life

**EPSRC**

Engineering and Physical Sciences  
Research Council

# Moving beyond the pendant alarm....

Gail Mountain  
University of Sheffield



# Technology – associated with youth?



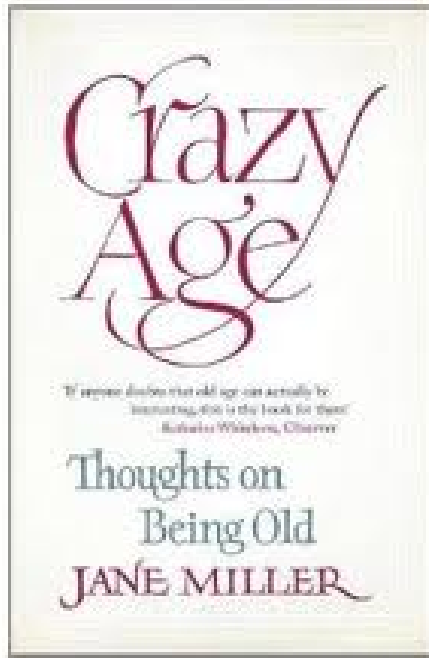
# Technology in later life – is this what we envisage?



# Not a reality until later life



# When is ageing a reality?



Because ageing is so unpredictable it is experienced as a series of unpleasant surprises  
*Germaine Greer, 2004*

I have looked and listened mostly in vain for news of what it is like for other older people who inhabit it as I do  
*Jane Millar, 2010*



*The authoring of  
my own ageing.....  
has become more  
apparent as my  
lifecourse matures  
and enters new  
points of  
transition.....  
Chris Phillipson*

# What do we want from technology in our later life?



# Left to Our Own Devices Photo Competition – a way of confronting old ideas


Left To Our Own Devices

ENTER GALLERY PRESS

Register  
Log In

Left To Our Own Devices is a UK-wide photography competition open to everyone, on the subject of older people's experiences with technology.

**ENTER**  
The competition is now open!




**GADGETS & GIZMOS**



**OUT & ABOUT**




**IN THE HOME**



**OPEN**

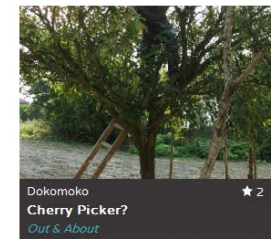
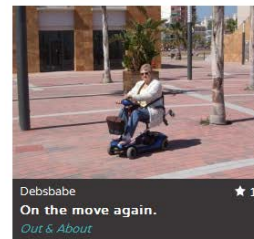
Left To Our Own Devices is managed by KT-EQUAL, a national partnership of researchers working to extend quality life for older people and disabled people in partnership with AgeUK.

Site designed by Q&P The Guild



## Out & About

[Gadgets & Gizmos](#) | [Out & About](#) | [In The Home](#) | [Open](#)



<http://lefttoourowndevices.org.uk/>

Closing date for entries 31 January 2012



# Nantendo – Copyright Abbi Higgins



# On the phone – Copyright Charlotte Overton-Hart



# Untitled –Copyright Ian Hinchcliffe



# I need better Apps – Copyright Vu Du Loc



# What about technology for health and social care?

- Current methods of delivery of health and social care are not sustainable – how can technology support individuals and lessen reliance upon services?
- How can technology support active ageing and help prevent ill health in older people?

# Telecare

Remote monitoring to manage risks, thereby assisting the individual (older or disabled person) to live independently

(Brownsell and Bradley, 2003)



# Telehealth –a more recent policy led technology initiative

Remote monitoring of signs and symptoms

Three million lives "will improve through Telehealth" Paul Burstow  
*04 January 2012*



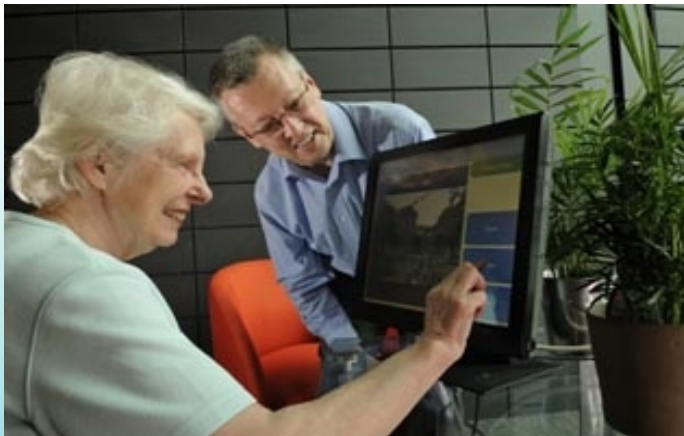
However the evidence is not conclusive – see Steventon A, Bardsley M, Billings J, Dixon J, Doll H, Hirani S, et al. Effect of telehealth on use of secondary care and mortality: findings from the Whole System Demonstrator cluster randomised trial. *BMJ* 2012;344:e3874.

