Accessibility Checklist (Version 4)

Preamble

This document reflects the ITU-T SG 16 checklist for standardization activities as from TD/Plen/270 of April 2006 meeting.

The checklist for standardization activities intends to ensure that the specified services and features are usable by as many as possible including people with disabilities.

It is suggested that this checklist be used *early on* as part of the standards development process. This checklist is a living document and will be revised as experience is gained with its use.

Accessibility checklist for use in standardization work

Implementation of accessibility for people with disabilities influences a large number of items in the ITU-T standardization work programme.

This checklist should be applied to every work item before the work commences, during the work and at the completion of the work. The use of the checklist should be complemented by involving accessibility experts and users in the process.

1   Scope

The checklist is valid for standardization and specification activities for features in the Information and Communication Technology (ICT) domain.

It is valid both for the use of ICT features and for the provision of those features.

It is intended to be applied to each work item and each Recommendation in the appropriate work programme.

2   Further reading

The bibliography provided in Clause 5 is intended for further reading, where more information on accessibility for users with disabilities can be found.

There are examples of Recommendations that take accessibility considerations into account, describe scenarios where accessibility features are of value, or describe specific services or media of interest for accessibility.

A guideline for design of telecommunication products is in creation in ITU-T Q.26/16. It may provide valid guidance if further information is needed.

There is a rich collection of specifications about accessibility in ICT, managed by ISO/IEC JTC1 SWG-A (Special working group on accessibility). The web site of this group may provide good reading for further information.

The same is valid for documents in the usability and human factors area, in the E- and F-Series of Recommendations from ITU-T SG2, in ETSI standards and in specifications from ETSI Technical Committee on Human Factors (ETSI TC HF).

3   Basics of accessibility

The term accessibility means enabling people with the widest possible range of human capabilities to operate and use terminals and services. Accessibility is improved by supporting as many different media streams as possible and considering the widest range of physical characteristics in capturing, transporting and presenting the media streams.

There is a classic structure for designing features for accessibility:

1. Design the mainstream feature for the widest possible range of capabilities of the user as feasible.

2. Make sure the feature is adaptable by settings to permit an even wider range of capabilities.

3. Arrange for standardised interfaces for the connection of a wide range of user interface devices in order to meet user requirements that cannot be met with the built-in features.

4   Elements and use of the checklist

The following list gives a basic structure to address various aspects of accessibility. Good accessibility requires that most of these aspects are open for more than one method of user interaction.

The primary intent of the checklist is to provide a structured set of reminders for standards writers during the process of creating standards in the ICT area. Whenever a standardisation work item is created, or its documents and progress evaluated, the checklist should be consulted. Care should be taken that all relevant sections have been considered.

For many points in the checklist, an example is provided. The checklist item is not limited to the examples.

The checklist is structured in the following topics

1. Control of devices through a user interface.

2. Control of services

3. Media transport

4. Media entry by the user

5. Media presentation to the user

6. Invocation of media translating services

7. User profile management

8. User profile usage

4.1   Control of devices through a user interface

1. A device should be controllable through as many alternative forms of user interface interaction as possible. Similarly, the user interface feedback should be configurable to utilize as many forms of feedback as possible.

   Example: Dialling should be possible using voice commands, punching in numbers, short-dials, selection from phone-book etc. Ringing should be indicated using audible, tactile, and/or visual means. The forms of control and feedback should be designed such that both physical and mental disabilities can be coped with.

2. External and, possibly, internal interfaces should be available that can handle device control, service control and media capture/rendering.

Example: A portable device should be able to utilize keyboards with extra large keys. Audio capable devices should be able to connect to specialized equipment for hard-of-hearing users.

3. Different forms of accessibility needs of people with disabilities can best be handled by using different forms of media. As a general rule, multimedia-capable devices provide better accessibility than single-media devices.

4. A multimedia capable device should be configurable to meet accessibility requirements not fulfilled in the default setting.
Example: A videophone should be able to use the bit rate normally allocated for audio for the video channel, so as to increase the video quality.

5. In a text capable device, the text display characteristics should be adjustable to the needs of the user.

6. Include alternative ways to receive feedback from the control actions, using various modes and properties of presentation.

4.2 Control of services

1. Include alternative ways to control the services, using various modes and types of control action.

2. Provide for interoperability with similar services in other networks, when feasible. If not feasible, provide a reason why.

3. Include alternative ways to receive feedback from the control actions of the services, using various modes and properties of presentation.

