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AMBIENT ASSISTED LIVING STAGE 0 PROJECT PT100-7

IEC TC 100 AGS MEETING

CO-PROJECT LEADERS
DR. KATE GRANT
ULRIKE HALTRICH

5 JUNE 2013
LONDON

Scope

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- Conduct a survey to collect AAL use cases in the field of audio, video and multimedia systems and equipment;
- Contribute to the work of IEC SMB SG 5 AAL by submitting AAL use cases summarized from the survey;
- Find out AAL future new work items in the field of audio, video and multimedia systems and equipment; and
- Prepare a technical report as the deliverable of the project

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- Establishment of Stage 0 Project on AAL (AGS Meeting Dallas 15 May 2012)
- 100/2012/AC Call for comments and nomination of experts
- 100/2018/AC Contribution of AAL use cases
- 100/2059/INF Establishment of PT 100-7
- Stage 0 project AAL allocated directly under TC 100
- First project team meeting 23 Oct. 2012, Berlin
- Distribution of early draft TR use cases related to AAL on 6 May 2013
- Comments received from Japan 30 May 2013

Experts

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- AU: Mr. Keith Jones
- CN: Mr. Hong Zhang
- FI: Mr. Pekka Talmola
- JP: Mr. Shuichi Matsumura, Mr. Hideo Arahama, Mr. Shigeki Harada, Mr. Hiroyasu Kuwano
- US: Ms. Shazia McGeehan, Ms. Alayne Bell, Mr. Bill Belt, Mr. Jeff Howell, Mr. Jon Fairhurst, Ms. Karen Broome
- Liaison representatives European Blind Union: Mr. Guido Gybels, Mr. John Paton
- DE: Ms. Ulrike Haltrich, Ms. Janina Laurila-Dürsch
- UK: Dr. Kate Grant

Timeline

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15 May 2012	AGS Dallas Stage 0 AAL Project established
31 Aug. 2012	Call for Experts
21 Sept. 2012	Contribution of Use Cases
23 Oct. 2012	Project meeting Berlin
Jan-Mar. 2013	Compile Initial AAL use case TR
6 May 2013	Distribution of Early Draft TR to PT
7 June 2013	F2F meeting to discuss AAL TR
August 2013	Finalize AAL draft TR/issue first WD for comment
Autumn 2013 (co-located with TC100 Plenary)	F2F meeting to review WD comments on AAL DTR ballot result and progress
Autumn 2013 (co-located with TC100 Plenary)	F2F meeting meeting to prepare WD of revised TR 62678
Spring 2014	AAL TR; amended TR 62678

Use Cases

Committee	Use Case
EBU	Improvement of user interfaces of connected TVs and easy home network setup
US	Accessible Electronic Program Guides
US	Accessible User Interfaces on digital apparatus
US	Accessible Video Description
Japan	Safety Check Service using TV set
China	User interface guidelines for smart TV, tablet and portable multimedia devices
Germany	Telemonitoring of homes to check vital signs and recognize emergencies
Germany	In-house assistance system for lighting and music control
Germany	Electronic „Butler“ with intelligent diary, fitness and telemonitoring function
Germany	Mobile Assistance System for persons with cognitive disabilities when outside their homes
UK	List of EU Research Projects related to smart home technologies & smart TV
UniversAAL	Healthy Lifestyle Service Package, Nutritional Advisor

Use Case Clustering (IEC SG5 AAL)

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- Communication and social interaction use case scenario (1)
- Entertainment use case scenarios (4)
- Daily life support (1)
- Safety, security and privacy at home Use Case Scenario (0)
- Monitoring, Healthcare and Wellness Use Case Scenario (3)
- Active aging use case scenario (2)
- Mobility use case scenario (1)

Communication and social interaction use case scenario

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- Connected TV USE CASE (provided by the EBU)
- Connected TV has direct accessibility/usability aspects
  - Usage of CTVs in the consumption of broadcast content
  - Indirect role in providing part of the infrastructure for AAL solutions, as a display function but also as a hub for other components of a solution
  - Connected TVs address interface and content accessibility issues, even if in the indirect model the Connected TV is only used as one of the components to deliver a certain AAL service.

Entertainment use case scenarios

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- Electronic Programme Guide USE CASE (provided by the US)
- Develop guidelines to simplify the accessibility to electronic programme guides by users who are blind or visually impaired.
  - EPG is an important feature in most digital set-top boxes required to access multichannel video programme distributors (cable, satellite and telco.).
  - Some televisions also have built-in EPGs. The EPG enhances the user's ability to search and find the wide array of video programming available.
  - Current EPGs are not easily accessible to users who are blind or visually impaired due to their graphics-rich user interface.

Entertainment use case scenarios

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- Audio Description and Audio Subtitles USE CASE (provided by the US and ITU-T FG AVA)
- Develop guidelines to simplify the accessibility to audio description and audio subtitles by users who are blind or visually impaired.
  - Access to AD features of a TV or set-top box by users who are blind or visually impaired needs to be simplified.
  - AD is provided through the TV or set-top box "secondary audio" feature, which some remote controls identify as "SAP" or "secondary audio program."
  - The secondary audio may also be identified as a foreign language, because it is also used to provide foreign language translations of native language video programming. Depending upon the video programme being viewed, when listening to the secondary audio, users may hear the primary audio with audio description, foreign language translation, a duplicate of the primary audio, or silence.