# Challenges for implementation; for example

- Practitioners need training and support
- Public need to be made aware
- Devices have to be acceptable, reliable and easy to use
- Connectivity has to be ensured



# In the meantime new developments continue in Sheffield, BIME and elsewhere.....





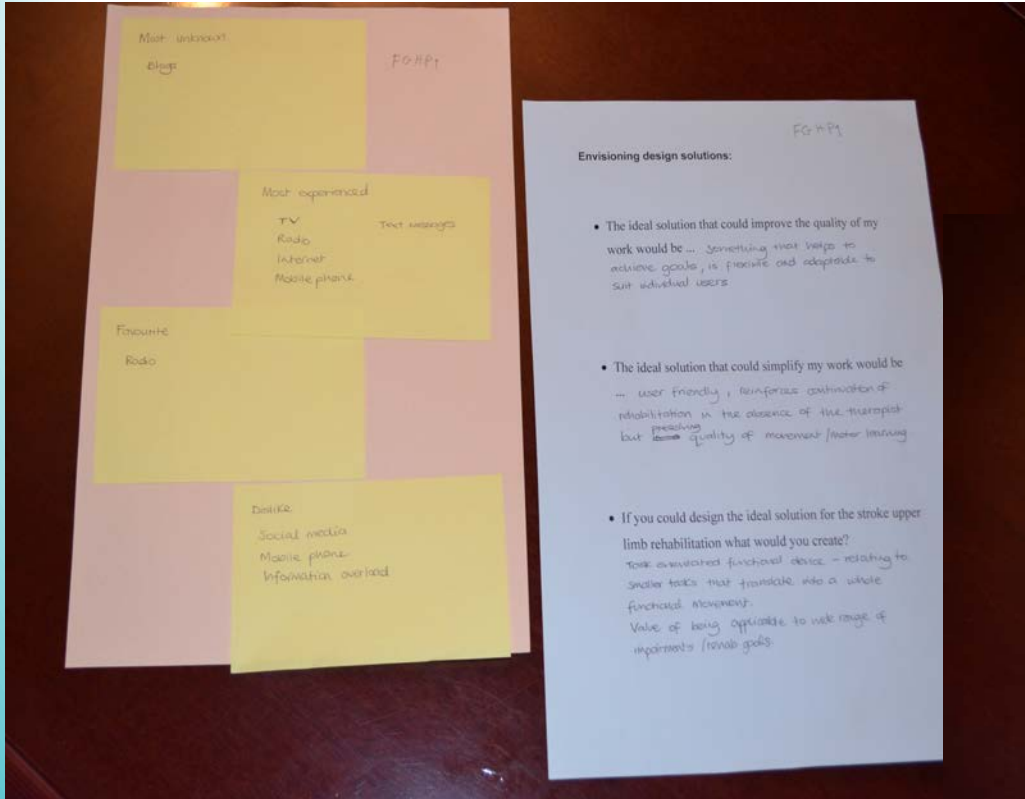
## Focus on two examples from Sheffield

The Script  
Project;  
Supervised  
Care and  
Rehabilitation  
Involving  
Personal Tele-  
Robotics



The project is developing and designing robotic technology and therapeutic games for the home-based exercises of hand and wrist at the chronic stage of stroke.