4.3 Media transport

Include methods and coordination for transport of alternative media (e.g. audio, video and text), so that transport of accessible content can be achieved

1. Ensure transport media properties are suitable for the perception of the receiving user, i.e.:

2. Video transport properties should allow presentation of video with good quality for sign language and lip reading [H-Series Supplement 1]

3. Audio transport properties should make it possible to present audio for clear spoken language perception, and good synchronisation with video for lip reading [F.700]

4. Text transport properties should make it possible to present text with good timing characteristics so that users do not experience excessive delay. It should be possible for the user to select the characteristics of the text display [F.700]

5. Information transport should make it possible to present information with characteristics selectable by the receiver [W3C WAI guidelines]

4.4 Media entry by the user

1. Describe methods for entry of alternative media (e.g. audio, video, and text), so that entry of accessible content can be achieved.

2. Ensure the properties of media entry are suitable for accessible perception by a receiving user, i.e:

a. Video entry properties should be selected so that it is possible to present video with good quality for sign language and lip reading. [H Series Supplement 1]

b. Audio entry properties should be selected so that it is possible to present audio for clear spoken language perception, and good synchronisation with video for lip reading. [F.700]

c. Text entry properties should make it possible to present text with good timing characteristics so that users do not experience excessive delay. It should be possible for the user to select the characteristics of the text display. [F.700]

d. Information entry should be described so that it is possible to present information with characteristics selectable by the receiver. [W3C WAI guidelines]

4.5   Media presentation to the user

1. Describe methods for presentation of alternative media (e.g., audio, video and text), so that presentation of accessible content can be achieved.

2. Ensure the properties of the media presentation are suitable for accessible perception by the user, i.e:

a. Video presentation properties should be selected so that it is possible to present video with good quality for sign language and lip reading. [H Series Supplement 1]

b. Audio presentation properties should be selected so that it makes it possible to present audio for clear spoken language perception, and good synchronisation with video for lip reading. [F.700]

c. Text presentation properties should make it possible to present text with good timing characteristics so that users do not experience excessive delay. It should be possible for the user to select the characteristics of the text display [F.700]

d. Information presentation should be described so that it makes it possible to present information with characteristics selectable by the receiver [W3C WAI guidelines]

4.6   Invocation of media translating services

Media translation may be an important means of providing accessibility. Manned services are usually called relay services.

1. Include descriptions of the methods of invocation of the services for translating media to make them accessible for people with disabilities.

2. The invocation of translating services should enable convenient invocation of such services in a manner that resembles the plain user-to-user session setup.

4.7   User and device profile management

Include features of importance for accessibility in the management of profiles, and make the characteristics variable enough to provide good accessibility.

Example: user devices and user-accessible services should offer profiles for the common capability and preference variations, so that disabled people can select an appropriate profile without manually configuring many options. The profiles should themselves be configurable, and/or user-defined profiles should be available, so that professional help can pre-configure devices and/or services accordingly. It should be possible to invoke Service profiles manually or automatically, e.g. through means such as caller-ID.

4.8   User and device profile usage

Include features of importance for accessibility in the use of profiles, and make the characteristics variable enough to provide good accessibility.

4.9   Records from the use of the accessibility checklist

When a Recommendation or work item is checked against this checklist, records should be made about the outcome. Any resulting request from the use of the checklist to expand or include an item should be recorded together with the planned remedial action. The records should follow the standardization item through the standardization process. If the outcome is that a topic is handled in a parallel standardization activity, the records should include an identification of that activity.

If it turns out to be impossible to include accessibility features in a Recommendation, the records should indicate the reason and there should be an agreement to the course of action by the controlling Study Group.

5   Bibliography

[H Series Supplement 1] ITU-T H-Series Supplement 1. Application of low bit-rate video communication on Sign Language and Lip-reading.

[T.140] ITU-T T.140 Protocol for multimedia application text conversation.

[F.700] ITU-T F.700 Framework of multimedia service descriptions.

[F.703] ITU-T F.703 Multimedia Conversation Service Description.

[F.724] ITU-T F.724 Service description and requirements for videotelephony services over IP networks.

[F.733] ITU-T F.733 Service description and requirements for Multimedia Conference Services over IP networks.

[F.741] ITU-T F.741 Service description and requirements for audiovisual on demand services.

[F.742] ITU-T F.742 Service description and requirements for distance learning services.

[ITU-T accessibility guide] ITU-T Accessibility Guideline (work in progress in Q.26/16)

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

[W3C WAI guidelines] http://www.w3.org/WAI/

[swga] ISO/IEC JTC1 Special Working Group on Accessibility http://www.jtc1access.org/

[ETSI HF] www.etsi.org

[ITU-T E and F-series] http://www.itu.int/ITU-T/publications/recs.html

Q26/16 Accessibility web page http://www.itu.int/ITU-T/studygroups/com16/accessibility

[E.135] ITU-T E.135 Human factors aspects of public telecommunication terminals for people with disabilities

[E.138] ITU-T E.138 Human factors aspects of public telephones to improve their usability for older people

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