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Active assisted living (AAL) use cases

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Active assisted living (AAL) use cases



CONTENTS

FOREWORD	10
INTRODUCTION	12
1 Scope	13
2 Normative references	13
3 Terms, definitions and abbreviated terms	13
3.1 Terms and definitions	13
3.2 Abbreviated terms	13
4 General	14
4.1 Overview	14
4.2 Objectives	14
4.3 Use case development stages	14
4.4 AAL architecture model	14
5 Definition of AAL use case template	16
5.1 Overview	16
5.2 Description of use case	16
5.3 AAL levels of criticality	16
5.4 Levels of assistance (user domains)	17
5.5 Use case categories	18
5.6 Context of use	19
5.7 System component composition	20
5.8 Actors	21
5.8.1 General	21
5.8.2 Persons	21
5.8.3 Technical components	21
5.8.4 Organizations	21
5.8.5 Relationship between actors	22
6 Use case analysis	22
6.1 General	22
6.2 Overview and representative use cases	22
6.2.1 General	22
6.2.2 Prevention and management of chronic long-term conditions	25
6.2.3 Social interaction	26
6.2.4 Mobility	26
6.2.5 Health & wellness	27
6.2.6 (Self-)management of daily life activities at home	27
6.3 Functionalities that appear in each use case	28
7 Considerations of user requirements	30
7.1 General	30
7.2 Definition of user requirements	31
7.2.1 General	31
7.2.2 Safety	31
7.2.3 Security	32
7.2.4 Privacy and data protection	32
7.2.5 Functional requirements	32
8 Summary of standards gap analysis	33

9	Conclusions and recommendations	33
	Annex A (informative) AAL use case template (version 1.10)	35
A.1	Level of criticality (see 5.3)	35
A.2	Name of use case	35
A.3	AAL function and service layer	35
A.4	AAL system component composition	35
A.5	Version management	35
A.6	Basic information to use case	36
A.7	Scope and objectives of use case	36
A.8	Narrative of use case	36
A.9	Actors: people, components, systems, integrated systems, applications and organizations	36
A.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	36
A.11	Referenced standards and/or standardization committees	37
A.12	Relation with other known use cases	37
A.13	General remarks	37
A.14	Data security and privacy	37
A.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL)	37
A.16	User requirements and interactions with other actors	37
A.17	Drawings or diagrams depicting the use case	37
	Annex B (informative) Representative use cases	38
B.1	Use case 1 personal health check	38
B.1.1	Level of criticality (See 5.3)	38
B.1.2	Name of use case	38
B.1.3	AAL function and service layer	38
B.1.4	AAL system component composition	38
B.1.5	Version management	39
B.1.6	Basic information to use case	39
B.1.7	Scope and objectives of use case	39
B.1.8	Narrative of use case	40
B.1.9	Actors: people, components, systems, integrated systems, applications and organizations	40
B.1.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	40
B.1.11	Referenced standards and/or standardization committees	41
B.1.12	Relation with other known use cases	41
B.1.13	General remarks	41
B.1.14	Data security and privacy	41
B.1.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL)	41
B.1.16	User requirements and interactions with other actors	41
B.1.17	Drawings or diagrams depicting the use case	42
B.2	Use case 2 advanced medication monitoring	42
B.2.1	Level of criticality (see 5.3)	42
B.2.2	Name of use case	42
B.2.3	AAL function and service layer	42
B.2.4	AAL system component composition	43
B.2.5	Version management	43

B.2.6	Basic Information to use case	43
B.2.7	Scope and objectives of use case	43
B.2.8	Narrative of use case	43
B.2.9	Actors: people, components, systems, integrated systems, applications and organizations	46
B.2.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	46
B.2.11	Referenced standards and/or standardization committees	46
B.2.12	Relation with other known use cases	46
B.2.13	General remarks	46
B.2.14	Security and privacy	47
B.2.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL)	47
B.2.16	User requirements and interactions with other actors	47
B.2.17	Drawings or diagrams depicting the use case	48
B.3	Use Case 3 enable social interaction with care provider	48
B.3.1	Level of criticality (see 5.3)	48
B.3.2	Name of use case	49
B.3.3	AAL function and service layer	49
B.3.4	AAL system component composition	49
B.3.5	Version management	49
B.3.6	Basic information to use case	50
B.3.7	Scope and objectives of use case	50
B.3.8	Narrative of use case	51
B.3.9	Actors: people, components, systems, integrated systems, applications and organizations	52
B.3.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	52
B.3.11	Standards and/or standardization committees	52
B.3.12	Relation with other known use cases	53
B.3.13	General remarks	53
B.3.14	Data security and privacy	53
B.3.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL)	53
B.3.16	User requirements and interactions with other actors	53
B.3.17	Drawings or diagrams depicting the use case	54
B.4	Use case 4 social interaction with smart TV	55
B.4.1	Level of criticality (see 5.3)	55
B.4.2	Name of use case	55
B.4.3	AAL function and service layer	55
B.4.4	AAL system component composition	56
B.4.5	Version management	56
B.4.6	Basic information to use case	56
B.4.7	Scope and objectives of use case	57
B.4.8	Narrative of use case	57
B.4.9	Actors: people, components, systems, integrated systems, applications and organizations	57
B.4.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	58
B.4.11	Referenced standards and/or standardization Committees	58
B.4.12	Relation with other known use cases	58

