

TECHNICAL REPORT



Audio, video and multimedia systems and equipment activities and considerations related to accessibility and usability

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**AUDIO, VIDEO AND MULTIMEDIA SYSTEMS AND EQUIPMENT
ACTIVITIES AND CONSIDERATIONS RELATED TO
ACCESSIBILITY AND USABILITY**

FOREWORD

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IEC 62678, which is a technical report, has been prepared by 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
100/1688/DTR	100/1737/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- withdrawn,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

With an objective to research, review, and consider accessibility and usability and to start the project, a survey was designed and distributed to the IEC TC100 P-members to obtain information about the related issues, public policies, and activities. In April 2008, the survey results were reported to the AGS (Bangkok, Thailand) and in November, 2008 the first in-person meeting of the Project Team was held in Sao Paulo, Brazil.

Subsequently, four global teleconferences, numerous electronic mail exchanges, and use of the IEC on-line Collaboration Tools located at www.iec.ch occurred. The Project Team also held an in-person meeting in Tel Aviv, Israel in October 2009. As a result of these sessions, the Project Team produced this TR which attempts to explain the possible relevance of accessibility and usability to the IEC TC100 programme of work. Every aspect of this TR may or may not be appropriate for all IEC TC100 projects and / or participants. Likewise, this TR may or may not address considerations for product designers. However, this TR does provide information to assist the IEC TC100 standards experts in their accessibility and usability research, review, and consideration.

Clause 2 (Normative references) includes those documents referenced in the main body of this TR with the exception of Table 2. This document is numbered with other documents of the Project Team, 002-012, dated 03/31/10.

This TR extracts and applies the user needs published in the ISO/IEC TR 29138-1, Information Technology-Accessibility considerations for people with disabilities – Part 1: User needs summary, paraphrased and extracted with permission.

This TR contains four informative annexes:

- a) Annex A on the United Nations (UN) Convention on the Rights of Persons with Disabilities (paraphrased and extracted with permission),
- b) Annex B which comments on some IEC TC100 standards which contain accessibility considerations,
- c) Annex C on research projects in Europe.

Every effort was made to include resources that are publicly accessible.

AUDIO, VIDEO AND MULTIMEDIA SYSTEMS AND EQUIPMENT ACTIVITIES AND CONSIDERATIONS RELATED TO ACCESSIBILITY AND USABILITY

1 Scope

This Technical Report (TR) provides information on accessibility and usability terms, activities, completed and ongoing standards, technical reports, projects, and specifies user needs that may or may not apply to audio, video and multimedia systems and equipment. Comments about demographics and public policies are included. A checklist of accessibility and usability considerations is also included. Industry experts may or may not apply this information when they evaluate opportunities to integrate support for accessibility and usability in their work.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO/IEC 25062:2006, *Software product quality requirements and evaluation (SQuaRE) – Common Industry Format (CIF) for usability test reports*

ISO/IEC TR 29138-1:2009, *Information technology – Accessibility considerations for people with disabilities – Part 1: User needs summary*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1

accessibility

degree to which a product (e.g., device, service, and environment) is accessible by as many people as possible

NOTE Accessibility can be viewed as the "ability to access" the functionality, and possible benefit, of some system or entity. Accessibility is often used to focus on people with disabilities and their right of access to entities, often through use of assistive technology. Several definitions of accessibility refer directly to access-based individual rights laws and regulations. Products or services designed to meet these regulations are often termed "Easy Access" or "Accessible". See: www.wikipedia.org

3.1.2

adaptive design

interoperability with assistive technology

NOTE See ISO/IEC Guide 71.

3.1.3

assistive technology

designates assistive, adaptive, and rehabilitative devices designed to enable use by people with disabilities or to enhance usability

3.1.4

barrier-free design

design without barriers for individuals with disabilities

3.1.5

design-for-all

DFA

design and development of products and / or services with the aim that, regardless of age, gender, capabilities, or cultural background, everyone can easily use and access a product and / or service

3.1.6

disability

any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being

NOTE See World Health Organization (WHO), www.who.int/en/

3.1.7

eAccessibility

access to mainstream information and communication technology (ICT) and audio video (AV) products and services by the widest number of people in accordance with design-for-all (DFA)

NOTE See European Association for the Co-ordination of Consumer Representation in Standardisation (ANEC) also described as the “European consumer voice in standardisation” and the European Disability Forum (EDF).

3.1.8

universal design

design for usability by the widest range of users based on their sensory, physical, and cognitive abilities

3.1.9

usability

extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use

NOTE See ISO 9241-11.

3.1.10

user accessibility need user need

requirements of a product or its environment of use that improves accessibility to the system for users whose abilities are reduced through environmental factors, injury, disability, or natural degradation from aging

NOTE See ISO/IEC TR 29138-2: 2009.

3.2 Abbreviations

For the purposes of this document, the following abbreviations apply.