Entertainment use case scenarios

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- Digital apparatus GENERIC USE CASE (provided by the US)
- Develop guidelines for user interfaces of digital apparatus designed to receive or playback video programming transmitted in digital format simultaneously with sound, including digital formats using Internet Protocol, so that control of appropriate built-in apparatus functions are accessible to and usable by users who are blind or visually impaired, do not have fine movement or cognitive impairments.
- Digital apparatus with built in displays or intended to be connected to a display device frequently include on screen text menus or displays that are used to select or navigate various features of the apparatus that facilitate recording or playback of digital programming or control of accessibility related features.

Entertainment use case scenarios

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- Ubiquitous in-house electronics and installations USE CASE (provided by DKE)
- The ubiquitous in-house electronics and installations scenario builds up the ambience by using intelligent lighting and music control, house control systems, sensors, situational awareness, media equipment, localization, automatic detection of new components and by integrating the home network.
- All in-house assistance systems adapt to domestic lighting conditions to suit the requirements and preferences of the users.
- Music accompanies the users as they move around different areas in the house.

Daily Life Support

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- Electronic Butler USE CASE (provided by DKE)
- The electronic butler scenario as an intelligent diary makes use of video telephone systems, sensors, home automation systems, remote management, video conference systems, terminals, electronic butler, VR fitness room, communication and telemonitoring.
- AAL service user is connected with a video communication system that helps the user to stay in touch with friends and family and contact the doctor while the virtual butler manages the diary, provides advice on everyday matters and checks installed building services technology.
- Via remote servicing, the virtual butler is reconfigured and updated every six months.

Monitoring, Healthcare and Wellness Use Case Scenario

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- Telemonitoring USE CASE (provided by DKE)
- The AAL service user lives in an intelligent apartment equipped with a telemonitoring system.
- Via a video conference link, doctors' appointments and physiotherapeutic treatments can be carried out, such as identification, localization of the user and fall detection as well as management of vital signs.
- The telemonitoring systems consists of video call systems, medical equipment, conference systems, monitoring systems of vital signs and medication in-take.

Monitoring, Healthcare and Wellness Use Case Scenario

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- Telemonitoring with Connected TV USE CASE (provided by Japan)
- Monitoring of the vital signs of a Connected TV AAL service users. The concept is to monitor the AAL service user's health status via the Connected TV at home by establishing a communication link between the user and the health care provider.
- Current TV sets provide data to make the necessary action or not. When the power switch and channel selection of the Connected TV are operated, this information is sent by email to the registered email address on a cell phone or PC of the health care provider or family members. This means the Connected TV user is in healthy condition.

Monitoring, Healthcare and Wellness Use Case Scenario

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- Healthy Lifestyle Service Package Use Case (UniversAAL)
- The AAL service user is supervised by a telemonitoring system which controls his health and diet status. The "Healthy Lifestyle Service Package“ consists of sensors installed across the house to monitor the actions related to cooking, sedentary life, level of activity, etc.
- Health care personnel supervises the ongoing care of the AAL service user by sending advice and questions about the health and vital signs.
- The AAL user can decide separately on the most preferred way of interaction (graphical, voice, gesture, etc) and most convenient applications.

Active aging use case scenario

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- Nutritional Advisor USE CASE (provided by UniversAAL)
- Example application: “Nutritional advisor” (multimodality and high configurability)
- The AAL service user is able to initially configure his/her user preferences related to nutritional aspects. These preferences are stored in a platform component dealing with the user profile. That information is used by the "User Interaction Framework" to apply its intelligence.
- Platform offers different ways to allow inputs of information into the system: Wizard based using window based forms (graphical oriented), wizard based using speech generation and voice recognition (voice oriented), or a combination of graphical interface, gesture and voice recognition (multimodal).

Common application requirements

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- Information assistant
- Intelligent behaviour of the environment
- Anticipate emergency situations
- Recognition of emergency situations
- Security and privacy

Usability and accessibility barriers

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- Complex navigation and control of content
- Accessibility of menues to control EPGs, audio description, subtitles
- Content accessibility major issue for hearing impaired
- Interface accessibility major issue for visually impaired
- Operation of devices and systems, e.g. PDAs, touch screens, video call systems, telemonitoring systems

Some solutions

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- Alternate navigation and presentation options
- Text to speech; speech recognition
- Access functions accompanied with audio output
- Visual sensing and gesture (head, hand) control
- Interaction with AAL system by gesture, voice, touch or simulaneously depending on user‘s location, type of impairment, available devices
- Individualization incl. activating/de-activating built-in accessibility features
- Tablet and multi-touch interfaces
- Eye tracking systems
- Gyroscopic remote control

Next Steps

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- 7 June 2013 PT 100-7 Meeting in London
- Discussion of early draft TR AAL Use Cases related to AAL in the field of audio, video and multimedia systems and equipment
- Analysis of required standards and identification of standards gaps
- Development of conclusions and recommendations for TC 100