B.4.13	General remarks	58
B.4.14	Data security and privacy	58
B.4.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	58
B.4.16	User requirements and interactions with other actors.....	59
B.4.17	Drawings or diagrams depicting the use case	59
B.5	Use case 5 smart wheeled walker	60
B.5.1	Level of criticality (see 5.3).....	60
B.5.2	Name of use case	61
B.5.3	AAL function and service layer	61
B.5.4	AAL system component composition.....	61
B.5.5	Version management.....	61
B.5.6	Basic information to use case	62
B.5.7	Scope and objectives of use case	62
B.5.8	Narrative of use case.....	63
B.5.9	Actors: people, components, systems, integrated systems, applications and organizations	63
B.5.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	64
B.5.11	Referenced standards and/or standardization committees	64
B.5.12	Relation with other known use cases	64
B.5.13	General remarks	64
B.5.14	Data security and privacy	64
B.5.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	65
B.5.16	User requirements and interactions with other actors.....	65
B.5.17	Drawings or diagrams depicting the use case	65
B.6	Use Case 6 enhanced terminal accessibility.....	66
B.6.1	Level of criticality (see 5.3).....	66
B.6.2	Name of use case	66
B.6.3	AAL function and service layer	67
B.6.4	AAL system component composition.....	67
B.6.5	Version management.....	67
B.6.6	Basic information to use case	67
B.6.7	Scope and objectives of use case	68
B.6.8	Narrative of use case.....	68
B.6.9	Actors: people, components, systems, integrated systems, applications and organizations	69
B.6.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	69
B.6.11	Referenced standards and/or standardization committees	69
B.6.12	Relation with other known use cases	69
B.6.13	General remarks.....	70
B.6.14	Data security and privacy	70
B.6.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	70
B.6.16	User requirements and interactions with other actors.....	70
B.6.17	Drawings or diagrams depicting the use case	71
B.7	Use case 7 intelligent apartment	71
B.7.1	Level of criticality (See 5.3)	71

B.7.2	Name of use case.....	71
B.7.3	AAL function and service layer	72
B.7.4	BAAL system component composition	72
B.7.5	Version management.....	72
B.7.6	Basic information to use case	73
B.7.7	Scope and objectives of use case	73
B.7.8	Narrative of use case.....	74
B.7.9	Actors: people, components, systems, integrated systems, applications and organizations	75
B.7.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	75
B.7.11	Referenced standards and/or standardization committees	75
B.7.12	Relation with other known use cases	76
B.7.13	General remarks.....	76
B.7.14	Data security and privacy	76
B.7.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	76
B.7.16	User requirements and interactions with other actors.....	76
B.7.17	Drawings or diagrams depicting the use case	77
B.8	Use case 8 personal trainer	77
B.8.1	Level of criticality (see 5.3).....	77
B.8.2	Name of use case.....	78
B.8.3	AAL function and service layer	78
B.8.4	AAL system component composition.....	78
B.8.5	Version management.....	78
B.8.6	Basic information to use case	79
B.8.7	Scope and objectives of use case	79
B.8.8	Narrative of use case.....	79
B.8.9	Actors: people, components, systems, integrated systems, applications and organizations	80
B.8.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	80
B.8.11	Referenced standards and/or standardization committees	80
B.8.12	Relation with other known use cases	80
B.8.13	General remarks.....	81
B.8.14	Data security and privacy	81
B.8.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	81
B.8.16	User requirements and interactions with other actors.....	81
B.8.17	Drawings or diagrams depicting the use case	82
B.9	Use case 9 behaviour monitoring	84
B.9.1	Level of criticality (see 5.3).....	84
B.9.2	Name of use case.....	84
B.9.3	AAL function and service layer	84
B.9.4	AAL system component composition.....	84
B.9.5	Version Management.....	85
B.9.6	Basic Information to Use Case.....	85
B.9.7	Scope and Objectives of Use Case.....	85
B.9.8	Narrative of use case.....	86