# Determining needs and preferences



# **(2) The SMART Project; integrating everyday technologies to enable self management**

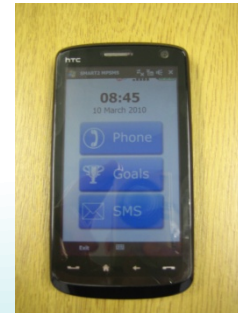
- [www.thesmartconsortium.org](http://www.thesmartconsortium.org)

# Prototype System Architecture

Home hub; touch screen computer



Mobile device with inbuilt GPS and accelerometry



Other devices added to meet the specific needs of people with each of the LTCs

# The underpinning clinical and design work

Comprehensive clinical reviews to identify;

- Best practice/optimal self management interventions for people with each of the long term conditions
- Life goals
- Outcome measures

# Home hub

## My Home Page



v.3.18

# Home hub

## My Daily Plan

**My Health**

You have not  
completed  
your health  
data today

**My Goals**

DONE



# Home hub

## My Goals

My end goal - To lose a bit of weight

My goal today is a 10 minute walk

When you get back go to **'My Review'** to assess your walk

Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Activity	Friday	Saturday	Sunday	Monday
✓	✓	✓	✓	✓	✓	✓	Daily walk	✓	✓	✓	✓
							House work	✓			✓
							Gardening		✓		
							Golfing				
							Shopping	✓	✓		✓
							Visiting family	✓		✓	
							Swimming	✓		✓	
							Babysitting		✓		
								Today			

Done

# My Information and Advice

To help prevent heart failure you should try to quit smoking, exercise and limit foods high in cholesterol and saturated fat.

True

False

Your answer is incorrect. True is the correct answer  
The most common symptoms of heart failure include shortness of breath or difficulty breathing, feeling tired and swelling. Swelling usually occurs in the ankles, feet, legs and sometimes in the abdomen.

Heart failure can be controlled by:

A: Bed rest, fluids and long term medication

B: Lifestyle changes and medication

A

B

C

B is the correct answer.  
Treatment for heart failure includes lifestyle changes, medications and specialised care for those who are in the advanced stages.

If you have heart failure you should eat:

A: A diet low in salt

B: Diet soda and low fat chips

C: A low carbohydrate diet

A

B

C

A is the correct answer.  
Those who suffer from heart failure need to watch their salt intake. Salt can cause extra fluid to build up in your body making

Done

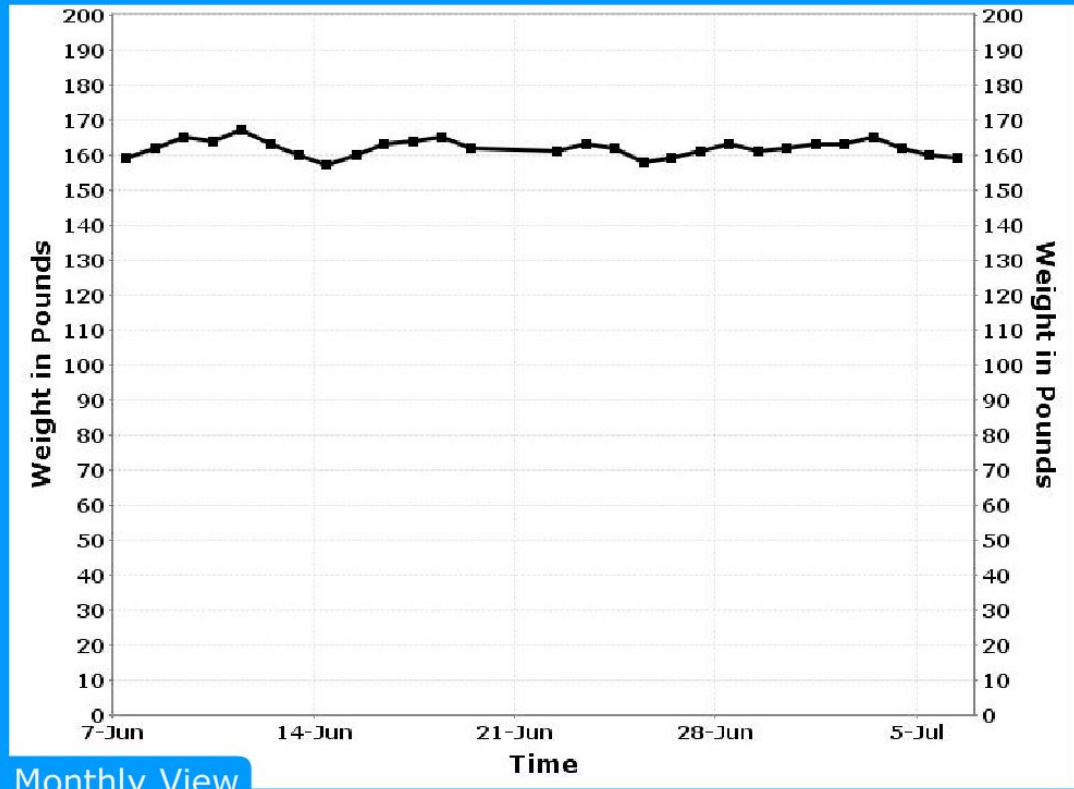
# My Weight

E  
X  
P  
L  
A  
N  
A  
T  
I  
O  
N

## Explanation

These are your weight readings over the last month. Each point on the graph relates to your weight reading on a particular day.

