

# TECHNICAL REPORT



Use cases related to ambient assisted living (AAL) in the field of audio, video and multimedia systems and equipment

INTERNATIONAL  
ELECTROTECHNICAL  
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## CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references .....	8
3 Terms, definitions and abbreviations .....	8
3.1 Terms and definitions.....	8
3.2 Abbreviations.....	12
4 Use case scenarios .....	14
4.1 General.....	14
4.2 Enabling functions .....	14
4.2.2 Interaction with humans (Monitoring) .....	14
4.2.3 Social participation .....	14
4.2.4 Physical interaction with human environment (assistance systems) .....	14
4.2.5 Data acquisition.....	14
4.2.6 Mechatronics and control.....	14
4.2.7 Data aggregation and storage.....	15
4.2.8 Defined function control and support.....	15
4.2.9 Complex cross-function service control and support .....	15
4.2.10 Integral service programmes.....	15
4.3 Spatial aspects and application environment.....	15
4.3.1 General .....	15
4.3.2 Body and personal (aura).....	15
4.3.3 Home.....	15
4.3.4 Personal vehicle.....	16
4.3.5 Public buildings.....	16
4.3.6 Global.....	16
4.4 AAL stakeholders and actors .....	16
4.4.1 Explanation of terms .....	16
4.4.2 AAL solution/service user .....	16
4.4.3 AAL service provider .....	16
4.4.4 AAL auditor .....	16
4.4.5 AAL broker .....	17
4.4.6 AAL carrier .....	17
4.4.7 AAL application developer .....	17
5 Use case template.....	17
5.1 Template.....	17
5.2 Description of the use case.....	17
5.3 Name of the use case .....	17
5.4 Name of author(s) or committee.....	17
5.5 Scope and objectives of use case .....	17
5.6 Short description.....	18
5.7 Complete description .....	18
5.8 Accessibility barriers for users .....	19
5.9 Which technologies need to be supported.....	19
5.10 Which standards are needed to meet identified requirements.....	19

5.11	Actors: people, systems, applications, databases, the power system, and other stakeholders .....	19
5.11.1	Connected TV AAL user .....	19
5.11.2	Connected TV AAL service provider .....	20
5.11.3	Connected TV AAL broker .....	20
6	Use case clustering .....	20
6.1	Criteria.....	20
6.2	Communication and social interaction use case scenario .....	20
6.3	Entertainment use case scenario .....	20
6.4	Daily life support use case scenario .....	22
6.5	Safety, security and privacy at home use case scenario.....	22
6.6	Monitoring, healthcare and wellbeing use case scenario .....	22
6.7	Active aging use case scenario .....	24
6.8	Mobility use case scenario .....	25
7	Common application requirements derived from the use cases .....	25
7.1	Background.....	25
7.2	Information assistant.....	25
7.3	Intelligent behaviour of the environment.....	25
7.4	Anticipate emergency situations.....	26
7.5	Recognition of emergency situations.....	26
7.6	Security and privacy .....	26
8	Definition of common frameworks .....	26
8.1	Summary .....	26
8.2	PERSONA Project .....	26
8.3	universAAL user interaction framework .....	26
8.4	GUIDE Project.....	27
9	User needs and accessibility principles.....	28
9.1	Application of principles .....	28
9.2	User-focused principles .....	28
9.3	Interaction-focused principles .....	29
9.4	Task-focused principles .....	29
9.5	System-solution-focused principles .....	29
10	Usability and accessibility barriers of AAL service users as demonstrated in the connected TV scenario .....	29
11	User interface considerations of product and service design.....	30
11.1	Summary .....	30
11.2	universAAL project (supporting rich human computer interaction) .....	31
11.3	GUIDE project.....	32
12	Analysis of standards .....	33
12.1	Role of standards.....	33
12.2	Standards gaps in the field of audio, video and multimedia equipment .....	34
12.3	Conclusions and recommendations .....	35
Annex A (informative)	Draft definitions of AAL and accessibility (source: JEITA).....	37
A.1	Overview.....	37
A.2	Summary of AAL.....	40
A.2.1	User in AAL scope .....	40
A.2.2	Definition of AAL.....	40
A.2.3	AAL as considered in this Technical Report and entire AAL .....	41

Annex B (informative) Use case template (source: IEC SG 5 AAL).....	42
B.1 Name of use case .....	42
B.2 Version management .....	42
B.3 Basic information to use case .....	42
B.4 Scope and objectives of the use case .....	42
B.5 Narrative of use case .....	43
B.6 Actors: People, systems, applications, databases, the power system, and other stakeholders .....	43
B.7 Issues: Legal contracts, legal regulations, constraints and others .....	43
B.8 Referenced standards and / or standardization committees (if available) .....	43
B.9 Relation with other known use cases .....	43
B.10 General remarks .....	43
Annex C (informative) Telemonitoring USE CASE provided by Japan .....	44
Annex D (informative) Health use case provided by Japan .....	45
Annex E (informative) Standards Repository List of standards with relevance for AAL standardization .....	46
E.1 General.....	46
E.2 Software Infrastructure for AAL/Middleware .....	46
E.3 Networks and buses.....	46
E.3.1 Human body communication .....	46
E.3.2 Wireless protocols for mobile applications .....	46
E.3.3 (Wireless) Personal area networks .....	46
E.3.4 Communication protocols.....	47
E.4 File formats and persistent data structures.....	48
E.4.1 General purpose .....	48
E.4.2 Terminologies and Semantics.....	49
E.4.3 Integration Profiles .....	49
E.4.4 User Interfaces: Usability, Ergonomics, Design for All.....	49
E.4.5 Specifications and standards for operator models .....	50
E.4.6 Localization .....	50
E.4.7 Accessibility.....	50
Bibliography.....	52
Figure A.1 – Scope of AAL.....	37
Figure A.2 – Classification by life situation.....	38
Figure A.3 – Use case mapping under AAL .....	38
Figure A.4 – Functional considerations under AAL .....	39
Figure A.5 – Products and services under AAL .....	40
Figure C.1 – Telemonitoring of vital signs with connected TV – Power ON/OFF .....	44
Figure C.2 – Telemonitoring of vital signs with connected TV – Power OFF .....	44
Figure C.3 – Telemonitoring of vital signs with connected TV – Answers to questions.....	44
Figure D.1 – Pedometer application for smartphone.....	45