B.9.9	Actors: people, components, systems, integrated systems, applications and organizations	86
B.9.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	87
B.9.11	Referenced standards and/or standardization committees	87
B.9.12	Relation with other known use cases	87
B.9.13	General remarks	87
B.9.14	Data security and privacy	88
B.9.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	88
B.9.16	User requirements and interactions with other actors.....	88
B.9.17	Drawings or diagrams depicting the use case	89
B.10	Use case 10 shopping and nutrition planner.....	90
B.10.1	Level of criticality (see 5.3).....	90
B.10.2	Name of Use Case.....	91
B.10.3	AAL function and service layer	91
B.10.4	AAL system component composition.....	91
B.10.5	Version management.....	91
B.10.6	Basic information to use case	92
B.10.7	Scope and objectives of use case	92
B.10.8	Narrative of use case.....	93
B.10.9	Actors: people, components, systems, integrated systems, applications and organizations	93
B.10.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	93
B.10.11	Referenced standards and/or standardization committees	94
B.10.12	Relation with other known use cases	94
B.10.13	General remarks	94
B.10.14	Data security and privacy	94
B.10.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	94
B.10.16	User requirements and interactions with other actors.....	94
B.10.17	Drawings or diagrams depicting the use case	95
B.11	Use case 11 intelligent lighting fixtures	96
B.11.1	Level of criticality (see 5.3).....	96
B.11.2	Name of use case	96
B.11.3	AAL function and service layer	96
B.11.4	AAL system component composition.....	97
B.11.5	Version management.....	97
B.11.6	Basic information to use case	97
B.11.7	Scope and objectives of use case	97
B.11.8	Narrative of use case.....	98
B.11.9	Actors: people, components, systems, integrated systems, applications and organizations	99
B.11.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	99
B.11.11	Referenced standards and/or standardization committees	99
B.11.12	Relation with other known use cases	100
B.11.13	General remarks	100
B.11.14	Data security and privacy	100

B.11.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	100
B.11.16	User requirements and interactions with other actors.....	100
B.11.17	Drawings or diagrams depicting the use case	101
Annex C (informative)	User requirements analysis	105
Annex D (informative)	Extraction of user requirements from the 10 representative use cases.....	110
Annex E (informative)	Updated AAL use case template (this updated version 2 to be used for new use cases)	115
E.1	Description of the use case.....	115
E.1.1	Name of use case.....	115
E.1.2	Version management.....	115
E.1.3	Scope and objectives of use case.....	115
E.1.4	Level of criticality (see 5.3).....	115
E.1.5	AAL level(s) of assistance (see 5.4).....	115
E.1.6	Narrative of use case – Short description	115
E.1.7	Use case category and geographic context.....	116
E.1.8	Basic information on the use case	116
E.2	Components of the use case.....	116
E.2.1	Narrative of use case – Complete description	116
E.2.2	Actors: persons, technical components, and organizations (see 5.8)	116
E.2.3	AAL system component composition (see 5.7).....	117
E.2.4	Issues: legal contracts, legal regulations, constraints, and others (including regional regulations).....	117
E.2.5	Referenced International Standards and/or standardization committees	117
E.2.6	Relation with other known use cases	117
E.2.7	General remarks.....	117
E.2.8	Data security considerations.....	117
E.2.9	Data privacy considerations.....	117
E.2.10	Ethical considerations for autonomous systems	118
E.2.11	Conformity aspects (common international assessment methodology/critical requirements)	118
E.2.12	User requirements and interactions with other actors.....	118
E.3	Drawings or diagrams depicting the use case	118
Bibliography	119
Figure 1	– AAL architecture model	15
Figure 2	– Overview of AAL user domains.....	18
Figure 3	– AAL use case categories.....	19
Figure 4	– Relationship between actors	22
Figure 5	– Overview of user requirements.....	30
Figure 6	– AAL use case classification	31
Figure C.1	– Extraction example of user requirements from UC #1	105
Figure D.1	– Extraction example of user requirements from UC #1(same as Figure C.1).....	110
Figure D.2	– Extraction of user requirements from UC #2	110
Figure D.3	– Extraction of user requirements from UC #3	111
Figure D.4	– Extraction of user requirements from UC #4	111
Figure D.5	– Extraction of user requirements from UC #5	112

