Personal assistant for coping at home

Elderly people wish to live independently in their homes and perform daily activities without external help. For some, provision of support may become a necessity. PIA enables people with memory problems to cope with activities of daily living.

- The PIA system provides effective support to daily activities by offering **video clips** of desired topics.
- **Carers make the videos.**
- The video clips can be displayed on a touch screen-based **tablet PC** or **smartphone**.
- Stickers for **Near Field Communication** (NFC) are placed at relevant locations in the elderly person's home. These make the PIA system choose and display relevant video clips.

Who we are:

Accord Group
Berlin Institute for Social Research
Tellu AS
University of Castilla-La Mancha

Asker Municipality
Karde AS (coordinator)
Stickyworld Ltd.
University of Ulster

Sub-contractors:

City of Oslo Resource Center for Geriatric Care
Seniornett Norge

Using the PIA system is simple. This is how it works:

CARER:

- Download the PIA app.
- Order NFC tags.
- Choose topics for useful video clips. **PIA's IADL tool helps**.
- Make video clips. **PIA's video guidelines and templates provide support**.
- Place the tags where videos are needed.
- Link tags to videos.

USER:

- Grab the tablet (or smart-phone).
- Place the tablet close to the tag.
- Follow the video instruction.
- After use, charge the tablet if necessary.

The PIA system includes a social network for sharing knowledge, tips, experiences, ideas, and of course videos.

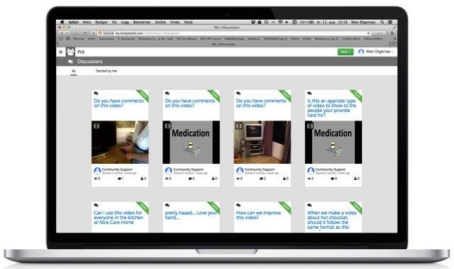
Examples of topics for useful "how-to" videos:

Coffee machine
Medicine dispenser
Heat pump
Cooking
Remote control for TV or satellite tuner
Laundry and washing machine
Net bank
Manicure / pedicure

PIA's main technological innovation lies in how we combine and integrate different technology and services around the central NFC + video instruction concept.

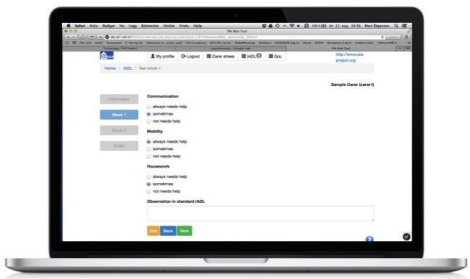
- The PIA mobile **app runs on tablet PCs and smartphones**. It interacts with the NFC tags, and communicates with the other sub-systems over the Internet. It can be used by carers to **record videos** and link them to tags, and by end users to **play videos** based on proximity to the tags.
①

- Another key sub-system is the **video sharing and social network service**. This is a web application to carers, where they can set up communities to share and discuss instructional videos. Videos can be uploaded from the PIA mobile app, or from any computer through the web. The videos will be stored in the cloud so they can be played on any device anywhere.
②



- A server-side sensor processing sub-system makes PIA smart. In this web application, it is possible to set up more advanced logic, such as a tag triggering different videos at different times of the day. This sub-system also tracks usage and can send notifications to carers.
③

- An important administrative sub-system is the analysis web tool, which collects information from the other sub-systems and through forms. It is **a tool to create forms and analyse data, to measure Quality of Life, carer stress and other parameters**.
④



More about the technologies and the developers:

① University of Ulster – http://scm.ulster.ac.uk/~scmresearch/SERG/
② Stickyworld Ltd. – https://www.stickyworld.com/
③ Tellu AS – http://smarttracker.tellu.no/
④ University of Castilla-La Mancha – http://mami.uclm.es/web/

Partners

The PIA consortium is designed to provide an innovative environment for software development, field trials and exploitation activities. The project partners and their main areas of responsibility are:

Germany

- Berlin Institute for Social Research (BIS): Ethical issues, tests and field trials, accessibility issues, dissemination. www.bis-berlin.de

Norway

- Karde AS: Project management, accessibility design, dissemination, exploitation. Coordinator. www.karde.no

  Sub-contractors: The City of Oslo Resource Center for Geriatric Care (IADL, expert panel, smart homes); www.helseetaten.oslo.kommune.no/eldre/geriatrisk_ressurssenter and Seniornett Norge (user requirements, tests and trials); www.seniornett.no.

- Tellu AS: Software development, sensor technologies, technology standards, exploitation. *Technical manager*. www.tellu.no

- Asker Municipality: User requirements, care technology integration and interoperability, tests, field trials, dissemination. www.asker.kommune.no

Spain

- Castilla-La Mancha University, Modelling Ambient Intelligence Research Lab (MAmI): I/P/ADL (Instrumental and Personal Activities of Daily Living), carer stress and quality of life modelling and measurement tools, dissemination. mami.uclm.es/web

United Kingdom

- Accord Group: Field trials, ethical issues, coping at home, dissemination, user involvement manager. *Ethics manager*. www.accordgroup.org.uk

- Stickyworld Ltd.: Software development, multimedia, integration issues, social platform, exploitation. *Impact manager*. www.stickyworld.com

- University of Ulster, Smart Environments Research Group (SERG): Smart homes, sensor systems, multimedia, dissemination. scm.ulster.ac.uk/~scmresearch/SERG

Website: www.pia-project.org Coordinator: riitta.hellman@karde.no Project number: AAL-2012-5-033 (2013-2015)

National funding bodies:

Norway:	The Research Council of Norway
Germany:	Federal Ministry of Education and Research
Spain:	Institute of Health Carlos III, ISCIII
United Kingdom:	Technology Strategy Board