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

# USE CASES RELATED TO AMBIENT ASSISTED LIVING (AAL) IN THE FIELD OF AUDIO, VIDEO AND MULTIMEDIA SYSTEMS AND EQUIPMENT

### FOREWORD

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IEC TR 62907, which is a technical report, has been prepared by technical area 16: Active assisted living (AAL), accessibility and user interfaces, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
100/2263/DTR	100/2340/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

This Technical Report (TR) captures the results of a use case input process that began with the call for contributions of AAL use cases on 2012-06-06. The current document reflects contributions and discussions by IEC TC 100 national mirror committees, user organizations and the ITU-T Focus Group on Audio Visual Media Accessibility. This Technical Report also contains material gathered from reports, AAL research projects and group output from the IEC TC 100 AAL stage 0 project team meetings in October 2012 (Berlin), June 2013 (London) and September 2013 (Shenzhen). In total, seventeen use cases were submitted.

To start the project, a survey was designed and distributed to the IEC TC 100 P-members to collect Ambient Assisted Living (AAL) use cases. The use case submissions consisted of the title of the use case, a description and the origin of the use case. Also incorporated is the relevance of the use case within the scope of IEC TC 100. These are mainly activity based AAL use cases providing a user experience perspective from those who want to operate AV and multimedia equipment or access AAL services. The use case template helped to group and categorize the use cases according to the identified user requirements and experience of usability barriers faced by users. Understanding the usability barriers made it easier to identify categories and highlight use case commonalities. Where multiple use cases fall in the same category and had overlapping items, they were consolidated into one extended use case. All selected use cases have real-world validity. Gaps were filled by adding extra use cases and future developments were also considered. Usability barriers and functional requirements were extracted from the use cases and recommendations given for future standardization items related to AAL.

There is a natural mapping from the user experience based use cases to the clustered technical use cases, where specific technical and functional requirements are expressed.

The following national committees, liaison organizations and EU research projects contributed use cases on Ambient Assisted Living:

- a) IEC TC 100 P-members China, Germany, Japan, UK and U.S.;
- b) the European Blind Union;
- c) the ITU-T Focus Group Audio Visual Media Accessibility;
- d) and the EU Research Projects GUIDE, Persona, universAAL and AALIANCE.

Technological advances have enormous potential to make the society more inclusive by providing AAL solutions. The key issues relevant for IEC TC 100 which need to be addressed include barriers to accessibility and usability, and interoperability and personalization to ensure wide adoption.

This TR extracts and applies the user needs and accessibility principles published in ISO/IEC Guide 71.

The target audience for the TR includes:

- AAL service users who can understand how their AAL needs and their usability requirements are considered by an AAL service provider.
- AAL service providers who can learn about users AAL needs, and accessibility and usability issues, and can also learn how to operate AAL systems.
- AAL application developers who can develop AAL applications according to the needs of the AAL service users.
- CE and ICT device manufacturers who want to know what are the AAL needs of the users and what barriers elderly people and people with disabilities face which are related to the accessibility of interfaces and content.
- Administrations and government authorities that have to act as AAL service users and AAL regulators.

## USE CASES RELATED TO AMBIENT ASSISTED LIVING (AAL) IN THE FIELD OF AUDIO, VIDEO AND MULTIMEDIA SYSTEMS AND EQUIPMENT

### 1 Scope

This Technical Report comprises seventeen use cases for Ambient Assisted Living submitted to IEC between June 2012 and September 2013.

The initial objective of this Technical Report is the identification of AAL scenarios and use cases based on real-world applications and requirements. Use cases are a well-known tool for expressing requirements at a high level with real-life relevance. The use cases provide a practical context for considerations on interoperability and standards based on user experience. They make it clear where existing standards can be further used and highlight where standardisation work is needed.

The use cases are based on the identified requirements of elderly people and people with disabilities. The use case scenarios demonstrate both the usability barriers and functional requirements. In addition, the accessibility principles developed in ISO/IEC Guide 71 were applied.

A further objective of this report is to highlight potential areas for standardisation in the AAL environment to ensure ease of operation and interoperability with a focus on specific aspects relating to audio, video and multimedia equipment.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC Guide 71:2001, *Guidelines for standards developers to address the needs of older persons and persons with disabilities*