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Role of wearable activity-tracking technologies in the well-being and quality of life of people aged 55 and over

Conference or Workshop Item

How to cite:

Minocha, Shailey (2017). Role of wearable activity-tracking technologies in the well-being and quality of life of people aged 55 and over. In: The Open University Legacy and Supporter Event, 10 Mar 2017, Confederation of British Industry, Cannon Place, London, England.

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Version: Version of Record

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Role of wearable activity-tracking technologies in the well-being and quality of life people aged 55 and over

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10 March 2017

Technology and Education

The Open University

Multi-user 3D environment:

Avatar-based virtual Geology fieldtrip

Skiddaw mountains

Funding: Wolfson Trust

Virtual Reality: phone-driven

Google Expeditions

Geography and Science education in schools
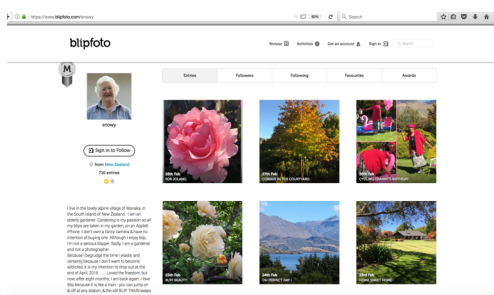
Funding: Google

Technology and Ageing

Themes:

social isolation and loneliness

online social interactions

digital skills for employability and lifelong learning

Case study of an online community:

photography journal: blipfoto.com

inter-generational communication

support for carers
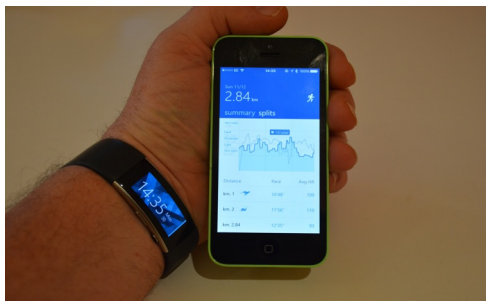
digital curation

Participation

Methods:

meetings

workshops

email and face-to-face conversations; diary studies

surveys

Collaborators:

Age UK Milton Keynes, Carers MK, MK U3A

Mind, Dementia Friends

MK Council, West Bletchley Council

Digital health wearables

Fitness trackers:

walking, sleep patterns, calories expended, …

dashboard on phone or Tablet

Funding: Sir Halley Stewart Trust

Significance:

Active and Healthy Ageing

physical activity to preserve mobility and motor skills

Digital NHS

self-monitoring of health and medical conditions

Research

Participants:

people aged 55 and over who are already using such devices

people aged 55 and over who haven't used such devices

Other stakeholders:

carers and family members

family doctors and healthcare professionals

Data collection

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Trying out the devices:

behaviour change study

activity-trackers to 21 participants in age-range 55-82

email interviews and diaries

4 workshops over 6 months

Surveys:

age 55 and over who use these devices

carers; and a workshop

doctors and healthcare professionals
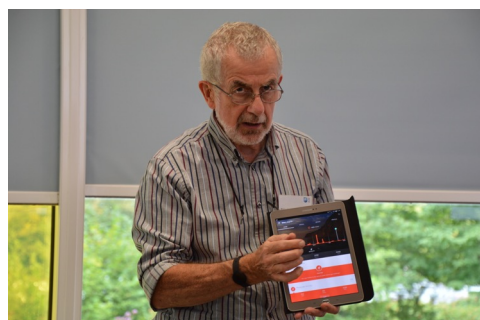
Results

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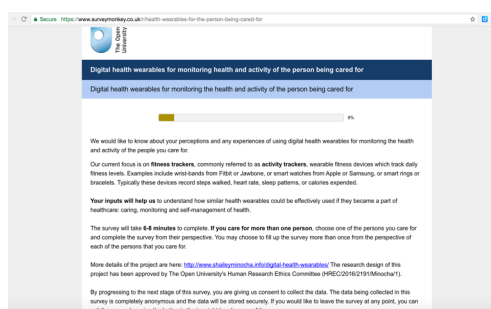
Concerns:

design of the devices

usability and accessibility of devices

technical support

online help and tutorials

Data handling:

recording of the data

making sense of the data

accuracy of the data

ethics of sharing the data

Behaviour change

Lifestyle changes:

diet, walking, conscious use of the car, joining the gym, walking groups, monitoring sleep

Other changes:

diagnosis and solutions for non-optimal sleep

pacing themselves with adequate rest-times

awareness of ethical sharing and use of data

Carers

For themselves:

monitoring their own health and activity

sleep patterns

level of activity

For people they care for:

'to monitor health in a low-key way that is not intrusive and give them independence to cope when they are doing well'

this data may *'create confusion and unnecessary worry'*

Key findings

- challenges for adoption of these technologies
- design for age-related impairments (e.g. vision, hearing, memory, dexterity)
- positive behavioural changes
- the role of digital health wearables in
  - caring, self-management of health
  - post-operative monitoring of mobility
  - for monitoring movement: dementia and Alzheimer's disease
  - use of the data for diagnosis and medical interventions

Next steps

- dissemination of the results
- two-way knowledge-exchange with key stakeholders including manufacturers
- develop a shared understanding of design requirements
- to build on and enhance the evidence-base on the role of wearable devices in digital health
- guidelines on ethical considerations of sharing and using data from wearable devices

Resources

- Technology and Ageing themes:
  http://www.shaileyminocha.info/people-aged-over-55-years/
- Reports and presentations available from:
  http://oro.open.ac.uk/view/person/sm577.html
- Email: shailey.minocha@open.ac.uk
- Twitter: @ShaileyMinocha
- Thanks to *Dr. Duncan Banks, The Open University* for the photographs used in describing the digital health wearables project