Figure D.6 – Extraction of user requirements from UC #6	112
Figure D.7 – Extraction of user requirements from UC #7	113
Figure D.8 – Extraction of user requirements from UC #8	113
Figure D.9 – Extraction of user requirements from UC #9	114
Figure D.10 – Extraction of user requirements from UC #10.....	114
Table 1 – Updated titles and categories of use cases	23
Table 2 – Categories and functionalities of use cases	29
Table C.1 – Extraction of user requirements from use cases.....	106
Table C.2 – Allocation to user requirements groups	108
Table C.3 – Mapping of user requirements groups by UC categories and Figure 5.....	109

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ACTIVE ASSISTED LIVING (AAL) USE CASES

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This consolidated version of the official IEC technical specification and its amendment has been prepared for user convenience.

IEC TS 63134 edition 1.1 contains the first edition (2020-04) [documents SyCAAL/152/DTS and SyCAAL/167/RVDTS] and its amendment 1 (2022-12) [documents SyCAAL/262/DTS and SyCAAL/283/RVDTS].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a technical specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 63134, which is a Technical Specification, has been prepared by IEC systems committee Active Assisted Living.

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

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

- transformed into an International Standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

IEC SyC AAL is developing use cases for AAL system standards with a view to identify gaps in standardization.

All selected use cases have a real-world validity. The development of use cases makes it easier to define AAL categories of similar use cases and highlight their commonalities. It was then possible to extract functional requirements from the use cases and make recommendations for future standardization items related to AAL. Collecting the use cases also allowed SyC AAL to validate the proposed AAL reference model and reference architecture.

This document captures the results of a use case input process that began with the call for contributions of AAL use cases in November 2015. The current document reflects contributions and discussions by SyC AAL experts, mirror committees and liaison members. This document also contains material gathered from reports, AAL research projects and group output from the SyC AAL meetings in November 2015 (Tokyo), April 2016 (Wellington), October 2016 (Frankfurt), April 2017 (Beijing), September 2017 (Cleveland), May 2018 (Tokyo) and October 2018 (Seoul), as well as information obtained from the subsequent web calls to the meetings.

As of November 2018, a total of 45 use cases were submitted. To start the project, members of the SyC AAL user focus working group were requested to submit use cases using the IEC template. The use case submissions consisted of the title of the use case, a description and the origin of the use case. The use case template helped to group and categorize the use cases according to the identified functional requirements and needs of users. The former AAL use case template developed in SG 3 AAL was modified in order to capture also wider societal issues including security, risk and privacy, as well as looking at AAL in relation to the Internet of Things (IoT).

Experts from the following national committees, liaison organizations and research projects contributed use cases on AAL: Canada, China, Japan, Germany, Netherlands, South Korea, UK, USA, ISO IEC JTC 1 SC 41 PCHA and Continua and AALiance2.

The target audience for this document includes the following stakeholders who have an interest in the AAL system:

- AAL users and service provider personnel who can learn about AAL user needs and how to operate AAL systems;
- first responders, formal carers, etc. to understand how to respond to an AAL system emergency call;
- CE and ICT device manufacturers who want to understand AAL devices and interface and interoperability requirements;
- AAL care recipients who are interested in the usability, accessibility and performance of the AAL system;
- AAL operators to understand the system requirements;
- regulators who are responsible for developing and supervising AAL and related regulations.

ACTIVE ASSISTED LIVING (AAL) USE CASES

1 Scope

This document identifies AAL scenarios and use cases based on real-world applications and requirements. The use cases provide a practical context for considerations of interoperability and standards based on user experience. Use cases provide a context for utilizing existing standards and identifying further standardization work. User requirements have also been identified.

This document also highlights potential areas for standardization in the AAL environment to ensure safety, security, privacy, ease of operation, performance and interoperability.

