Taking Active and Healthy Ageing out of the box: from ecological invalidity to 'wild' ageing trials

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Ageing

We live longer
Ageing consequences...

Our abilities decline...

Bamidis, MEDICON 2016
Key points

- Learn, Live, Love, Inspire
LLMcare product/service

http://www.youtube.com/watch?feature=player_embedded&v=ilABZtm8eGM
After training, brain noise is reduced in some areas

Styliadis, et al. Brain regions responsible for results of combined cognitive and physical Training
Neural Plasticity, 2015
Back in 2013, our vision...

CAC-framework

- Has the role of an intermediary, in order to allow the connection of a series of controllers and applications.
- Adapted to controller information streaming (e.g. skeleton, RGB image, center of pressure, EEG signal)
- Aligned with the publish/subscribe IoT approach

Exergames and new technologies

- **Subscribes** to the IoT cac-framework.com to get access to the controllers data streams
- **Publishes** gaming events to standard IoT communication protocols

Vision realisation

- Emotional self-appraisal by users (subjectively)
Serious games as virtual, IoT enabled, devices

Start, end, emotion, muscles involved, perceived fatigue, movement, etc...
Our contribution to IoT semantics and open trials

Towards exergaming commons: composing the exergame ontology for publishing open game data

Active and Healthy Ageing Living Lab

- Located in the Aristotle University of Thessaloniki, Lab of Medical Physics
- Vision for a permanent living lab where elderly people could test and evaluate new applications, devices and approaches coming either from our group or external groups - researchers or companies (e.g. SMEs)
- The Active and Healthy Ageing Living Lab

http://www.aha-livinglabs.com

E. I. Konstantinidis, A. S. Billis, C. Bratsas, A. Siountas, and P. D. Bamidis, “Thessaloniki Active and Healthy Ageing Living Lab: the roadmap from a specific project to a living lab towards openness,” in 9th International Conference PErvasive Technologies Related to Assistive Environments (PETRA), 2016.
Results from Experimental Datasets

The UNCAP project on
Active & Healthy Aging

- UNCAP: Ubiquitous iNteroperable Care for Ageing People
- UNCAP delivers an interoperable platform based on open industrial standards
- ...leveraging on existing technologies for biosensing, indoor/outdoor localisation and home-automation.
- Result: an open source, scalable and privacy-savvy ecosystem compatible with existing Personal Health Record systems, that can deliver novel service help aging people (incl. those with cognitive impairments) live independently and with dignity.
... in the wild...
Case Study - Fall accident

- Fall Accident
  - Broken leg

Recover period

Steps Count per day

Feb 2016  Mar 2016  Apr 2016
key recommendations / ideas pertaining to advancing OGC Standards

- Living Lab standards?
- Home analytics?
- Open pilots?
- New silver diagnostics?
thoughts on advancing interoperability standards, interoperability projects, or best practices

- Interoperable game services?
- What is needed?
- When, how fast, what for?
Co-design, Co-pilot Living Lab Commons

- Thessa Hall is eager in accommodating research experiments for pilot trials towards commercialization.
- Contact us if you think that we could collaborate and co-create.
- Thessa Hall board will evaluate your proposal for collaboration.
- Success stories already...

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Thank you for your attention...

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