ADA	Americans with Disabilities Act
ANEC	European Association for the Co-ordination of Consumer Representation in Standardisation
ASTC	Advanced Television Systems Committee
AT	Assistive Technology
CFR	Code of Federal Regulations

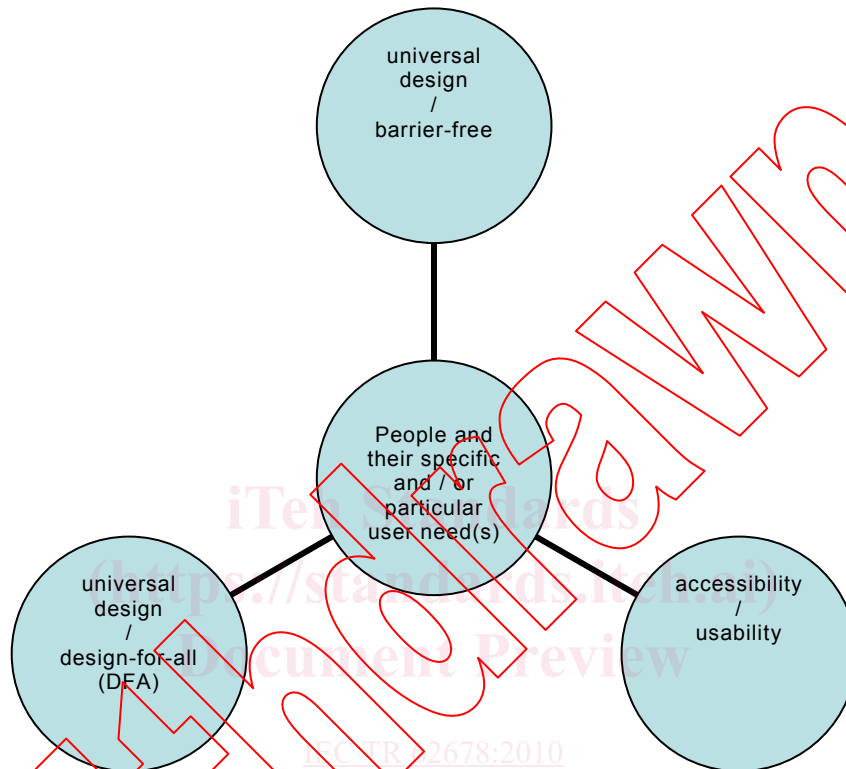
CIF	Common Industry Format
dB	decibel
DDA	Disability Discrimination Act
DFA	Design-For-All
EC	European Commission
EU	European Union
FY	Fiscal Year
ICT	Information and Communication Technology
ISO	International Standards Organization
ITU	International Telecommunication Union
ITU-T	ITU Telecommunication Sector
JIS	Japanese Industrial Standard
JISC	Japanese Industrial Standards Committee
JCA-AHF	Joint Coordination Activity on Accessibility and Human Factors
MEAC	Measuring Progress of E-Accessibility in Europe
METI	Ministry of Economy, Trade and Industry
MIC	Ministry of Internal Affairs and Communications
MLIT	Ministry of Land, Infrastructure, Transport and Tourism
NWIP	New Work Item Proposal
SQuaRE	Software product quality requirements and evaluation
SWG-A	Special Working Group on Accessibility (of the ISO/IEC Joint Technical Committee One, JTC1)
TA	Technical Area
TR	Technical Report
TRS	Telecommunications Relay Service
VDT	Visual Display Terminal
UK	United Kingdom
UN	United Nations
U.S.	United States of America
USC	United States Code
U.S.FCC	U.S. Federal Communications Commission
W3C	World Wide Web Consortium
WHO	World Health Organization
WG	Working Group

4 Applications of terms and definitions

4.1 Applications and intentions

Although the application of terms and definitions related to accessibility and usability may differ, often the meaning is the same: i.e. to reach as many people as possible. See Figure 1 which depicts the importance of the human aspect in accessibility / usability of terms and definitions.

Among the participants of a survey, designed and distributed to obtain information about accessibility and usability issues, public policies and activities, Japan, China, the U.S., Germany, France and the UK described their use of terms and definitions. They stated that individuals attempting to apply terms and definitions are also encouraged to research national policies. IEC/TC 100 addresses many areas of audio, video and multimedia equipment standardization. As the experts choose to consider the terminology for accessibility and usability, they may use the “Checklist of accessibility and usability considerations” in Clause 11 of this TR.



IEC 2309/10

NOTE People and their specific and/or particular user need(s) are, figuratively, placed in the center of terminology that expresses the intention to meet specific or particular user needs.

Figure 1 – People and their particular user needs

4.2 Applications of the terms: universal design, barrier-free design, accessibility, and disability in Japan

The terms “universal design” and “barrier-free” are used in Japan to describe technology, buildings, and other physical infrastructures. Japanese Industrial Standard (JIS) X 8341 applies terms that may assist audio, video and multimedia systems and equipment standards designers who address individuals with disabilities or individuals who are experiencing natural degradation typically due to aging. JIS X 8341 provides information on ways to improve accessibility, required when (primarily) elderly persons, persons with disabilities and those with temporary disabilities use office equipment. The standard gives information concerning the usability aspects when planning, developing and designing office equipment. In this case, office equipment refers to copying machines, multifunction devices, and page printers that are used in office environments.