I  
N  
F  
O



Monthly View

Done

Switch to Weekly View

# Out and about – the mobile device

Walk 5 Minutes

Before You Begin . . .

Although regular activity is good for you, do not exercise or increase your activities when you:

- (1) Have more shortness of breath at rest or more symptoms than usual
- (2) Feel exhausted
- (3) Have a fever, infection or feel ill
- (4) Have chest pain
- (5) Are going through a major change in your medication regimen

Do you wish to continue?





## Your Goal Today:

Walk 5 Minutes

**Start  
Goal**

**Exit**

## Walk 5 Minutes

Steps	Total Time	Active Time
205	00:02:40	00:01:43



**Cancel**

**Unlock**

## Walk 5 Minutes

Steps	Total Time	Active Time
528	00:04:56	00:03:45



**Cancel**

**Unlock**

## Walk 5 Minutes

Steps	Total Time	Active Time
703	00:06:28	00:05:00



**Completed**



Well Done!

You have reached your activity goal for today. Was this activity:

Too Much

Just Right

Too Easy

 **Information**

Thank You. Please remember to dock the mobile device and access the 'Goals' screen on the Home Hub when you get home. NB: The device needs to be able to upload data to the Home Hub when it is docked and is in range.

**OK**

# Progress

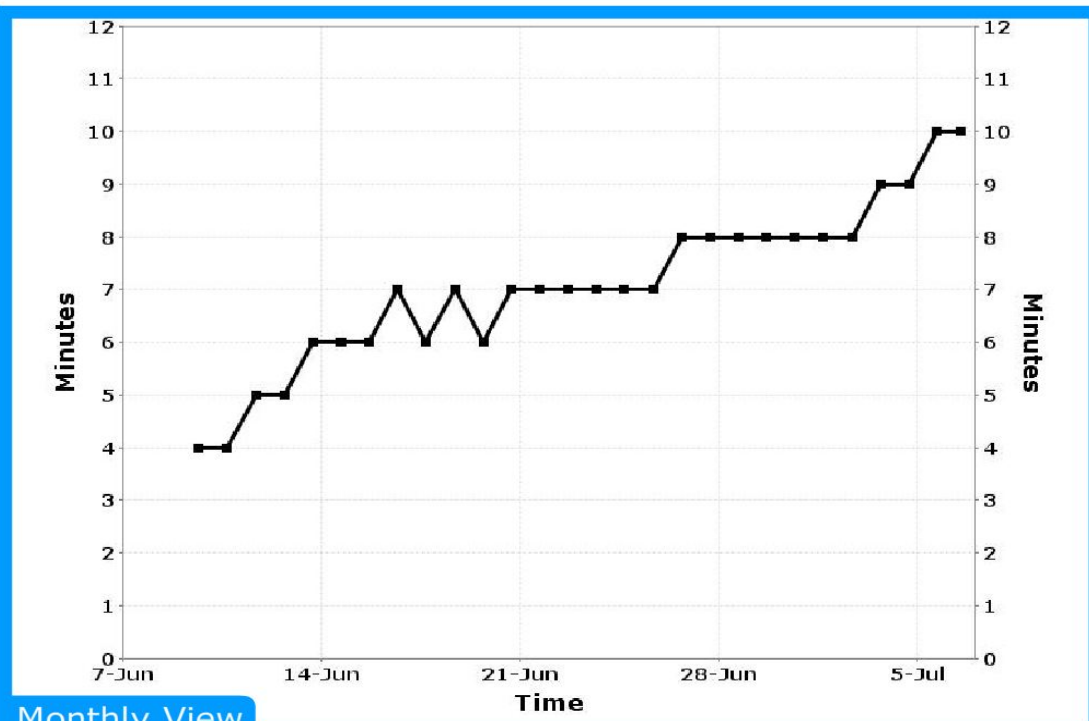
## My Walking Intervention

E  
X  
P  
L  
A  
N  
A  
T  
I  
O  
N

### Explanation

This graph shows the progress you have made over the previous month.

