Common Infrastructure Software for eHealth, Telemedicine and Ambient Assisted Living based on Open Source Software

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Abstract. The challenges of an aging society like growth of age related diseases and growing need for care and support of the elderly is an key research topic across different research disciplines. There is no doubt that only a collaborative, holistic approach has the chance to provide sustainable solutions. The Ambient Assisted Living Open Association (AALOA) supports this collaborative approach by promoting an open, common infrastructure and the use of common policies and novel socio-organisational models. The workshop will introduce AALOA and show participants working in the field of AAL, telemedicine or home care how to benefit from and engage in AALOA projects.

Keywords. Free/Libre Open Source Software, Ambient Assisted Living, eHealth, Telemedicine

1. Background

Interoperability is one of the key success factors for seamless communication in heterogeneous networks. A common infrastructure or at least common components are without doubt a major contribution to achieve this goal. The Internet has certainly gained from the development of the Apache Server [1] which in 2010 had a market share of 59,4% [2].

In Europe, like in most industrialized regions of the world the increase in life expectancy and the simultaneous growth in the number of age related diseases call for immediate action and for new innovative and holistic solutions to face the challenges of an increasing demand of care and support for the elderly. A close collaboration of all
stakeholders involved in the care process for the elderly is needed. Ambient Assisted Living (AAL) has great potential for providing solutions for the above named problems. But impact so far has been less than hoped, partly due to fragmentation of research efforts and the lack of a standardized approach for developers. To address this, the Ambient Assisted Living Open Association (AALOA) [3] has been formed and invites all interested stakeholders to join in the efforts. The mission of AALOA is to provide a shared open framework for developers, technology and service providers, research institutions, and end user associations to discuss, design, develop, evaluate and standardize a common service platform for Ambient Assisted Living.

2. Goal of the workshop

The goal of this workshop is to present two projects (BRAID[4] and universAAL[5]) of the AALOA initiative to the MIE community and highlight potential synergistic effects in using a common middleware platform and common software components based on open source. A focus will be on how participants working in the area of AAL, telemedicine or home care may benefit from basing their work on the outcomes of BRAID and universAAL.

In particular the goal for the participants of this workshop is to:

- get an overview of the BRAID project, its vision, roadmap, policies and novel socio-organisational models
- get an overview of the universAAL project and learn how to access and use the tools as well as to get involved in the development of the tools.
- get an introduction to AALOA and its mission
- get an overview of EFMI LIFOSSG WG as well as current work and future plans

2.1. About BRAID

BRAID (Bridging Research in Ageing and ICT Development) is an EU FP7 Support Action developing a comprehensive Research and Technological Development (RTD) roadmap for active ageing in Europe, through consolidation of existing roadmaps and by describing and launching a stakeholder co-ordination and consultation mechanism. BRAID’s aims are to characterise key research challenges and produce a vision for a comprehensive approach in supporting the wellbeing and socio-economic integration of increasing numbers of senior citizens in Europe. BRAID builds upon the experience and knowledge developed in four previous projects, namely AALIANCE, CAPSIL, ePAL, and SENIOR, while taking account of e-inclusion efforts in the EU member states as well as Australia, Canada, Japan and the US.

2.2. About universAAL

universAAL is a 4 year 13M € European Union project that develops the common open platform for ambient assisted living (AAL) in Europe. The goal is to create a technology platform to answer the technical needs identified by the AALIANCE roadmap. The platform consists of reference architecture, software components and development and design tools. (17 partners, started February 2010, 4 years duration).
3. Format and speakers

The workshop will be given in a tutorial style. After a short introduction to the EFMI LIFOSS WG given by Thomas Karopka the BRAID project will be presented by Dr. Liz Cummings followed by a tutorial about the universAAL tools given by Dr. Erlend Stav. The workshop will close with a discussion in a panel style to engage the audience. The workshop will be moderated by Thomas Karopka.

3.1. Speakers:

**Dr. Elizabeth Cummings**, BRAID Research Fellow responsible for WP7 dissemination. She is an RN and midwife and has a PhD in Information Systems. She has been involved in developing, implementing and evaluating health ICT systems and numerous e-health research projects.

**Dr. Erlend Stav** is a senior research scientist at SINTEF ICT (Norway). He holds a PhD in Computer Science from the Norwegian University of Science and Technology from 2006. Dr. Stav currently coordinates the tool work of the universAAL project.

**Ståle Walderhaug** is a senior research scientist at SINTEF ICT (Norway). His technical expertise is in the field of model-driven development for healthcare information systems and empirical software engineering, which is also his PhD topic.

**Thomas Karopka**, EFMI LIFOSS WG chair, IMIA OS WG vice chair and member of the AALOA governing board.

4. Expected achievements and outcomes

After the workshop participants should:

- know about the mission of AALOA
- know about the BRAID project, its mission and possible ways to benefit from the outcomes of this project
- understand the basic architecture of the UniversAAL open source middleware platform for AAL
- are able to estimate the usefulness of the demonstrated open source platform for their own work in the domain of AAL, eHealth or telemedicine
- know about the work of the EFMI LIFOSS WG and the IMIA OS WG

5. Statement of participation

All speakers are commitment to participate during the conference.

References