Lastly, this document is a contribution to the IEC use case management repository, the purpose of which is to collect, administer, maintain, and analyse use cases.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-871, *International Electrotechnical Vocabulary – Part 871: Active assisted living (AAL)*

FINAL VERSION



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CONTENTS

FOREWORD	10
INTRODUCTION	12
1 Scope	13
2 Normative references	13
3 Terms, definitions and abbreviated terms	13
3.1 Terms and definitions	13
3.2 Abbreviated terms	13
4 General	14
4.1 Overview	14
4.2 Objectives	14
4.3 Use case development stages	14
4.4 AAL architecture model	14
5 Definition of AAL use case template	16
5.1 Overview	16
5.2 Description of use case	16
5.3 AAL levels of criticality	16
5.4 Levels of assistance (user domains)	17
5.5 Use case categories	18
5.6 Context of use	19
5.7 System component composition	20
5.8 Actors	21
5.8.1 General	21
5.8.2 Persons	21
5.8.3 Technical components	21
5.8.4 Organizations	21
5.8.5 Relationship between actors	22
6 Use case analysis	22
6.1 General	22
6.2 Overview and representative use cases	22
6.2.1 General	22
6.2.2 Prevention and management of chronic long-term conditions	25
6.2.3 Social interaction	26
6.2.4 Mobility	26
6.2.5 Health & wellness	27
6.2.6 (Self-)management of daily life activities at home	27
6.3 Functionalities that appear in each use case	28
7 Considerations of user requirements	30
7.1 General	30
7.2 Definition of user requirements	31
7.2.1 General	31
7.2.2 Safety	31
7.2.3 Security	32
7.2.4 Privacy and data protection	32
7.2.5 Functional requirements	32
8 Summary of standards gap analysis	33

9	Conclusions and recommendations.....	33
	Annex A (informative) AAL use case template (version 1.10)	35
	A.1 Level of criticality (see 5.3)	35
	A.2 Name of use case	35
	A.3 AAL function and service layer.....	35
	A.4 AAL system component composition	35
	A.5 Version management	35
	A.6 Basic information to use case	36
	A.7 Scope and objectives of use case	36
	A.8 Narrative of use case	36
	A.9 Actors: people, components, systems, integrated systems, applications and organizations	36
	A.10 Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	36
	A.11 Referenced standards and/or standardization committees.....	37
	A.12 Relation with other known use cases	37
	A.13 General remarks	37
	A.14 Data security and privacy.....	37
	A.15 Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL	37
	A.16 User requirements and interactions with other actors	37
	A.17 Drawings or diagrams depicting the use case	37
	Annex B (informative) Representative use cases	38
	B.1 Use case 1 personal health check.....	38
	B.1.1 Level of criticality (See 5.3)	38
	B.1.2 Name of use case	38
	B.1.3 AAL function and service layer	38
	B.1.4 AAL system component composition.....	38
	B.1.5 Version management.....	39
	B.1.6 Basic information to use case	39
	B.1.7 Scope and objectives of use case	39
	B.1.8 Narrative of use case.....	40
	B.1.9 Actors: people, components, systems, integrated systems, applications and organizations	40
	B.1.10 Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	40
	B.1.11 Referenced standards and/or standardization committees	41
	B.1.12 Relation with other known use cases	41
	B.1.13 General remarks	41
	B.1.14 Data security and privacy	41
	B.1.15 Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	41
	B.1.16 User requirements and interactions with other actors.....	41
	B.1.17 Drawings or diagrams depicting the use case	42
	B.2 Use case 2 advanced medication monitoring.....	42
	B.2.1 Level of criticality (see 5.3).....	42
	B.2.2 Name of use case	42
	B.2.3 AAL function and service layer	42
	B.2.4 AAL system component composition.....	43
	B.2.5 Version management.....	43

B.2.6	Basic Information to use case	43
B.2.7	Scope and objectives of use case	43
B.2.8	Narrative of use case	43
B.2.9	Actors: people, components, systems, integrated systems, applications and organizations	46
B.2.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	46
B.2.11	Referenced standards and/or standardization committees	46
B.2.12	Relation with other known use cases	46
B.2.13	General remarks	46
B.2.14	Security and privacy	47
B.2.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL)	47
B.2.16	User requirements and interactions with other actors	47
B.2.17	Drawings or diagrams depicting the use case	48
B.3	Use Case 3 enable social interaction with care provider	48
B.3.1	Level of criticality (see 5.3)	48
B.3.2	Name of use case	49
B.3.3	AAL function and service layer	49
B.3.4	AAL system component composition	49
B.3.5	Version management	49
B.3.6	Basic information to use case	50
B.3.7	Scope and objectives of use case	50
B.3.8	Narrative of use case	51
B.3.9	Actors: people, components, systems, integrated systems, applications and organizations	52
B.3.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	52
B.3.11	Standards and/or standardization committees	52
B.3.12	Relation with other known use cases	53
B.3.13	General remarks	53
B.3.14	Data security and privacy	53
B.3.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL)	53
B.3.16	User requirements and interactions with other actors	53
B.3.17	Drawings or diagrams depicting the use case	54
B.4	Use case 4 social interaction with smart TV	55
B.4.1	Level of criticality (see 5.3)	55
B.4.2	Name of use case	55
B.4.3	AAL function and service layer	55
B.4.4	AAL system component composition	56
B.4.5	Version management	56
B.4.6	Basic information to use case	56
B.4.7	Scope and objectives of use case	57
B.4.8	Narrative of use case	57
B.4.9	Actors: people, components, systems, integrated systems, applications and organizations	57
B.4.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations)	58
B.4.11	Referenced standards and/or standardization Committees	58
B.4.12	Relation with other known use cases	58