I  
N  
F  
O



Monthly View

Done

Switch to Weekly View

# My Review

You rated your activity:

Too Easy

Increase Walking Time

Walking Time = 10 Minutes + 1 Minutes

**11** Minutes



OK

Undo

**DONE**



As everyday technology becomes more pervasive and sophisticated it offers increasing potential in many life domains including leisure as well as care needs

# What is it about new technology that makes it so alluring?



How can we exploit the potential?

# What about for people with dementia?

School Of Health And Related Research.

## Can touch-screen technology facilitate social and leisure activities for people with dementia residing in the community?

Sarah Kate Smith

Dementia costs the UK economy £23 billion a year, more than half of which is met by unpaid carers (12.4 billion). That is more than twice as much as cancer, three times more than heart disease and 4 times more than stroke.

Cost to the UK economy in billions

Condition	Cost (billions)
Dementia	23
Cancer	7.66
Heart disease	5.75
Stroke	11.5

UK Research invest in millions

Category	Investment (millions)
Cancer research	169
Dementia research	23
Stroke research	50
Heart disease research	590

It is estimated that 820,000 people in the UK have dementia yet many more lives are effected on a societal level including those of family and friends. In 2010 £590 million was invested in cancer research and £50 million in dementia research.

*'I think better awareness....as a community, as a society is critical really' (person with dementia, in Bond 2006).*

Lead Supervisor: Professor Gail  
2<sup>nd</sup> Supervisor: Dr Brenda Gan  
White Rose ESRC Doctoral Training Studentship

[www.sheffield.ac.uk/schan](http://www.sheffield.ac.uk/schan)

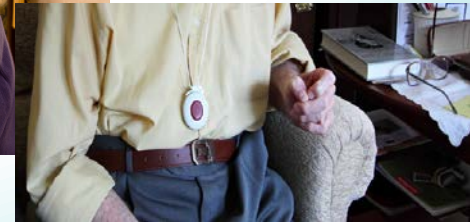
# Good design is fundamental

- Useful – usable- desirable





# So what about our own later life?



What are our expectations?

It's a personal agenda

**Views are slowly changing but  
the debates continue...**

<http://www.guardian.co.uk/commentisfree/2012/oct/01/population-future-caring-ageing-good-news>

# Visit the KT-EQUAL website

**kt equal**  
Exchanging Knowledge | Extending Quality Life

Accessibility | Sitemap

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**Working together to improve lives**

**FOLLOW US ON** [twitter](#)

RT @helpage: STOP PRESS ;) Age brings wisdom, scientists say - Telegraph <http://t.co/djGvcHnf> via @Telegraph  
9 days ago

RT @designcouncil: Our panelists are itching to start debating the #BishopReview <http://t.co/by6UMdTN> @DGOresearch  
10 days ago

- **About us**
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**KT-EQUAL is a consortium of UK researchers dedicated to extending quality life for older and disabled people.**

We work to ensure that years of investment in high-quality research translate into real benefits that have an impact on people's lives.

**What we do**

We set out to show how ageing and disability research can make a difference to people's lives.

- We bring together researchers, policymakers and service users to focus on the issues that are important to older and disabled people.
- We influence regulations and good practice across a range of industries -- including inclusive product design, rehabilitation, and the built environment.
- We gather and share knowledge and expertise about people's health and wellbeing, independent living, self-management and quality of life.
- We seek out the views and involvement of older and disabled people and their advocates.

**Working together to improve lives**

We know that the challenges we face transcend traditional scientific boundaries. We also recognise that older and disabled people and their carers have knowledge and expertise which is crucial to developing solutions that improve quality of life.

**Upcoming Events**

**National photography competition**  
**Date:** 13 October 2011 00:00 to 31 January 2012 23:45  
**Summary:** Left to our own devices  
[more >>](#)

**CARDI International Conference**  
**Date:** 2 November 2011 09:00 to 03 November 2011 17:00  
**Summary:** Ageing Globally – Ageing Locally: Planning all Our Futures  
[more >>](#)

**Improving stroke care in the community**  
**Date:** 23 November 2011 09:30 to 16:30  
**Summary:** Bringing together researcher, engineers and clinicians, with community rehabilitation teams to share expertise and how to break down barriers  
[more >>](#)



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# How can you get involved?

- Join our mailing list  
<http://www.equal.ac.uk>
- Come along to our events (free!)
  - Comment on our blog
  - Follow us on twitter  
(@KT\_EQUAL)