B.4.13	General remarks	58
B.4.14	Data security and privacy	58
B.4.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	58
B.4.16	User requirements and interactions with other actors.....	59
B.4.17	Drawings or diagrams depicting the use case	59
B.5	Use case 5 smart wheeled walker	60
B.5.1	Level of criticality (see 5.3).....	60
B.5.2	Name of use case	61
B.5.3	AAL function and service layer	61
B.5.4	AAL system component composition.....	61
B.5.5	Version management.....	61
B.5.6	Basic information to use case	62
B.5.7	Scope and objectives of use case	62
B.5.8	Narrative of use case.....	63
B.5.9	Actors: people, components, systems, integrated systems, applications and organizations	63
B.5.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	64
B.5.11	Referenced standards and/or standardization committees	64
B.5.12	Relation with other known use cases	64
B.5.13	General remarks	64
B.5.14	Data security and privacy	64
B.5.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	65
B.5.16	User requirements and interactions with other actors.....	65
B.5.17	Drawings or diagrams depicting the use case	65
B.6	Use Case 6 enhanced terminal accessibility.....	66
B.6.1	Level of criticality (see 5.3).....	66
B.6.2	Name of use case	66
B.6.3	AAL function and service layer	67
B.6.4	AAL system component composition.....	67
B.6.5	Version management.....	67
B.6.6	Basic information to use case	67
B.6.7	Scope and objectives of use case	68
B.6.8	Narrative of use case.....	68
B.6.9	Actors: people, components, systems, integrated systems, applications and organizations	69
B.6.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	69
B.6.11	Referenced standards and/or standardization committees	69
B.6.12	Relation with other known use cases	69
B.6.13	General remarks.....	70
B.6.14	Data security and privacy	70
B.6.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	70
B.6.16	User requirements and interactions with other actors.....	70
B.6.17	Drawings or diagrams depicting the use case	71
B.7	Use case 7 intelligent apartment	71
B.7.1	Level of criticality (See 5.3)	71

B.7.2	Name of use case.....	71
B.7.3	AAL function and service layer	72
B.7.4	BAAL system component composition	72
B.7.5	Version management.....	72
B.7.6	Basic information to use case	73
B.7.7	Scope and objectives of use case	73
B.7.8	Narrative of use case.....	74
B.7.9	Actors: people, components, systems, integrated systems, applications and organizations	75
B.7.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	75
B.7.11	Referenced standards and/or standardization committees	75
B.7.12	Relation with other known use cases	76
B.7.13	General remarks.....	76
B.7.14	Data security and privacy	76
B.7.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	76
B.7.16	User requirements and interactions with other actors.....	76
B.7.17	Drawings or diagrams depicting the use case	77
B.8	Use case 8 personal trainer	77
B.8.1	Level of criticality (see 5.3).....	77
B.8.2	Name of use case.....	78
B.8.3	AAL function and service layer	78
B.8.4	AAL system component composition.....	78
B.8.5	Version management.....	78
B.8.6	Basic information to use case	79
B.8.7	Scope and objectives of use case	79
B.8.8	Narrative of use case.....	79
B.8.9	Actors: people, components, systems, integrated systems, applications and organizations	80
B.8.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	80
B.8.11	Referenced standards and/or standardization committees	80
B.8.12	Relation with other known use cases	80
B.8.13	General remarks.....	81
B.8.14	Data security and privacy	81
B.8.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	81
B.8.16	User requirements and interactions with other actors.....	81
B.8.17	Drawings or diagrams depicting the use case	82
B.9	Use case 9 behaviour monitoring	84
B.9.1	Level of criticality (see 5.3).....	84
B.9.2	Name of use case.....	84
B.9.3	AAL function and service layer	84
B.9.4	AAL system component composition.....	84
B.9.5	Version Management.....	85
B.9.6	Basic Information to Use Case.....	85
B.9.7	Scope and Objectives of Use Case.....	85
B.9.8	Narrative of use case.....	86

B.9.9	Actors: people, components, systems, integrated systems, applications and organizations	86
B.9.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	87
B.9.11	Referenced standards and/or standardization committees	87
B.9.12	Relation with other known use cases	87
B.9.13	General remarks	87
B.9.14	Data security and privacy	88
B.9.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	88
B.9.16	User requirements and interactions with other actors.....	88
B.9.17	Drawings or diagrams depicting the use case	89
B.10	Use case 10 shopping and nutrition planner.....	90
B.10.1	Level of criticality (see 5.3).....	90
B.10.2	Name of Use Case.....	91
B.10.3	AAL function and service layer	91
B.10.4	AAL system component composition.....	91
B.10.5	Version management.....	91
B.10.6	Basic information to use case	92
B.10.7	Scope and objectives of use case	92
B.10.8	Narrative of use case.....	93
B.10.9	Actors: people, components, systems, integrated systems, applications and organizations	93
B.10.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	93
B.10.11	Referenced standards and/or standardization committees	94
B.10.12	Relation with other known use cases	94
B.10.13	General remarks	94
B.10.14	Data security and privacy	94
B.10.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	94
B.10.16	User requirements and interactions with other actors.....	94
B.10.17	Drawings or diagrams depicting the use case	95
B.11	Use case 11 intelligent lighting fixtures	96
B.11.1	Level of criticality (see 5.3).....	96
B.11.2	Name of use case	96
B.11.3	AAL function and service layer	96
B.11.4	AAL system component composition.....	97
B.11.5	Version management.....	97
B.11.6	Basic information to use case	97
B.11.7	Scope and objectives of use case	97
B.11.8	Narrative of use case.....	98
B.11.9	Actors: people, components, systems, integrated systems, applications and organizations	99
B.11.10	Issues: legal contracts, legal regulations, constraints and others (including regional regulations).....	99
B.11.11	Referenced standards and/or standardization committees	99
B.11.12	Relation with other known use cases	100
B.11.13	General remarks	100
B.11.14	Data security and privacy	100

B.11.15	Conformity aspects (common international assessment methodology/critical requirements) (to be completed by IEC SyC AAL).....	100
B.11.16	User requirements and interactions with other actors.....	100
B.11.17	Drawings or diagrams depicting the use case	101
Annex C (informative)	User requirements analysis	105
Annex D (informative)	Extraction of user requirements from the 10 representative use cases.....	110
Annex E (informative)	Updated AAL use case template (this updated version 2 to be used for new use cases)	115
E.1	Description of the use case.....	115
E.1.1	Name of use case.....	115
E.1.2	Version management.....	115
E.1.3	Scope and objectives of use case.....	115
E.1.4	Level of criticality (see 5.3).....	115
E.1.5	AAL level(s) of assistance (see 5.4).....	115
E.1.6	Narrative of use case – Short description	115
E.1.7	Use case category and geographic context.....	116
E.1.8	Basic information on the use case	116
E.2	Components of the use case.....	116
E.2.1	Narrative of use case – Complete description	116
E.2.2	Actors: persons, technical components, and organizations (see 5.8)	116
E.2.3	AAL system component composition (see 5.7).....	117
E.2.4	Issues: legal contracts, legal regulations, constraints, and others (including regional regulations).....	117
E.2.5	Referenced International Standards and/or standardization committees	117
E.2.6	Relation with other known use cases	117
E.2.7	General remarks.....	117
E.2.8	Data security considerations.....	117
E.2.9	Data privacy considerations.....	117
E.2.10	Ethical considerations for autonomous systems	118
E.2.11	Conformity aspects (common international assessment methodology/critical requirements)	118
E.2.12	User requirements and interactions with other actors.....	118
E.3	Drawings or diagrams depicting the use case	118
Bibliography	119
Figure 1	– AAL architecture model	15
Figure 2	– Overview of AAL user domains.....	18
Figure 3	– AAL use case categories.....	19
Figure 4	– Relationship between actors	22
Figure 5	– Overview of user requirements.....	30
Figure 6	– AAL use case classification.....	31
Figure C.1	– Extraction example of user requirements from UC #1	105
Figure D.1	– Extraction example of user requirements from UC #1(same as Figure C.1).....	110
Figure D.2	– Extraction of user requirements from UC #2	110
Figure D.3	– Extraction of user requirements from UC #3	111
Figure D.4	– Extraction of user requirements from UC #4	111
Figure D.5	– Extraction of user requirements from UC #5	112

Figure D.6 – Extraction of user requirements from UC #6	112
Figure D.7 – Extraction of user requirements from UC #7	113
Figure D.8 – Extraction of user requirements from UC #8	113
Figure D.9 – Extraction of user requirements from UC #9	114
Figure D.10 – Extraction of user requirements from UC #10.....	114
Table 1 – Updated titles and categories of use cases	23
Table 2 – Categories and functionalities of use cases	29
Table C.1 – Extraction of user requirements from use cases.....	106
Table C.2 – Allocation to user requirements groups	108
Table C.3 – Mapping of user requirements groups by UC categories and Figure 5.....	109

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ACTIVE ASSISTED LIVING (AAL) USE CASES

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This consolidated version of the official IEC technical specification and its amendment has been prepared for user convenience.

IEC TS 63134 edition 1.1 contains the first edition (2020-04) [documents SyCAAL/152/DTS and SyCAAL/167/RVDTS] and its amendment 1 (2022-12) [documents SyCAAL/262/DTS and SyCAAL/283/RVDTS].

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

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- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 63134, which is a Technical Specification, has been prepared by IEC systems committee Active Assisted Living.

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

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

- transformed into an International Standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

IEC SyC AAL is developing use cases for AAL system standards with a view to identify gaps in standardization.

All selected use cases have a real-world validity. The development of use cases makes it easier to define AAL categories of similar use cases and highlight their commonalities. It was then possible to extract functional requirements from the use cases and make recommendations for future standardization items related to AAL. Collecting the use cases also allowed SyC AAL to validate the proposed AAL reference model and reference architecture.

This document captures the results of a use case input process that began with the call for contributions of AAL use cases in November 2015. The current document reflects contributions and discussions by SyC AAL experts, mirror committees and liaison members. This document also contains material gathered from reports, AAL research projects and group output from the SyC AAL meetings in November 2015 (Tokyo), April 2016 (Wellington), October 2016 (Frankfurt), April 2017 (Beijing), September 2017 (Cleveland), May 2018 (Tokyo) and October 2018 (Seoul), as well as information obtained from the subsequent web calls to the meetings.

As of November 2018, a total of 45 use cases were submitted. To start the project, members of the SyC AAL user focus working group were requested to submit use cases using the IEC template. The use case submissions consisted of the title of the use case, a description and the origin of the use case. The use case template helped to group and categorize the use cases according to the identified functional requirements and needs of users. The former AAL use case template developed in SG 3 AAL was modified in order to capture also wider societal issues including security, risk and privacy, as well as looking at AAL in relation to the Internet of Things (IoT).

Experts from the following national committees, liaison organizations and research projects contributed use cases on AAL: Canada, China, Japan, Germany, Netherlands, South Korea, UK, USA, ISO IEC JTC 1 SC 41 PCHA and Continua and AALiance2.

The target audience for this document includes the following stakeholders who have an interest in the AAL system:

- AAL users and service provider personnel who can learn about AAL user needs and how to operate AAL systems;
- first responders, formal carers, etc. to understand how to respond to an AAL system emergency call;
- CE and ICT device manufacturers who want to understand AAL devices and interface and interoperability requirements;
- AAL care recipients who are interested in the usability, accessibility and performance of the AAL system;
- AAL operators to understand the system requirements;
- regulators who are responsible for developing and supervising AAL and related regulations.

ACTIVE ASSISTED LIVING (AAL) USE CASES

1 Scope

This document identifies AAL scenarios and use cases based on real-world applications and requirements. The use cases provide a practical context for considerations of interoperability and standards based on user experience. Use cases provide a context for utilizing existing standards and identifying further standardization work. User requirements have also been identified.

This document also highlights potential areas for standardization in the AAL environment to ensure safety, security, privacy, ease of operation, performance and interoperability.

Lastly, this document is a contribution to the IEC use case management repository, the purpose of which is to collect, administer, maintain, and analyse use cases.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-871, *International Electrotechnical Vocabulary – Part 871: Active assisted living (AAL)*